

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. [332687]
2. Name of Operator [373910]		9. API Well No. 30-025-49857
3a. Address	3b. Phone No. (include area code)	10. Field and Pool, or Exploratory
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 03/08/2022

SL

(Continued on page 2)



Approval Date: 03/07/2022

KZ
03/14/2022

*(Instructions on page 2)

INSTRUCTIONS

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

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

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

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

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

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

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

NOTICES

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

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

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

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

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

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

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

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

Additional Operator Remarks

Location of Well

0. SHL: TR D / 575 FNL / 1306 FWL / TWSP: 26S / RANGE: 35E / SECTION: 1 / LAT: 32.077993 / LONG: -103.325562 (TVD: 0 feet, MD: 0 feet)

PPP: TR C / 0 FNL / 1720 FWL / TWSP: 26S / RANGE: 35E / SECTION: 12 / LAT: 32.065043 / LONG: -103.324224 (TVD: 12446 feet, MD: 17500 feet)

PPP: TR C / 616 FNL / 1689 FWL / TWSP: 26S / RANGE: 35E / SECTION: 1 / LAT: 32.07788 / LONG: -103.324325 (TVD: 12446 feet, MD: 12810 feet)

BHL: TR C / 1170 FNL / 1720 FWL / TWSP: 26S / RANGE: 35E / SECTION: 13 / LAT: 32.047321 / LONG: -103.324214 (TVD: 12446 feet, MD: 23929 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

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 30-025-49857		² Pool Code 98228		³ Pool Name WC-025 G-09 S253536D; UPR WOLFCAMP	
⁴ Property Code 332687		⁵ Property Name PF FED COM			⁶ Well Number 802H
⁷ OGRID No. 373910		⁸ Operator Name FRANKLIN MOUNTAIN ENERGY LLC			⁹ Elevation 3053.4'

¹⁰ Surface Location

UL or lot no. D	Section 1	Township 26S	Range 35E	Lot 1dn	Feet from the 575	North/South line NORTH	Feet from the 1306	East/West line WEST	County LEA
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¹¹Bottom Hole Location If Different From Surface

UL or lot no. C	Section 13	Township 26S	Range 35E	Lot Idn	Feet from the 1170	North/South line NORTH	Feet from the 1720	East/West line WEST	County LEA
¹² Dedicated Acres 360		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.

● = SURFACE HOLE LOCATION
 ◆ = KOP/PPP/FTP
 ○ = LTP/BHL
 ▲ = SECTION CORNER LOCATED

NAD 83 (SURFACE HOLE LOCATION)	
LATITUDE = 32°04'40.78" (32.077993°)	
LONGITUDE = 103°19'30.32" (103.325562°)	
NAD 27 (SURFACE HOLE LOCATION)	
LATITUDE = 32°04'40.32" (32.077866°)	
LONGITUDE = 103°19'30.37" (103.325102°)	
STATE PLANE NAD 83 (N.M. EAST)	
N: 393569.09' E: 853476.86'	
STATE PLANE NAD 27 (N.M. EAST)	
N: 393511.17' E: 812289.17'	

NAD 83 (KOP)	
LATITUDE = 32°04'45.98" (32.079439°)	
LONGITUDE = 103°19'28.51" (103.324587°)	
NAD 27 (KOP)	
LATITUDE = 32°04'45.52" (32.079312°)	
LONGITUDE = 103°19'26.86" (103.324127°)	
STATE PLANE NAD 83 (N.M. EAST)	
N: 394098.01' E: 853773.93'	
STATE PLANE NAD 27 (N.M. EAST)	
N: 394040.08' E: 812586.25'	

NAD 83 (PPP #1/FTP)	
LATITUDE = 32°04'40.37" (32.077880°)	
LONGITUDE = 103°19'27.57" (103.324325°)	
NAD 27 (PPP #1/FTP)	
LATITUDE = 32°04'39.91" (32.077753°)	
LONGITUDE = 103°19'25.91" (103.323864°)	
STATE PLANE NAD 83 (N.M. EAST)	
N: 393531.65' E: 853860.59'	
STATE PLANE NAD 27 (N.M. EAST)	
N: 393473.73' E: 812672.89'	

NAD 83 (PPP #2)	
LATITUDE = 32°03'54.15" (32.065043°)	
LONGITUDE = 103°19'27.21" (103.324224°)	
NAD 27 (PPP #2)	
LATITUDE = 32°03'53.70" (32.064916°)	
LONGITUDE = 103°19'25.55" (103.323764°)	
STATE PLANE NAD 83 (N.M. EAST)	
N: 388861.71' E: 853935.38'	
STATE PLANE NAD 27 (N.M. EAST)	
N: 388803.92' E: 812747.49'	

NAD 83 (LTP/BHL)	
LATITUDE = 32°02'50.36" (32.047321°)	
LONGITUDE = 103°19'27.17" (103.324214°)	
NAD 27 (LTP/BHL)	
LATITUDE = 32°02'49.90" (32.047194°)	
LONGITUDE = 103°19'25.52" (103.323755°)	
STATE PLANE NAD 83 (N.M. EAST)	
N: 382414.55' E: 853998.80'	
STATE PLANE NAD 27 (N.M. EAST)	
N: 382356.93' E: 812810.66'	

NOTE:
 • Distances referenced on plat to section lines are perpendicular.
 • Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of W103°53'00" (NAD 83)

2000' 1000' 0' 2000'
 SCALE

DRAWN BY: R.J. 05-06-21
 REV: 1 07-28-21 R.J. (ADD KOP & PPP)

T25S
 T26S
 S89°42'18"W 2644.44' (Meas.)
 S89°42'17"W 2642.13' (Meas.)
 1306' SHL
 See Detail "A"
 LEASE BOUNDARY
 1
 NM-117126
 S00°40'43"E 4671.22'
 PPP #2
 0' FNL
 1720' FWL
 L3
 S89°40'42"W 2640.42' (Meas.)
 NM-119761
 S00°19'29"E 6448.41'
 12
 NM-12280
 S00°18'50"W 2641.92' (Meas.)
 S00°18'47"W 2642.81' (Meas.)
 NM-130330
 S89°30'13"W 2643.24' (Meas.)
 S89°55'07"W 2643.33' (Meas.)
 NM-118123
 1170'
 1720'
 LTP/BHL
 NM-97909
 13
 NM-118123
 S89°45'30"W 2646.23' (Meas.)
 S89°28'59"W 2641.04' (Meas.)
 R 35 E
 R 36 E

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* 8/3/2021
 Date:

Shelly Albrecht
 Printed Name
 salbrecht@fmlc.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.
 April 28, 2021
 Date of Survey
 Signature and Seal of Professional Surveyor:

PAUL BUCHELE
 NEW MEXICO
 23782
 07-28-21
 PROFESSIONAL SURVEYOR

Certificate Number:

LINE TABLE		
LINE	DIRECTION	LENGTH
L1	N29°33'34"E	606.72'
L2	S08°27'38"E	573.03'
L3	S89°44'52"W	2645.78'

Section Line
 49'
 KOP
 PPP #1/FTP
 616' FNL
 1689' FWL
 SHL
 1306'
 1610'
 1/16 Section Line
 Lease Boundary
 Detail "A"
 No Scale

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:** 03/_08/_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: Paul Foster CTB: (f#) fAPP2125739207 [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

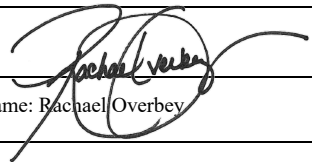
1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(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: 3/8/2022
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
PF Fed Com 101H	TBD	D-1-26S-35E	650 FNL 1268 FWL	800 +/-	700 +/-	600 +/-
PF Fed Com 102H	TBD	C-1-26S-35E	650 FNL 1343 FWL	800 +/-	700 +/-	600 +/-
PF Fed Com 501H	TBD	D-1-26S-35E	650 FNL 1293 FWL	800 +/-	700 +/-	600 +/-
PF Fed Com 502H	TBD	D-1-26S-35E	650 FNL 1318 FWL	800 +/-	700 +/-	600 +/-
PF Fed Com 801H	TBD	D-1-26S-35E	575 FNL 1281 FWL	800 +/-	700 +/-	600 +/-
PF Fed Com 802H	TBD 30-025-49857	D-1-26S-35E	575 FNL 1306 FWL	800 +/-	700 +/-	600 +/-
PF Fed Com 803H	TBD	C-1-26S-35E	575 FNL 1331 FWL	800 +/-	700 +/-	600 +/-
PF Fed Com 103H	TBD	A-1-26S-35E	285 FNL 1125 FEL	800 +/-	700 +/-	600 +/-
PF Fed Com 104H	TBD	A-1-26S-35E	285 FNL 1050 FEL	800 +/-	700 +/-	600 +/-
PF Fed Com 503H	TBD	A-1-26S-35E	285 FNL 1100 FEL	800 +/-	700 +/-	600 +/-
PF Fed Com 504H	TBD	A-1-26S-35E	285 FNL 1075 FEL	800 +/-	700 +/-	600 +/-
PF Fed Com 804H	TBD	A-1-26S-35E	210 FNL 1112 FEL	800 +/-	700 +/-	600 +/-
PF Fed Com 805H	TBD	A-1-26S-35E	210 FNL 1087 FEL	800 +/-	700 +/-	600 +/-
PF Fed Com 806H	TBD	A-1-26S-35E	210 FNL 1062 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
PF Fed Com 101H	TBD	TBD	TBD	TBD	TBD	TBD
PF Fed Com 102H	TBD	TBD	TBD	TBD	TBD	TBD
PF Fed Com 501H	TBD	TBD	TBD	TBD	TBD	TBD
PF Fed Com 502H	TBD	TBD	TBD	TBD	TBD	TBD
PF Fed Com 801H	TBD	10/20/2022	12/20/2022	1/5/2023	1/25/2023	1/27/2023
PF Fed Com 802H	TBD 30-025-49857	10/20/2022	12/20/2022	1/5/2023	1/25/2023	1/27/2023
PF Fed Com 803H	TBD	10/20/2022	12/20/2022	1/5/2023	1/25/2023	1/27/2023
PF Fed Com 103H	TBD	TBD	TBD	TBD	TBD	TBD
PF Fed Com 104H	TBD	9/28/2022	10/20/2022	12/20/2022	1/1/2023	1/3/2023
PF Fed Com 503H	TBD	TBD	TBD	TBD	TBD	TBD
PF Fed Com 504H	TBD	9/6/2022	9/27/2022	12/20/2022	1/1/2023	1/3/2023
PF Fed Com 804H	TBD	7/5/2022	9/5/2022	12/20/2022	1/1/2023	1/3/2023
PF Fed Com 805H	TBD	7/5/2022	9/5/2022	12/20/2022	1/1/2023	1/3/2023
PF Fed Com 806H	TBD	7/5/2022	9/5/2022	12/20/2022	1/1/2023	1/3/2023



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.



PF Fed Com 802H

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

Formations	PROG SS	PROG TVD	Picked TVD	delta	Potential/Issues
Cenozoic Alluvium (surface)	3,053'	30'	30'	0	Sand/Gravels/unconsolidated
Rustler	2,310'	773'			Carbonates
Salado	1,804'	1,279'			Salt, Carbonate & Clastics
Base Salt	-384'	3,467'			Shaley Carbonate & Shale
Lamar	-1,910'	4,993'			Carbonate & Clastics
Bell Canyon	-2,003'	5,086'			Sandstone - oil/gas/water
Cherry Canyon	-2,874'	5,957'			Sandstone - oil/gas/water
Brushy Canyon	-4,348'	7,431'			Sand/carb/shales - oil/gas/water
Bone Spring Lime	-5,551'	8,634'			Shale/Carbonates - oil/gas
Avalon	-5,582'	8,665'			Shale/Carbonates - oil/gas
Chert Zone	-5,782'	8,865'			Carbonate/Chert
First Bone Spring Sand	-6,839'	9,922'			Sandstone - oil/gas/water
Second Bone Spring Carbonates	-6,987'	10,070'			Shale/Carbonates - oil/gas
Second Bone Spring Sand	-7,349'	10,432'			Sandstone - oil/gas/water
Third Bone Spring Carbonates	-7,930'	11,013'			Shale/Carbonates - oil/gas
Third Bone Spring Sand	-8,690'	11,773'			Sandstone - oil/gas/water
Wolfcamp	-8,930'	12,013'			Overpressure shale/sand- Oil/Gas
Wolfcamp A	-8,994'	12,077'			Overpressure Shale - Oil/Gas
Wolfcamp B	-9,272'	12,355'			Overpressure Shale - Oil/Gas
HZ Target	-9,363'	12,446'			Overpressure Shale - Oil/Gas
Wolfcamp C	-9,504'	12,587'			Overpressure Shale - Oil/Gas

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

Upper Permian Sands	0- 400'	Fresh Water
Delaware Sands	5,086'	Oil
Bone Spring	9,922'	Oil
Wolfcamp	12,013'	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	5025	1.81	1.80	3.04	3.46
Intermediate 7 5/8"	29.7	HCP-110	8280	7150	827	Stinger 564	11900	1.12	1.28	1.82	1.24
Long string 5 1/2"	23	P-110	14520	14520	729	Eagle 606 TVD	23929 12446	1.32	1.30	1.12	0.93 1.57



7 5/8" casing will be set at 11,900' MD/11,862' TVD at 0° Inc. Stress calculations on 5 1/2" casing performed assuming 23,929' depth. Actual max vertical depth is 12,446'.

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	795	Extenda Cem, 12.8 ppg Class C, 3lb/sk Kol-Seal	1.747	9.06	0	334	Tail, 14.8 ppg, Class C,	1.349	6.51	1000	100%
Int1	12.25	9.625	5025	1462	0.125pps Poly-E-Flake					1% CaCl ₂ , 0.125pps Celo-Flake				
					Lead, 12.8 ppg, Class C 5% Salt,	1.79	9.74	0	154	Tail, 14.8 ppg, Class C,	1.33	6.37	4725	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	11900	369	Lite Fill, 9.5 ppg, Class C 3lb/sk	2.13	5.97	4025	94	NeoCem 14.8 ppg, Class C	1.33	6.29	10900	50%
					Bridgemaker Gel, 5% Salt, 5pps LCM, 0.25pps Cello-Flake					0.25 pps Cello-Flake, 2% CaCl ₂				
Prod	6.75	5.5	23929	972	Tail, 14.5 ppg, Gas Migration Control	1.34	6.22	10900						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 2000 psi for 30 minutes prior to drillout.

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

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



6. Types and characteristics of the proposed mud system:

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

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 – 1,300'	Fresh - Gel	8.6-8.8	28-34	N/c
1,300' – 11,900'	Brine	8.8-10.2	28-34	N/c
11,900' – 23,929' Lateral	Oil Base	11.0-12.5	58-68	3 - 6

The highest mud weight needed to balance formation is expected to be 11-12 ppg. In order to maintain hole stability, mud weights up to 13 ppg may be utilized.

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

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

7. Auxiliary well control and monitoring equipment:

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

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

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

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

8. Logging, testing and coring program:

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

Open-hole logs are not planned for this well.

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

The estimated bottom-hole temperature at 12,446' TVD (deepest point of the well) is 195F with an estimated maximum bottom-hole pressure (BHP) at the same point of 8,413 psig (based on 13 ppg MW). Hydrogen sulfate may be present in the area. All necessary precautions will be taken before drilling operations commence. See Hydrogen Sulfide Plan below:

10. Hydrogen Sulfide Plan:

A. All personnel shall receive proper awareness H₂S training.

B. Briefing Area: two perpendicular areas will be designated by signs and readily accessible.

C. Required Emergency Equipment

a. Well Control Equipment

i. Flare line 150' from wellhead to be ignited by auto ignition sparking system.

ii. Choke manifold with a remotely operated hydraulic choke.

iii. Mud/gas separator

b. Protective equipment for essential personnel

i. Breathing Apparatus

1. Rescue packs (SCBA) – 1 unit shall be placed at each briefing area, 2 shall be stored in a safety trailer on site.

2. Work/Escapes packs – 4 packs shall be stored on the rig floor with sufficient air hose not to restrict work activity



3. Emergency Escape Packs – 4 packs shall be stored in the doghouse for emergency evacuation.
- ii. Auxiliary Rescue Equipment
 1. Stretcher
 2. Two OSHA full body harnesses
 3. 100 feet of 5/8 inches OSHA approved rope
 4. 1-20# class ABC fire extinguisher
- c. H2S Detection and Monitoring Equipment
 - i. A stationary detector with three sensors will be placed in the doghouse if equipped, set to visually alarm at 10 ppm and audible at 14 ppm. The detector will be calibrated a minimum of every 30 days or as needed. The sensors will be placed in the following places:
 1. Rig Floor
 2. Below Rig Floor / Near BOPs
 3. End of flow line or where well bore fluid is being discharged (near shakers)
 - ii. If H2S is encountered, measured values and formations will be provided to the BLM.
- d. Visual Warning Systems
 - i. One color code condition sign will be placed at the entrance to the site reflecting the possible conditions at the site.
 - ii. A colored condition flag will be on display, reflecting the current condition at the site at the time.
 - iii. Two windsocks will be placed in strategic locations, visible from all angles.
- e. Mud Program
 - i. The Mud program will be designed to minimize the volume of H2S circulated to surface. The operator will have the necessary mud products to minimize hazards while drilling in H2S bearing zones.
- f. Metallurgy
 - i. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service at the anticipated operating pressures to prevent sour sulfide stress cracking.
- g. Communication
 - i. Communication will be via cell phones and walkie talkies on location.

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

11. Anticipated starting date and duration of operations:

The drilling operations on the well should be finished in approximately one month. However, in order to minimize disturbance in the area and to improve efficiency Franklin Mountain is planning to drill all the wells on the pad prior to commence completion operations. To even further reduce the time heavy machinery is used the “batch drilling” method may be used. A batch drilling sequence sundry will be submitted for BLM approval prior to spud. A drilling rig with walking/skidding capabilities will be used.

**12. Disposal/environmental concerns:**

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

13. Wellhead:

A multi-bowl wellhead system will be utilized.

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

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

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

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

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

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

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

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

14. Additional variance requests**A. Casing.**

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

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

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Franklin Mountain Energy

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



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

Magnetic Field
Strength: 47425.7nT
Dip Angle: 59.80°
Date: 7/16/2021
Model: IGRF2020

PROJECT DETAILS: Lea County, NM (NAD83)

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



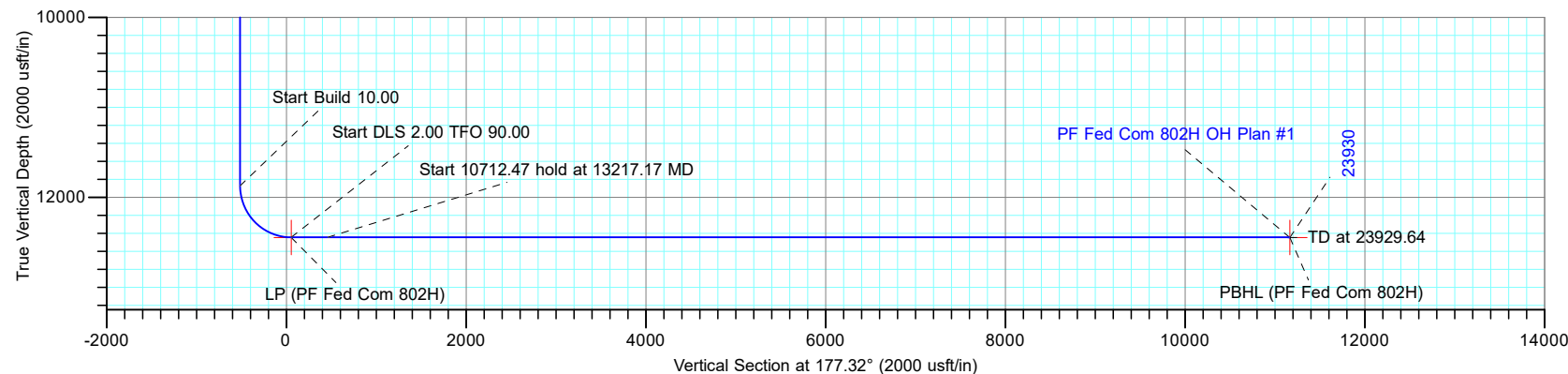
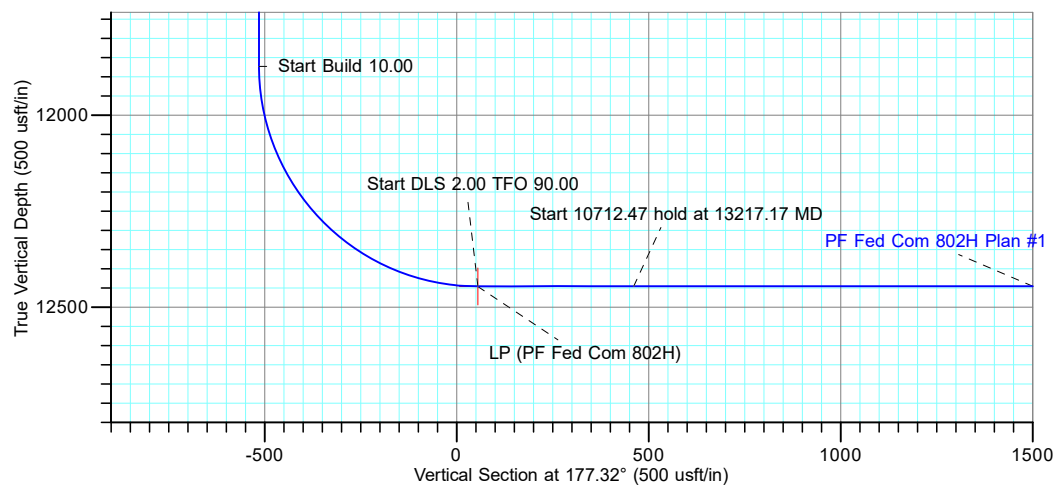
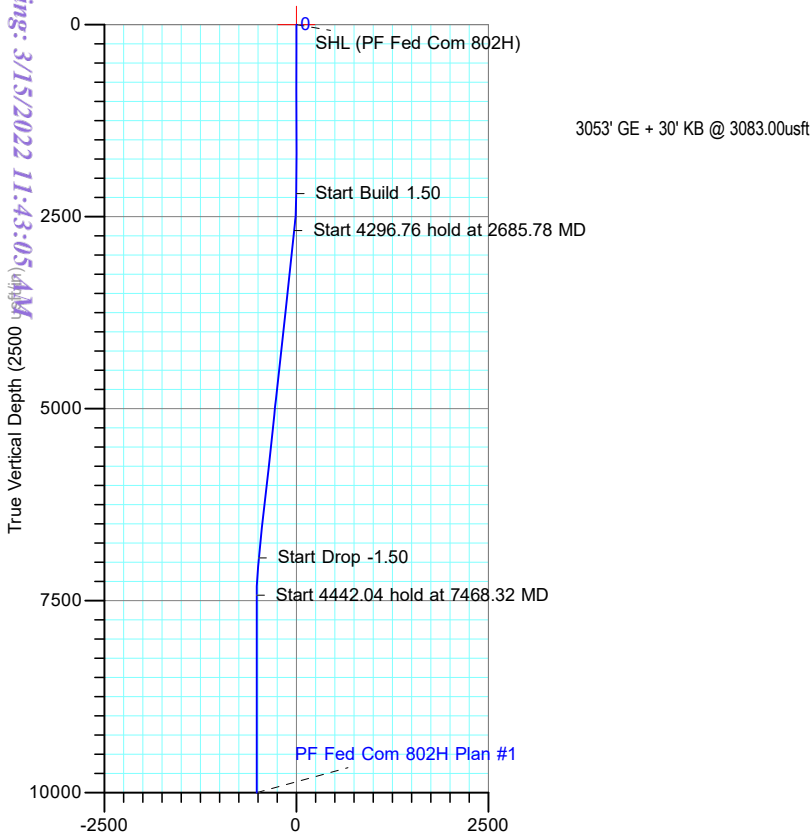
Received by OCD: 3/8/2022 4:58:07 PM

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	0.00	0.00	Start Build 1.50
2685.78	7.29	29.31	2684.47	26.90	15.10	1.50	29.31	-26.16	Start 4296.76 hold at 2685.78 MD
6982.54	7.29	29.31	6946.53	502.10	281.90	0.00	0.00	-488.38	Start Drop -1.50
7468.32	0.00	0.00	7431.00	529.00	297.00	1.50	180.00	-514.54	Start 4442.04 hold at 7468.32 MD
11910.36	0.00	0.00	11873.04	529.00	297.00	0.00	0.00	-514.54	Start Build 10.00
12810.36	90.00	171.30	12446.00	-37.37	383.67	10.00	171.30	55.26	Start DLS 2.00 TFO 90.00
13217.17	90.00	179.44	12446.00	-442.51	416.49	2.00	90.00	461.49	Start 10712.47 hold at 13217.17 MD
23929.64	90.00	179.44	12446.00	-11154.46	521.87	0.00	0.00	11166.66	TD at 23929.64

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
LP (PF Fed Com 802H)	12446.00	-37.37	383.67	32.077880	-103.324325
PBHL (PF Fed Com 802H)	12446.00	-11154.46	521.87	32.047321	-103.324214
SHL (PF Fed Com 802H)	0.00	0.00	0.00	32.077993	-103.325562



TOTAL DIRECTIONAL SERVICES LLC
671 Academy Ct, Windsor, CO 80550
Phone: (970) 460-9402

Plan: Plan #1 (PF Fed Com 802H/OH)
Created By: Dustin Ault
Date: 22:07, July 16 2021
Approved: _____ Date: _____

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Franklin Mountain Energy

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



Azimuths to Grid North
True North: -0.54°
Magnetic North: 5.87°
Magnetic Field
Strength: 47425.7nT
Dip Angle: 59.80°
Date: 7/16/2021
Model: IGRF2020



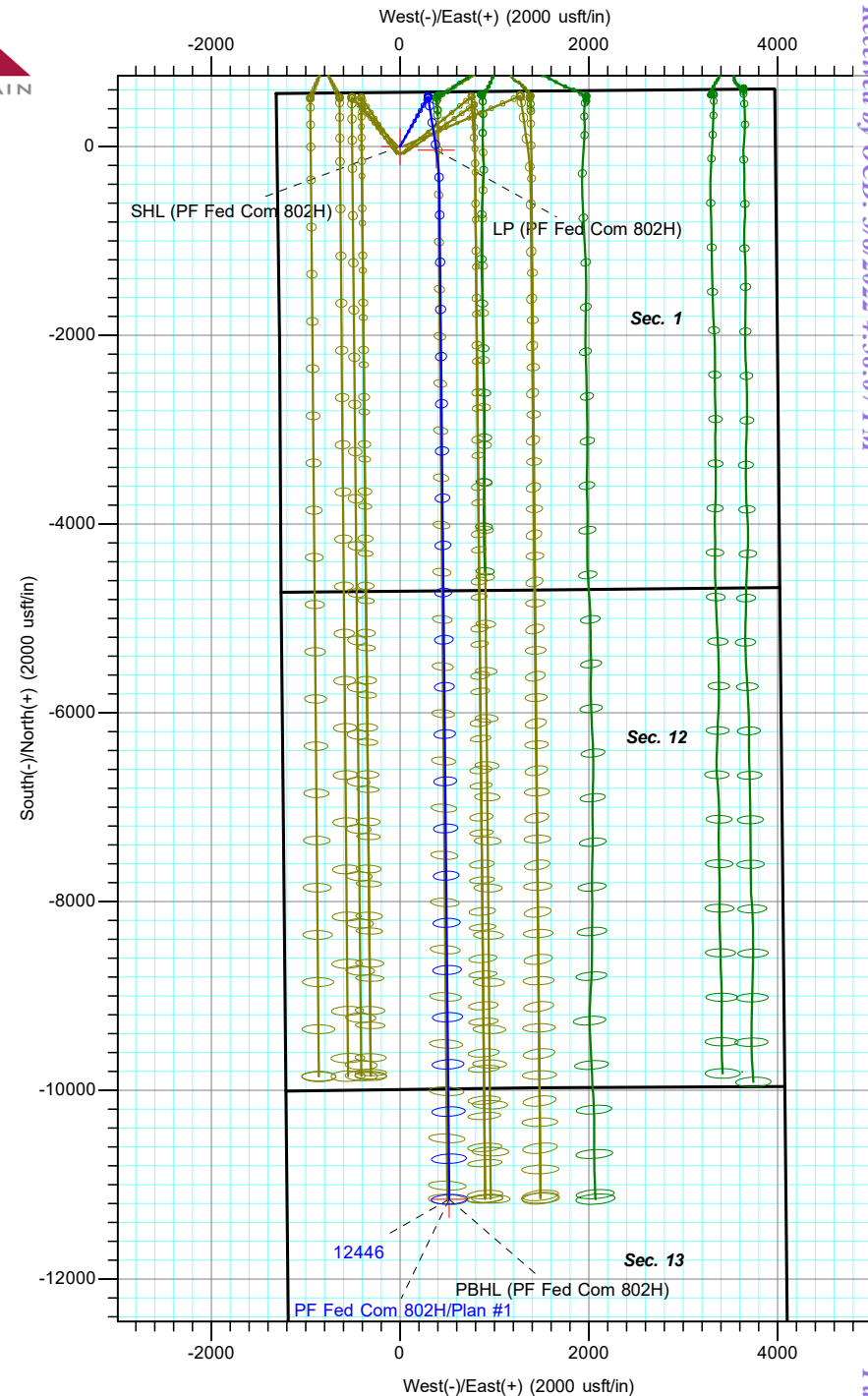
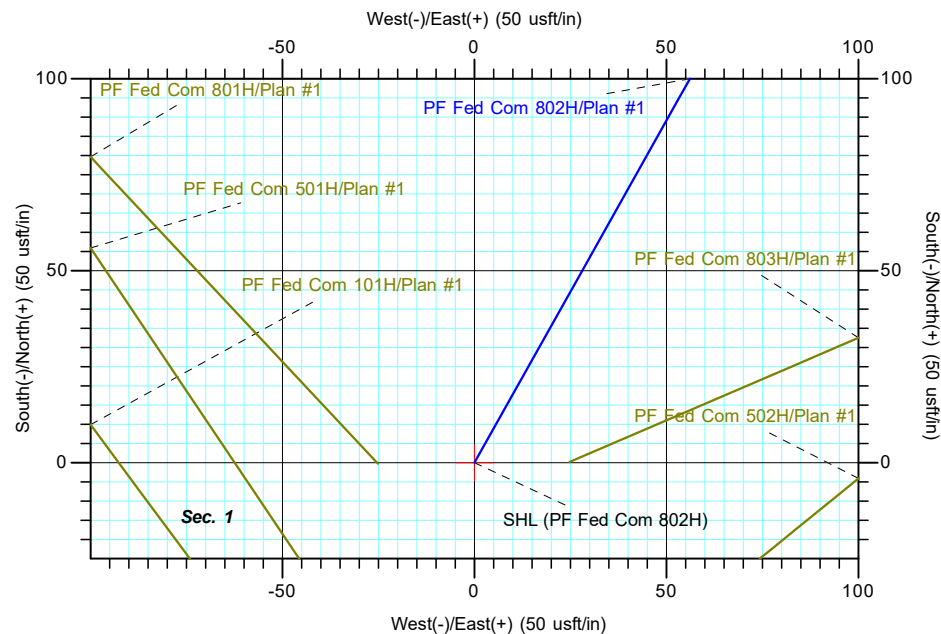
PROJECT DETAILS: Lea County, NM (NAD83)
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
LP (PF Fed Com 802H)	12446.00	-37.37	383.67	393531.64	853860.60	32.077880	-103.324325
PBHL (PF Fed Com 802H)	12446.00	-11154.46	521.87	382414.55	853998.80	32.047321	-103.324214
SHL (PF Fed Com 802H)	0.00	0.00	0.00	393569.01	853476.93	32.077993	-103.325562

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	0.00	0.00	Start Build 1.50
2685.78	7.29	29.31	2684.47	26.90	15.10	1.50	29.31	-26.16	Start 4296.76 hold at 2685.78 MD
6982.54	7.29	29.31	6946.53	502.10	281.90	0.00	0.00	-488.38	Start Drop -1.50
7468.32	0.00	0.00	7431.00	529.00	297.00	1.50	180.00	-514.54	Start 4442.04 hold at 7468.32 MD
11910.36	0.00	0.00	11873.04	529.00	297.00	0.00	0.00	-514.54	Start Build 10.00
12810.36	90.00	171.30	12446.00	-37.37	383.67	10.00	171.30	55.26	Start DLS 2.00 TFO 90.00
13217.17	90.00	179.44	12446.00	-442.51	416.49	2.00	90.00	461.49	Start 10712.47 hold at 13217.17 MD
23929.64	90.00	179.44	12446.00	-11154.46	521.87	0.00	0.00	11166.66	TD at 23929.64



TOTAL DIRECTIONAL SERVICES LLC
671 Academy Ct, Windsor, CO 80550
Phone: (970) 460-9402

Plan: Plan #1 (PF Fed Com 802H/OH)
Created By: Dustin Ault Date: 22:08, July 16 2021
Date: _____
Approved: _____ Date: _____

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Franklin Mountain Energy

Lea County, NM (NAD83)

PF Fed Com

PF Fed Com 802H

OH

Plan: Plan #1

Standard Planning Report

16 July, 2021





Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well PF Fed Com 802H
Company:	Franklin Mountain Energy	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Project:	Lea County, NM (NAD83)	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site:	PF Fed Com	North Reference:	Grid
Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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

Site	PF Fed Com				
Site Position:		Northing:	393,493.72 usft	Latitude:	32.077787
From:	Lat/Long	Easting:	853,440.15 usft	Longitude:	-103.325683
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.54

Well	PF Fed Com 802H					
Well Position	+N/-S	75.29 usft	Northing:	393,569.01 usft	Latitude:	32.077993
	+E/-W	36.78 usft	Easting:	853,476.93 usft	Longitude:	-103.325562
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	3,053.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	7/16/2021	6.41	59.80	47,425.72425659

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	177.32

Plan Survey Tool Program	Date	7/16/2021		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	23,929.64 Plan #1 (OH)	OWSG (Rev2) MWD	
			OWSG MWD - Standard	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,685.78	7.29	29.31	2,684.47	26.90	15.10	1.50	1.50	0.00	29.31	
6,982.54	7.29	29.31	6,946.53	502.10	281.90	0.00	0.00	0.00	0.00	
7,468.32	0.00	0.00	7,431.00	529.00	297.00	1.50	-1.50	0.00	180.00	
11,910.36	0.00	0.00	11,873.04	529.00	297.00	0.00	0.00	0.00	0.00	
12,810.36	90.00	171.30	12,446.00	-37.37	383.67	10.00	10.00	0.00	171.30	
13,217.18	90.00	179.44	12,446.00	-442.51	416.49	2.00	0.00	2.00	90.00	
23,929.64	90.00	179.44	12,446.00	-11,154.46	521.87	0.00	0.00	0.00	0.00	PBHL (PF Fed Com 8



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well PF Fed Com 802H
Company:	Franklin Mountain Energy	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Project:	Lea County, NM (NAD83)	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site:	PF Fed Com	North Reference:	Grid
Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SHL (PF Fed Com 802H)									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 1.50									
2,300.00	1.50	29.31	2,299.99	1.14	0.64	-1.11	1.50	1.50	0.00
2,400.00	3.00	29.31	2,399.91	4.56	2.56	-4.44	1.50	1.50	0.00
2,500.00	4.50	29.31	2,499.69	10.27	5.76	-9.99	1.50	1.50	0.00
2,600.00	6.00	29.31	2,599.27	18.25	10.24	-17.75	1.50	1.50	0.00
2,685.78	7.29	29.31	2,684.47	26.90	15.10	-26.16	1.50	1.50	0.00
Start 4296.76 hold at 2685.78 MD									
2,700.00	7.29	29.31	2,698.58	28.47	15.98	-27.69	0.00	0.00	0.00
2,800.00	7.29	29.31	2,797.77	39.53	22.19	-38.45	0.00	0.00	0.00
2,900.00	7.29	29.31	2,896.96	50.59	28.40	-49.21	0.00	0.00	0.00
3,000.00	7.29	29.31	2,996.15	61.65	34.61	-59.97	0.00	0.00	0.00
3,100.00	7.29	29.31	3,095.35	72.71	40.82	-70.72	0.00	0.00	0.00
3,200.00	7.29	29.31	3,194.54	83.77	47.03	-81.48	0.00	0.00	0.00
3,300.00	7.29	29.31	3,293.73	94.83	53.24	-92.24	0.00	0.00	0.00
3,400.00	7.29	29.31	3,392.92	105.89	59.45	-102.99	0.00	0.00	0.00
3,500.00	7.29	29.31	3,492.12	116.95	65.66	-113.75	0.00	0.00	0.00
3,600.00	7.29	29.31	3,591.31	128.01	71.87	-124.51	0.00	0.00	0.00
3,700.00	7.29	29.31	3,690.50	139.07	78.08	-135.27	0.00	0.00	0.00
3,800.00	7.29	29.31	3,789.69	150.13	84.29	-146.02	0.00	0.00	0.00
3,900.00	7.29	29.31	3,888.89	161.19	90.50	-156.78	0.00	0.00	0.00
4,000.00	7.29	29.31	3,988.08	172.25	96.71	-167.54	0.00	0.00	0.00
4,100.00	7.29	29.31	4,087.27	183.31	102.91	-178.30	0.00	0.00	0.00
4,200.00	7.29	29.31	4,186.46	194.36	109.12	-189.05	0.00	0.00	0.00
4,300.00	7.29	29.31	4,285.66	205.42	115.33	-199.81	0.00	0.00	0.00
4,400.00	7.29	29.31	4,384.85	216.48	121.54	-210.57	0.00	0.00	0.00
4,500.00	7.29	29.31	4,484.04	227.54	127.75	-221.32	0.00	0.00	0.00
4,600.00	7.29	29.31	4,583.23	238.60	133.96	-232.08	0.00	0.00	0.00
4,700.00	7.29	29.31	4,682.42	249.66	140.17	-242.84	0.00	0.00	0.00
4,800.00	7.29	29.31	4,781.62	260.72	146.38	-253.60	0.00	0.00	0.00



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well PF Fed Com 802H
Company:	Franklin Mountain Energy	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Project:	Lea County, NM (NAD83)	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site:	PF Fed Com	North Reference:	Grid
Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,900.00	7.29	29.31	4,880.81	271.78	152.59	-264.35	0.00	0.00	0.00
5,000.00	7.29	29.31	4,980.00	282.84	158.80	-275.11	0.00	0.00	0.00
5,100.00	7.29	29.31	5,079.19	293.90	165.01	-285.87	0.00	0.00	0.00
5,200.00	7.29	29.31	5,178.39	304.96	171.22	-296.63	0.00	0.00	0.00
5,300.00	7.29	29.31	5,277.58	316.02	177.43	-307.38	0.00	0.00	0.00
5,400.00	7.29	29.31	5,376.77	327.08	183.63	-318.14	0.00	0.00	0.00
5,500.00	7.29	29.31	5,475.96	338.14	189.84	-328.90	0.00	0.00	0.00
5,600.00	7.29	29.31	5,575.16	349.20	196.05	-339.65	0.00	0.00	0.00
5,700.00	7.29	29.31	5,674.35	360.26	202.26	-350.41	0.00	0.00	0.00
5,800.00	7.29	29.31	5,773.54	371.32	208.47	-361.17	0.00	0.00	0.00
5,900.00	7.29	29.31	5,872.73	382.38	214.68	-371.93	0.00	0.00	0.00
6,000.00	7.29	29.31	5,971.93	393.44	220.89	-382.68	0.00	0.00	0.00
6,100.00	7.29	29.31	6,071.12	404.50	227.10	-393.44	0.00	0.00	0.00
6,200.00	7.29	29.31	6,170.31	415.56	233.31	-404.20	0.00	0.00	0.00
6,300.00	7.29	29.31	6,269.50	426.62	239.52	-414.96	0.00	0.00	0.00
6,400.00	7.29	29.31	6,368.70	437.68	245.73	-425.71	0.00	0.00	0.00
6,500.00	7.29	29.31	6,467.89	448.73	251.94	-436.47	0.00	0.00	0.00
6,600.00	7.29	29.31	6,567.08	459.79	258.15	-447.23	0.00	0.00	0.00
6,700.00	7.29	29.31	6,666.27	470.85	264.35	-457.98	0.00	0.00	0.00
6,800.00	7.29	29.31	6,765.47	481.91	270.56	-468.74	0.00	0.00	0.00
6,900.00	7.29	29.31	6,864.66	492.97	276.77	-479.50	0.00	0.00	0.00
6,982.54	7.29	29.31	6,946.53	502.10	281.90	-488.38	0.00	0.00	0.00
Start Drop -1.50									
7,000.00	7.02	29.31	6,963.85	504.00	282.96	-490.22	1.50	-1.50	0.00
7,100.00	5.52	29.31	7,063.25	513.53	288.31	-499.49	1.50	-1.50	0.00
7,200.00	4.02	29.31	7,162.90	520.79	292.39	-506.55	1.50	-1.50	0.00
7,300.00	2.52	29.31	7,262.74	525.77	295.18	-511.40	1.50	-1.50	0.00
7,400.00	1.02	29.31	7,362.69	528.47	296.70	-514.02	1.50	-1.50	0.00
7,468.32	0.00	0.00	7,431.00	529.00	297.00	-514.54	1.50	-1.50	0.00
Start 4442.04 hold at 7468.32 MD									
7,500.00	0.00	0.00	7,462.68	529.00	297.00	-514.54	0.00	0.00	0.00
7,600.00	0.00	0.00	7,562.68	529.00	297.00	-514.54	0.00	0.00	0.00
7,700.00	0.00	0.00	7,662.68	529.00	297.00	-514.54	0.00	0.00	0.00
7,800.00	0.00	0.00	7,762.68	529.00	297.00	-514.54	0.00	0.00	0.00
7,900.00	0.00	0.00	7,862.68	529.00	297.00	-514.54	0.00	0.00	0.00
8,000.00	0.00	0.00	7,962.68	529.00	297.00	-514.54	0.00	0.00	0.00
8,100.00	0.00	0.00	8,062.68	529.00	297.00	-514.54	0.00	0.00	0.00
8,200.00	0.00	0.00	8,162.68	529.00	297.00	-514.54	0.00	0.00	0.00
8,300.00	0.00	0.00	8,262.68	529.00	297.00	-514.54	0.00	0.00	0.00
8,400.00	0.00	0.00	8,362.68	529.00	297.00	-514.54	0.00	0.00	0.00
8,500.00	0.00	0.00	8,462.68	529.00	297.00	-514.54	0.00	0.00	0.00
8,600.00	0.00	0.00	8,562.68	529.00	297.00	-514.54	0.00	0.00	0.00
8,700.00	0.00	0.00	8,662.68	529.00	297.00	-514.54	0.00	0.00	0.00
8,800.00	0.00	0.00	8,762.68	529.00	297.00	-514.54	0.00	0.00	0.00
8,900.00	0.00	0.00	8,862.68	529.00	297.00	-514.54	0.00	0.00	0.00
9,000.00	0.00	0.00	8,962.68	529.00	297.00	-514.54	0.00	0.00	0.00
9,100.00	0.00	0.00	9,062.68	529.00	297.00	-514.54	0.00	0.00	0.00
9,200.00	0.00	0.00	9,162.68	529.00	297.00	-514.54	0.00	0.00	0.00
9,300.00	0.00	0.00	9,262.68	529.00	297.00	-514.54	0.00	0.00	0.00
9,400.00	0.00	0.00	9,362.68	529.00	297.00	-514.54	0.00	0.00	0.00
9,500.00	0.00	0.00	9,462.68	529.00	297.00	-514.54	0.00	0.00	0.00
9,600.00	0.00	0.00	9,562.68	529.00	297.00	-514.54	0.00	0.00	0.00
9,700.00	0.00	0.00	9,662.68	529.00	297.00	-514.54	0.00	0.00	0.00
9,800.00	0.00	0.00	9,762.68	529.00	297.00	-514.54	0.00	0.00	0.00



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well PF Fed Com 802H
Company:	Franklin Mountain Energy	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Project:	Lea County, NM (NAD83)	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site:	PF Fed Com	North Reference:	Grid
Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,900.00	0.00	0.00	9,862.68	529.00	297.00	-514.54	0.00	0.00	0.00
10,000.00	0.00	0.00	9,962.68	529.00	297.00	-514.54	0.00	0.00	0.00
10,100.00	0.00	0.00	10,062.68	529.00	297.00	-514.54	0.00	0.00	0.00
10,200.00	0.00	0.00	10,162.68	529.00	297.00	-514.54	0.00	0.00	0.00
10,300.00	0.00	0.00	10,262.68	529.00	297.00	-514.54	0.00	0.00	0.00
10,400.00	0.00	0.00	10,362.68	529.00	297.00	-514.54	0.00	0.00	0.00
10,500.00	0.00	0.00	10,462.68	529.00	297.00	-514.54	0.00	0.00	0.00
10,600.00	0.00	0.00	10,562.68	529.00	297.00	-514.54	0.00	0.00	0.00
10,700.00	0.00	0.00	10,662.68	529.00	297.00	-514.54	0.00	0.00	0.00
10,800.00	0.00	0.00	10,762.68	529.00	297.00	-514.54	0.00	0.00	0.00
10,900.00	0.00	0.00	10,862.68	529.00	297.00	-514.54	0.00	0.00	0.00
11,000.00	0.00	0.00	10,962.68	529.00	297.00	-514.54	0.00	0.00	0.00
11,100.00	0.00	0.00	11,062.68	529.00	297.00	-514.54	0.00	0.00	0.00
11,200.00	0.00	0.00	11,162.68	529.00	297.00	-514.54	0.00	0.00	0.00
11,300.00	0.00	0.00	11,262.68	529.00	297.00	-514.54	0.00	0.00	0.00
11,400.00	0.00	0.00	11,362.68	529.00	297.00	-514.54	0.00	0.00	0.00
11,500.00	0.00	0.00	11,462.68	529.00	297.00	-514.54	0.00	0.00	0.00
11,600.00	0.00	0.00	11,562.68	529.00	297.00	-514.54	0.00	0.00	0.00
11,700.00	0.00	0.00	11,662.68	529.00	297.00	-514.54	0.00	0.00	0.00
11,800.00	0.00	0.00	11,762.68	529.00	297.00	-514.54	0.00	0.00	0.00
11,900.00	0.00	0.00	11,862.68	529.00	297.00	-514.54	0.00	0.00	0.00
11,910.36	0.00	0.00	11,873.04	529.00	297.00	-514.54	0.00	0.00	0.00
Start Build 10.00									
11,950.00	3.96	171.30	11,912.65	527.64	297.21	-513.18	10.00	10.00	0.00
12,000.00	8.96	171.30	11,962.32	522.08	298.06	-507.58	10.00	10.00	0.00
12,050.00	13.96	171.30	12,011.30	512.26	299.56	-497.70	10.00	10.00	0.00
12,100.00	18.96	171.30	12,059.24	498.26	301.70	-483.61	10.00	10.00	0.00
12,150.00	23.96	171.30	12,105.76	480.18	304.47	-465.42	10.00	10.00	0.00
12,200.00	28.96	171.30	12,150.50	458.16	307.84	-443.27	10.00	10.00	0.00
12,250.00	33.96	171.30	12,193.14	432.37	311.79	-417.33	10.00	10.00	0.00
12,300.00	38.96	171.30	12,233.34	403.01	316.28	-387.78	10.00	10.00	0.00
12,350.00	43.96	171.30	12,270.79	370.29	321.29	-354.87	10.00	10.00	0.00
12,400.00	48.96	171.30	12,305.22	334.47	326.77	-318.83	10.00	10.00	0.00
12,450.00	53.96	171.30	12,336.36	295.82	332.68	-279.95	10.00	10.00	0.00
12,500.00	58.96	171.30	12,363.98	254.64	338.98	-238.52	10.00	10.00	0.00
12,550.00	63.96	171.30	12,387.85	211.23	345.63	-194.85	10.00	10.00	0.00
12,600.00	68.96	171.30	12,407.81	165.93	352.56	-149.27	10.00	10.00	0.00
12,650.00	73.96	171.30	12,423.70	119.09	359.73	-102.14	10.00	10.00	0.00
12,700.00	78.96	171.30	12,435.40	71.05	367.08	-53.82	10.00	10.00	0.00
12,750.00	83.96	171.30	12,442.82	22.19	374.55	-4.66	10.00	10.00	0.00
12,800.00	88.96	171.30	12,445.90	-27.13	382.10	44.96	10.00	10.00	0.00
12,810.36	90.00	171.30	12,446.00	-37.37	383.67	55.26	10.00	10.00	0.00
Start DLS 2.00 TFO 90.00									
12,810.36	90.00	171.30	12,446.00	-37.37	383.67	55.26	0.00	0.00	0.00
LP (PF Fed Com 802H)									
12,900.00	90.00	173.09	12,446.00	-126.17	395.84	144.54	2.00	0.00	2.00
13,000.00	90.00	175.09	12,446.00	-225.64	406.13	244.37	2.00	0.00	2.00
13,100.00	90.00	177.09	12,446.00	-325.40	412.94	344.34	2.00	0.00	2.00
13,200.00	90.00	179.09	12,446.00	-425.34	416.27	444.33	2.00	0.00	2.00
13,217.18	90.00	179.44	12,446.00	-442.51	416.49	461.49	2.00	0.00	2.00
Start 10712.47 hold at 13217.17 MD									
13,300.00	90.00	179.44	12,446.00	-525.33	417.30	544.26	0.00	0.00	0.00
13,400.00	90.00	179.44	12,446.00	-625.33	418.29	644.20	0.00	0.00	0.00



Total Directional Services

Planning Report



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Project:	Lea County, NM (NAD83)	MD Reference:	3053' GE + 30' KB @ 3083.00usft
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Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,500.00	90.00	179.44	12,446.00	-725.32	419.27	744.13	0.00	0.00	0.00
13,600.00	90.00	179.44	12,446.00	-825.32	420.26	844.06	0.00	0.00	0.00
13,700.00	90.00	179.44	12,446.00	-925.32	421.24	943.99	0.00	0.00	0.00
13,800.00	90.00	179.44	12,446.00	-1,025.31	422.22	1,043.92	0.00	0.00	0.00
13,900.00	90.00	179.44	12,446.00	-1,125.31	423.21	1,143.85	0.00	0.00	0.00
14,000.00	90.00	179.44	12,446.00	-1,225.30	424.19	1,243.79	0.00	0.00	0.00
14,100.00	90.00	179.44	12,446.00	-1,325.30	425.17	1,343.72	0.00	0.00	0.00
14,200.00	90.00	179.44	12,446.00	-1,425.29	426.16	1,443.65	0.00	0.00	0.00
14,300.00	90.00	179.44	12,446.00	-1,525.29	427.14	1,543.58	0.00	0.00	0.00
14,400.00	90.00	179.44	12,446.00	-1,625.28	428.13	1,643.51	0.00	0.00	0.00
14,500.00	90.00	179.44	12,446.00	-1,725.28	429.11	1,743.45	0.00	0.00	0.00
14,600.00	90.00	179.44	12,446.00	-1,825.27	430.09	1,843.38	0.00	0.00	0.00
14,700.00	90.00	179.44	12,446.00	-1,925.27	431.08	1,943.31	0.00	0.00	0.00
14,800.00	90.00	179.44	12,446.00	-2,025.26	432.06	2,043.24	0.00	0.00	0.00
14,900.00	90.00	179.44	12,446.00	-2,125.26	433.04	2,143.17	0.00	0.00	0.00
15,000.00	90.00	179.44	12,446.00	-2,225.25	434.03	2,243.11	0.00	0.00	0.00
15,100.00	90.00	179.44	12,446.00	-2,325.25	435.01	2,343.04	0.00	0.00	0.00
15,200.00	90.00	179.44	12,446.00	-2,425.24	436.00	2,442.97	0.00	0.00	0.00
15,300.00	90.00	179.44	12,446.00	-2,525.24	436.98	2,542.90	0.00	0.00	0.00
15,400.00	90.00	179.44	12,446.00	-2,625.23	437.96	2,642.83	0.00	0.00	0.00
15,500.00	90.00	179.44	12,446.00	-2,725.23	438.95	2,742.76	0.00	0.00	0.00
15,600.00	90.00	179.44	12,446.00	-2,825.22	439.93	2,842.70	0.00	0.00	0.00
15,700.00	90.00	179.44	12,446.00	-2,925.22	440.91	2,942.63	0.00	0.00	0.00
15,800.00	90.00	179.44	12,446.00	-3,025.21	441.90	3,042.56	0.00	0.00	0.00
15,900.00	90.00	179.44	12,446.00	-3,125.21	442.88	3,142.49	0.00	0.00	0.00
16,000.00	90.00	179.44	12,446.00	-3,225.20	443.87	3,242.42	0.00	0.00	0.00
16,100.00	90.00	179.44	12,446.00	-3,325.20	444.85	3,342.36	0.00	0.00	0.00
16,200.00	90.00	179.44	12,446.00	-3,425.19	445.83	3,442.29	0.00	0.00	0.00
16,300.00	90.00	179.44	12,446.00	-3,525.19	446.82	3,542.22	0.00	0.00	0.00
16,400.00	90.00	179.44	12,446.00	-3,625.18	447.80	3,642.15	0.00	0.00	0.00
16,500.00	90.00	179.44	12,446.00	-3,725.18	448.78	3,742.08	0.00	0.00	0.00
16,600.00	90.00	179.44	12,446.00	-3,825.17	449.77	3,842.02	0.00	0.00	0.00
16,700.00	90.00	179.44	12,446.00	-3,925.17	450.75	3,941.95	0.00	0.00	0.00
16,800.00	90.00	179.44	12,446.00	-4,025.17	451.74	4,041.88	0.00	0.00	0.00
16,900.00	90.00	179.44	12,446.00	-4,125.16	452.72	4,141.81	0.00	0.00	0.00
17,000.00	90.00	179.44	12,446.00	-4,225.16	453.70	4,241.74	0.00	0.00	0.00
17,100.00	90.00	179.44	12,446.00	-4,325.15	454.69	4,341.67	0.00	0.00	0.00
17,200.00	90.00	179.44	12,446.00	-4,425.15	455.67	4,441.61	0.00	0.00	0.00
17,300.00	90.00	179.44	12,446.00	-4,525.14	456.65	4,541.54	0.00	0.00	0.00
17,400.00	90.00	179.44	12,446.00	-4,625.14	457.64	4,641.47	0.00	0.00	0.00
17,500.00	90.00	179.44	12,446.00	-4,725.13	458.62	4,741.40	0.00	0.00	0.00
17,600.00	90.00	179.44	12,446.00	-4,825.13	459.61	4,841.33	0.00	0.00	0.00
17,700.00	90.00	179.44	12,446.00	-4,925.12	460.59	4,941.27	0.00	0.00	0.00
17,800.00	90.00	179.44	12,446.00	-5,025.12	461.57	5,041.20	0.00	0.00	0.00
17,900.00	90.00	179.44	12,446.00	-5,125.11	462.56	5,141.13	0.00	0.00	0.00
18,000.00	90.00	179.44	12,446.00	-5,225.11	463.54	5,241.06	0.00	0.00	0.00
18,100.00	90.00	179.44	12,446.00	-5,325.10	464.53	5,340.99	0.00	0.00	0.00
18,200.00	90.00	179.44	12,446.00	-5,425.10	465.51	5,440.93	0.00	0.00	0.00
18,300.00	90.00	179.44	12,446.00	-5,525.09	466.49	5,540.86	0.00	0.00	0.00
18,400.00	90.00	179.44	12,446.00	-5,625.09	467.48	5,640.79	0.00	0.00	0.00
18,500.00	90.00	179.44	12,446.00	-5,725.08	468.46	5,740.72	0.00	0.00	0.00
18,600.00	90.00	179.44	12,446.00	-5,825.08	469.44	5,840.65	0.00	0.00	0.00
18,700.00	90.00	179.44	12,446.00	-5,925.07	470.43	5,940.58	0.00	0.00	0.00
18,800.00	90.00	179.44	12,446.00	-6,025.07	471.41	6,040.52	0.00	0.00	0.00



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well PF Fed Com 802H
Company:	Franklin Mountain Energy	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Project:	Lea County, NM (NAD83)	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site:	PF Fed Com	North Reference:	Grid
Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
18,900.00	90.00	179.44	12,446.00	-6,125.06	472.40	6,140.45	0.00	0.00	0.00	
19,000.00	90.00	179.44	12,446.00	-6,225.06	473.38	6,240.38	0.00	0.00	0.00	
19,100.00	90.00	179.44	12,446.00	-6,325.05	474.36	6,340.31	0.00	0.00	0.00	
19,200.00	90.00	179.44	12,446.00	-6,425.05	475.35	6,440.24	0.00	0.00	0.00	
19,300.00	90.00	179.44	12,446.00	-6,525.04	476.33	6,540.18	0.00	0.00	0.00	
19,400.00	90.00	179.44	12,446.00	-6,625.04	477.31	6,640.11	0.00	0.00	0.00	
19,500.00	90.00	179.44	12,446.00	-6,725.03	478.30	6,740.04	0.00	0.00	0.00	
19,600.00	90.00	179.44	12,446.00	-6,825.03	479.28	6,839.97	0.00	0.00	0.00	
19,700.00	90.00	179.44	12,446.00	-6,925.02	480.27	6,939.90	0.00	0.00	0.00	
19,800.00	90.00	179.44	12,446.00	-7,025.02	481.25	7,039.84	0.00	0.00	0.00	
19,900.00	90.00	179.44	12,446.00	-7,125.02	482.23	7,139.77	0.00	0.00	0.00	
20,000.00	90.00	179.44	12,446.00	-7,225.01	483.22	7,239.70	0.00	0.00	0.00	
20,100.00	90.00	179.44	12,446.00	-7,325.01	484.20	7,339.63	0.00	0.00	0.00	
20,200.00	90.00	179.44	12,446.00	-7,425.00	485.18	7,439.56	0.00	0.00	0.00	
20,300.00	90.00	179.44	12,446.00	-7,525.00	486.17	7,539.49	0.00	0.00	0.00	
20,400.00	90.00	179.44	12,446.00	-7,624.99	487.15	7,639.43	0.00	0.00	0.00	
20,500.00	90.00	179.44	12,446.00	-7,724.99	488.14	7,739.36	0.00	0.00	0.00	
20,600.00	90.00	179.44	12,446.00	-7,824.98	489.12	7,839.29	0.00	0.00	0.00	
20,700.00	90.00	179.44	12,446.00	-7,924.98	490.10	7,939.22	0.00	0.00	0.00	
20,800.00	90.00	179.44	12,446.00	-8,024.97	491.09	8,039.15	0.00	0.00	0.00	
20,900.00	90.00	179.44	12,446.00	-8,124.97	492.07	8,139.09	0.00	0.00	0.00	
21,000.00	90.00	179.44	12,446.00	-8,224.96	493.05	8,239.02	0.00	0.00	0.00	
21,100.00	90.00	179.44	12,446.00	-8,324.96	494.04	8,338.95	0.00	0.00	0.00	
21,200.00	90.00	179.44	12,446.00	-8,424.95	495.02	8,438.88	0.00	0.00	0.00	
21,300.00	90.00	179.44	12,446.00	-8,524.95	496.01	8,538.81	0.00	0.00	0.00	
21,400.00	90.00	179.44	12,446.00	-8,624.94	496.99	8,638.75	0.00	0.00	0.00	
21,500.00	90.00	179.44	12,446.00	-8,724.94	497.97	8,738.68	0.00	0.00	0.00	
21,600.00	90.00	179.44	12,446.00	-8,824.93	498.96	8,838.61	0.00	0.00	0.00	
21,700.00	90.00	179.44	12,446.00	-8,924.93	499.94	8,938.54	0.00	0.00	0.00	
21,800.00	90.00	179.44	12,446.00	-9,024.92	500.92	9,038.47	0.00	0.00	0.00	
21,900.00	90.00	179.44	12,446.00	-9,124.92	501.91	9,138.40	0.00	0.00	0.00	
22,000.00	90.00	179.44	12,446.00	-9,224.91	502.89	9,238.34	0.00	0.00	0.00	
22,100.00	90.00	179.44	12,446.00	-9,324.91	503.88	9,338.27	0.00	0.00	0.00	
22,200.00	90.00	179.44	12,446.00	-9,424.90	504.86	9,438.20	0.00	0.00	0.00	
22,300.00	90.00	179.44	12,446.00	-9,524.90	505.84	9,538.13	0.00	0.00	0.00	
22,400.00	90.00	179.44	12,446.00	-9,624.89	506.83	9,638.06	0.00	0.00	0.00	
22,500.00	90.00	179.44	12,446.00	-9,724.89	507.81	9,738.00	0.00	0.00	0.00	
22,600.00	90.00	179.44	12,446.00	-9,824.88	508.79	9,837.93	0.00	0.00	0.00	
22,700.00	90.00	179.44	12,446.00	-9,924.88	509.78	9,937.86	0.00	0.00	0.00	
22,800.00	90.00	179.44	12,446.00	-10,024.87	510.76	10,037.79	0.00	0.00	0.00	
22,900.00	90.00	179.44	12,446.00	-10,124.87	511.75	10,137.72	0.00	0.00	0.00	
23,000.00	90.00	179.44	12,446.00	-10,224.87	512.73	10,237.66	0.00	0.00	0.00	
23,100.00	90.00	179.44	12,446.00	-10,324.86	513.71	10,337.59	0.00	0.00	0.00	
23,200.00	90.00	179.44	12,446.00	-10,424.86	514.70	10,437.52	0.00	0.00	0.00	
23,300.00	90.00	179.44	12,446.00	-10,524.85	515.68	10,537.45	0.00	0.00	0.00	
23,400.00	90.00	179.44	12,446.00	-10,624.85	516.66	10,637.38	0.00	0.00	0.00	
23,500.00	90.00	179.44	12,446.00	-10,724.84	517.65	10,737.31	0.00	0.00	0.00	
23,600.00	90.00	179.44	12,446.00	-10,824.84	518.63	10,837.25	0.00	0.00	0.00	
23,700.00	90.00	179.44	12,446.00	-10,924.83	519.62	10,937.18	0.00	0.00	0.00	
23,800.00	90.00	179.44	12,446.00	-11,024.83	520.60	11,037.11	0.00	0.00	0.00	
23,900.00	90.00	179.44	12,446.00	-11,124.82	521.58	11,137.04	0.00	0.00	0.00	
23,929.64	90.00	179.44	12,446.00	-11,154.46	521.87	11,166.66	0.00	0.00	0.00	
TD at 23929.64 - PBHL (PF Fed Com 802H)										



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well PF Fed Com 802H
Company:	Franklin Mountain Energy	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Project:	Lea County, NM (NAD83)	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site:	PF Fed Com	North Reference:	Grid
Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL (PF Fed Com 802H - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	393,569.01	853,476.93	32.077993	-103.325562
LP (PF Fed Com 802H) - plan hits target center - Point	0.00	0.00	12,446.00	-37.37	383.67	393,531.64	853,860.60	32.077881	-103.324325
PBHL (PF Fed Com 802 - plan hits target center - Point	0.00	0.00	12,446.00	-11,154.46	521.87	382,414.55	853,998.80	32.047321	-103.324214

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,200.00	2,200.00	0.00	0.00	Start Build 1.50
2,685.78	2,684.47	26.90	15.10	Start 4296.76 hold at 2685.78 MD
6,982.54	6,946.53	502.10	281.90	Start Drop -1.50
7,468.32	7,431.00	529.00	297.00	Start 4442.04 hold at 7468.32 MD
11,910.36	11,873.04	529.00	297.00	Start Build 10.00
12,810.36	12,446.00	-37.37	383.67	Start DLS 2.00 TFO 90.00
13,217.18	12,446.00	-442.51	416.49	Start 10712.47 hold at 13217.17 MD
23,929.64	12,446.00	-11,154.46	521.87	TD at 23929.64



Franklin Mountain Energy

Lea County, NM (NAD83)

PF Fed Com

PF Fed Com 802H

OH

Plan #1

Anticollision Report

16 July, 2021





Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference	Plan #1
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	Stations
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	7/16/2021
From (usft)	To (usft)	Survey (Wellbore)
0.00	23,929.64	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						
Bus Driver/Kaston Fed Com						
Bus Driver Fed Com 602H - OH - OH	9,890.49	9,880.86	549.67	502.45	11.640	CC
Bus Driver Fed Com 602H - OH - OH	9,900.00	9,888.45	549.69	502.42	11.630	ES
Bus Driver Fed Com 602H - OH - OH	17,300.00	16,643.00	665.53	567.52	6.790	SF
Bus Driver Fed Com 602H - OH - Plan #6	23,928.35	23,302.33	455.80	190.17	1.716	CC
Bus Driver Fed Com 602H - OH - Plan #6	23,929.64	23,302.33	455.80	190.14	1.716	ES, SF
Bus Driver Fed Com 702H - OH - OH	11,452.45	11,480.33	84.57	29.13	1.525	CC, ES, SF
Bus Driver Fed Com 702H - OH - Plan #5	11,501.68	11,523.72	102.00	46.63	1.842	CC
Bus Driver Fed Com 702H - OH - Plan #5	11,600.00	11,621.17	102.31	46.35	1.828	ES, SF
Kaston Fed Com 603H - OH - OH	3,638.37	3,490.50	1,462.00	1,446.27	92.958	CC
Kaston Fed Com 603H - OH - OH	23,929.64	23,336.22	1,560.69	1,280.81	5.576	ES, SF
Kaston Fed Com 703H - OH - OH	11,149.28	11,145.67	1,074.72	1,021.32	20.128	CC
Kaston Fed Com 703H - OH - OH	11,500.00	11,491.72	1,075.29	1,020.17	19.507	ES
Kaston Fed Com 703H - OH - OH	11,900.00	11,821.22	1,098.19	1,041.14	19.250	SF
Kaston Fed Com 703H - OH - Plan #9	23,927.27	23,504.65	1,045.92	786.53	4.032	CC
Kaston Fed Com 703H - OH - Plan #9	23,929.64	23,504.65	1,045.92	786.49	4.032	ES, SF
Judge Baylor Fed Com						
Judge Baylor Fed Com 601H - OH - Plan #5	4,726.24	4,735.62	1,114.65	1,090.82	46.782	CC
Judge Baylor Fed Com 601H - OH - Plan #5	4,900.00	4,905.42	1,115.26	1,090.54	45.108	ES
Judge Baylor Fed Com 601H - OH - Plan #5	22,614.75	22,101.01	1,425.46	1,185.67	5.945	SF
Judge Baylor Fed Com 701H - OH - Plan #5	11,701.23	11,692.39	938.48	879.65	15.953	CC
Judge Baylor Fed Com 701H - OH - Plan #5	22,600.00	22,376.69	1,064.74	817.61	4.309	ES, SF
LHS Wildcat Fed Com						
LHS Wildcat Fed Com 604H - OH - OH	19,321.36	18,564.00	2,900.82	2,727.38	16.725	CC
LHS Wildcat Fed Com 604H - OH - OH	22,500.00	21,686.88	2,927.53	2,683.89	12.016	ES
LHS Wildcat Fed Com 604H - OH - OH	22,800.00	21,860.00	2,938.90	2,685.99	11.620	SF
LHS Wildcat Fed Com 705H - OH - OH	18,152.78	17,655.00	3,203.47	3,054.46	21.498	CC
LHS Wildcat Fed Com 705H - OH - OH	22,400.00	21,851.65	3,225.48	2,982.88	13.295	ES
LHS Wildcat Fed Com 705H - OH - OH	23,000.00	22,230.00	3,254.53	2,997.52	12.663	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 PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

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						
PF Fed Com						
PF Fed Com 101H - OH - Plan #1	2,303.04	2,305.52	80.33	68.99	7.082	CC, ES
PF Fed Com 101H - OH - Plan #1	2,400.00	2,402.72	81.55	69.72	6.892	SF
PF Fed Com 102H - OH - Plan #1	2,200.00	2,200.00	83.80	72.97	7.742	CC, ES
PF Fed Com 102H - OH - Plan #1	2,500.00	2,500.78	88.76	76.43	7.198	SF
PF Fed Com 501H - OH - Plan #1	2,394.35	2,398.19	72.87	61.07	6.176	CC
PF Fed Com 501H - OH - Plan #1	2,400.00	2,403.89	72.87	61.04	6.161	ES
PF Fed Com 501H - OH - Plan #1	2,500.00	2,504.65	73.91	61.58	5.994	SF
PF Fed Com 502H - OH - Plan #1	2,200.00	2,200.00	75.96	65.14	7.018	CC, ES
PF Fed Com 502H - OH - Plan #1	3,300.00	3,306.70	106.69	90.16	6.453	SF
PF Fed Com 801H - OH - Plan #1	2,000.00	2,000.00	25.09	15.28	2.558	CC, ES
PF Fed Com 801H - OH - Plan #1	2,100.00	2,099.53	25.99	15.68	2.520	SF
PF Fed Com 803H - OH - Plan #1	1,600.00	1,600.00	24.78	17.00	3.184	CC, ES, SF

Offset Design

Bus Driver/Kaston Fed Com - Bus Driver Fed Com 602H - OH - OH												Offset Site Error:	0.00 usft
Survey Program: 112-OWSG (Rev2) MWD, 1352-OWSG (Rev2) MWD												Offset Well Error:	0.00 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	4.37	4.37	0.00	0.01	50.61	897.07	1,092.46	1,413.58				
100.00	100.00	101.38	101.38	0.13	0.13	50.60	897.23	1,092.48	1,413.70	1,413.51	0.18	7,728.228	
178.19	178.19	182.69	182.69	0.41	0.39	50.60	897.25	1,092.45	1,413.68	1,413.12	0.56	2,507.419	
200.00	200.00	199.57	199.57	0.48	0.45	50.60	897.30	1,092.45	1,413.72	1,413.06	0.66	2,138.330	
300.00	300.00	303.93	303.93	0.84	0.82	50.56	898.20	1,091.92	1,413.88	1,412.70	1.18	1,201.420	
400.00	400.00	410.09	410.05	1.20	1.20	50.45	900.15	1,090.07	1,413.70	1,412.00	1.70	832.154	
500.00	500.00	528.63	528.55	1.56	1.62	50.34	901.25	1,087.25	1,412.42	1,410.17	2.25	627.299	
600.00	600.00	654.09	653.95	1.92	2.07	50.31	899.81	1,084.14	1,409.77	1,406.95	2.82	500.438	
700.00	700.00	761.26	761.02	2.28	2.44	50.36	896.08	1,081.79	1,405.85	1,402.52	3.33	421.844	
800.00	800.00	883.83	883.26	2.63	2.87	50.64	887.10	1,081.55	1,401.04	1,397.15	3.88	360.709	
900.00	900.00	967.41	966.60	2.99	3.17	50.82	880.82	1,080.64	1,395.52	1,391.18	4.34	321.251	
1,000.00	1,000.00	1,059.73	1,058.75	3.35	3.50	50.99	875.29	1,080.33	1,391.47	1,386.64	4.83	288.225	
1,100.00	1,100.00	1,155.04	1,153.91	3.71	3.84	51.14	869.94	1,079.85	1,387.56	1,382.24	5.32	260.787	
1,200.00	1,200.00	1,246.01	1,244.78	4.07	4.16	51.28	865.61	1,079.88	1,384.57	1,378.77	5.80	238.582	
1,300.00	1,300.00	1,331.23	1,329.93	4.43	4.47	51.38	862.48	1,079.64	1,382.08	1,375.81	6.27	220.367	
1,400.00	1,400.00	1,425.00	1,423.68	4.79	4.68	51.44	860.44	1,079.29	1,380.43	1,373.76	6.67	206.909	
1,500.00	1,500.00	1,519.00	1,517.67	5.14	4.70	51.45	859.50	1,078.44	1,379.11	1,372.16	6.95	198.501	
1,593.50	1,593.50	1,599.34	1,598.00	5.48	4.74	51.40	860.03	1,077.45	1,378.60	1,371.38	7.22	190.871	
1,600.00	1,600.00	1,604.79	1,603.46	5.50	4.74	51.40	860.11	1,077.39	1,378.61	1,371.36	7.24	190.364	
1,700.00	1,700.00	1,697.67	1,696.32	5.86	4.80	51.32	861.84	1,076.44	1,378.97	1,371.41	7.56	182.487	
1,800.00	1,800.00	1,796.17	1,794.78	6.22	4.89	51.22	864.07	1,075.49	1,379.64	1,371.75	7.89	174.810	
1,900.00	1,900.00	1,895.11	1,893.69	6.58	5.00	51.13	866.31	1,074.64	1,380.38	1,372.14	8.25	167.413	
2,000.00	2,000.00	1,991.00	1,989.56	6.94	5.13	51.04	868.48	1,074.19	1,381.44	1,372.83	8.61	160.431	
2,100.00	2,100.00	2,080.09	2,078.62	7.29	5.27	50.98	870.65	1,074.28	1,383.03	1,374.05	8.98	153.988	
2,200.00	2,200.00	2,174.38	2,172.88	7.65	5.43	50.91	873.19	1,074.74	1,385.11	1,375.74	9.37	147.868	
2,300.00	2,299.99	2,271.54	2,269.99	8.01	5.61	21.54	876.00	1,075.45	1,386.28	1,376.52	9.76	141.967	
2,400.00	2,399.91	2,368.84	2,367.25	8.37	5.80	21.52	879.04	1,076.22	1,385.22	1,375.05	10.17	136.197	
2,500.00	2,499.69	2,468.73	2,467.07	8.72	6.02	21.56	882.29	1,077.05	1,381.83	1,371.24	10.59	130.504	
2,600.00	2,599.27	2,573.84	2,572.15	9.08	6.26	21.70	884.58	1,078.47	1,375.73	1,364.71	11.02	124.834	
2,685.78	2,684.47	2,655.90	2,654.18	9.39	6.46	21.89	885.89	1,080.04	1,368.64	1,357.26	11.38	120.237	
2,700.00	2,698.58	2,679.73	2,678.01	9.44	6.51	21.94	886.20	1,080.46	1,367.28	1,355.82	11.46	119.319	

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Bus Driver/Kaston Fed Com - Bus Driver Fed Com 602H - OH - OH		Offset Site Error: 0.00 usft	
Survey Program: 112-OWSG (Rev2) MWD, 1352-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
2,800.00	2,797.77	2,807.04	2,805.31	9.81	6.82	22.21	886.16	1,081.09	1,355.75	1,343.82	11.93	113.657				
2,900.00	2,896.96	2,897.99	2,896.26	10.17	7.05	22.41	885.94	1,081.20	1,343.95	1,331.60	12.35	108.802				
3,000.00	2,996.15	2,981.12	2,979.39	10.54	7.27	22.60	886.22	1,081.97	1,333.16	1,320.39	12.77	104.385				
3,100.00	3,095.35	3,068.89	3,067.13	10.92	7.51	22.80	886.99	1,083.81	1,323.61	1,310.41	13.20	100.253				
3,200.00	3,194.54	3,196.65	3,194.86	11.29	7.87	23.15	887.30	1,086.65	1,313.96	1,300.26	13.70	95.904				
3,300.00	3,293.73	3,363.96	3,362.02	11.67	8.34	23.74	880.97	1,086.54	1,299.92	1,285.68	14.24	91.276				
3,400.00	3,392.92	3,522.95	3,520.41	12.05	8.80	24.43	868.30	1,081.41	1,280.93	1,266.18	14.75	86.843				
3,500.00	3,492.12	3,626.37	3,623.25	12.43	9.11	24.81	859.82	1,074.71	1,259.40	1,244.18	15.21	82.794				
3,600.00	3,591.31	3,711.49	3,707.98	12.81	9.38	25.08	854.18	1,068.77	1,238.44	1,222.77	15.66	79.062				
3,700.00	3,690.50	3,804.98	3,801.12	13.20	9.67	25.30	849.77	1,062.00	1,218.38	1,202.26	16.13	75.555				
3,800.00	3,789.69	3,939.71	3,935.14	13.58	10.10	25.69	841.31	1,051.25	1,196.92	1,180.31	16.61	72.058				
3,900.00	3,888.89	4,049.83	4,044.31	13.97	10.46	26.20	829.86	1,042.40	1,173.04	1,155.96	17.08	68.667				
4,000.00	3,988.08	4,129.39	4,123.19	14.36	10.73	26.60	821.54	1,036.28	1,149.54	1,131.98	17.55	65.491				
4,100.00	4,087.27	4,216.31	4,209.57	14.75	11.03	26.99	814.13	1,030.11	1,127.61	1,109.59	18.03	62.554				
4,200.00	4,186.46	4,298.94	4,291.77	15.14	11.31	27.34	807.94	1,024.27	1,106.40	1,087.90	18.50	59.805				
4,300.00	4,285.66	4,374.99	4,367.54	15.53	11.56	27.69	802.86	1,020.30	1,087.15	1,068.18	18.97	57.304				
4,400.00	4,384.85	4,458.00	4,450.35	15.92	11.84	28.07	798.23	1,017.09	1,069.65	1,050.20	19.45	55.004				
4,500.00	4,484.04	4,559.97	4,552.11	16.31	12.18	28.58	792.43	1,013.95	1,052.85	1,032.91	19.94	52.806				
4,600.00	4,583.23	4,675.27	4,667.00	16.71	12.58	29.27	783.62	1,009.78	1,034.60	1,014.16	20.44	50.616				
4,700.00	4,682.42	4,773.56	4,764.91	17.10	12.92	29.85	776.10	1,005.55	1,015.93	994.99	20.93	48.530				
4,800.00	4,781.62	4,873.31	4,864.27	17.50	13.27	30.46	768.64	1,001.08	997.29	975.86	21.43	46.537				
4,900.00	4,880.81	4,979.84	4,970.34	17.89	13.65	31.14	760.22	995.94	978.28	956.35	21.93	44.610				
5,000.00	4,980.00	5,076.77	5,066.82	18.29	13.99	31.79	752.34	990.75	958.83	936.40	22.43	42.748				
5,100.00	5,079.19	5,181.62	5,171.16	18.68	14.37	32.50	743.90	984.88	939.33	916.40	22.93	40.963				
5,200.00	5,178.39	5,285.99	5,274.80	19.08	14.75	33.39	733.06	979.25	919.04	895.61	23.44	39.212				
5,300.00	5,277.58	5,381.98	5,369.97	19.48	15.11	34.36	721.30	974.66	898.65	874.69	23.95	37.517				
5,400.00	5,376.77	5,473.81	5,461.03	19.87	15.45	35.33	710.25	970.51	878.84	854.37	24.47	35.910				
5,500.00	5,475.96	5,564.09	5,550.63	20.27	15.79	36.31	699.72	966.93	859.96	834.96	25.00	34.402				
5,600.00	5,575.16	5,673.28	5,659.01	20.67	16.20	37.52	687.40	962.20	841.22	815.70	25.52	32.965				
5,700.00	5,674.35	5,767.00	5,752.04	21.07	16.55	38.54	677.24	957.03	821.89	795.85	26.05	31.553				
5,800.00	5,773.54	5,861.00	5,845.44	21.47	16.91	39.57	667.85	952.24	803.53	776.95	26.58	30.231				
5,900.00	5,872.73	5,948.45	5,932.44	21.87	17.23	40.54	659.80	948.47	786.42	759.31	27.12	29.003				
6,000.00	5,971.93	6,044.86	6,028.39	22.27	17.59	41.65	651.16	944.61	769.99	742.34	27.65	27.847				
6,100.00	6,071.12	6,138.63	6,121.74	22.67	17.94	42.75	643.05	941.03	754.14	725.95	28.19	26.752				
6,200.00	6,170.31	6,249.13	6,231.70	23.07	18.35	44.10	633.37	936.18	738.05	709.32	28.73	25.691				
6,300.00	6,269.50	6,353.71	6,335.63	23.47	18.75	45.47	623.32	930.18	720.76	691.49	29.27	24.625				
6,400.00	6,368.70	6,449.33	6,430.62	23.87	19.11	46.79	614.00	924.48	703.63	673.80	29.82	23.592				
6,500.00	6,467.89	6,545.57	6,526.21	24.27	19.48	48.21	604.40	918.92	687.02	656.64	30.38	22.611				
6,600.00	6,567.08	6,639.79	6,619.83	24.67	19.84	49.66	595.11	913.70	671.11	640.16	30.95	21.683				
6,700.00	6,666.27	6,732.91	6,712.45	25.07	20.20	51.09	586.71	908.97	656.27	624.75	31.52	20.822				
6,800.00	6,765.47	6,829.68	6,808.77	25.47	20.56	52.58	578.65	904.29	642.24	610.16	32.09	20.017				
6,900.00	6,864.66	6,929.83	6,908.51	25.88	20.94	54.12	571.18	899.19	628.54	595.89	32.65	19.251				
6,982.54	6,946.53	7,012.94	6,991.32	26.21	21.24	55.33	566.15	894.35	617.11	584.00	33.11	18.637				
7,000.00	6,963.85	7,029.59	7,007.92	26.28	21.31	55.53	565.25	893.36	614.74	581.53	33.21	18.510				
7,100.00	7,063.25	7,125.48	7,103.53	26.67	21.66	56.61	560.45	887.84	602.42	568.66	33.77	17.841				
7,200.00	7,162.90	7,222.07	7,199.87	27.05	22.01	57.55	555.76	882.64	592.18	557.87	34.31	17.260				
7,300.00	7,262.74	7,321.26	7,298.83	27.41	22.37	58.30	551.47	877.55	583.79	548.95	34.84	16.758				
7,400.00	7,362.69	7,418.70	7,396.06	27.77	22.72	58.84	547.57	872.45	576.79	541.43	35.35	16.315				
7,468.32	7,431.00	7,482.80	7,460.05	28.00	22.95	58.38	545.15	869.55	573.30	537.61	35.70	16.061				
7,500.00	7,462.68	7,512.71	7,489.92	28.10	23.06	58.48	544.13	868.34	572.00	536.14	35.85	15.954				
7,600.00	7,562.68	7,604.50	7,581.63	28.44	23.38	58.72	541.71	865.30	568.62	532.28	36.34	15.646				
7,700.00	7,662.68	7,694.87	7,671.98	28.78	23.69	58.76	541.25	863.83	566.98	530.17	36.81	15.402				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Bus Driver/Kaston Fed Com - Bus Driver Fed Com 602H - OH - OH		Offset Site Error: 0.00 usft	
Survey Program: 112-OWSG (Rev2) MWD, 1352-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
7,763.98	7,726.67	7,754.06	7,731.17	28.99	23.88	88.73	541.59	863.60	566.74	529.63	37.10	15.274				
7,800.00	7,762.68	7,789.84	7,766.94	29.11	23.99	88.70	541.84	863.60	566.74	529.47	37.27	15.206				
7,900.00	7,862.68	7,888.09	7,865.20	29.45	24.30	88.66	542.22	863.73	566.89	529.16	37.73	15.024				
8,000.00	7,962.68	7,984.96	7,962.07	29.79	24.61	88.67	542.13	864.33	567.51	529.31	38.19	14.858				
8,100.00	8,062.68	8,081.71	8,058.81	30.13	24.92	88.71	541.80	865.49	568.70	530.04	38.66	14.711				
8,200.00	8,162.68	8,179.98	8,157.06	30.46	25.23	88.77	541.23	867.16	570.38	531.25	39.13	14.577				
8,300.00	8,262.68	8,288.02	8,265.08	30.80	25.59	88.84	540.59	868.62	571.74	532.11	39.62	14.429				
8,400.00	8,362.68	8,402.71	8,379.77	31.14	25.97	88.88	540.16	867.59	570.84	530.72	40.12	14.228				
8,500.00	8,462.68	8,497.74	8,474.78	31.48	26.29	88.87	540.20	865.85	569.01	528.41	40.60	14.016				
8,600.00	8,562.68	8,595.00	8,572.04	31.82	26.62	88.85	540.45	864.92	568.06	526.99	41.07	13.831				
8,700.00	8,662.68	8,693.34	8,670.38	32.16	26.94	88.80	540.84	864.36	567.49	525.94	41.54	13.660				
8,800.00	8,762.68	8,792.99	8,770.02	32.50	27.27	88.76	541.23	863.84	566.98	524.96	42.02	13.494				
8,900.00	8,862.68	8,895.55	8,872.58	32.85	27.61	88.73	541.57	863.09	566.25	523.75	42.50	13.324				
9,000.00	8,962.68	8,997.84	8,974.86	33.19	27.96	88.69	541.96	861.87	565.07	522.09	42.98	13.147				
9,100.00	9,062.68	9,098.44	9,075.44	33.53	28.29	88.61	542.66	860.40	563.63	520.17	43.46	12.970				
9,200.00	9,162.68	9,198.28	9,175.27	33.87	28.63	88.50	543.72	858.94	562.19	518.26	43.93	12.796				
9,300.00	9,262.68	9,298.80	9,275.77	34.22	28.96	88.36	545.01	857.43	560.72	516.31	44.41	12.626				
9,400.00	9,362.68	9,399.93	9,376.88	34.56	29.30	88.22	546.40	855.74	559.10	514.21	44.89	12.456				
9,500.00	9,462.68	9,501.24	9,478.16	34.90	29.64	88.06	547.87	853.82	557.24	511.88	45.36	12.284				
9,600.00	9,562.68	9,600.99	9,577.88	35.25	29.97	87.90	549.33	851.77	555.25	509.41	45.84	12.113				
9,700.00	9,662.68	9,701.10	9,677.96	35.59	30.31	87.76	550.58	849.82	553.34	507.03	46.32	11.947				
9,800.00	9,762.68	9,804.88	9,781.70	35.93	30.66	87.63	551.81	847.46	551.13	504.33	46.80	11.777				
9,890.49	9,853.17	9,880.86	9,857.67	36.25	30.91	87.56	552.41	846.17	549.67	502.45	47.22	11.640 CC				
9,900.00	9,862.68	9,888.45	9,865.25	36.28	30.94	87.56	552.40	846.19	549.69	502.42	47.26	11.630 ES				
10,000.00	9,962.68	9,975.94	9,952.73	36.62	31.23	87.64	551.66	847.76	551.42	503.70	47.71	11.557				
10,100.00	10,062.68	10,073.09	10,049.83	36.97	31.54	87.74	550.84	850.78	554.48	506.30	48.19	11.507				
10,200.00	10,162.68	10,172.70	10,149.38	37.31	31.87	87.79	550.54	853.92	557.62	508.95	48.66	11.459				
10,300.00	10,262.68	10,274.23	10,250.87	37.66	32.19	87.80	550.49	857.07	560.72	511.57	49.15	11.409				
10,400.00	10,362.68	10,381.93	10,358.54	38.01	32.54	87.82	550.37	859.56	563.03	513.38	49.65	11.339				
10,500.00	10,462.68	10,479.98	10,456.57	38.35	32.87	87.86	550.11	861.19	564.69	514.56	50.13	11.265				
10,600.00	10,562.68	10,581.17	10,557.74	38.70	33.20	87.94	549.38	863.02	566.47	515.85	50.62	11.191				
10,700.00	10,662.68	10,683.35	10,659.91	39.04	33.54	88.03	548.53	864.57	567.95	516.84	51.11	11.112				
10,800.00	10,762.68	10,785.94	10,762.49	39.39	33.89	88.12	547.71	865.62	568.95	517.35	51.60	11.025				
10,900.00	10,862.68	10,886.06	10,862.61	39.74	34.23	88.19	546.96	866.49	569.80	517.70	52.09	10.938				
11,000.00	10,962.68	10,986.36	10,962.90	40.09	34.57	88.28	546.10	867.23	570.51	517.92	52.58	10.850				
11,100.00	11,062.68	11,088.15	11,064.68	40.43	34.91	88.42	544.71	868.08	571.31	518.23	53.08	10.763				
11,200.00	11,162.68	11,192.32	11,168.81	40.78	35.28	88.68	542.13	868.06	571.21	517.63	53.59	10.660				
11,259.35	11,222.03	11,250.08	11,226.53	40.99	35.48	88.88	540.16	867.91	571.02	517.14	53.88	10.598				
11,300.00	11,262.68	11,282.00	11,258.37	41.13	35.60	89.12	537.79	868.11	571.25	517.18	54.07	10.565				
11,400.00	11,362.68	11,368.79	11,343.92	41.48	35.92	90.52	523.76	870.58	574.07	519.52	54.55	10.523				
11,500.00	11,462.68	11,463.70	11,435.20	41.82	36.30	93.06	498.14	873.89	578.60	523.51	55.09	10.503				
11,600.00	11,562.68	11,545.88	11,510.52	42.17	36.65	96.24	465.61	876.87	586.07	530.54	55.53	10.555				
11,700.00	11,662.68	11,637.32	11,588.91	42.52	37.06	100.73	418.72	879.15	597.65	541.66	55.99	10.675				
11,800.00	11,762.68	11,706.00	11,643.51	42.87	37.39	104.63	377.09	878.98	614.06	557.98	56.07	10.951				
11,900.00	11,862.68	11,753.00	11,678.22	43.22	37.63	107.49	345.43	879.39	639.21	583.58	55.63	11.491				
11,910.36	11,873.04	11,753.00	11,678.22	43.25	37.63	107.49	345.43	879.39	642.34	586.86	55.48	11.577				
11,950.00	11,912.65	11,776.73	11,694.66	43.38	37.76	-61.21	328.33	879.61	654.54	599.24	55.30	11.837				
12,000.00	11,962.32	11,801.00	11,710.68	43.53	37.88	-58.41	310.09	879.71	669.97	615.07	54.90	12.204				
12,050.00	12,011.30	11,822.99	11,724.26	43.66	38.00	-55.88	292.80	879.64	685.31	630.92	54.39	12.599				
12,100.00	12,059.24	11,848.00	11,738.32	43.78	38.14	-53.32	272.13	879.34	700.50	646.61	53.88	13.000				
12,150.00	12,105.76	11,867.26	11,748.25	43.89	38.25	-51.20	255.63	878.94	715.19	661.96	53.23	13.436				
12,200.00	12,150.50	11,895.00	11,761.43	43.98	38.40	-48.87	231.24	878.14	729.13	676.44	52.69	13.838				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Bus Driver/Kaston Fed Com - Bus Driver Fed Com 602H - OH - OH		Offset Site Error:	0.00 usft
Survey Program:													112-OWSG (Rev2) MWD, 1352-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				
12,250.00	12,193.14	11,921.92	11,773.19	44.06	38.56	-46.80	207.05	877.09	741.95	689.83	52.12	14.236				
12,300.00	12,233.34	11,942.00	11,781.46	44.13	38.68	-45.19	188.77	876.14	753.41	701.98	51.43	14.649				
12,350.00	12,270.79	11,967.77	11,791.26	44.18	38.83	-43.59	164.96	875.08	763.64	712.79	50.84	15.019				
12,400.00	12,305.22	11,989.00	11,798.52	44.22	38.96	-42.33	145.02	874.58	772.86	722.65	50.21	15.391				
12,450.00	12,336.36	12,009.69	11,804.94	44.25	39.09	-41.27	125.35	874.33	780.80	731.19	49.61	15.738				
12,500.00	12,363.98	12,036.00	11,812.25	44.27	39.25	-40.26	100.08	874.27	787.28	738.15	49.13	16.024				
12,550.00	12,387.85	12,053.15	11,816.43	44.29	39.36	-39.62	83.45	874.40	792.23	743.64	48.59	16.304				
12,600.00	12,407.81	12,083.00	11,822.40	44.29	39.54	-38.92	54.22	875.05	795.91	747.66	48.25	16.494				
12,650.00	12,423.70	12,083.00	11,822.40	44.30	39.54	-38.79	54.22	875.05	797.97	750.27	47.70	16.727				
12,700.00	12,435.40	12,123.45	11,828.42	44.31	39.80	-38.34	14.25	876.46	797.88	750.28	47.60	16.762				
12,750.00	12,442.82	12,150.37	11,831.35	44.34	39.97	-38.25	-12.49	877.59	796.04	748.59	47.45	16.776				
12,800.00	12,445.90	12,195.00	11,834.32	44.41	40.26	-38.27	-56.96	879.83	792.59	745.11	47.47	16.695				
12,810.36	12,446.00	12,195.00	11,834.32	44.42	40.26	-38.35	-56.96	879.83	791.36	743.92	47.44	16.682				
12,900.00	12,446.00	12,242.35	11,835.37	44.59	40.58	-38.29	-104.23	882.34	784.57	737.12	47.45	16.533				
13,000.00	12,446.00	12,324.96	11,833.40	44.83	41.16	-37.95	-186.73	885.87	782.61	734.97	47.64	16.428				
13,100.00	12,446.00	12,483.90	11,826.36	45.12	42.38	-36.88	-345.42	882.76	781.46	733.63	47.82	16.340				
13,200.00	12,446.00	12,604.21	11,826.18	45.46	43.39	-36.25	-465.45	874.68	775.58	727.48	48.10	16.125				
13,217.18	12,446.00	12,623.64	11,826.52	45.52	43.56	-36.19	-484.83	873.40	774.54	726.37	48.16	16.081				
13,300.00	12,446.00	12,703.21	11,829.05	45.84	44.27	-36.00	-564.25	869.16	769.34	720.83	48.51	15.858				
13,400.00	12,446.00	12,788.52	11,831.71	46.27	45.06	-35.95	-649.49	867.23	764.87	715.85	49.02	15.604				
13,500.00	12,446.00	12,884.59	11,834.26	46.75	45.99	-35.92	-745.52	865.84	761.30	711.68	49.61	15.344				
13,600.00	12,446.00	12,986.42	11,835.41	47.29	47.00	-35.76	-847.31	863.40	758.42	708.21	50.21	15.105				
13,700.00	12,446.00	13,094.15	11,840.01	47.87	48.12	-35.84	-954.93	862.53	753.86	702.88	50.98	14.788				
13,800.00	12,446.00	13,188.01	11,844.03	48.50	49.13	-35.97	-1,048.71	862.54	749.82	698.05	51.76	14.486				
13,900.00	12,446.00	13,282.76	11,847.59	49.18	50.17	-36.09	-1,143.39	862.92	746.44	693.85	52.59	14.192				
14,000.00	12,446.00	13,380.51	11,850.48	49.90	51.28	-36.19	-1,241.10	863.32	743.71	690.25	53.46	13.912				
14,100.00	12,446.00	13,480.63	11,853.62	50.66	52.43	-36.31	-1,341.17	863.94	740.96	686.59	54.38	13.627				
14,200.00	12,446.00	13,566.93	11,857.02	51.47	53.45	-36.56	-1,427.37	866.23	738.84	683.47	55.37	13.345				
14,229.74	12,446.00	13,590.29	11,857.63	51.72	53.73	-36.62	-1,450.70	867.11	738.71	683.04	55.66	13.271				
14,300.00	12,446.00	13,649.94	11,858.34	52.31	54.45	-36.77	-1,510.29	869.51	739.30	682.93	56.37	13.114				
14,400.00	12,446.00	13,756.53	11,856.86	53.19	55.75	-36.76	-1,616.85	871.59	741.04	683.70	57.34	12.923				
14,500.00	12,446.00	13,865.67	11,858.35	54.11	57.10	-36.88	-1,725.96	873.49	740.34	681.93	58.41	12.674				
14,600.00	12,446.00	13,961.57	11,860.88	55.06	58.32	-37.17	-1,821.75	877.17	739.96	680.37	59.59	12.417				
14,700.00	12,446.00	14,061.77	11,862.45	56.05	59.60	-37.37	-1,921.90	880.14	739.91	679.16	60.76	12.178				
14,762.16	12,446.00	14,122.88	11,863.12	56.68	60.39	-37.44	-1,982.98	881.48	739.83	678.37	61.47	12.036				
14,800.00	12,446.00	14,159.16	11,863.06	57.06	60.87	-37.44	-2,019.26	881.83	739.87	678.01	61.87	11.959				
14,900.00	12,446.00	14,271.53	11,862.48	58.11	62.34	-37.32	-2,131.62	881.47	739.52	676.61	62.90	11.757				
15,000.00	12,446.00	14,379.01	11,865.31	59.18	63.78	-37.46	-2,239.05	882.60	737.47	673.35	64.12	11.502				
15,100.00	12,446.00	14,475.35	11,869.30	60.28	65.09	-37.76	-2,335.27	885.25	735.25	669.81	65.45	11.234				
15,200.00	12,446.00	14,572.82	11,872.48	61.40	66.42	-37.99	-2,432.66	887.48	733.48	666.72	66.76	10.986				
15,300.00	12,446.00	14,672.03	11,875.49	62.54	67.79	-38.21	-2,531.81	889.75	731.90	663.80	68.10	10.747				
15,400.00	12,446.00	14,770.17	11,878.43	63.71	69.15	-38.45	-2,629.87	892.30	730.55	661.08	69.48	10.515				
15,500.00	12,446.00	14,868.73	11,880.11	64.90	70.53	-38.54	-2,728.40	893.43	729.31	658.55	70.76	10.307				
15,600.00	12,446.00	14,969.51	11,880.97	66.11	71.95	-38.58	-2,829.18	894.31	728.59	656.57	72.02	10.116				
15,700.00	12,446.00	15,080.89	11,883.89	67.34	73.53	-38.70	-2,940.52	894.95	726.24	652.87	73.37	9.898				
15,800.00	12,446.00	15,174.62	11,886.45	68.58	74.87	-38.79	-3,034.21	895.35	723.78	649.08	74.70	9.689				
15,900.00	12,446.00	15,287.74	11,888.23	69.84	76.50	-38.80	-3,147.31	895.13	721.92	645.94	75.98	9.501				
16,000.00	12,446.00	15,402.88	11,892.90	71.12	78.17	-38.81	-3,262.33	892.77	716.80	639.54	77.26	9.277				
16,100.00	12,446.00	15,506.35	11,898.15	72.41	79.67	-38.86	-3,365.63	890.28	710.73	632.15	78.58	9.045				
16,200.00	12,446.00	15,595.99	11,902.55	73.72	80.99	-38.92	-3,455.14	888.65	705.14	625.20	79.94	8.821				
16,300.00	12,446.00	15,693.47	11,907.65	75.04	82.42	-39.13	-3,552.49	888.69	700.48	619.04	81.44	8.602				
16,400.00	12,446.00	15,790.00	11,912.10	76.37	83.85	-39.31	-3,648.92	888.84	696.38	613.45	82.93	8.397				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Bus Driver/Kaston Fed Com - Bus Driver Fed Com 602H - OH - OH		Offset Site Error:	0.00 usft
Survey Program: 112-OWSG (Rev2) MWD, 1352-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			
16,500.00	12,446.00	15,890.89	11,916.23	77.72	85.35	-39.44	-3,749.72	888.60	692.45	608.06	84.39	8.205				
16,600.00	12,446.00	15,992.71	11,921.10	79.08	86.87	-39.65	-3,851.42	888.71	688.21	602.28	85.92	8.010				
16,700.00	12,446.00	16,099.71	11,927.40	80.45	88.48	-39.92	-3,958.23	888.85	683.13	595.59	87.53	7.804				
16,800.00	12,446.00	16,198.46	11,934.26	81.82	89.96	-40.28	-4,056.74	889.60	677.66	588.41	89.26	7.592				
16,900.00	12,446.00	16,293.15	11,939.98	83.21	91.39	-40.57	-4,151.26	890.04	672.73	581.79	90.94	7.398				
17,000.00	12,446.00	16,387.29	11,944.48	84.61	92.82	-40.78	-4,245.29	890.36	668.68	576.12	92.56	7.225				
17,100.00	12,446.00	16,477.49	11,950.85	86.02	94.19	-41.33	-4,335.18	894.15	665.49	570.93	94.56	7.038				
17,166.95	12,446.00	16,530.21	11,953.59	86.97	94.99	-41.63	-4,387.75	896.92	664.77	568.93	95.84	6.936				
17,200.00	12,446.00	16,558.98	11,954.40	87.43	95.43	-41.75	-4,416.48	898.32	664.92	568.49	96.44	6.895				
17,300.00	12,446.00	16,643.00	11,955.45	88.86	96.71	-41.91	-4,500.45	900.79	665.53	567.52	98.01	6.790 SF				
17,400.00	12,446.00	16,643.00	11,955.45	90.29	96.71	-41.91	-4,500.45	900.79	676.02	577.73	98.29	6.878				
17,500.00	12,446.00	16,643.00	11,955.45	91.73	96.71	-41.91	-4,500.45	900.79	700.76	603.53	97.24	7.207				
17,600.00	12,446.00	16,643.00	11,955.45	93.17	96.71	-41.91	-4,500.45	900.79	738.33	643.12	95.21	7.755				
17,700.00	12,446.00	16,643.00	11,955.45	94.63	96.71	-41.91	-4,500.45	900.79	786.89	694.25	92.64	8.494				
17,800.00	12,446.00	16,643.00	11,955.45	96.09	96.71	-41.91	-4,500.45	900.79	844.55	754.64	89.90	9.394				
17,900.00	12,446.00	16,643.00	11,955.45	97.55	96.71	-41.91	-4,500.45	900.79	909.57	822.34	87.24	10.426				
18,000.00	12,446.00	16,643.00	11,955.45	99.02	96.71	-41.91	-4,500.45	900.79	980.50	895.74	84.77	11.567				
18,100.00	12,446.00	16,643.00	11,955.45	100.50	96.71	-41.91	-4,500.45	900.79	1,056.15	973.60	82.55	12.794				
18,200.00	12,446.00	16,643.00	11,955.45	101.98	96.71	-41.91	-4,500.45	900.79	1,135.57	1,054.98	80.59	14.091				
18,300.00	12,446.00	16,643.00	11,955.45	103.47	96.71	-41.91	-4,500.45	900.79	1,218.02	1,139.14	78.88	15.442				
18,400.00	12,446.00	16,643.00	11,955.45	104.96	96.71	-41.91	-4,500.45	900.79	1,302.94	1,225.55	77.39	16.836				
18,500.00	12,446.00	16,643.00	11,955.45	106.46	96.71	-41.91	-4,500.45	900.79	1,389.86	1,313.76	76.10	18.264				
18,600.00	12,446.00	16,643.00	11,955.45	107.96	96.71	-41.91	-4,500.45	900.79	1,478.44	1,403.47	74.97	19.720				
18,700.00	12,446.00	16,643.00	11,955.45	109.46	96.71	-41.91	-4,500.45	900.79	1,568.39	1,494.40	73.99	21.197				
18,800.00	12,446.00	16,643.00	11,955.45	110.97	96.71	-41.91	-4,500.45	900.79	1,659.49	1,586.36	73.13	22.691				
18,900.00	12,446.00	16,643.00	11,955.45	112.49	96.71	-41.91	-4,500.45	900.79	1,751.56	1,679.18	72.38	24.198				
19,000.00	12,446.00	16,643.00	11,955.45	114.00	96.71	-41.91	-4,500.45	900.79	1,844.46	1,772.74	71.72	25.716				
19,100.00	12,446.00	16,643.00	11,955.45	115.53	96.71	-41.91	-4,500.45	900.79	1,938.07	1,866.92	71.15	27.241				
19,200.00	12,446.00	16,643.00	11,955.45	117.05	96.71	-41.91	-4,500.45	900.79	2,032.28	1,961.65	70.63	28.772				
19,300.00	12,446.00	16,643.00	11,955.45	118.58	96.71	-41.91	-4,500.45	900.79	2,127.02	2,056.84	70.18	30.308				
19,400.00	12,446.00	16,643.00	11,955.45	120.11	96.71	-41.91	-4,500.45	900.79	2,222.23	2,152.45	69.78	31.846				
19,500.00	12,446.00	16,643.00	11,955.45	121.64	96.71	-41.91	-4,500.45	900.79	2,317.84	2,248.41	69.42	33.388				
19,600.00	12,446.00	16,643.00	11,955.45	123.18	96.71	-41.91	-4,500.45	900.79	2,413.80	2,344.70	69.10	34.931				
19,700.00	12,446.00	16,643.00	11,955.45	124.72	96.71	-41.91	-4,500.45	900.79	2,510.08	2,441.26	68.82	36.473				
19,800.00	12,446.00	16,643.00	11,955.45	126.27	96.71	-41.91	-4,500.45	900.79	2,606.64	2,538.07	68.56	38.017				
19,900.00	12,446.00	16,643.00	11,955.45	127.81	96.71	-41.91	-4,500.45	900.79	2,703.45	2,635.11	68.34	39.560				
20,000.00	12,446.00	16,643.00	11,955.45	129.36	96.71	-41.91	-4,500.45	900.79	2,800.48	2,732.34	68.14	41.101				
20,100.00	12,446.00	16,643.00	11,955.45	130.91	96.71	-41.91	-4,500.45	900.79	2,897.71	2,829.76	67.96	42.641				
20,200.00	12,446.00	16,643.00	11,955.45	132.46	96.71	-41.91	-4,500.45	900.79	2,995.13	2,927.34	67.79	44.181				
20,300.00	12,446.00	16,643.00	11,955.45	134.02	96.71	-41.91	-4,500.45	900.79	3,092.71	3,025.07	67.65	45.719				
20,400.00	12,446.00	16,643.00	11,955.45	135.58	96.71	-41.91	-4,500.45	900.79	3,190.45	3,122.93	67.52	47.255				
20,500.00	12,446.00	16,643.00	11,955.45	137.14	96.71	-41.91	-4,500.45	900.79	3,288.31	3,220.91	67.40	48.787				
20,600.00	12,446.00	16,643.00	11,955.45	138.70	96.71	-41.91	-4,500.45	900.79	3,386.31	3,319.01	67.30	50.316				
20,700.00	12,446.00	16,643.00	11,955.45	140.27	96.71	-41.91	-4,500.45	900.79	3,484.41	3,417.20	67.21	51.842				
20,800.00	12,446.00	16,643.00	11,955.45	141.83	96.71	-41.91	-4,500.45	900.79	3,582.62	3,515.49	67.14	53.364				
20,900.00	12,446.00	16,643.00	11,955.45	143.40	96.71	-41.91	-4,500.45	900.79	3,680.93	3,613.87	67.07	54.886				
21,000.00	12,446.00	16,643.00	11,955.45	144.97	96.71	-41.91	-4,500.45	900.79	3,779.33	3,712.33	67.00	56.406				
21,100.00	12,446.00	16,643.00	11,955.45	146.54	96.71	-41.91	-4,500.45	900.79	3,877.81	3,810.86	66.95	57.919				
21,200.00	12,446.00	16,643.00	11,955.45	148.12	96.71	-41.91	-4,500.45	900.79	3,976.36	3,909.45	66.91	59.429				
21,300.00	12,446.00	16,643.00	11,955.45	149.69	96.71	-41.91	-4,500.45	900.79	4,074.99	4,008.12	66.87	60.937				
21,400.00	12,446.00	16,643.00	11,955.45	151.27	96.71	-41.91	-4,500.45	900.79	4,173.68	4,106.84	66.84	62.442				
21,500.00	12,446.00	16,643.00	11,955.45	152.85	96.71	-41.91	-4,500.45	900.79	4,272.43	4,205.61	66.82	63.944				

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 PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 usft
Bus Driver/Kaston Fed Com - Bus Driver Fed Com 602H - OH - OH												Offset Well Error:	0.00 usft
Survey Program: 112-OWSG (Rev2) MWD, 1352-OWSG (Rev2) MWD													
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
21,600.00	12,446.00	16,643.00	11,955.45	154.43	96.71	-41.91	-4,500.45	900.79	4,371.24	4,304.44	66.80	65.441	
21,700.00	12,446.00	16,643.00	11,955.45	156.01	96.71	-41.91	-4,500.45	900.79	4,470.10	4,403.32	66.78	66.934	
21,800.00	12,446.00	16,643.00	11,955.45	157.59	96.71	-41.91	-4,500.45	900.79	4,569.01	4,502.24	66.77	68.425	
21,900.00	12,446.00	16,643.00	11,955.45	159.18	96.71	-41.91	-4,500.45	900.79	4,667.97	4,601.20	66.77	69.912	
22,000.00	12,446.00	16,643.00	11,955.45	160.76	96.71	-41.91	-4,500.45	900.79	4,766.97	4,700.20	66.77	71.395	
22,100.00	12,446.00	16,643.00	11,955.45	162.35	96.71	-41.91	-4,500.45	900.79	4,866.01	4,799.24	66.77	72.873	
22,200.00	12,446.00	16,643.00	11,955.45	163.94	96.71	-41.91	-4,500.45	900.79	4,965.09	4,898.31	66.78	74.347	

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Bus Driver/Kaston Fed Com - Bus Driver Fed Com 602H - OH - Plan #6		Offset Site Error:	0.00 usft
Survey Program:													112-OWSG (Rev2) MWD, 1425-OWSG (Rev2) MWD, 12083-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	4.37	4.37	0.00	0.01	50.61	897.07	1,092.46	1,413.58							
100.00	100.00	101.38	101.38	0.13	0.13	50.60	897.23	1,092.48	1,413.70	1,413.51	0.18	7,728.228				
178.19	178.19	182.69	182.69	0.41	0.39	50.60	897.25	1,092.45	1,413.68	1,413.12	0.56	2,507.419				
200.00	200.00	199.57	199.57	0.48	0.45	50.60	897.30	1,092.45	1,413.72	1,413.06	0.66	2,138.330				
300.00	300.00	303.93	303.93	0.84	0.82	50.56	898.20	1,091.92	1,413.88	1,412.70	1.18	1,201.420				
400.00	400.00	410.09	410.05	1.20	1.20	50.45	900.15	1,090.07	1,413.70	1,412.00	1.70	832.154				
500.00	500.00	528.63	528.55	1.56	1.62	50.34	901.25	1,087.25	1,412.42	1,410.17	2.25	627.299				
600.00	600.00	654.09	653.95	1.92	2.07	50.31	899.81	1,084.14	1,409.77	1,406.95	2.82	500.438				
700.00	700.00	761.26	761.02	2.28	2.44	50.36	896.08	1,081.79	1,405.85	1,402.52	3.33	421.844				
800.00	800.00	883.83	883.26	2.63	2.87	50.64	887.10	1,081.55	1,401.04	1,397.15	3.88	360.709				
900.00	900.00	967.41	966.60	2.99	3.17	50.82	880.82	1,080.64	1,395.52	1,391.18	4.34	321.251				
1,000.00	1,000.00	1,059.73	1,058.75	3.35	3.50	50.99	875.29	1,080.33	1,391.47	1,386.64	4.83	288.225				
1,100.00	1,100.00	1,155.04	1,153.91	3.71	3.84	51.14	869.94	1,079.85	1,387.56	1,382.24	5.32	260.787				
1,200.00	1,200.00	1,246.01	1,244.78	4.07	4.16	51.28	865.61	1,079.88	1,384.57	1,378.77	5.80	238.582				
1,300.00	1,300.00	1,331.23	1,329.93	4.43	4.47	51.38	862.48	1,079.64	1,382.08	1,375.81	6.27	220.367				
1,400.00	1,400.00	1,425.00	1,423.68	4.79	4.68	51.44	860.44	1,079.29	1,380.43	1,373.76	6.67	206.909				
1,500.00	1,500.00	1,519.00	1,517.67	5.14	4.70	51.45	859.50	1,078.44	1,379.11	1,372.16	6.95	198.501				
1,593.50	1,593.50	1,599.34	1,598.00	5.48	4.74	51.40	860.03	1,077.45	1,378.60	1,371.38	7.22	190.871				
1,600.00	1,600.00	1,604.79	1,603.46	5.50	4.74	51.40	860.11	1,077.39	1,378.61	1,371.36	7.24	190.364				
1,700.00	1,700.00	1,697.67	1,696.32	5.86	4.80	51.32	861.84	1,076.44	1,378.97	1,371.41	7.56	182.487				
1,800.00	1,800.00	1,796.17	1,794.78	6.22	4.89	51.22	864.07	1,075.49	1,379.64	1,371.75	7.89	174.810				
1,900.00	1,900.00	1,895.11	1,893.69	6.58	5.00	51.13	866.31	1,074.64	1,380.38	1,372.14	8.25	167.413				
2,000.00	2,000.00	1,991.00	1,989.56	6.94	5.13	51.04	868.48	1,074.19	1,381.44	1,372.83	8.61	160.431				
2,100.00	2,100.00	2,080.09	2,078.62	7.29	5.27	50.98	870.65	1,074.28	1,383.03	1,374.05	8.98	153.988				
2,200.00	2,200.00	2,174.38	2,172.88	7.65	5.43	50.91	873.19	1,074.74	1,385.11	1,375.74	9.37	147.868				
2,300.00	2,299.99	2,271.54	2,269.99	8.01	5.61	21.54	876.00	1,075.45	1,386.28	1,376.52	9.76	141.967				
2,400.00	2,399.91	2,368.84	2,367.25	8.37	5.80	21.52	879.04	1,076.22	1,385.22	1,375.05	10.17	136.197				
2,500.00	2,499.69	2,468.73	2,467.07	8.72	6.02	21.56	882.29	1,077.05	1,381.83	1,371.24	10.59	130.504				
2,600.00	2,599.27	2,573.84	2,572.15	9.08	6.26	21.70	884.58	1,078.47	1,375.73	1,364.71	11.02	124.834				
2,685.78	2,684.47	2,655.90	2,654.18	9.39	6.46	21.89	885.89	1,080.04	1,368.64	1,357.26	11.38	120.237				
2,700.00	2,698.58	2,679.73	2,678.01	9.44	6.51	21.94	886.20	1,080.46	1,367.28	1,355.82	11.46	119.319				
2,800.00	2,797.77	2,807.04	2,805.31	9.81	6.82	22.21	886.16	1,081.09	1,355.75	1,343.82	11.93	113.657				
2,900.00	2,896.96	2,897.99	2,896.26	10.17	7.05	22.41	885.94	1,081.20	1,343.95	1,331.60	12.35	108.802				
3,000.00	2,996.15	2,981.12	2,979.39	10.54	7.27	22.60	886.22	1,081.97	1,333.16	1,320.39	12.77	104.385				
3,100.00	3,095.35	3,068.89	3,067.13	10.92	7.51	22.80	886.99	1,083.81	1,323.61	1,310.41	13.20	100.253				
3,200.00	3,194.54	3,196.65	3,194.86	11.29	7.87	23.15	887.30	1,086.65	1,313.96	1,300.26	13.70	95.904				
3,300.00	3,293.73	3,363.96	3,362.02	11.67	8.34	23.74	880.97	1,086.54	1,299.92	1,285.68	14.24	91.276				
3,400.00	3,392.92	3,522.95	3,520.41	12.05	8.80	24.43	868.30	1,081.41	1,280.93	1,266.18	14.75	86.843				
3,500.00	3,492.12	3,626.37	3,623.25	12.43	9.11	24.81	859.82	1,074.71	1,259.40	1,244.18	15.21	82.794				
3,600.00	3,591.31	3,711.49	3,707.98	12.81	9.38	25.08	854.18	1,068.77	1,238.44	1,222.77	15.66	79.062				
3,700.00	3,690.50	3,804.98	3,801.12	13.20	9.67	25.30	849.77	1,062.00	1,218.38	1,202.26	16.13	75.555				
3,800.00	3,789.69	3,939.71	3,935.14	13.58	10.10	25.69	841.31	1,051.25	1,196.92	1,180.31	16.61	72.058				
3,900.00	3,888.89	4,049.83	4,044.31	13.97	10.46	26.20	829.86	1,042.40	1,173.04	1,155.96	17.08	68.667				
4,000.00	3,988.08	4,129.39	4,123.19	14.36	10.73	26.60	821.54	1,036.28	1,149.54	1,131.98	17.55	65.491				
4,100.00	4,087.27	4,216.31	4,209.57	14.75	11.03	26.99	814.13	1,030.11	1,127.61	1,109.59	18.03	62.554				
4,200.00	4,186.46	4,298.94	4,291.77	15.14	11.31	27.34	807.94	1,024.27	1,106.40	1,087.90	18.50	59.805				
4,300.00	4,285.66	4,374.99	4,367.54	15.53	11.56	27.69	802.86	1,020.30	1,087.15	1,068.18	18.97	57.304				
4,400.00	4,384.85	4,458.00	4,450.35	15.92	11.84	28.07	798.23	1,017.09	1,069.65	1,050.20	19.45	55.004				
4,500.00	4,484.04	4,559.97	4,552.11	16.31	12.18	28.58	792.43	1,013.95	1,052.85	1,032.91	19.94	52.806				
4,600.00	4,583.23	4,675.27	4,667.00	16.71	12.58	29.27	783.62	1,009.78	1,034.60	1,014.16	20.44	50.616				
4,700.00	4,682.42	4,773.56	4,764.91	17.10	12.92	29.85	776.10	1,005.55	1,015.93	994.99	20.93	48.530				
4,800.00	4,781.62	4,873.31	4,864.27	17.50	13.27	30.46	768.64	1,001.08	997.29	975.86	21.43	46.537				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Bus Driver/Kaston Fed Com - Bus Driver Fed Com 602H - OH - Plan #6		Offset Site Error:	0.00 usft
Survey Program:													112-OWSG (Rev2) MWD, 1425-OWSG (Rev2) MWD, 12083-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				
4,900.00	4,880.81	4,979.84	4,970.34	17.89	13.65	31.14	760.22	995.94	978.28	956.35	21.93	44.610				
5,000.00	4,980.00	5,076.77	5,066.82	18.29	13.99	31.79	752.34	990.75	958.83	936.40	22.43	42.748				
5,100.00	5,079.19	5,181.62	5,171.16	18.68	14.37	32.50	743.90	984.88	939.33	916.40	22.93	40.963				
5,200.00	5,178.39	5,285.99	5,274.80	19.08	14.75	33.39	733.06	979.25	919.04	895.61	23.44	39.212				
5,300.00	5,277.58	5,381.98	5,369.97	19.48	15.11	34.36	721.30	974.66	898.65	874.69	23.95	37.517				
5,400.00	5,376.77	5,473.81	5,461.03	19.87	15.45	35.33	710.25	970.51	878.84	854.37	24.47	35.910				
5,500.00	5,475.96	5,564.09	5,550.63	20.27	15.79	36.31	699.72	966.93	859.96	834.96	25.00	34.402				
5,600.00	5,575.16	5,673.28	5,659.01	20.67	16.20	37.52	687.40	962.20	841.22	815.70	25.52	32.965				
5,700.00	5,674.35	5,767.00	5,752.04	21.07	16.55	38.54	677.24	957.03	821.89	795.85	26.05	31.553				
5,800.00	5,773.54	5,861.00	5,845.44	21.47	16.91	39.57	667.85	952.24	803.53	776.95	26.58	30.231				
5,900.00	5,872.73	5,948.45	5,932.44	21.87	17.23	40.54	659.80	948.47	786.42	759.31	27.12	29.003				
6,000.00	5,971.93	6,044.86	6,028.39	22.27	17.59	41.65	651.16	944.61	769.99	742.34	27.65	27.847				
6,100.00	6,071.12	6,138.63	6,121.74	22.67	17.94	42.75	643.05	941.03	754.14	725.95	28.19	26.752				
6,200.00	6,170.31	6,249.13	6,231.70	23.07	18.35	44.10	633.37	936.18	738.05	709.32	28.73	25.691				
6,300.00	6,269.50	6,353.71	6,335.63	23.47	18.75	45.47	623.32	930.18	720.76	691.49	29.27	24.625				
6,400.00	6,368.70	6,449.33	6,430.62	23.87	19.11	46.79	614.00	924.48	703.63	673.80	29.82	23.592				
6,500.00	6,467.89	6,545.57	6,526.21	24.27	19.48	48.21	604.40	918.92	687.02	656.64	30.38	22.611				
6,600.00	6,567.08	6,639.79	6,619.83	24.67	19.84	49.66	595.11	913.70	671.11	640.16	30.95	21.683				
6,700.00	6,666.27	6,732.91	6,712.45	25.07	20.20	51.09	586.71	908.97	656.27	624.75	31.52	20.822				
6,800.00	6,765.47	6,829.68	6,808.77	25.47	20.56	52.58	578.65	904.29	642.24	610.16	32.09	20.017				
6,900.00	6,864.66	6,929.83	6,908.51	25.88	20.94	54.12	571.18	899.19	628.54	595.89	32.65	19.251				
6,982.54	6,946.53	7,012.94	6,991.32	26.21	21.24	55.33	566.15	894.35	617.11	584.00	33.11	18.637				
7,000.00	6,963.85	7,029.59	7,007.92	26.28	21.31	55.53	565.25	893.36	614.74	581.53	33.21	18.510				
7,100.00	7,063.25	7,125.48	7,103.53	26.67	21.66	56.61	560.45	887.84	602.42	568.66	33.77	17.841				
7,200.00	7,162.90	7,222.07	7,199.87	27.05	22.01	57.55	555.76	882.64	592.18	557.87	34.31	17.260				
7,300.00	7,262.74	7,321.26	7,298.83	27.41	22.37	58.30	551.47	877.55	583.79	548.95	34.84	16.758				
7,400.00	7,362.69	7,418.70	7,396.06	27.77	22.72	58.84	547.57	872.45	576.79	541.43	35.35	16.315				
7,468.32	7,431.00	7,482.80	7,460.05	28.00	22.95	58.38	545.15	869.55	573.30	537.61	35.70	16.061				
7,500.00	7,462.68	7,512.71	7,489.92	28.10	23.06	58.48	544.13	868.34	572.00	536.14	35.85	15.954				
7,600.00	7,562.68	7,604.50	7,581.63	28.44	23.38	58.72	541.71	865.30	568.62	532.28	36.34	15.646				
7,700.00	7,662.68	7,694.87	7,671.98	28.78	23.69	58.76	541.25	863.83	566.98	530.17	36.81	15.402				
7,763.98	7,726.67	7,754.06	7,731.17	28.99	23.88	58.73	541.59	863.60	566.74	529.63	37.10	15.274				
7,800.00	7,762.68	7,789.84	7,766.94	29.11	23.99	58.70	541.84	863.60	566.74	529.47	37.27	15.206				
7,900.00	7,862.68	7,888.09	7,865.20	29.45	24.30	58.66	542.22	863.73	566.89	529.16	37.73	15.024				
8,000.00	7,962.68	7,984.96	7,962.07	29.79	24.61	58.67	542.13	864.33	567.51	529.31	38.19	14.858				
8,100.00	8,062.68	8,081.71	8,058.81	30.13	24.92	58.71	541.80	865.49	568.70	530.04	38.66	14.711				
8,200.00	8,162.68	8,179.98	8,157.06	30.46	25.23	58.77	541.23	867.16	570.38	531.25	39.13	14.577				
8,300.00	8,262.68	8,288.02	8,265.08	30.80	25.59	58.84	540.59	868.62	571.74	532.11	39.62	14.429				
8,400.00	8,362.68	8,402.71	8,379.77	31.14	25.97	58.88	540.16	867.59	570.84	530.72	40.12	14.228				
8,500.00	8,462.68	8,497.74	8,474.78	31.48	26.29	58.87	540.20	865.85	569.01	528.41	40.60	14.016				
8,600.00	8,562.68	8,595.00	8,572.04	31.82	26.62	58.85	540.45	864.92	568.06	526.99	41.07	13.831				
8,700.00	8,662.68	8,693.34	8,670.38	32.16	26.94	58.80	540.84	864.36	567.49	525.94	41.54	13.660				
8,800.00	8,762.68	8,792.99	8,770.02	32.50	27.27	58.76	541.23	863.84	566.98	524.96	42.02	13.494				
8,900.00	8,862.68	8,895.55	8,872.58	32.85	27.61	58.73	541.57	863.09	566.25	523.75	42.50	13.324				
9,000.00	8,962.68	8,997.84	8,974.86	33.19	27.96	58.69	541.96	861.87	565.07	522.09	42.98	13.147				
9,100.00	9,062.68	9,098.44	9,075.44	33.53	28.29	58.61	542.66	860.40	563.63	520.17	43.46	12.970				
9,200.00	9,162.68	9,198.28	9,175.27	33.87	28.63	58.50	543.72	858.94	562.19	518.26	43.93	12.796				
9,300.00	9,262.68	9,298.80	9,275.77	34.22	28.96	58.36	545.01	857.43	560.72	516.31	44.41	12.626				
9,400.00	9,362.68	9,399.93	9,376.88	34.56	29.30	58.22	546.40	855.74	559.10	514.21	44.89	12.456				
9,500.00	9,462.68	9,501.24	9,478.16	34.90	29.64	58.06	547.87	853.82	557.24	511.88	45.36	12.284				
9,600.00	9,562.68	9,600.99	9,577.88	35.25	29.97	57.90	549.33	851.77	555.25	509.41	45.84	12.113				
9,700.00	9,662.68	9,701.10	9,677.96	35.59	30.31	57.76	550.58	849.82	553.34	507.03	46.32	11.947				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 usft
Bus Driver/Kaston Fed Com - Bus Driver Fed Com 602H - OH - Plan #6												Offset Well Error:	0.00 usft
Survey Program: 112-OWSG (Rev2) MWD, 1425-OWSG (Rev2) MWD, 12083-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
9,800.00	9,762.68	9,804.88	9,781.70	35.93	30.66	87.63	551.81	847.46	551.13	504.33	46.80	11.777	
9,890.49	9,853.17	9,880.86	9,857.67	36.25	30.91	87.56	552.41	846.17	549.67	502.45	47.22	11.640	
9,900.00	9,862.68	9,888.45	9,865.25	36.28	30.94	87.56	552.40	846.19	549.69	502.42	47.26	11.630	
10,000.00	9,962.68	9,975.94	9,952.73	36.62	31.23	87.64	551.66	847.76	551.42	503.70	47.71	11.557	
10,100.00	10,062.68	10,073.09	10,049.83	36.97	31.54	87.74	550.84	850.78	554.48	506.30	48.19	11.507	
10,200.00	10,162.68	10,172.70	10,149.38	37.31	31.87	87.79	550.54	853.92	557.62	508.95	48.66	11.459	
10,300.00	10,262.68	10,274.23	10,250.87	37.66	32.19	87.80	550.49	857.07	560.72	511.57	49.15	11.409	
10,400.00	10,362.68	10,381.93	10,358.54	38.01	32.54	87.82	550.37	859.56	563.03	513.38	49.65	11.339	
10,500.00	10,462.68	10,479.98	10,456.57	38.35	32.87	87.86	550.11	861.19	564.69	514.56	50.13	11.265	
10,600.00	10,562.68	10,581.17	10,557.74	38.70	33.20	87.94	549.38	863.02	566.47	515.85	50.62	11.191	
10,700.00	10,662.68	10,683.35	10,659.91	39.04	33.54	88.03	548.53	864.57	567.95	516.84	51.11	11.112	
10,800.00	10,762.68	10,785.94	10,762.49	39.39	33.89	88.12	547.71	865.62	568.95	517.35	51.60	11.025	
10,900.00	10,862.68	10,886.06	10,862.61	39.74	34.23	88.19	546.96	866.49	569.80	517.70	52.09	10.938	
11,000.00	10,962.68	10,986.36	10,962.90	40.09	34.57	88.28	546.10	867.23	570.51	517.92	52.58	10.850	
11,100.00	11,062.68	11,088.15	11,064.68	40.43	34.91	88.42	544.71	868.08	571.31	518.23	53.08	10.763	
11,200.00	11,162.68	11,192.32	11,168.81	40.78	35.28	88.68	542.13	868.06	571.21	517.63	53.59	10.660	
11,259.35	11,222.03	11,250.08	11,226.53	40.99	35.48	88.88	540.16	867.91	571.02	517.14	53.88	10.598	
11,300.00	11,262.68	11,282.00	11,258.37	41.13	35.60	89.12	537.79	868.11	571.25	517.18	54.07	10.565	
11,400.00	11,362.68	11,388.79	11,343.92	41.48	35.92	90.52	523.76	870.58	574.07	519.52	54.55	10.523	
11,500.00	11,462.68	11,463.70	11,435.20	41.82	36.30	93.06	498.14	873.89	578.60	523.51	55.09	10.503	
11,600.00	11,562.68	11,545.88	11,510.52	42.17	36.65	96.24	465.61	876.87	586.07	530.54	55.53	10.555	
11,700.00	11,662.68	11,637.32	11,588.91	42.52	37.06	100.73	418.72	879.15	597.65	541.66	55.99	10.675	
11,800.00	11,762.68	11,706.00	11,643.51	42.87	37.39	104.63	377.09	878.98	614.06	557.98	56.07	10.951	
11,900.00	11,862.68	11,753.00	11,678.22	43.22	37.63	107.49	345.43	879.39	639.21	583.58	55.63	11.491	
11,910.36	11,873.04	11,753.00	11,678.22	43.25	37.63	107.49	345.43	879.39	642.34	586.86	55.48	11.577	
11,950.00	11,912.65	11,776.73	11,694.66	43.38	37.76	-61.21	328.33	879.61	654.54	599.24	55.30	11.837	
12,000.00	11,962.32	11,801.00	11,710.68	43.53	37.88	-58.41	310.09	879.71	669.97	615.07	54.90	12.204	
12,050.00	12,011.30	11,822.99	11,724.26	43.66	38.00	-55.88	292.80	879.64	685.31	630.92	54.39	12.599	
12,100.00	12,059.24	11,848.00	11,738.32	43.78	38.14	-53.32	272.13	879.34	700.50	646.61	53.88	13.000	
12,150.00	12,105.76	11,867.26	11,748.25	43.89	38.25	-51.20	255.63	878.94	715.19	661.96	53.23	13.436	
12,200.00	12,150.50	11,895.00	11,761.43	43.98	38.40	-48.87	231.24	878.14	729.13	676.44	52.69	13.838	
12,250.00	12,193.14	11,921.92	11,773.19	44.06	38.56	-46.80	207.05	877.09	741.95	689.83	52.12	14.236	
12,300.00	12,233.34	11,942.00	11,781.46	44.13	38.68	-45.19	188.77	876.14	753.41	701.98	51.43	14.649	
12,350.00	12,270.79	11,967.77	11,791.26	44.18	38.83	-43.59	164.96	875.08	763.64	712.79	50.84	15.019	
12,400.00	12,305.22	11,989.00	11,798.52	44.22	38.96	-42.33	145.02	874.58	772.86	722.65	50.21	15.391	
12,450.00	12,336.36	12,009.69	11,804.94	44.25	39.09	-41.27	125.35	874.33	780.80	731.19	49.61	15.738	
12,500.00	12,363.98	12,036.00	11,812.25	44.27	39.25	-40.26	100.08	874.27	787.28	738.15	49.13	16.024	
12,550.00	12,387.85	12,053.15	11,816.43	44.29	39.36	-39.62	83.45	874.40	792.23	743.64	48.59	16.304	
12,600.00	12,407.81	12,083.00	11,822.40	44.29	39.54	-38.92	54.22	875.05	795.91	747.66	48.25	16.494	
12,650.00	12,423.70	12,093.40	11,824.10	44.30	39.61	-38.67	43.97	875.40	797.81	750.01	47.80	16.692	
12,700.00	12,435.40	12,113.93	11,826.91	44.31	39.74	-38.43	23.64	876.30	798.32	750.80	47.53	16.798	
12,750.00	12,442.82	12,140.00	11,829.40	44.34	39.90	-38.31	-2.25	877.83	797.32	749.93	47.38	16.827	
12,800.00	12,445.90	12,177.33	11,831.98	44.41	40.14	-38.35	-39.42	880.15	794.13	746.75	47.38	16.760	
12,810.36	12,446.00	12,187.82	11,832.66	44.42	40.21	-38.39	-49.87	880.72	793.06	745.66	47.40	16.730	
12,900.00	12,446.00	12,278.50	11,837.59	44.59	40.83	-38.26	-140.34	884.42	783.95	736.33	47.62	16.463	
13,000.00	12,446.00	12,379.63	11,841.14	44.83	41.57	-38.03	-241.39	885.77	775.65	727.77	47.88	16.201	
13,100.00	12,446.00	12,480.66	11,842.64	45.12	42.36	-37.70	-342.40	884.20	769.33	721.18	48.15	15.976	
13,200.00	12,446.00	12,581.40	11,842.11	45.46	43.19	-37.28	-443.03	879.76	765.03	716.58	48.45	15.790	
13,217.18	12,446.00	12,598.53	11,841.89	45.52	43.33	-37.21	-460.14	878.81	764.50	715.99	48.51	15.761	
13,300.00	12,446.00	12,680.65	11,840.82	45.84	44.05	-36.84	-542.13	874.29	762.12	713.32	48.80	15.618	
13,400.00	12,446.00	12,776.12	11,840.45	46.27	44.93	-36.56	-637.53	870.76	759.63	710.38	49.25	15.425	
13,500.00	12,446.00	12,871.77	11,841.52	46.75	45.84	-36.51	-733.16	870.08	757.72	707.89	49.84	15.204	

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Bus Driver/Kaston Fed Com - Bus Driver Fed Com 602H - OH - Plan #6		Offset Site Error:	0.00 usft
Survey Program:													112-OWSG (Rev2) MWD, 1425-OWSG (Rev2) MWD, 12083-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	12,446.00	12,971.60	11,843.43	47.29	46.83	-36.58	-832.97	870.96	756.13	705.58	50.55	14.959				
13,700.00	12,446.00	13,071.58	11,845.34	47.87	47.86	-36.67	-932.93	871.84	754.53	703.23	51.30	14.709				
13,800.00	12,446.00	13,171.56	11,847.25	48.50	48.92	-36.75	-1,032.89	872.71	752.93	700.84	52.09	14.454				
13,900.00	12,446.00	13,271.54	11,849.16	49.18	50.02	-36.83	-1,132.85	873.59	751.34	698.41	52.92	14.196				
14,000.00	12,446.00	13,371.53	11,851.07	49.90	51.14	-36.91	-1,232.80	874.47	749.75	695.95	53.80	13.937				
14,100.00	12,446.00	13,471.51	11,852.98	50.66	52.30	-36.99	-1,332.76	875.35	748.16	693.45	54.70	13.676				
14,200.00	12,446.00	13,571.49	11,854.90	51.47	53.47	-37.07	-1,432.72	876.23	746.57	690.92	55.65	13.416				
14,300.00	12,446.00	13,671.47	11,856.81	52.31	54.68	-37.15	-1,532.68	877.11	744.98	688.35	56.63	13.156				
14,400.00	12,446.00	13,771.45	11,858.72	53.19	55.90	-37.24	-1,632.64	877.99	743.39	685.76	57.64	12.898				
14,500.00	12,446.00	13,871.43	11,860.63	54.11	57.15	-37.32	-1,732.60	878.87	741.81	683.13	58.67	12.643				
14,600.00	12,446.00	13,971.42	11,862.54	55.06	58.42	-37.40	-1,832.56	879.75	740.22	680.48	59.74	12.390				
14,700.00	12,446.00	14,071.40	11,864.46	56.05	59.70	-37.49	-1,932.52	880.63	738.64	677.80	60.84	12.141				
14,800.00	12,446.00	14,171.38	11,866.37	57.06	61.01	-37.57	-2,032.48	881.51	737.06	675.10	61.96	11.895				
14,900.00	12,446.00	14,271.36	11,868.28	58.11	62.33	-37.65	-2,132.44	882.38	735.48	672.37	63.11	11.654				
15,000.00	12,446.00	14,371.34	11,870.19	59.18	63.66	-37.74	-2,232.40	883.26	733.91	669.63	64.28	11.417				
15,100.00	12,446.00	14,471.32	11,872.10	60.28	65.01	-37.82	-2,332.36	884.14	732.33	666.86	65.47	11.185				
15,200.00	12,446.00	14,571.31	11,874.01	61.40	66.38	-37.91	-2,432.32	885.02	730.76	664.07	66.69	10.958				
15,300.00	12,446.00	14,671.29	11,875.93	62.54	67.75	-38.00	-2,532.28	885.90	729.19	661.26	67.93	10.735				
15,400.00	12,446.00	14,771.27	11,877.84	63.71	69.14	-38.08	-2,632.24	886.78	727.62	658.43	69.18	10.518				
15,500.00	12,446.00	14,871.25	11,879.75	64.90	70.54	-38.17	-2,732.20	887.66	726.05	655.59	70.45	10.305				
15,600.00	12,446.00	14,971.23	11,881.66	66.11	71.95	-38.26	-2,832.16	888.54	724.48	652.73	71.75	10.098				
15,700.00	12,446.00	15,071.21	11,883.57	67.34	73.37	-38.34	-2,932.12	889.42	722.91	649.86	73.06	9.895				
15,800.00	12,446.00	15,171.20	11,885.49	68.58	74.80	-38.43	-3,032.08	890.30	721.35	646.97	74.38	9.698				
15,900.00	12,446.00	15,271.18	11,887.40	69.84	76.24	-38.52	-3,132.04	891.18	719.79	644.07	75.72	9.506				
16,000.00	12,446.00	15,383.02	11,890.86	71.12	77.86	-38.68	-3,243.82	892.16	717.29	640.14	77.15	9.298				
16,100.00	12,446.00	15,482.94	11,894.88	72.41	79.32	-38.88	-3,343.65	893.04	714.09	635.48	78.61	9.084				
16,200.00	12,446.00	15,582.86	11,898.91	73.72	80.79	-39.08	-3,443.49	893.91	710.89	630.80	80.09	8.876				
16,300.00	12,446.00	15,682.78	11,902.93	75.04	82.26	-39.27	-3,543.32	894.79	707.70	626.11	81.59	8.674				
16,400.00	12,446.00	15,782.70	11,906.96	76.37	83.74	-39.48	-3,643.16	895.67	704.52	621.42	83.10	8.478				
16,500.00	12,446.00	15,882.62	11,910.98	77.72	85.22	-39.68	-3,742.99	896.55	701.35	616.71	84.64	8.287				
16,600.00	12,446.00	15,982.54	11,915.00	79.08	86.72	-39.88	-3,842.82	897.42	698.18	612.00	86.19	8.101				
16,700.00	12,446.00	16,082.46	11,919.03	80.45	88.21	-40.09	-3,942.66	898.30	695.03	607.28	87.75	7.920				
16,800.00	12,446.00	16,182.37	11,923.05	81.82	89.71	-40.30	-4,042.49	899.18	691.89	602.55	89.34	7.745				
16,900.00	12,446.00	16,282.29	11,927.07	83.21	91.22	-40.51	-4,142.33	900.05	688.75	597.82	90.93	7.574				
17,000.00	12,446.00	16,382.21	11,931.10	84.61	92.74	-40.72	-4,242.16	900.93	685.62	593.08	92.55	7.408				
17,100.00	12,446.00	16,482.13	11,935.12	86.02	94.25	-40.93	-4,341.99	901.81	682.51	588.33	94.18	7.247				
17,200.00	12,446.00	16,582.05	11,939.15	87.43	95.77	-41.15	-4,441.83	902.69	679.40	583.58	95.82	7.090				
17,300.00	12,446.00	16,681.97	11,943.17	88.86	97.30	-41.37	-4,541.66	903.56	676.30	578.82	97.48	6.938				
17,400.00	12,446.00	16,781.89	11,947.19	90.29	98.83	-41.58	-4,641.50	904.44	673.21	574.06	99.15	6.790				
17,500.00	12,446.00	16,881.81	11,951.22	91.73	100.36	-41.81	-4,741.33	905.32	670.14	569.29	100.84	6.645				
17,600.00	12,446.00	16,981.73	11,955.24	93.17	101.90	-42.03	-4,841.16	906.20	667.07	564.52	102.54	6.505				
17,700.00	12,446.00	17,081.64	11,959.26	94.63	103.44	-42.26	-4,941.00	907.07	664.01	559.75	104.26	6.369				
17,800.00	12,446.00	17,181.56	11,963.29	96.09	104.98	-42.48	-5,040.83	907.95	660.96	554.97	105.99	6.236				
17,900.00	12,446.00	17,281.48	11,967.31	97.55	106.53	-42.71	-5,140.67	908.83	657.93	550.19	107.74	6.107				
18,000.00	12,446.00	17,381.40	11,971.34	99.02	108.08	-42.95	-5,240.50	909.71	654.90	545.41	109.50	5.981				
18,100.00	12,446.00	17,481.32	11,975.36	100.50	109.63	-43.18	-5,340.33	910.58	651.89	540.62	111.27	5.859				
18,200.00	12,446.00	17,581.24	11,979.38	101.98	111.19	-43.42	-5,440.17	911.46	648.88	535.83	113.05	5.740				
18,300.00	12,446.00	17,681.16	11,983.41	103.47	112.75	-43.66	-5,540.00	912.34	645.89	531.04	114.85	5.624				
18,400.00	12,446.00	17,781.08	11,987.43	104.96	114.31	-43.90	-5,639.83	913.21	642.91	526.24	116.67	5.511				
18,500.00	12,446.00	17,880.99	11,991.46	106.46	115.87	-44.14	-5,739.67	914.09	639.94	521.45	118.49	5.401				
18,600.00	12,446.00	17,980.91	11,995.48	107.96	117.44	-44.39	-5,839.50	914.97	636.98	516.65	120.33	5.294				
18,700.00	12,446.00	18,080.83	11,999.50	109.46	119.01	-44.63	-5,939.34	915.85	634.03	511.85	122.19	5.189				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 usft
Bus Driver/Kaston Fed Com - Bus Driver Fed Com 602H - OH - Plan #6												Offset Well Error:	0.00 usft
Survey Program: 112-OWSG (Rev2) MWD, 1425-OWSG (Rev2) MWD, 12083-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
18,800.00	12,446.00	18,180.75	12,003.53	110.97	120.58	-44.88	-6,039.17	916.72	631.10	507.05	124.05	5.087	
18,900.00	12,446.00	18,280.67	12,007.55	112.49	122.15	-45.14	-6,139.00	917.60	628.18	502.24	125.93	4.988	
19,000.00	12,446.00	18,380.59	12,011.57	114.00	123.72	-45.39	-6,238.84	918.48	625.27	497.44	127.83	4.892	
19,100.00	12,446.00	18,480.51	12,015.60	115.53	125.30	-45.65	-6,338.67	919.36	622.37	492.64	129.73	4.797	
19,200.00	12,446.00	18,580.43	12,019.62	117.05	126.88	-45.91	-6,438.51	920.23	619.48	487.83	131.65	4.705	
19,300.00	12,446.00	18,680.35	12,023.65	118.58	128.46	-46.17	-6,538.34	921.11	616.61	483.02	133.59	4.616	
19,400.00	12,446.00	18,780.26	12,027.67	120.11	130.04	-46.43	-6,638.17	921.99	613.75	478.22	135.54	4.528	
19,500.00	12,446.00	18,880.18	12,031.69	121.64	131.62	-46.70	-6,738.01	922.86	610.91	473.41	137.50	4.443	
19,600.00	12,446.00	18,980.10	12,035.72	123.18	133.21	-46.97	-6,837.84	923.74	608.07	468.60	139.47	4.360	
19,700.00	12,446.00	19,085.65	12,040.96	124.72	134.89	-47.32	-6,943.26	924.67	604.61	463.06	141.55	4.271	
19,800.00	12,446.00	19,185.51	12,046.35	126.27	136.47	-47.70	-7,042.96	925.54	600.88	457.19	143.70	4.182	
19,900.00	12,446.00	19,285.36	12,051.73	127.81	138.06	-48.07	-7,142.66	926.42	597.18	451.31	145.87	4.094	
20,000.00	12,446.00	19,385.21	12,057.12	129.36	139.65	-48.45	-7,242.37	927.30	593.51	445.45	148.06	4.009	
20,100.00	12,446.00	19,485.07	12,062.51	130.91	141.25	-48.84	-7,342.07	928.17	589.86	439.59	150.27	3.925	
20,200.00	12,446.00	19,584.92	12,067.90	132.46	142.84	-49.23	-7,441.78	929.05	586.24	433.73	152.51	3.844	
20,300.00	12,446.00	19,684.78	12,073.29	134.02	144.43	-49.62	-7,541.48	929.93	582.65	427.89	154.76	3.765	
20,400.00	12,446.00	19,784.63	12,078.68	135.58	146.03	-50.02	-7,641.19	930.80	579.08	422.05	157.04	3.688	
20,500.00	12,446.00	19,884.48	12,084.07	137.14	147.63	-50.43	-7,740.89	931.68	575.55	416.21	159.33	3.612	
20,600.00	12,446.00	19,984.34	12,089.46	138.70	149.22	-50.84	-7,840.60	932.55	572.04	410.39	161.65	3.539	
20,700.00	12,446.00	20,084.19	12,094.85	140.27	150.82	-51.25	-7,940.30	933.43	568.56	404.57	163.99	3.467	
20,800.00	12,446.00	20,184.05	12,100.24	141.83	152.42	-51.67	-8,040.01	934.31	565.11	398.76	166.36	3.397	
20,900.00	12,446.00	20,283.90	12,105.62	143.40	154.02	-52.10	-8,139.71	935.18	561.70	392.96	168.74	3.329	
21,000.00	12,446.00	20,383.76	12,111.01	144.97	155.63	-52.53	-8,239.42	936.06	558.31	387.16	171.15	3.262	
21,100.00	12,446.00	20,483.61	12,116.40	146.54	157.23	-52.96	-8,339.12	936.94	554.96	381.38	173.58	3.197	
21,200.00	12,446.00	20,583.46	12,121.79	148.12	158.83	-53.40	-8,438.83	937.81	551.64	375.60	176.03	3.134	
21,300.00	12,446.00	20,683.32	12,127.18	149.69	160.44	-53.85	-8,538.53	938.69	548.35	369.84	178.51	3.072	
21,400.00	12,446.00	20,783.17	12,132.57	151.27	162.04	-54.30	-8,638.24	939.56	545.09	364.08	181.01	3.011	
21,500.00	12,446.00	20,883.03	12,137.96	152.85	163.65	-54.76	-8,737.94	940.44	541.87	358.34	183.54	2.952	
21,600.00	12,446.00	20,982.88	12,143.35	154.43	165.26	-55.22	-8,837.65	941.32	538.69	352.61	186.08	2.895	
21,700.00	12,446.00	21,082.74	12,148.74	156.01	166.87	-55.68	-8,937.35	942.19	535.54	346.88	188.66	2.839	
21,800.00	12,446.00	21,182.59	12,154.13	157.59	168.47	-56.16	-9,037.06	943.07	532.42	341.17	191.25	2.784	
21,900.00	12,446.00	21,282.44	12,159.52	159.18	170.08	-56.64	-9,136.76	943.94	529.35	335.48	193.87	2.730	
22,000.00	12,446.00	21,382.30	12,164.90	160.76	171.69	-57.12	-9,236.47	944.82	526.31	329.79	196.52	2.678	
22,100.00	12,446.00	21,482.15	12,170.29	162.35	173.31	-57.61	-9,336.17	945.70	523.31	324.12	199.18	2.627	
22,200.00	12,446.00	21,582.01	12,175.68	163.94	174.92	-58.10	-9,435.88	946.57	520.34	318.46	201.88	2.577	
22,300.00	12,446.00	21,681.86	12,181.07	165.53	176.53	-58.60	-9,535.58	947.45	517.42	312.82	204.60	2.529	
22,400.00	12,446.00	21,781.71	12,186.88	167.12	178.20	-59.15	-9,635.28	948.33	514.43	307.07	207.36	2.481	
22,500.00	12,446.00	21,882.30	12,192.93	168.71	179.93	-60.02	-9,734.94	949.29	510.03	299.41	210.63	2.421	
22,600.00	12,446.00	21,991.84	12,205.45	170.30	181.54	-60.95	-9,844.54	950.16	505.22	290.99	214.23	2.358	
22,700.00	12,446.00	22,091.38	12,214.97	171.90	183.15	-61.90	-9,943.62	951.04	500.54	282.66	217.88	2.297	
22,800.00	12,446.00	22,190.93	12,224.49	173.49	184.76	-62.86	-10,042.71	951.91	495.99	274.42	221.58	2.238	
22,900.00	12,446.00	22,290.47	12,234.00	175.09	186.37	-63.84	-10,141.79	952.78	491.60	266.27	225.33	2.182	
23,000.00	12,446.00	22,390.01	12,243.52	176.69	187.98	-64.84	-10,240.87	953.65	487.35	258.22	229.12	2.127	
23,100.00	12,446.00	22,489.55	12,253.04	178.28	189.59	-65.86	-10,339.95	954.52	483.25	250.29	232.96	2.074	
23,200.00	12,446.00	22,589.09	12,262.56	179.88	191.20	-66.90	-10,439.03	955.39	479.31	242.47	236.84	2.024	
23,300.00	12,446.00	22,688.64	12,272.07	181.48	192.81	-67.95	-10,538.12	956.26	475.53	234.78	240.75	1.975	
23,400.00	12,446.00	22,788.18	12,281.59	183.08	194.43	-69.01	-10,637.20	957.13	471.91	227.22	244.69	1.929	
23,500.00	12,446.00	22,887.72	12,291.11	184.69	196.04	-70.10	-10,736.28	958.00	468.46	219.80	248.65	1.884	
23,600.00	12,446.00	22,987.26	12,300.63	186.29	197.65	-71.19	-10,835.36	958.88	465.18	212.55	252.63	1.841	
23,700.00	12,446.00	23,086.80	12,310.14	187.89	199.27	-72.31	-10,934.44	959.75	462.07	205.46	256.61	1.801	
23,800.00	12,446.00	23,186.34	12,319.66	189.50	200.88	-73.44	-11,033.53	960.62	459.14	198.55	260.59	1.762	
23,900.00	12,446.00	23,285.89	12,329.18	191.10	202.49	-74.58	-11,132.61	961.49	456.40	191.83	264.56	1.725	

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Bus Driver/Kaston Fed Com - Bus Driver Fed Com 602H - OH - Plan #6												Offset Site Error:	0.00 usft
Survey Program: 112-OWSG (Rev2) MWD, 1425-OWSG (Rev2) MWD, 12083-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	
23,928.35	12,446.00	23,302.33	12,330.75	191.56	202.76	-74.77	-11,148.98	961.63	455.80	190.17	265.64	1.716 CC	
23,929.64	12,446.00	23,302.33	12,330.75	191.58	202.76	-74.77	-11,148.98	961.63	455.80	190.14	265.66	1.716 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 PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Bus Driver/Kaston Fed Com - Bus Driver Fed Com 702H - OH - OH		Offset Site Error:	0.00 usft
Survey Program: 16-OWSG (Rev2) MWD, 1424-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	49.70	896.74	1,057.47	1,386.51							
100.00	100.00	116.75	116.72	0.13	0.21	49.63	897.91	1,056.26	1,386.39	1,386.16	0.23	6,042.455				
196.14	196.14	200.44	200.40	0.47	0.49	49.58	898.73	1,055.40	1,386.21	1,385.54	0.68	2,049.592				
200.00	200.00	203.13	203.09	0.48	0.50	49.58	898.77	1,055.37	1,386.22	1,385.52	0.69	2,000.644				
300.00	300.00	325.49	325.43	0.84	0.93	49.52	899.26	1,053.65	1,385.38	1,384.13	1.26	1,102.792				
400.00	400.00	431.48	431.40	1.20	1.31	49.46	899.14	1,051.24	1,383.57	1,381.79	1.78	778.540				
500.00	500.00	552.75	552.59	1.56	1.75	49.36	898.73	1,047.11	1,380.75	1,378.41	2.34	590.004				
600.00	600.00	656.08	655.83	1.92	2.12	49.25	898.37	1,042.77	1,377.34	1,374.49	2.86	482.267				
700.00	700.00	740.00	739.68	2.28	2.43	49.17	898.06	1,039.36	1,374.05	1,370.73	3.32	413.761				
800.00	800.00	841.23	840.88	2.63	2.79	49.11	897.53	1,036.60	1,371.65	1,367.82	3.83	358.085				
900.00	900.00	939.33	938.93	2.99	3.15	49.08	896.39	1,034.10	1,368.96	1,364.63	4.33	316.094				
1,000.00	1,000.00	1,039.30	1,038.87	3.35	3.50	49.06	895.17	1,032.04	1,366.61	1,361.77	4.84	282.618				
1,100.00	1,100.00	1,147.21	1,146.74	3.71	3.89	49.05	893.30	1,029.51	1,363.69	1,358.33	5.36	254.412				
1,200.00	1,200.00	1,233.44	1,232.94	4.07	4.20	49.03	892.25	1,027.61	1,361.21	1,355.38	5.83	233.440				
1,300.00	1,300.00	1,327.54	1,327.02	4.43	4.50	49.01	891.50	1,026.01	1,359.41	1,353.11	6.30	215.892				
1,400.00	1,400.00	1,415.51	1,414.98	4.79	4.66	48.99	891.20	1,024.86	1,358.19	1,351.53	6.66	203.789				
1,500.00	1,500.00	1,513.80	1,513.27	5.14	4.71	48.97	891.21	1,023.98	1,357.52	1,350.56	6.95	195.191				
1,600.00	1,600.00	1,613.00	1,612.47	5.50	4.76	48.95	891.09	1,023.30	1,356.92	1,349.67	7.26	186.942				
1,700.00	1,700.00	1,708.78	1,708.24	5.86	4.84	48.94	890.99	1,022.87	1,356.52	1,348.94	7.58	178.911				
1,800.00	1,800.00	1,806.80	1,806.27	6.22	4.94	48.94	890.98	1,022.62	1,356.32	1,348.39	7.93	171.142				
1,900.00	1,900.00	1,906.55	1,906.02	6.58	5.06	48.92	891.09	1,022.37	1,356.20	1,347.91	8.29	163.679				
2,000.00	2,000.00	2,005.90	2,005.36	6.94	5.21	48.92	891.15	1,022.17	1,356.09	1,347.43	8.66	156.588				
2,018.63	2,018.63	2,023.67	2,023.13	7.00	5.24	48.92	891.17	1,022.14	1,356.08	1,347.35	8.73	155.320				
2,100.00	2,100.00	2,101.78	2,101.25	7.29	5.37	48.91	891.42	1,022.06	1,356.19	1,347.15	9.04	149.991				
2,200.00	2,200.00	2,200.26	2,199.72	7.65	5.54	48.89	891.93	1,022.01	1,356.49	1,347.05	9.44	143.766				
2,300.00	2,299.99	2,298.08	2,297.55	8.01	5.73	19.58	892.46	1,022.07	1,355.66	1,345.82	9.84	137.825				
2,400.00	2,399.91	2,394.38	2,393.84	8.37	5.93	19.63	893.23	1,022.27	1,352.64	1,342.40	10.24	132.068				
2,500.00	2,499.69	2,492.91	2,492.36	8.72	6.15	19.73	894.10	1,022.56	1,347.29	1,336.63	10.66	126.410				
2,600.00	2,599.27	2,609.98	2,609.43	9.08	6.42	19.91	895.02	1,022.78	1,339.41	1,328.30	11.11	120.593				
2,685.78	2,684.47	2,735.40	2,734.82	9.39	6.73	20.15	893.83	1,020.51	1,328.35	1,316.82	11.53	115.220				
2,700.00	2,698.58	2,755.53	2,754.94	9.44	6.78	20.19	893.46	1,019.85	1,326.14	1,314.54	11.60	114.343				
2,800.00	2,797.77	2,843.64	2,843.00	9.81	7.01	20.32	892.15	1,017.09	1,310.89	1,298.87	12.02	109.052				
2,900.00	2,896.96	2,935.36	2,934.67	10.17	7.26	20.47	890.95	1,014.74	1,296.21	1,283.76	12.45	104.089				
3,000.00	2,996.15	3,098.95	3,098.06	10.54	7.72	20.77	886.47	1,008.27	1,279.78	1,266.80	12.97	98.635				
3,100.00	3,095.35	3,291.40	3,289.15	10.92	8.31	21.03	874.55	989.27	1,256.32	1,242.83	13.49	93.121				
3,200.00	3,194.54	3,408.49	3,404.68	11.29	8.69	21.16	864.54	973.08	1,228.60	1,214.65	13.95	88.085				
3,300.00	3,293.73	3,484.79	3,479.98	11.67	8.95	21.24	858.20	962.59	1,201.12	1,186.72	14.40	83.425				
3,400.00	3,392.92	3,582.67	3,576.72	12.05	9.29	21.33	850.76	949.62	1,174.47	1,159.62	14.86	79.052				
3,500.00	3,492.12	3,737.88	3,729.28	12.43	9.85	21.39	837.73	924.35	1,144.99	1,129.67	15.32	74.753				
3,600.00	3,591.31	3,848.31	3,836.94	12.81	10.28	21.28	828.16	901.79	1,112.27	1,096.49	15.77	70.520				
3,700.00	3,690.50	3,944.86	3,930.87	13.20	10.67	21.11	820.46	880.81	1,079.04	1,062.80	16.24	66.454				
3,800.00	3,789.69	4,036.83	4,020.32	13.58	11.05	20.91	813.42	860.59	1,045.82	1,029.11	16.71	62.587				
3,900.00	3,888.89	4,128.79	4,109.87	13.97	11.44	20.74	805.93	841.07	1,012.88	995.69	17.19	58.939				
4,000.00	3,988.08	4,212.99	4,192.06	14.36	11.80	20.70	797.85	824.71	980.39	962.72	17.67	55.485				
4,100.00	4,087.27	4,285.71	4,263.34	14.75	12.10	20.74	790.68	812.21	949.44	931.27	18.17	52.265				
4,200.00	4,186.46	4,349.00	4,325.74	15.14	12.35	20.83	785.01	803.30	921.36	902.70	18.67	49.359				
4,300.00	4,285.66	4,424.56	4,400.58	15.53	12.64	20.98	779.19	794.72	896.09	876.93	19.16	46.780				
4,400.00	4,384.85	4,511.75	4,487.18	15.92	12.97	21.17	773.62	786.25	872.82	853.17	19.64	44.439				
4,500.00	4,484.04	4,604.71	4,579.56	16.31	13.31	21.34	768.49	777.28	850.17	830.05	20.13	42.239				
4,600.00	4,583.23	4,691.34	4,665.72	16.71	13.63	21.48	764.44	769.16	828.29	807.68	20.62	40.177				
4,700.00	4,682.42	4,786.62	4,760.60	17.10	13.98	21.66	760.44	761.37	807.59	786.49	21.11	38.264				
4,800.00	4,781.62	4,893.48	4,866.94	17.50	14.38	21.90	755.39	752.21	786.30	764.70	21.59	36.413				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Bus Driver/Kaston Fed Com - Bus Driver Fed Com 702H - OH - OH		Offset Site Error:	0.00 usft
Survey Program: 16-OWSG (Rev2) MWD, 1424-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)								
4,900.00	4,880.81	4,984.20	4,957.19	17.89	14.72	22.11	750.83	744.13	764.58	742.49	22.09	34.616				
5,000.00	4,980.00	5,100.91	5,073.22	18.29	15.15	22.43	744.24	733.61	742.41	719.84	22.57	32.900				
5,100.00	5,079.19	5,238.62	5,209.37	18.68	15.71	22.85	732.73	716.56	715.94	692.96	22.98	31.151				
5,200.00	5,178.39	5,349.37	5,318.09	19.08	16.19	23.14	721.42	698.70	685.53	662.10	23.43	29.263				
5,300.00	5,277.58	5,446.90	5,413.62	19.48	16.62	23.40	711.00	682.11	654.23	630.33	23.91	27.365				
5,400.00	5,376.77	5,540.78	5,505.58	19.87	17.04	23.70	700.81	666.15	622.85	598.45	24.40	25.523				
5,500.00	5,475.96	5,636.61	5,599.47	20.27	17.46	24.05	690.33	650.10	591.64	566.74	24.89	23.769				
5,600.00	5,575.16	5,732.41	5,693.27	20.67	17.89	24.43	679.72	633.80	560.15	534.78	25.38	22.072				
5,700.00	5,674.35	5,822.14	5,781.18	21.07	18.30	24.84	669.88	618.76	528.97	503.07	25.90	20.422				
5,800.00	5,773.54	5,910.45	5,867.94	21.47	18.69	25.32	660.68	605.08	499.11	472.67	26.44	18.878				
5,900.00	5,872.73	6,002.21	5,958.29	21.87	19.08	25.93	651.48	591.92	470.42	443.46	26.96	17.448				
6,000.00	5,971.93	6,097.28	6,051.95	22.27	19.49	26.74	641.45	579.08	442.17	414.71	27.47	16.098				
6,100.00	6,071.12	6,191.79	6,145.07	22.67	19.90	27.75	631.04	566.73	414.12	386.14	27.98	14.800				
6,200.00	6,170.31	6,286.94	6,238.88	23.07	20.31	28.94	620.58	554.73	386.59	358.09	28.50	13.566				
6,300.00	6,269.50	6,383.27	6,333.83	23.47	20.72	30.35	609.85	542.54	359.14	330.13	29.01	12.380				
6,400.00	6,368.70	6,476.11	6,425.37	23.87	21.12	31.90	599.73	530.84	332.07	302.51	29.56	11.234				
6,500.00	6,467.89	6,568.72	6,516.90	24.27	21.51	33.49	591.12	519.73	306.55	276.42	30.13	10.176				
6,600.00	6,567.08	6,664.51	6,611.71	24.67	21.91	35.08	583.99	508.02	281.91	251.25	30.67	9.193				
6,700.00	6,666.27	6,760.65	6,706.87	25.07	22.30	36.77	577.64	495.93	257.55	226.34	31.21	8.251				
6,800.00	6,765.47	6,855.47	6,800.80	25.47	22.69	38.81	571.45	484.49	233.95	202.16	31.79	7.359				
6,900.00	6,864.66	6,950.17	6,894.72	25.88	23.08	41.35	565.37	474.03	211.67	179.28	32.40	6.533				
6,982.54	6,946.53	7,028.67	6,972.66	26.21	23.39	43.86	560.61	466.03	194.41	161.50	32.92	5.906				
7,000.00	6,963.85	7,045.31	6,989.20	26.28	23.46	44.40	559.64	464.41	190.93	157.90	33.03	5.780				
7,100.00	7,063.25	7,142.65	7,085.96	26.67	23.84	47.48	554.44	455.20	172.79	139.13	33.66	5.134				
7,200.00	7,162.90	7,241.37	7,184.11	27.05	24.22	50.20	550.23	445.38	156.69	122.43	34.26	4.573				
7,300.00	7,262.74	7,339.25	7,281.41	27.41	24.61	52.73	545.99	435.75	142.72	107.83	34.88	4.091				
7,400.00	7,362.69	7,436.59	7,378.29	27.77	24.98	54.91	541.85	427.20	131.66	96.15	35.51	3.708				
7,468.32	7,431.00	7,503.77	7,445.24	28.00	25.23	55.12	539.67	422.01	125.84	89.94	35.89	3.506				
7,500.00	7,462.68	7,535.12	7,476.48	28.10	25.34	55.42	538.83	419.68	123.42	87.36	36.06	3.422				
7,600.00	7,562.68	7,633.94	7,575.04	28.44	25.70	56.09	536.90	412.72	116.26	79.67	36.59	3.178				
7,700.00	7,662.68	7,732.35	7,673.26	28.78	26.05	56.44	535.83	406.70	110.08	72.98	37.10	2.967				
7,800.00	7,762.68	7,830.59	7,771.39	29.11	26.39	56.80	534.88	402.06	105.31	67.70	37.61	2.800				
7,900.00	7,862.68	7,929.46	7,870.19	29.45	26.73	57.40	533.62	398.71	101.86	63.74	38.13	2.672				
8,000.00	7,962.68	8,028.00	7,968.70	29.79	27.05	57.60	533.17	396.52	99.62	61.00	38.61	2.580				
8,100.00	8,062.68	8,127.74	8,068.43	30.13	27.36	57.99	534.15	395.08	98.23	59.16	39.06	2.515				
8,200.00	8,162.68	8,227.60	8,168.27	30.46	27.67	58.20	535.43	393.80	97.02	57.52	39.50	2.456				
8,300.00	8,262.68	8,327.16	8,267.82	30.80	27.98	58.55	536.30	392.84	96.12	56.17	39.95	2.406				
8,400.00	8,362.68	8,426.59	8,367.25	31.14	28.29	58.93	536.79	392.44	95.76	55.35	40.41	2.370				
8,412.71	8,375.39	8,439.24	8,379.89	31.19	28.32	59.00	536.84	392.43	95.76	55.29	40.47	2.366				
8,500.00	8,462.68	8,526.15	8,466.81	31.48	28.58	59.13	537.15	392.61	95.95	55.09	40.86	2.348				
8,600.00	8,562.68	8,625.94	8,566.59	31.82	28.87	59.46	537.47	393.07	96.45	55.13	41.32	2.334				
8,700.00	8,662.68	8,725.53	8,666.18	32.16	29.15	59.77	537.52	393.83	97.21	55.44	41.78	2.327				
8,800.00	8,762.68	8,824.96	8,765.61	32.50	29.44	59.94	537.18	395.21	98.56	56.32	42.24	2.333				
8,900.00	8,862.68	8,924.60	8,865.23	32.85	29.72	60.17	537.11	397.00	100.35	57.64	42.71	2.350				
9,000.00	8,962.68	9,024.50	8,965.11	33.19	30.01	60.38	537.78	398.98	102.38	59.22	43.16	2.372				
9,100.00	9,062.68	9,124.47	9,065.05	33.53	30.29	60.61	538.80	400.91	104.40	60.79	43.61	2.394				
9,200.00	9,162.68	9,224.28	9,164.83	33.87	30.58	60.89	540.16	402.90	106.51	62.46	44.05	2.418				
9,300.00	9,262.68	9,323.97	9,264.49	34.22	30.87	61.17	541.56	405.09	108.85	64.35	44.49	2.446				
9,400.00	9,362.68	9,423.93	9,364.41	34.56	31.15	61.46	542.83	407.47	111.36	66.42	44.94	2.478				
9,500.00	9,462.68	9,523.95	9,464.40	34.90	31.44	61.75	544.31	409.76	113.83	68.44	45.39	2.508				
9,600.00	9,562.68	9,627.27	9,567.69	35.25	31.76	62.04	545.79	410.77	115.00	69.12	45.88	2.507				
9,700.00	9,662.68	9,728.00	9,668.40	35.59	32.08	62.33	547.33	409.70	114.18	67.84	46.34	2.464				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Bus Driver/Kaston Fed Com - Bus Driver Fed Com 702H - OH - OH		Offset Site Error:	0.00 usft
Survey Program:													16-OWSG (Rev2) MWD, 1424-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				
9,800.00	9,762.68	9,827.23	9,767.62	35.93	32.40	79.92	548.85	408.69	113.44	66.64	46.80	2.424				
9,833.20	9,795.88	9,859.99	9,800.38	36.05	32.50	79.69	549.29	408.55	113.38	66.43	46.95	2.415				
9,900.00	9,862.68	9,926.14	9,866.52	36.28	32.71	79.30	550.09	408.65	113.62	66.37	47.25	2.405				
10,000.00	9,962.68	10,026.49	9,966.86	36.62	33.02	78.63	551.49	408.78	114.02	66.31	47.71	2.390				
10,100.00	10,062.68	10,126.73	10,067.09	36.97	33.34	78.05	552.67	408.81	114.29	66.11	48.18	2.372				
10,200.00	10,162.68	10,227.87	10,168.22	37.31	33.66	78.53	551.65	408.61	113.89	65.21	48.68	2.340				
10,300.00	10,262.68	10,328.92	10,269.25	37.66	34.00	79.46	549.56	407.53	112.45	63.25	49.20	2.286				
10,400.00	10,362.68	10,428.97	10,369.25	38.01	34.34	80.57	547.09	405.94	110.45	60.73	49.72	2.221				
10,500.00	10,462.68	10,528.46	10,468.70	38.35	34.68	81.75	544.62	404.71	108.85	58.60	50.25	2.166				
10,600.00	10,562.68	10,628.02	10,568.24	38.70	35.02	82.83	542.43	403.80	107.65	56.88	50.77	2.120				
10,700.00	10,662.68	10,728.48	10,668.68	39.04	35.35	83.27	541.49	402.89	106.63	55.36	51.27	2.080				
10,800.00	10,762.68	10,829.21	10,769.40	39.39	35.70	83.69	540.51	401.16	104.81	53.04	51.78	2.024				
10,900.00	10,862.68	10,930.72	10,870.86	39.74	36.05	84.29	539.16	398.52	102.09	49.82	52.28	1.953				
11,000.00	10,962.68	11,032.78	10,972.81	40.09	36.42	84.78	537.86	393.87	97.43	44.68	52.75	1.847				
11,100.00	11,062.68	11,131.23	11,071.08	40.43	36.77	86.43	534.74	388.93	92.19	38.87	53.33	1.729				
11,200.00	11,162.68	11,230.20	11,169.92	40.78	37.13	88.68	531.05	385.50	88.57	34.66	53.90	1.643				
11,300.00	11,262.68	11,329.00	11,268.58	41.13	37.48	91.71	526.44	383.04	86.09	31.59	54.50	1.580				
11,400.00	11,362.68	11,428.35	11,367.75	41.48	37.82	95.55	520.79	381.43	84.83	29.71	55.12	1.539				
11,452.45	11,415.14	11,480.33	11,419.64	41.66	38.01	97.69	517.68	380.81	84.57	29.13	55.44	1.525	CC, ES, SF			
11,500.00	11,462.68	11,525.85	11,464.93	41.82	38.17	100.72	513.17	380.60	85.12	29.39	55.73	1.527				
11,600.00	11,562.68	11,615.89	11,552.89	42.17	38.49	111.91	494.47	382.83	93.61	37.82	55.79	1.678				
11,700.00	11,662.68	11,710.02	11,642.98	42.52	38.82	123.90	467.74	388.18	112.48	56.52	55.96	2.010				
11,800.00	11,762.68	11,792.72	11,720.26	42.87	39.13	133.79	438.60	391.32	138.82	83.90	54.92	2.528				
11,900.00	11,862.68	11,870.23	11,788.49	43.22	39.43	142.46	402.08	394.54	178.37	124.69	53.69	3.322				
11,910.36	11,873.04	11,878.37	11,795.43	43.25	39.46	143.33	397.84	394.67	182.98	129.38	53.60	3.414				
11,950.00	11,912.65	11,906.56	11,819.18	43.38	39.58	-24.37	382.65	394.77	200.35	147.38	52.97	3.782				
12,000.00	11,962.32	11,937.68	11,844.25	43.53	39.72	-20.82	364.23	394.37	221.84	170.11	51.74	4.288				
12,050.00	12,011.30	11,967.72	11,867.09	43.66	39.86	-17.79	344.76	393.49	242.89	192.46	50.43	4.817				
12,100.00	12,059.24	11,985.00	11,879.58	43.78	39.94	-15.94	332.83	392.77	263.76	215.64	48.12	5.481				
12,150.00	12,105.76	11,985.00	11,879.58	43.89	39.94	-15.21	332.83	392.77	287.61	242.82	44.78	6.422				
12,200.00	12,150.50	11,985.00	11,879.58	43.98	39.94	-14.41	332.83	392.77	314.29	272.21	42.08	7.469				
12,250.00	12,193.14	11,985.00	11,879.58	44.06	39.94	-13.56	332.83	392.77	342.96	302.90	40.07	8.560				
12,300.00	12,233.34	11,985.00	11,879.58	44.13	39.94	-12.71	332.83	392.77	372.99	334.29	38.70	9.638				
12,350.00	12,270.79	11,985.00	11,879.58	44.18	39.94	-11.87	332.83	392.77	403.85	365.95	37.91	10.654				
12,400.00	12,305.22	11,985.00	11,879.58	44.22	39.94	-11.07	332.83	392.77	435.18	397.57	37.60	11.573				
12,450.00	12,336.36	11,985.00	11,879.58	44.25	39.94	-10.32	332.83	392.77	466.65	428.94	37.71	12.374				
12,500.00	12,363.98	11,985.00	11,879.58	44.27	39.94	-9.63	332.83	392.77	498.02	459.87	38.15	13.053				
12,550.00	12,387.85	11,985.00	11,879.58	44.29	39.94	-8.98	332.83	392.77	529.10	490.23	38.87	13.613				
12,600.00	12,407.81	11,985.00	11,879.58	44.29	39.94	-8.40	332.83	392.77	559.71	519.92	39.79	14.066				
12,650.00	12,423.70	11,985.00	11,879.58	44.30	39.94	-7.87	332.83	392.77	589.72	548.84	40.88	14.426				
12,700.00	12,435.40	11,985.00	11,879.58	44.31	39.94	-7.39	332.83	392.77	618.99	576.91	42.08	14.709				
12,750.00	12,442.82	11,985.00	11,879.58	44.34	39.94	-6.96	332.83	392.77	647.43	604.06	43.36	14.930				
12,800.00	12,445.90	11,985.00	11,879.58	44.41	39.94	-6.57	332.83	392.77	674.92	630.23	44.70	15.101				
12,810.36	12,446.00	11,985.00	11,879.58	44.42	39.94	-6.49	332.83	392.77	680.50	635.52	44.97	15.131				
12,900.00	12,446.00	11,985.00	11,879.58	44.59	39.94	-5.22	332.83	392.77	732.56	685.27	47.29	15.491				
13,000.00	12,446.00	11,985.00	11,879.58	44.83	39.94	-3.45	332.83	392.77	798.76	749.24	49.52	16.130				
13,100.00	12,446.00	11,985.00	11,879.58	45.12	39.94	-1.33	332.83	392.77	871.56	820.22	51.34	16.975				
13,200.00	12,446.00	11,985.00	11,879.58	45.46	39.94	1.15	332.83	392.77	949.38	896.58	52.80	17.980				
13,217.18	12,446.00	11,985.00	11,879.58	45.52	39.94	1.61	332.83	392.77	963.16	910.14	53.02	18.166				
13,300.00	12,446.00	11,985.00	11,879.58	45.84	39.94	1.61	332.83	392.77	1,031.02	977.06	53.96	19.107				
13,400.00	12,446.00	11,985.00	11,879.58	46.27	39.94	1.61	332.83	392.77	1,115.65	1,060.76	54.89	20.326				
13,500.00	12,446.00	11,985.00	11,879.58	46.75	39.94	1.61	332.83	392.77	1,202.64	1,147.01	55.63	21.617				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Bus Driver/Kaston Fed Com - Bus Driver Fed Com 702H - OH - OH		Offset Site Error:	0.00 usft
Survey Program: 16-OWSG (Rev2) MWD, 1424-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	12,446.00	11,985.00	11,879.58	47.29	39.94	1.61	332.83	392.77	1,291.52	1,235.28	56.24	22.964				
13,700.00	12,446.00	11,985.00	11,879.58	47.87	39.94	1.61	332.83	392.77	1,381.92	1,325.18	56.74	24.356				
13,800.00	12,446.00	11,985.00	11,879.58	48.50	39.94	1.61	332.83	392.77	1,473.56	1,416.41	57.15	25.785				
13,900.00	12,446.00	11,985.00	11,879.58	49.18	39.94	1.61	332.83	392.77	1,566.22	1,508.73	57.49	27.243				
14,000.00	12,446.00	11,985.00	11,879.58	49.90	39.94	1.61	332.83	392.77	1,659.73	1,601.95	57.78	28.725				
14,100.00	12,446.00	11,985.00	11,879.58	50.66	39.94	1.61	332.83	392.77	1,753.96	1,695.94	58.03	30.227				
14,200.00	12,446.00	11,985.00	11,879.58	51.47	39.94	1.61	332.83	392.77	1,848.80	1,790.56	58.24	31.745				
14,300.00	12,446.00	11,985.00	11,879.58	52.31	39.94	1.61	332.83	392.77	1,944.15	1,885.73	58.43	33.276				
14,400.00	12,446.00	11,985.00	11,879.58	53.19	39.94	1.61	332.83	392.77	2,039.95	1,981.36	58.59	34.818				
14,500.00	12,446.00	11,985.00	11,879.58	54.11	39.94	1.61	332.83	392.77	2,136.14	2,077.40	58.73	36.369				
14,600.00	12,446.00	11,985.00	11,879.58	55.06	39.94	1.61	332.83	392.77	2,232.66	2,173.79	58.86	37.930				
14,700.00	12,446.00	11,985.00	11,879.58	56.05	39.94	1.61	332.83	392.77	2,329.47	2,270.49	58.98	39.497				
14,800.00	12,446.00	11,985.00	11,879.58	57.06	39.94	1.61	332.83	392.77	2,426.54	2,367.46	59.08	41.070				
14,900.00	12,446.00	11,985.00	11,879.58	58.11	39.94	1.61	332.83	392.77	2,523.84	2,464.66	59.18	42.649				
15,000.00	12,446.00	11,985.00	11,879.58	59.18	39.94	1.61	332.83	392.77	2,621.35	2,562.08	59.26	44.231				
15,100.00	12,446.00	11,985.00	11,879.58	60.28	39.94	1.61	332.83	392.77	2,719.03	2,659.68	59.35	45.817				
15,200.00	12,446.00	11,985.00	11,879.58	61.40	39.94	1.61	332.83	392.77	2,816.88	2,757.46	59.42	47.405				
15,300.00	12,446.00	11,985.00	11,879.58	62.54	39.94	1.61	332.83	392.77	2,914.87	2,855.38	59.49	48.996				
15,400.00	12,446.00	11,985.00	11,879.58	63.71	39.94	1.61	332.83	392.77	3,013.00	2,953.44	59.56	50.589				
15,500.00	12,446.00	11,985.00	11,879.58	64.90	39.94	1.61	332.83	392.77	3,111.24	3,051.62	59.62	52.182				
15,600.00	12,446.00	11,985.00	11,879.58	66.11	39.94	1.61	332.83	392.77	3,209.59	3,149.91	59.68	53.777				
15,700.00	12,446.00	11,985.00	11,879.58	67.34	39.94	1.61	332.83	392.77	3,308.05	3,248.30	59.74	55.372				
15,800.00	12,446.00	11,985.00	11,879.58	68.58	39.94	1.61	332.83	392.77	3,406.59	3,346.79	59.80	56.968				
15,900.00	12,446.00	11,985.00	11,879.58	69.84	39.94	1.61	332.83	392.77	3,505.21	3,445.36	59.85	58.564				
16,000.00	12,446.00	11,985.00	11,879.58	71.12	39.94	1.61	332.83	392.77	3,603.91	3,544.01	59.91	60.159				
16,100.00	12,446.00	11,985.00	11,879.58	72.41	39.94	1.61	332.83	392.77	3,702.68	3,642.73	59.96	61.754				
16,200.00	12,446.00	11,985.00	11,879.58	73.72	39.94	1.61	332.83	392.77	3,801.52	3,741.51	60.01	63.349				
16,300.00	12,446.00	11,985.00	11,879.58	75.04	39.94	1.61	332.83	392.77	3,900.41	3,840.35	60.06	64.943				
16,400.00	12,446.00	11,985.00	11,879.58	76.37	39.94	1.61	332.83	392.77	3,999.36	3,939.25	60.11	66.535				
16,500.00	12,446.00	11,985.00	11,879.58	77.72	39.94	1.61	332.83	392.77	4,098.36	4,038.20	60.16	68.127				
16,600.00	12,446.00	11,985.00	11,879.58	79.08	39.94	1.61	332.83	392.77	4,197.41	4,137.20	60.21	69.717				
16,700.00	12,446.00	11,985.00	11,879.58	80.45	39.94	1.61	332.83	392.77	4,296.50	4,236.24	60.25	71.306				
16,800.00	12,446.00	11,985.00	11,879.58	81.82	39.94	1.61	332.83	392.77	4,395.63	4,335.33	60.30	72.893				
16,900.00	12,446.00	11,985.00	11,879.58	83.21	39.94	1.61	332.83	392.77	4,494.80	4,434.45	60.35	74.479				
17,000.00	12,446.00	11,985.00	11,879.58	84.61	39.94	1.61	332.83	392.77	4,594.01	4,533.61	60.40	76.063				
17,100.00	12,446.00	11,985.00	11,879.58	86.02	39.94	1.61	332.83	392.77	4,693.25	4,632.80	60.45	77.644				
17,200.00	12,446.00	11,985.00	11,879.58	87.43	39.94	1.61	332.83	392.77	4,792.52	4,732.03	60.49	79.224				
17,300.00	12,446.00	11,985.00	11,879.58	88.86	39.94	1.61	332.83	392.77	4,891.82	4,831.28	60.54	80.801				
17,400.00	12,446.00	11,985.00	11,879.58	90.29	39.94	1.61	332.83	392.77	4,991.15	4,930.56	60.59	82.376				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Bus Driver/Kaston Fed Com - Bus Driver Fed Com 702H - OH - Plan #5		Offset Site Error:	0.00 usft
Survey Program:													16-OWSG (Rev2) MWD, 1424-OWSG (Rev2) MWD, 2745-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	49.70	896.74	1,057.47	1,386.51							
100.00	100.00	116.75	116.72	0.13	0.21	49.63	897.91	1,056.26	1,386.39	1,386.16	0.23	6,042.455				
196.14	196.14	200.44	200.40	0.47	0.49	49.58	898.73	1,055.40	1,386.21	1,385.54	0.68	2,049.592				
200.00	200.00	203.13	203.09	0.48	0.50	49.58	898.77	1,055.37	1,386.22	1,385.52	0.69	2,000.644				
300.00	300.00	325.49	325.43	0.84	0.93	49.52	899.26	1,053.65	1,385.38	1,384.13	1.26	1,102.792				
400.00	400.00	431.48	431.40	1.20	1.31	49.46	899.14	1,051.24	1,383.57	1,381.79	1.78	778.540				
500.00	500.00	552.75	552.59	1.56	1.75	49.36	898.73	1,047.11	1,380.75	1,378.41	2.34	590.004				
600.00	600.00	656.08	655.83	1.92	2.12	49.25	898.37	1,042.77	1,377.34	1,374.49	2.86	482.267				
700.00	700.00	740.00	739.68	2.28	2.43	49.17	898.06	1,039.36	1,374.05	1,370.73	3.32	413.761				
800.00	800.00	841.23	840.88	2.63	2.79	49.11	897.53	1,036.60	1,371.65	1,367.82	3.83	358.085				
900.00	900.00	939.33	938.93	2.99	3.15	49.08	896.39	1,034.10	1,368.96	1,364.63	4.33	316.094				
1,000.00	1,000.00	1,039.30	1,038.87	3.35	3.50	49.06	895.17	1,032.04	1,366.61	1,361.77	4.84	282.618				
1,100.00	1,100.00	1,147.21	1,146.74	3.71	3.89	49.05	893.30	1,029.51	1,363.69	1,358.33	5.36	254.412				
1,200.00	1,200.00	1,233.44	1,232.94	4.07	4.20	49.03	892.25	1,027.61	1,361.21	1,355.38	5.83	233.440				
1,300.00	1,300.00	1,327.54	1,327.02	4.43	4.50	49.01	891.50	1,026.01	1,359.41	1,353.11	6.30	215.892				
1,400.00	1,400.00	1,415.51	1,414.98	4.79	4.66	48.99	891.20	1,024.86	1,358.19	1,351.53	6.66	203.789				
1,500.00	1,500.00	1,513.80	1,513.27	5.14	4.71	48.97	891.21	1,023.98	1,357.52	1,350.56	6.95	195.191				
1,600.00	1,600.00	1,613.00	1,612.47	5.50	4.76	48.95	891.09	1,023.30	1,356.92	1,349.67	7.26	186.942				
1,700.00	1,700.00	1,708.78	1,708.24	5.86	4.84	48.94	890.99	1,022.87	1,356.52	1,348.94	7.58	178.911				
1,800.00	1,800.00	1,806.80	1,806.27	6.22	4.94	48.94	890.98	1,022.62	1,356.32	1,348.39	7.93	171.142				
1,900.00	1,900.00	1,906.55	1,906.02	6.58	5.06	48.92	891.09	1,022.37	1,356.20	1,347.91	8.29	163.679				
2,000.00	2,000.00	2,005.90	2,005.36	6.94	5.21	48.92	891.15	1,022.17	1,356.09	1,347.43	8.66	156.588				
2,018.63	2,018.63	2,023.67	2,023.13	7.00	5.24	48.92	891.17	1,022.14	1,356.08	1,347.35	8.73	155.320				
2,100.00	2,100.00	2,101.78	2,101.25	7.29	5.37	48.91	891.42	1,022.06	1,356.19	1,347.15	9.04	149.991				
2,200.00	2,200.00	2,200.26	2,199.72	7.65	5.54	48.89	891.93	1,022.01	1,356.49	1,347.05	9.44	143.766				
2,300.00	2,299.99	2,298.08	2,297.55	8.01	5.73	19.58	892.46	1,022.07	1,355.66	1,345.82	9.84	137.825				
2,400.00	2,399.91	2,394.38	2,393.84	8.37	5.93	19.63	893.23	1,022.27	1,352.64	1,342.40	10.24	132.068				
2,500.00	2,499.69	2,492.91	2,492.36	8.72	6.15	19.73	894.10	1,022.56	1,347.29	1,336.63	10.66	126.410				
2,600.00	2,599.27	2,609.98	2,609.43	9.08	6.42	19.91	895.02	1,022.78	1,339.41	1,328.30	11.11	120.593				
2,685.78	2,684.47	2,735.40	2,734.82	9.39	6.73	20.15	893.83	1,020.51	1,328.35	1,316.82	11.53	115.220				
2,700.00	2,698.58	2,755.53	2,754.94	9.44	6.78	20.19	893.46	1,019.85	1,326.14	1,314.54	11.60	114.343				
2,800.00	2,797.77	2,869.50	2,868.81	9.81	7.08	20.37	891.21	1,015.78	1,310.34	1,298.29	12.05	108.719				
2,900.00	2,896.96	3,017.33	3,016.25	10.17	7.49	20.57	885.98	1,006.67	1,291.53	1,278.98	12.55	102.948				
3,000.00	2,996.15	3,162.85	3,160.90	10.54	7.93	20.74	877.97	992.93	1,269.02	1,255.99	13.03	97.402				
3,100.00	3,095.35	3,294.90	3,291.54	10.92	8.35	20.87	868.29	976.44	1,243.00	1,229.51	13.49	92.110				
3,200.00	3,194.54	3,391.15	3,386.61	11.29	8.67	20.96	860.65	963.45	1,215.96	1,202.01	13.95	87.186				
3,300.00	3,293.73	3,487.41	3,481.68	11.67	9.00	21.05	853.01	950.47	1,188.91	1,174.51	14.40	82.548				
3,400.00	3,392.92	3,583.66	3,576.75	12.05	9.33	21.15	845.38	937.48	1,161.87	1,147.01	14.86	78.176				
3,500.00	3,492.12	3,679.92	3,671.82	12.43	9.68	21.25	837.74	924.50	1,134.83	1,119.50	15.33	74.049				
3,600.00	3,591.31	3,776.17	3,766.89	12.81	10.03	21.36	830.10	911.51	1,107.79	1,092.00	15.79	70.152				
3,700.00	3,690.50	3,872.43	3,861.96	13.20	10.38	21.47	822.46	898.53	1,080.76	1,064.50	16.26	66.466				
3,800.00	3,789.69	3,968.68	3,957.03	13.58	10.74	21.59	814.83	885.54	1,053.73	1,037.00	16.73	62.978				
3,900.00	3,888.89	4,064.94	4,052.09	13.97	11.10	21.71	807.19	872.56	1,026.71	1,009.50	17.21	59.673				
4,000.00	3,988.08	4,161.19	4,147.16	14.36	11.47	21.84	799.55	859.57	999.69	982.01	17.68	56.540				
4,100.00	4,087.27	4,257.45	4,242.23	14.75	11.84	21.98	791.92	846.59	972.68	954.52	18.16	53.565				
4,200.00	4,186.46	4,353.70	4,337.30	15.14	12.22	22.12	784.28	833.60	945.67	927.03	18.64	50.738				
4,300.00	4,285.66	4,449.96	4,432.37	15.53	12.60	22.28	776.64	820.62	918.66	899.54	19.12	48.048				
4,400.00	4,384.85	4,546.21	4,527.44	15.92	12.98	22.44	769.01	807.63	891.67	872.07	19.60	45.487				
4,500.00	4,484.04	4,642.47	4,622.51	16.31	13.36	22.62	761.37	794.65	864.68	844.59	20.09	43.046				
4,600.00	4,583.23	4,738.72	4,717.58	16.71	13.75	22.80	753.73	781.66	837.70	817.13	20.57	40.718				
4,700.00	4,682.42	4,834.98	4,812.65	17.10	14.14	23.00	746.10	768.68	810.73	789.67	21.06	38.495				
4,800.00	4,781.62	4,931.23	4,907.72	17.50	14.53	23.21	738.46	755.69	783.76	762.21	21.55	36.371				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Bus Driver/Kaston Fed Com - Bus Driver Fed Com 702H - OH - Plan #5		Offset Site Error:	0.00 usft
Survey Program:													16-OWSG (Rev2) MWD, 1424-OWSG (Rev2) MWD, 2745-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				
4,900.00	4,880.81	5,027.49	5,002.78	17.89	14.92	23.43	730.82	742.71	756.81	734.77	22.04	34.339				
5,000.00	4,980.00	5,123.74	5,097.85	18.29	15.31	23.68	723.19	729.72	729.87	707.34	22.53	32.395				
5,100.00	5,079.19	5,220.00	5,192.92	18.68	15.71	23.94	715.55	716.74	702.94	679.92	23.02	30.532				
5,200.00	5,178.39	5,316.25	5,287.99	19.08	16.11	24.22	707.91	703.75	676.03	652.51	23.52	28.747				
5,300.00	5,277.58	5,412.51	5,383.06	19.48	16.50	24.52	700.28	690.77	649.13	625.12	24.01	27.035				
5,400.00	5,376.77	5,508.76	5,478.13	19.87	16.90	24.85	692.64	677.79	622.25	597.75	24.51	25.391				
5,500.00	5,475.96	5,605.02	5,573.20	20.27	17.30	25.22	685.00	664.80	595.40	570.39	25.00	23.812				
5,600.00	5,575.16	5,701.27	5,668.27	20.67	17.70	25.61	677.37	651.82	568.56	543.06	25.50	22.295				
5,700.00	5,674.35	5,797.53	5,763.34	21.07	18.11	26.04	669.73	638.83	541.76	515.76	26.00	20.836				
5,800.00	5,773.54	5,893.78	5,858.40	21.47	18.51	26.52	662.09	625.85	514.99	488.48	26.50	19.432				
5,900.00	5,872.73	5,990.04	5,953.47	21.87	18.91	27.05	654.46	612.86	488.25	461.25	27.00	18.081				
6,000.00	5,971.93	6,086.29	6,048.54	22.27	19.32	27.65	646.82	599.88	461.56	434.05	27.51	16.780				
6,100.00	6,071.12	6,182.55	6,143.61	22.67	19.73	28.31	639.18	586.89	434.92	406.90	28.01	15.526				
6,200.00	6,170.31	6,278.80	6,238.68	23.07	20.13	29.06	631.55	573.91	408.34	379.82	28.52	14.318				
6,300.00	6,269.50	6,375.06	6,333.75	23.47	20.54	29.92	623.91	560.92	381.83	352.80	29.03	13.153				
6,400.00	6,368.70	6,471.31	6,428.82	23.87	20.95	30.90	616.27	547.94	355.42	325.88	29.54	12.031				
6,500.00	6,467.89	6,567.57	6,523.89	24.27	21.36	32.04	608.64	534.95	329.12	299.06	30.06	10.949				
6,600.00	6,567.08	6,663.82	6,618.96	24.67	21.77	33.38	601.00	521.97	302.96	272.38	30.58	9.906				
6,700.00	6,666.27	6,760.08	6,714.03	25.07	22.17	34.97	593.36	508.98	276.99	245.87	31.12	8.902				
6,800.00	6,765.47	6,856.33	6,809.09	25.47	22.58	36.87	585.73	496.00	251.25	219.59	31.66	7.936				
6,900.00	6,864.66	6,952.59	6,904.16	25.88	23.00	39.21	578.09	483.01	225.84	193.62	32.22	7.009				
6,982.54	6,946.53	7,032.04	6,982.63	26.21	23.33	41.57	571.79	472.30	205.20	172.49	32.70	6.274				
7,000.00	6,963.85	7,048.85	6,999.24	26.28	23.41	42.08	570.45	470.03	200.91	168.10	32.81	6.124				
7,100.00	7,063.25	7,145.55	7,094.75	26.67	23.82	45.15	562.78	456.98	177.77	144.35	33.42	5.319				
7,200.00	7,162.90	7,242.84	7,190.84	27.05	24.24	48.46	555.06	443.86	157.06	123.01	34.05	4.612				
7,300.00	7,262.74	7,338.51	7,285.41	27.41	24.64	51.81	547.74	431.41	139.18	104.42	34.76	4.004				
7,400.00	7,362.69	7,434.24	7,380.36	27.77	25.03	54.77	541.55	420.88	125.56	90.10	35.46	3.541				
7,468.32	7,431.00	7,500.00	7,445.74	28.00	25.29	55.63	538.00	414.85	118.63	82.72	35.91	3.303				
7,500.00	7,462.68	7,530.90	7,476.50	28.10	25.40	56.27	536.53	412.34	115.96	79.86	36.11	3.212				
7,600.00	7,562.68	7,628.06	7,573.38	28.44	25.76	58.04	532.72	405.87	109.11	72.40	36.71	2.972				
7,700.00	7,662.68	7,725.55	7,670.73	28.78	26.10	59.36	530.16	401.52	104.58	67.31	37.27	2.806				
7,800.00	7,762.68	7,823.23	7,768.37	29.11	26.42	60.08	528.86	399.30	102.31	64.53	37.78	2.708				
7,870.61	7,833.29	7,892.65	7,837.79	29.35	26.63	60.18	528.68	399.00	102.00	63.90	38.11	2.677				
7,900.00	7,862.68	7,922.04	7,867.18	29.45	26.72	60.18	528.68	399.00	102.00	63.76	38.24	2.667				
8,000.00	7,962.68	8,022.04	7,967.18	29.79	27.01	60.18	528.68	399.00	102.00	63.30	38.71	2.635				
8,100.00	8,062.68	8,122.04	8,067.18	30.13	27.31	60.18	528.68	399.00	102.00	62.84	39.17	2.604				
8,200.00	8,162.68	8,222.04	8,167.18	30.46	27.61	60.18	528.68	399.00	102.00	62.37	39.63	2.574				
8,300.00	8,262.68	8,322.04	8,267.18	30.80	27.90	60.18	528.68	399.00	102.00	61.91	40.10	2.544				
8,400.00	8,362.68	8,422.04	8,367.18	31.14	28.20	60.18	528.68	399.00	102.00	61.44	40.56	2.515				
8,500.00	8,462.68	8,522.04	8,467.18	31.48	28.50	60.18	528.68	399.00	102.00	60.97	41.03	2.486				
8,600.00	8,562.68	8,622.04	8,567.18	31.82	28.81	60.18	528.68	399.00	102.00	60.51	41.50	2.458				
8,700.00	8,662.68	8,722.04	8,667.18	32.16	29.11	60.18	528.68	399.00	102.00	60.04	41.97	2.431				
8,800.00	8,762.68	8,822.04	8,767.18	32.50	29.41	60.18	528.68	399.00	102.00	59.57	42.44	2.404				
8,900.00	8,862.68	8,922.04	8,867.18	32.85	29.72	60.18	528.68	399.00	102.00	59.10	42.91	2.377				
9,000.00	8,962.68	9,022.04	8,967.18	33.19	30.03	60.18	528.68	399.00	102.00	58.63	43.38	2.351				
9,100.00	9,062.68	9,122.04	9,067.18	33.53	30.34	60.18	528.68	399.00	102.00	58.15	43.85	2.326				
9,200.00	9,162.68	9,222.04	9,167.18	33.87	30.65	60.18	528.68	399.00	102.00	57.68	44.32	2.301				
9,300.00	9,262.68	9,322.04	9,267.18	34.22	30.96	60.18	528.68	399.00	102.00	57.21	44.80	2.277				
9,400.00	9,362.68	9,422.04	9,367.18	34.56	31.27	60.18	528.68	399.00	102.00	56.73	45.27	2.253				
9,500.00	9,462.68	9,522.04	9,467.18	34.90	31.58	60.18	528.68	399.00	102.00	56.26	45.75	2.230				
9,600.00	9,562.68	9,622.04	9,567.18	35.25	31.89	60.18	528.68	399.00	102.00	55.78	46.22	2.207				
9,700.00	9,662.68	9,722.04	9,667.18	35.59	32.21	60.18	528.68	399.00	102.00	55.31	46.70	2.184				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Bus Driver/Kaston Fed Com - Bus Driver Fed Com 702H - OH - Plan #5													Offset Well Error:	0.00 usft
Survey Program: 16-OWSG (Rev2) MWD, 1424-OWSG (Rev2) MWD, 2745-OWSG (Rev2) MWD														
Reference		Offset		Semi Major Axis		Distance								Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
9,800.00	9,762.68	9,822.04	9,767.18	35.93	32.52	90.18	528.68	399.00	102.00	54.83	47.18	2.162		
9,900.00	9,862.68	9,922.04	9,867.18	36.28	32.84	90.18	528.68	399.00	102.00	54.35	47.65	2.141		
10,000.00	9,962.68	10,022.04	9,967.18	36.62	33.16	90.18	528.68	399.00	102.00	53.87	48.13	2.119		
10,100.00	10,062.68	10,122.04	10,067.18	36.97	33.47	90.18	528.68	399.00	102.00	53.39	48.61	2.098		
10,200.00	10,162.68	10,222.04	10,167.18	37.31	33.79	90.18	528.68	399.00	102.00	52.91	49.09	2.078		
10,300.00	10,262.68	10,322.04	10,267.18	37.66	34.11	90.18	528.68	399.00	102.00	52.43	49.57	2.058		
10,400.00	10,362.68	10,422.04	10,367.18	38.01	34.43	90.18	528.68	399.00	102.00	51.95	50.05	2.038		
10,500.00	10,462.68	10,522.04	10,467.18	38.35	34.75	90.18	528.68	399.00	102.00	51.47	50.53	2.019		
10,600.00	10,562.68	10,622.04	10,567.18	38.70	35.07	90.18	528.68	399.00	102.00	50.99	51.01	2.000		
10,700.00	10,662.68	10,722.04	10,667.18	39.04	35.40	90.18	528.68	399.00	102.00	50.51	51.49	1.981		
10,800.00	10,762.68	10,822.04	10,767.18	39.39	35.72	90.18	528.68	399.00	102.00	50.03	51.98	1.962		
10,900.00	10,862.68	10,922.04	10,867.18	39.74	36.04	90.18	528.68	399.00	102.00	49.54	52.46	1.944		
11,000.00	10,962.68	11,022.04	10,967.18	40.09	36.37	90.18	528.68	399.00	102.00	49.06	52.94	1.927		
11,100.00	11,062.68	11,122.04	11,067.18	40.43	36.69	90.18	528.68	399.00	102.00	48.58	53.43	1.909		
11,200.00	11,162.68	11,222.04	11,167.18	40.78	37.02	90.18	528.68	399.00	102.00	48.09	53.91	1.892		
11,300.00	11,262.68	11,322.04	11,267.18	41.13	37.34	90.18	528.68	399.00	102.00	47.61	54.40	1.875		
11,400.00	11,362.68	11,422.04	11,367.18	41.48	37.67	90.18	528.68	399.00	102.00	47.12	54.88	1.859		
11,500.00	11,462.68	11,522.04	11,467.18	41.82	38.00	90.18	528.68	399.00	102.00	46.64	55.37	1.842		
11,501.68	11,464.36	11,523.72	11,468.86	41.83	38.00	90.18	528.68	399.00	102.00	46.63	55.37	1.842 CC		
11,600.00	11,562.68	11,621.17	11,565.98	42.17	38.33	93.90	522.04	399.06	102.31	46.35	55.95	1.828 ES, SF		
11,700.00	11,662.68	11,715.32	11,657.44	42.52	38.68	105.74	500.18	399.25	106.68	50.15	56.53	1.887		
11,800.00	11,762.68	11,800.00	11,735.67	42.87	39.00	120.76	467.97	399.54	123.41	67.57	55.85	2.210		
11,900.00	11,862.68	11,874.47	11,799.90	43.22	39.30	133.79	430.39	399.87	157.58	103.82	53.76	2.931		
11,910.36	11,873.04	11,881.51	11,805.71	43.25	39.32	134.91	426.41	399.90	162.09	108.58	53.51	3.029		
11,950.00	11,912.65	11,907.98	11,827.10	43.38	39.43	-31.52	410.82	400.04	179.81	127.29	52.52	3.424		
12,000.00	11,962.32	11,940.81	11,852.58	43.53	39.57	-26.59	390.14	400.22	202.22	150.95	51.28	3.944		
12,050.00	12,011.30	11,973.07	11,876.44	43.66	39.70	-22.69	368.43	400.41	224.23	174.19	50.05	4.480		
12,100.00	12,059.24	12,000.00	11,895.39	43.78	39.81	-19.87	349.30	400.58	245.57	197.15	48.42	5.071		
12,150.00	12,105.76	12,036.21	11,919.42	43.89	39.97	-16.99	322.22	400.82	265.81	218.16	47.64	5.579		
12,200.00	12,150.50	12,067.21	11,938.59	43.98	40.11	-14.86	297.87	401.03	284.98	238.50	46.48	6.131		
12,250.00	12,193.14	12,100.00	11,957.41	44.06	40.26	-12.99	271.02	401.27	302.90	257.41	45.49	6.658		
12,300.00	12,233.34	12,128.28	11,972.39	44.13	40.39	-11.54	247.03	401.48	319.46	275.20	44.26	7.218		
12,350.00	12,270.79	12,150.00	11,983.07	44.18	40.49	-10.49	228.12	401.65	334.76	292.00	42.76	7.829		
12,400.00	12,305.22	12,188.40	12,000.18	44.22	40.68	-9.07	193.76	401.95	348.24	305.99	42.25	8.242		
12,450.00	12,336.36	12,218.17	12,011.84	44.25	40.83	-8.05	166.37	402.19	360.34	318.99	41.36	8.713		
12,500.00	12,363.98	12,250.00	12,022.71	44.27	40.99	-7.08	136.46	402.45	370.88	330.24	40.63	9.127		
12,550.00	12,387.85	12,277.29	12,030.70	44.29	41.13	-6.30	110.37	402.68	379.77	339.93	39.84	9.533		
12,600.00	12,407.81	12,300.00	12,036.39	44.29	41.26	-5.70	88.38	402.87	387.12	348.05	39.07	9.909		
12,650.00	12,423.70	12,336.00	12,043.62	44.30	41.45	-4.84	53.13	403.18	392.61	353.85	38.76	10.128		
12,700.00	12,435.40	12,365.25	12,047.85	44.31	41.61	-4.18	24.19	403.44	396.51	358.09	38.42	10.320		
12,750.00	12,442.82	12,400.00	12,050.96	44.34	41.81	-3.44	-10.42	403.74	398.77	360.51	38.26	10.422		
12,800.00	12,445.90	12,426.34	12,051.91	44.41	41.96	-2.90	-36.73	403.97	399.21	361.05	38.16	10.462		
12,810.36	12,446.00	12,432.02	12,051.98	44.42	42.00	-2.78	-42.42	404.02	399.07	360.91	38.16	10.457		
12,900.00	12,446.00	12,520.93	12,053.15	44.59	42.54	-1.19	-131.31	404.81	397.48	359.19	38.30	10.379		
13,000.00	12,446.00	12,620.47	12,054.46	44.83	43.20	0.13	-230.84	405.68	396.07	357.56	38.52	10.283		
13,100.00	12,446.00	12,720.28	12,055.77	45.12	43.91	0.96	-330.64	406.56	394.82	356.03	38.78	10.180		
13,200.00	12,446.00	12,820.24	12,057.08	45.46	44.67	1.30	-430.58	407.44	393.55	354.48	39.07	10.072		
13,217.18	12,446.00	12,837.41	12,057.31	45.52	44.80	1.30	-447.76	407.59	393.33	354.20	39.12	10.053		
13,300.00	12,446.00	12,920.23	12,058.39	45.84	45.48	1.32	-530.56	408.32	392.24	352.86	39.38	9.960		
13,400.00	12,446.00	13,020.22	12,059.71	46.27	46.33	1.34	-630.54	409.20	390.93	351.21	39.72	9.843		
13,500.00	12,446.00	13,120.21	12,061.02	46.75	47.22	1.36	-730.52	410.08	389.62	349.54	40.08	9.721		
13,600.00	12,446.00	13,220.20	12,062.33	47.29	48.16	1.38	-830.50	410.95	388.31	347.84	40.47	9.594		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Bus Driver/Kaston Fed Com - Bus Driver Fed Com 702H - OH - Plan #5		Offset Site Error:	0.00 usft
Survey Program:													16-OWSG (Rev2) MWD, 1424-OWSG (Rev2) MWD, 2745-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				
13,700.00	12,446.00	13,320.19	12,063.65	47.87	49.13	1.40	-930.48	411.83	387.00	346.11	40.89	9.464				
13,800.00	12,446.00	13,420.19	12,064.96	48.50	50.14	1.42	-1,030.46	412.71	385.69	344.36	41.33	9.331				
13,900.00	12,446.00	13,520.18	12,066.27	49.18	51.18	1.44	-1,130.44	413.59	384.38	342.58	41.80	9.195				
14,000.00	12,446.00	13,620.17	12,067.59	49.90	52.25	1.46	-1,230.42	414.47	383.07	340.78	42.29	9.057				
14,100.00	12,446.00	13,720.16	12,068.90	50.66	53.36	1.48	-1,330.39	415.35	381.76	338.95	42.81	8.918				
14,200.00	12,446.00	13,820.15	12,070.21	51.47	54.49	1.50	-1,430.37	416.23	380.45	337.10	43.35	8.777				
14,300.00	12,446.00	13,920.14	12,071.53	52.31	55.64	1.52	-1,530.35	417.11	379.14	335.23	43.91	8.635				
14,400.00	12,446.00	14,020.13	12,072.84	53.19	56.82	1.55	-1,630.33	417.99	377.83	333.34	44.49	8.493				
14,500.00	12,446.00	14,120.12	12,074.15	54.11	58.03	1.57	-1,730.31	418.87	376.52	331.44	45.08	8.351				
14,600.00	12,446.00	14,220.12	12,075.46	55.06	59.25	1.59	-1,830.29	419.75	375.21	329.51	45.70	8.210				
14,700.00	12,446.00	14,320.11	12,076.78	56.05	60.50	1.61	-1,930.27	420.63	373.90	327.56	46.34	8.069				
14,800.00	12,446.00	14,420.10	12,078.09	57.06	61.76	1.63	-2,030.25	421.50	372.59	325.60	46.99	7.928				
14,900.00	12,446.00	14,520.09	12,079.40	58.11	63.04	1.65	-2,130.22	422.38	371.28	323.62	47.67	7.789				
15,000.00	12,446.00	14,620.08	12,080.72	59.18	64.34	1.68	-2,230.20	423.26	369.97	321.62	48.35	7.651				
15,100.00	12,446.00	14,720.07	12,082.03	60.28	65.66	1.70	-2,330.18	424.14	368.66	319.60	49.06	7.515				
15,200.00	12,446.00	14,820.06	12,083.34	61.40	66.99	1.72	-2,430.16	425.02	367.35	317.58	49.78	7.380				
15,300.00	12,446.00	14,920.06	12,084.66	62.54	68.33	1.74	-2,530.14	425.90	366.04	315.54	50.51	7.247				
15,400.00	12,446.00	15,020.05	12,085.97	63.71	69.69	1.76	-2,630.12	426.78	364.73	313.48	51.25	7.116				
15,500.00	12,446.00	15,120.04	12,087.28	64.90	71.06	1.79	-2,730.10	427.66	363.42	311.41	52.01	6.987				
15,600.00	12,446.00	15,220.03	12,088.60	66.11	72.44	1.81	-2,830.08	428.54	362.12	309.33	52.78	6.860				
15,700.00	12,446.00	15,320.02	12,089.91	67.34	73.83	1.83	-2,930.06	429.42	360.81	307.24	53.57	6.736				
15,800.00	12,446.00	15,420.01	12,091.22	68.58	75.23	1.86	-3,030.03	430.30	359.50	305.14	54.36	6.613				
15,900.00	12,446.00	15,520.00	12,092.53	69.84	76.65	1.88	-3,130.01	431.18	358.19	303.02	55.17	6.493				
16,000.00	12,446.00	15,619.99	12,093.85	71.12	78.07	1.90	-3,229.99	432.05	356.88	300.90	55.98	6.375				
16,100.00	12,446.00	15,719.99	12,095.16	72.41	79.50	1.93	-3,329.97	432.93	355.57	298.76	56.81	6.259				
16,200.00	12,446.00	15,819.98	12,096.47	73.72	80.94	1.95	-3,429.95	433.81	354.26	296.61	57.65	6.145				
16,300.00	12,446.00	15,919.97	12,097.79	75.04	82.39	1.98	-3,529.93	434.69	352.95	294.46	58.49	6.034				
16,400.00	12,446.00	16,019.96	12,099.10	76.37	83.84	2.00	-3,629.91	435.57	351.64	292.30	59.34	5.925				
16,500.00	12,446.00	16,119.95	12,100.41	77.72	85.30	2.03	-3,729.89	436.45	350.33	290.13	60.21	5.819				
16,600.00	12,446.00	16,219.94	12,101.73	79.08	86.77	2.05	-3,829.86	437.33	349.03	287.95	61.08	5.715				
16,700.00	12,446.00	16,319.93	12,103.04	80.45	88.25	2.07	-3,929.84	438.21	347.72	285.76	61.96	5.612				
16,800.00	12,446.00	16,419.92	12,104.35	81.82	89.73	2.10	-4,029.82	439.09	346.41	283.57	62.84	5.512				
16,900.00	12,446.00	16,519.92	12,105.67	83.21	91.21	2.13	-4,129.80	439.97	345.10	281.37	63.73	5.415				
17,000.00	12,446.00	16,619.91	12,106.98	84.61	92.71	2.15	-4,229.78	440.85	343.79	279.16	64.63	5.319				
17,100.00	12,446.00	16,719.90	12,108.29	86.02	94.21	2.18	-4,329.76	441.73	342.48	276.94	65.54	5.226				
17,200.00	12,446.00	16,819.89	12,109.60	87.43	95.71	2.20	-4,429.74	442.60	341.18	274.72	66.45	5.134				
17,300.00	12,446.00	16,919.88	12,110.92	88.86	97.22	2.23	-4,529.72	443.48	339.87	272.50	67.37	5.045				
17,400.00	12,446.00	17,019.87	12,112.23	90.29	98.73	2.25	-4,629.70	444.36	338.56	270.27	68.29	4.957				
17,500.00	12,446.00	17,119.86	12,113.54	91.73	100.25	2.28	-4,729.67	445.24	337.25	268.03	69.22	4.872				
17,600.00	12,446.00	17,219.86	12,114.86	93.17	101.77	2.31	-4,829.65	446.12	335.94	265.78	70.16	4.788				
17,700.00	12,446.00	17,319.85	12,116.17	94.63	103.29	2.34	-4,929.63	447.00	334.64	263.54	71.10	4.707				
17,800.00	12,446.00	17,419.84	12,117.48	96.09	104.82	2.36	-5,029.61	447.88	333.33	261.28	72.05	4.627				
17,900.00	12,446.00	17,519.83	12,118.80	97.55	106.35	2.39	-5,129.59	448.76	332.02	259.02	72.99	4.549				
18,000.00	12,446.00	17,619.82	12,120.11	99.02	107.89	2.42	-5,229.57	449.64	330.71	256.76	73.95	4.472				
18,100.00	12,446.00	17,719.81	12,121.42	100.50	109.43	2.44	-5,329.55	450.52	329.40	254.50	74.91	4.397				
18,200.00	12,446.00	17,819.80	12,122.74	101.98	110.97	2.47	-5,429.53	451.40	328.10	252.23	75.87	4.324				
18,300.00	12,446.00	17,919.79	12,124.05	103.47	112.52	2.50	-5,529.51	452.28	326.79	249.95	76.84	4.253				
18,400.00	12,446.00	18,019.79	12,125.36	104.96	114.06	2.53	-5,629.48	453.15	325.48	247.67	77.81	4.183				
18,500.00	12,446.00	18,119.78	12,126.67	106.46	115.62	2.56	-5,729.46	454.03	324.18	245.39	78.78	4.115				
18,600.00	12,446.00	18,219.77	12,127.99	107.96	117.17	2.59	-5,829.44	454.91	322.87	243.11	79.76	4.048				
18,700.00	12,446.00	18,319.76	12,129.30	109.46	118.73	2.62	-5,929.42	455.79	321.56	240.82	80.74	3.982				
18,800.00	12,446.00	18,419.75	12,130.61	110.97	120.29	2.65	-6,029.40	456.67	320.25	238.52	81.73	3.918				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Bus Driver/Kaston Fed Com - Bus Driver Fed Com 702H - OH - Plan #5		Offset Site Error:	0.00 usft
Survey Program:													16-OWSG (Rev2) MWD, 1424-OWSG (Rev2) MWD, 2745-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				
18,900.00	12,446.00	18,519.74	12,131.93	112.49	121.85	2.68	-6,129.38	457.55	318.95	236.23	82.72	3.856				
19,000.00	12,446.00	18,619.73	12,133.24	114.00	123.41	2.71	-6,229.36	458.43	317.64	233.93	83.71	3.794				
19,100.00	12,446.00	18,719.73	12,134.55	115.53	124.98	2.74	-6,329.34	459.31	316.33	231.63	84.71	3.734				
19,200.00	12,446.00	18,819.72	12,135.87	117.05	126.55	2.77	-6,429.31	460.19	315.03	229.32	85.70	3.676				
19,300.00	12,446.00	18,919.71	12,137.18	118.58	128.12	2.80	-6,529.29	461.07	313.72	227.02	86.70	3.618				
19,400.00	12,446.00	19,019.70	12,138.49	120.11	129.69	2.83	-6,629.27	461.95	312.41	224.71	87.71	3.562				
19,500.00	12,446.00	19,119.69	12,139.81	121.64	131.27	2.86	-6,729.25	462.83	311.11	222.39	88.71	3.507				
19,600.00	12,446.00	19,219.68	12,141.12	123.18	132.84	2.89	-6,829.23	463.70	309.80	220.08	89.72	3.453				
19,700.00	12,446.00	19,319.67	12,142.43	124.72	134.42	2.92	-6,929.21	464.58	308.49	217.76	90.73	3.400				
19,800.00	12,446.00	19,419.66	12,143.74	126.27	136.00	2.95	-7,029.19	465.46	307.19	215.44	91.75	3.348				
19,900.00	12,446.00	19,519.66	12,145.06	127.81	137.58	2.99	-7,129.17	466.34	305.88	213.12	92.76	3.297				
20,000.00	12,446.00	19,619.65	12,146.37	129.36	139.16	3.02	-7,229.15	467.22	304.58	210.79	93.78	3.248				
20,100.00	12,446.00	19,719.64	12,147.68	130.91	140.75	3.05	-7,329.12	468.10	303.27	208.47	94.80	3.199				
20,200.00	12,446.00	19,819.63	12,149.00	132.46	142.34	3.08	-7,429.10	468.98	301.97	206.14	95.83	3.151				
20,300.00	12,446.00	19,919.62	12,150.31	134.02	143.92	3.12	-7,529.08	469.86	300.66	203.81	96.85	3.104				
20,400.00	12,446.00	20,019.61	12,151.62	135.58	145.51	3.15	-7,629.06	470.74	299.35	201.48	97.88	3.058				
20,500.00	12,446.00	20,119.60	12,152.94	137.14	147.10	3.18	-7,729.04	471.62	298.05	199.14	98.91	3.013				
20,600.00	12,446.00	20,219.60	12,154.25	138.70	148.69	3.22	-7,829.02	472.50	296.74	196.81	99.94	2.969				
20,700.00	12,446.00	20,319.59	12,155.56	140.27	150.29	3.25	-7,929.00	473.38	295.44	194.47	100.97	2.926				
20,800.00	12,446.00	20,419.58	12,156.88	141.83	151.88	3.29	-8,028.98	474.25	294.13	192.13	102.00	2.884				
20,900.00	12,446.00	20,519.57	12,158.19	143.40	153.48	3.32	-8,128.95	475.13	292.83	189.79	103.04	2.842				
21,000.00	12,446.00	20,619.56	12,159.50	144.97	155.07	3.36	-8,228.93	476.01	291.52	187.45	104.08	2.801				
21,100.00	12,446.00	20,719.55	12,160.82	146.54	156.67	3.39	-8,328.91	476.89	290.22	185.10	105.12	2.761				
21,200.00	12,446.00	20,819.54	12,162.13	148.12	158.27	3.43	-8,428.89	477.77	288.91	182.76	106.16	2.722				
21,300.00	12,446.00	20,919.53	12,163.44	149.69	159.87	3.47	-8,528.87	478.65	287.61	180.41	107.20	2.683				
21,400.00	12,446.00	21,019.53	12,164.75	151.27	161.47	3.50	-8,628.85	479.53	286.30	178.06	108.24	2.645				
21,500.00	12,446.00	21,119.52	12,166.07	152.85	163.07	3.54	-8,728.83	480.41	285.00	175.71	109.29	2.608				
21,600.00	12,446.00	21,219.51	12,167.38	154.43	164.68	3.58	-8,828.81	481.29	283.70	173.36	110.33	2.571				
21,700.00	12,446.00	21,319.50	12,168.69	156.01	166.28	3.62	-8,928.79	482.17	282.39	171.01	111.38	2.535				
21,800.00	12,446.00	21,419.49	12,170.01	157.59	167.89	3.65	-9,028.76	483.05	281.09	168.66	112.43	2.500				
21,900.00	12,446.00	21,519.48	12,171.32	159.18	169.49	3.69	-9,128.74	483.93	279.78	166.30	113.48	2.465				
22,000.00	12,446.00	21,619.47	12,172.63	160.76	171.10	3.73	-9,228.72	484.80	278.48	163.95	114.53	2.431				
22,100.00	12,446.00	21,719.47	12,173.95	162.35	172.71	3.77	-9,328.70	485.68	277.18	161.59	115.59	2.398				
22,200.00	12,446.00	21,819.46	12,175.26	163.94	174.32	3.81	-9,428.68	486.56	275.87	159.23	116.64	2.365				
22,300.00	12,446.00	21,919.45	12,176.57	165.53	175.92	3.85	-9,528.66	487.44	274.57	156.87	117.70	2.333				
22,400.00	12,446.00	22,019.44	12,177.89	167.12	177.53	3.89	-9,628.64	488.32	273.27	154.51	118.75	2.301				
22,500.00	12,446.00	22,119.43	12,179.20	168.71	179.14	3.93	-9,728.62	489.20	271.96	152.15	119.81	2.270				
22,600.00	12,446.00	22,219.42	12,180.51	170.30	180.76	3.97	-9,828.60	490.08	270.66	149.79	120.87	2.239				
22,700.00	12,446.00	22,319.41	12,181.82	171.90	182.37	4.01	-9,928.57	490.96	269.36	147.43	121.93	2.209				
22,800.00	12,446.00	22,419.40	12,183.14	173.49	183.98	4.06	-10,028.55	491.84	268.06	145.06	122.99	2.179				
22,900.00	12,446.00	22,519.40	12,184.45	175.09	185.59	4.10	-10,128.53	492.72	266.75	142.70	124.05	2.150				
23,000.00	12,446.00	22,619.39	12,185.76	176.69	187.21	4.14	-10,228.51	493.60	265.45	140.33	125.12	2.122				
23,100.00	12,446.00	22,719.38	12,187.08	178.28	188.82	4.18	-10,328.49	494.48	264.15	137.97	126.18	2.093				
23,200.00	12,446.00	22,819.37	12,188.39	179.88	190.44	4.23	-10,428.47	495.35	262.85	135.60	127.25	2.066				
23,300.00	12,446.00	22,919.36	12,189.70	181.48	192.06	4.27	-10,528.45	496.23	261.55	133.23	128.31	2.038				
23,400.00	12,446.00	23,019.35	12,191.02	183.08	193.67	4.32	-10,628.43	497.11	260.24	130.87	129.38	2.011				
23,500.00	12,446.00	23,119.34	12,192.33	184.69	195.29	4.36	-10,728.40	497.99	258.94	128.50	130.45	1.985				
23,600.00	12,446.00	23,219.33	12,193.64	186.29	196.91	4.41	-10,828.38	498.87	257.64	126.13	131.52	1.959				
23,700.00	12,446.00	23,319.33	12,194.96	187.89	198.53	4.45	-10,928.36	499.75	256.34	123.76	132.58	1.933				
23,800.00	12,446.00	23,419.32	12,196.27	189.50	200.14	4.50	-11,028.34	500.63	255.04	121.38	133.66	1.908				
23,900.00	12,446.00	23,519.31	12,197.58	191.10	201.73	4.55	-11,128.32	501.51	253.74	119.05	134.69	1.884				
23,929.64	12,446.00	23,546.50	12,197.94	191.58	202.13	4.56	-11,155.50	501.75	253.36	118.25	135.11	1.875				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Bus Driver/Kaston Fed Com - Kaston Fed Com 603H - OH - OH		Offset Site Error:	0.00 usft
Survey Program: 117-OWSG (Rev2) MWD, 1363-OWSG (Rev2) MWD, 23350-BLIND													Offset Well Error:		0.00 usft	
Reference		Offset		Semi Major 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	52.32	897.73	1,162.45	1,468.75							
100.00	100.00	83.72	83.71	0.13	0.12	52.29	898.67	1,162.47	1,469.49	1,469.31	0.17	8,565.036				
200.00	200.00	172.52	172.47	0.48	0.37	52.21	901.41	1,162.53	1,471.40	1,470.80	0.60	2,432.920				
300.00	300.00	268.42	268.31	0.84	0.71	52.10	904.99	1,162.59	1,473.75	1,472.65	1.10	1,340.442				
400.00	400.00	364.68	364.46	1.20	1.06	51.96	909.41	1,162.25	1,476.30	1,474.70	1.60	923.499				
500.00	500.00	457.35	457.01	1.56	1.40	51.80	914.25	1,161.91	1,479.23	1,477.14	2.09	707.561				
600.00	600.00	557.29	556.75	1.92	1.76	51.59	920.42	1,161.06	1,482.40	1,479.80	2.60	569.785				
700.00	700.00	692.68	691.99	2.28	2.26	51.40	926.12	1,159.98	1,484.39	1,481.19	3.20	463.953				
800.00	800.00	786.09	785.39	2.63	2.58	51.38	927.30	1,160.77	1,485.81	1,482.13	3.68	403.278				
900.00	900.00	878.75	878.03	2.99	2.90	51.40	927.77	1,162.30	1,487.41	1,483.25	4.16	357.222				
1,000.00	1,000.00	986.24	985.50	3.35	3.27	51.44	928.03	1,164.17	1,488.93	1,484.25	4.68	318.214				
1,100.00	1,100.00	1,079.61	1,078.85	3.71	3.59	51.49	927.92	1,166.16	1,490.51	1,485.34	5.16	288.820				
1,200.00	1,200.00	1,171.27	1,170.48	4.07	3.91	51.54	927.95	1,168.47	1,492.51	1,486.87	5.64	264.638				
1,300.00	1,300.00	1,258.45	1,257.61	4.43	4.22	51.60	928.36	1,171.18	1,495.23	1,489.12	6.11	244.737				
1,400.00	1,400.00	1,390.17	1,389.30	4.79	4.64	51.64	929.20	1,173.95	1,497.27	1,490.61	6.66	224.856				
1,500.00	1,500.00	1,494.05	1,493.18	5.14	4.69	51.65	929.39	1,174.79	1,498.00	1,491.05	6.95	215.415				
1,600.00	1,600.00	1,592.82	1,591.95	5.50	4.73	51.67	929.61	1,175.63	1,498.81	1,491.56	7.25	206.715				
1,700.00	1,700.00	1,700.12	1,699.25	5.86	4.81	51.69	929.57	1,176.43	1,499.37	1,491.80	7.57	197.958				
1,800.00	1,800.00	1,802.64	1,801.76	6.22	4.91	51.71	929.30	1,177.00	1,499.64	1,491.73	7.92	189.458				
1,900.00	1,900.00	1,903.63	1,902.75	6.58	5.03	51.72	929.05	1,177.35	1,499.76	1,491.48	8.27	181.294				
2,000.00	2,000.00	2,004.45	2,003.57	6.94	5.17	51.72	929.09	1,177.47	1,499.88	1,491.23	8.64	173.521				
2,100.00	2,100.00	2,099.31	2,098.43	7.29	5.32	51.73	929.02	1,177.67	1,500.01	1,490.98	9.02	166.251				
2,200.00	2,200.00	2,185.18	2,184.29	7.65	5.47	51.76	928.77	1,178.75	1,500.83	1,491.42	9.40	159.621				
2,300.00	2,299.99	2,268.30	2,267.38	8.01	5.63	22.54	928.24	1,181.20	1,501.53	1,491.75	9.79	153.449				
2,400.00	2,399.91	2,353.53	2,352.49	8.37	5.81	22.73	927.05	1,185.39	1,500.91	1,490.74	10.18	147.505				
2,500.00	2,499.69	2,441.74	2,440.39	8.72	6.01	23.07	923.94	1,192.05	1,498.71	1,488.14	10.58	141.715				
2,600.00	2,599.27	2,526.80	2,524.86	9.08	6.21	23.56	919.23	1,200.76	1,495.10	1,484.12	10.98	136.199				
2,685.78	2,684.47	2,608.21	2,605.59	9.39	6.42	24.10	914.15	1,210.05	1,490.66	1,479.32	11.34	131.432				
2,700.00	2,698.58	2,621.51	2,618.77	9.44	6.46	24.19	913.32	1,211.59	1,489.81	1,478.41	11.40	130.652				
2,800.00	2,797.77	2,713.79	2,710.24	9.81	6.70	24.79	907.74	1,222.38	1,484.15	1,472.32	11.83	125.437				
2,900.00	2,896.96	2,801.00	2,796.60	10.17	6.95	25.39	902.44	1,233.36	1,479.38	1,467.12	12.26	120.680				
3,000.00	2,996.15	2,883.62	2,878.22	10.54	7.20	25.99	897.02	1,244.93	1,475.70	1,463.02	12.68	116.347				
3,100.00	3,095.35	2,976.65	2,969.85	10.92	7.50	26.74	889.89	1,259.34	1,472.91	1,459.77	13.14	112.112				
3,200.00	3,194.54	3,084.25	3,075.58	11.29	7.86	27.67	880.17	1,276.77	1,470.28	1,456.65	13.63	107.839				
3,300.00	3,293.73	3,180.51	3,170.25	11.67	8.20	28.49	871.52	1,291.93	1,467.65	1,453.53	14.11	103.999				
3,400.00	3,392.92	3,279.46	3,267.73	12.05	8.55	29.29	863.62	1,306.91	1,465.31	1,450.71	14.60	100.358				
3,500.00	3,492.12	3,375.42	3,362.31	12.43	8.90	30.07	856.10	1,321.33	1,463.24	1,448.16	15.09	96.984				
3,600.00	3,591.31	3,461.00	3,446.29	12.81	9.22	30.84	847.97	1,335.60	1,462.09	1,446.54	15.55	93.997				
3,638.37	3,629.36	3,490.50	3,475.13	12.96	9.34	31.12	844.79	1,340.95	1,462.00	1,446.27	15.73	92.958 CC				
3,700.00	3,690.50	3,542.65	3,526.04	13.20	9.55	31.64	839.06	1,350.71	1,462.24	1,446.22	16.02	91.287				
3,800.00	3,789.69	3,633.82	3,614.94	13.58	9.92	32.55	829.06	1,368.25	1,463.44	1,446.93	16.51	88.631				
3,900.00	3,888.89	3,732.81	3,711.63	13.97	10.34	33.50	819.06	1,387.00	1,465.19	1,448.15	17.03	86.033				
4,000.00	3,988.08	3,844.33	3,820.92	14.36	10.80	34.49	809.11	1,406.82	1,466.78	1,449.20	17.59	83.399				
4,100.00	4,087.27	3,941.88	3,916.58	14.75	11.21	35.36	800.23	1,423.69	1,468.24	1,450.14	18.11	81.095				
4,200.00	4,186.46	4,041.25	4,013.79	15.14	11.63	36.31	789.71	1,441.41	1,469.97	1,451.34	18.63	78.883				
4,300.00	4,285.66	4,139.35	4,109.70	15.53	12.06	37.26	778.83	1,458.90	1,471.91	1,452.75	19.16	76.805				
4,400.00	4,384.85	4,226.35	4,194.75	15.92	12.45	38.09	769.47	1,474.64	1,474.63	1,454.98	19.66	75.011				
4,500.00	4,484.04	4,310.00	4,276.53	16.31	12.82	38.87	760.99	1,490.10	1,478.35	1,458.21	20.14	73.400				
4,600.00	4,583.23	4,393.85	4,358.52	16.71	13.19	39.62	753.58	1,506.00	1,483.32	1,462.70	20.62	71.935				
4,700.00	4,682.42	4,473.80	4,436.74	17.10	13.55	40.27	748.17	1,521.62	1,489.80	1,468.72	21.08	70.676				
4,800.00	4,781.62	4,630.27	4,590.28	17.50	14.23	41.45	739.59	1,550.43	1,496.34	1,474.53	21.80	68.627				
4,900.00	4,880.81	4,795.14	4,753.09	17.89	14.92	42.74	726.18	1,572.58	1,496.78	1,474.25	22.53	66.439				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Bus Driver/Kaston Fed Com - Kaston Fed Com 603H - OH - OH		Offset Site Error:	0.00 usft
Survey Program: 117-OWSG (Rev2) MWD, 1363-OWSG (Rev2) MWD, 23350-BLIND													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major 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)	(°)										
4,945.15	4,925.59	4,833.77	4,791.32	18.07	15.08	43.03	723.12	1,577.20	1,496.67	1,473.92	22.75	65.792				
5,000.00	4,980.00	4,876.00	4,833.12	18.29	15.25	43.34	719.98	1,582.35	1,496.84	1,473.83	23.00	65.075				
5,100.00	5,079.19	4,957.88	4,914.12	18.68	15.58	43.93	714.47	1,592.97	1,498.24	1,474.76	23.47	63.823				
5,200.00	5,178.39	5,056.65	5,011.82	19.08	15.99	44.61	708.92	1,606.32	1,500.66	1,476.66	24.00	62.537				
5,300.00	5,277.58	5,157.00	5,111.15	19.48	16.39	45.30	703.03	1,619.36	1,502.72	1,478.20	24.52	61.277				
5,400.00	5,376.77	5,221.54	5,174.77	19.87	16.68	45.81	697.75	1,628.80	1,506.17	1,481.22	24.94	60.382				
5,500.00	5,475.96	5,287.16	5,238.96	20.27	16.98	46.40	690.88	1,640.59	1,512.42	1,487.06	25.36	59.637				
5,600.00	5,575.16	5,365.65	5,315.38	20.67	17.35	47.14	681.98	1,656.07	1,520.60	1,494.78	25.82	58.884				
5,700.00	5,674.35	5,458.52	5,405.72	21.07	17.81	48.00	671.55	1,674.91	1,529.77	1,503.43	26.34	58.068				
5,800.00	5,773.54	5,551.77	5,496.46	21.47	18.26	48.84	661.55	1,693.97	1,539.56	1,512.69	26.87	57.306				
5,900.00	5,872.73	5,646.09	5,588.28	21.87	18.72	49.66	652.05	1,713.30	1,549.86	1,522.47	27.39	56.587				
6,000.00	5,971.93	5,740.86	5,680.56	22.27	19.18	50.46	642.97	1,732.86	1,560.72	1,532.81	27.91	55.913				
6,100.00	6,071.12	5,854.71	5,791.66	22.67	19.73	51.36	633.17	1,755.75	1,571.53	1,543.01	28.52	55.111				
6,200.00	6,170.31	5,961.31	5,896.00	23.07	20.23	52.17	624.48	1,775.76	1,581.31	1,552.23	29.08	54.370				
6,300.00	6,269.50	6,051.95	5,984.72	23.47	20.66	52.83	617.60	1,792.98	1,591.67	1,562.09	29.59	53.798				
6,400.00	6,368.70	6,145.47	6,076.24	23.87	21.10	53.49	610.77	1,810.98	1,602.55	1,572.45	30.10	53.243				
6,500.00	6,467.89	6,287.89	6,215.78	24.27	21.77	54.49	600.22	1,837.38	1,613.20	1,582.40	30.81	52.361				
6,600.00	6,567.08	6,393.13	6,319.29	24.67	22.25	55.22	592.10	1,854.60	1,621.68	1,590.31	31.37	51.701				
6,700.00	6,666.27	6,482.13	6,406.80	25.07	22.65	55.84	585.11	1,869.26	1,630.48	1,598.61	31.86	51.172				
6,800.00	6,765.47	6,574.90	6,497.94	25.47	23.07	56.48	577.81	1,884.91	1,639.91	1,607.54	32.37	50.657				
6,900.00	6,864.66	6,674.63	6,595.89	25.88	23.53	57.15	570.05	1,902.02	1,649.86	1,616.95	32.91	50.131				
6,982.54	6,946.53	6,842.11	6,761.21	26.21	24.26	58.28	556.71	1,925.12	1,655.05	1,621.40	33.65	49.182				
7,000.00	6,963.85	6,893.25	6,811.93	26.28	24.46	58.60	553.25	1,930.63	1,655.81	1,621.97	33.84	48.929				
7,100.00	7,063.25	7,055.21	6,973.15	26.67	25.06	59.52	542.86	1,942.02	1,656.67	1,622.16	34.51	48.009				
7,200.00	7,162.90	7,150.49	7,068.17	27.05	25.40	59.92	538.80	1,947.67	1,658.35	1,623.35	35.00	47.376				
7,300.00	7,262.74	7,253.72	7,171.19	27.41	25.75	60.22	536.31	1,953.78	1,661.41	1,625.90	35.51	46.791				
7,400.00	7,362.69	7,357.33	7,274.60	27.77	26.11	60.46	533.92	1,959.62	1,665.50	1,629.50	36.00	46.260				
7,468.32	7,431.00	7,425.36	7,342.51	28.00	26.35	60.89	532.33	1,963.42	1,669.01	1,632.68	36.33	45.937				
7,500.00	7,462.68	7,459.52	7,376.61	28.10	26.46	60.91	531.59	1,965.30	1,670.75	1,634.26	36.49	45.788				
7,600.00	7,562.68	7,613.18	7,530.11	28.44	26.97	60.98	529.72	1,971.85	1,675.26	1,638.21	37.05	45.211				
7,700.00	7,662.68	7,731.23	7,648.13	28.78	27.32	60.93	531.14	1,973.68	1,676.79	1,639.25	37.54	44.669				
7,800.00	7,762.68	7,827.65	7,744.53	29.11	27.60	60.98	533.10	1,974.86	1,678.02	1,640.02	37.99	44.165				
7,900.00	7,862.68	7,923.82	7,840.67	29.45	27.88	60.91	534.45	1,976.29	1,679.51	1,641.05	38.45	43.675				
8,000.00	7,962.68	8,017.69	7,934.52	29.79	28.17	60.89	535.20	1,977.85	1,681.18	1,642.26	38.92	43.200				
8,100.00	8,062.68	8,106.06	8,022.87	30.13	28.45	60.98	535.65	1,979.92	1,683.52	1,644.15	39.37	42.757				
8,200.00	8,162.68	8,218.83	8,135.60	30.46	28.81	60.98	535.57	1,982.83	1,686.14	1,646.28	39.87	42.293				
8,300.00	8,262.68	8,350.04	8,266.81	30.80	29.21	60.98	535.13	1,983.84	1,686.85	1,646.48	40.38	41.778				
8,400.00	8,362.68	8,439.55	8,356.31	31.14	29.47	60.98	534.26	1,984.05	1,687.09	1,646.25	40.84	41.311				
8,500.00	8,462.68	8,570.36	8,487.11	31.48	29.85	60.98	533.40	1,983.63	1,686.75	1,645.42	41.33	40.811				
8,600.00	8,562.68	8,655.93	8,572.67	31.82	30.09	60.98	532.11	1,983.10	1,686.11	1,644.33	41.78	40.353				
8,700.00	8,662.68	8,774.72	8,691.42	32.16	30.44	60.98	529.59	1,981.81	1,684.98	1,642.71	42.27	39.866				
8,800.00	8,762.68	8,872.01	8,788.66	32.50	30.72	60.98	526.71	1,980.52	1,683.65	1,640.92	42.73	39.398				
8,900.00	8,862.68	8,969.17	8,885.71	32.85	31.01	60.93	522.32	1,979.30	1,682.42	1,639.21	43.21	38.939				
9,000.00	8,962.68	9,068.73	8,985.13	33.19	31.31	60.91	516.94	1,978.30	1,681.43	1,637.75	43.68	38.491				
9,100.00	9,062.68	9,169.70	9,085.94	33.53	31.62	60.90	511.34	1,977.06	1,680.26	1,636.09	44.16	38.046				
9,200.00	9,162.68	9,263.78	9,179.85	33.87	31.91	60.79	505.98	1,976.09	1,679.30	1,634.66	44.64	37.620				
9,300.00	9,262.68	9,358.43	9,274.35	34.22	32.21	60.97	500.66	1,975.48	1,678.73	1,633.62	45.12	37.209				
9,400.00	9,362.68	9,453.08	9,368.86	34.56	32.51	61.14	495.48	1,975.12	1,678.45	1,632.86	45.59	36.813				
9,425.36	9,388.04	9,476.80	9,392.54	34.65	32.59	61.19	494.21	1,975.08	1,678.44	1,632.72	45.71	36.715				
9,500.00	9,462.68	9,545.66	9,461.31	34.90	32.81	61.31	490.49	1,975.11	1,678.56	1,632.49	46.07	36.435				
9,600.00	9,562.68	9,640.84	9,556.32	35.25	33.12	61.50	484.93	1,975.49	1,679.11	1,632.56	46.55	36.069				
9,700.00	9,662.68	9,740.39	9,655.70	35.59	33.44	61.70	479.28	1,976.02	1,679.79	1,632.76	47.04	35.711				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Bus Driver/Kaston Fed Com - Kaston Fed Com 603H - OH - OH		Offset Site Error: 0.00 usft	
Survey Program: 117-OWSG (Rev2) MWD, 1363-OWSG (Rev2) MWD, 23350-BLIND													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major 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				
9,800.00	9,762.68	9,836.13	9,751.42	35.93	33.75	91.77	477.22	1,976.68	1,680.55	1,633.03	47.52	35.368				
9,900.00	9,862.68	9,926.44	9,841.71	36.28	34.04	91.74	477.95	1,977.78	1,681.75	1,633.77	47.98	35.049				
10,000.00	9,962.68	10,074.62	9,989.80	36.62	34.48	91.59	482.40	1,978.57	1,682.37	1,633.87	48.50	34.689				
10,100.00	10,062.68	10,177.52	10,092.60	36.97	34.77	91.43	487.00	1,977.20	1,680.92	1,631.96	48.96	34.331				
10,200.00	10,162.68	10,283.32	10,198.33	37.31	35.06	91.32	490.35	1,975.63	1,679.36	1,629.93	49.43	33.976				
10,300.00	10,262.68	10,384.34	10,299.25	37.66	35.35	91.19	494.26	1,973.54	1,677.20	1,627.31	49.89	33.617				
10,400.00	10,362.68	10,468.69	10,383.42	38.01	35.58	91.01	499.58	1,972.45	1,675.79	1,625.44	50.35	33.286				
10,500.00	10,462.68	10,555.67	10,470.19	38.35	35.83	90.80	505.65	1,972.05	1,675.22	1,624.42	50.80	32.977				
10,523.27	10,485.95	10,575.98	10,490.45	38.43	35.89	90.75	507.07	1,972.05	1,675.20	1,624.29	50.91	32.907				
10,600.00	10,562.68	10,643.48	10,557.79	38.70	36.09	90.59	511.72	1,972.31	1,675.42	1,624.16	51.26	32.687				
10,700.00	10,662.68	10,734.64	10,648.76	39.04	36.36	90.39	517.57	1,973.14	1,676.29	1,624.57	51.72	32.413				
10,800.00	10,762.68	10,833.64	10,747.58	39.39	36.65	90.19	523.43	1,974.30	1,677.42	1,625.24	52.19	32.143				
10,900.00	10,862.68	10,935.41	10,849.16	39.74	36.96	89.99	529.43	1,975.49	1,678.59	1,625.93	52.66	31.875				
11,000.00	10,962.68	11,044.78	10,958.41	40.09	37.29	89.81	534.62	1,976.38	1,679.41	1,626.27	53.15	31.600				
11,100.00	11,062.68	11,158.90	11,072.50	40.43	37.64	89.73	536.86	1,976.52	1,679.55	1,625.92	53.63	31.315				
11,200.00	11,162.68	11,350.41	11,263.71	40.78	38.22	89.91	531.67	1,972.53	1,678.31	1,624.16	54.15	30.996				
11,300.00	11,262.68	11,476.00	11,385.50	41.13	38.63	90.87	503.65	1,963.38	1,670.76	1,616.12	54.64	30.576				
11,400.00	11,362.68	11,543.08	11,446.59	41.48	38.86	91.81	476.40	1,959.08	1,664.81	1,609.65	55.16	30.179				
11,500.00	11,462.68	11,617.00	11,510.01	41.82	39.13	93.12	438.72	1,954.85	1,660.86	1,605.17	55.68	29.826				
11,582.45	11,545.13	11,665.00	11,549.63	42.11	39.32	94.05	411.74	1,952.54	1,659.69	1,603.60	56.09	29.592				
11,600.00	11,562.68	11,665.00	11,549.63	42.17	39.32	94.05	411.74	1,952.54	1,659.78	1,603.63	56.15	29.560				
11,700.00	11,662.68	11,712.00	11,587.13	42.52	39.51	95.03	383.44	1,951.30	1,662.62	1,606.05	56.57	29.391				
11,800.00	11,762.68	11,759.00	11,622.59	42.87	39.71	96.09	352.62	1,950.82	1,669.47	1,612.53	56.94	29.321				
11,900.00	11,862.68	11,789.57	11,644.41	43.22	39.85	96.82	331.21	1,950.93	1,680.55	1,623.35	57.19	29.384				
11,910.36	11,873.04	11,793.27	11,646.98	43.25	39.87	96.91	328.55	1,950.96	1,681.94	1,624.73	57.22	29.397				
11,950.00	11,912.65	11,806.00	11,655.73	43.38	39.92	-73.56	319.31	1,951.11	1,687.35	1,630.06	57.29	29.455				
12,000.00	11,962.32	11,806.00	11,655.73	43.53	39.92	-72.89	319.31	1,951.11	1,694.25	1,636.97	57.28	29.581				
12,050.00	12,011.30	11,833.30	11,673.91	43.66	40.06	-71.69	298.95	1,951.79	1,700.67	1,643.30	57.37	29.645				
12,100.00	12,059.24	11,853.00	11,686.51	43.78	40.15	-70.73	283.84	1,952.69	1,707.05	1,649.64	57.40	29.738				
12,150.00	12,105.76	11,866.37	11,694.80	43.89	40.22	-69.95	273.37	1,953.41	1,713.00	1,655.61	57.39	29.847				
12,200.00	12,150.50	11,900.00	11,714.59	43.98	40.40	-68.95	246.25	1,955.31	1,718.44	1,660.96	57.48	29.898				
12,250.00	12,193.14	11,925.25	11,728.41	44.06	40.53	-68.18	225.16	1,956.60	1,722.94	1,665.43	57.51	29.960				
12,300.00	12,233.34	12,061.48	11,787.24	44.13	41.25	-65.80	102.77	1,952.95	1,723.91	1,665.87	58.04	29.704				
12,350.00	12,270.79	12,089.00	11,795.41	44.18	41.39	-65.33	76.60	1,950.69	1,723.80	1,665.75	58.05	29.693				
12,400.00	12,305.22	12,089.00	11,795.41	44.22	41.39	-65.42	76.60	1,950.69	1,722.83	1,664.86	57.96	29.722				
12,450.00	12,336.36	12,111.14	11,800.81	44.25	41.51	-65.23	55.20	1,948.99	1,721.05	1,663.09	57.96	29.693				
12,500.00	12,363.98	12,136.00	11,805.56	44.27	41.64	-65.11	30.86	1,947.35	1,718.66	1,660.69	57.97	29.645				
12,550.00	12,387.85	12,136.00	11,805.56	44.29	41.64	-65.42	30.86	1,947.35	1,715.34	1,657.42	57.91	29.619				
12,600.00	12,407.81	12,171.45	11,810.65	44.29	41.84	-65.42	-4.16	1,945.23	1,711.00	1,653.01	57.99	29.503				
12,650.00	12,423.70	12,198.37	11,813.56	44.30	42.00	-65.66	-30.88	1,943.65	1,705.61	1,647.54	58.06	29.375				
12,700.00	12,435.40	12,225.43	11,815.66	44.31	42.16	-66.06	-57.81	1,942.10	1,699.11	1,640.95	58.16	29.217				
12,750.00	12,442.82	12,262.00	11,817.18	44.34	42.37	-66.55	-94.29	1,940.05	1,691.57	1,633.28	58.30	29.017				
12,800.00	12,445.90	12,289.03	11,817.68	44.41	42.54	-67.27	-121.28	1,938.58	1,682.80	1,624.36	58.44	28.793				
12,810.36	12,446.00	12,297.61	11,817.81	44.42	42.60	-67.44	-129.84	1,938.12	1,680.82	1,622.33	58.49	28.738				
12,900.00	12,446.00	12,357.00	11,818.38	44.59	42.98	-67.43	-189.14	1,935.03	1,665.13	1,606.28	58.84	28.297				
13,000.00	12,446.00	12,434.74	11,817.64	44.83	43.51	-67.35	-266.80	1,931.63	1,652.08	1,592.73	59.35	27.837				
13,100.00	12,446.00	12,499.65	11,815.92	45.12	43.99	-67.27	-331.66	1,929.90	1,644.35	1,584.45	59.90	27.453				
13,197.25	12,446.00	12,565.20	11,814.68	45.45	44.50	-67.22	-397.20	1,929.85	1,641.94	1,581.43	60.52	27.132				
13,200.00	12,446.00	12,567.27	11,814.64	45.46	44.52	-67.22	-399.28	1,929.87	1,641.94	1,581.41	60.54	27.123				
13,217.18	12,446.00	12,580.22	11,814.38	45.52	44.62	-67.21	-412.22	1,930.00	1,642.04	1,581.38	60.66	27.070				
13,300.00	12,446.00	12,641.00	11,812.77	45.84	45.12	-67.16	-472.97	1,930.94	1,643.33	1,582.07	61.26	26.826				
13,400.00	12,446.00	12,735.00	11,811.29	46.27	45.93	-67.14	-566.91	1,933.89	1,645.92	1,583.80	62.11	26.498				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Bus Driver/Kaston Fed Com - Kaston Fed Com 603H - OH - OH		Offset Site Error:	0.00 usft
Survey Program: 117-OWSG (Rev2) MWD, 1363-OWSG (Rev2) MWD, 23350-BLIND													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major 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)	Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
13,500.00	12,446.00	12,834.39	11,811.82	46.75	46.84	-67.20	-666.20	1,938.16	1,648.76	1,585.70	63.07	26.143				
13,600.00	12,446.00	12,923.00	11,812.44	47.29	47.68	-67.26	-754.73	1,941.96	1,651.57	1,587.52	64.05	25.787				
13,700.00	12,446.00	13,017.00	11,811.93	47.87	48.60	-67.29	-848.62	1,946.43	1,655.25	1,590.15	65.10	25.428				
13,800.00	12,446.00	13,102.38	11,809.95	48.50	49.48	-67.27	-933.87	1,950.65	1,659.74	1,593.58	66.16	25.087				
13,900.00	12,446.00	13,186.98	11,808.23	49.18	50.37	-67.27	-1,018.32	1,955.36	1,664.77	1,597.49	67.27	24.746				
14,000.00	12,446.00	13,281.94	11,807.97	49.90	51.40	-67.34	-1,113.04	1,962.11	1,670.52	1,602.03	68.49	24.390				
14,100.00	12,446.00	13,440.82	11,803.99	50.66	53.17	-67.27	-1,271.71	1,968.32	1,673.96	1,604.01	69.95	23.931				
14,200.00	12,446.00	13,551.89	11,799.51	51.47	54.44	-67.14	-1,382.67	1,970.24	1,676.24	1,604.98	71.26	23.522				
14,300.00	12,446.00	13,694.41	11,795.07	52.31	56.09	-66.98	-1,525.12	1,970.16	1,676.45	1,603.75	72.71	23.058				
14,400.00	12,446.00	13,787.15	11,792.32	53.19	57.19	-66.88	-1,617.81	1,969.42	1,675.96	1,601.92	74.04	22.636				
14,500.00	12,446.00	13,918.51	11,791.56	54.11	58.78	-66.81	-1,749.15	1,967.53	1,673.78	1,598.24	75.54	22.158				
14,600.00	12,446.00	14,006.13	11,791.22	55.06	59.85	-66.77	-1,836.76	1,966.43	1,671.86	1,594.91	76.95	21.726				
14,700.00	12,446.00	14,104.66	11,788.74	56.05	61.08	-66.66	-1,935.24	1,964.82	1,670.45	1,592.05	78.40	21.306				
14,800.00	12,446.00	14,199.00	11,788.28	57.06	62.28	-66.62	-2,029.58	1,963.96	1,668.91	1,589.02	79.89	20.889				
14,900.00	12,446.00	14,280.80	11,788.08	58.11	63.33	-66.61	-2,111.38	1,964.13	1,668.29	1,586.91	81.39	20.499				
14,906.39	12,446.00	14,286.01	11,788.07	58.17	63.40	-66.60	-2,116.58	1,964.17	1,668.29	1,586.81	81.48	20.474				
15,000.00	12,446.00	14,364.02	11,788.02	59.18	64.41	-66.61	-2,194.58	1,965.35	1,668.77	1,585.85	82.91	20.127				
15,100.00	12,446.00	14,450.78	11,788.04	60.28	65.56	-66.63	-2,281.33	1,967.42	1,670.04	1,585.56	84.48	19.768				
15,200.00	12,446.00	14,532.00	11,789.24	61.40	66.65	-66.70	-2,362.45	1,970.94	1,672.50	1,586.43	86.07	19.431				
15,300.00	12,446.00	14,651.77	11,792.60	62.54	68.29	-66.87	-2,482.03	1,976.66	1,674.90	1,587.02	87.88	19.058				
15,400.00	12,446.00	14,756.11	11,792.27	63.71	69.72	-66.88	-2,586.34	1,979.18	1,676.34	1,586.75	89.59	18.711				
15,500.00	12,446.00	14,844.86	11,789.68	64.90	70.94	-66.80	-2,675.04	1,980.52	1,677.98	1,586.76	91.22	18.395				
15,600.00	12,446.00	14,930.14	11,785.39	66.11	72.12	-66.68	-2,760.20	1,982.04	1,680.68	1,587.85	92.83	18.104				
15,700.00	12,446.00	15,041.33	11,778.39	67.34	73.67	-66.46	-2,871.16	1,983.08	1,683.13	1,588.60	94.52	17.806				
15,800.00	12,446.00	15,196.37	11,772.70	68.58	75.85	-66.28	-3,026.06	1,984.51	1,684.95	1,588.57	96.38	17.482				
15,900.00	12,446.00	15,335.34	11,775.21	69.84	77.82	-66.32	-3,164.99	1,983.21	1,682.32	1,584.06	98.26	17.121				
16,000.00	12,446.00	15,443.55	11,778.13	71.12	79.35	-66.37	-3,273.15	1,981.54	1,678.94	1,578.85	100.09	16.775				
16,100.00	12,446.00	15,550.85	11,782.54	72.41	80.89	-66.47	-3,380.34	1,979.78	1,674.88	1,572.94	101.95	16.429				
16,200.00	12,446.00	15,647.95	11,787.85	73.72	82.29	-66.61	-3,477.29	1,978.65	1,670.73	1,566.91	103.83	16.092				
16,300.00	12,446.00	15,720.37	11,792.58	75.04	83.35	-66.75	-3,549.55	1,978.73	1,667.40	1,561.71	105.68	15.777				
16,400.00	12,446.00	15,789.85	11,796.18	76.37	84.37	-66.87	-3,618.93	1,979.92	1,666.01	1,558.49	107.52	15.495				
16,435.20	12,446.00	15,816.26	11,797.22	76.85	84.76	-66.91	-3,645.31	1,980.55	1,665.91	1,557.75	108.17	15.401				
16,500.00	12,446.00	15,866.55	11,798.67	77.72	85.50	-66.97	-3,695.56	1,981.93	1,666.22	1,556.86	109.36	15.236				
16,600.00	12,446.00	15,960.49	11,799.37	79.08	86.88	-67.01	-3,789.46	1,984.33	1,667.37	1,556.13	111.23	14.990				
16,700.00	12,446.00	16,110.82	11,800.13	80.45	89.10	-67.04	-3,939.78	1,985.80	1,667.20	1,553.93	113.28	14.718				
16,800.00	12,446.00	16,235.29	11,802.96	81.82	90.95	-67.09	-4,064.21	1,984.60	1,664.48	1,549.24	115.24	14.443				
16,900.00	12,446.00	16,334.65	11,807.11	83.21	92.42	-67.20	-4,163.47	1,983.84	1,661.25	1,544.04	117.21	14.174				
17,000.00	12,446.00	16,432.02	11,810.99	84.61	93.88	-67.30	-4,260.76	1,983.10	1,658.10	1,538.92	119.18	13.913				
17,100.00	12,446.00	16,521.00	11,816.00	86.02	95.22	-67.45	-4,349.60	1,983.43	1,655.37	1,534.19	121.18	13.661				
17,200.00	12,446.00	16,598.43	11,821.24	87.43	96.39	-67.63	-4,426.83	1,984.93	1,653.66	1,530.49	123.17	13.425				
17,272.22	12,446.00	16,654.04	11,824.70	88.46	97.24	-67.76	-4,482.32	1,986.59	1,653.29	1,528.68	124.61	13.267				
17,300.00	12,446.00	16,675.40	11,826.05	88.86	97.56	-67.81	-4,503.62	1,987.39	1,653.35	1,528.18	125.17	13.209				
17,400.00	12,446.00	16,751.55	11,831.20	90.29	98.73	-68.01	-4,579.49	1,991.14	1,654.46	1,527.29	127.17	13.010				
17,500.00	12,446.00	16,831.84	11,837.86	91.73	99.97	-68.29	-4,659.31	1,996.81	1,657.01	1,527.79	129.22	12.823				
17,600.00	12,446.00	16,933.47	11,845.31	93.17	101.54	-68.61	-4,760.39	2,004.25	1,660.24	1,528.82	131.42	12.633				
17,700.00	12,446.00	17,046.97	11,852.26	94.63	103.30	-68.91	-4,873.46	2,011.00	1,662.63	1,528.96	133.67	12.439				
17,800.00	12,446.00	17,210.63	11,859.37	96.09	105.82	-69.17	-5,036.87	2,015.85	1,662.94	1,526.90	136.04	12.224				
17,900.00	12,446.00	17,290.44	11,862.91	97.55	107.05	-69.29	-5,116.60	2,017.12	1,661.93	1,523.85	138.08	12.036				
17,936.32	12,446.00	17,320.02	11,864.29	98.09	107.51	-69.34	-5,146.13	2,017.87	1,661.85	1,523.03	138.82	11.971				
18,000.00	12,446.00	17,373.00	11,867.03	99.02	108.33	-69.45	-5,199.02	2,019.63	1,662.08	1,521.94	140.14	11.860				
18,100.00	12,446.00	17,510.33	11,874.85	100.50	110.45	-69.71	-5,336.10	2,021.85	1,660.35	1,517.91	142.43	11.657				
18,200.00	12,446.00	17,608.07	11,880.29	101.98	111.97	-69.90	-5,433.67	2,023.98	1,659.53	1,514.94	144.58	11.478				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 117-OWSG (Rev2) MWD, 1363-OWSG (Rev2) MWD, 23350-BLIND													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major 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		
18,300.00	12,446.00	17,740.71	11,886.49	103.47	114.02	-70.08	-5,566.15	2,023.63	1,656.65	1,509.87	146.77	11.287		
18,400.00	12,446.00	17,858.11	11,891.69	104.96	115.83	-70.22	-5,683.41	2,021.59	1,652.55	1,503.66	148.89	11.099		
18,500.00	12,446.00	17,941.00	11,897.97	106.46	117.11	-70.41	-5,766.05	2,021.41	1,648.82	1,497.75	151.07	10.914		
18,600.00	12,446.00	18,026.47	11,905.27	107.96	118.45	-70.65	-5,851.21	2,022.37	1,646.07	1,492.78	153.29	10.739		
18,700.00	12,446.00	18,108.10	11,911.84	109.46	119.72	-70.87	-5,932.56	2,023.75	1,644.09	1,488.60	155.48	10.574		
18,800.00	12,446.00	18,187.30	11,917.71	110.97	120.97	-71.08	-6,011.51	2,025.91	1,643.33	1,485.68	157.65	10.424		
18,808.00	12,446.00	18,193.59	11,918.21	111.09	121.07	-71.10	-6,017.78	2,026.14	1,643.32	1,485.50	157.82	10.412		
18,900.00	12,446.00	18,259.23	11,923.44	112.49	122.10	-71.30	-6,083.14	2,029.04	1,643.99	1,484.21	159.78	10.289		
19,000.00	12,446.00	18,328.60	11,927.02	114.00	123.20	-71.45	-6,152.31	2,032.89	1,646.64	1,484.83	161.81	10.176		
19,100.00	12,446.00	18,437.71	11,931.19	115.53	124.93	-71.65	-6,261.15	2,039.23	1,650.03	1,485.93	164.09	10.055		
19,200.00	12,446.00	18,583.77	11,934.84	117.05	127.23	-71.81	-6,407.07	2,044.26	1,651.58	1,485.08	166.50	9.919		
19,300.00	12,446.00	18,691.14	11,938.46	118.58	128.92	-71.94	-6,514.36	2,046.26	1,651.36	1,482.65	168.71	9.788		
19,400.00	12,446.00	18,868.41	11,948.73	120.11	131.71	-72.25	-6,691.31	2,046.02	1,648.33	1,477.28	171.05	9.636		
19,500.00	12,446.00	18,978.84	11,955.38	121.64	133.43	-72.43	-6,801.50	2,042.97	1,642.92	1,469.67	173.25	9.483		
19,600.00	12,446.00	19,074.25	11,962.86	123.18	134.93	-72.65	-6,896.58	2,040.81	1,637.46	1,461.94	175.52	9.329		
19,700.00	12,446.00	19,172.00	11,972.22	124.72	136.47	-72.94	-6,993.87	2,039.10	1,632.01	1,454.17	177.85	9.177		
19,800.00	12,446.00	19,225.73	11,976.56	126.27	137.31	-73.07	-7,047.42	2,038.73	1,628.15	1,448.03	180.12	9.039		
19,900.00	12,446.00	19,290.15	11,980.59	127.81	138.34	-73.22	-7,111.69	2,040.13	1,627.28	1,444.99	182.30	8.927		
20,000.00	12,446.00	19,427.50	11,988.87	129.36	140.52	-73.50	-7,248.77	2,042.40	1,626.26	1,441.57	184.69	8.805		
20,100.00	12,446.00	19,538.78	11,995.09	130.91	142.28	-73.70	-7,359.87	2,041.88	1,623.26	1,436.30	186.96	8.682		
20,200.00	12,446.00	19,674.22	12,001.49	132.46	144.41	-73.87	-7,495.12	2,038.78	1,618.70	1,429.55	189.14	8.558		
20,300.00	12,446.00	19,760.40	12,005.56	134.02	145.77	-73.98	-7,581.18	2,036.45	1,613.85	1,422.45	191.40	8.432		
20,400.00	12,446.00	19,848.83	12,010.97	135.58	147.17	-74.14	-7,669.43	2,035.18	1,609.83	1,416.15	193.69	8.312		
20,500.00	12,446.00	19,943.21	12,016.80	137.14	148.67	-74.33	-7,763.62	2,034.14	1,606.15	1,410.18	195.97	8.196		
20,600.00	12,446.00	20,024.00	12,019.39	138.70	149.95	-74.40	-7,844.36	2,033.73	1,603.76	1,405.56	198.20	8.092		
20,696.55	12,446.00	20,086.09	12,020.25	140.21	150.94	-74.43	-7,906.45	2,034.16	1,602.99	1,402.74	200.25	8.005		
20,700.00	12,446.00	20,088.69	12,020.29	140.27	150.98	-74.43	-7,909.04	2,034.20	1,602.99	1,402.66	200.32	8.002		
20,800.00	12,446.00	20,203.44	12,022.76	141.83	152.81	-74.52	-8,023.75	2,036.03	1,603.07	1,400.48	202.59	7.913		
20,900.00	12,446.00	20,346.37	12,029.89	143.40	155.09	-74.75	-8,166.49	2,035.52	1,600.27	1,395.36	204.91	7.810		
21,000.00	12,446.00	20,439.17	12,033.28	144.97	156.56	-74.85	-8,259.22	2,034.15	1,596.94	1,389.78	207.15	7.709		
21,100.00	12,446.00	20,523.79	12,033.96	146.54	157.90	-74.85	-8,343.82	2,032.72	1,594.18	1,384.85	209.33	7.616		
21,200.00	12,446.00	20,599.51	12,033.97	148.12	159.11	-74.84	-8,419.54	2,032.50	1,592.91	1,381.44	211.48	7.532		
21,300.00	12,446.00	20,714.64	12,035.64	149.69	160.95	-74.89	-8,534.66	2,032.42	1,591.47	1,377.77	213.70	7.447		
21,400.00	12,446.00	20,853.42	12,040.97	151.27	163.17	-75.06	-8,673.32	2,032.71	1,590.12	1,374.17	215.96	7.363		
21,500.00	12,446.00	20,999.38	12,043.26	152.85	165.47	-75.06	-8,819.03	2,025.53	1,583.70	1,365.83	217.88	7.269		
21,600.00	12,446.00	21,091.56	12,045.77	154.43	166.93	-75.10	-8,911.06	2,021.08	1,577.37	1,357.25	220.12	7.166		
21,700.00	12,446.00	21,202.73	12,050.75	156.01	168.69	-75.21	-9,021.97	2,015.18	1,570.08	1,347.79	222.29	7.063		
21,800.00	12,446.00	21,290.64	12,057.37	157.59	170.09	-75.41	-9,109.56	2,011.80	1,563.47	1,338.77	224.70	6.958		
21,900.00	12,446.00	21,372.62	12,062.27	159.18	171.39	-75.54	-9,191.32	2,008.63	1,557.35	1,330.25	227.10	6.857		
22,000.00	12,446.00	21,443.00	12,067.90	160.76	172.52	-75.74	-9,261.47	2,008.19	1,553.59	1,324.03	229.56	6.768		
22,100.00	12,446.00	21,508.86	12,074.55	162.35	173.58	-75.98	-9,326.98	2,009.51	1,551.86	1,319.88	231.98	6.690		
22,170.28	12,446.00	21,562.57	12,080.25	163.47	174.45	-76.19	-9,380.36	2,011.08	1,551.42	1,317.74	233.67	6.639		
22,200.00	12,446.00	21,582.95	12,082.34	163.94	174.78	-76.27	-9,400.62	2,011.86	1,551.51	1,317.15	234.36	6.620		
22,300.00	12,446.00	21,654.82	12,089.08	165.53	175.94	-76.54	-9,472.09	2,015.39	1,553.11	1,316.47	236.63	6.563		
22,400.00	12,446.00	21,737.74	12,094.33	167.12	177.29	-76.76	-9,554.70	2,020.08	1,556.19	1,317.30	238.89	6.514		
22,500.00	12,446.00	21,840.81	12,097.76	168.71	178.96	-76.92	-9,657.57	2,025.48	1,559.57	1,318.32	241.25	6.464		
22,600.00	12,446.00	21,937.29	12,099.99	170.30	180.53	-77.03	-9,753.90	2,030.47	1,563.14	1,319.61	243.53	6.419		
22,700.00	12,446.00	22,061.96	12,100.46	171.90	182.55	-77.08	-9,878.45	2,035.67	1,566.21	1,320.25	245.96	6.368		
22,800.00	12,446.00	22,138.52	12,102.82	173.49	183.79	-77.18	-9,954.92	2,038.43	1,568.29	1,320.20	248.09	6.321		
22,900.00	12,446.00	22,199.00	12,105.48	175.09	184.77	-77.31	-10,015.15	2,043.14	1,573.61	1,323.61	249.99	6.295		
23,000.00	12,446.00	22,395.07	12,120.35	176.69	187.97	-77.92	-10,210.24	2,054.94	1,577.22	1,323.79	253.43	6.224		
23,100.00	12,446.00	22,526.54	12,132.28	178.28	190.09	-78.35	-10,341.14	2,057.08	1,575.91	1,319.92	255.99	6.156		

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 PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 usft
Bus Driver/Kaston Fed Com - Kaston Fed Com 603H - OH - OH												Offset Well Error:	0.00 usft
Survey Program: 117-OWSG (Rev2) MWD, 1363-OWSG (Rev2) MWD, 23350-BLIND													
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
23,200.00	12,446.00	22,636.96	12,141.07	179.88	191.88	-78.66	-10,451.21	2,057.39	1,573.64	1,315.21	258.43	6.089	
23,300.00	12,446.00	22,734.05	12,149.18	181.48	193.44	-78.94	-10,547.97	2,057.28	1,570.95	1,310.08	260.87	6.022	
23,400.00	12,446.00	22,843.53	12,158.79	183.08	195.21	-79.28	-10,657.02	2,057.40	1,568.44	1,305.12	263.32	5.956	
23,500.00	12,446.00	22,925.32	12,166.53	184.69	196.53	-79.55	-10,738.45	2,057.46	1,565.83	1,300.05	265.79	5.891	
23,600.00	12,446.00	23,020.53	12,178.16	186.29	198.07	-79.97	-10,832.92	2,059.14	1,564.42	1,296.10	268.32	5.830	
23,700.00	12,446.00	23,128.25	12,197.39	187.89	199.80	-80.68	-10,938.85	2,061.65	1,562.73	1,291.71	271.02	5.766	
23,800.00	12,446.00	23,216.66	12,218.61	189.50	201.22	-81.46	-11,024.63	2,064.51	1,561.23	1,287.47	273.76	5.703	
23,900.00	12,446.00	23,307.89	12,243.66	191.10	203.77	-82.38	-11,112.25	2,068.48	1,560.71	1,283.40	277.31	5.628	
23,929.64	12,446.00	23,336.22	12,251.95	191.58	206.63	-82.69	-11,139.30	2,069.80	1,560.69	1,280.81	279.88	5.576 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 PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Bus Driver/Kaston Fed Com - Kaston Fed Com 703H - OH - OH		Offset Site Error:	0.00 usft
Survey Program: 112-OWSG (Rev2) MWD, 1431-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	4.63	4.63	0.00	0.01	51.48	897.40	1,127.45	1,441.00							
100.00	100.00	107.44	107.44	0.13	0.14	51.48	897.44	1,127.28	1,440.89	1,440.70	0.19	7,632.782				
200.00	200.00	238.00	237.98	0.48	0.60	51.45	896.99	1,125.63	1,439.71	1,438.94	0.77	1,873.997				
300.00	300.00	344.11	344.05	0.84	0.98	51.41	896.07	1,122.84	1,437.10	1,435.81	1.29	1,114.592				
400.00	400.00	451.49	451.37	1.20	1.37	51.34	895.43	1,119.25	1,434.13	1,432.31	1.82	790.022				
500.00	500.00	555.91	555.71	1.56	1.75	51.27	894.43	1,115.34	1,430.60	1,428.26	2.33	613.030				
600.00	600.00	668.94	668.65	1.92	2.16	51.19	893.27	1,110.79	1,426.84	1,423.97	2.88	496.232				
700.00	700.00	722.00	721.63	2.28	2.35	51.15	892.56	1,108.19	1,423.05	1,419.79	3.26	436.495				
800.00	800.00	859.65	859.18	2.63	2.84	51.10	891.62	1,105.18	1,421.05	1,417.20	3.86	368.463				
900.00	900.00	967.99	967.41	2.99	3.23	51.01	890.61	1,100.26	1,416.93	1,412.55	4.39	323.076				
1,000.00	1,000.00	1,084.69	1,083.95	3.35	3.66	50.97	887.64	1,094.90	1,411.75	1,406.81	4.94	286.060				
1,100.00	1,100.00	1,175.45	1,174.57	3.71	3.99	50.93	885.29	1,090.64	1,406.46	1,401.05	5.42	259.588				
1,200.00	1,200.00	1,274.12	1,273.11	4.07	4.36	50.88	883.34	1,086.08	1,401.63	1,395.71	5.92	236.678				
1,300.00	1,300.00	1,440.05	1,438.61	4.43	4.77	50.76	878.29	1,075.48	1,395.01	1,388.57	6.44	216.609				
1,400.00	1,400.00	1,576.86	1,574.47	4.79	4.95	50.61	871.35	1,061.03	1,383.44	1,376.67	6.78	204.119				
1,500.00	1,500.00	1,655.93	1,652.98	5.14	5.02	50.54	866.76	1,052.81	1,371.76	1,364.69	7.07	193.948				
1,600.00	1,600.00	1,730.50	1,727.18	5.50	5.11	50.52	862.26	1,046.93	1,361.84	1,354.45	7.38	184.462				
1,700.00	1,700.00	1,801.30	1,797.74	5.86	5.19	50.56	857.96	1,043.09	1,353.82	1,346.12	7.70	175.756				
1,800.00	1,800.00	1,857.00	1,853.32	6.22	5.26	50.63	854.66	1,041.55	1,348.21	1,340.18	8.02	168.067				
1,900.00	1,900.00	1,929.29	1,925.49	6.58	5.35	50.77	850.58	1,041.87	1,345.15	1,336.79	8.36	160.975				
1,960.03	1,960.03	1,968.42	1,964.54	6.79	5.40	50.88	848.49	1,043.21	1,344.71	1,336.15	8.56	157.175				
2,000.00	2,000.00	1,996.53	1,992.58	6.94	5.43	50.96	847.06	1,044.54	1,344.88	1,336.19	8.69	154.743				
2,100.00	2,100.00	2,070.55	2,066.37	7.29	5.53	51.20	843.59	1,049.23	1,346.84	1,337.81	9.04	149.059				
2,200.00	2,200.00	2,156.20	2,151.73	7.65	5.65	51.48	840.38	1,055.59	1,350.29	1,340.89	9.40	143.647				
2,300.00	2,299.99	2,257.45	2,252.57	8.01	5.81	22.51	836.50	1,063.73	1,353.03	1,343.23	9.79	138.146				
2,400.00	2,399.91	2,363.85	2,358.43	8.37	6.00	23.01	830.86	1,072.86	1,352.93	1,342.72	10.21	132.534				
2,500.00	2,499.69	2,467.12	2,461.18	8.72	6.21	23.55	825.24	1,081.53	1,350.30	1,339.67	10.63	127.027				
2,600.00	2,599.27	2,580.63	2,574.10	9.08	6.46	24.23	818.24	1,090.68	1,344.70	1,333.62	11.08	121.369				
2,685.78	2,684.47	2,676.10	2,669.01	9.39	6.69	24.92	811.00	1,098.10	1,337.19	1,325.72	11.47	116.564				
2,700.00	2,698.58	2,691.51	2,684.32	9.44	6.73	25.02	809.74	1,099.28	1,335.76	1,324.22	11.54	115.782				
2,800.00	2,797.77	2,793.45	2,785.70	9.81	7.00	25.72	801.88	1,106.50	1,325.58	1,313.59	11.99	110.581				
2,900.00	2,896.96	2,887.15	2,879.04	10.17	7.25	26.29	796.10	1,112.17	1,315.62	1,303.19	12.43	105.848				
3,000.00	2,996.15	2,958.16	2,949.78	10.54	7.44	26.73	792.21	1,117.13	1,306.96	1,294.13	12.84	101.824				
3,100.00	3,095.35	3,029.09	3,020.23	10.92	7.65	27.24	788.06	1,124.19	1,300.67	1,287.43	13.24	98.213				
3,200.00	3,194.54	3,117.84	3,108.04	11.29	7.91	27.96	782.05	1,135.55	1,296.44	1,282.74	13.69	94.690				
3,300.00	3,293.73	3,262.34	3,251.13	11.67	8.36	29.16	770.56	1,151.94	1,290.73	1,276.45	14.27	90.419				
3,400.00	3,392.92	3,366.41	3,354.17	12.05	8.71	30.09	760.19	1,162.30	1,283.06	1,268.29	14.78	86.824				
3,500.00	3,492.12	3,462.08	3,448.86	12.43	9.03	30.95	750.52	1,171.85	1,275.68	1,260.41	15.27	83.551				
3,600.00	3,591.31	3,581.87	3,567.73	12.81	9.44	31.96	739.63	1,182.00	1,267.78	1,251.97	15.81	80.181				
3,700.00	3,690.50	3,705.35	3,690.56	13.20	9.86	32.91	729.48	1,189.49	1,258.51	1,242.15	16.36	76.942				
3,800.00	3,789.69	3,793.86	3,778.78	13.58	10.16	33.51	723.35	1,192.91	1,248.15	1,231.32	16.83	74.154				
3,900.00	3,888.89	3,870.17	3,854.89	13.97	10.41	34.00	719.50	1,196.90	1,239.89	1,222.60	17.28	71.741				
4,000.00	3,988.08	3,962.17	3,946.46	14.36	10.73	34.69	713.59	1,203.52	1,232.98	1,215.20	17.77	69.382				
4,100.00	4,087.27	4,069.37	4,052.90	14.75	11.11	35.62	704.15	1,212.13	1,226.03	1,207.73	18.30	66.988				
4,200.00	4,186.46	4,154.34	4,137.29	15.14	11.42	36.36	696.75	1,218.62	1,219.12	1,200.34	18.78	64.900				
4,300.00	4,285.66	4,224.98	4,207.50	15.53	11.67	36.92	692.41	1,225.00	1,214.64	1,195.41	19.23	63.176				
4,400.00	4,384.85	4,314.48	4,296.50	15.92	11.99	37.57	688.65	1,233.65	1,211.76	1,192.05	19.71	61.482				
4,500.00	4,484.04	4,403.23	4,384.75	16.31	12.29	38.18	685.80	1,242.65	1,209.86	1,189.67	20.19	59.931				
4,600.00	4,583.23	4,498.31	4,479.17	16.71	12.63	38.89	681.96	1,253.21	1,208.75	1,188.06	20.69	58.428				
4,700.00	4,682.42	4,634.56	4,614.32	17.10	13.14	40.07	672.58	1,267.58	1,206.31	1,185.00	21.31	56.596				
4,800.00	4,781.62	4,750.32	4,729.35	17.50	13.57	41.07	663.83	1,277.18	1,201.84	1,179.96	21.88	54.929				
4,900.00	4,880.81	4,857.14	4,835.72	17.89	13.96	41.90	657.36	1,284.41	1,196.73	1,174.31	22.42	53.383				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 112-OWSG (Rev2) MWD, 1431-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	4,980.00	4,967.97	4,946.11	18.29	14.36	42.79	650.18	1,291.12	1,191.03	1,168.07	22.96	51.864		
5,100.00	5,079.19	5,073.89	5,051.69	18.68	14.74	43.61	643.62	1,296.43	1,184.67	1,161.17	23.50	50.414		
5,200.00	5,178.39	5,170.30	5,147.86	19.08	15.08	44.33	638.26	1,300.92	1,178.37	1,154.36	24.01	49.073		
5,300.00	5,277.58	5,268.83	5,246.13	19.48	15.44	45.07	632.88	1,305.52	1,172.30	1,147.77	24.53	47.788		
5,400.00	5,376.77	5,361.90	5,338.93	19.87	15.77	45.79	627.71	1,310.15	1,166.71	1,141.66	25.04	46.593		
5,500.00	5,475.96	5,451.46	5,428.23	20.27	16.10	46.48	622.82	1,315.08	1,161.87	1,136.32	25.54	45.487		
5,600.00	5,575.16	5,534.00	5,510.38	20.67	16.40	47.18	617.53	1,321.06	1,158.64	1,132.61	26.03	44.511		
5,700.00	5,674.35	5,638.24	5,613.99	21.07	16.80	48.14	609.65	1,329.33	1,156.15	1,129.57	26.58	43.500		
5,800.00	5,773.54	5,743.30	5,718.41	21.47	17.20	49.13	600.91	1,336.88	1,153.07	1,125.94	27.13	42.501		
5,900.00	5,872.73	5,840.80	5,815.35	21.87	17.58	50.05	592.89	1,343.65	1,150.09	1,122.43	27.66	41.575		
6,000.00	5,971.93	5,936.45	5,910.48	22.27	17.94	50.94	585.56	1,350.32	1,147.55	1,119.36	28.19	40.707		
6,100.00	6,071.12	6,031.11	6,004.64	22.67	18.30	51.80	578.60	1,357.18	1,145.61	1,116.90	28.71	39.897		
6,200.00	6,170.31	6,126.93	6,099.93	23.07	18.67	52.68	571.59	1,364.33	1,144.19	1,114.94	29.24	39.129		
6,300.00	6,269.50	6,226.11	6,198.56	23.47	19.05	53.59	564.39	1,371.96	1,143.29	1,113.51	29.78	38.393		
6,400.00	6,368.70	6,341.89	6,313.74	23.87	19.49	54.65	555.84	1,379.90	1,141.86	1,111.50	30.36	37.610		
6,500.00	6,467.89	6,462.48	6,433.91	24.27	19.93	55.71	547.71	1,385.85	1,138.88	1,107.93	30.94	36.804		
6,600.00	6,567.08	6,580.57	6,551.83	24.67	20.35	56.62	542.44	1,389.26	1,134.30	1,102.80	31.51	36.003		
6,700.00	6,666.27	6,685.93	6,657.16	25.07	20.71	57.27	540.91	1,390.87	1,128.77	1,096.74	32.03	35.240		
6,800.00	6,765.47	6,784.95	6,756.17	25.47	21.04	57.84	540.38	1,392.10	1,123.15	1,090.60	32.54	34.511		
6,900.00	6,864.66	6,884.16	6,855.37	25.88	21.37	58.42	539.86	1,393.37	1,117.66	1,084.60	33.06	33.808		
6,982.54	6,946.53	6,966.67	6,937.87	26.21	21.64	58.90	539.42	1,394.37	1,113.18	1,079.69	33.49	33.244		
7,000.00	6,963.85	6,983.94	6,955.15	26.28	21.70	58.99	539.33	1,394.58	1,112.26	1,078.68	33.58	33.127		
7,100.00	7,063.25	7,091.52	7,062.71	26.67	22.06	59.48	538.65	1,395.71	1,107.69	1,073.60	34.10	32.487		
7,200.00	7,162.90	7,211.39	7,182.57	27.05	22.44	59.92	537.77	1,395.17	1,103.01	1,068.40	34.61	31.868		
7,300.00	7,262.74	7,318.55	7,289.72	27.41	22.77	60.18	536.85	1,393.25	1,098.35	1,063.25	35.10	31.293		
7,400.00	7,362.69	7,412.33	7,383.47	27.77	23.06	60.32	535.84	1,391.57	1,095.01	1,059.44	35.57	30.784		
7,468.32	7,431.00	7,475.43	7,446.57	28.00	23.26	89.68	535.14	1,390.78	1,093.86	1,057.97	35.89	30.479		
7,500.00	7,462.68	7,504.67	7,475.81	28.10	23.35	89.69	534.84	1,390.52	1,093.57	1,057.53	36.03	30.348		
7,600.00	7,562.68	7,602.49	7,573.62	28.44	23.65	89.71	534.44	1,389.87	1,092.91	1,056.41	36.50	29.946		
7,700.00	7,662.68	7,697.10	7,668.23	28.78	23.94	89.70	534.65	1,389.54	1,092.55	1,055.60	36.95	29.568		
7,800.00	7,762.68	7,796.60	7,767.73	29.11	24.25	89.70	534.63	1,389.48	1,092.49	1,055.08	37.41	29.200		
7,824.48	7,787.16	7,820.53	7,791.66	29.20	24.33	89.71	534.62	1,389.47	1,092.49	1,054.96	37.53	29.111		
7,900.00	7,862.68	7,894.32	7,865.45	29.45	24.57	89.70	534.63	1,389.53	1,092.55	1,054.66	37.88	28.841		
8,000.00	7,962.68	7,992.40	7,963.53	29.79	24.89	89.71	534.46	1,389.82	1,092.84	1,054.48	38.36	28.492		
8,100.00	8,062.68	8,104.14	8,075.27	30.13	25.25	89.72	534.35	1,389.53	1,092.58	1,053.74	38.84	28.132		
8,200.00	8,162.68	8,205.26	8,176.38	30.46	25.56	89.68	535.03	1,388.58	1,091.63	1,052.33	39.30	27.778		
8,300.00	8,262.68	8,297.78	8,268.89	30.80	25.85	89.65	535.66	1,388.15	1,091.17	1,051.42	39.76	27.447		
8,335.32	8,298.01	8,331.43	8,302.54	30.92	25.95	89.64	535.79	1,388.12	1,091.14	1,051.22	39.92	27.335		
8,400.00	8,362.68	8,394.80	8,365.92	31.14	26.16	89.64	535.92	1,388.18	1,091.21	1,050.98	40.22	27.130		
8,500.00	8,462.68	8,487.59	8,458.71	31.48	26.46	89.64	535.91	1,388.37	1,091.42	1,050.73	40.69	26.823		
8,600.00	8,562.68	8,575.41	8,546.51	31.82	26.76	89.66	535.47	1,389.84	1,093.05	1,051.90	41.15	26.561		
8,700.00	8,662.68	8,693.56	8,664.66	32.16	27.16	89.68	535.08	1,391.01	1,094.03	1,052.37	41.66	26.262		
8,800.00	8,762.68	8,798.44	8,769.53	32.50	27.50	89.67	535.26	1,390.85	1,093.87	1,051.74	42.14	25.960		
8,898.76	8,861.44	8,894.85	8,865.94	32.84	27.82	89.69	534.84	1,390.73	1,093.75	1,051.14	42.61	25.671		
8,900.00	8,862.68	8,896.05	8,867.15	32.85	27.82	89.69	534.83	1,390.73	1,093.75	1,051.14	42.61	25.667		
9,000.00	8,962.68	8,994.52	8,965.60	33.19	28.16	89.76	533.49	1,390.83	1,093.84	1,050.75	43.10	25.382		
9,100.00	9,062.68	9,116.97	9,088.04	33.53	28.56	89.84	532.09	1,390.06	1,093.27	1,049.67	43.60	25.076		
9,200.00	9,162.68	9,219.26	9,190.31	33.87	28.89	89.85	531.87	1,387.99	1,091.24	1,047.17	44.07	24.761		
9,300.00	9,262.68	9,316.90	9,287.93	34.22	29.20	89.90	530.99	1,386.03	1,089.23	1,044.68	44.55	24.452		
9,400.00	9,362.68	9,415.76	9,386.76	34.56	29.52	89.95	530.02	1,384.21	1,087.39	1,042.37	45.02	24.152		
9,500.00	9,462.68	9,516.76	9,487.73	34.90	29.85	90.01	528.77	1,382.35	1,085.54	1,040.04	45.50	23.856		
9,600.00	9,562.68	9,618.30	9,589.24	35.25	30.19	90.12	526.73	1,380.37	1,083.60	1,037.61	45.99	23.563		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Bus Driver/Kaston Fed Com - Kaston Fed Com 703H - OH - OH		Offset Site Error:	0.00 usft
Survey Program: 112-OWSG (Rev2) MWD, 1431-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			
9,700.00	9,662.68	9,716.20	9,687.11	35.59	30.51	90.14	526.31	1,378.32	1,081.51	1,035.05	46.46	23.277				
9,800.00	9,762.68	9,809.31	9,780.21	35.93	30.80	90.10	527.07	1,377.03	1,080.11	1,033.18	46.93	23.016				
9,900.00	9,862.68	9,906.58	9,877.46	36.28	31.11	90.05	528.08	1,375.86	1,078.91	1,031.51	47.40	22.763				
10,000.00	9,962.68	10,000.79	9,971.68	36.62	31.41	90.02	528.60	1,375.32	1,078.33	1,030.47	47.87	22.528				
10,100.00	10,062.68	10,102.76	10,073.64	36.97	31.74	90.02	528.55	1,374.84	1,077.86	1,029.51	48.35	22.295				
10,200.00	10,162.68	10,202.62	10,173.49	37.31	32.08	90.09	527.31	1,374.16	1,077.18	1,028.35	48.83	22.059				
10,287.06	10,249.74	10,283.38	10,254.24	37.62	32.36	90.17	525.81	1,373.85	1,076.86	1,027.61	49.25	21.865				
10,300.00	10,262.68	10,294.86	10,265.72	37.66	32.40	90.18	525.63	1,373.86	1,076.87	1,027.55	49.31	21.837				
10,400.00	10,362.68	10,388.84	10,359.69	38.01	32.72	90.23	524.68	1,374.38	1,077.41	1,027.62	49.79	21.637				
10,500.00	10,462.68	10,493.07	10,463.92	38.35	33.07	90.23	524.62	1,374.99	1,078.01	1,027.72	50.29	21.438				
10,600.00	10,562.68	10,598.30	10,569.14	38.70	33.42	90.20	525.25	1,375.01	1,078.02	1,027.25	50.77	21.234				
10,700.00	10,662.68	10,703.81	10,674.65	39.04	33.76	90.13	526.47	1,374.58	1,077.60	1,026.36	51.25	21.027				
10,800.00	10,762.68	10,815.52	10,786.33	39.39	34.11	90.03	528.39	1,373.24	1,076.41	1,024.68	51.73	20.807				
10,900.00	10,862.68	10,909.00	10,879.79	39.74	34.41	89.96	529.82	1,372.08	1,075.16	1,022.95	52.20	20.596				
10,993.28	10,955.96	10,989.67	10,960.46	40.06	34.68	89.92	530.55	1,371.79	1,074.79	1,022.15	52.64	20.419				
11,000.00	10,962.68	10,995.80	10,966.59	40.09	34.70	89.92	530.58	1,371.79	1,074.79	1,022.12	52.67	20.407				
11,100.00	11,062.68	11,098.51	11,069.30	40.43	35.04	89.92	530.54	1,371.76	1,074.76	1,021.61	53.15	20.219				
11,149.28	11,111.96	11,145.67	11,116.46	40.60	35.20	89.93	530.26	1,371.72	1,074.72	1,021.32	53.39	20.128 CC				
11,200.00	11,162.68	11,192.00	11,162.79	40.78	35.36	89.95	529.95	1,371.76	1,074.77	1,021.13	53.64	20.038				
11,300.00	11,262.68	11,288.74	11,259.53	41.13	35.70	89.98	529.30	1,372.21	1,075.23	1,021.11	54.13	19.866				
11,400.00	11,362.68	11,397.20	11,367.97	41.48	36.08	90.06	527.88	1,372.63	1,075.63	1,021.00	54.63	19.689				
11,490.64	11,453.32	11,485.93	11,456.59	41.79	36.39	90.28	523.80	1,372.25	1,075.27	1,020.18	55.08	19.521				
11,500.00	11,462.68	11,491.72	11,462.36	41.82	36.41	90.31	523.23	1,372.27	1,075.29	1,020.17	55.12	19.507 ES				
11,600.00	11,562.68	11,554.13	11,523.85	42.17	36.65	90.86	512.89	1,373.55	1,077.54	1,021.99	55.56	19.395				
11,700.00	11,662.68	11,632.36	11,599.70	42.52	36.98	91.85	494.10	1,377.14	1,082.81	1,026.79	56.02	19.330				
11,800.00	11,762.68	11,718.58	11,681.23	42.87	37.34	93.29	466.62	1,381.81	1,090.00	1,033.50	56.50	19.293				
11,900.00	11,862.68	11,821.22	11,773.13	43.22	37.81	95.65	421.25	1,385.84	1,098.19	1,041.14	57.05	19.250 SF				
11,910.36	11,873.04	11,829.10	11,779.92	43.25	37.85	95.86	417.25	1,386.04	1,099.10	1,042.00	57.09	19.250				
11,950.00	11,912.65	11,861.98	11,807.57	43.38	38.00	-74.25	399.50	1,386.74	1,102.51	1,045.24	57.27	19.252				
12,000.00	11,962.32	11,899.00	11,837.12	43.53	38.18	-72.90	377.21	1,386.93	1,106.10	1,048.66	57.43	19.258				
12,050.00	12,011.30	11,899.00	11,837.12	43.66	38.18	-72.51	377.21	1,386.93	1,110.20	1,052.84	57.36	19.355				
12,100.00	12,059.24	11,899.00	11,837.12	43.78	38.18	-72.03	377.21	1,386.93	1,115.22	1,058.01	57.22	19.492				
12,150.00	12,105.76	11,899.00	11,837.12	43.89	38.18	-71.46	377.21	1,386.93	1,121.13	1,064.11	57.01	19.664				
12,200.00	12,150.50	11,899.00	11,837.12	43.98	38.18	-70.82	377.21	1,386.93	1,127.85	1,071.08	56.76	19.870				
12,250.00	12,193.14	11,899.00	11,837.12	44.06	38.18	-70.11	377.21	1,386.93	1,135.32	1,078.84	56.48	20.102				
12,300.00	12,233.34	11,899.00	11,837.12	44.13	38.18	-69.33	377.21	1,386.93	1,143.47	1,087.30	56.17	20.357				
12,350.00	12,270.79	11,899.00	11,837.12	44.18	38.18	-68.50	377.21	1,386.93	1,152.23	1,096.37	55.86	20.627				
12,400.00	12,305.22	11,899.00	11,837.12	44.22	38.18	-67.63	377.21	1,386.93	1,161.52	1,105.96	55.56	20.907				
12,450.00	12,336.36	11,899.00	11,837.12	44.25	38.18	-66.71	377.21	1,386.93	1,171.25	1,115.97	55.28	21.189				
12,500.00	12,363.98	11,899.00	11,837.12	44.27	38.18	-65.77	377.21	1,386.93	1,181.34	1,126.31	55.03	21.468				
12,550.00	12,387.85	11,899.00	11,837.12	44.29	38.18	-64.81	377.21	1,386.93	1,191.70	1,136.87	54.83	21.736				
12,600.00	12,407.81	11,899.00	11,837.12	44.29	38.18	-63.83	377.21	1,386.93	1,202.25	1,147.57	54.68	21.988				
12,650.00	12,423.70	11,899.00	11,837.12	44.30	38.18	-62.86	377.21	1,386.93	1,212.91	1,158.32	54.59	22.219				
12,700.00	12,435.40	11,899.00	11,837.12	44.31	38.18	-61.89	377.21	1,386.93	1,223.59	1,169.03	54.56	22.425				
12,750.00	12,442.82	11,899.00	11,837.12	44.34	38.18	-60.94	377.21	1,386.93	1,234.22	1,179.61	54.60	22.603				
12,800.00	12,445.90	11,899.00	11,837.12	44.41	38.18	-60.00	377.21	1,386.93	1,244.70	1,190.00	54.71	22.751				
12,810.36	12,446.00	11,899.00	11,837.12	44.42	38.18	-59.81	377.21	1,386.93	1,246.85	1,192.12	54.74	22.778				
12,900.00	12,446.00	11,899.00	11,837.12	44.59	38.18	-59.58	377.21	1,386.93	1,269.60	1,214.56	55.05	23.064				
13,000.00	12,446.00	11,899.00	11,837.12	44.83	38.18	-59.20	377.21	1,386.93	1,304.47	1,249.00	55.47	23.518				
13,100.00	12,446.00	11,899.00	11,837.12	45.12	38.18	-58.69	377.21	1,386.93	1,348.54	1,292.60	55.93	24.110				
13,200.00	12,446.00	11,899.00	11,837.12	45.46	38.18	-58.04	377.21	1,386.93	1,400.89	1,344.48	56.42	24.832				
13,217.18	12,446.00	11,899.00	11,837.12	45.52	38.18	-57.92	377.21	1,386.93	1,410.65	1,354.15	56.50	24.968				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 112-OWSG (Rev2) MWD, 1431-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		
13,300.00	12,446.00	11,899.00	11,837.12	45.84	38.18	-57.92	377.21	1,386.93	1,459.79	1,402.90	56.89	25.660		
13,400.00	12,446.00	11,899.00	11,837.12	46.27	38.18	-57.92	377.21	1,386.93	1,523.02	1,465.68	57.34	26.562		
13,500.00	12,446.00	11,899.00	11,837.12	46.75	38.18	-57.92	377.21	1,386.93	1,590.03	1,532.27	57.76	27.529		
13,600.00	12,446.00	11,899.00	11,837.12	47.29	38.18	-57.92	377.21	1,386.93	1,660.35	1,602.21	58.15	28.555		
13,700.00	12,446.00	11,899.00	11,837.12	47.87	38.18	-57.92	377.21	1,386.93	1,733.60	1,675.10	58.50	29.633		
13,800.00	12,446.00	11,899.00	11,837.12	48.50	38.18	-57.92	377.21	1,386.93	1,809.41	1,750.58	58.83	30.758		
13,900.00	12,446.00	11,899.00	11,837.12	49.18	38.18	-57.92	377.21	1,386.93	1,887.47	1,828.35	59.12	31.925		
14,000.00	12,446.00	11,899.00	11,837.12	49.90	38.18	-57.92	377.21	1,386.93	1,967.52	1,908.13	59.39	33.129		
14,100.00	12,446.00	11,899.00	11,837.12	50.66	38.18	-57.92	377.21	1,386.93	2,049.33	1,989.69	59.64	34.363		
14,200.00	12,446.00	11,899.00	11,837.12	51.47	38.18	-57.92	377.21	1,386.93	2,132.68	2,072.82	59.86	35.629		
14,300.00	12,446.00	11,899.00	11,837.12	52.31	38.18	-57.92	377.21	1,386.93	2,217.41	2,157.35	60.06	36.920		
14,400.00	12,446.00	11,899.00	11,837.12	53.19	38.18	-57.92	377.21	1,386.93	2,303.37	2,243.13	60.25	38.233		
14,500.00	12,446.00	11,899.00	11,837.12	54.11	38.18	-57.92	377.21	1,386.93	2,390.42	2,330.01	60.41	39.567		
14,600.00	12,446.00	11,899.00	11,837.12	55.06	38.18	-57.92	377.21	1,386.93	2,478.45	2,417.88	60.57	40.918		
14,700.00	12,446.00	11,899.00	11,837.12	56.05	38.18	-57.92	377.21	1,386.93	2,567.35	2,506.64	60.71	42.286		
14,800.00	12,446.00	11,899.00	11,837.12	57.06	38.18	-57.92	377.21	1,386.93	2,657.05	2,596.20	60.85	43.667		
14,900.00	12,446.00	11,899.00	11,837.12	58.11	38.18	-57.92	377.21	1,386.93	2,747.45	2,686.48	60.97	45.061		
15,000.00	12,446.00	11,899.00	11,837.12	59.18	38.18	-57.92	377.21	1,386.93	2,838.50	2,777.41	61.09	46.466		
15,100.00	12,446.00	11,899.00	11,837.12	60.28	38.18	-57.92	377.21	1,386.93	2,930.13	2,868.94	61.20	47.881		
15,200.00	12,446.00	11,899.00	11,837.12	61.40	38.18	-57.92	377.21	1,386.93	3,022.29	2,961.00	61.30	49.306		
15,300.00	12,446.00	11,899.00	11,837.12	62.54	38.18	-57.92	377.21	1,386.93	3,114.94	3,053.55	61.39	50.738		
15,400.00	12,446.00	11,899.00	11,837.12	63.71	38.18	-57.92	377.21	1,386.93	3,208.03	3,146.55	61.48	52.177		
15,500.00	12,446.00	11,899.00	11,837.12	64.90	38.18	-57.92	377.21	1,386.93	3,301.52	3,239.95	61.57	53.623		
15,600.00	12,446.00	11,899.00	11,837.12	66.11	38.18	-57.92	377.21	1,386.93	3,395.38	3,333.73	61.65	55.075		
15,700.00	12,446.00	11,899.00	11,837.12	67.34	38.18	-57.92	377.21	1,386.93	3,489.59	3,427.86	61.73	56.532		
15,800.00	12,446.00	11,899.00	11,837.12	68.58	38.18	-57.92	377.21	1,386.93	3,584.11	3,522.31	61.80	57.994		
15,900.00	12,446.00	11,899.00	11,837.12	69.84	38.18	-57.92	377.21	1,386.93	3,678.92	3,617.04	61.87	59.460		
16,000.00	12,446.00	11,899.00	11,837.12	71.12	38.18	-57.92	377.21	1,386.93	3,773.99	3,712.05	61.94	60.928		
16,100.00	12,446.00	11,899.00	11,837.12	72.41	38.18	-57.92	377.21	1,386.93	3,869.32	3,807.31	62.01	62.400		
16,200.00	12,446.00	11,899.00	11,837.12	73.72	38.18	-57.92	377.21	1,386.93	3,964.87	3,902.80	62.07	63.874		
16,300.00	12,446.00	11,899.00	11,837.12	75.04	38.18	-57.92	377.21	1,386.93	4,060.64	3,998.50	62.14	65.350		
16,400.00	12,446.00	11,899.00	11,837.12	76.37	38.18	-57.92	377.21	1,386.93	4,156.61	4,094.41	62.20	66.828		
16,500.00	12,446.00	11,899.00	11,837.12	77.72	38.18	-57.92	377.21	1,386.93	4,252.76	4,190.50	62.26	68.308		
16,600.00	12,446.00	11,899.00	11,837.12	79.08	38.18	-57.92	377.21	1,386.93	4,349.09	4,286.77	62.32	69.790		
16,700.00	12,446.00	11,899.00	11,837.12	80.45	38.18	-57.92	377.21	1,386.93	4,445.58	4,383.20	62.37	71.272		
16,800.00	12,446.00	11,899.00	11,837.12	81.82	38.18	-57.92	377.21	1,386.93	4,542.22	4,479.79	62.43	72.755		
16,900.00	12,446.00	11,899.00	11,837.12	83.21	38.18	-57.92	377.21	1,386.93	4,639.00	4,576.52	62.49	74.239		
17,000.00	12,446.00	11,899.00	11,837.12	84.61	38.18	-57.92	377.21	1,386.93	4,735.92	4,673.38	62.54	75.723		
17,100.00	12,446.00	11,899.00	11,837.12	86.02	38.18	-57.92	377.21	1,386.93	4,832.96	4,770.37	62.60	77.206		
17,200.00	12,446.00	11,899.00	11,837.12	87.43	38.18	-57.92	377.21	1,386.93	4,930.12	4,867.47	62.65	78.690		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Bus Driver/Kaston Fed Com - Kaston Fed Com 703H - OH - Plan #9		Offset Site Error:	0.00 usft
Survey Program:													112-OWSG (Rev2) MWD, 1409-OWSG (Rev2) MWD, 11286-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	4.63	4.63	0.00	0.01	51.48	897.40	1,127.45	1,441.00							
100.00	100.00	107.44	107.44	0.13	0.14	51.48	897.44	1,127.28	1,440.89	1,440.70	0.19	7,632.782				
200.00	200.00	238.00	237.98	0.48	0.60	51.45	896.99	1,125.63	1,439.71	1,438.94	0.77	1,873.997				
300.00	300.00	344.11	344.05	0.84	0.98	51.41	896.07	1,122.84	1,437.10	1,435.81	1.29	1,114.592				
400.00	400.00	451.49	451.37	1.20	1.37	51.34	895.43	1,119.25	1,434.13	1,432.31	1.82	790.022				
500.00	500.00	555.91	555.71	1.56	1.75	51.27	894.43	1,115.34	1,430.60	1,428.26	2.33	613.030				
600.00	600.00	668.94	668.65	1.92	2.16	51.19	893.27	1,110.79	1,426.84	1,423.97	2.88	496.232				
700.00	700.00	722.00	721.63	2.28	2.35	51.15	892.56	1,108.19	1,423.05	1,419.79	3.26	436.495				
800.00	800.00	859.65	859.18	2.63	2.84	51.10	891.62	1,105.18	1,421.05	1,417.20	3.86	368.463				
900.00	900.00	967.99	967.41	2.99	3.23	51.01	890.61	1,100.26	1,416.93	1,412.55	4.39	323.076				
1,000.00	1,000.00	1,084.69	1,083.95	3.35	3.66	50.97	887.64	1,094.90	1,411.75	1,406.81	4.94	286.060				
1,100.00	1,100.00	1,175.45	1,174.57	3.71	3.99	50.93	885.29	1,090.64	1,406.46	1,401.05	5.42	259.588				
1,200.00	1,200.00	1,274.12	1,273.11	4.07	4.36	50.88	883.34	1,086.08	1,401.63	1,395.71	5.92	236.678				
1,300.00	1,300.00	1,433.17	1,431.78	4.43	4.71	50.76	878.84	1,076.18	1,395.25	1,388.84	6.40	217.935				
1,400.00	1,400.00	1,576.87	1,574.51	4.79	4.81	50.60	871.70	1,061.14	1,383.75	1,377.07	6.68	207.098				
1,500.00	1,500.00	1,655.94	1,653.01	5.14	4.90	50.53	867.11	1,052.92	1,372.07	1,365.08	6.99	196.369				
1,600.00	1,600.00	1,730.51	1,727.21	5.50	4.99	50.52	862.61	1,047.04	1,362.15	1,354.84	7.31	186.431				
1,700.00	1,700.00	1,801.30	1,797.77	5.86	5.09	50.55	858.31	1,043.20	1,354.13	1,346.50	7.63	177.363				
1,800.00	1,800.00	1,857.00	1,853.34	6.22	5.16	50.62	855.01	1,041.67	1,348.52	1,340.56	7.96	169.405				
1,900.00	1,900.00	1,929.29	1,925.51	6.58	5.26	50.76	850.93	1,041.99	1,345.46	1,337.15	8.30	162.067				
1,960.13	1,960.13	1,968.48	1,964.63	6.79	5.32	50.87	848.84	1,043.33	1,345.02	1,336.51	8.51	158.142				
2,000.00	2,000.00	1,996.52	1,992.59	6.94	5.36	50.95	847.41	1,044.65	1,345.19	1,336.55	8.64	155.643				
2,100.00	2,100.00	2,070.54	2,066.38	7.29	5.46	51.19	843.94	1,049.34	1,347.15	1,338.15	8.99	149.791				
2,200.00	2,200.00	2,156.18	2,151.73	7.65	5.59	51.47	840.73	1,055.70	1,350.60	1,341.23	9.36	144.229				
2,300.00	2,299.99	2,257.43	2,252.57	8.01	5.76	22.50	836.85	1,063.84	1,353.33	1,343.56	9.77	138.588				
2,400.00	2,399.91	2,363.84	2,358.44	8.37	5.96	23.00	831.21	1,072.98	1,353.23	1,343.05	10.19	132.856				
2,500.00	2,499.69	2,467.11	2,461.19	8.72	6.18	23.54	825.59	1,081.64	1,350.60	1,339.98	10.61	127.255				
2,600.00	2,599.27	2,580.62	2,574.12	9.08	6.44	24.22	818.60	1,090.79	1,345.00	1,333.93	11.07	121.512				
2,685.78	2,684.47	2,676.10	2,669.03	9.39	6.68	24.91	811.35	1,098.21	1,337.49	1,326.02	11.47	116.650				
2,700.00	2,698.58	2,691.51	2,684.34	9.44	6.72	25.01	810.09	1,099.39	1,336.06	1,324.53	11.53	115.859				
2,800.00	2,797.77	2,793.44	2,785.71	9.81	7.00	25.71	802.23	1,106.61	1,325.87	1,313.89	11.99	110.610				
2,900.00	2,896.96	2,887.14	2,879.06	10.17	7.25	26.28	796.45	1,112.29	1,315.91	1,303.47	12.43	105.843				
3,000.00	2,996.15	2,958.16	2,949.79	10.54	7.45	26.72	792.56	1,117.25	1,307.25	1,294.41	12.84	101.799				
3,100.00	3,095.35	3,029.08	3,020.24	10.92	7.66	27.23	788.41	1,124.30	1,300.96	1,287.70	13.25	98.174				
3,200.00	3,194.54	3,117.83	3,108.05	11.29	7.93	27.95	782.40	1,135.66	1,296.72	1,283.01	13.70	94.632				
3,300.00	3,293.73	3,262.33	3,251.15	11.67	8.39	29.15	770.91	1,152.06	1,291.01	1,276.72	14.29	90.337				
3,400.00	3,392.92	3,366.42	3,354.20	12.05	8.74	30.08	760.54	1,162.41	1,283.34	1,268.54	14.80	86.730				
3,500.00	3,492.12	3,462.08	3,448.89	12.43	9.07	30.94	750.87	1,171.97	1,275.95	1,260.66	15.29	83.450				
3,600.00	3,591.31	3,581.87	3,567.75	12.81	9.48	31.95	739.98	1,182.11	1,268.05	1,252.21	15.84	80.071				
3,700.00	3,690.50	3,705.35	3,690.58	13.20	9.91	32.90	729.83	1,189.60	1,258.77	1,242.39	16.38	76.826				
3,800.00	3,789.69	3,793.85	3,778.80	13.58	10.21	33.50	723.70	1,193.02	1,248.41	1,231.55	16.86	74.037				
3,900.00	3,888.89	3,870.16	3,854.90	13.97	10.47	33.99	719.85	1,197.01	1,240.15	1,222.83	17.31	71.625				
4,000.00	3,988.08	3,962.16	3,946.47	14.36	10.79	34.67	713.94	1,203.64	1,233.23	1,215.43	17.80	69.267				
4,100.00	4,087.27	4,069.38	4,052.92	14.75	11.17	35.61	704.50	1,212.25	1,226.28	1,207.94	18.34	66.873				
4,200.00	4,186.46	4,154.33	4,137.31	15.14	11.48	36.35	697.10	1,218.74	1,219.37	1,200.55	18.82	64.787				
4,300.00	4,285.66	4,224.96	4,207.51	15.53	11.74	36.91	692.76	1,225.11	1,214.88	1,195.62	19.26	63.066				
4,400.00	4,384.85	4,314.46	4,296.50	15.92	12.05	37.55	689.00	1,233.77	1,211.99	1,192.25	19.75	61.374				
4,500.00	4,484.04	4,403.21	4,384.75	16.31	12.36	38.17	686.15	1,242.76	1,210.09	1,189.87	20.23	59.825				
4,600.00	4,583.23	4,498.29	4,479.16	16.71	12.70	38.88	682.31	1,253.32	1,208.98	1,188.25	20.73	58.323				
4,700.00	4,682.42	4,634.55	4,614.33	17.10	13.21	40.06	672.93	1,267.70	1,206.54	1,185.18	21.36	56.492				
4,800.00	4,781.62	4,750.31	4,729.36	17.50	13.64	41.06	664.18	1,277.29	1,202.07	1,180.14	21.92	54.827				
4,900.00	4,880.81	4,857.13	4,835.73	17.89	14.03	41.89	657.71	1,284.52	1,196.95	1,174.48	22.46	53.283				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Bus Driver/Kaston Fed Com - Kaston Fed Com 703H - OH - Plan #9		Offset Site Error:	0.00 usft
Survey Program:													112-OWSG (Rev2) MWD, 1409-OWSG (Rev2) MWD, 11286-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	4,980.00	4,967.96	4,946.13	18.29	14.44	42.77	650.53	1,291.23	1,191.25	1,168.24	23.01	51.765				
5,100.00	5,079.19	5,073.88	5,051.71	18.68	14.82	43.59	643.97	1,296.55	1,184.89	1,161.34	23.55	50.318				
5,200.00	5,178.39	5,170.29	5,147.87	19.08	15.17	44.32	638.62	1,301.04	1,178.58	1,154.51	24.06	48.979				
5,300.00	5,277.58	5,268.82	5,246.15	19.48	15.52	45.06	633.23	1,305.63	1,172.50	1,147.92	24.58	47.696				
5,400.00	5,376.77	5,361.89	5,338.95	19.87	15.86	45.77	628.06	1,310.26	1,166.90	1,141.81	25.09	46.504				
5,500.00	5,475.96	5,451.46	5,428.25	20.27	16.18	46.47	623.17	1,315.20	1,162.06	1,136.47	25.60	45.401				
5,600.00	5,575.16	5,534.00	5,510.40	20.67	16.49	47.17	617.88	1,321.17	1,158.83	1,132.74	26.08	44.428				
5,700.00	5,674.35	5,638.23	5,614.01	21.07	16.89	48.12	610.00	1,329.44	1,156.34	1,129.71	26.63	43.419				
5,800.00	5,773.54	5,743.30	5,718.44	21.47	17.29	49.12	601.26	1,336.99	1,153.25	1,126.07	27.19	42.422				
5,900.00	5,872.73	5,840.80	5,815.37	21.87	17.66	50.04	593.24	1,343.76	1,150.27	1,122.55	27.72	41.497				
6,000.00	5,971.93	5,936.45	5,910.50	22.27	18.03	50.92	585.91	1,350.44	1,147.72	1,119.48	28.25	40.632				
6,100.00	6,071.12	6,031.10	6,004.65	22.67	18.39	51.78	578.95	1,357.29	1,145.78	1,117.00	28.77	39.824				
6,200.00	6,170.31	6,126.92	6,099.95	23.07	18.76	52.66	571.94	1,364.44	1,144.34	1,115.05	29.30	39.057				
6,300.00	6,269.50	6,226.11	6,198.57	23.47	19.14	53.57	564.74	1,372.08	1,143.44	1,113.61	29.84	38.323				
6,400.00	6,368.70	6,341.88	6,313.76	23.87	19.58	54.63	556.19	1,380.01	1,142.00	1,111.59	30.42	37.542				
6,500.00	6,467.89	6,462.47	6,433.92	24.27	20.03	55.70	548.06	1,385.97	1,139.02	1,108.02	31.00	36.737				
6,600.00	6,567.08	6,580.56	6,551.84	24.67	20.45	56.60	542.79	1,389.38	1,134.44	1,102.88	31.57	35.938				
6,700.00	6,666.27	6,685.91	6,657.16	25.07	20.81	57.25	541.26	1,390.98	1,128.91	1,096.82	32.09	35.176				
6,800.00	6,765.47	6,784.93	6,756.17	25.47	21.13	57.82	540.73	1,392.22	1,123.28	1,090.67	32.61	34.449				
6,900.00	6,864.66	6,884.14	6,855.37	25.88	21.47	58.40	540.21	1,393.48	1,117.79	1,084.67	33.12	33.747				
6,982.54	6,946.53	6,966.65	6,937.87	26.21	21.74	58.88	539.77	1,394.49	1,113.30	1,079.75	33.55	33.184				
7,000.00	6,963.85	6,983.92	6,955.15	26.28	21.80	58.97	539.68	1,394.69	1,112.38	1,078.74	33.64	33.068				
7,100.00	7,063.25	7,091.49	7,062.71	26.67	22.16	59.47	539.00	1,395.82	1,107.81	1,073.65	34.16	32.429				
7,200.00	7,162.90	7,211.37	7,182.58	27.05	22.54	59.90	538.12	1,395.28	1,103.13	1,068.46	34.68	31.811				
7,300.00	7,262.74	7,318.53	7,289.72	27.41	22.87	60.16	537.20	1,393.37	1,098.47	1,063.31	35.17	31.238				
7,400.00	7,362.69	7,412.31	7,383.48	27.77	23.16	60.30	536.19	1,391.68	1,095.13	1,059.49	35.64	30.730				
7,468.32	7,431.00	7,475.41	7,446.57	28.00	23.36	89.66	535.49	1,390.90	1,093.97	1,058.01	35.96	30.425				
7,500.00	7,462.68	7,504.66	7,475.82	28.10	23.45	89.68	535.19	1,390.63	1,093.69	1,057.58	36.10	30.294				
7,600.00	7,562.68	7,602.47	7,573.62	28.44	23.76	89.70	534.79	1,389.99	1,093.02	1,056.46	36.56	29.893				
7,700.00	7,662.68	7,697.08	7,668.23	28.78	24.05	89.69	535.00	1,389.65	1,092.67	1,055.65	37.02	29.516				
7,800.00	7,762.68	7,796.58	7,767.73	29.11	24.36	89.69	534.98	1,389.59	1,092.61	1,055.13	37.48	29.149				
7,824.55	7,787.23	7,820.58	7,791.73	29.20	24.44	89.69	534.97	1,389.59	1,092.60	1,055.00	37.60	29.060				
7,900.00	7,862.68	7,894.30	7,865.45	29.45	24.68	89.69	534.98	1,389.64	1,092.66	1,054.71	37.95	28.790				
8,000.00	7,962.68	7,992.37	7,963.52	29.79	25.00	89.70	534.81	1,389.93	1,092.95	1,054.53	38.43	28.443				
8,100.00	8,062.68	8,104.12	8,075.27	30.13	25.36	89.70	534.70	1,389.65	1,092.69	1,053.79	38.91	28.084				
8,200.00	8,162.68	8,205.24	8,176.38	30.46	25.67	89.67	535.38	1,388.69	1,091.75	1,052.38	39.37	27.730				
8,300.00	8,262.68	8,297.75	8,268.89	30.80	25.96	89.63	536.01	1,388.26	1,091.29	1,051.46	39.83	27.400				
8,335.32	8,298.00	8,331.40	8,302.54	30.92	26.06	89.62	536.14	1,388.24	1,091.26	1,051.27	39.99	27.288				
8,400.00	8,362.68	8,394.78	8,365.92	31.14	26.27	89.62	536.27	1,388.30	1,091.32	1,051.03	40.29	27.084				
8,500.00	8,462.68	8,487.58	8,458.71	31.48	26.58	89.62	536.26	1,388.48	1,091.54	1,050.78	40.76	26.778				
8,600.00	8,562.68	8,575.38	8,546.50	31.82	26.88	89.64	535.82	1,389.95	1,093.17	1,051.94	41.23	26.516				
8,700.00	8,662.68	8,693.54	8,664.65	32.16	27.28	89.66	535.43	1,391.12	1,094.15	1,052.41	41.73	26.218				
8,800.00	8,762.68	8,798.41	8,769.53	32.50	27.61	89.65	535.61	1,390.96	1,093.99	1,051.78	42.21	25.917				
8,898.89	8,861.57	8,894.96	8,866.07	32.84	27.93	89.68	535.19	1,390.85	1,093.86	1,051.18	42.68	25.628				
8,900.00	8,862.68	8,896.04	8,867.15	32.85	27.94	89.68	535.18	1,390.85	1,093.86	1,051.18	42.69	25.625				
9,000.00	8,962.68	8,994.51	8,965.61	33.19	28.27	89.75	533.84	1,390.95	1,093.96	1,050.79	43.17	25.340				
9,100.00	9,062.68	9,116.95	9,088.04	33.53	28.68	89.82	532.44	1,390.18	1,093.38	1,049.71	43.67	25.035				
9,200.00	9,162.68	9,219.24	9,190.31	33.87	29.01	89.83	532.22	1,388.10	1,091.35	1,047.20	44.15	24.721				
9,300.00	9,262.68	9,316.89	9,287.93	34.22	29.32	89.88	531.34	1,386.14	1,089.34	1,044.72	44.62	24.412				
9,400.00	9,362.68	9,415.74	9,386.76	34.56	29.64	89.93	530.37	1,384.33	1,087.51	1,042.41	45.10	24.113				
9,500.00	9,462.68	9,516.74	9,487.74	34.90	29.97	89.99	529.12	1,382.46	1,085.66	1,040.08	45.58	23.818				
9,600.00	9,562.68	9,618.29	9,589.25	35.25	30.31	90.10	527.08	1,380.49	1,083.71	1,037.65	46.07	23.526				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Bus Driver/Kaston Fed Com - Kaston Fed Com 703H - OH - Plan #9		Offset Site Error:	0.00 usft
Survey Program:													112-OWSG (Rev2) MWD, 1409-OWSG (Rev2) MWD, 11286-OWSG (Rev2) MWD		Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
9,700.00	9,662.68	9,716.18	9,687.12	35.59	30.63	90.12	526.66	1,378.44	1,081.62	1,035.08	46.54	23.240				
9,800.00	9,762.68	9,809.29	9,780.21	35.93	30.92	90.08	527.42	1,377.14	1,080.22	1,033.21	47.01	22.979				
9,900.00	9,862.68	9,906.55	9,877.46	36.28	31.23	90.03	528.43	1,375.97	1,079.02	1,031.55	47.48	22.727				
10,000.00	9,962.68	10,000.77	9,971.68	36.62	31.53	90.00	528.95	1,375.44	1,078.45	1,030.50	47.95	22.493				
10,100.00	10,062.68	10,102.74	10,073.65	36.97	31.86	90.01	528.90	1,374.95	1,077.97	1,029.54	48.43	22.260				
10,200.00	10,162.68	10,202.60	10,173.50	37.31	32.20	90.07	527.66	1,374.27	1,077.29	1,028.38	48.91	22.025				
10,287.12	10,249.80	10,283.42	10,254.30	37.62	32.48	90.15	526.16	1,373.97	1,076.97	1,027.64	49.33	21.831				
10,300.00	10,262.68	10,294.85	10,265.73	37.66	32.52	90.16	525.98	1,373.97	1,076.98	1,027.59	49.39	21.804				
10,400.00	10,362.68	10,388.82	10,359.69	38.01	32.84	90.21	525.03	1,374.49	1,077.52	1,027.65	49.88	21.604				
10,500.00	10,462.68	10,493.04	10,463.91	38.35	33.20	90.21	524.97	1,375.11	1,078.12	1,027.75	50.37	21.405				
10,600.00	10,562.68	10,598.27	10,569.14	38.70	33.54	90.18	525.60	1,375.13	1,078.13	1,027.28	50.85	21.202				
10,700.00	10,662.68	10,703.78	10,674.64	39.04	33.88	90.12	526.82	1,374.69	1,077.72	1,026.39	51.33	20.995				
10,800.00	10,762.68	10,815.49	10,786.32	39.39	34.24	90.01	528.74	1,373.35	1,076.52	1,024.71	51.81	20.776				
10,900.00	10,862.68	10,909.00	10,879.81	39.74	34.54	89.94	530.17	1,372.20	1,075.27	1,022.98	52.29	20.565				
10,993.24	10,955.93	10,989.62	10,960.43	40.06	34.80	89.90	530.90	1,371.90	1,074.90	1,022.18	52.72	20.389				
11,000.00	10,962.68	10,995.78	10,966.59	40.09	34.82	89.90	530.93	1,371.90	1,074.91	1,022.16	52.75	20.377				
11,100.00	11,062.68	11,098.49	11,069.30	40.43	35.17	89.90	530.89	1,371.87	1,074.88	1,021.64	53.24	20.190				
11,149.35	11,112.03	11,145.72	11,116.53	40.60	35.33	89.91	530.61	1,371.83	1,074.83	1,021.35	53.48	20.098				
11,200.00	11,162.68	11,192.00	11,162.81	40.78	35.49	89.93	530.30	1,371.87	1,074.88	1,021.16	53.72	20.009				
11,300.00	11,262.68	11,288.56	11,259.36	41.13	35.83	89.97	529.65	1,372.32	1,075.35	1,021.14	54.21	19.837				
11,400.00	11,362.68	11,388.55	11,359.35	41.48	36.17	90.00	528.97	1,373.05	1,076.08	1,021.37	54.70	19.672				
11,500.00	11,462.68	11,488.55	11,459.34	41.82	36.52	90.04	528.30	1,373.78	1,076.80	1,021.61	55.20	19.509				
11,600.00	11,562.68	11,584.13	11,554.68	42.17	36.87	90.32	522.89	1,374.60	1,077.69	1,022.00	55.69	19.351				
11,700.00	11,662.68	11,674.58	11,642.95	42.52	37.23	91.35	503.64	1,375.75	1,079.32	1,023.12	56.20	19.205				
11,800.00	11,762.68	11,757.19	11,720.02	42.87	37.58	92.91	474.13	1,377.10	1,082.53	1,025.83	56.69	19.094				
11,900.00	11,862.68	11,830.02	11,783.84	43.22	37.90	94.75	439.16	1,378.51	1,088.43	1,031.30	57.14	19.049				
11,910.36	11,873.04	11,836.98	11,789.70	43.25	37.93	94.95	435.40	1,378.66	1,089.25	1,032.07	57.18	19.050				
11,950.00	11,912.65	11,863.22	11,811.35	43.38	38.05	-75.31	420.59	1,379.22	1,092.43	1,035.11	57.32	19.058				
12,000.00	11,962.32	11,900.00	11,840.50	43.53	38.23	-73.95	398.19	1,380.03	1,096.35	1,038.86	57.49	19.071				
12,050.00	12,011.30	11,927.91	11,861.63	43.66	38.37	-72.89	379.98	1,380.68	1,100.04	1,042.46	57.58	19.104				
12,100.00	12,059.24	11,959.57	11,884.50	43.78	38.52	-71.81	358.10	1,381.44	1,103.45	1,045.78	57.67	19.133				
12,150.00	12,105.76	11,990.86	11,905.87	43.89	38.68	-70.82	335.27	1,382.22	1,106.48	1,048.75	57.73	19.165				
12,200.00	12,150.50	12,021.82	11,925.77	43.98	38.84	-69.94	311.57	1,383.01	1,109.06	1,051.29	57.77	19.197				
12,250.00	12,193.14	12,050.00	11,942.74	44.06	38.99	-69.20	289.08	1,383.74	1,111.12	1,053.35	57.78	19.232				
12,300.00	12,233.34	12,082.92	11,961.13	44.13	39.17	-68.47	261.80	1,384.62	1,112.59	1,054.79	57.79	19.251				
12,350.00	12,270.79	12,106.19	11,973.17	44.18	39.30	-68.01	241.89	1,385.25	1,113.45	1,055.72	57.74	19.285				
12,400.00	12,305.22	12,150.00	11,993.61	44.22	39.55	-67.35	203.17	1,386.39	1,113.54	1,055.72	57.82	19.259				
12,450.00	12,336.36	12,175.96	12,004.30	44.25	39.70	-67.06	179.53	1,387.01	1,112.84	1,055.06	57.78	19.261				
12,500.00	12,363.98	12,200.00	12,013.24	44.27	39.84	-66.90	157.22	1,387.56	1,111.39	1,053.66	57.73	19.251				
12,550.00	12,387.85	12,237.71	12,025.36	44.29	40.06	-66.71	121.52	1,388.35	1,109.06	1,051.27	57.79	19.192				
12,600.00	12,407.81	12,268.38	12,033.46	44.29	40.25	-66.71	91.96	1,388.93	1,105.92	1,048.11	57.81	19.129				
12,650.00	12,423.70	12,300.00	12,040.15	44.30	40.44	-66.83	61.06	1,389.46	1,101.95	1,044.09	57.87	19.043				
12,700.00	12,435.40	12,329.41	12,044.84	44.31	40.62	-67.09	32.03	1,389.90	1,097.16	1,039.22	57.94	18.937				
12,750.00	12,442.82	12,359.82	12,048.11	44.34	40.81	-67.47	1.80	1,390.29	1,091.56	1,033.52	58.04	18.808				
12,800.00	12,445.90	12,390.20	12,049.77	44.41	41.00	-67.97	-28.52	1,390.62	1,085.18	1,027.01	58.17	18.655				
12,810.36	12,446.00	12,400.00	12,049.97	44.42	41.06	-68.08	-38.32	1,390.72	1,083.78	1,025.56	58.21	18.617				
12,900.00	12,446.00	12,479.13	12,050.00	44.59	41.57	-67.96	-117.45	1,391.41	1,073.14	1,014.55	58.59	18.315				
13,000.00	12,446.00	12,578.68	12,050.00	44.83	42.26	-67.84	-217.00	1,392.28	1,064.41	1,005.28	59.13	18.001				
13,100.00	12,446.00	12,678.50	12,050.00	45.12	43.00	-67.76	-316.81	1,393.16	1,058.91	999.15	59.76	17.720				
13,200.00	12,446.00	12,778.47	12,050.00	45.46	43.80	-67.73	-416.77	1,394.03	1,056.64	996.17	60.47	17.473				
13,217.18	12,446.00	12,795.64	12,050.00	45.52	43.94	-67.73	-433.95	1,394.18	1,056.58	995.97	60.60	17.435				
13,300.00	12,446.00	12,878.47	12,050.00	45.84	44.64	-67.72	-516.77	1,394.91	1,056.49	995.22	61.27	17.244				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 112-OWSG (Rev2) MWD, 1409-OWSG (Rev2) MWD, 11286-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		
13,400.00	12,446.00	12,978.47	12,050.00	46.27	45.52	-67.72	-616.77	1,395.78	1,056.39	994.26	62.13	17.002		
13,500.00	12,446.00	13,078.47	12,050.00	46.75	46.45	-67.72	-716.76	1,396.66	1,056.29	993.23	63.06	16.751		
13,600.00	12,446.00	13,178.47	12,050.00	47.29	47.41	-67.72	-816.76	1,397.54	1,056.19	992.15	64.05	16.490		
13,700.00	12,446.00	13,278.47	12,050.00	47.87	48.41	-67.71	-916.75	1,398.41	1,056.09	991.00	65.10	16.224		
13,800.00	12,446.00	13,378.47	12,050.00	48.50	49.45	-67.71	-1,016.75	1,399.29	1,055.99	989.79	66.20	15.952		
13,900.00	12,446.00	13,478.47	12,050.00	49.18	50.52	-67.71	-1,116.75	1,400.16	1,055.90	988.54	67.36	15.676		
14,000.00	12,446.00	13,578.47	12,050.00	49.90	51.62	-67.71	-1,216.74	1,401.04	1,055.80	987.23	68.56	15.399		
14,100.00	12,446.00	13,678.47	12,050.00	50.66	52.75	-67.71	-1,316.74	1,401.92	1,055.70	985.88	69.82	15.120		
14,200.00	12,446.00	13,778.47	12,050.00	51.47	53.90	-67.70	-1,416.73	1,402.79	1,055.60	984.48	71.12	14.842		
14,300.00	12,446.00	13,878.47	12,050.00	52.31	55.08	-67.70	-1,516.73	1,403.67	1,055.50	983.03	72.46	14.566		
14,400.00	12,446.00	13,978.47	12,050.00	53.19	56.29	-67.70	-1,616.73	1,404.55	1,055.40	981.55	73.85	14.292		
14,500.00	12,446.00	14,078.47	12,050.00	54.11	57.51	-67.70	-1,716.72	1,405.42	1,055.30	980.03	75.27	14.020		
14,600.00	12,446.00	14,178.47	12,050.00	55.06	58.76	-67.69	-1,816.72	1,406.30	1,055.20	978.47	76.73	13.753		
14,700.00	12,446.00	14,278.47	12,050.00	56.05	60.03	-67.69	-1,916.71	1,407.17	1,055.10	976.88	78.22	13.489		
14,800.00	12,446.00	14,378.47	12,050.00	57.06	61.31	-67.69	-2,016.71	1,408.05	1,055.00	975.26	79.74	13.231		
14,900.00	12,446.00	14,478.47	12,050.00	58.11	62.61	-67.69	-2,116.71	1,408.93	1,054.90	973.61	81.29	12.976		
15,000.00	12,446.00	14,578.47	12,050.00	59.18	63.93	-67.69	-2,216.70	1,409.80	1,054.80	971.92	82.88	12.728		
15,100.00	12,446.00	14,678.47	12,050.00	60.28	65.27	-67.68	-2,316.70	1,410.68	1,054.70	970.22	84.48	12.484		
15,200.00	12,446.00	14,778.47	12,050.00	61.40	66.61	-67.68	-2,416.70	1,411.55	1,054.60	968.49	86.11	12.246		
15,300.00	12,446.00	14,878.47	12,050.00	62.54	67.98	-67.68	-2,516.69	1,412.43	1,054.50	966.73	87.77	12.014		
15,400.00	12,446.00	14,978.47	12,050.00	63.71	69.35	-67.68	-2,616.69	1,413.31	1,054.40	964.95	89.45	11.787		
15,500.00	12,446.00	15,078.47	12,050.00	64.90	70.73	-67.67	-2,716.68	1,414.18	1,054.30	963.15	91.15	11.566		
15,600.00	12,446.00	15,178.47	12,050.00	66.11	72.13	-67.67	-2,816.68	1,415.06	1,054.20	961.33	92.87	11.351		
15,700.00	12,446.00	15,278.47	12,050.00	67.34	73.54	-67.67	-2,916.68	1,415.93	1,054.10	959.49	94.61	11.141		
15,800.00	12,446.00	15,378.47	12,050.00	68.58	74.96	-67.67	-3,016.67	1,416.81	1,054.00	957.64	96.37	10.937		
15,900.00	12,446.00	15,478.47	12,050.00	69.84	76.38	-67.67	-3,116.67	1,417.69	1,053.90	955.76	98.14	10.739		
16,000.00	12,446.00	15,578.47	12,050.00	71.12	77.82	-67.66	-3,216.66	1,418.56	1,053.80	953.87	99.93	10.545		
16,100.00	12,446.00	15,678.47	12,050.00	72.41	79.26	-67.66	-3,316.66	1,419.44	1,053.70	951.97	101.73	10.357		
16,200.00	12,446.00	15,778.47	12,050.00	73.72	80.71	-67.66	-3,416.66	1,420.31	1,053.60	950.05	103.55	10.175		
16,300.00	12,446.00	15,878.47	12,050.00	75.04	82.17	-67.66	-3,516.65	1,421.19	1,053.51	948.12	105.38	9.997		
16,400.00	12,446.00	15,978.47	12,050.00	76.37	83.64	-67.65	-3,616.65	1,422.07	1,053.41	946.18	107.23	9.824		
16,500.00	12,446.00	16,078.47	12,050.00	77.72	85.11	-67.65	-3,716.64	1,422.94	1,053.31	944.22	109.09	9.656		
16,600.00	12,446.00	16,178.46	12,050.00	79.08	86.59	-67.65	-3,816.64	1,423.82	1,053.21	942.25	110.95	9.492		
16,700.00	12,446.00	16,278.46	12,050.00	80.45	88.08	-67.65	-3,916.64	1,424.70	1,053.11	940.28	112.83	9.334		
16,800.00	12,446.00	16,378.46	12,050.00	81.82	89.57	-67.65	-4,016.63	1,425.57	1,053.01	938.29	114.72	9.179		
16,900.00	12,446.00	16,478.46	12,050.00	83.21	91.07	-67.64	-4,116.63	1,426.45	1,052.91	936.29	116.62	9.029		
17,000.00	12,446.00	16,578.46	12,050.00	84.61	92.57	-67.64	-4,216.63	1,427.32	1,052.81	934.29	118.52	8.883		
17,100.00	12,446.00	16,678.46	12,050.00	86.02	94.08	-67.64	-4,316.62	1,428.20	1,052.71	932.27	120.44	8.741		
17,200.00	12,446.00	16,778.46	12,050.00	87.43	95.59	-67.64	-4,416.62	1,429.08	1,052.61	930.25	122.36	8.602		
17,300.00	12,446.00	16,878.46	12,050.00	88.86	97.10	-67.63	-4,516.61	1,429.95	1,052.51	928.22	124.29	8.468		
17,400.00	12,446.00	16,978.46	12,050.00	90.29	98.63	-67.63	-4,616.61	1,430.83	1,052.41	926.18	126.23	8.337		
17,500.00	12,446.00	17,078.46	12,050.00	91.73	100.15	-67.63	-4,716.61	1,431.70	1,052.31	924.13	128.18	8.210		
17,600.00	12,446.00	17,178.46	12,050.00	93.17	101.68	-67.63	-4,816.60	1,432.58	1,052.21	922.08	130.13	8.086		
17,700.00	12,446.00	17,278.46	12,050.00	94.63	103.21	-67.63	-4,916.60	1,433.46	1,052.11	920.02	132.09	7.965		
17,800.00	12,446.00	17,378.46	12,050.00	96.09	104.75	-67.62	-5,016.59	1,434.33	1,052.01	917.95	134.06	7.847		
17,900.00	12,446.00	17,478.46	12,050.00	97.55	106.29	-67.62	-5,116.59	1,435.21	1,051.91	915.89	136.03	7.733		
18,000.00	12,446.00	17,578.46	12,050.00	99.02	107.83	-67.62	-5,216.59	1,436.08	1,051.81	913.81	138.00	7.622		
18,100.00	12,446.00	17,678.46	12,050.00	100.50	109.38	-67.62	-5,316.58	1,436.96	1,051.71	911.73	139.99	7.513		
18,200.00	12,446.00	17,778.46	12,050.00	101.98	110.93	-67.61	-5,416.58	1,437.84	1,051.61	909.64	141.97	7.407		
18,300.00	12,446.00	17,878.46	12,050.00	103.47	112.48	-67.61	-5,516.57	1,438.71	1,051.51	907.55	143.96	7.304		
18,400.00	12,446.00	17,978.46	12,050.00	104.96	114.03	-67.61	-5,616.57	1,439.59	1,051.41	905.46	145.96	7.204		
18,500.00	12,446.00	18,078.46	12,050.00	106.46	115.59	-67.61	-5,716.57	1,440.46	1,051.32	903.36	147.96	7.106		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Bus Driver/Kaston Fed Com - Kaston Fed Com 703H - OH - Plan #9		Offset Site Error:	0.00 usft
Survey Program:													112-OWSG (Rev2) MWD, 1409-OWSG (Rev2) MWD, 11286-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	12,446.00	18,178.46	12,050.00	107.96	117.15	-67.61	-5,816.56	1,441.34	1,051.22	901.25	149.96	7.010				
18,700.00	12,446.00	18,278.46	12,050.00	109.46	118.71	-67.60	-5,916.56	1,442.22	1,051.12	899.15	151.97	6.917				
18,800.00	12,446.00	18,378.46	12,050.00	110.97	120.28	-67.60	-6,016.56	1,443.09	1,051.02	897.03	153.98	6.826				
18,900.00	12,446.00	18,478.46	12,050.00	112.49	121.85	-67.60	-6,116.55	1,443.97	1,050.92	894.92	156.00	6.737				
19,000.00	12,446.00	18,578.46	12,050.00	114.00	123.42	-67.60	-6,216.55	1,444.85	1,050.82	892.80	158.02	6.650				
19,100.00	12,446.00	18,678.46	12,050.00	115.53	124.99	-67.59	-6,316.54	1,445.72	1,050.72	890.68	160.04	6.565				
19,200.00	12,446.00	18,778.46	12,050.00	117.05	126.56	-67.59	-6,416.54	1,446.60	1,050.62	888.56	162.06	6.483				
19,300.00	12,446.00	18,878.46	12,050.00	118.58	128.14	-67.59	-6,516.54	1,447.47	1,050.52	886.43	164.09	6.402				
19,400.00	12,446.00	18,978.46	12,050.00	120.11	129.71	-67.59	-6,616.53	1,448.35	1,050.42	884.30	166.12	6.323				
19,500.00	12,446.00	19,078.46	12,050.00	121.64	131.29	-67.59	-6,716.53	1,449.23	1,050.32	882.17	168.15	6.246				
19,600.00	12,446.00	19,178.46	12,050.00	123.18	132.87	-67.58	-6,816.52	1,450.10	1,050.22	880.03	170.19	6.171				
19,700.00	12,446.00	19,278.46	12,050.00	124.72	134.46	-67.58	-6,916.52	1,450.98	1,050.12	877.89	172.23	6.097				
19,800.00	12,446.00	19,378.46	12,050.00	126.27	136.04	-67.58	-7,016.52	1,451.85	1,050.02	875.75	174.27	6.025				
19,900.00	12,446.00	19,478.46	12,050.00	127.81	137.63	-67.58	-7,116.51	1,452.73	1,049.92	873.61	176.31	5.955				
20,000.00	12,446.00	19,578.46	12,050.00	129.36	139.21	-67.57	-7,216.51	1,453.61	1,049.82	871.47	178.36	5.886				
20,100.00	12,446.00	19,678.46	12,050.00	130.91	140.80	-67.57	-7,316.50	1,454.48	1,049.72	869.32	180.40	5.819				
20,200.00	12,446.00	19,778.46	12,050.00	132.46	142.39	-67.57	-7,416.50	1,455.36	1,049.62	867.17	182.45	5.753				
20,300.00	12,446.00	19,878.46	12,050.00	134.02	143.98	-67.57	-7,516.50	1,456.23	1,049.52	865.02	184.50	5.688				
20,400.00	12,446.00	19,978.46	12,050.00	135.58	145.58	-67.56	-7,616.49	1,457.11	1,049.42	862.87	186.55	5.625				
20,500.00	12,446.00	20,078.46	12,050.00	137.14	147.17	-67.56	-7,716.49	1,457.99	1,049.32	860.72	188.61	5.564				
20,600.00	12,446.00	20,178.46	12,050.00	138.70	148.77	-67.56	-7,816.49	1,458.86	1,049.23	858.56	190.66	5.503				
20,700.00	12,446.00	20,278.46	12,050.00	140.27	150.36	-67.56	-7,916.48	1,459.74	1,049.13	856.41	192.72	5.444				
20,800.00	12,446.00	20,378.46	12,050.00	141.83	151.96	-67.56	-8,016.48	1,460.61	1,049.03	854.25	194.78	5.386				
20,900.00	12,446.00	20,478.46	12,050.00	143.40	153.56	-67.55	-8,116.47	1,461.49	1,048.93	852.09	196.84	5.329				
21,000.00	12,446.00	20,578.46	12,050.00	144.97	155.16	-67.55	-8,216.47	1,462.37	1,048.83	849.93	198.90	5.273				
21,100.00	12,446.00	20,678.46	12,050.00	146.54	156.76	-67.55	-8,316.47	1,463.24	1,048.73	847.77	200.96	5.219				
21,200.00	12,446.00	20,778.46	12,050.00	148.12	158.36	-67.55	-8,416.46	1,464.12	1,048.63	845.61	203.02	5.165				
21,300.00	12,446.00	20,878.46	12,050.00	149.69	159.97	-67.54	-8,516.46	1,465.00	1,048.53	843.44	205.09	5.113				
21,400.00	12,446.00	20,978.46	12,050.00	151.27	161.57	-67.54	-8,616.45	1,465.87	1,048.43	841.28	207.15	5.061				
21,500.00	12,446.00	21,078.46	12,050.00	152.85	163.18	-67.54	-8,716.45	1,466.75	1,048.33	839.11	209.22	5.011				
21,600.00	12,446.00	21,178.46	12,050.00	154.43	164.78	-67.54	-8,816.45	1,467.62	1,048.23	836.95	211.28	4.961				
21,700.00	12,446.00	21,278.46	12,050.00	156.01	166.39	-67.54	-8,916.44	1,468.50	1,048.13	834.78	213.35	4.913				
21,800.00	12,446.00	21,378.46	12,050.00	157.59	168.00	-67.53	-9,016.44	1,469.38	1,048.03	832.61	215.42	4.865				
21,900.00	12,446.00	21,478.46	12,050.00	159.18	169.61	-67.53	-9,116.43	1,470.25	1,047.93	830.44	217.49	4.818				
22,000.00	12,446.00	21,578.46	12,050.00	160.76	171.21	-67.53	-9,216.43	1,471.13	1,047.83	828.27	219.56	4.772				
22,100.00	12,446.00	21,678.46	12,050.00	162.35	172.82	-67.53	-9,316.43	1,472.00	1,047.73	826.10	221.63	4.727				
22,200.00	12,446.00	21,778.46	12,050.00	163.94	174.44	-67.52	-9,416.42	1,472.88	1,047.63	823.93	223.70	4.683				
22,300.00	12,446.00	21,878.46	12,050.00	165.53	176.05	-67.52	-9,516.42	1,473.76	1,047.53	821.76	225.77	4.640				
22,400.00	12,446.00	21,978.46	12,050.00	167.12	177.66	-67.52	-9,616.41	1,474.63	1,047.43	819.59	227.85	4.597				
22,500.00	12,446.00	22,078.46	12,050.00	168.71	179.27	-67.52	-9,716.41	1,475.51	1,047.34	817.42	229.92	4.555				
22,600.00	12,446.00	22,178.46	12,050.00	170.30	180.89	-67.52	-9,816.41	1,476.38	1,047.24	815.24	231.99	4.514				
22,700.00	12,446.00	22,278.46	12,050.00	171.90	182.50	-67.51	-9,916.40	1,477.26	1,047.14	813.07	234.07	4.474				
22,800.00	12,446.00	22,378.46	12,050.00	173.49	184.12	-67.51	-10,016.40	1,478.14	1,047.04	810.90	236.14	4.434				
22,900.00	12,446.00	22,478.46	12,050.00	175.09	185.73	-67.51	-10,116.40	1,479.01	1,046.94	808.72	238.21	4.395				
23,000.00	12,446.00	22,578.46	12,050.00	176.69	187.35	-67.51	-10,216.39	1,479.89	1,046.84	806.55	240.29	4.357				
23,100.00	12,446.00	22,678.46	12,050.00	178.28	188.97	-67.50	-10,316.39	1,480.76	1,046.74	804.38	242.36	4.319				
23,200.00	12,446.00	22,778.46	12,050.00	179.88	190.58	-67.50	-10,416.38	1,481.64	1,046.64	802.20	244.44	4.282				
23,300.00	12,446.00	22,878.46	12,050.00	181.48	192.20	-67.50	-10,516.38	1,482.52	1,046.54	800.03	246.51	4.245				
23,400.00	12,446.00	22,978.46	12,050.00	183.08	193.82	-67.50	-10,616.38	1,483.39	1,046.44	797.85	248.59	4.210				
23,500.00	12,446.00	23,078.46	12,050.00	184.69	195.44	-67.50	-10,716.37	1,484.27	1,046.34	795.68	250.66	4.174				
23,600.00	12,446.00	23,178.46	12,050.00	186.29	197.06	-67.49	-10,816.37	1,485.15	1,046.24	793.50	252.74	4.140				
23,700.00	12,446.00	23,278.46	12,050.00	187.89	198.68	-67.49	-10,916.36	1,486.02	1,046.14	791.33	254.82	4.105				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 usft
Bus Driver/Kaston Fed Com - Kaston Fed Com 703H - OH - Plan #9												Offset Well Error:	0.00 usft
Survey Program: 112-OWSG (Rev2) MWD, 1409-OWSG (Rev2) MWD, 11286-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
23,800.00	12,446.00	23,378.46	12,050.00	189.50	200.30	-67.49	-11,016.36	1,486.90	1,046.04	789.15	256.89	4.072	
23,900.00	12,446.00	23,478.46	12,050.00	191.10	201.78	-67.49	-11,116.36	1,487.77	1,045.94	787.08	258.86	4.041	
23,927.27	12,446.00	23,504.65	12,050.00	191.54	202.16	-67.49	-11,142.54	1,488.00	1,045.92	786.53	259.39	4.032 CC	
23,929.64	12,446.00	23,504.65	12,050.00	191.58	202.16	-67.49	-11,142.54	1,488.00	1,045.92	786.49	259.43	4.032 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 PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	17.00	17.00	0.00	0.02	-45.39	817.22	-828.32	1,163.60					
100.00	100.00	117.00	117.00	0.13	0.19	-45.39	817.22	-828.32	1,163.60	1,163.37	0.22	5,178.529		
200.00	200.00	217.00	217.00	0.48	0.54	-45.39	817.22	-828.32	1,163.60	1,162.87	0.73	1,596.689		
300.00	300.00	317.00	317.00	0.84	0.90	-45.39	817.22	-828.32	1,163.60	1,162.36	1.24	942.040		
400.00	400.00	417.00	417.00	1.20	1.26	-45.39	817.22	-828.32	1,163.60	1,161.86	1.74	667.995		
500.00	500.00	517.00	517.00	1.56	1.62	-45.39	817.22	-828.32	1,163.60	1,161.35	2.25	517.439		
600.00	600.00	617.00	617.00	1.92	1.98	-45.39	817.22	-828.32	1,163.60	1,160.84	2.76	422.260		
700.00	700.00	717.00	717.00	2.28	2.34	-45.39	817.22	-828.32	1,163.60	1,160.33	3.26	356.654		
800.00	800.00	817.00	817.00	2.63	2.70	-45.39	817.22	-828.32	1,163.60	1,159.83	3.77	308.691		
900.00	900.00	917.00	917.00	2.99	3.05	-45.39	817.22	-828.32	1,163.60	1,159.32	4.28	272.098		
1,000.00	1,000.00	1,017.00	1,017.00	3.35	3.41	-45.39	817.22	-828.32	1,163.60	1,158.81	4.78	243.262		
1,100.00	1,100.00	1,117.00	1,117.00	3.71	3.77	-45.39	817.22	-828.32	1,163.60	1,158.31	5.29	219.951		
1,200.00	1,200.00	1,217.00	1,217.00	4.07	4.13	-45.39	817.22	-828.32	1,163.60	1,157.80	5.80	200.717		
1,300.00	1,300.00	1,317.00	1,317.00	4.43	4.49	-45.39	817.22	-828.32	1,163.60	1,157.29	6.30	184.577		
1,400.00	1,400.00	1,417.00	1,417.00	4.79	4.85	-45.39	817.22	-828.32	1,163.60	1,156.79	6.81	170.839		
1,500.00	1,500.00	1,517.00	1,517.00	5.14	5.21	-45.39	817.22	-828.32	1,163.60	1,156.28	7.32	159.004		
1,600.00	1,600.00	1,617.00	1,617.00	5.50	5.56	-45.39	817.22	-828.32	1,163.60	1,155.77	7.82	148.703		
1,700.00	1,700.00	1,717.00	1,717.00	5.86	5.92	-45.39	817.22	-828.32	1,163.60	1,155.27	8.33	139.655		
1,800.00	1,800.00	1,817.00	1,817.00	6.22	6.28	-45.39	817.22	-828.32	1,163.60	1,154.76	8.84	131.645		
1,900.00	1,900.00	1,917.00	1,917.00	6.58	6.64	-45.39	817.22	-828.32	1,163.60	1,154.25	9.35	124.505		
2,000.00	2,000.00	2,017.00	2,017.00	6.94	7.00	-45.39	817.22	-828.32	1,163.60	1,153.74	9.85	118.098		
2,100.00	2,100.00	2,117.00	2,117.00	7.29	7.36	-45.39	817.22	-828.32	1,163.60	1,153.24	10.36	112.319		
2,200.00	2,200.00	2,217.00	2,217.00	7.65	7.71	-45.39	817.22	-828.32	1,163.60	1,152.73	10.87	107.079		
2,300.00	2,299.99	2,316.99	2,316.99	8.01	8.07	-74.77	817.22	-828.32	1,163.25	1,151.88	11.37	102.285		
2,400.00	2,399.91	2,416.91	2,416.91	8.37	8.43	-74.97	817.22	-828.32	1,162.23	1,150.35	11.88	97.850		
2,500.00	2,499.69	2,516.69	2,516.69	8.72	8.79	-75.30	817.22	-828.32	1,160.55	1,148.16	12.38	93.724		
2,600.00	2,599.27	2,616.27	2,616.27	9.08	9.15	-75.77	817.22	-828.32	1,158.25	1,145.36	12.89	89.870		
2,685.78	2,684.47	2,701.47	2,701.47	9.39	9.45	-76.28	817.22	-828.32	1,155.84	1,142.52	13.32	86.757		
2,700.00	2,698.58	2,715.58	2,715.58	9.44	9.50	-76.37	817.22	-828.32	1,155.41	1,142.01	13.39	86.258		
2,800.00	2,797.77	2,814.77	2,814.77	9.81	9.86	-76.97	817.22	-828.32	1,152.46	1,138.56	13.90	82.888		
2,900.00	2,896.96	2,913.96	2,913.96	10.17	10.21	-77.59	817.22	-828.32	1,149.65	1,135.23	14.41	79.754		
3,000.00	2,996.15	3,013.15	3,013.15	10.54	10.57	-78.20	817.22	-828.32	1,146.97	1,132.04	14.93	76.832		
3,100.00	3,095.35	3,112.35	3,112.35	10.92	10.92	-78.82	817.22	-828.32	1,144.42	1,128.98	15.44	74.104		
3,200.00	3,194.54	3,211.54	3,211.54	11.29	11.28	-79.44	817.22	-828.32	1,142.01	1,126.05	15.96	71.554		
3,300.00	3,293.73	3,310.73	3,310.73	11.67	11.64	-80.06	817.22	-828.32	1,139.73	1,123.26	16.48	69.165		
3,400.00	3,392.92	3,409.92	3,409.92	12.05	11.99	-80.68	817.22	-828.32	1,137.60	1,120.60	17.00	66.924		
3,500.00	3,492.12	3,509.12	3,509.12	12.43	12.35	-81.31	817.22	-828.32	1,135.59	1,118.07	17.52	64.819		
3,600.00	3,591.31	3,608.31	3,608.31	12.81	12.70	-81.94	817.22	-828.32	1,133.73	1,115.69	18.04	62.840		
3,700.00	3,690.50	3,707.50	3,707.50	13.20	13.06	-82.57	817.22	-828.32	1,132.01	1,113.44	18.57	60.975		
3,800.00	3,789.69	3,813.33	3,813.32	13.58	13.42	-83.30	816.16	-828.75	1,130.17	1,111.08	19.09	59.195		
3,900.00	3,888.89	3,919.27	3,919.18	13.97	13.76	-84.17	812.41	-830.28	1,127.87	1,108.27	19.61	57.522		
4,000.00	3,988.08	4,024.16	4,023.84	14.36	14.10	-85.19	806.02	-832.90	1,125.24	1,105.12	20.12	55.919		
4,100.00	4,087.27	4,123.66	4,122.97	14.75	14.43	-86.25	798.10	-836.13	1,122.55	1,101.92	20.63	54.416		
4,200.00	4,186.46	4,221.38	4,220.32	15.14	14.75	-87.31	790.22	-839.35	1,120.24	1,099.10	21.13	53.005		
4,300.00	4,285.66	4,319.10	4,317.67	15.53	15.08	-88.36	782.34	-842.57	1,118.32	1,096.68	21.64	51.673		
4,400.00	4,384.85	4,416.82	4,415.02	15.92	15.41	-89.42	774.47	-845.79	1,116.80	1,094.65	22.15	50.416		
4,500.00	4,484.04	4,514.54	4,512.36	16.31	15.74	-90.49	766.59	-849.00	1,115.68	1,093.02	22.66	49.229		
4,600.00	4,583.23	4,612.26	4,609.71	16.71	16.07	-91.55	758.71	-852.22	1,114.97	1,091.79	23.18	48.108		
4,700.00	4,682.42	4,709.98	4,707.06	17.10	16.40	-92.62	750.84	-855.44	1,114.66	1,090.97	23.69	47.050		
4,726.24	4,708.45	4,735.62	4,732.60	17.20	16.49	-92.90	748.77	-856.29	1,114.65	1,090.82	23.83	46.782 CC		
4,800.00	4,781.62	4,807.70	4,804.41	17.50	16.74	-93.69	742.96	-858.66	1,114.76	1,090.55	24.21	46.051		
4,900.00	4,880.81	4,905.42	4,901.76	17.89	17.08	-94.75	735.08	-861.88	1,115.26	1,090.54	24.72	45.108 ES		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,000.00	4,980.00	5,003.14	4,999.11	18.29	17.41	-95.82	727.20	-865.10	1,116.16	1,090.92	25.24	44.218		
5,100.00	5,079.19	5,100.86	5,096.46	18.68	17.76	-96.88	719.33	-868.31	1,117.47	1,091.71	25.76	43.378		
5,200.00	5,178.39	5,198.58	5,193.80	19.08	18.10	-97.94	711.45	-871.53	1,119.18	1,092.90	26.28	42.585		
5,300.00	5,277.58	5,296.30	5,291.15	19.48	18.44	-99.00	703.57	-874.75	1,121.29	1,094.49	26.80	41.838		
5,400.00	5,376.77	5,394.02	5,388.50	19.87	18.79	-100.05	695.70	-877.97	1,123.79	1,096.47	27.32	41.132		
5,500.00	5,475.96	5,491.74	5,485.85	20.27	19.13	-101.10	687.82	-881.19	1,126.69	1,098.85	27.84	40.467		
5,600.00	5,575.16	5,589.46	5,583.20	20.67	19.48	-102.14	679.94	-884.41	1,129.98	1,101.62	28.36	39.839		
5,700.00	5,674.35	5,687.18	5,680.55	21.07	19.83	-103.17	672.07	-887.62	1,133.66	1,104.78	28.88	39.248		
5,800.00	5,773.54	5,784.90	5,777.90	21.47	20.18	-104.20	664.19	-890.84	1,137.73	1,108.32	29.41	38.691		
5,900.00	5,872.73	5,882.62	5,875.24	21.87	20.53	-105.23	656.31	-894.06	1,142.17	1,112.25	29.93	38.166		
6,000.00	5,971.93	5,980.33	5,972.59	22.27	20.88	-106.24	648.44	-897.28	1,146.99	1,116.55	30.45	37.671		
6,100.00	6,071.12	6,078.05	6,069.94	22.67	21.23	-107.24	640.56	-900.50	1,152.18	1,121.22	30.97	37.206		
6,200.00	6,170.31	6,175.77	6,167.29	23.07	21.59	-108.24	632.68	-903.72	1,157.74	1,126.25	31.49	36.767		
6,300.00	6,269.50	6,273.49	6,264.64	23.47	21.94	-109.23	624.81	-906.93	1,163.66	1,131.65	32.01	36.355		
6,400.00	6,368.70	6,371.21	6,361.99	23.87	22.30	-110.21	616.93	-910.15	1,169.94	1,137.41	32.53	35.968		
6,500.00	6,467.89	6,468.93	6,459.34	24.27	22.65	-111.17	609.05	-913.37	1,176.56	1,143.51	33.05	35.603		
6,600.00	6,567.08	6,566.65	6,556.68	24.67	23.01	-112.13	601.18	-916.59	1,183.53	1,149.96	33.56	35.261		
6,700.00	6,666.27	6,664.37	6,654.03	25.07	23.37	-113.07	593.30	-919.81	1,190.83	1,156.75	34.08	34.940		
6,800.00	6,765.47	6,762.09	6,751.38	25.47	23.72	-114.01	585.42	-923.03	1,198.47	1,163.87	34.60	34.639		
6,900.00	6,864.66	6,859.81	6,848.73	25.88	24.08	-114.93	577.55	-926.24	1,206.44	1,171.32	35.12	34.356		
6,982.54	6,946.53	6,940.47	6,929.08	26.21	24.38	-115.68	571.04	-928.90	1,213.25	1,177.71	35.54	34.136		
7,000.00	6,963.85	6,957.54	6,946.09	26.28	24.44	-115.86	569.67	-929.46	1,214.70	1,179.07	35.63	34.090		
7,100.00	7,063.25	7,055.62	7,043.79	26.67	24.80	-116.79	561.76	-932.69	1,222.50	1,186.36	36.14	33.823		
7,200.00	7,162.90	7,154.17	7,141.97	27.05	25.16	-117.60	553.82	-935.94	1,229.36	1,192.71	36.65	33.543		
7,300.00	7,262.74	7,253.13	7,240.55	27.41	25.53	-118.29	545.84	-939.20	1,235.17	1,198.01	37.15	33.247		
7,400.00	7,362.69	7,352.43	7,339.48	27.77	25.90	-118.85	537.84	-942.47	1,239.86	1,202.21	37.65	32.933		
7,468.32	7,431.00	7,420.43	7,407.22	28.00	26.15	-89.85	532.36	-944.71	1,242.38	1,204.40	37.98	32.708		
7,500.00	7,462.68	7,452.00	7,438.66	28.10	26.26	-89.96	529.81	-945.75	1,243.42	1,205.28	38.14	32.602		
7,600.00	7,562.68	7,565.36	7,551.72	28.44	26.68	-90.32	522.13	-948.89	1,246.22	1,207.54	38.67	32.223		
7,700.00	7,662.68	7,679.65	7,665.89	28.78	27.09	-90.53	517.52	-950.77	1,247.90	1,208.69	39.21	31.827		
7,800.00	7,762.68	7,794.13	7,780.36	29.11	27.49	-90.59	516.08	-951.36	1,248.42	1,208.69	39.73	31.419		
7,831.84	7,794.52	7,825.29	7,811.52	29.22	27.59	-90.59	516.08	-951.36	1,248.42	1,208.54	39.89	31.300		
7,900.00	7,862.68	7,893.45	7,879.68	29.45	27.83	-90.59	516.08	-951.36	1,248.42	1,208.21	40.21	31.044		
8,000.00	7,962.68	7,993.45	7,979.68	29.79	28.17	-90.59	516.08	-951.36	1,248.42	1,207.73	40.70	30.676		
8,100.00	8,062.68	8,093.45	8,079.68	30.13	28.51	-90.59	516.08	-951.36	1,248.42	1,207.24	41.18	30.316		
8,200.00	8,162.68	8,193.45	8,179.68	30.46	28.85	-90.59	516.08	-951.36	1,248.42	1,206.76	41.66	29.964		
8,300.00	8,262.68	8,293.45	8,279.68	30.80	29.19	-90.59	516.08	-951.36	1,248.42	1,206.27	42.15	29.619		
8,400.00	8,362.68	8,393.45	8,379.68	31.14	29.54	-90.59	516.08	-951.36	1,248.42	1,205.79	42.63	29.282		
8,500.00	8,462.68	8,493.45	8,479.68	31.48	29.88	-90.59	516.08	-951.36	1,248.42	1,205.30	43.12	28.952		
8,600.00	8,562.68	8,593.45	8,579.68	31.82	30.23	-90.59	516.08	-951.36	1,248.42	1,204.82	43.61	28.630		
8,700.00	8,662.68	8,693.45	8,679.68	32.16	30.57	-90.59	516.08	-951.36	1,248.42	1,204.33	44.09	28.314		
8,800.00	8,762.68	8,793.45	8,779.68	32.50	30.91	-90.59	516.08	-951.36	1,248.42	1,203.84	44.58	28.004		
8,900.00	8,862.68	8,893.45	8,879.68	32.85	31.26	-90.59	516.08	-951.36	1,248.42	1,203.36	45.07	27.701		
9,000.00	8,962.68	8,993.45	8,979.68	33.19	31.61	-90.59	516.08	-951.36	1,248.42	1,202.87	45.55	27.405		
9,100.00	9,062.68	9,093.45	9,079.68	33.53	31.95	-90.59	516.08	-951.36	1,248.42	1,202.38	46.04	27.114		
9,200.00	9,162.68	9,193.45	9,179.68	33.87	32.30	-90.59	516.08	-951.36	1,248.42	1,201.89	46.53	26.829		
9,300.00	9,262.68	9,293.45	9,279.68	34.22	32.64	-90.59	516.08	-951.36	1,248.42	1,201.40	47.02	26.550		
9,400.00	9,362.68	9,393.45	9,379.68	34.56	32.99	-90.59	516.08	-951.36	1,248.42	1,200.91	47.51	26.277		
9,500.00	9,462.68	9,493.45	9,479.68	34.90	33.34	-90.59	516.08	-951.36	1,248.42	1,200.42	48.00	26.009		
9,600.00	9,562.68	9,593.45	9,579.68	35.25	33.68	-90.59	516.08	-951.36	1,248.42	1,199.93	48.49	25.746		
9,700.00	9,662.68	9,693.45	9,679.68	35.59	34.03	-90.59	516.08	-951.36	1,248.42	1,199.44	48.98	25.488		
9,800.00	9,762.68	9,793.45	9,779.68	35.93	34.38	-90.59	516.08	-951.36	1,248.42	1,198.95	49.47	25.235		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
9,900.00	9,862.68	9,893.45	9,879.68	36.28	34.73	-90.59	516.08	-951.36	1,248.42	1,198.46	49.96	24.987		
10,000.00	9,962.68	9,993.45	9,979.68	36.62	35.07	-90.59	516.08	-951.36	1,248.42	1,197.97	50.45	24.744		
10,100.00	10,062.68	10,093.45	10,079.68	36.97	35.42	-90.59	516.08	-951.36	1,248.42	1,197.48	50.95	24.505		
10,200.00	10,162.68	10,193.45	10,179.68	37.31	35.77	-90.59	516.08	-951.36	1,248.42	1,196.99	51.44	24.270		
10,300.00	10,262.68	10,293.45	10,279.68	37.66	36.12	-90.59	516.08	-951.36	1,248.42	1,196.49	51.93	24.040		
10,400.00	10,362.68	10,393.45	10,379.68	38.01	36.47	-90.59	516.08	-951.36	1,248.42	1,196.00	52.42	23.814		
10,500.00	10,462.68	10,493.45	10,479.68	38.35	36.82	-90.59	516.08	-951.36	1,248.42	1,195.51	52.92	23.593		
10,600.00	10,562.68	10,593.45	10,579.68	38.70	37.16	-90.59	516.08	-951.36	1,248.42	1,195.01	53.41	23.375		
10,700.00	10,662.68	10,693.45	10,679.68	39.04	37.51	-90.59	516.08	-951.36	1,248.42	1,194.52	53.90	23.161		
10,800.00	10,762.68	10,793.45	10,779.68	39.39	37.86	-90.59	516.08	-951.36	1,248.42	1,194.03	54.40	22.951		
10,900.00	10,862.68	10,893.45	10,879.68	39.74	38.21	-90.59	516.08	-951.36	1,248.42	1,193.53	54.89	22.744		
11,000.00	10,962.68	10,993.45	10,979.68	40.09	38.56	-90.59	516.08	-951.36	1,248.42	1,193.04	55.38	22.541		
11,100.00	11,062.68	11,093.45	11,079.68	40.43	38.91	-90.59	516.08	-951.36	1,248.42	1,192.55	55.88	22.342		
11,200.00	11,162.68	11,193.45	11,179.68	40.78	39.26	-90.59	516.08	-951.36	1,248.42	1,192.05	56.37	22.146		
11,300.00	11,262.68	11,293.45	11,279.68	41.13	39.61	-90.59	516.08	-951.36	1,248.42	1,191.56	56.87	21.953		
11,400.00	11,362.68	11,393.45	11,379.68	41.48	39.96	-90.59	516.08	-951.36	1,248.42	1,191.06	57.36	21.764		
11,405.43	11,368.11	11,398.88	11,385.11	41.50	39.98	-90.59	516.08	-951.36	1,248.42	1,191.03	57.39	21.753		
11,500.00	11,462.68	11,492.42	11,478.30	41.82	40.31	-90.91	509.24	-951.30	1,248.45	1,190.60	57.85	21.579		
11,600.00	11,562.68	11,586.34	11,569.50	42.17	40.67	-91.92	487.24	-951.11	1,248.85	1,190.51	58.33	21.408		
11,700.00	11,662.68	11,671.16	11,647.79	42.52	41.00	-93.40	454.81	-950.82	1,250.43	1,191.65	58.78	21.273		
11,800.00	11,762.68	11,745.03	11,711.44	42.87	41.30	-95.11	417.42	-950.50	1,254.33	1,195.17	59.16	21.201		
11,900.00	11,862.68	11,807.96	11,761.49	43.22	41.56	-96.84	379.33	-950.16	1,261.66	1,202.22	59.44	21.225		
11,910.36	11,873.04	11,813.89	11,765.99	43.25	41.59	-97.02	375.47	-950.13	1,262.65	1,203.19	59.46	21.234		
11,950.00	11,912.65	11,836.29	11,782.59	43.38	41.69	90.60	360.44	-950.00	1,266.93	1,207.40	59.53	21.282		
12,000.00	11,962.32	11,864.29	11,802.51	43.53	41.81	89.18	340.76	-949.83	1,273.32	1,213.74	59.58	21.370		
12,050.00	12,011.30	11,900.00	11,826.48	43.66	41.97	87.50	314.30	-949.60	1,280.75	1,221.09	59.66	21.468		
12,100.00	12,059.24	11,919.61	11,838.93	43.78	42.06	86.19	299.14	-949.46	1,288.95	1,229.33	59.62	21.621		
12,150.00	12,105.76	11,950.00	11,857.17	43.89	42.20	84.60	274.85	-949.25	1,297.89	1,238.27	59.62	21.770		
12,200.00	12,150.50	11,974.21	11,870.77	43.98	42.31	83.14	254.81	-949.08	1,307.38	1,247.82	59.56	21.949		
12,250.00	12,193.14	12,000.00	11,884.30	44.06	42.43	81.65	232.87	-948.89	1,317.29	1,257.78	59.51	22.136		
12,300.00	12,233.34	12,028.26	11,897.99	44.13	42.57	80.14	208.15	-948.67	1,327.49	1,268.02	59.47	22.323		
12,350.00	12,270.79	12,050.00	11,907.67	44.18	42.68	78.76	188.69	-948.50	1,337.85	1,278.46	59.38	22.529		
12,400.00	12,305.22	12,081.89	11,920.53	44.22	42.83	77.30	159.51	-948.25	1,348.19	1,288.83	59.37	22.709		
12,450.00	12,336.36	12,100.00	11,927.10	44.25	42.92	76.07	142.64	-948.10	1,358.51	1,299.23	59.28	22.917		
12,500.00	12,363.98	12,135.20	11,938.34	44.27	43.10	74.74	109.29	-947.81	1,368.53	1,309.23	59.31	23.074		
12,550.00	12,387.85	12,161.76	11,945.45	44.29	43.24	73.59	83.69	-947.58	1,378.30	1,318.99	59.31	23.240		
12,600.00	12,407.81	12,188.28	11,951.36	44.29	43.38	72.53	57.84	-947.36	1,387.67	1,328.34	59.33	23.389		
12,650.00	12,423.70	12,214.77	11,956.06	44.30	43.51	71.56	31.79	-947.13	1,396.56	1,337.18	59.38	23.519		
12,700.00	12,435.40	12,250.00	11,960.44	44.31	43.70	70.70	-3.17	-946.83	1,404.95	1,345.46	59.49	23.615		
12,750.00	12,442.82	12,267.66	11,961.82	44.34	43.79	69.96	-20.77	-946.67	1,412.62	1,353.05	59.57	23.715		
12,800.00	12,445.90	12,297.58	11,962.92	44.41	43.95	69.33	-50.66	-946.41	1,419.68	1,359.96	59.72	23.773		
12,810.36	12,446.00	12,301.29	11,962.96	44.42	43.97	69.21	-54.37	-946.38	1,421.04	1,361.29	59.74	23.785		
12,900.00	12,446.00	12,390.19	11,963.93	44.59	44.47	69.48	-143.27	-945.60	1,431.37	1,371.17	60.20	23.777		
13,000.00	12,446.00	12,489.74	11,965.00	44.83	45.07	69.72	-242.81	-944.74	1,439.84	1,379.07	60.77	23.694		
13,100.00	12,446.00	12,589.55	11,966.08	45.12	45.73	69.87	-342.61	-943.87	1,445.04	1,383.64	61.40	23.535		
13,200.00	12,446.00	12,689.51	11,967.16	45.46	46.43	69.96	-442.56	-942.99	1,446.98	1,384.89	62.09	23.304		
13,217.18	12,446.00	12,706.68	11,967.35	45.52	46.56	69.97	-459.73	-942.84	1,446.98	1,384.77	62.21	23.258		
13,300.00	12,446.00	12,789.50	11,968.24	45.84	47.19	70.00	-542.54	-942.12	1,446.76	1,383.92	62.84	23.022		
13,400.00	12,446.00	12,889.50	11,969.32	46.27	47.99	70.04	-642.53	-941.25	1,446.50	1,382.83	63.66	22.721		
13,500.00	12,446.00	12,989.49	11,970.40	46.75	48.83	70.09	-742.51	-940.38	1,446.23	1,381.68	64.55	22.404		
13,600.00	12,446.00	13,089.48	11,971.48	47.29	49.71	70.13	-842.50	-939.50	1,445.97	1,380.46	65.51	22.074		
13,700.00	12,446.00	13,189.48	11,972.56	47.87	50.63	70.17	-942.48	-938.63	1,445.71	1,379.19	66.52	21.734		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:		0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
13,800.00	12,446.00	13,289.47	11,973.64	48.50	51.59	70.21	-1,042.46	-937.76	1,445.45	1,377.86	67.59	21.385			
13,900.00	12,446.00	13,389.47	11,974.73	49.18	52.58	70.25	-1,142.45	-936.89	1,445.19	1,376.47	68.72	21.030			
14,000.00	12,446.00	13,489.46	11,975.81	49.90	53.60	70.30	-1,242.43	-936.02	1,444.93	1,375.03	69.90	20.671			
14,100.00	12,446.00	13,589.45	11,976.89	50.66	54.66	70.34	-1,342.42	-935.14	1,444.67	1,373.53	71.13	20.310			
14,200.00	12,446.00	13,689.45	11,977.97	51.47	55.74	70.38	-1,442.40	-934.27	1,444.41	1,372.00	72.41	19.947			
14,300.00	12,446.00	13,789.44	11,979.05	52.31	56.85	70.42	-1,542.39	-933.40	1,444.15	1,370.41	73.74	19.584			
14,400.00	12,446.00	13,889.44	11,980.13	53.19	57.99	70.46	-1,642.37	-932.53	1,443.89	1,368.78	75.11	19.224			
14,500.00	12,446.00	13,989.43	11,981.21	54.11	59.15	70.50	-1,742.36	-931.65	1,443.64	1,367.12	76.52	18.866			
14,600.00	12,446.00	14,089.42	11,982.29	55.06	60.34	70.55	-1,842.34	-930.78	1,443.38	1,365.41	77.97	18.512			
14,700.00	12,446.00	14,189.42	11,983.37	56.05	61.54	70.59	-1,942.32	-929.91	1,443.13	1,363.67	79.46	18.162			
14,800.00	12,446.00	14,289.41	11,984.45	57.06	62.77	70.63	-2,042.31	-929.04	1,442.87	1,361.89	80.98	17.817			
14,900.00	12,446.00	14,389.41	11,985.53	58.11	64.01	70.67	-2,142.29	-928.16	1,442.62	1,360.08	82.54	17.479			
15,000.00	12,446.00	14,489.40	11,986.61	59.18	65.27	70.71	-2,242.28	-927.29	1,442.37	1,358.24	84.12	17.146			
15,100.00	12,446.00	14,589.40	11,987.69	60.28	66.55	70.76	-2,342.26	-926.42	1,442.12	1,356.38	85.74	16.820			
15,200.00	12,446.00	14,689.39	11,988.77	61.40	67.85	70.80	-2,442.25	-925.55	1,441.87	1,354.48	87.38	16.500			
15,300.00	12,446.00	14,789.38	11,989.86	62.54	69.16	70.84	-2,542.23	-924.68	1,441.62	1,352.56	89.05	16.188			
15,400.00	12,446.00	14,889.38	11,990.94	63.71	70.49	70.88	-2,642.22	-923.80	1,441.37	1,350.62	90.75	15.883			
15,500.00	12,446.00	14,989.37	11,992.02	64.90	71.83	70.92	-2,742.20	-922.93	1,441.12	1,348.65	92.47	15.585			
15,600.00	12,446.00	15,089.37	11,993.10	66.11	73.18	70.97	-2,842.18	-922.06	1,440.87	1,346.66	94.21	15.294			
15,700.00	12,446.00	15,189.36	11,994.18	67.34	74.54	71.01	-2,942.17	-921.19	1,440.62	1,344.65	95.97	15.011			
15,800.00	12,446.00	15,289.35	11,995.26	68.58	75.92	71.05	-3,042.15	-920.31	1,440.38	1,342.62	97.76	14.734			
15,900.00	12,446.00	15,389.35	11,996.34	69.84	77.30	71.09	-3,142.14	-919.44	1,440.13	1,340.57	99.56	14.465			
16,000.00	12,446.00	15,489.34	11,997.42	71.12	78.70	71.13	-3,242.12	-918.57	1,439.89	1,338.51	101.38	14.203			
16,100.00	12,446.00	15,589.34	11,998.50	72.41	80.10	71.18	-3,342.11	-917.70	1,439.64	1,336.43	103.22	13.948			
16,200.00	12,446.00	15,689.33	11,999.58	73.72	81.52	71.22	-3,442.09	-916.82	1,439.40	1,334.33	105.07	13.699			
16,300.00	12,446.00	15,789.32	12,000.66	75.04	82.94	71.26	-3,542.08	-915.95	1,439.16	1,332.22	106.94	13.457			
16,400.00	12,446.00	15,889.32	12,001.74	76.37	84.38	71.30	-3,642.06	-915.08	1,438.92	1,330.09	108.83	13.222			
16,500.00	12,446.00	15,989.31	12,002.82	77.72	85.82	71.35	-3,742.04	-914.21	1,438.68	1,327.95	110.72	12.993			
16,600.00	12,446.00	16,089.31	12,003.90	79.08	87.26	71.39	-3,842.03	-913.34	1,438.44	1,325.80	112.64	12.771			
16,700.00	12,446.00	16,189.30	12,004.99	80.45	88.72	71.43	-3,942.01	-912.46	1,438.20	1,323.64	114.56	12.554			
16,800.00	12,446.00	16,289.30	12,006.07	81.82	90.18	71.47	-4,042.00	-911.59	1,437.96	1,321.46	116.50	12.343			
16,900.00	12,446.00	16,389.29	12,007.15	83.21	91.65	71.51	-4,141.98	-910.72	1,437.72	1,319.28	118.45	12.138			
17,000.00	12,446.00	16,489.28	12,008.23	84.61	93.12	71.56	-4,241.97	-909.85	1,437.49	1,317.08	120.41	11.939			
17,100.00	12,446.00	16,589.28	12,009.31	86.02	94.60	71.60	-4,341.95	-908.97	1,437.25	1,314.87	122.38	11.745			
17,200.00	12,446.00	16,689.27	12,010.39	87.43	96.09	71.64	-4,441.94	-908.10	1,437.02	1,312.66	124.36	11.556			
17,300.00	12,446.00	16,789.27	12,011.47	88.86	97.58	71.68	-4,541.92	-907.23	1,436.78	1,310.43	126.35	11.372			
17,400.00	12,446.00	16,889.26	12,012.55	90.29	99.07	71.73	-4,641.91	-906.36	1,436.55	1,308.20	128.35	11.193			
17,500.00	12,446.00	16,989.25	12,013.63	91.73	100.57	71.77	-4,741.89	-905.48	1,436.31	1,305.96	130.36	11.018			
17,600.00	12,446.00	17,089.25	12,014.71	93.17	102.08	71.81	-4,841.87	-904.61	1,436.08	1,303.71	132.37	10.849			
17,700.00	12,446.00	17,189.24	12,015.79	94.63	103.59	71.85	-4,941.86	-903.74	1,435.85	1,301.45	134.40	10.684			
17,800.00	12,446.00	17,289.24	12,016.87	96.09	105.10	71.90	-5,041.84	-902.87	1,435.62	1,299.19	136.43	10.523			
17,900.00	12,446.00	17,389.23	12,017.95	97.55	106.62	71.94	-5,141.83	-902.00	1,435.39	1,296.92	138.47	10.366			
18,000.00	12,446.00	17,489.22	12,019.03	99.02	108.14	71.98	-5,241.81	-901.12	1,435.16	1,294.64	140.52	10.213			
18,100.00	12,446.00	17,589.22	12,020.12	100.50	109.67	72.02	-5,341.80	-900.25	1,434.93	1,292.36	142.57	10.064			
18,200.00	12,446.00	17,689.21	12,021.20	101.98	111.20	72.06	-5,441.78	-899.38	1,434.71	1,290.07	144.64	9.919			
18,300.00	12,446.00	17,789.21	12,022.28	103.47	112.73	72.11	-5,541.77	-898.51	1,434.48	1,287.78	146.70	9.778			
18,400.00	12,446.00	17,889.20	12,023.36	104.96	114.27	72.15	-5,641.75	-897.63	1,434.25	1,285.48	148.78	9.640			
18,500.00	12,446.00	17,989.19	12,024.44	106.46	115.81	72.19	-5,741.73	-896.76	1,434.03	1,283.17	150.86	9.506			
18,600.00	12,446.00	18,089.19	12,025.52	107.96	117.35	72.23	-5,841.72	-895.89	1,433.81	1,280.86	152.94	9.375			
18,700.00	12,446.00	18,189.18	12,026.60	109.46	118.90	72.28	-5,941.70	-895.02	1,433.58	1,278.55	155.03	9.247			
18,800.00	12,446.00	18,289.18	12,027.68	110.97	120.44	72.32	-6,041.69	-894.14	1,433.36	1,276.23	157.13	9.122			
18,900.00	12,446.00	18,389.17	12,028.76	112.49	121.99	72.36	-6,141.67	-893.27	1,433.14	1,273.91	159.23	9.000			

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,000.00	12,446.00	18,489.17	12,029.84	114.00	123.55	72.40	-6,241.66	-892.40	1,432.92	1,271.58	161.34	8.882		
19,100.00	12,446.00	18,589.16	12,030.92	115.53	125.10	72.45	-6,341.64	-891.53	1,432.70	1,269.25	163.45	8.766		
19,200.00	12,446.00	18,689.15	12,032.00	117.05	126.66	72.49	-6,441.63	-890.65	1,432.48	1,266.91	165.56	8.652		
19,300.00	12,446.00	18,789.15	12,033.08	118.58	128.22	72.53	-6,541.61	-889.78	1,432.26	1,264.58	167.68	8.541		
19,400.00	12,446.00	18,889.14	12,034.16	120.11	129.79	72.57	-6,641.59	-888.91	1,432.04	1,262.23	169.81	8.433		
19,500.00	12,446.00	18,989.14	12,035.25	121.64	131.35	72.62	-6,741.58	-888.04	1,431.82	1,259.89	171.94	8.328		
19,600.00	12,446.00	19,089.13	12,036.33	123.18	132.92	72.66	-6,841.56	-887.17	1,431.61	1,257.54	174.07	8.224		
19,700.00	12,446.00	19,189.12	12,037.41	124.72	134.49	72.70	-6,941.55	-886.29	1,431.39	1,255.18	176.21	8.123		
19,800.00	12,446.00	19,289.12	12,038.49	126.27	136.06	72.75	-7,041.53	-885.42	1,431.18	1,252.83	178.35	8.025		
19,900.00	12,446.00	19,389.11	12,039.57	127.81	137.63	72.79	-7,141.52	-884.55	1,430.96	1,250.47	180.49	7.928		
20,000.00	12,446.00	19,489.11	12,040.65	129.36	139.21	72.83	-7,241.50	-883.68	1,430.75	1,248.11	182.64	7.834		
20,100.00	12,446.00	19,589.10	12,041.73	130.91	140.78	72.87	-7,341.49	-882.80	1,430.54	1,245.74	184.79	7.741		
20,200.00	12,446.00	19,689.09	12,042.81	132.46	142.36	72.92	-7,441.47	-881.93	1,430.33	1,243.38	186.95	7.651		
20,300.00	12,446.00	19,789.09	12,043.89	134.02	143.94	72.96	-7,541.45	-881.06	1,430.12	1,241.01	189.11	7.563		
20,400.00	12,446.00	19,889.08	12,044.97	135.58	145.52	73.00	-7,641.44	-880.19	1,429.91	1,238.64	191.27	7.476		
20,500.00	12,446.00	19,989.08	12,046.05	137.14	147.11	73.04	-7,741.42	-879.31	1,429.70	1,236.27	193.43	7.391		
20,600.00	12,446.00	20,089.07	12,047.13	138.70	148.69	73.09	-7,841.41	-878.44	1,429.49	1,233.89	195.60	7.308		
20,700.00	12,446.00	20,189.06	12,048.21	140.27	150.28	73.13	-7,941.39	-877.57	1,429.28	1,231.51	197.77	7.227		
20,800.00	12,446.00	20,289.06	12,049.29	141.83	151.86	73.17	-8,041.38	-876.70	1,429.07	1,229.13	199.95	7.147		
20,900.00	12,446.00	20,389.05	12,050.38	143.40	153.45	73.22	-8,141.36	-875.83	1,428.87	1,226.75	202.12	7.069		
21,000.00	12,446.00	20,489.05	12,051.46	144.97	155.04	73.26	-8,241.35	-874.95	1,428.66	1,224.36	204.30	6.993		
21,100.00	12,446.00	20,589.04	12,052.54	146.54	156.63	73.30	-8,341.33	-874.08	1,428.46	1,221.97	206.49	6.918		
21,200.00	12,446.00	20,689.04	12,053.62	148.12	158.23	73.34	-8,441.31	-873.21	1,428.26	1,219.59	208.67	6.845		
21,300.00	12,446.00	20,789.03	12,054.70	149.69	159.82	73.39	-8,541.30	-872.34	1,428.05	1,217.20	210.86	6.773		
21,400.00	12,446.00	20,889.02	12,055.78	151.27	161.41	73.43	-8,641.28	-871.46	1,427.85	1,214.81	213.05	6.702		
21,500.00	12,446.00	20,989.02	12,056.86	152.85	163.01	73.47	-8,741.27	-870.59	1,427.65	1,212.41	215.24	6.633		
21,600.00	12,446.00	21,089.01	12,057.94	154.43	164.61	73.51	-8,841.25	-869.72	1,427.45	1,210.02	217.43	6.565		
21,700.00	12,446.00	21,189.01	12,059.02	156.01	166.21	73.56	-8,941.24	-868.85	1,427.25	1,207.62	219.63	6.498		
21,800.00	12,446.00	21,289.00	12,060.10	157.59	167.81	73.60	-9,041.22	-867.97	1,427.05	1,205.22	221.83	6.433		
21,900.00	12,446.00	21,388.99	12,061.18	159.18	169.41	73.64	-9,141.21	-867.10	1,426.85	1,202.82	224.03	6.369		
22,000.00	12,446.00	21,488.99	12,062.26	160.76	171.01	73.69	-9,241.19	-866.23	1,426.66	1,200.42	226.23	6.306		
22,100.00	12,446.00	21,588.98	12,063.34	162.35	172.61	73.73	-9,341.17	-865.36	1,426.46	1,198.02	228.44	6.244		
22,200.00	12,446.00	21,688.98	12,064.42	163.94	174.21	73.77	-9,441.16	-864.49	1,426.26	1,195.62	230.65	6.184		
22,300.00	12,446.00	21,788.97	12,065.51	165.53	175.82	73.82	-9,541.14	-863.61	1,426.07	1,193.21	232.86	6.124		
22,400.00	12,446.00	21,888.96	12,066.59	167.12	177.42	73.86	-9,641.13	-862.74	1,425.88	1,190.81	235.07	6.066		
22,500.00	12,446.00	21,988.96	12,067.67	168.71	179.03	73.90	-9,741.11	-861.87	1,425.68	1,188.40	237.28	6.008		
22,600.00	12,446.00	22,088.95	12,068.75	170.30	180.63	73.94	-9,841.10	-861.00	1,425.49	1,185.99	239.50	5.952		
22,614.75	12,446.00	22,101.01	12,068.88	170.54	180.83	73.95	-9,853.15	-860.89	1,425.46	1,185.67	239.79	5.945 SF		
22,700.00	12,446.00	22,101.01	12,068.88	171.90	180.83	73.95	-9,853.15	-860.89	1,428.01	1,187.87	240.14	5.947		
22,800.00	12,446.00	22,101.01	12,068.88	173.49	180.83	73.95	-9,853.15	-860.89	1,437.45	1,198.05	239.39	6.004		
22,900.00	12,446.00	22,101.01	12,068.88	175.09	180.83	73.95	-9,853.15	-860.89	1,453.72	1,216.24	237.48	6.122		
23,000.00	12,446.00	22,101.01	12,068.88	176.69	180.83	73.95	-9,853.15	-860.89	1,476.60	1,242.09	234.50	6.297		
23,100.00	12,446.00	22,101.01	12,068.88	178.28	180.83	73.95	-9,853.15	-860.89	1,505.78	1,275.14	230.64	6.529		
23,200.00	12,446.00	22,101.01	12,068.88	179.88	180.83	73.95	-9,853.15	-860.89	1,540.92	1,314.84	226.08	6.816		
23,300.00	12,446.00	22,101.01	12,068.88	181.48	180.83	73.95	-9,853.15	-860.89	1,581.60	1,360.61	220.99	7.157		
23,400.00	12,446.00	22,101.01	12,068.88	183.08	180.83	73.95	-9,853.15	-860.89	1,627.42	1,411.87	215.55	7.550		
23,500.00	12,446.00	22,101.01	12,068.88	184.69	180.83	73.95	-9,853.15	-860.89	1,677.96	1,468.04	209.91	7.994		
23,600.00	12,446.00	22,101.01	12,068.88	186.29	180.83	73.95	-9,853.15	-860.89	1,732.80	1,528.59	204.21	8.485		
23,700.00	12,446.00	22,101.01	12,068.88	187.89	180.83	73.95	-9,853.15	-860.89	1,791.54	1,593.02	198.53	9.024		
23,800.00	12,446.00	22,101.01	12,068.88	189.50	180.83	73.95	-9,853.15	-860.89	1,853.83	1,660.87	192.96	9.607		
23,900.00	12,446.00	22,101.01	12,068.88	191.10	180.83	73.95	-9,853.15	-860.89	1,919.30	1,731.75	187.55	10.233		
23,929.64	12,446.00	22,101.01	12,068.88	191.58	180.83	73.95	-9,853.15	-860.89	1,939.27	1,753.29	185.99	10.427		

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 PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	17.00	17.00	0.00	0.02	-44.14	817.54	-793.33	1,139.18					
100.00	100.00	117.00	117.00	0.13	0.19	-44.14	817.54	-793.33	1,139.18	1,138.96	0.22	5,069.880		
200.00	200.00	217.00	217.00	0.48	0.54	-44.14	817.54	-793.33	1,139.18	1,138.46	0.73	1,563.189		
300.00	300.00	317.00	317.00	0.84	0.90	-44.14	817.54	-793.33	1,139.18	1,137.95	1.24	922.276		
400.00	400.00	417.00	417.00	1.20	1.26	-44.14	817.54	-793.33	1,139.18	1,137.44	1.74	653.980		
500.00	500.00	517.00	517.00	1.56	1.62	-44.14	817.54	-793.33	1,139.18	1,136.94	2.25	506.583		
600.00	600.00	617.00	617.00	1.92	1.98	-44.14	817.54	-793.33	1,139.18	1,136.43	2.76	413.401		
700.00	700.00	717.00	717.00	2.28	2.34	-44.14	817.54	-793.33	1,139.18	1,135.92	3.26	349.171		
800.00	800.00	817.00	817.00	2.63	2.70	-44.14	817.54	-793.33	1,139.18	1,135.41	3.77	302.214		
900.00	900.00	917.00	917.00	2.99	3.05	-44.14	817.54	-793.33	1,139.18	1,134.91	4.28	266.389		
1,000.00	1,000.00	1,017.00	1,017.00	3.35	3.41	-44.14	817.54	-793.33	1,139.18	1,134.40	4.78	238.158		
1,100.00	1,100.00	1,117.00	1,117.00	3.71	3.77	-44.14	817.54	-793.33	1,139.18	1,133.89	5.29	215.336		
1,200.00	1,200.00	1,217.00	1,217.00	4.07	4.13	-44.14	817.54	-793.33	1,139.18	1,133.39	5.80	196.506		
1,300.00	1,300.00	1,317.00	1,317.00	4.43	4.49	-44.14	817.54	-793.33	1,139.18	1,132.88	6.30	180.704		
1,400.00	1,400.00	1,417.00	1,417.00	4.79	4.85	-44.14	817.54	-793.33	1,139.18	1,132.37	6.81	167.255		
1,500.00	1,500.00	1,517.00	1,517.00	5.14	5.21	-44.14	817.54	-793.33	1,139.18	1,131.87	7.32	155.668		
1,600.00	1,600.00	1,617.00	1,617.00	5.50	5.56	-44.14	817.54	-793.33	1,139.18	1,131.36	7.82	145.583		
1,700.00	1,700.00	1,717.00	1,717.00	5.86	5.92	-44.14	817.54	-793.33	1,139.18	1,130.85	8.33	136.725		
1,800.00	1,800.00	1,817.00	1,817.00	6.22	6.28	-44.14	817.54	-793.33	1,139.18	1,130.35	8.84	128.883		
1,900.00	1,900.00	1,917.00	1,917.00	6.58	6.64	-44.14	817.54	-793.33	1,139.18	1,129.84	9.35	121.892		
2,000.00	2,000.00	2,017.00	2,017.00	6.94	7.00	-44.14	817.54	-793.33	1,139.18	1,129.33	9.85	115.621		
2,100.00	2,100.00	2,117.00	2,117.00	7.29	7.36	-44.14	817.54	-793.33	1,139.18	1,128.82	10.36	109.963		
2,200.00	2,200.00	2,217.00	2,217.00	7.65	7.71	-44.14	817.54	-793.33	1,139.18	1,128.32	10.87	104.833		
2,300.00	2,299.99	2,316.99	2,316.99	8.01	8.07	-73.52	817.54	-793.33	1,138.81	1,127.44	11.37	100.136		
2,400.00	2,399.91	2,416.91	2,416.91	8.37	8.43	-73.72	817.54	-793.33	1,137.70	1,125.83	11.88	95.785		
2,500.00	2,499.69	2,516.69	2,516.69	8.72	8.79	-74.07	817.54	-793.33	1,135.89	1,123.50	12.38	91.732		
2,600.00	2,599.27	2,616.27	2,616.27	9.08	9.15	-74.55	817.54	-793.33	1,133.40	1,120.51	12.89	87.941		
2,685.78	2,684.47	2,702.04	2,702.04	9.39	9.45	-75.07	817.54	-793.33	1,130.78	1,117.46	13.32	84.869		
2,700.00	2,698.58	2,721.64	2,721.64	9.44	9.52	-75.19	817.49	-793.30	1,130.27	1,116.87	13.41	84.302		
2,800.00	2,797.77	2,858.95	2,858.90	9.81	9.98	-76.10	814.59	-791.83	1,124.86	1,110.88	13.98	80.459		
2,900.00	2,896.96	2,987.29	2,987.02	10.17	10.40	-77.05	807.97	-788.46	1,116.34	1,101.82	14.52	76.887		
3,000.00	2,996.15	3,085.75	3,085.24	10.54	10.73	-77.80	801.85	-785.34	1,106.99	1,091.98	15.01	73.755		
3,100.00	3,095.35	3,184.21	3,183.46	10.92	11.05	-78.57	795.73	-782.23	1,097.83	1,082.33	15.50	70.816		
3,200.00	3,194.54	3,282.67	3,281.68	11.29	11.38	-79.35	789.61	-779.12	1,088.88	1,072.88	16.00	68.058		
3,300.00	3,293.73	3,381.13	3,379.90	11.67	11.72	-80.14	783.49	-776.01	1,080.14	1,063.64	16.50	65.467		
3,400.00	3,392.92	3,479.59	3,478.12	12.05	12.05	-80.95	777.38	-772.89	1,071.61	1,054.61	17.00	63.030		
3,500.00	3,492.12	3,578.05	3,576.34	12.43	12.39	-81.77	771.26	-769.78	1,063.30	1,045.79	17.51	60.737		
3,600.00	3,591.31	3,676.51	3,674.57	12.81	12.73	-82.60	765.14	-766.67	1,055.21	1,037.20	18.01	58.577		
3,700.00	3,690.50	3,774.97	3,772.79	13.20	13.07	-83.44	759.02	-763.56	1,047.36	1,028.83	18.52	56.541		
3,800.00	3,789.69	3,873.43	3,871.01	13.58	13.41	-84.30	752.91	-760.44	1,039.73	1,020.70	19.04	54.620		
3,900.00	3,888.89	3,971.89	3,969.23	13.97	13.76	-85.17	746.79	-757.33	1,032.35	1,012.80	19.55	52.807		
4,000.00	3,988.08	4,070.35	4,067.45	14.36	14.10	-86.05	740.67	-754.22	1,025.22	1,005.15	20.07	51.094		
4,100.00	4,087.27	4,168.81	4,165.67	14.75	14.45	-86.94	734.55	-751.11	1,018.33	997.75	20.58	49.475		
4,200.00	4,186.46	4,267.27	4,263.89	15.14	14.80	-87.84	728.44	-747.99	1,011.70	990.60	21.10	47.944		
4,300.00	4,285.66	4,365.73	4,362.11	15.53	15.15	-88.75	722.32	-744.88	1,005.33	983.70	21.62	46.496		
4,400.00	4,384.85	4,464.19	4,460.33	15.92	15.50	-89.68	716.20	-741.77	999.22	977.08	22.14	45.125		
4,500.00	4,484.04	4,562.65	4,558.55	16.31	15.85	-90.62	710.08	-738.66	993.38	970.72	22.67	43.826		
4,600.00	4,583.23	4,661.11	4,656.77	16.71	16.20	-91.56	703.96	-735.54	987.82	964.63	23.19	42.596		
4,700.00	4,682.42	4,759.57	4,754.99	17.10	16.55	-92.52	697.85	-732.43	982.54	958.83	23.72	41.430		
4,800.00	4,781.62	4,858.03	4,853.21	17.50	16.91	-93.49	691.73	-729.32	977.54	953.30	24.24	40.325		
4,900.00	4,880.81	4,956.49	4,951.43	17.89	17.26	-94.46	685.61	-726.20	972.83	948.07	24.77	39.277		
5,000.00	4,980.00	5,054.95	5,049.65	18.29	17.62	-95.45	679.49	-723.09	968.42	943.12	25.30	38.283		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.00	5,079.19	5,153.41	5,147.87	18.68	17.97	-96.44	673.38	-719.98	964.30	938.47	25.82	37.340		
5,200.00	5,178.39	5,251.87	5,246.10	19.08	18.33	-97.44	667.26	-716.87	960.48	934.13	26.35	36.446		
5,300.00	5,277.58	5,350.33	5,344.32	19.48	18.68	-98.45	661.14	-713.75	956.97	930.08	26.88	35.598		
5,400.00	5,376.77	5,448.79	5,442.54	19.87	19.04	-99.47	655.02	-710.64	953.76	926.35	27.41	34.793		
5,500.00	5,475.96	5,547.25	5,540.76	20.27	19.40	-100.49	648.90	-707.53	950.86	922.92	27.94	34.029		
5,600.00	5,575.16	5,645.71	5,638.98	20.67	19.76	-101.52	642.79	-704.42	948.28	919.81	28.47	33.305		
5,700.00	5,674.35	5,744.17	5,737.20	21.07	20.12	-102.55	636.67	-701.30	946.01	917.01	29.00	32.617		
5,800.00	5,773.54	5,842.63	5,835.42	21.47	20.48	-103.59	630.55	-698.19	944.06	914.53	29.53	31.965		
5,900.00	5,872.73	5,941.09	5,933.64	21.87	20.84	-104.63	624.43	-695.08	942.43	912.37	30.06	31.347		
6,000.00	5,971.93	6,039.55	6,031.86	22.27	21.20	-105.67	618.32	-691.97	941.13	910.53	30.59	30.761		
6,100.00	6,071.12	6,138.01	6,130.08	22.67	21.56	-106.72	612.20	-688.85	940.14	909.02	31.12	30.206		
6,200.00	6,170.31	6,236.47	6,228.30	23.07	21.92	-107.77	606.08	-685.74	939.49	907.83	31.65	29.679		
6,300.00	6,269.50	6,334.93	6,326.52	23.47	22.28	-108.82	599.96	-682.63	939.15	906.97	32.18	29.180		
6,352.66	6,321.74	6,386.78	6,378.25	23.68	22.47	-109.37	596.74	-680.99	939.11	906.64	32.46	28.928		
6,400.00	6,368.70	6,433.39	6,424.74	23.87	22.64	-109.87	593.84	-679.52	939.14	906.43	32.71	28.708		
6,500.00	6,467.89	6,531.85	6,522.96	24.27	23.00	-110.92	587.73	-676.40	939.46	906.22	33.24	28.261		
6,600.00	6,567.08	6,630.31	6,621.18	24.67	23.36	-111.97	581.61	-673.29	940.10	906.33	33.77	27.837		
6,700.00	6,666.27	6,728.77	6,719.41	25.07	23.73	-113.01	575.49	-670.18	941.07	906.77	34.30	27.437		
6,800.00	6,765.47	6,827.23	6,817.63	25.47	24.09	-114.06	569.37	-667.07	942.36	907.53	34.83	27.059		
6,900.00	6,864.66	6,925.70	6,915.85	25.88	24.45	-115.10	563.26	-663.95	943.97	908.61	35.35	26.701		
6,982.54	6,946.53	7,006.96	6,996.92	26.21	24.75	-115.96	558.21	-661.38	945.54	909.75	35.79	26.421		
7,000.00	6,963.85	7,024.16	7,014.07	26.28	24.82	-116.14	557.14	-660.84	945.88	910.00	35.88	26.363		
7,100.00	7,063.25	7,122.89	7,112.57	26.67	25.18	-117.10	551.00	-657.72	947.33	910.93	36.40	26.025		
7,200.00	7,162.90	7,221.98	7,211.41	27.05	25.55	-117.92	544.85	-654.59	947.81	910.89	36.92	25.675		
7,300.00	7,262.74	7,321.35	7,310.54	27.41	25.91	-118.58	538.67	-651.45	947.22	909.80	37.42	25.310		
7,400.00	7,362.69	7,420.94	7,409.88	27.77	26.28	-119.09	532.48	-648.30	945.49	907.56	37.93	24.930		
7,468.32	7,431.00	7,489.06	7,477.84	28.00	26.53	-90.05	528.25	-646.14	943.62	905.35	38.27	24.660		
7,500.00	7,462.68	7,519.09	7,507.80	28.10	26.64	-90.16	526.41	-645.21	942.63	904.21	38.42	24.536		
7,600.00	7,562.68	7,608.99	7,597.56	28.44	26.97	-90.42	522.06	-642.99	940.19	901.30	38.89	24.179		
7,700.00	7,662.68	7,700.00	7,688.53	28.78	27.30	-90.58	519.58	-641.73	938.82	899.47	39.35	23.858		
7,800.00	7,762.68	7,791.16	7,779.68	29.11	27.61	-90.61	518.98	-641.43	938.48	898.68	39.80	23.577		
7,900.00	7,862.68	7,891.16	7,879.68	29.45	27.95	-90.61	518.98	-641.43	938.48	898.20	40.28	23.297		
8,000.00	7,962.68	7,991.16	7,979.68	29.79	28.28	-90.61	518.98	-641.43	938.48	897.72	40.76	23.023		
8,100.00	8,062.68	8,091.16	8,079.68	30.13	28.62	-90.61	518.98	-641.43	938.48	897.24	41.24	22.755		
8,200.00	8,162.68	8,191.16	8,179.68	30.46	28.96	-90.61	518.98	-641.43	938.48	896.76	41.72	22.493		
8,300.00	8,262.68	8,291.16	8,279.68	30.80	29.30	-90.61	518.98	-641.43	938.48	896.28	42.20	22.237		
8,400.00	8,362.68	8,391.16	8,379.68	31.14	29.63	-90.61	518.98	-641.43	938.48	895.79	42.69	21.986		
8,500.00	8,462.68	8,491.16	8,479.68	31.48	29.97	-90.61	518.98	-641.43	938.48	895.31	43.17	21.740		
8,600.00	8,562.68	8,591.16	8,579.68	31.82	30.31	-90.61	518.98	-641.43	938.48	894.83	43.65	21.499		
8,700.00	8,662.68	8,691.16	8,679.68	32.16	30.65	-90.61	518.98	-641.43	938.48	894.35	44.14	21.264		
8,800.00	8,762.68	8,791.16	8,779.68	32.50	30.99	-90.61	518.98	-641.43	938.48	893.86	44.62	21.033		
8,900.00	8,862.68	8,891.16	8,879.68	32.85	31.33	-90.61	518.98	-641.43	938.48	893.38	45.10	20.807		
9,000.00	8,962.68	8,991.16	8,979.68	33.19	31.67	-90.61	518.98	-641.43	938.48	892.89	45.59	20.586		
9,100.00	9,062.68	9,091.16	9,079.68	33.53	32.02	-90.61	518.98	-641.43	938.48	892.41	46.07	20.369		
9,200.00	9,162.68	9,191.16	9,179.68	33.87	32.36	-90.61	518.98	-641.43	938.48	891.92	46.56	20.156		
9,300.00	9,262.68	9,291.16	9,279.68	34.22	32.70	-90.61	518.98	-641.43	938.48	891.43	47.05	19.948		
9,400.00	9,362.68	9,391.16	9,379.68	34.56	33.04	-90.61	518.98	-641.43	938.48	890.95	47.53	19.744		
9,500.00	9,462.68	9,491.16	9,479.68	34.90	33.39	-90.61	518.98	-641.43	938.48	890.46	48.02	19.543		
9,600.00	9,562.68	9,591.16	9,579.68	35.25	33.73	-90.61	518.98	-641.43	938.48	889.97	48.51	19.347		
9,700.00	9,662.68	9,691.16	9,679.68	35.59	34.07	-90.61	518.98	-641.43	938.48	889.48	49.00	19.154		
9,800.00	9,762.68	9,791.16	9,779.68	35.93	34.42	-90.61	518.98	-641.43	938.48	889.00	49.48	18.965		
9,900.00	9,862.68	9,891.16	9,879.68	36.28	34.76	-90.61	518.98	-641.43	938.48	888.51	49.97	18.780		

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 PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,000.00	9,962.68	9,991.16	9,979.68	36.62	35.10	-90.61	518.98	-641.43	938.48	888.02	50.46	18.598		
10,100.00	10,062.68	10,091.16	10,079.68	36.97	35.45	-90.61	518.98	-641.43	938.48	887.53	50.95	18.419		
10,200.00	10,162.68	10,191.16	10,179.68	37.31	35.79	-90.61	518.98	-641.43	938.48	887.04	51.44	18.244		
10,300.00	10,262.68	10,291.16	10,279.68	37.66	36.14	-90.61	518.98	-641.43	938.48	886.55	51.93	18.071		
10,400.00	10,362.68	10,391.16	10,379.68	38.01	36.48	-90.61	518.98	-641.43	938.48	886.06	52.42	17.902		
10,500.00	10,462.68	10,491.16	10,479.68	38.35	36.83	-90.61	518.98	-641.43	938.48	885.57	52.91	17.736		
10,600.00	10,562.68	10,591.16	10,579.68	38.70	37.18	-90.61	518.98	-641.43	938.48	885.08	53.40	17.573		
10,700.00	10,662.68	10,691.16	10,679.68	39.04	37.52	-90.61	518.98	-641.43	938.48	884.59	53.90	17.413		
10,800.00	10,762.68	10,791.16	10,779.68	39.39	37.87	-90.61	518.98	-641.43	938.48	884.09	54.39	17.256		
10,900.00	10,862.68	10,891.16	10,879.68	39.74	38.22	-90.61	518.98	-641.43	938.48	883.60	54.88	17.101		
11,000.00	10,962.68	10,991.16	10,979.68	40.09	38.56	-90.61	518.98	-641.43	938.48	883.11	55.37	16.949		
11,100.00	11,062.68	11,091.16	11,079.68	40.43	38.91	-90.61	518.98	-641.43	938.48	882.62	55.86	16.800		
11,200.00	11,162.68	11,191.16	11,179.68	40.78	39.26	-90.61	518.98	-641.43	938.48	882.12	56.36	16.653		
11,300.00	11,262.68	11,291.16	11,279.68	41.13	39.60	-90.61	518.98	-641.43	938.48	881.63	56.85	16.508		
11,400.00	11,362.68	11,391.16	11,379.68	41.48	39.95	-90.61	518.98	-641.43	938.48	881.14	57.34	16.366		
11,500.00	11,462.68	11,491.16	11,479.68	41.82	40.30	-90.61	518.98	-641.43	938.48	880.64	57.84	16.227		
11,600.00	11,562.68	11,591.16	11,579.68	42.17	40.65	-90.61	518.98	-641.43	938.48	880.15	58.33	16.089		
11,700.00	11,662.68	11,691.16	11,679.68	42.52	41.00	-90.61	518.98	-641.43	938.48	879.66	58.82	15.954		
11,701.23	11,663.92	11,692.39	11,680.92	42.53	41.00	-90.61	518.98	-641.43	938.48	879.65	58.83	15.953 CC		
11,800.00	11,762.68	11,789.95	11,778.04	42.87	41.35	-91.10	511.04	-641.36	938.53	879.22	59.32	15.823		
11,900.00	11,862.68	11,893.37	11,868.50	43.22	41.70	-92.49	488.12	-641.16	939.11	879.32	59.79	15.706		
11,910.36	11,873.04	11,892.57	11,877.17	43.25	41.74	-92.68	485.08	-641.13	939.25	879.41	59.84	15.695		
11,950.00	11,912.65	11,927.21	11,909.39	43.38	41.87	95.23	472.36	-641.02	940.07	880.06	60.01	15.664		
12,000.00	11,962.32	11,970.04	11,948.06	43.53	42.04	94.20	453.99	-640.86	941.90	881.69	60.21	15.643		
12,050.00	12,011.30	12,011.96	11,984.49	43.66	42.21	93.14	433.25	-640.68	944.57	884.18	60.39	15.641		
12,100.00	12,059.24	12,050.00	12,016.15	43.78	42.37	92.11	412.17	-640.50	948.03	887.50	60.53	15.662		
12,150.00	12,105.76	12,093.49	12,050.54	43.89	42.56	90.95	385.57	-640.26	952.20	891.51	60.69	15.689		
12,200.00	12,150.50	12,133.26	12,080.13	43.98	42.73	89.84	359.03	-640.03	957.04	896.22	60.82	15.737		
12,250.00	12,193.14	12,172.44	12,107.43	44.06	42.90	88.73	330.92	-639.79	962.46	901.54	60.93	15.797		
12,300.00	12,233.34	12,211.12	12,132.42	44.13	43.07	87.63	301.42	-639.53	968.40	907.38	61.02	15.870		
12,350.00	12,270.79	12,250.00	12,155.49	44.18	43.25	86.53	270.13	-639.26	974.77	913.66	61.11	15.950		
12,400.00	12,305.22	12,287.17	12,175.50	44.22	43.43	85.47	238.82	-638.98	981.50	920.31	61.19	16.040		
12,450.00	12,336.36	12,324.65	12,193.59	44.25	43.61	84.43	206.00	-638.70	988.52	927.25	61.27	16.134		
12,500.00	12,363.98	12,361.84	12,209.38	44.27	43.79	83.43	172.33	-638.40	995.74	934.39	61.35	16.230		
12,550.00	12,387.85	12,400.00	12,223.27	44.29	43.98	82.46	136.80	-638.09	1,003.10	941.66	61.45	16.325		
12,600.00	12,407.81	12,435.52	12,234.05	44.29	44.16	81.56	102.96	-637.80	1,010.52	948.98	61.54	16.421		
12,650.00	12,423.70	12,472.10	12,242.94	44.30	44.34	80.71	67.49	-637.49	1,017.94	956.29	61.65	16.511		
12,700.00	12,435.40	12,508.56	12,249.53	44.31	44.53	79.92	31.63	-637.18	1,025.30	963.52	61.78	16.596		
12,750.00	12,442.82	12,550.00	12,254.23	44.34	44.74	79.20	-9.53	-636.82	1,032.54	970.59	61.95	16.668		
12,800.00	12,445.90	12,581.30	12,255.81	44.41	44.91	78.54	-40.78	-636.54	1,039.57	977.48	62.09	16.744		
12,810.36	12,446.00	12,589.03	12,255.93	44.42	44.95	78.42	-48.51	-636.48	1,041.00	978.88	62.12	16.757		
12,900.00	12,446.00	12,677.93	12,256.90	44.59	45.43	78.64	-137.41	-635.70	1,051.99	989.42	62.57	16.813		
13,000.00	12,446.00	12,777.48	12,257.97	44.83	46.02	78.83	-236.94	-634.83	1,061.02	997.89	63.13	16.806		
13,100.00	12,446.00	12,877.29	12,259.05	45.12	46.67	78.97	-336.74	-633.96	1,066.64	1,002.87	63.77	16.727		
13,200.00	12,446.00	12,977.25	12,260.14	45.46	47.36	79.06	-436.69	-633.09	1,068.85	1,004.37	64.47	16.578		
13,217.18	12,446.00	12,994.42	12,260.32	45.52	47.48	79.07	-453.86	-632.94	1,068.88	1,004.28	64.60	16.546		
13,300.00	12,446.00	13,077.24	12,261.22	45.84	48.10	79.12	-536.68	-632.22	1,068.80	1,003.56	65.25	16.381		
13,400.00	12,446.00	13,177.24	12,262.30	46.27	48.88	79.18	-636.66	-631.34	1,068.71	1,002.62	66.09	16.170		
13,500.00	12,446.00	13,277.23	12,263.39	46.75	49.71	79.23	-736.65	-630.47	1,068.61	1,001.61	67.00	15.948		
13,600.00	12,446.00	13,377.23	12,264.47	47.29	50.58	79.29	-836.63	-629.60	1,068.52	1,000.54	67.98	15.717		
13,700.00	12,446.00	13,477.22	12,265.55	47.87	51.48	79.35	-936.61	-628.73	1,068.43	999.40	69.03	15.478		
13,800.00	12,446.00	13,577.21	12,266.63	48.50	52.42	79.41	-1,036.60	-627.85	1,068.34	998.21	70.13	15.233		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance								Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
13,900.00	12,446.00	13,677.21	12,267.72	49.18	53.40	79.47	-1,136.58	-626.98	1,068.25	996.96	71.29	14.984		
14,000.00	12,446.00	13,777.20	12,268.80	49.90	54.41	79.53	-1,236.57	-626.11	1,068.16	995.65	72.51	14.731		
14,100.00	12,446.00	13,877.20	12,269.88	50.66	55.45	79.58	-1,336.55	-625.24	1,068.08	994.29	73.78	14.476		
14,200.00	12,446.00	13,977.19	12,270.97	51.47	56.52	79.64	-1,436.54	-624.36	1,067.99	992.89	75.10	14.221		
14,300.00	12,446.00	14,077.18	12,272.05	52.31	57.61	79.70	-1,536.52	-623.49	1,067.91	991.44	76.47	13.966		
14,400.00	12,446.00	14,177.18	12,273.13	53.19	58.73	79.76	-1,636.51	-622.62	1,067.82	989.94	77.88	13.711		
14,500.00	12,446.00	14,277.17	12,274.21	54.11	59.88	79.82	-1,736.49	-621.75	1,067.74	988.41	79.33	13.459		
14,600.00	12,446.00	14,377.17	12,275.30	55.06	61.05	79.87	-1,836.47	-620.88	1,067.66	986.83	80.83	13.209		
14,700.00	12,446.00	14,477.16	12,276.38	56.05	62.24	79.93	-1,936.46	-620.00	1,067.58	985.22	82.36	12.962		
14,800.00	12,446.00	14,577.15	12,277.46	57.06	63.45	79.99	-2,036.44	-619.13	1,067.50	983.57	83.93	12.719		
14,900.00	12,446.00	14,677.15	12,278.55	58.11	64.69	80.05	-2,136.43	-618.26	1,067.42	981.89	85.53	12.480		
15,000.00	12,446.00	14,777.14	12,279.63	59.18	65.94	80.11	-2,236.41	-617.39	1,067.34	980.17	87.17	12.245		
15,100.00	12,446.00	14,877.14	12,280.71	60.28	67.20	80.17	-2,336.40	-616.51	1,067.27	978.43	88.84	12.014		
15,200.00	12,446.00	14,977.13	12,281.79	61.40	68.49	80.22	-2,436.38	-615.64	1,067.19	976.66	90.53	11.788		
15,300.00	12,446.00	15,077.12	12,282.88	62.54	69.79	80.28	-2,536.37	-614.77	1,067.12	974.86	92.25	11.567		
15,400.00	12,446.00	15,177.12	12,283.96	63.71	71.10	80.34	-2,636.35	-613.90	1,067.05	973.04	94.00	11.351		
15,500.00	12,446.00	15,277.11	12,285.04	64.90	72.43	80.40	-2,736.33	-613.02	1,066.97	971.20	95.78	11.140		
15,600.00	12,446.00	15,377.11	12,286.13	66.11	73.77	80.46	-2,836.32	-612.15	1,066.90	969.33	97.57	10.935		
15,700.00	12,446.00	15,477.10	12,287.21	67.34	75.12	80.52	-2,936.30	-611.28	1,066.83	967.44	99.39	10.734		
15,800.00	12,446.00	15,577.09	12,288.29	68.58	76.49	80.57	-3,036.29	-610.41	1,066.77	965.54	101.23	10.538		
15,900.00	12,446.00	15,677.09	12,289.37	69.84	77.86	80.63	-3,136.27	-609.53	1,066.70	963.61	103.09	10.347		
16,000.00	12,446.00	15,777.08	12,290.46	71.12	79.25	80.69	-3,236.26	-608.66	1,066.63	961.67	104.97	10.162		
16,100.00	12,446.00	15,877.08	12,291.54	72.41	80.64	80.75	-3,336.24	-607.79	1,066.57	959.71	106.86	9.981		
16,200.00	12,446.00	15,977.07	12,292.62	73.72	82.05	80.81	-3,436.23	-606.92	1,066.50	957.73	108.77	9.805		
16,300.00	12,446.00	16,077.07	12,293.71	75.04	83.46	80.87	-3,536.21	-606.04	1,066.44	955.74	110.70	9.634		
16,400.00	12,446.00	16,177.06	12,294.79	76.37	84.89	80.92	-3,636.19	-605.17	1,066.38	953.74	112.65	9.467		
16,500.00	12,446.00	16,277.05	12,295.87	77.72	86.32	80.98	-3,736.18	-604.30	1,066.32	951.72	114.60	9.304		
16,600.00	12,446.00	16,377.05	12,296.95	79.08	87.76	81.04	-3,836.16	-603.43	1,066.26	949.69	116.58	9.147		
16,700.00	12,446.00	16,477.04	12,298.04	80.45	89.20	81.10	-3,936.15	-602.55	1,066.20	947.64	118.56	8.993		
16,800.00	12,446.00	16,577.04	12,299.12	81.82	90.66	81.16	-4,036.13	-601.68	1,066.15	945.59	120.56	8.843		
16,900.00	12,446.00	16,677.03	12,300.20	83.21	92.12	81.22	-4,136.12	-600.81	1,066.09	943.52	122.57	8.698		
17,000.00	12,446.00	16,777.02	12,301.29	84.61	93.58	81.27	-4,236.10	-599.94	1,066.03	941.45	124.59	8.556		
17,100.00	12,446.00	16,877.02	12,302.37	86.02	95.06	81.33	-4,336.08	-599.07	1,065.98	939.36	126.62	8.419		
17,200.00	12,446.00	16,977.01	12,303.45	87.43	96.54	81.39	-4,436.07	-598.19	1,065.93	937.26	128.66	8.285		
17,300.00	12,446.00	17,077.01	12,304.53	88.86	98.02	81.45	-4,536.05	-597.32	1,065.88	935.16	130.72	8.154		
17,400.00	12,446.00	17,177.00	12,305.62	90.29	99.51	81.51	-4,636.04	-596.45	1,065.83	933.05	132.78	8.027		
17,500.00	12,446.00	17,276.99	12,306.70	91.73	101.00	81.57	-4,736.02	-595.58	1,065.78	930.93	134.85	7.903		
17,600.00	12,446.00	17,376.99	12,307.78	93.17	102.50	81.63	-4,836.01	-594.70	1,065.73	928.80	136.93	7.783		
17,700.00	12,446.00	17,476.98	12,308.87	94.63	104.01	81.68	-4,935.99	-593.83	1,065.68	926.66	139.02	7.666		
17,800.00	12,446.00	17,576.98	12,309.95	96.09	105.51	81.74	-5,035.98	-592.96	1,065.64	924.52	141.11	7.552		
17,900.00	12,446.00	17,676.97	12,311.03	97.55	107.03	81.80	-5,135.96	-592.09	1,065.59	922.37	143.22	7.440		
18,000.00	12,446.00	17,776.96	12,312.11	99.02	108.54	81.86	-5,235.94	-591.21	1,065.55	920.22	145.33	7.332		
18,100.00	12,446.00	17,876.96	12,313.20	100.50	110.06	81.92	-5,335.93	-590.34	1,065.50	918.06	147.44	7.226		
18,200.00	12,446.00	17,976.95	12,314.28	101.98	111.59	81.98	-5,435.91	-589.47	1,065.46	915.89	149.57	7.124		
18,300.00	12,446.00	18,076.95	12,315.36	103.47	113.11	82.03	-5,535.90	-588.60	1,065.42	913.72	151.70	7.023		
18,400.00	12,446.00	18,176.94	12,316.45	104.96	114.65	82.09	-5,635.88	-587.72	1,065.38	911.55	153.84	6.925		
18,500.00	12,446.00	18,276.93	12,317.53	106.46	116.18	82.15	-5,735.87	-586.85	1,065.35	909.37	155.98	6.830		
18,600.00	12,446.00	18,376.93	12,318.61	107.96	117.72	82.21	-5,835.85	-585.98	1,065.31	907.18	158.13	6.737		
18,700.00	12,446.00	18,476.92	12,319.69	109.46	119.26	82.27	-5,935.84	-585.11	1,065.27	904.99	160.28	6.646		
18,800.00	12,446.00	18,576.92	12,320.78	110.97	120.80	82.33	-6,035.82	-584.23	1,065.24	902.80	162.44	6.558		
18,900.00	12,446.00	18,676.91	12,321.86	112.49	122.35	82.39	-6,135.80	-583.36	1,065.20	900.60	164.61	6.471		
19,000.00	12,446.00	18,776.91	12,322.94	114.00	123.90	82.44	-6,235.79	-582.49	1,065.17	898.39	166.78	6.387		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance								Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,100.00	12,446.00	18,876.90	12,324.03	115.53	125.45	82.50	-6,335.77	-581.62	1,065.14	896.19	168.95	6.304		
19,200.00	12,446.00	18,976.89	12,325.11	117.05	127.00	82.56	-6,435.76	-580.74	1,065.11	893.98	171.13	6.224		
19,300.00	12,446.00	19,076.89	12,326.19	118.58	128.56	82.62	-6,535.74	-579.87	1,065.08	891.77	173.31	6.145		
19,400.00	12,446.00	19,176.88	12,327.27	120.11	130.12	82.68	-6,635.73	-579.00	1,065.05	889.55	175.50	6.069		
19,500.00	12,446.00	19,276.88	12,328.36	121.64	131.68	82.74	-6,735.71	-578.13	1,065.02	887.33	177.69	5.994		
19,600.00	12,446.00	19,376.87	12,329.44	123.18	133.24	82.80	-6,835.69	-577.25	1,065.00	885.11	179.89	5.920		
19,700.00	12,446.00	19,476.86	12,330.52	124.72	134.81	82.85	-6,935.68	-576.38	1,064.97	882.88	182.09	5.849		
19,800.00	12,446.00	19,576.86	12,331.61	126.27	136.37	82.91	-7,035.66	-575.51	1,064.95	880.66	184.29	5.779		
19,900.00	12,446.00	19,676.85	12,332.69	127.81	137.94	82.97	-7,135.65	-574.64	1,064.93	878.43	186.50	5.710		
20,000.00	12,446.00	19,776.85	12,333.77	129.36	139.52	83.03	-7,235.63	-573.77	1,064.91	876.19	188.71	5.643		
20,100.00	12,446.00	19,876.84	12,334.86	130.91	141.09	83.09	-7,335.62	-572.89	1,064.88	873.96	190.92	5.578		
20,200.00	12,446.00	19,976.83	12,335.94	132.46	142.66	83.15	-7,435.60	-572.02	1,064.87	871.72	193.14	5.513		
20,300.00	12,446.00	20,076.83	12,337.02	134.02	144.24	83.21	-7,535.59	-571.15	1,064.85	869.48	195.36	5.451		
20,400.00	12,446.00	20,176.82	12,338.10	135.58	145.82	83.26	-7,635.57	-570.28	1,064.83	867.24	197.59	5.389		
20,500.00	12,446.00	20,276.82	12,339.19	137.14	147.40	83.32	-7,735.55	-569.40	1,064.81	865.00	199.81	5.329		
20,600.00	12,446.00	20,376.81	12,340.27	138.70	148.98	83.38	-7,835.54	-568.53	1,064.80	862.76	202.04	5.270		
20,700.00	12,446.00	20,476.80	12,341.35	140.27	150.56	83.44	-7,935.52	-567.66	1,064.79	860.51	204.27	5.213		
20,800.00	12,446.00	20,576.80	12,342.44	141.83	152.15	83.50	-8,035.51	-566.79	1,064.77	858.26	206.51	5.156		
20,900.00	12,446.00	20,676.79	12,343.52	143.40	153.73	83.56	-8,135.49	-565.91	1,064.76	856.01	208.75	5.101		
21,000.00	12,446.00	20,776.79	12,344.60	144.97	155.32	83.62	-8,235.48	-565.04	1,064.75	853.76	210.99	5.047		
21,100.00	12,446.00	20,876.78	12,345.68	146.54	156.91	83.67	-8,335.46	-564.17	1,064.74	851.51	213.23	4.993		
21,200.00	12,446.00	20,976.77	12,346.77	148.12	158.50	83.73	-8,435.45	-563.30	1,064.73	849.26	215.47	4.941		
21,300.00	12,446.00	21,076.77	12,347.85	149.69	160.09	83.79	-8,535.43	-562.42	1,064.73	847.00	217.72	4.890		
21,400.00	12,446.00	21,176.76	12,348.93	151.27	161.68	83.85	-8,635.41	-561.55	1,064.72	844.75	219.97	4.840		
21,500.00	12,446.00	21,276.76	12,350.02	152.85	163.27	83.91	-8,735.40	-560.68	1,064.72	842.49	222.22	4.791		
21,600.00	12,446.00	21,376.75	12,351.10	154.43	164.87	83.97	-8,835.38	-559.81	1,064.71	840.23	224.48	4.743		
21,700.00	12,446.00	21,476.75	12,352.18	156.01	166.46	84.03	-8,935.37	-558.93	1,064.71	837.98	226.73	4.696		
21,800.00	12,446.00	21,576.74	12,353.26	157.59	168.06	84.08	-9,035.35	-558.06	1,064.71	835.72	228.99	4.650		
21,886.11	12,446.00	21,662.84	12,354.20	158.96	169.44	84.13	-9,121.44	-557.31	1,064.71	833.77	230.94	4.610		
21,900.00	12,446.00	21,676.73	12,354.35	159.18	169.66	84.14	-9,135.34	-557.19	1,064.71	833.46	231.25	4.604		
22,000.00	12,446.00	21,776.73	12,355.43	160.76	171.26	84.20	-9,235.32	-556.32	1,064.71	831.19	233.51	4.560		
22,100.00	12,446.00	21,876.72	12,356.51	162.35	172.86	84.26	-9,335.31	-555.44	1,064.71	828.93	235.78	4.516		
22,200.00	12,446.00	21,976.72	12,357.60	163.94	174.46	84.32	-9,435.29	-554.57	1,064.71	826.67	238.04	4.473		
22,300.00	12,446.00	22,076.71	12,358.68	165.53	176.06	84.38	-9,535.27	-553.70	1,064.72	824.41	240.31	4.431		
22,400.00	12,446.00	22,176.70	12,359.76	167.12	177.66	84.44	-9,635.26	-552.83	1,064.72	822.14	242.58	4.389		
22,500.00	12,446.00	22,276.70	12,360.84	168.71	179.27	84.49	-9,735.24	-551.96	1,064.73	819.88	244.85	4.348		
22,600.00	12,446.00	22,376.69	12,361.93	170.30	180.87	84.55	-9,835.23	-551.08	1,064.74	817.61	247.12	4.309 ES, SF		
22,700.00	12,446.00	22,390.61	12,362.08	171.90	181.09	84.56	-9,849.14	-550.96	1,068.22	821.28	246.94	4.326		
22,800.00	12,446.00	22,390.61	12,362.08	173.49	181.09	84.56	-9,849.14	-550.96	1,080.89	836.78	244.11	4.428		
22,900.00	12,446.00	22,390.61	12,362.08	175.09	181.09	84.56	-9,849.14	-550.96	1,102.52	863.34	239.18	4.610		
23,000.00	12,446.00	22,390.61	12,362.08	176.69	181.09	84.56	-9,849.14	-550.96	1,132.60	899.99	232.61	4.869		
23,100.00	12,446.00	22,390.61	12,362.08	178.28	181.09	84.56	-9,849.14	-550.96	1,170.48	945.57	224.91	5.204		
23,200.00	12,446.00	22,390.61	12,362.08	179.88	181.09	84.56	-9,849.14	-550.96	1,215.43	998.86	216.57	5.612		
23,300.00	12,446.00	22,390.61	12,362.08	181.48	181.09	84.56	-9,849.14	-550.96	1,266.69	1,058.69	208.00	6.090		
23,400.00	12,446.00	22,390.61	12,362.08	183.08	181.09	84.56	-9,849.14	-550.96	1,323.53	1,124.03	199.50	6.634		
23,500.00	12,446.00	22,390.61	12,362.08	184.69	181.09	84.56	-9,849.14	-550.96	1,385.27	1,193.98	191.28	7.242		
23,600.00	12,446.00	22,390.61	12,362.08	186.29	181.09	84.56	-9,849.14	-550.96	1,451.27	1,267.79	183.49	7.909		
23,700.00	12,446.00	22,390.61	12,362.08	187.89	181.09	84.56	-9,849.14	-550.96	1,521.00	1,344.81	176.18	8.633		
23,800.00	12,446.00	22,390.61	12,362.08	189.50	181.09	84.56	-9,849.14	-550.96	1,593.95	1,424.55	169.40	9.409		
23,900.00	12,446.00	22,390.61	12,362.08	191.10	181.09	84.56	-9,849.14	-550.96	1,669.70	1,506.57	163.13	10.235		
23,929.64	12,446.00	22,390.61	12,362.08	191.58	181.09	84.56	-9,849.14	-550.96	1,692.64	1,531.27	161.37	10.489		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 190-MWD, 1393-OWSG (Rev2) MWD, 21860-BLIND													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major 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	76.03	857.09	3,446.35	3,551.40					
100.00	100.00	78.50	78.50	0.13	0.12	76.03	857.09	3,446.35	3,551.33	3,551.16	0.17	N/A		
200.00	200.00	178.50	178.50	0.48	0.27	76.03	857.09	3,446.35	3,551.33	3,550.78	0.55	6,411.745		
300.00	300.00	313.00	313.00	0.84	0.71	76.04	856.61	3,445.82	3,550.87	3,549.76	1.10	3,215.152		
400.00	400.00	441.57	441.56	1.20	1.17	76.05	855.70	3,444.23	3,549.49	3,547.82	1.67	2,120.045		
500.00	500.00	579.01	578.96	1.56	1.66	76.06	854.45	3,441.35	3,547.26	3,544.98	2.28	1,559.204		
600.00	600.00	709.67	709.53	1.92	2.13	76.08	851.77	3,437.36	3,543.74	3,540.88	2.86	1,238.429		
700.00	700.00	802.91	802.70	2.28	2.47	76.10	849.70	3,434.38	3,540.11	3,536.76	3.35	1,056.798		
800.00	800.00	892.51	892.23	2.63	2.79	76.13	847.37	3,431.85	3,536.74	3,532.91	3.83	923.645		
900.00	900.00	980.07	979.74	2.99	3.11	76.16	845.21	3,429.85	3,533.91	3,529.61	4.30	821.130		
1,000.00	1,000.00	1,117.68	1,117.24	3.35	3.61	76.18	842.30	3,425.29	3,530.06	3,525.15	4.91	719.161		
1,100.00	1,100.00	1,207.35	1,206.85	3.71	3.93	76.20	840.67	3,422.31	3,526.39	3,521.00	5.39	654.361		
1,200.00	1,200.00	1,320.03	1,319.44	4.07	4.34	76.21	838.78	3,418.27	3,522.50	3,516.57	5.93	594.099		
1,300.00	1,300.00	1,408.60	1,407.94	4.43	4.53	76.22	837.49	3,415.08	3,518.65	3,512.35	6.31	557.840		
1,400.00	1,400.00	1,509.95	1,509.22	4.79	4.56	76.23	836.27	3,411.46	3,514.89	3,508.31	6.58	533.973		
1,500.00	1,500.00	1,603.62	1,602.83	5.14	4.62	76.23	835.23	3,408.27	3,511.32	3,504.44	6.88	510.310		
1,600.00	1,600.00	1,699.80	1,698.95	5.50	4.70	76.24	834.14	3,405.00	3,507.75	3,500.55	7.20	487.075		
1,700.00	1,700.00	1,786.95	1,786.06	5.86	4.79	76.24	833.29	3,402.33	3,504.53	3,497.00	7.54	465.074		
1,800.00	1,800.00	1,876.39	1,875.45	6.22	4.91	76.24	832.53	3,399.79	3,501.58	3,493.69	7.89	444.043		
1,900.00	1,900.00	1,959.25	1,958.28	6.58	5.03	76.25	831.37	3,397.91	3,499.05	3,490.81	8.24	424.496		
2,000.00	2,000.00	2,043.29	2,042.30	6.94	5.17	76.27	829.68	3,396.57	3,497.01	3,488.40	8.61	406.096		
2,100.00	2,100.00	2,125.00	2,123.98	7.29	5.32	76.30	827.88	3,395.57	3,495.33	3,486.34	8.99	388.970		
2,200.00	2,200.00	2,204.60	2,203.57	7.65	5.47	76.32	826.42	3,394.98	3,494.20	3,484.84	9.37	373.043		
2,300.00	2,299.99	2,288.41	2,287.37	8.01	5.64	47.05	825.43	3,394.83	3,492.86	3,483.10	9.76	358.002		
2,400.00	2,399.91	2,376.17	2,375.13	8.37	5.82	47.13	824.81	3,394.91	3,490.11	3,479.95	10.15	343.689		
2,500.00	2,499.69	2,460.83	2,459.79	8.72	6.00	47.25	824.36	3,395.27	3,485.95	3,475.40	10.55	330.334		
2,600.00	2,599.27	2,545.04	2,543.99	9.08	6.19	47.41	824.17	3,395.98	3,480.50	3,469.54	10.95	317.755		
2,685.78	2,684.47	2,640.65	2,639.59	9.39	6.41	47.62	824.03	3,397.01	3,474.67	3,463.33	11.33	306.571		
2,700.00	2,698.58	2,664.74	2,663.68	9.44	6.47	47.66	823.80	3,397.20	3,473.52	3,462.11	11.41	304.438		
2,800.00	2,797.77	2,793.81	2,792.67	9.81	6.80	47.93	819.63	3,397.96	3,464.77	3,452.88	11.89	291.287		
2,900.00	2,896.96	2,879.00	2,877.70	10.17	7.04	48.15	814.48	3,398.98	3,456.05	3,443.73	12.32	280.433		
3,000.00	2,996.15	2,935.54	2,934.12	10.54	7.19	48.30	811.00	3,400.13	3,448.17	3,435.46	12.71	271.238		
3,100.00	3,095.35	3,045.67	3,044.05	10.92	7.50	48.58	805.04	3,403.06	3,441.20	3,428.00	13.19	260.866		
3,200.00	3,194.54	3,351.00	3,348.23	11.29	8.44	49.47	779.86	3,399.45	3,428.40	3,414.39	14.01	244.637		
3,300.00	3,293.73	3,420.78	3,417.70	11.67	8.66	49.68	773.80	3,397.21	3,415.30	3,400.86	14.45	236.413		
3,400.00	3,392.92	3,488.36	3,485.08	12.05	8.88	49.87	768.79	3,395.64	3,403.31	3,388.44	14.88	228.776		
3,500.00	3,492.12	3,659.97	3,656.29	12.43	9.44	50.31	758.44	3,390.69	3,391.44	3,375.95	15.49	218.973		
3,600.00	3,591.31	3,728.00	3,724.18	12.81	9.66	50.46	755.53	3,387.39	3,377.91	3,361.99	15.92	212.160		
3,700.00	3,690.50	3,823.00	3,819.07	13.20	9.96	50.64	753.23	3,383.50	3,365.34	3,348.94	16.40	205.206		
3,800.00	3,789.69	3,859.37	3,855.43	13.58	10.08	50.71	752.72	3,382.50	3,353.95	3,337.17	16.78	199.877		
3,900.00	3,888.89	3,925.46	3,921.49	13.97	10.29	50.84	751.36	3,381.40	3,343.84	3,326.63	17.21	194.274		
4,000.00	3,988.08	4,059.42	4,055.23	14.36	10.74	51.19	744.15	3,379.73	3,333.64	3,315.87	17.78	187.542		
4,100.00	4,087.27	4,149.88	4,145.39	14.75	11.05	51.46	736.82	3,378.48	3,322.96	3,304.69	18.26	181.937		
4,200.00	4,186.46	4,228.30	4,223.61	15.14	11.32	51.69	731.37	3,377.82	3,313.03	3,294.30	18.73	176.871		
4,300.00	4,285.66	4,379.29	4,374.40	15.53	11.83	52.07	723.92	3,375.65	3,303.13	3,283.79	19.33	170.853		
4,400.00	4,384.85	4,527.04	4,521.87	15.92	12.33	52.43	717.00	3,370.04	3,290.65	3,270.73	19.93	165.136		
4,500.00	4,484.04	4,599.07	4,593.80	16.31	12.58	52.60	714.32	3,367.18	3,278.42	3,258.04	20.38	160.828		
4,600.00	4,583.23	4,673.00	4,667.66	16.71	12.83	52.77	711.89	3,365.07	3,267.31	3,246.46	20.85	156.736		
4,700.00	4,682.42	4,732.82	4,727.44	17.10	13.04	52.90	710.02	3,363.95	3,257.16	3,235.88	21.28	153.048		
4,800.00	4,781.62	4,815.12	4,809.69	17.50	13.32	53.09	707.61	3,362.84	3,247.74	3,225.98	21.76	149.255		
4,900.00	4,880.81	4,907.66	4,902.21	17.89	13.63	53.29	705.52	3,361.84	3,238.71	3,216.46	22.26	145.514		
5,000.00	4,980.00	4,999.07	4,993.60	18.29	13.94	53.49	703.80	3,360.92	3,229.86	3,207.11	22.75	141.955		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													LHS Wildcat Fed Com - LHS Wildcat Fed Com 604H - OH - OH		Offset Site Error:	0.00 usft
Survey Program: 190-MWD, 1393-OWSG (Rev2) MWD, 21860-BLIND															Offset Well Error:	0.00 usft
Reference		Offset		Semi Major 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	5,079.19	5,201.96	5,196.29	18.68	14.64	53.97	696.99	3,356.92	3,220.25	3,196.79	23.46	137.263				
5,200.00	5,178.39	5,364.92	5,358.62	19.08	15.23	54.45	685.45	3,348.71	3,206.54	3,182.44	24.10	133.061				
5,300.00	5,277.58	5,450.83	5,444.15	19.48	15.54	54.73	678.73	3,344.24	3,193.06	3,168.46	24.60	129.802				
5,400.00	5,376.77	5,541.36	5,534.29	19.87	15.88	55.02	671.52	3,339.88	3,180.02	3,154.91	25.11	126.640				
5,500.00	5,475.96	5,641.06	5,633.51	20.27	16.24	55.35	663.15	3,335.01	3,166.98	3,141.34	25.64	123.515				
5,600.00	5,575.16	5,720.84	5,712.95	20.67	16.54	55.61	656.68	3,331.38	3,154.40	3,128.26	26.13	120.697				
5,700.00	5,674.35	5,801.00	5,792.80	21.07	16.83	55.87	650.43	3,328.18	3,142.48	3,115.85	26.63	118.006				
5,800.00	5,773.54	5,936.74	5,927.91	21.47	17.34	56.34	638.69	3,322.39	3,130.32	3,103.08	27.23	114.948				
5,900.00	5,872.73	6,042.01	6,032.51	21.87	17.74	56.73	628.10	3,317.09	3,117.40	3,089.62	27.78	112.210				
6,000.00	5,971.93	6,138.77	6,128.65	22.27	18.11	57.09	618.33	3,312.32	3,104.72	3,076.40	28.32	109.641				
6,100.00	6,071.12	6,237.74	6,226.96	22.67	18.48	57.47	608.07	3,307.33	3,092.04	3,063.18	28.86	107.145				
6,200.00	6,170.31	6,318.72	6,307.40	23.07	18.79	57.79	599.56	3,303.39	3,079.68	3,050.31	29.37	104.869				
6,300.00	6,269.50	6,398.33	6,386.59	23.47	19.10	58.08	592.06	3,300.05	3,068.13	3,038.26	29.87	102.711				
6,400.00	6,368.70	6,488.00	6,475.89	23.87	19.43	58.40	584.76	3,296.48	3,057.00	3,026.61	30.39	100.584				
6,500.00	6,467.89	6,569.58	6,557.26	24.27	19.73	58.65	579.82	3,293.51	3,046.41	3,015.52	30.89	98.605				
6,600.00	6,567.08	6,651.00	6,638.54	24.67	20.03	58.90	575.78	3,290.93	3,036.42	3,005.03	31.39	96.719				
6,700.00	6,666.27	6,737.97	6,725.37	25.07	20.34	59.15	571.54	3,288.58	3,026.97	2,995.07	31.90	94.877				
6,800.00	6,765.47	6,830.88	6,818.14	25.47	20.68	59.43	566.86	3,286.35	3,017.90	2,985.47	32.43	93.069				
6,900.00	6,864.66	6,909.82	6,896.96	25.88	20.96	59.67	562.86	3,284.76	3,009.28	2,976.36	32.92	91.408				
6,982.54	6,946.53	6,991.57	6,978.61	26.21	21.25	59.92	558.90	3,283.48	3,002.59	2,969.23	33.36	89.999				
7,000.00	6,963.85	7,011.34	6,998.36	26.28	21.33	59.96	558.03	3,283.13	3,001.18	2,967.72	33.46	89.693				
7,100.00	7,063.25	7,126.91	7,113.81	26.67	21.74	60.15	553.46	3,280.74	2,993.56	2,959.54	34.02	87.994				
7,200.00	7,162.90	7,201.72	7,188.57	27.05	22.00	60.22	551.19	3,279.30	2,987.44	2,952.95	34.49	86.621				
7,300.00	7,262.74	7,274.01	7,260.84	27.41	22.26	60.27	549.67	3,278.49	2,983.47	2,948.53	34.94	85.391				
7,400.00	7,362.69	7,353.96	7,340.78	27.77	22.53	60.31	548.37	3,278.32	2,981.69	2,946.30	35.39	84.247				
7,453.29	7,415.97	7,401.85	7,388.66	27.95	22.70	60.33	547.62	3,278.38	2,981.46	2,945.82	35.64	83.655				
7,468.32	7,431.00	7,415.47	7,402.28	28.00	22.74	89.65	547.41	3,278.41	2,981.48	2,945.77	35.71	83.492				
7,500.00	7,462.68	7,444.33	7,431.14	28.10	22.84	89.65	546.97	3,278.50	2,981.57	2,945.71	35.86	83.154				
7,600.00	7,562.68	7,539.56	7,526.35	28.44	23.17	89.68	545.55	3,278.95	2,982.03	2,945.70	36.33	82.090				
7,700.00	7,662.68	7,635.82	7,622.60	28.78	23.49	89.71	544.11	3,279.44	2,982.53	2,945.73	36.80	81.049				
7,800.00	7,762.68	7,725.99	7,712.75	29.11	23.80	89.74	542.77	3,280.17	2,983.33	2,946.08	37.26	80.072				
7,900.00	7,862.68	7,815.71	7,802.46	29.45	24.10	89.76	541.71	3,281.15	2,984.43	2,946.72	37.71	79.133				
8,000.00	7,962.68	7,904.39	7,891.13	29.79	24.39	89.77	540.87	3,282.52	2,985.97	2,947.80	38.16	78.239				
8,100.00	8,062.68	8,001.29	7,988.01	30.13	24.71	89.78	540.26	3,284.16	2,987.65	2,949.02	38.63	77.338				
8,200.00	8,162.68	8,092.45	8,079.16	30.46	25.00	89.79	539.96	3,285.95	2,989.61	2,950.53	39.08	76.494				
8,300.00	8,262.68	8,189.20	8,175.89	30.80	25.31	89.79	540.09	3,287.97	2,991.71	2,952.16	39.54	75.654				
8,400.00	8,362.68	8,286.90	8,273.55	31.14	25.61	89.77	540.87	3,290.24	2,994.02	2,954.02	40.01	74.840				
8,500.00	8,462.68	8,393.90	8,380.53	31.48	25.95	89.75	542.22	3,292.39	2,996.04	2,955.55	40.48	74.005				
8,600.00	8,562.68	8,483.73	8,470.33	31.82	26.23	89.72	543.71	3,294.35	2,998.22	2,957.30	40.93	73.257				
8,700.00	8,662.68	8,579.87	8,566.41	32.16	26.53	89.69	545.44	3,296.75	3,000.73	2,959.34	41.38	72.509				
8,800.00	8,762.68	8,713.02	8,699.53	32.50	26.94	89.64	547.73	3,299.14	3,002.49	2,960.57	41.92	71.627				
8,900.00	8,862.68	8,850.12	8,836.62	32.85	27.38	89.62	548.94	3,299.69	3,002.76	2,960.30	42.46	70.722				
9,000.00	8,962.68	8,959.91	8,946.39	33.19	27.73	89.59	550.24	3,299.70	3,002.78	2,959.84	42.95	69.921				
9,100.00	9,062.68	9,061.10	9,047.56	33.53	28.05	89.56	552.18	3,299.40	3,002.49	2,959.08	43.42	69.157				
9,163.30	9,125.98	9,118.02	9,104.48	33.75	28.23	89.54	553.29	3,299.32	3,002.42	2,958.72	43.70	68.705				
9,200.00	9,162.68	9,150.16	9,136.61	33.87	28.33	89.53	553.88	3,299.34	3,002.45	2,958.59	43.86	68.449				
9,300.00	9,262.68	9,238.21	9,224.65	34.22	28.61	89.49	555.48	3,299.64	3,002.81	2,958.50	44.31	67.769				
9,400.00	9,362.68	9,332.63	9,319.04	34.56	28.91	89.45	557.71	3,300.29	3,003.51	2,958.74	44.77	67.091				
9,500.00	9,462.68	9,439.85	9,426.22	34.90	29.25	89.40	560.39	3,300.95	3,004.15	2,958.90	45.25	66.387				
9,600.00	9,562.68	9,539.83	9,526.17	35.25	29.57	89.36	562.71	3,301.36	3,004.59	2,958.86	45.72	65.713				
9,700.00	9,662.68	9,628.01	9,614.32	35.59	29.86	89.32	564.92	3,301.91	3,005.25	2,959.08	46.17	65.090				
9,800.00	9,762.68	9,705.86	9,692.15	35.93	30.11	89.28	566.76	3,302.81	3,006.45	2,959.85	46.60	64.520				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													LHS Wildcat Fed Com - LHS Wildcat Fed Com 604H - OH - OH		Offset Site Error:	0.00 usft
Survey Program: 190-MWD, 1393-OWSG (Rev2) MWD, 21860-BLIND													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	9,862.68	9,765.00	9,751.26	36.28	30.30	89.26	568.01	3,304.00	3,008.60	2,961.62	46.98	64.039				
10,000.00	9,962.68	9,860.00	9,846.20	36.62	30.60	89.22	569.79	3,306.96	3,011.73	2,964.29	47.44	63.479				
10,100.00	10,062.68	9,965.19	9,951.33	36.97	30.95	89.22	570.24	3,310.53	3,015.16	2,967.22	47.94	62.898				
10,200.00	10,162.68	10,055.02	10,041.10	37.31	31.26	89.24	569.09	3,313.49	3,018.41	2,970.01	48.40	62.365				
10,300.00	10,262.68	10,189.38	10,175.36	37.66	31.72	89.31	565.48	3,317.04	3,020.97	2,972.00	48.97	61.685				
10,400.00	10,362.68	10,279.85	10,265.76	38.01	32.04	89.36	562.53	3,319.05	3,023.18	2,973.73	49.45	61.142				
10,500.00	10,462.68	10,412.47	10,398.31	38.35	32.50	89.42	559.81	3,322.32	3,025.78	2,975.76	50.01	60.500				
10,600.00	10,562.68	10,507.78	10,493.60	38.70	32.82	89.43	559.11	3,323.60	3,027.12	2,976.63	50.49	59.954				
10,700.00	10,662.68	10,667.24	10,653.05	39.04	33.37	89.46	557.74	3,324.06	3,027.22	2,976.10	51.11	59.227				
10,800.00	10,762.68	10,757.35	10,743.16	39.39	33.69	89.47	556.83	3,323.88	3,027.01	2,975.42	51.58	58.680				
10,826.09	10,788.78	10,781.47	10,767.28	39.48	33.78	89.48	556.60	3,323.87	3,027.00	2,975.29	51.71	58.539				
10,900.00	10,862.68	10,845.92	10,831.73	39.74	34.00	89.49	556.06	3,323.96	3,027.10	2,975.04	52.05	58.154				
11,000.00	10,962.68	10,930.05	10,915.85	40.09	34.29	89.50	555.48	3,324.45	3,027.67	2,975.16	52.51	57.659				
11,100.00	11,062.68	11,017.74	11,003.53	40.43	34.60	89.52	554.41	3,325.42	3,028.76	2,975.79	52.97	57.174				
11,200.00	11,162.68	11,122.18	11,107.95	40.78	34.96	89.55	552.86	3,326.69	3,029.97	2,976.49	53.48	56.657				
11,300.00	11,262.68	11,320.32	11,302.60	41.13	35.72	90.15	521.18	3,326.00	3,029.64	2,975.41	54.23	55.866				
11,400.00	11,362.68	11,421.00	11,395.00	41.48	36.15	90.90	481.52	3,323.84	3,027.69	2,972.90	54.79	55.259				
11,500.00	11,462.68	11,484.98	11,449.15	41.82	36.44	91.54	447.54	3,322.41	3,026.51	2,971.25	55.27	54.761				
11,511.92	11,474.60	11,489.86	11,453.10	41.87	36.47	91.60	444.69	3,322.32	3,026.50	2,971.18	55.32	54.713				
11,600.00	11,562.68	11,533.12	11,487.07	42.17	36.67	92.10	417.92	3,321.82	3,027.34	2,971.65	55.69	54.360				
11,700.00	11,662.68	11,595.83	11,532.51	42.52	36.98	92.92	374.76	3,321.12	3,030.00	2,973.85	56.16	53.955				
11,800.00	11,762.68	11,666.79	11,578.24	42.87	37.34	93.94	320.55	3,319.93	3,034.48	2,977.83	56.65	53.562				
11,900.00	11,862.68	11,732.37	11,616.13	43.22	37.70	94.95	267.07	3,318.18	3,040.86	2,983.73	57.12	53.232				
11,910.36	11,873.04	11,738.95	11,619.80	43.25	37.73	95.06	261.62	3,317.98	3,041.63	2,984.46	57.17	53.202				
11,950.00	11,912.65	11,761.02	11,631.89	43.38	37.86	-75.62	243.17	3,317.27	3,044.49	2,987.16	57.33	53.104				
12,000.00	11,962.32	11,785.81	11,644.76	43.53	38.00	-74.95	222.00	3,316.40	3,047.64	2,990.14	57.50	53.002				
12,050.00	12,011.30	11,797.00	11,650.29	43.66	38.06	-74.53	212.28	3,315.99	3,050.26	2,992.67	57.59	52.963				
12,100.00	12,059.24	11,823.15	11,662.39	43.78	38.21	-73.98	189.12	3,315.00	3,052.28	2,994.54	57.74	52.863				
12,150.00	12,105.76	11,844.00	11,671.14	43.89	38.34	-73.56	170.21	3,314.22	3,053.75	2,995.90	57.85	52.791				
12,200.00	12,150.50	11,844.00	11,671.14	43.98	38.34	-73.48	170.21	3,314.22	3,054.65	2,996.81	57.84	52.809				
12,250.00	12,193.14	11,872.42	11,681.83	44.06	38.51	-73.13	143.90	3,313.24	3,054.81	2,996.85	57.96	52.703				
12,300.00	12,233.34	11,891.00	11,688.05	44.13	38.62	-72.97	126.41	3,312.66	3,054.37	2,996.34	58.03	52.639				
12,350.00	12,270.79	11,928.86	11,699.14	44.18	38.85	-72.71	90.24	3,311.32	3,053.09	2,994.92	58.17	52.483				
12,400.00	12,305.22	11,957.87	11,706.16	44.22	39.03	-72.65	62.12	3,310.02	3,050.83	2,992.55	58.27	52.353				
12,450.00	12,336.36	11,983.37	11,710.98	44.25	39.19	-72.71	37.11	3,308.74	3,047.71	2,989.36	58.36	52.227				
12,500.00	12,363.98	12,009.12	11,714.74	44.27	39.35	-72.87	11.68	3,307.37	3,043.75	2,985.32	58.44	52.086				
12,550.00	12,387.85	12,040.65	11,718.11	44.29	39.56	-73.09	-19.62	3,305.62	3,038.93	2,980.38	58.55	51.906				
12,600.00	12,407.81	12,088.38	11,722.86	44.29	39.88	-73.34	-67.04	3,302.98	3,033.06	2,974.31	58.75	51.630				
12,650.00	12,423.70	12,142.56	11,728.35	44.30	40.24	-73.76	-120.85	3,299.90	3,025.94	2,966.95	58.99	51.298				
12,700.00	12,435.40	12,176.65	11,731.85	44.31	40.49	-74.44	-154.71	3,298.01	3,017.70	2,958.55	59.15	51.016				
12,750.00	12,442.82	12,208.28	11,735.14	44.34	40.72	-75.28	-186.13	3,296.45	3,008.60	2,949.29	59.32	50.719				
12,800.00	12,445.90	12,243.00	11,738.79	44.41	40.98	-76.26	-220.62	3,294.96	2,998.71	2,939.19	59.51	50.387				
12,810.36	12,446.00	12,248.35	11,739.36	44.42	41.02	-76.48	-225.94	3,294.75	2,996.56	2,937.01	59.55	50.321				
12,900.00	12,446.00	12,334.15	11,748.85	44.59	41.69	-76.67	-311.15	3,291.49	2,979.18	2,919.09	60.09	49.582				
13,000.00	12,446.00	12,387.71	11,755.10	44.83	42.13	-76.83	-364.32	3,289.94	2,963.73	2,903.21	60.52	48.972				
13,100.00	12,446.00	12,433.00	11,760.46	45.12	42.51	-76.97	-409.29	3,289.34	2,953.24	2,892.29	60.96	48.449				
13,200.00	12,446.00	12,504.49	11,768.61	45.46	43.13	-77.14	-480.31	3,289.33	2,947.49	2,885.88	61.61	47.839				
13,217.18	12,446.00	12,527.00	11,771.01	45.52	43.33	-77.18	-502.69	3,289.50	2,947.01	2,885.22	61.79	47.693				
13,300.00	12,446.00	12,561.82	11,774.44	45.84	43.64	-77.25	-537.34	3,289.96	2,945.31	2,883.08	62.23	47.327				
13,400.00	12,446.00	12,622.00	11,779.30	46.27	44.19	-77.34	-597.31	3,291.34	2,944.74	2,881.82	62.92	46.803				
13,400.24	12,446.00	12,622.00	11,779.30	46.27	44.19	-77.34	-597.31	3,291.34	2,944.74	2,881.82	62.92	46.803				
13,500.00	12,446.00	12,684.81	11,782.70	46.75	44.77	-77.41	-660.00	3,293.24	2,945.48	2,881.81	63.67	46.264				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													LHS Wildcat Fed Com - LHS Wildcat Fed Com 604H - OH - OH		Offset Site Error:	0.00 usft
Survey Program: 190-MWD, 1393-OWSG (Rev2) MWD, 21860-BLIND													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			
13,600.00	12,446.00	12,782.14	11,785.20	47.29	45.71	-77.47	-757.25	3,296.26	2,946.99	2,882.31	64.68	45.561				
13,700.00	12,446.00	12,926.05	11,788.49	47.87	47.15	-77.54	-901.08	3,299.24	2,947.54	2,881.46	66.08	44.607				
13,773.60	12,446.00	12,995.58	11,789.48	48.33	47.87	-77.56	-970.60	3,300.09	2,947.48	2,880.58	66.90	44.058				
13,800.00	12,446.00	13,014.83	11,789.66	48.50	48.07	-77.56	-989.85	3,300.34	2,947.51	2,880.35	67.16	43.888				
13,900.00	12,446.00	13,093.00	11,789.68	49.18	48.90	-77.57	-1,068.00	3,301.77	2,948.29	2,880.08	68.21	43.223				
14,000.00	12,446.00	13,224.14	11,790.93	49.90	50.35	-77.59	-1,199.12	3,303.54	2,948.35	2,878.64	69.71	42.293				
14,006.40	12,446.00	13,228.39	11,791.01	49.95	50.40	-77.59	-1,203.37	3,303.60	2,948.35	2,878.57	69.78	42.252				
14,100.00	12,446.00	13,303.37	11,792.33	50.66	51.25	-77.62	-1,278.32	3,305.05	2,948.82	2,877.94	70.88	41.604				
14,200.00	12,446.00	13,434.65	11,798.12	51.47	52.79	-77.74	-1,409.44	3,307.49	2,948.67	2,876.15	72.52	40.662				
14,300.00	12,446.00	13,525.73	11,803.37	52.31	53.88	-77.84	-1,500.35	3,309.18	2,948.32	2,874.43	73.89	39.904				
14,320.95	12,446.00	13,543.29	11,804.42	52.50	54.09	-77.86	-1,517.88	3,309.57	2,948.31	2,874.14	74.17	39.752				
14,400.00	12,446.00	13,608.12	11,808.42	53.19	54.89	-77.94	-1,582.56	3,311.22	2,948.49	2,873.27	75.22	39.196				
14,500.00	12,446.00	13,693.59	11,814.09	54.11	55.95	-78.05	-1,667.81	3,313.96	2,949.28	2,872.65	76.63	38.488				
14,600.00	12,446.00	13,787.00	11,821.35	55.06	57.13	-78.20	-1,760.86	3,317.45	2,950.38	2,872.24	78.14	37.757				
14,700.00	12,446.00	13,848.00	11,826.53	56.05	57.91	-78.31	-1,821.59	3,319.93	2,951.91	2,872.51	79.40	37.179				
14,800.00	12,446.00	13,941.00	11,833.83	57.06	59.11	-78.46	-1,914.17	3,324.86	2,954.58	2,873.60	80.97	36.488				
14,900.00	12,446.00	14,004.85	11,837.02	58.11	59.94	-78.54	-1,977.82	3,328.71	2,958.33	2,876.03	82.30	35.947				
15,000.00	12,446.00	14,242.86	11,840.10	59.18	63.08	-78.61	-2,215.64	3,336.15	2,960.39	2,875.16	85.23	34.733				
15,100.00	12,446.00	14,405.87	11,846.00	60.28	65.29	-78.72	-2,378.53	3,335.89	2,958.48	2,870.96	87.53	33.801				
15,200.00	12,446.00	14,489.43	11,852.67	61.40	66.43	-78.84	-2,461.82	3,335.70	2,955.77	2,866.62	89.15	33.156				
15,300.00	12,446.00	14,559.49	11,860.00	62.54	67.41	-78.98	-2,531.48	3,336.70	2,954.16	2,863.49	90.67	32.581				
15,400.00	12,446.00	14,652.57	11,868.51	63.71	68.71	-79.15	-2,624.16	3,338.26	2,953.11	2,860.68	92.43	31.948				
15,500.00	12,446.00	14,746.46	11,876.70	64.90	70.03	-79.31	-2,717.68	3,339.97	2,952.30	2,858.07	94.23	31.332				
15,600.00	12,446.00	14,874.83	11,890.52	66.11	71.85	-79.58	-2,845.27	3,342.71	2,951.55	2,855.17	96.39	30.621				
15,700.00	12,446.00	15,033.19	11,900.97	67.34	74.11	-79.77	-3,003.24	3,341.61	2,948.60	2,849.77	98.82	29.837				
15,800.00	12,446.00	15,106.00	11,903.49	68.58	75.15	-79.81	-3,075.98	3,339.98	2,944.98	2,844.53	100.45	29.317				
15,900.00	12,446.00	15,166.26	11,906.46	69.84	76.02	-79.86	-3,136.16	3,339.49	2,942.58	2,840.60	101.98	28.853				
16,000.00	12,446.00	15,245.16	11,912.48	71.12	77.16	-79.98	-3,214.82	3,341.02	2,942.07	2,838.35	103.71	28.367				
16,100.00	12,446.00	15,336.54	11,917.73	72.41	78.49	-80.08	-3,306.03	3,341.94	2,941.14	2,835.57	105.58	27.858				
16,120.99	12,446.00	15,348.20	11,918.17	72.69	78.66	-80.09	-3,317.68	3,342.12	2,941.11	2,835.22	105.89	27.774				
16,200.00	12,446.00	15,395.38	11,919.41	73.72	79.35	-80.11	-3,364.84	3,343.10	2,941.58	2,834.47	107.11	27.463				
16,300.00	12,446.00	15,515.90	11,919.56	75.04	81.12	-80.12	-3,485.33	3,345.30	2,942.41	2,833.14	109.27	26.928				
16,400.00	12,446.00	15,796.87	11,922.19	76.37	85.25	-80.15	-3,766.19	3,341.22	2,940.08	2,827.15	112.93	26.035				
16,500.00	12,446.00	15,862.00	11,921.79	77.72	86.21	-80.13	-3,831.24	3,338.01	2,934.55	2,819.96	114.59	25.609				
16,600.00	12,446.00	15,931.16	11,923.04	79.08	87.24	-80.14	-3,900.32	3,335.67	2,930.11	2,813.81	116.31	25.193				
16,700.00	12,446.00	15,997.45	11,928.90	80.45	88.24	-80.25	-3,966.34	3,335.47	2,927.27	2,809.25	118.02	24.803				
16,800.00	12,446.00	16,050.00	11,933.91	81.82	89.03	-80.35	-4,018.66	3,335.71	2,925.41	2,805.82	119.59	24.461				
16,900.00	12,446.00	16,122.45	11,940.62	83.21	90.12	-80.48	-4,090.78	3,336.93	2,924.72	2,803.35	121.37	24.097				
16,944.24	12,446.00	16,200.47	11,945.70	83.83	91.30	-80.58	-4,168.60	3,338.14	2,924.44	2,801.80	122.65	23.845				
17,000.00	12,446.00	16,294.11	11,948.00	84.61	92.72	-80.62	-4,262.16	3,337.68	2,923.31	2,799.15	124.16	23.544				
17,100.00	12,446.00	16,368.54	11,945.06	86.02	93.84	-80.55	-4,336.52	3,336.53	2,921.48	2,795.54	125.94	23.197				
17,200.00	12,446.00	16,429.00	11,943.29	87.43	94.75	-80.52	-4,396.95	3,336.27	2,920.65	2,793.07	127.58	22.893				
17,236.89	12,446.00	16,465.75	11,942.88	87.96	95.31	-80.51	-4,433.70	3,336.47	2,920.56	2,792.23	128.34	22.757				
17,300.00	12,446.00	16,523.00	11,943.38	88.86	96.18	-80.52	-4,490.94	3,337.33	2,920.78	2,791.20	129.58	22.541				
17,400.00	12,446.00	16,595.96	11,946.13	90.29	97.30	-80.58	-4,563.82	3,339.20	2,921.65	2,790.27	131.38	22.238				
17,500.00	12,446.00	16,717.40	11,952.57	91.73	99.16	-80.71	-4,685.04	3,342.55	2,922.56	2,788.84	133.73	21.855				
17,600.00	12,446.00	16,806.00	11,956.05	93.17	100.52	-80.78	-4,773.54	3,344.57	2,923.21	2,787.49	135.71	21.540				
17,700.00	12,446.00	16,870.10	11,958.47	94.63	101.51	-80.83	-4,837.57	3,346.52	2,924.62	2,787.19	137.43	21.281				
17,800.00	12,446.00	16,961.06	11,962.29	96.09	102.91	-80.91	-4,928.37	3,350.24	2,927.01	2,787.55	139.46	20.989				
17,900.00	12,446.00	17,026.85	11,966.06	97.55	103.93	-80.99	-4,993.99	3,353.19	2,929.69	2,788.50	141.19	20.750				
18,000.00	12,446.00	17,089.00	11,969.05	99.02	104.90	-81.06	-5,055.93	3,357.24	2,934.21	2,791.33	142.87	20.537				
18,100.00	12,446.00	17,327.06	11,976.91	100.50	108.59	-81.24	-5,293.50	3,367.89	2,937.84	2,791.21	146.63	20.036				

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 PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 190-MWD, 1393-OWSG (Rev2) MWD, 21860-BLIND													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major 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		
18,200.00	12,446.00	17,384.45	11,979.84	101.98	109.48	-81.30	-5,350.79	3,369.48	2,938.76	2,790.45	148.31	19.814		
18,300.00	12,446.00	17,482.68	11,985.67	103.47	111.02	-81.42	-5,448.80	3,372.82	2,940.26	2,789.79	150.47	19.541		
18,400.00	12,446.00	17,688.13	11,997.16	104.96	114.23	-81.64	-5,653.83	3,376.64	2,940.52	2,786.74	153.78	19.121		
18,500.00	12,446.00	17,750.00	12,000.61	106.46	115.20	-81.71	-5,715.59	3,377.70	2,939.97	2,784.40	155.57	18.899		
18,600.00	12,446.00	18,034.49	12,014.51	107.96	119.64	-81.96	-5,999.59	3,372.71	2,937.26	2,777.85	159.41	18.426		
18,700.00	12,446.00	18,127.00	12,018.55	109.46	121.08	-82.02	-6,091.89	3,367.96	2,930.58	2,769.06	161.52	18.144		
18,800.00	12,446.00	18,178.03	12,021.50	110.97	121.88	-82.07	-6,142.79	3,365.92	2,924.80	2,761.50	163.31	17.910		
18,900.00	12,446.00	18,277.86	12,029.25	112.49	123.45	-82.21	-6,242.29	3,363.59	2,920.44	2,754.93	165.51	17.645		
19,000.00	12,446.00	18,434.89	12,038.74	114.00	125.91	-82.37	-6,398.84	3,356.15	2,913.65	2,745.50	168.16	17.327		
19,100.00	12,446.00	18,504.00	12,040.01	115.53	126.99	-82.39	-6,467.85	3,352.78	2,907.49	2,737.40	170.09	17.094		
19,200.00	12,446.00	18,504.00	12,040.01	117.05	126.99	-82.39	-6,467.85	3,352.78	2,903.33	2,731.91	171.41	16.938		
19,300.00	12,446.00	18,557.60	12,040.30	118.58	127.83	-82.39	-6,521.43	3,351.72	2,900.95	2,727.82	173.13	16.756		
19,321.36	12,446.00	18,564.00	12,040.45	118.91	127.93	-82.39	-6,527.84	3,351.77	2,900.82	2,727.38	173.44	16.725 CC		
19,400.00	12,446.00	18,598.00	12,041.65	120.11	128.47	-82.42	-6,561.80	3,352.62	2,901.37	2,726.69	174.68	16.610		
19,500.00	12,446.00	18,635.85	12,043.42	121.64	129.07	-82.46	-6,599.57	3,354.32	2,903.87	2,727.74	176.13	16.487		
19,600.00	12,446.00	18,692.00	12,046.24	123.18	129.96	-82.52	-6,655.56	3,357.53	2,907.94	2,730.16	177.78	16.357		
19,700.00	12,446.00	18,742.71	12,049.18	124.72	130.77	-82.58	-6,706.04	3,361.29	2,913.61	2,734.30	179.31	16.249		
19,800.00	12,446.00	18,931.46	12,060.79	126.27	133.77	-82.84	-6,893.96	3,373.79	2,918.26	2,735.46	182.80	15.964		
19,900.00	12,446.00	19,234.91	12,072.66	127.81	138.60	-83.07	-7,196.93	3,378.27	2,918.22	2,730.96	187.26	15.584		
20,000.00	12,446.00	19,313.82	12,075.58	129.36	139.85	-83.12	-7,275.78	3,377.09	2,915.28	2,725.99	189.29	15.401		
20,100.00	12,446.00	19,394.08	12,077.86	130.91	141.12	-83.16	-7,356.00	3,376.14	2,912.81	2,721.48	191.33	15.224		
20,200.00	12,446.00	19,448.00	12,080.88	132.46	141.98	-83.22	-7,409.84	3,376.13	2,911.34	2,718.25	193.09	15.077		
20,263.56	12,446.00	19,498.40	12,084.25	133.45	142.79	-83.29	-7,460.12	3,376.70	2,910.99	2,716.61	194.38	14.976		
20,300.00	12,446.00	19,519.37	12,085.57	134.02	143.12	-83.31	-7,481.04	3,377.12	2,911.08	2,716.06	195.03	14.927		
20,400.00	12,446.00	19,580.84	12,088.71	135.58	144.10	-83.38	-7,542.40	3,378.85	2,912.31	2,715.49	196.82	14.797		
20,500.00	12,446.00	19,654.91	12,089.16	137.14	145.29	-83.39	-7,616.42	3,381.50	2,914.76	2,716.03	198.73	14.667		
20,600.00	12,446.00	19,823.93	12,085.19	138.70	147.99	-83.32	-7,785.34	3,385.59	2,916.55	2,714.80	201.74	14.457		
20,700.00	12,446.00	19,982.75	12,080.48	140.27	150.52	-83.22	-7,944.07	3,385.05	2,915.38	2,710.84	204.54	14.253		
20,800.00	12,446.00	20,071.97	12,076.03	141.83	151.94	-83.13	-8,033.18	3,384.01	2,913.85	2,707.23	206.62	14.102		
20,900.00	12,446.00	20,153.37	12,073.76	143.40	153.24	-83.08	-8,114.55	3,383.76	2,912.91	2,704.26	208.64	13.961		
20,968.89	12,446.00	20,204.00	12,073.12	144.48	154.05	-83.07	-8,165.17	3,383.98	2,912.64	2,702.66	209.98	13.871		
21,000.00	12,446.00	20,225.19	12,073.01	144.97	154.39	-83.07	-8,186.36	3,384.19	2,912.68	2,702.11	210.57	13.833		
21,100.00	12,446.00	20,298.00	12,073.12	146.54	155.56	-83.07	-8,259.15	3,385.86	2,913.84	2,701.35	212.49	13.713		
21,200.00	12,446.00	20,349.49	12,073.36	148.12	156.38	-83.08	-8,310.60	3,387.74	2,916.19	2,702.06	214.13	13.619		
21,300.00	12,446.00	20,464.70	12,073.25	149.69	158.24	-83.09	-8,425.73	3,392.03	2,918.94	2,702.37	216.56	13.479		
21,400.00	12,446.00	20,600.13	12,073.54	151.27	160.41	-83.10	-8,561.12	3,395.25	2,920.13	2,700.90	219.23	13.320		
21,500.00	12,446.00	20,676.97	12,072.95	152.85	161.65	-83.09	-8,637.93	3,397.19	2,921.75	2,700.56	221.19	13.209		
21,600.00	12,446.00	20,770.00	12,070.09	154.43	163.14	-83.04	-8,730.89	3,399.45	2,923.58	2,700.26	223.32	13.091		
21,700.00	12,446.00	20,844.25	12,066.50	156.01	164.34	-82.97	-8,805.02	3,401.52	2,926.04	2,700.82	225.22	12.992		
21,800.00	12,446.00	20,929.38	12,062.76	157.59	165.71	-82.90	-8,890.00	3,404.91	2,929.53	2,702.29	227.24	12.892		
21,900.00	12,446.00	21,175.19	12,058.66	159.18	169.66	-82.83	-9,135.69	3,409.06	2,930.10	2,698.96	231.14	12.677		
22,000.00	12,446.00	21,280.16	12,056.36	160.76	171.35	-82.78	-9,240.63	3,408.05	2,928.43	2,695.02	233.41	12.546		
22,100.00	12,446.00	21,361.94	12,056.76	162.35	172.66	-82.78	-9,322.40	3,407.97	2,927.29	2,691.81	235.48	12.431		
22,200.00	12,446.00	21,453.99	12,057.52	163.94	174.15	-82.80	-9,414.45	3,408.26	2,926.52	2,688.87	237.65	12.314		
22,300.00	12,446.00	21,540.45	12,057.90	165.53	175.54	-82.80	-9,500.91	3,408.78	2,926.09	2,686.34	239.76	12.204		
22,318.67	12,446.00	21,554.55	12,057.90	165.82	175.77	-82.80	-9,515.01	3,408.91	2,926.08	2,685.95	240.13	12.185		
22,400.00	12,446.00	21,619.00	12,057.54	167.12	176.81	-82.80	-9,579.45	3,409.73	2,926.36	2,684.59	241.77	12.104		
22,500.00	12,446.00	21,686.88	12,056.57	168.71	177.90	-82.78	-9,647.32	3,411.09	2,927.53	2,683.89	243.64	12.016 ES		
22,600.00	12,446.00	21,745.36	12,055.38	170.30	178.85	-82.76	-9,705.75	3,412.84	2,929.83	2,684.48	245.36	11.941		
22,700.00	12,446.00	21,804.00	12,054.08	171.90	179.80	-82.74	-9,764.31	3,415.65	2,933.78	2,686.75	247.03	11.876		
22,800.00	12,446.00	21,860.00	12,052.81	173.49	186.65	-82.72	-9,820.20	3,418.87	2,938.90	2,685.99	252.91	11.620 SF		
22,900.00	12,446.00	21,860.00	12,052.81	175.09	186.65	-82.72	-9,820.20	3,418.87	2,946.58	2,693.16	253.42	11.627		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 usft
LHS Wildcat Fed Com - LHS Wildcat Fed Com 604H - OH - OH												Offset Well Error:	0.00 usft
Survey Program: 190-MWD, 1393-OWSG (Rev2) MWD, 21860-BLIND													
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
23,000.00	12,446.00	21,860.00	12,052.81	176.69	186.65	-82.72	-9,820.20	3,418.87	2,957.63	2,703.97	253.66	11.660	
23,100.00	12,446.00	21,860.00	12,052.81	178.28	186.65	-82.72	-9,820.20	3,418.87	2,972.00	2,718.39	253.61	11.719	
23,200.00	12,446.00	21,860.00	12,052.81	179.88	186.65	-82.72	-9,820.20	3,418.87	2,989.65	2,736.36	253.29	11.803	
23,300.00	12,446.00	21,860.00	12,052.81	181.48	186.65	-82.72	-9,820.20	3,418.87	3,010.51	2,757.80	252.71	11.913	
23,400.00	12,446.00	21,860.00	12,052.81	183.08	186.65	-82.72	-9,820.20	3,418.87	3,034.53	2,782.64	251.90	12.047	
23,500.00	12,446.00	21,860.00	12,052.81	184.69	186.65	-82.72	-9,820.20	3,418.87	3,061.64	2,810.79	250.84	12.205	
23,600.00	12,446.00	21,860.00	12,052.81	186.29	186.65	-82.72	-9,820.20	3,418.87	3,091.73	2,842.16	249.58	12.388	
23,700.00	12,446.00	21,860.00	12,052.81	187.89	186.65	-82.72	-9,820.20	3,418.87	3,124.75	2,876.62	248.12	12.593	
23,800.00	12,446.00	21,860.00	12,052.81	189.50	186.65	-82.72	-9,820.20	3,418.87	3,160.58	2,914.08	246.49	12.822	
23,900.00	12,446.00	21,860.00	12,052.81	191.10	186.65	-82.72	-9,820.20	3,418.87	3,199.13	2,954.43	244.70	13.074	
23,929.64	12,446.00	21,860.00	12,052.81	191.58	186.65	-82.72	-9,820.20	3,418.87	3,211.07	2,966.93	244.14	13.153	

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													LHS Wildcat Fed Com - LHS Wildcat Fed Com 705H - OH - OH		Offset Site Error:	0.00 usft
Survey Program: 133-MWD, 1394-OWSG (Rev2) MWD, 22230-BLIND															Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
0.00	0.00	0.00	0.00	0.00	0.00	76.16	857.40	3,481.35	3,585.44							
100.00	100.00	119.34	119.34	0.13	0.17	76.16	857.73	3,480.58	3,584.94	3,584.73	0.21	N/A				
200.00	200.00	190.00	189.99	0.48	0.39	76.15	857.84	3,480.01	3,584.20	3,583.58	0.62	5,788.460				
300.00	300.00	306.00	305.99	0.84	0.80	76.14	858.32	3,479.22	3,583.63	3,582.47	1.16	3,083.759				
400.00	400.00	412.16	412.14	1.20	1.18	76.13	858.58	3,478.43	3,582.98	3,581.30	1.68	2,127.340				
500.00	500.00	540.86	540.82	1.56	1.64	76.12	859.21	3,476.52	3,581.65	3,579.39	2.26	1,581.525				
600.00	600.00	689.36	689.29	1.92	2.18	76.10	859.20	3,473.04	3,579.44	3,576.55	2.90	1,234.846				
700.00	700.00	804.38	804.24	2.28	2.59	76.09	858.95	3,469.06	3,576.02	3,572.57	3.44	1,038.220				
800.00	800.00	913.85	913.64	2.63	2.99	76.08	858.55	3,465.15	3,572.47	3,568.49	3.98	898.680				
900.00	900.00	1,050.02	1,049.68	2.99	3.48	76.07	857.92	3,459.18	3,568.07	3,563.49	4.58	779.404				
1,000.00	1,000.00	1,123.00	1,122.58	3.35	3.75	76.06	857.52	3,455.98	3,563.67	3,558.66	5.01	711.070				
1,100.00	1,100.00	1,218.00	1,217.50	3.71	4.09	76.06	856.68	3,452.27	3,559.67	3,554.16	5.50	646.678				
1,200.00	1,200.00	1,300.14	1,299.59	4.07	4.39	76.06	855.93	3,449.40	3,556.06	3,550.09	5.96	596.244				
1,300.00	1,300.00	1,404.03	1,403.41	4.43	4.64	76.05	855.91	3,445.60	3,552.50	3,546.11	6.39	555.780				
1,400.00	1,400.00	1,483.00	1,482.33	4.79	4.66	76.03	856.25	3,442.82	3,549.21	3,542.55	6.66	533.202				
1,500.00	1,500.00	1,539.14	1,538.45	5.14	4.69	76.03	856.40	3,441.40	3,546.85	3,539.92	6.94	511.381				
1,600.00	1,600.00	1,573.00	1,572.31	5.50	4.71	76.02	856.45	3,440.95	3,545.94	3,538.72	7.22	491.462				
1,627.83	1,627.83	1,599.85	1,599.15	5.60	4.72	76.02	856.50	3,440.85	3,545.86	3,538.56	7.30	485.562				
1,700.00	1,700.00	1,630.56	1,629.87	5.86	4.74	76.02	856.61	3,441.08	3,546.44	3,538.92	7.51	471.966				
1,800.00	1,800.00	1,663.00	1,662.30	6.22	4.76	76.02	856.77	3,441.71	3,548.66	3,540.86	7.81	454.610				
1,900.00	1,900.00	1,752.00	1,751.25	6.58	4.83	76.02	857.38	3,444.75	3,552.14	3,544.00	8.14	436.524				
2,000.00	2,000.00	1,820.10	1,819.28	6.94	4.90	76.02	858.03	3,447.69	3,556.44	3,547.97	8.47	419.975				
2,100.00	2,100.00	1,931.72	1,930.80	7.29	5.03	76.02	859.54	3,452.36	3,560.83	3,551.99	8.84	402.684				
2,200.00	2,200.00	2,029.82	2,028.81	7.65	5.17	76.02	860.38	3,456.36	3,565.00	3,555.78	9.22	386.642				
2,300.00	2,299.99	2,117.46	2,116.33	8.01	5.32	46.72	859.06	3,460.65	3,568.48	3,558.89	9.60	371.846				
2,400.00	2,399.91	2,209.43	2,208.07	8.37	5.48	46.82	855.52	3,465.94	3,570.47	3,560.49	9.98	357.597				
2,500.00	2,499.69	2,302.27	2,300.64	8.72	5.66	46.97	851.19	3,471.66	3,570.89	3,560.50	10.38	343.934				
2,600.00	2,599.27	2,380.08	2,378.21	9.08	5.83	47.14	847.81	3,476.67	3,569.92	3,559.15	10.77	331.489				
2,685.78	2,684.47	2,456.78	2,454.68	9.39	6.00	47.33	845.02	3,481.91	3,568.14	3,557.02	11.12	320.880				
2,700.00	2,698.58	2,470.96	2,468.82	9.44	6.03	47.36	844.48	3,482.89	3,567.75	3,556.56	11.18	319.104				
2,800.00	2,797.77	2,581.96	2,579.46	9.81	6.30	47.63	839.96	3,490.46	3,564.89	3,553.27	11.63	306.562				
2,900.00	2,896.96	2,821.30	2,818.24	10.17	6.92	48.22	827.87	3,501.12	3,559.11	3,546.82	12.29	289.711				
3,000.00	2,996.15	2,902.71	2,899.50	10.54	7.14	48.42	823.55	3,503.59	3,552.46	3,539.75	12.71	279.492				
3,100.00	3,095.35	2,974.00	2,970.68	10.92	7.34	48.58	820.53	3,506.09	3,546.56	3,533.43	13.12	270.240				
3,200.00	3,194.54	3,054.67	3,051.25	11.29	7.58	48.76	818.06	3,509.26	3,541.35	3,527.79	13.56	261.236				
3,300.00	3,293.73	3,146.49	3,142.94	11.67	7.84	48.96	815.23	3,513.21	3,536.55	3,522.54	14.01	252.405				
3,400.00	3,392.92	3,228.42	3,224.67	12.05	8.09	49.16	811.27	3,517.27	3,532.10	3,517.65	14.45	244.353				
3,500.00	3,492.12	3,327.64	3,323.09	12.43	9.02	49.95	792.70	3,527.13	3,527.20	3,511.91	15.29	230.750				
3,600.00	3,591.31	3,612.53	3,607.85	12.81	9.28	50.16	788.02	3,526.82	3,517.63	3,501.88	15.74	223.435				
3,700.00	3,690.50	3,688.60	3,683.84	13.20	9.52	50.34	784.71	3,526.87	3,508.74	3,492.55	16.19	216.754				
3,800.00	3,789.69	3,756.58	3,751.79	13.58	9.73	50.48	782.66	3,527.21	3,500.59	3,483.97	16.62	210.631				
3,900.00	3,888.89	3,823.00	3,818.17	13.97	9.94	50.62	780.71	3,528.33	3,493.56	3,476.51	17.05	204.903				
4,000.00	3,988.08	3,993.26	3,988.08	14.36	10.50	51.07	770.63	3,531.53	3,486.62	3,468.94	17.68	197.231				
4,100.00	4,087.27	4,088.85	4,083.39	14.75	10.82	51.34	763.39	3,532.05	3,477.90	3,459.72	18.17	191.394				
4,200.00	4,186.46	4,160.75	4,155.17	15.14	11.06	51.53	759.11	3,532.66	3,469.82	3,451.20	18.62	186.334				
4,300.00	4,285.66	4,254.64	4,248.95	15.53	11.37	51.76	755.04	3,533.88	3,462.48	3,443.37	19.11	181.158				
4,400.00	4,384.85	4,371.10	4,365.27	15.92	11.76	52.04	749.48	3,534.95	3,454.77	3,435.13	19.65	175.823				
4,500.00	4,484.04	4,454.56	4,448.58	16.31	12.04	52.27	744.43	3,535.82	3,447.08	3,426.95	20.13	171.271				
4,600.00	4,583.23	4,535.85	4,529.74	16.71	12.32	52.48	739.90	3,537.08	3,439.99	3,419.39	20.60	166.985				
4,700.00	4,682.42	4,630.37	4,624.12	17.10	12.64	52.72	735.24	3,538.80	3,433.34	3,412.24	21.10	162.706				
4,800.00	4,781.62	4,754.67	4,748.21	17.50	13.07	53.05	728.15	3,540.80	3,426.48	3,404.82	21.66	158.171				
4,900.00	4,880.81	4,884.25	4,877.52	17.89	13.52	53.41	719.88	3,541.72	3,418.68	3,396.44	22.24	153.741				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													LHS Wildcat Fed Com - LHS Wildcat Fed Com 705H - OH - OH		Offset Site Error:	0.00 usft
Survey Program: 133-MWD, 1394-OWSG (Rev2) MWD, 22230-BLIND													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major 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	4,980.00	4,984.35	4,977.44	18.29	13.86	53.68	713.88	3,541.96	3,410.56	3,387.81	22.75	149.894				
5,100.00	5,079.19	5,099.96	5,092.87	18.68	14.26	53.99	707.54	3,541.98	3,402.39	3,379.09	23.30	146.029				
5,200.00	5,178.39	5,173.43	5,166.23	19.08	14.51	54.18	703.59	3,541.71	3,394.00	3,370.23	23.77	142.807				
5,300.00	5,277.58	5,235.00	5,227.71	19.48	14.73	54.34	700.26	3,542.55	3,387.12	3,362.91	24.21	139.906				
5,400.00	5,376.77	5,292.70	5,285.30	19.87	14.93	54.50	696.97	3,544.03	3,381.43	3,356.78	24.65	137.199				
5,500.00	5,475.96	5,383.44	5,375.82	20.27	15.25	54.76	691.34	3,546.70	3,376.31	3,351.16	25.15	134.241				
5,600.00	5,575.16	5,484.57	5,476.71	20.67	15.61	55.05	685.10	3,549.72	3,371.33	3,345.65	25.68	131.286				
5,700.00	5,674.35	5,554.12	5,546.09	21.07	15.86	55.25	680.72	3,551.89	3,366.63	3,340.49	26.14	128.789				
5,800.00	5,773.54	5,612.00	5,603.80	21.47	16.07	55.42	677.16	3,554.51	3,363.27	3,336.69	26.58	126.557				
5,900.00	5,872.73	5,698.80	5,690.32	21.87	16.38	55.67	671.92	3,559.09	3,360.80	3,333.72	27.07	124.135				
6,000.00	5,971.93	5,795.09	5,786.31	22.27	16.73	55.94	666.36	3,564.24	3,358.50	3,330.91	27.59	121.712				
6,100.00	6,071.12	5,902.43	5,893.34	22.67	17.12	56.24	660.46	3,569.85	3,356.19	3,328.05	28.14	119.270				
6,200.00	6,170.31	6,000.46	5,991.08	23.07	17.47	56.52	654.82	3,574.87	3,353.84	3,325.18	28.67	117.001				
6,300.00	6,269.50	6,098.19	6,088.52	23.47	17.83	56.80	649.32	3,579.90	3,351.61	3,322.42	29.19	114.817				
6,400.00	6,368.70	6,199.36	6,189.42	23.87	18.20	57.08	643.74	3,585.04	3,349.40	3,319.68	29.72	112.681				
6,500.00	6,467.89	6,293.21	6,282.99	24.27	18.54	57.34	638.58	3,589.84	3,347.31	3,317.06	30.24	110.683				
6,600.00	6,567.08	6,382.36	6,371.88	24.67	18.86	57.60	633.63	3,594.63	3,345.54	3,314.79	30.75	108.800				
6,700.00	6,666.27	6,479.74	6,468.96	25.07	19.22	57.87	628.19	3,599.99	3,343.99	3,312.71	31.28	106.917				
6,800.00	6,765.47	6,578.05	6,566.98	25.47	19.58	58.15	622.90	3,605.44	3,342.57	3,310.76	31.81	105.092				
6,900.00	6,864.66	6,602.95	6,591.42	25.88	20.39	58.74	612.92	3,614.56	3,340.35	3,307.73	32.61	102.420				
6,982.54	6,946.53	6,952.73	6,941.17	26.21	20.88	59.03	612.27	3,614.78	3,334.74	3,301.57	33.16	100.561				
7,000.00	6,963.85	6,969.33	6,957.77	26.28	20.93	59.04	612.52	3,614.69	3,333.53	3,300.28	33.25	100.265				
7,100.00	7,063.25	7,065.10	7,053.53	26.67	21.22	59.09	614.10	3,614.27	3,327.49	3,293.76	33.73	98.636				
7,200.00	7,162.90	7,157.88	7,146.30	27.05	21.51	59.12	615.67	3,613.96	3,322.93	3,288.72	34.21	97.132				
7,300.00	7,262.74	7,250.11	7,238.52	27.41	21.80	59.14	617.00	3,613.96	3,320.04	3,285.36	34.68	95.739				
7,400.00	7,362.69	7,350.86	7,339.26	27.77	22.12	59.14	618.24	3,613.97	3,318.49	3,283.34	35.15	94.403				
7,455.88	7,418.57	7,403.53	7,391.93	27.96	22.28	59.14	618.75	3,614.02	3,318.25	3,282.84	35.41	93.717				
7,468.32	7,431.00	7,414.66	7,403.05	28.00	22.32	88.45	618.85	3,614.04	3,318.26	3,282.80	35.46	93.569				
7,500.00	7,462.68	7,442.37	7,430.77	28.10	22.41	88.44	619.06	3,614.11	3,318.35	3,282.74	35.60	93.200				
7,600.00	7,562.68	7,533.11	7,521.50	28.44	22.71	88.44	619.50	3,614.55	3,318.85	3,282.79	36.06	92.044				
7,700.00	7,662.68	7,627.29	7,615.68	28.78	23.02	88.43	619.77	3,615.16	3,319.51	3,282.99	36.52	90.895				
7,800.00	7,762.68	7,714.43	7,702.82	29.11	23.32	88.43	619.85	3,616.00	3,320.47	3,283.50	36.97	89.810				
7,900.00	7,862.68	7,798.92	7,787.30	29.45	23.60	88.43	620.09	3,617.17	3,321.86	3,284.44	37.42	88.774				
8,000.00	7,962.68	7,880.00	7,868.36	29.79	23.88	88.42	620.42	3,618.73	3,323.80	3,285.94	37.86	87.794				
8,100.00	8,062.68	7,974.00	7,962.34	30.13	24.20	88.42	620.80	3,620.91	3,326.12	3,287.80	38.33	86.786				
8,200.00	8,162.68	8,070.87	8,059.17	30.46	24.53	88.41	621.45	3,623.27	3,328.57	3,289.77	38.80	85.794				
8,300.00	8,262.68	8,167.95	8,156.22	30.80	24.86	88.39	622.51	3,625.68	3,331.08	3,291.82	39.27	84.828				
8,400.00	8,362.68	8,258.65	8,246.88	31.14	25.16	88.37	623.88	3,628.09	3,333.79	3,294.06	39.73	83.919				
8,500.00	8,462.68	8,365.02	8,353.18	31.48	25.52	88.33	625.92	3,630.97	3,336.55	3,296.33	40.22	82.966				
8,600.00	8,562.68	8,478.86	8,466.98	31.82	25.90	88.30	628.09	3,633.69	3,339.00	3,298.28	40.72	81.997				
8,700.00	8,662.68	8,606.54	8,594.62	32.16	26.33	88.26	630.35	3,636.05	3,340.91	3,299.66	41.25	80.984				
8,800.00	8,762.68	8,738.93	8,726.99	32.50	26.78	88.26	630.48	3,637.23	3,341.81	3,300.01	41.80	79.946				
8,900.00	8,862.68	8,837.69	8,825.74	32.85	27.13	88.28	629.45	3,637.73	3,342.28	3,299.99	42.29	79.038				
9,000.00	8,962.68	8,931.01	8,919.06	33.19	27.46	88.30	628.00	3,638.31	3,342.86	3,300.09	42.76	78.171				
9,100.00	9,062.68	9,025.47	9,013.49	33.53	27.79	88.33	626.24	3,639.08	3,343.61	3,300.37	43.24	77.323				
9,200.00	9,162.68	9,117.85	9,105.85	33.87	28.11	88.36	624.55	3,640.00	3,344.56	3,300.84	43.72	76.504				
9,300.00	9,262.68	9,207.06	9,195.06	34.22	28.43	88.38	623.53	3,641.13	3,345.79	3,301.61	44.19	75.721				
9,400.00	9,362.68	9,306.15	9,294.13	34.56	28.77	88.39	623.29	3,642.61	3,347.27	3,302.60	44.67	74.930				
9,500.00	9,462.68	9,442.83	9,430.80	34.90	29.25	88.39	622.98	3,643.49	3,347.82	3,302.59	45.24	74.008				
9,600.00	9,562.68	9,527.75	9,515.73	35.25	29.54	88.39	623.10	3,643.87	3,348.29	3,302.60	45.69	73.279				
9,700.00	9,662.68	9,653.58	9,641.54	35.59	29.96	88.37	624.19	3,644.82	3,349.17	3,302.95	46.22	72.458				
9,800.00	9,762.68	9,766.00	9,753.96	35.93	30.34	88.39	623.18	3,644.45	3,348.80	3,302.07	46.73	71.667				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 133-MWD, 1394-OWSG (Rev2) MWD, 22230-BLIND													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major 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		
9,849.06	9,811.74	9,802.71	9,790.65	36.10	30.47	88.40	622.35	3,644.38	3,348.69	3,301.74	46.94	71.334		
9,900.00	9,862.68	9,838.08	9,826.02	36.28	30.59	88.41	621.63	3,644.49	3,348.80	3,301.64	47.16	71.005		
10,000.00	9,962.68	9,987.66	9,975.56	36.62	31.11	88.47	618.26	3,644.32	3,348.68	3,300.93	47.75	70.126		
10,100.00	10,062.68	10,082.30	10,070.15	36.97	31.44	88.52	615.56	3,643.39	3,347.63	3,299.40	48.23	69.406		
10,200.00	10,162.68	10,162.83	10,150.66	37.31	31.72	88.55	613.50	3,643.04	3,347.11	3,298.43	48.69	68.748		
10,300.00	10,262.68	10,254.16	10,241.96	37.66	32.04	88.59	611.17	3,642.90	3,346.91	3,297.75	49.16	68.079		
10,301.37	10,264.05	10,255.15	10,242.95	37.66	32.04	88.59	611.15	3,642.90	3,346.91	3,297.74	49.17	68.071		
10,400.00	10,362.68	10,333.00	10,320.77	38.01	32.32	88.62	609.36	3,643.30	3,347.33	3,297.72	49.61	67.469		
10,500.00	10,462.68	10,410.59	10,398.34	38.35	32.59	88.65	607.66	3,644.19	3,348.40	3,298.34	50.06	66.887		
10,600.00	10,562.68	10,503.61	10,491.32	38.70	32.92	88.69	605.28	3,645.57	3,349.81	3,299.27	50.54	66.278		
10,700.00	10,662.68	10,799.39	10,786.89	39.04	33.94	88.82	598.01	3,642.27	3,349.14	3,297.74	51.40	65.162		
10,800.00	10,762.68	10,876.01	10,863.43	39.39	34.20	88.85	596.25	3,639.23	3,345.12	3,293.27	51.85	64.520		
10,900.00	10,862.68	10,943.23	10,930.58	39.74	34.43	88.88	594.18	3,637.11	3,341.93	3,289.65	52.28	63.923		
11,000.00	10,962.68	10,995.00	10,982.31	40.09	34.61	88.91	592.46	3,635.99	3,339.85	3,287.16	52.68	63.394		
11,100.00	11,062.68	11,070.63	11,057.89	40.43	34.87	88.96	589.79	3,635.19	3,338.78	3,285.65	53.13	62.840		
11,152.03	11,114.72	11,105.01	11,092.25	40.61	34.99	88.98	588.53	3,635.14	3,338.67	3,285.32	53.35	62.576		
11,200.00	11,162.68	11,138.10	11,125.32	40.78	35.11	89.00	587.32	3,635.25	3,338.80	3,285.23	53.56	62.336		
11,300.00	11,262.68	11,215.38	11,202.54	41.13	35.39	89.05	584.51	3,636.02	3,339.71	3,285.70	54.01	61.834		
11,400.00	11,362.68	11,304.04	11,291.14	41.48	35.71	89.10	581.44	3,637.20	3,341.00	3,286.51	54.48	61.320		
11,500.00	11,462.68	11,449.61	11,436.31	41.82	36.24	89.26	572.24	3,639.10	3,342.38	3,287.29	55.09	60.672		
11,600.00	11,562.68	11,515.00	11,500.16	42.17	36.49	89.50	558.27	3,639.63	3,343.01	3,287.49	55.53	60.203		
11,700.00	11,662.68	11,562.00	11,544.86	42.52	36.68	89.75	543.87	3,640.64	3,345.07	3,289.15	55.92	59.817		
11,800.00	11,762.68	11,620.19	11,598.46	42.87	36.92	90.13	521.33	3,642.61	3,348.68	3,292.34	56.34	59.433		
11,900.00	11,862.68	11,719.73	11,684.58	43.22	37.36	90.98	471.75	3,646.40	3,353.56	3,296.67	56.90	58.942		
11,910.36	11,873.04	11,773.00	11,727.68	43.25	37.61	91.51	440.56	3,647.55	3,354.02	3,296.93	57.09	58.749		
11,950.00	11,912.65	11,798.42	11,747.00	43.38	37.73	-79.39	424.06	3,647.76	3,355.27	3,298.00	57.27	58.592		
12,000.00	11,962.32	11,817.60	11,761.44	43.53	37.82	-79.06	411.43	3,648.06	3,356.64	3,299.22	57.43	58.452		
12,050.00	12,011.30	11,837.59	11,776.34	43.66	37.91	-78.79	398.10	3,648.48	3,357.69	3,300.11	57.58	58.318		
12,100.00	12,059.24	11,862.00	11,794.33	43.78	38.03	-78.54	381.63	3,649.17	3,358.36	3,300.63	57.73	58.175		
12,150.00	12,105.76	11,862.00	11,794.33	43.89	38.03	-78.51	381.63	3,649.17	3,358.73	3,300.94	57.78	58.128		
12,200.00	12,150.50	11,906.97	11,826.47	43.98	38.26	-78.27	350.23	3,650.79	3,358.39	3,300.39	57.99	57.908		
12,250.00	12,193.14	11,931.96	11,843.61	44.06	38.39	-78.23	332.08	3,651.85	3,357.67	3,299.54	58.12	57.769		
12,300.00	12,233.34	12,216.97	11,956.45	44.13	39.94	-76.08	76.42	3,644.50	3,353.97	3,294.73	59.24	56.617		
12,350.00	12,270.79	12,242.00	11,958.92	44.18	40.08	-76.27	51.61	3,642.28	3,348.89	3,289.53	59.36	56.416		
12,400.00	12,305.22	12,242.00	11,958.92	44.22	40.08	-76.81	51.61	3,642.28	3,343.41	3,284.02	59.38	56.304		
12,450.00	12,336.36	12,242.00	11,958.92	44.25	40.08	-77.37	51.61	3,642.28	3,337.67	3,278.27	59.40	56.192		
12,500.00	12,363.98	12,242.00	11,958.92	44.27	40.08	-77.96	51.61	3,642.28	3,331.72	3,272.31	59.41	56.078		
12,550.00	12,387.85	12,279.87	11,961.05	44.29	40.31	-78.29	13.90	3,639.53	3,324.65	3,265.08	59.57	55.808		
12,600.00	12,407.81	12,290.10	11,961.42	44.29	40.37	-78.89	3.69	3,639.02	3,317.83	3,258.20	59.63	55.640		
12,650.00	12,423.70	12,336.00	11,962.04	44.30	40.64	-79.36	-42.18	3,637.94	3,311.62	3,251.79	59.83	55.354		
12,700.00	12,435.40	12,336.00	11,962.04	44.31	40.64	-80.12	-42.18	3,637.94	3,303.92	3,244.07	59.85	55.199		
12,750.00	12,442.82	12,336.00	11,962.04	44.34	40.64	-80.89	-42.18	3,637.94	3,296.23	3,236.34	59.89	55.038		
12,800.00	12,445.90	12,336.00	11,962.04	44.41	40.64	-81.65	-42.18	3,637.94	3,288.60	3,228.66	59.93	54.870		
12,810.36	12,446.00	12,336.00	11,962.04	44.42	40.64	-81.81	-42.18	3,637.94	3,287.03	3,227.09	59.94	54.835		
12,900.00	12,446.00	12,336.00	11,962.04	44.59	40.64	-81.84	-42.18	3,637.94	3,276.05	3,216.00	60.05	54.552		
13,000.00	12,446.00	12,386.36	11,962.34	44.83	40.96	-81.86	-92.53	3,638.99	3,268.50	3,208.07	60.43	54.086		
13,100.00	12,446.00	12,465.46	11,964.05	45.12	41.50	-81.89	-171.46	3,643.55	3,266.94	3,205.95	60.99	53.566		
13,200.00	12,446.00	12,715.00	11,964.11	45.46	43.38	-81.88	-420.87	3,647.31	3,263.73	3,201.30	62.43	52.278		
13,217.18	12,446.00	12,715.00	11,964.11	45.52	43.38	-81.88	-420.87	3,647.31	3,263.58	3,201.10	62.48	52.233		
13,269.46	12,446.00	12,757.18	11,965.08	45.72	43.73	-81.90	-463.03	3,646.88	3,262.59	3,199.72	62.87	51.894		
13,300.00	12,446.00	12,763.85	11,965.31	45.84	43.79	-81.90	-469.69	3,647.00	3,262.70	3,199.70	63.00	51.786		
13,400.00	12,446.00	12,809.00	11,967.32	46.27	44.17	-81.94	-514.74	3,649.19	3,265.02	3,201.41	63.60	51.335		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													LHS Wildcat Fed Com - LHS Wildcat Fed Com 705H - OH - OH		Offset Site Error:	0.00 usft
Survey Program: 133-MWD, 1394-OWSG (Rev2) MWD, 22230-BLIND													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major 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				
13,500.00	12,446.00	13,186.00	11,981.49	46.75	47.72	-82.17	-890.93	3,646.44	3,261.69	3,195.46	66.23	49.247				
13,600.00	12,446.00	13,186.00	11,981.49	47.29	47.72	-82.17	-890.93	3,646.44	3,257.17	3,190.49	66.68	48.845				
13,700.00	12,446.00	13,245.80	11,985.72	47.87	48.34	-82.24	-950.57	3,645.93	3,254.56	3,186.99	67.56	48.169				
13,791.12	12,446.00	13,280.00	11,987.55	48.44	48.69	-82.28	-984.72	3,646.11	3,253.66	3,185.39	68.27	47.662				
13,800.00	12,446.00	13,280.00	11,987.55	48.50	48.69	-82.28	-984.72	3,646.11	3,253.67	3,185.36	68.31	47.630				
13,900.00	12,446.00	13,324.19	11,989.71	49.18	49.17	-82.31	-1,028.84	3,647.15	3,254.62	3,185.45	69.17	47.054				
14,000.00	12,446.00	13,374.00	11,992.31	49.90	49.70	-82.36	-1,078.52	3,649.72	3,257.71	3,187.62	70.09	46.478				
14,100.00	12,446.00	13,410.08	11,994.42	50.66	50.10	-82.41	-1,114.44	3,652.23	3,262.47	3,191.51	70.96	45.977				
14,200.00	12,446.00	13,744.97	12,006.08	51.47	53.92	-82.62	-1,448.66	3,660.56	3,261.48	3,187.44	74.05	44.046				
14,300.00	12,446.00	13,819.91	12,005.09	52.31	54.80	-82.60	-1,523.60	3,660.11	3,260.11	3,184.82	75.29	43.300				
14,400.00	12,446.00	13,900.54	12,003.61	53.19	55.77	-82.57	-1,604.21	3,660.38	3,259.67	3,183.05	76.61	42.546				
14,500.00	12,446.00	14,027.39	11,999.73	54.11	57.33	-82.50	-1,731.00	3,659.88	3,258.63	3,180.30	78.33	41.603				
14,600.00	12,446.00	14,110.77	11,996.27	55.06	58.37	-82.44	-1,814.31	3,659.42	3,257.67	3,177.92	79.74	40.851				
14,700.00	12,446.00	14,205.68	11,993.84	56.05	59.57	-82.40	-1,909.18	3,659.69	3,257.31	3,176.02	81.29	40.072				
14,800.00	12,446.00	14,331.07	11,993.41	57.06	61.18	-82.38	-2,034.57	3,659.71	3,256.38	3,173.27	83.11	39.182				
14,900.00	12,446.00	14,445.00	11,994.66	58.11	62.66	-82.40	-2,148.49	3,658.77	3,254.37	3,169.50	84.88	38.342				
14,999.57	12,446.00	14,489.62	11,995.34	59.17	63.25	-82.41	-2,193.10	3,658.68	3,253.29	3,167.18	86.11	37.782				
15,000.00	12,446.00	14,489.77	11,995.34	59.18	63.26	-82.41	-2,193.24	3,658.68	3,253.29	3,167.18	86.11	37.779				
15,100.00	12,446.00	14,539.00	11,997.12	60.28	63.91	-82.45	-2,242.42	3,660.16	3,254.45	3,167.05	87.40	37.237				
15,200.00	12,446.00	14,539.00	11,997.12	61.40	63.91	-82.45	-2,242.42	3,660.16	3,257.56	3,169.30	88.26	36.910				
15,300.00	12,446.00	14,788.53	12,011.75	62.54	67.31	-82.72	-2,491.16	3,670.63	3,260.12	3,168.74	91.38	35.677				
15,400.00	12,446.00	14,822.00	12,013.32	63.71	67.77	-82.75	-2,524.58	3,671.37	3,261.05	3,168.46	92.59	35.221				
15,500.00	12,446.00	14,951.63	12,019.59	64.90	69.57	-82.86	-2,653.97	3,676.02	3,263.13	3,168.44	94.69	34.463				
15,600.00	12,446.00	15,190.80	12,022.33	66.11	72.91	-82.91	-2,893.01	3,675.35	3,261.07	3,163.34	97.73	33.369				
15,700.00	12,446.00	15,338.73	12,021.39	67.34	74.99	-82.88	-3,040.86	3,671.66	3,257.90	3,157.92	99.98	32.587				
15,800.00	12,446.00	15,454.87	12,021.53	68.58	76.64	-82.87	-3,156.86	3,666.41	3,252.30	3,150.32	101.98	31.892				
15,900.00	12,446.00	15,483.00	12,022.38	69.84	77.04	-82.88	-3,184.96	3,665.50	3,248.21	3,144.93	103.28	31.450				
16,000.00	12,446.00	15,554.36	12,025.40	71.12	78.06	-82.93	-3,256.25	3,664.43	3,245.40	3,140.44	104.96	30.921				
16,100.00	12,446.00	15,649.09	12,029.67	72.41	79.44	-83.00	-3,350.88	3,664.44	3,243.86	3,137.01	106.85	30.358				
16,200.00	12,446.00	15,754.33	12,032.50	73.72	80.97	-83.05	-3,456.07	3,663.79	3,241.94	3,133.09	108.85	29.783				
16,300.00	12,446.00	15,810.65	12,033.68	75.04	81.79	-83.07	-3,512.38	3,663.69	3,240.60	3,130.18	110.42	29.347				
16,337.58	12,446.00	15,829.42	12,034.61	75.54	82.07	-83.08	-3,531.12	3,663.93	3,240.49	3,129.50	110.99	29.195				
16,400.00	12,446.00	15,861.00	12,036.80	76.37	82.53	-83.12	-3,562.62	3,664.66	3,240.79	3,128.85	111.94	28.950				
16,496.29	12,446.00	15,984.25	12,046.55	77.67	84.36	-83.29	-3,685.46	3,666.78	3,240.40	3,126.26	114.14	28.390				
16,500.00	12,446.00	15,985.72	12,046.66	77.72	84.38	-83.30	-3,686.93	3,666.82	3,240.41	3,126.21	114.19	28.376				
16,600.00	12,446.00	16,050.00	12,052.04	79.08	85.33	-83.39	-3,750.94	3,669.17	3,241.78	3,125.90	115.87	27.977				
16,700.00	12,446.00	16,050.00	12,052.04	80.45	85.33	-83.39	-3,750.94	3,669.17	3,244.63	3,127.75	116.88	27.760				
16,800.00	12,446.00	16,117.51	12,058.51	81.82	86.35	-83.52	-3,817.99	3,673.49	3,249.13	3,130.55	118.58	27.400				
16,900.00	12,446.00	16,370.96	12,086.56	83.21	90.16	-84.03	-4,069.53	3,685.86	3,251.27	3,129.01	122.26	26.593				
17,000.00	12,446.00	16,755.48	12,101.18	84.61	95.93	-84.26	-4,453.05	3,676.35	3,246.88	3,120.15	126.73	25.621				
17,100.00	12,446.00	16,806.00	12,102.11	86.02	96.68	-84.27	-4,503.44	3,672.79	3,239.16	3,110.75	128.41	25.226				
17,200.00	12,446.00	16,867.91	12,104.62	87.43	97.61	-84.31	-4,565.20	3,669.39	3,232.68	3,102.50	130.18	24.833				
17,300.00	12,446.00	16,900.00	12,106.54	88.86	98.10	-84.34	-4,597.22	3,668.45	3,228.34	3,096.65	131.69	24.515				
17,400.00	12,446.00	16,994.00	12,113.43	90.29	99.53	-84.46	-4,690.96	3,667.06	3,225.17	3,091.43	133.74	24.115				
17,500.00	12,446.00	17,058.56	12,119.07	91.73	100.52	-84.55	-4,755.27	3,666.76	3,222.83	3,087.29	135.53	23.779				
17,600.00	12,446.00	17,242.68	12,138.27	93.17	103.34	-84.89	-4,938.34	3,664.09	3,219.26	3,080.86	138.40	23.260				
17,700.00	12,446.00	17,335.56	12,150.50	94.63	104.76	-85.10	-5,030.39	3,662.03	3,214.90	3,074.42	140.48	22.885				
17,800.00	12,446.00	17,418.28	12,163.07	96.09	106.03	-85.32	-5,112.14	3,660.56	3,210.86	3,068.38	142.48	22.535				
17,900.00	12,446.00	17,494.64	12,175.57	97.55	107.21	-85.54	-5,187.46	3,659.81	3,207.56	3,063.13	144.43	22.209				
18,000.00	12,446.00	17,560.00	12,185.03	99.02	108.21	-85.71	-5,252.14	3,659.47	3,205.03	3,058.76	146.27	21.912				
18,100.00	12,446.00	17,623.34	12,192.90	100.50	109.20	-85.85	-5,314.99	3,659.72	3,203.62	3,055.54	148.08	21.634				
18,152.78	12,446.00	17,655.00	12,196.45	101.28	109.69	-85.91	-5,346.44	3,660.21	3,203.47	3,054.46	149.02	21.498 CC				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													LHS Wildcat Fed Com - LHS Wildcat Fed Com 705H - OH - OH		Offset Site Error:	0.00 usft
Survey Program: 133-MWD, 1394-OWSG (Rev2) MWD, 22230-BLIND													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			
18,200.00	12,446.00	17,655.00	12,196.45	101.98	109.69	-85.91	-5,346.44	3,660.21	3,203.82	3,054.27	149.55	21.423				
18,300.00	12,446.00	17,716.48	12,203.09	103.47	110.64	-86.03	-5,407.52	3,662.15	3,205.50	3,054.19	151.31	21.186				
18,400.00	12,446.00	17,772.19	12,209.10	104.96	111.51	-86.14	-5,462.83	3,665.13	3,209.03	3,056.05	152.98	20.977				
18,500.00	12,446.00	17,881.75	12,220.62	106.46	113.23	-86.35	-5,571.60	3,671.44	3,213.15	3,057.88	155.27	20.694				
18,600.00	12,446.00	17,998.32	12,229.41	107.96	115.06	-86.51	-5,687.70	3,677.01	3,216.45	3,058.81	157.64	20.403				
18,700.00	12,446.00	18,061.26	12,234.65	109.46	116.04	-86.61	-5,750.34	3,680.20	3,220.15	3,060.75	159.40	20.202				
18,800.00	12,446.00	18,127.00	12,240.04	110.97	117.08	-86.71	-5,815.69	3,684.88	3,225.59	3,064.41	161.18	20.013				
18,900.00	12,446.00	18,417.93	12,256.10	112.49	121.65	-87.00	-6,105.87	3,695.35	3,227.43	3,061.96	165.47	19.504				
19,000.00	12,446.00	18,519.19	12,259.75	114.00	123.24	-87.07	-6,207.06	3,696.22	3,227.12	3,059.44	167.67	19.246				
19,100.00	12,446.00	18,629.62	12,260.61	115.53	124.97	-87.08	-6,317.48	3,696.32	3,226.16	3,056.20	169.96	18.982				
19,165.94	12,446.00	18,671.44	12,260.90	116.53	125.63	-87.09	-6,359.30	3,696.59	3,225.91	3,054.74	171.16	18.847				
19,200.00	12,446.00	18,691.00	12,261.11	117.05	125.93	-87.09	-6,378.86	3,696.83	3,225.98	3,054.21	171.77	18.781				
19,300.00	12,446.00	18,786.00	12,263.60	118.58	127.43	-87.13	-6,473.81	3,698.32	3,226.43	3,052.52	173.91	18.552				
19,400.00	12,446.00	18,848.37	12,267.22	120.11	128.42	-87.20	-6,536.06	3,699.84	3,227.61	3,051.88	175.72	18.367				
19,500.00	12,446.00	18,948.49	12,276.40	121.64	130.00	-87.36	-6,635.69	3,703.34	3,229.70	3,051.75	177.94	18.150				
19,600.00	12,446.00	19,083.22	12,287.36	123.18	132.14	-87.56	-6,769.91	3,706.82	3,230.93	3,050.40	180.53	17.897				
19,700.00	12,446.00	19,164.00	12,292.52	124.72	133.42	-87.65	-6,850.50	3,708.93	3,232.23	3,049.68	182.55	17.706				
19,800.00	12,446.00	19,324.68	12,291.74	126.27	135.96	-87.64	-7,011.08	3,709.85	3,231.38	3,046.01	185.37	17.432				
19,846.12	12,446.00	19,353.00	12,290.68	126.98	136.41	-87.62	-7,039.39	3,709.99	3,231.23	3,045.02	186.21	17.352				
19,900.00	12,446.00	19,384.45	12,289.47	127.81	136.91	-87.60	-7,070.81	3,710.34	3,231.40	3,044.22	187.18	17.264				
20,000.00	12,446.00	19,447.00	12,286.99	129.36	137.90	-87.55	-7,133.29	3,711.79	3,232.82	3,043.83	189.00	17.105				
20,100.00	12,446.00	19,637.11	12,271.72	130.91	140.91	-87.28	-7,322.73	3,714.41	3,233.85	3,041.75	192.10	16.834				
20,200.00	12,446.00	19,738.77	12,263.58	132.46	142.52	-87.14	-7,424.06	3,714.06	3,232.91	3,038.59	194.32	16.637				
20,300.00	12,446.00	19,825.00	12,257.56	134.02	143.89	-87.03	-7,510.08	3,713.92	3,232.13	3,035.73	196.39	16.457				
20,400.00	12,446.00	19,920.00	12,255.33	135.58	145.40	-86.99	-7,605.02	3,714.26	3,231.62	3,033.05	198.57	16.275				
20,454.92	12,446.00	19,963.15	12,255.96	136.44	146.09	-87.00	-7,648.17	3,714.63	3,231.51	3,031.84	199.67	16.184				
20,500.00	12,446.00	19,997.76	12,255.97	137.14	146.64	-87.00	-7,682.77	3,715.02	3,231.58	3,031.01	200.57	16.112				
20,600.00	12,446.00	20,080.06	12,254.81	138.70	147.95	-86.98	-7,765.06	3,716.28	3,232.20	3,029.58	202.62	15.952				
20,700.00	12,446.00	20,161.38	12,253.07	140.27	149.25	-86.95	-7,846.34	3,717.92	3,233.35	3,028.70	204.65	15.799				
20,800.00	12,446.00	20,203.00	12,252.03	141.83	149.91	-86.94	-7,887.93	3,718.95	3,235.39	3,029.16	206.23	15.688				
20,900.00	12,446.00	20,256.99	12,251.13	143.40	150.78	-86.92	-7,941.87	3,721.17	3,238.95	3,031.05	207.90	15.579				
21,000.00	12,446.00	20,297.00	12,251.13	144.97	151.42	-86.92	-7,981.79	3,723.87	3,244.61	3,035.26	209.35	15.499				
21,100.00	12,446.00	20,375.60	12,252.30	146.54	152.68	-86.95	-8,060.12	3,730.20	3,251.57	3,040.27	211.29	15.389				
21,200.00	12,446.00	20,748.33	12,254.30	148.12	158.66	-86.99	-8,432.40	3,741.38	3,250.85	3,034.12	216.73	15.000				
21,300.00	12,446.00	20,888.66	12,248.46	149.69	160.90	-86.89	-8,572.61	3,739.89	3,249.03	3,029.73	219.30	14.816				
21,400.00	12,446.00	21,024.11	12,242.64	151.27	163.06	-86.78	-8,707.90	3,737.32	3,246.51	3,024.71	221.80	14.637				
21,500.00	12,446.00	21,098.83	12,239.89	152.85	164.25	-86.73	-8,782.54	3,735.24	3,243.06	3,019.22	223.84	14.488				
21,600.00	12,446.00	21,156.47	12,239.01	154.43	165.17	-86.71	-8,840.17	3,734.61	3,241.02	3,015.30	225.73	14.358				
21,700.00	12,446.00	21,360.53	12,238.10	156.01	168.43	-86.69	-9,044.16	3,731.29	3,238.94	3,010.17	228.78	14.158				
21,800.00	12,446.00	21,451.10	12,234.25	157.59	169.87	-86.62	-9,134.57	3,727.74	3,234.30	3,003.36	230.94	14.005				
21,900.00	12,446.00	21,524.00	12,230.34	159.18	171.04	-86.55	-9,207.33	3,725.45	3,230.46	2,997.47	232.98	13.866				
22,000.00	12,446.00	21,592.38	12,226.10	160.76	172.13	-86.47	-9,275.57	3,723.88	3,227.51	2,992.54	234.97	13.736				
22,100.00	12,446.00	21,661.19	12,221.65	162.35	173.23	-86.39	-9,344.22	3,722.82	3,225.41	2,988.46	236.95	13.612				
22,200.00	12,446.00	21,713.00	12,219.22	163.94	174.06	-86.34	-9,395.97	3,722.57	3,224.41	2,985.66	238.75	13.505				
22,251.44	12,446.00	21,761.76	12,217.30	164.75	174.85	-86.31	-9,444.69	3,722.75	3,224.23	2,984.35	239.88	13.441				
22,300.00	12,446.00	21,807.00	12,215.45	165.53	175.57	-86.28	-9,489.89	3,723.23	3,224.39	2,983.45	240.94	13.383				
22,400.00	12,446.00	21,851.65	12,213.62	167.12	176.29	-86.24	-9,534.49	3,724.11	3,225.48	2,982.88	242.60	13.295 ES				
22,500.00	12,446.00	21,902.00	12,211.64	168.71	177.11	-86.21	-9,584.78	3,725.71	3,228.00	2,983.73	244.27	13.215				
22,600.00	12,446.00	21,978.45	12,208.75	170.30	178.34	-86.16	-9,661.11	3,729.02	3,231.63	2,985.40	246.23	13.124				
22,700.00	12,446.00	22,049.91	12,205.89	171.90	179.50	-86.11	-9,732.41	3,732.78	3,236.16	2,988.05	248.11	13.043				
22,800.00	12,446.00	22,127.10	12,201.86	173.49	180.75	-86.05	-9,809.35	3,737.42	3,241.53	2,991.48	250.05	12.964				
22,900.00	12,446.00	22,217.98	12,195.76	175.09	186.46	-85.95	-9,899.84	3,743.22	3,247.39	2,992.16	255.23	12.723				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 usft
LHS Wildcat Fed Com - LHS Wildcat Fed Com 705H - OH - OH												Offset Well Error:	0.00 usft
Survey Program: 133-MWD, 1394-OWSG (Rev2) MWD, 22230-BLIND													
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
23,000.00	12,446.00	22,230.00	12,194.93	176.69	187.87	-85.93	-9,911.81	3,743.99	3,254.53	2,997.52	257.00	12.663 SF	
23,100.00	12,446.00	22,230.00	12,194.93	178.28	187.87	-85.93	-9,911.81	3,743.99	3,264.69	3,007.20	257.49	12.679	
23,200.00	12,446.00	22,230.00	12,194.93	179.88	187.87	-85.93	-9,911.81	3,743.99	3,277.87	3,020.14	257.74	12.718	
23,300.00	12,446.00	22,230.00	12,194.93	181.48	187.87	-85.93	-9,911.81	3,743.99	3,294.04	3,036.29	257.76	12.780	
23,400.00	12,446.00	22,230.00	12,194.93	183.08	187.87	-85.93	-9,911.81	3,743.99	3,313.15	3,055.60	257.55	12.864	
23,500.00	12,446.00	22,230.00	12,194.93	184.69	187.87	-85.93	-9,911.81	3,743.99	3,335.15	3,078.01	257.14	12.970	
23,600.00	12,446.00	22,230.00	12,194.93	186.29	187.87	-85.93	-9,911.81	3,743.99	3,359.98	3,103.46	256.52	13.098	
23,700.00	12,446.00	22,230.00	12,194.93	187.89	187.87	-85.93	-9,911.81	3,743.99	3,387.58	3,131.86	255.72	13.247	
23,800.00	12,446.00	22,230.00	12,194.93	189.50	187.87	-85.93	-9,911.81	3,743.99	3,417.89	3,163.16	254.73	13.418	
23,900.00	12,446.00	22,230.00	12,194.93	191.10	187.87	-85.93	-9,911.81	3,743.99	3,450.83	3,197.25	253.58	13.609	
23,929.64	12,446.00	22,230.00	12,194.93	191.58	187.87	-85.93	-9,911.81	3,743.99	3,461.09	3,207.88	253.20	13.669	

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design PF Fed Com - PF Fed Com 101H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-153.97	-75.29	-36.78	83.80					
100.00	100.00	100.00	100.00	0.13	0.13	-153.97	-75.29	-36.78	83.80	83.62	0.18	472.260		
200.00	200.00	200.00	200.00	0.48	0.48	-153.97	-75.29	-36.78	83.80	83.11	0.68	122.438		
300.00	300.00	300.00	300.00	0.84	0.84	-153.97	-75.29	-36.78	83.80	82.60	1.19	70.337		
400.00	400.00	400.00	400.00	1.20	1.20	-153.97	-75.29	-36.78	83.80	82.10	1.70	49.341		
500.00	500.00	500.00	500.00	1.56	1.56	-153.97	-75.29	-36.78	83.80	81.59	2.21	37.998		
600.00	600.00	600.00	600.00	1.92	1.92	-153.97	-75.29	-36.78	83.80	81.08	2.71	30.896		
700.00	700.00	700.00	700.00	2.28	2.28	-153.97	-75.29	-36.78	83.80	80.58	3.22	26.030		
800.00	800.00	800.00	800.00	2.63	2.63	-153.97	-75.29	-36.78	83.80	80.07	3.73	22.489		
900.00	900.00	900.00	900.00	2.99	2.99	-153.97	-75.29	-36.78	83.80	79.56	4.23	19.795		
1,000.00	1,000.00	1,000.00	1,000.00	3.35	3.35	-153.97	-75.29	-36.78	83.80	79.06	4.74	17.678		
1,100.00	1,100.00	1,100.00	1,100.00	3.71	3.71	-153.97	-75.29	-36.78	83.80	78.55	5.25	15.970		
1,200.00	1,200.00	1,200.00	1,200.00	4.07	4.07	-153.97	-75.29	-36.78	83.80	78.04	5.75	14.563		
1,300.00	1,300.00	1,300.00	1,300.00	4.43	4.43	-153.97	-75.29	-36.78	83.80	77.53	6.26	13.384		
1,400.00	1,400.00	1,400.00	1,400.00	4.79	4.79	-153.97	-75.29	-36.78	83.80	77.03	6.77	12.381		
1,500.00	1,500.00	1,500.00	1,500.00	5.14	5.14	-153.97	-75.29	-36.78	83.80	76.52	7.27	11.519		
1,600.00	1,600.00	1,600.00	1,600.00	5.50	5.50	-153.97	-75.29	-36.78	83.80	76.01	7.78	10.768		
1,700.00	1,700.00	1,700.00	1,700.00	5.86	5.86	-153.97	-75.29	-36.78	83.80	75.51	8.29	10.110		
1,800.00	1,800.00	1,800.00	1,800.00	6.22	6.22	-153.97	-75.29	-36.78	83.80	75.00	8.80	9.527		
1,900.00	1,900.00	1,900.00	1,900.00	6.58	6.58	-153.97	-75.29	-36.78	83.80	74.49	9.30	9.008		
2,000.00	2,000.00	2,000.00	2,000.00	6.94	6.94	-153.97	-75.29	-36.78	83.80	73.99	9.81	8.542		
2,100.00	2,100.00	2,101.00	2,100.99	7.29	7.30	-153.15	-74.22	-37.57	83.19	72.88	10.32	8.064		
2,200.00	2,200.00	2,201.85	2,201.76	7.65	7.66	-150.63	-71.01	-39.95	81.50	70.67	10.82	7.530		
2,300.00	2,299.99	2,302.46	2,302.14	8.01	8.01	-175.62	-65.68	-43.91	80.33	69.01	11.33	7.092		
2,303.04	2,303.03	2,305.52	2,305.19	8.02	8.03	-175.46	-65.48	-44.05	80.33	68.99	11.34	7.082 CC, ES		
2,400.00	2,399.91	2,402.72	2,401.97	8.37	8.37	-169.71	-58.25	-49.41	81.55	69.72	11.83	6.892 SF		
2,500.00	2,499.69	2,502.47	2,501.03	8.72	8.73	-162.82	-48.80	-56.41	85.77	73.43	12.34	6.949		
2,600.00	2,599.27	2,601.72	2,599.47	9.08	9.10	-156.70	-38.66	-63.93	93.49	80.64	12.85	7.275		
2,685.78	2,684.47	2,686.74	2,683.80	9.39	9.41	-152.74	-29.98	-70.36	102.66	89.37	13.29	7.726		
2,700.00	2,698.58	2,700.83	2,697.78	9.44	9.46	-152.20	-28.54	-71.43	104.36	91.00	13.36	7.812		
2,800.00	2,797.77	2,799.88	2,796.02	9.81	9.83	-148.86	-18.42	-78.93	116.56	102.69	13.87	8.404		
2,900.00	2,896.96	2,898.92	2,894.26	10.17	10.20	-146.16	-8.30	-86.43	129.08	114.70	14.38	8.975		
3,000.00	2,996.15	2,997.97	2,992.50	10.54	10.58	-143.94	1.82	-93.93	141.83	126.93	14.90	9.521		
3,100.00	3,095.35	3,097.02	3,090.75	10.92	10.96	-142.08	11.94	-101.43	154.76	139.34	15.41	10.040		
3,200.00	3,194.54	3,196.06	3,188.99	11.29	11.33	-140.52	22.06	-108.93	167.82	151.88	15.93	10.532		
3,300.00	3,293.73	3,295.11	3,287.23	11.67	11.71	-139.18	32.18	-116.43	180.98	164.53	16.46	10.998		
3,400.00	3,392.92	3,394.16	3,385.47	12.05	12.10	-138.02	42.30	-123.93	194.23	177.25	16.98	11.439		
3,500.00	3,492.12	3,493.20	3,483.72	12.43	12.48	-137.01	52.42	-131.43	207.55	190.05	17.51	11.855		
3,600.00	3,591.31	3,592.25	3,581.96	12.81	12.86	-136.12	62.54	-138.93	220.93	202.89	18.03	12.250		
3,700.00	3,690.50	3,691.30	3,680.20	13.20	13.25	-135.33	72.66	-146.43	234.35	215.78	18.56	12.623		
3,800.00	3,789.69	3,790.35	3,778.45	13.58	13.64	-134.63	82.78	-153.93	247.81	228.71	19.10	12.977		
3,900.00	3,888.89	3,889.39	3,876.69	13.97	14.02	-134.00	92.90	-161.43	261.30	241.67	19.63	13.312		
4,000.00	3,988.08	3,988.44	3,974.93	14.36	14.41	-133.43	103.02	-168.93	274.82	254.66	20.16	13.630		
4,100.00	4,087.27	4,087.49	4,073.17	14.75	14.80	-132.92	113.14	-176.43	288.36	267.67	20.70	13.932		
4,200.00	4,186.46	4,186.53	4,171.42	15.14	15.19	-132.45	123.26	-183.93	301.93	280.70	21.23	14.219		
4,300.00	4,285.66	4,285.58	4,269.66	15.53	15.58	-132.02	133.38	-191.43	315.51	293.74	21.77	14.493		
4,400.00	4,384.85	4,384.63	4,367.90	15.92	15.98	-131.63	143.50	-198.93	329.11	306.80	22.31	14.753		
4,500.00	4,484.04	4,483.67	4,466.14	16.31	16.37	-131.27	153.62	-206.43	342.72	319.88	22.85	15.000		
4,600.00	4,583.23	4,582.72	4,564.39	16.71	16.76	-130.93	163.74	-213.93	356.35	332.96	23.39	15.237		
4,700.00	4,682.42	4,681.77	4,662.63	17.10	17.16	-130.62	173.86	-221.43	369.99	346.06	23.93	15.463		
4,800.00	4,781.62	4,780.81	4,760.87	17.50	17.55	-130.34	183.98	-228.93	383.63	359.16	24.47	15.678		
4,900.00	4,880.81	4,879.86	4,859.11	17.89	17.94	-130.07	194.10	-236.43	397.29	372.28	25.01	15.885		

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 PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,000.00	4,980.00	4,978.91	4,957.36	18.29	18.34	-129.82	204.22	-243.93	410.95	385.40	25.55	16.082		
5,100.00	5,079.19	5,077.95	5,055.60	18.68	18.73	-129.59	214.34	-251.43	424.62	398.52	26.10	16.271		
5,200.00	5,178.39	5,177.00	5,153.84	19.08	19.13	-129.37	224.46	-258.93	438.30	411.66	26.64	16.453		
5,300.00	5,277.58	5,276.05	5,252.09	19.48	19.53	-129.16	234.58	-266.43	451.98	424.80	27.18	16.627		
5,400.00	5,376.77	5,375.10	5,350.33	19.87	19.92	-128.97	244.70	-273.93	465.67	437.94	27.73	16.794		
5,500.00	5,475.96	5,474.14	5,448.57	20.27	20.32	-128.79	254.82	-281.42	479.36	451.09	28.27	16.954		
5,600.00	5,575.16	5,573.19	5,546.81	20.67	20.72	-128.61	264.94	-288.92	493.06	464.24	28.82	17.109		
5,700.00	5,674.35	5,672.24	5,645.06	21.07	21.12	-128.45	275.06	-296.42	506.76	477.40	29.36	17.257		
5,800.00	5,773.54	5,771.28	5,743.30	21.47	21.51	-128.29	285.18	-303.92	520.47	490.55	29.91	17.400		
5,900.00	5,872.73	5,870.33	5,841.54	21.87	21.91	-128.15	295.29	-311.42	534.17	503.72	30.46	17.538		
6,000.00	5,971.93	5,969.38	5,939.78	22.27	22.31	-128.01	305.41	-318.92	547.89	516.88	31.00	17.671		
6,100.00	6,071.12	6,068.42	6,038.03	22.67	22.71	-127.88	315.53	-326.42	561.60	530.05	31.55	17.799		
6,200.00	6,170.31	6,167.47	6,136.27	23.07	23.11	-127.75	325.65	-333.92	575.32	543.22	32.10	17.923		
6,300.00	6,269.50	6,266.52	6,234.51	23.47	23.51	-127.63	335.77	-341.42	589.04	556.39	32.65	18.043		
6,400.00	6,368.70	6,365.56	6,332.75	23.87	23.91	-127.51	345.89	-348.92	602.76	569.57	33.20	18.158		
6,500.00	6,467.89	6,464.61	6,431.00	24.27	24.31	-127.41	356.01	-356.42	616.49	582.75	33.74	18.270		
6,600.00	6,567.08	6,563.66	6,529.24	24.67	24.70	-127.30	366.13	-363.92	630.22	595.92	34.29	18.378		
6,700.00	6,666.27	6,662.70	6,627.48	25.07	25.10	-127.20	376.25	-371.42	643.95	609.10	34.84	18.482		
6,800.00	6,765.47	6,761.75	6,725.73	25.47	25.50	-127.10	386.37	-378.92	657.68	622.29	35.39	18.583		
6,900.00	6,864.66	6,860.80	6,823.97	25.88	25.90	-127.01	396.49	-386.42	671.41	635.47	35.94	18.681		
6,982.54	6,946.53	6,942.55	6,905.06	26.21	26.23	-126.94	404.85	-392.61	682.75	646.35	36.39	18.760		
7,000.00	6,963.85	6,960.60	6,922.96	26.28	26.31	-126.95	406.68	-393.97	685.12	648.62	36.49	18.773		
7,100.00	7,063.25	7,069.30	7,030.99	26.67	26.74	-127.00	416.35	-401.14	697.02	659.93	37.09	18.795		
7,200.00	7,162.90	7,178.51	7,139.82	27.05	27.15	-127.06	423.58	-406.50	705.99	668.33	37.66	18.748		
7,300.00	7,262.74	7,288.09	7,249.24	27.41	27.55	-127.11	428.32	-410.01	712.02	673.82	38.21	18.636		
7,400.00	7,362.69	7,397.89	7,359.00	27.77	27.93	-127.17	430.53	-411.65	715.10	676.36	38.73	18.462		
7,468.32	7,431.00	7,469.89	7,431.00	28.00	28.17	-97.90	430.71	-411.78	715.56	676.49	39.07	18.314		
7,500.00	7,462.68	7,501.57	7,462.68	28.10	28.28	-97.90	430.71	-411.78	715.56	676.34	39.22	18.243		
7,600.00	7,562.68	7,601.57	7,562.68	28.44	28.61	-97.90	430.71	-411.78	715.56	675.86	39.70	18.023		
7,700.00	7,662.68	7,701.57	7,662.68	28.78	28.94	-97.90	430.71	-411.78	715.56	675.38	40.18	17.807		
7,800.00	7,762.68	7,801.57	7,762.68	29.11	29.28	-97.90	430.71	-411.78	715.56	674.90	40.66	17.597		
7,900.00	7,862.68	7,901.57	7,862.68	29.45	29.61	-97.90	430.71	-411.78	715.56	674.42	41.14	17.391		
8,000.00	7,962.68	8,001.57	7,962.68	29.79	29.95	-97.90	430.71	-411.78	715.56	673.94	41.63	17.190		
8,100.00	8,062.68	8,091.63	8,052.63	30.13	30.23	-98.15	427.50	-411.75	716.05	673.99	42.06	17.025		
8,200.00	8,162.68	8,174.99	8,134.59	30.46	30.43	-99.32	412.69	-411.60	718.63	676.22	42.42	16.942		
8,300.00	8,262.68	8,250.00	8,205.81	30.80	30.58	-101.15	389.34	-411.37	724.25	681.58	42.67	16.975		
8,400.00	8,362.68	8,322.52	8,271.21	31.14	30.68	-103.57	358.10	-411.07	734.12	691.33	42.79	17.155		
8,500.00	8,462.68	8,384.10	8,323.27	31.48	30.75	-106.06	325.27	-410.74	749.56	706.86	42.71	17.552		
8,600.00	8,562.68	8,437.56	8,365.39	31.82	30.79	-108.49	292.37	-410.42	771.60	729.22	42.37	18.209		
8,700.00	8,662.68	8,483.66	8,399.11	32.16	30.81	-110.76	260.97	-410.11	800.83	759.03	41.80	19.160		
8,800.00	8,762.68	8,523.32	8,426.02	32.50	30.83	-112.80	231.85	-409.83	837.40	796.40	41.00	20.423		
8,900.00	8,862.68	8,550.00	8,442.97	32.85	30.83	-114.21	211.24	-409.62	881.17	841.21	39.96	22.053		
9,000.00	8,962.68	8,587.06	8,464.87	33.19	30.84	-116.21	181.36	-409.33	931.44	892.44	39.00	23.881		
9,100.00	9,062.68	8,600.00	8,472.06	33.53	30.84	-116.91	170.60	-409.23	987.95	950.18	37.77	26.159		
9,200.00	9,162.68	8,635.20	8,490.36	33.87	30.83	-118.82	140.54	-408.93	1,049.41	1,012.54	36.87	28.463		
9,300.00	9,262.68	8,650.00	8,497.50	34.22	30.83	-119.63	127.57	-408.80	1,115.71	1,079.90	35.81	31.157		
9,400.00	9,362.68	8,672.35	8,507.64	34.56	30.83	-120.84	107.65	-408.61	1,185.97	1,151.03	34.94	33.941		
9,500.00	9,462.68	8,700.00	8,519.09	34.90	30.82	-122.33	82.49	-408.36	1,259.87	1,225.64	34.24	36.800		
9,600.00	9,562.68	8,700.00	8,519.09	35.25	30.82	-122.33	82.49	-408.36	1,336.41	1,303.07	33.34	40.080		
9,700.00	9,662.68	8,700.00	8,519.09	35.59	30.82	-122.33	82.49	-408.36	1,415.88	1,383.31	32.57	43.468		
9,800.00	9,762.68	8,725.28	8,528.49	35.93	30.81	-123.68	59.03	-408.13	1,497.10	1,464.96	32.14	46.579		
9,900.00	9,862.68	8,750.00	8,536.67	36.28	30.81	-124.98	35.70	-407.90	1,580.68	1,548.89	31.78	49.734		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,000.00	9,962.68	8,750.00	8,536.67	36.62	30.81	-124.98	35.70	-407.90	1,665.46	1,634.16	31.29	53.225		
10,100.00	10,062.68	8,750.00	8,536.67	36.97	30.81	-124.98	35.70	-407.90	1,751.84	1,720.96	30.88	56.722		
10,200.00	10,162.68	8,750.00	8,536.67	37.31	30.81	-124.98	35.70	-407.90	1,839.61	1,809.05	30.55	60.207		
10,300.00	10,262.68	8,750.00	8,536.67	37.66	30.81	-124.98	35.70	-407.90	1,928.56	1,898.27	30.29	63.674		
10,400.00	10,362.68	8,774.39	8,543.75	38.01	30.80	-126.25	12.37	-407.67	2,017.92	1,987.68	30.23	66.741		
10,500.00	10,462.68	8,780.43	8,545.35	38.35	30.80	-126.56	6.54	-407.61	2,108.46	2,078.35	30.11	70.026		
10,600.00	10,562.68	8,800.00	8,550.10	38.70	30.79	-127.55	-12.44	-407.43	2,199.97	2,169.86	30.10	73.087		
10,700.00	10,662.68	8,800.00	8,550.10	39.04	30.79	-127.55	-12.44	-407.43	2,291.80	2,261.78	30.02	76.341		
10,800.00	10,762.68	8,800.00	8,550.10	39.39	30.79	-127.55	-12.44	-407.43	2,384.30	2,354.32	29.98	79.535		
10,900.00	10,862.68	8,800.00	8,550.10	39.74	30.79	-127.55	-12.44	-407.43	2,477.38	2,447.41	29.97	82.666		
11,000.00	10,962.68	8,800.00	8,550.10	40.09	30.79	-127.55	-12.44	-407.43	2,570.97	2,540.98	29.99	85.725		
11,100.00	11,062.68	8,800.00	8,550.10	40.43	30.79	-127.55	-12.44	-407.43	2,665.04	2,634.99	30.04	88.708		
11,200.00	11,162.68	8,800.00	8,550.10	40.78	30.79	-127.55	-12.44	-407.43	2,759.52	2,729.40	30.12	91.620		
11,300.00	11,262.68	8,800.00	8,550.10	41.13	30.79	-127.55	-12.44	-407.43	2,854.38	2,824.16	30.22	94.466		
11,400.00	11,362.68	8,800.00	8,550.10	41.48	30.79	-127.55	-12.44	-407.43	2,949.57	2,919.24	30.33	97.236		
11,500.00	11,462.68	8,822.57	8,554.78	41.82	30.79	-128.67	-34.52	-407.21	3,044.56	3,014.01	30.55	99.663		
11,600.00	11,562.68	8,825.54	8,555.33	42.17	30.79	-128.81	-37.43	-407.18	3,140.20	3,109.49	30.71	102.256		
11,700.00	11,662.68	8,828.35	8,555.84	42.52	30.79	-128.95	-40.20	-407.16	3,236.09	3,205.21	30.89	104.778		
11,800.00	11,762.68	8,850.00	8,559.29	42.87	30.79	-129.99	-61.57	-406.95	3,332.57	3,301.44	31.13	107.044		
11,900.00	11,862.68	8,850.00	8,559.29	43.22	30.79	-129.99	-61.57	-406.95	3,428.80	3,397.48	31.33	109.458		
11,910.36	11,873.04	8,850.00	8,559.29	43.25	30.79	-129.99	-61.57	-406.95	3,438.78	3,407.44	31.35	109.704		
11,950.00	11,912.65	8,850.00	8,559.29	43.38	30.79	48.01	-61.57	-406.95	3,476.78	3,445.36	31.42	110.644		
12,000.00	11,962.32	8,850.00	8,559.29	43.53	30.79	38.28	-61.57	-406.95	3,523.96	3,492.44	31.52	111.818		
12,050.00	12,011.30	8,850.00	8,559.29	43.66	30.79	31.53	-61.57	-406.95	3,569.99	3,538.39	31.60	112.969		
12,100.00	12,059.24	8,850.00	8,559.29	43.78	30.79	26.73	-61.57	-406.95	3,614.58	3,582.90	31.68	114.088		
12,150.00	12,105.76	8,850.00	8,559.29	43.89	30.79	23.21	-61.57	-406.95	3,657.46	3,625.70	31.76	115.167		
12,200.00	12,150.50	8,850.00	8,559.29	43.98	30.79	20.55	-61.57	-406.95	3,698.36	3,666.53	31.83	116.200		
12,250.00	12,193.14	8,850.00	8,559.29	44.06	30.79	18.51	-61.57	-406.95	3,737.03	3,705.14	31.89	117.177		
12,300.00	12,233.34	8,850.00	8,559.29	44.13	30.79	16.91	-61.57	-406.95	3,773.26	3,741.31	31.95	118.091		
12,350.00	12,270.79	8,850.00	8,559.29	44.18	30.79	15.64	-61.57	-406.95	3,806.84	3,774.84	32.01	118.931		
12,400.00	12,305.22	8,850.00	8,559.29	44.22	30.79	14.62	-61.57	-406.95	3,837.60	3,805.54	32.06	119.689		
12,450.00	12,336.36	8,874.30	8,562.20	44.25	30.79	13.81	-85.69	-406.71	3,864.78	3,832.63	32.16	120.187		
12,500.00	12,363.98	8,900.00	8,564.16	44.27	30.80	13.18	-111.31	-406.46	3,889.50	3,857.25	32.25	120.617		
12,550.00	12,387.85	8,900.00	8,564.16	44.29	30.80	12.66	-111.31	-406.46	3,910.28	3,877.98	32.29	121.083		
12,600.00	12,407.81	8,900.00	8,564.16	44.29	30.80	12.26	-111.31	-406.46	3,927.67	3,895.33	32.35	121.427		
12,650.00	12,423.70	8,900.00	8,564.16	44.30	30.80	11.96	-111.31	-406.46	3,941.60	3,909.19	32.40	121.640		
12,700.00	12,435.40	8,900.00	8,564.16	44.31	30.80	11.74	-111.31	-406.46	3,951.97	3,919.51	32.47	121.715		
12,750.00	12,442.82	8,900.00	8,564.16	44.34	30.80	11.60	-111.31	-406.46	3,958.76	3,926.22	32.54	121.645		
12,800.00	12,445.90	8,917.12	8,564.83	44.41	30.81	11.57	-128.42	-406.29	3,961.63	3,928.99	32.64	121.377		
12,810.36	12,446.00	8,930.93	8,565.00	44.42	30.82	11.60	-142.22	-406.15	3,961.94	3,929.27	32.67	121.286		
12,900.00	12,446.00	8,930.93	8,565.00	44.59	30.82	11.62	-142.22	-406.15	3,963.03	3,930.19	32.84	120.664		
13,000.00	12,446.00	9,022.32	8,565.00	44.83	31.00	11.78	-233.61	-405.26	3,964.92	3,931.81	33.11	119.745		
13,100.00	12,446.00	9,122.14	8,565.00	45.12	31.32	11.88	-333.43	-404.28	3,966.12	3,932.71	33.41	118.711		
13,200.00	12,446.00	9,222.11	8,565.00	45.46	31.72	11.92	-433.39	-403.30	3,966.60	3,932.86	33.74	117.577		
13,217.18	12,446.00	9,239.28	8,565.00	45.52	31.80	11.93	-450.56	-403.13	3,966.61	3,932.81	33.80	117.370		
13,300.00	12,446.00	9,322.11	8,565.00	45.84	32.20	11.93	-533.38	-402.31	3,966.61	3,932.52	34.09	116.345		
13,400.00	12,446.00	9,422.11	8,565.00	46.27	32.76	11.93	-633.38	-401.33	3,966.61	3,932.12	34.49	115.014		
13,500.00	12,446.00	9,522.11	8,565.00	46.75	33.38	11.93	-733.37	-400.35	3,966.61	3,931.69	34.92	113.597		
13,600.00	12,446.00	9,622.11	8,565.00	47.29	34.06	11.93	-833.37	-399.37	3,966.61	3,931.23	35.38	112.105		
13,700.00	12,446.00	9,722.11	8,565.00	47.87	34.81	11.93	-933.36	-398.39	3,966.61	3,930.73	35.88	110.548		
13,800.00	12,446.00	9,822.11	8,565.00	48.50	35.62	11.93	-1,033.36	-397.40	3,966.61	3,930.20	36.41	108.939		
13,900.00	12,446.00	9,922.11	8,565.00	49.18	36.48	11.93	-1,133.35	-396.42	3,966.61	3,929.64	36.97	107.287		

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



Total Directional Services

Anticollision Report



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Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,000.00	12,446.00	10,022.11	8,565.00	49.90	37.40	11.93	-1,233.35	-395.44	3,966.61	3,929.05	37.56	105.604		
14,100.00	12,446.00	10,122.11	8,565.00	50.66	38.36	11.93	-1,333.34	-394.46	3,966.61	3,928.44	38.18	103.898		
14,200.00	12,446.00	10,222.11	8,565.00	51.47	39.37	11.93	-1,433.34	-393.48	3,966.61	3,927.79	38.82	102.177		
14,300.00	12,446.00	10,322.11	8,565.00	52.31	40.42	11.93	-1,533.33	-392.50	3,966.61	3,927.13	39.49	100.448		
14,400.00	12,446.00	10,422.11	8,565.00	53.19	41.51	11.93	-1,633.33	-391.51	3,966.62	3,926.43	40.18	98.717		
14,500.00	12,446.00	10,522.11	8,565.00	54.11	42.63	11.93	-1,733.32	-390.53	3,966.62	3,925.72	40.90	96.992		
14,600.00	12,446.00	10,622.11	8,565.00	55.06	43.79	11.93	-1,833.32	-389.55	3,966.62	3,924.98	41.63	95.277		
14,700.00	12,446.00	10,722.11	8,565.00	56.05	44.98	11.93	-1,933.32	-388.57	3,966.62	3,924.23	42.39	93.576		
14,800.00	12,446.00	10,822.11	8,565.00	57.06	46.20	11.93	-2,033.31	-387.59	3,966.62	3,923.45	43.16	91.894		
14,900.00	12,446.00	10,922.11	8,565.00	58.11	47.44	11.93	-2,133.31	-386.60	3,966.62	3,922.66	43.96	90.234		
15,000.00	12,446.00	11,022.11	8,565.00	59.18	48.71	11.93	-2,233.30	-385.62	3,966.62	3,921.85	44.77	88.599		
15,100.00	12,446.00	11,122.11	8,565.00	60.28	49.99	11.93	-2,333.30	-384.64	3,966.62	3,921.02	45.60	86.991		
15,200.00	12,446.00	11,222.11	8,565.00	61.40	51.30	11.93	-2,433.29	-383.66	3,966.62	3,920.18	46.44	85.411		
15,300.00	12,446.00	11,322.11	8,565.00	62.54	52.63	11.93	-2,533.29	-382.68	3,966.62	3,919.32	47.30	83.862		
15,400.00	12,446.00	11,422.11	8,565.00	63.71	53.98	11.93	-2,633.28	-381.70	3,966.62	3,918.45	48.17	82.345		
15,500.00	12,446.00	11,522.11	8,565.00	64.90	55.34	11.93	-2,733.28	-380.71	3,966.62	3,917.56	49.06	80.860		
15,600.00	12,446.00	11,622.11	8,565.00	66.11	56.72	11.93	-2,833.27	-379.73	3,966.62	3,916.67	49.95	79.408		
15,700.00	12,446.00	11,722.11	8,565.00	67.34	58.11	11.93	-2,933.27	-378.75	3,966.62	3,915.76	50.86	77.989		
15,800.00	12,446.00	11,822.11	8,565.00	68.58	59.52	11.93	-3,033.26	-377.77	3,966.62	3,914.84	51.78	76.603		
15,900.00	12,446.00	11,922.11	8,565.00	69.84	60.94	11.93	-3,133.26	-376.79	3,966.62	3,913.91	52.71	75.251		
16,000.00	12,446.00	12,022.11	8,565.00	71.12	62.36	11.93	-3,233.25	-375.80	3,966.62	3,912.97	53.65	73.933		
16,100.00	12,446.00	12,122.11	8,565.00	72.41	63.80	11.93	-3,333.25	-374.82	3,966.62	3,912.02	54.60	72.649		
16,200.00	12,446.00	12,222.11	8,565.00	73.72	65.25	11.93	-3,433.24	-373.84	3,966.62	3,911.06	55.56	71.396		
16,300.00	12,446.00	12,322.11	8,565.00	75.04	66.71	11.93	-3,533.24	-372.86	3,966.62	3,910.10	56.52	70.175		
16,400.00	12,446.00	12,422.11	8,565.00	76.37	68.18	11.93	-3,633.23	-371.88	3,966.62	3,909.12	57.50	68.986		
16,500.00	12,446.00	12,522.11	8,565.00	77.72	69.66	11.93	-3,733.23	-370.90	3,966.62	3,908.14	58.48	67.828		
16,600.00	12,446.00	12,622.11	8,565.00	79.08	71.14	11.93	-3,833.22	-369.91	3,966.62	3,907.15	59.47	66.699		
16,700.00	12,446.00	12,722.11	8,565.00	80.45	72.63	11.93	-3,933.22	-368.93	3,966.62	3,906.16	60.47	65.600		
16,800.00	12,446.00	12,822.11	8,565.00	81.82	74.13	11.93	-4,033.21	-367.95	3,966.62	3,905.15	61.47	64.529		
16,900.00	12,446.00	12,922.11	8,565.00	83.21	75.64	11.93	-4,133.21	-366.97	3,966.63	3,904.15	62.48	63.487		
17,000.00	12,446.00	13,022.11	8,565.00	84.61	77.15	11.93	-4,233.20	-365.99	3,966.63	3,903.13	63.50	62.471		
17,100.00	12,446.00	13,122.11	8,565.00	86.02	78.66	11.93	-4,333.20	-365.00	3,966.63	3,902.11	64.52	61.483		
17,200.00	12,446.00	13,222.11	8,565.00	87.43	80.18	11.93	-4,433.19	-364.02	3,966.63	3,901.08	65.54	60.519		
17,300.00	12,446.00	13,322.11	8,565.00	88.86	81.71	11.93	-4,533.19	-363.04	3,966.63	3,900.05	66.57	59.581		
17,400.00	12,446.00	13,422.11	8,565.00	90.29	83.24	11.93	-4,633.19	-362.06	3,966.63	3,899.02	67.61	58.668		
17,500.00	12,446.00	13,522.11	8,565.00	91.73	84.78	11.93	-4,733.18	-361.08	3,966.63	3,897.98	68.65	57.779		
17,600.00	12,446.00	13,622.11	8,565.00	93.17	86.32	11.93	-4,833.18	-360.10	3,966.63	3,896.93	69.70	56.914		
17,700.00	12,446.00	13,722.11	8,565.00	94.63	87.86	11.93	-4,933.17	-359.11	3,966.63	3,895.88	70.74	56.070		
17,800.00	12,446.00	13,822.11	8,565.00	96.09	89.41	11.93	-5,033.17	-358.13	3,966.63	3,894.83	71.80	55.248		
17,900.00	12,446.00	13,922.11	8,565.00	97.55	90.96	11.93	-5,133.16	-357.15	3,966.63	3,893.78	72.85	54.447		
18,000.00	12,446.00	14,022.11	8,565.00	99.02	92.51	11.93	-5,233.16	-356.17	3,966.63	3,892.72	73.91	53.666		
18,100.00	12,446.00	14,122.11	8,565.00	100.50	94.07	11.93	-5,333.15	-355.19	3,966.63	3,891.65	74.98	52.904		
18,200.00	12,446.00	14,222.11	8,565.00	101.98	95.63	11.93	-5,433.15	-354.20	3,966.63	3,890.58	76.05	52.160		
18,300.00	12,446.00	14,322.11	8,565.00	103.47	97.20	11.93	-5,533.14	-353.22	3,966.63	3,889.51	77.12	51.435		
18,400.00	12,446.00	14,422.11	8,565.00	104.96	98.76	11.93	-5,633.14	-352.24	3,966.63	3,888.44	78.19	50.728		
18,500.00	12,446.00	14,522.11	8,565.00	106.46	100.33	11.93	-5,733.13	-351.26	3,966.63	3,887.36	79.27	50.038		
18,600.00	12,446.00	14,622.11	8,565.00	107.96	101.91	11.93	-5,833.13	-350.28	3,966.63	3,886.28	80.35	49.365		
18,700.00	12,446.00	14,722.11	8,565.00	109.46	103.48	11.93	-5,933.12	-349.30	3,966.63	3,885.20	81.44	48.709		
18,800.00	12,446.00	14,822.11	8,565.00	110.97	105.06	11.93	-6,033.12	-348.31	3,966.63	3,884.11	82.52	48.069		
18,900.00	12,446.00	14,922.11	8,565.00	112.49	106.64	11.93	-6,133.11	-347.33	3,966.63	3,883.03	83.61	47.444		
19,000.00	12,446.00	15,022.11	8,565.00	114.00	108.22	11.93	-6,233.11	-346.35	3,966.63	3,881.94	84.70	46.833		
19,100.00	12,446.00	15,122.11	8,565.00	115.53	109.80	11.93	-6,333.10	-345.37	3,966.63	3,880.84	85.79	46.237		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,200.00	12,446.00	15,222.11	8,565.00	117.05	111.39	11.93	-6,433.10	-344.39	3,966.63	3,879.75	86.88	45.655		
19,300.00	12,446.00	15,322.11	8,565.00	118.58	112.97	11.93	-6,533.09	-343.41	3,966.63	3,878.65	87.98	45.086		
19,400.00	12,446.00	15,422.11	8,565.00	120.11	114.56	11.93	-6,633.09	-342.42	3,966.64	3,877.56	89.08	44.530		
19,500.00	12,446.00	15,522.11	8,565.00	121.64	116.15	11.93	-6,733.08	-341.44	3,966.64	3,876.46	90.18	43.986		
19,600.00	12,446.00	15,622.11	8,565.00	123.18	117.75	11.93	-6,833.08	-340.46	3,966.64	3,875.35	91.28	43.455		
19,700.00	12,446.00	15,722.11	8,565.00	124.72	119.34	11.93	-6,933.07	-339.48	3,966.64	3,874.25	92.39	42.935		
19,800.00	12,446.00	15,822.11	8,565.00	126.27	120.94	11.93	-7,033.07	-338.50	3,966.64	3,873.14	93.49	42.427		
19,900.00	12,446.00	15,922.11	8,565.00	127.81	122.53	11.93	-7,133.06	-337.51	3,966.64	3,872.03	94.60	41.930		
20,000.00	12,446.00	16,022.11	8,565.00	129.36	124.13	11.93	-7,233.06	-336.53	3,966.64	3,870.93	95.71	41.443		
20,100.00	12,446.00	16,122.11	8,565.00	130.91	125.73	11.93	-7,333.06	-335.55	3,966.64	3,869.81	96.82	40.968		
20,200.00	12,446.00	16,222.11	8,565.00	132.46	127.33	11.93	-7,433.05	-334.57	3,966.64	3,868.70	97.94	40.502		
20,300.00	12,446.00	16,322.11	8,565.00	134.02	128.94	11.93	-7,533.05	-333.59	3,966.64	3,867.59	99.05	40.047		
20,400.00	12,446.00	16,422.11	8,565.00	135.58	130.54	11.93	-7,633.04	-332.61	3,966.64	3,866.48	100.16	39.602		
20,500.00	12,446.00	16,522.11	8,565.00	137.14	132.15	11.93	-7,733.04	-331.62	3,966.64	3,865.36	101.28	39.165		
20,600.00	12,446.00	16,622.11	8,565.00	138.70	133.75	11.93	-7,833.03	-330.64	3,966.64	3,864.24	102.40	38.738		
20,700.00	12,446.00	16,722.11	8,565.00	140.27	135.36	11.93	-7,933.03	-329.66	3,966.64	3,863.12	103.52	38.319		
20,800.00	12,446.00	16,822.11	8,565.00	141.83	136.97	11.93	-8,033.02	-328.68	3,966.64	3,862.00	104.64	37.908		
20,900.00	12,446.00	16,922.11	8,565.00	143.40	138.58	11.93	-8,133.02	-327.70	3,966.64	3,860.88	105.76	37.506		
21,000.00	12,446.00	17,022.11	8,565.00	144.97	140.19	11.93	-8,233.01	-326.71	3,966.64	3,859.76	106.88	37.112		
21,100.00	12,446.00	17,122.11	8,565.00	146.54	141.80	11.93	-8,333.01	-325.73	3,966.64	3,858.63	108.01	36.726		
21,200.00	12,446.00	17,222.11	8,565.00	148.12	143.41	11.93	-8,433.00	-324.75	3,966.64	3,857.51	109.13	36.347		
21,300.00	12,446.00	17,322.11	8,565.00	149.69	145.02	11.93	-8,533.00	-323.77	3,966.64	3,856.38	110.26	35.975		
21,400.00	12,446.00	17,422.11	8,565.00	151.27	146.64	11.93	-8,632.99	-322.79	3,966.64	3,855.26	111.39	35.612		
21,500.00	12,446.00	17,522.11	8,565.00	152.85	148.25	11.93	-8,732.99	-321.81	3,966.64	3,854.13	112.51	35.255		
21,600.00	12,446.00	17,622.11	8,565.00	154.43	149.87	11.93	-8,832.98	-320.82	3,966.64	3,853.00	113.64	34.905		
21,700.00	12,446.00	17,722.11	8,565.00	156.01	151.48	11.93	-8,932.98	-319.84	3,966.64	3,851.87	114.77	34.562		
21,800.00	12,446.00	17,822.11	8,565.00	157.59	153.10	11.93	-9,032.97	-318.86	3,966.64	3,850.74	115.90	34.224		
21,900.00	12,446.00	17,922.11	8,565.00	159.18	154.72	11.93	-9,132.97	-317.88	3,966.65	3,849.61	117.03	33.894		
22,000.00	12,446.00	18,022.11	8,565.00	160.76	156.34	11.93	-9,232.96	-316.90	3,966.65	3,848.48	118.16	33.569		
22,100.00	12,446.00	18,122.11	8,565.00	162.35	157.95	11.93	-9,332.96	-315.91	3,966.65	3,847.35	119.30	33.250		
22,200.00	12,446.00	18,222.11	8,565.00	163.94	159.57	11.93	-9,432.95	-314.93	3,966.65	3,846.22	120.43	32.937		
22,300.00	12,446.00	18,322.11	8,565.00	165.53	161.19	11.93	-9,532.95	-313.95	3,966.65	3,845.08	121.57	32.630		
22,400.00	12,446.00	18,422.11	8,565.00	167.12	162.82	11.93	-9,632.94	-312.97	3,966.65	3,843.95	122.70	32.328		
22,500.00	12,446.00	18,522.11	8,565.00	168.71	164.44	11.93	-9,732.94	-311.99	3,966.65	3,842.81	123.84	32.031		
22,600.00	12,446.00	18,622.11	8,565.00	170.30	166.06	11.93	-9,832.93	-311.01	3,966.65	3,841.67	124.97	31.740		
22,700.00	12,446.00	18,634.72	8,565.00	171.90	166.26	11.93	-9,845.55	-310.88	3,967.61	3,841.81	125.80	31.539		
22,800.00	12,446.00	18,634.72	8,565.00	173.49	166.26	11.93	-9,845.55	-310.88	3,971.07	3,844.55	126.53	31.386		
22,900.00	12,446.00	18,634.72	8,565.00	175.09	166.26	11.93	-9,845.55	-310.88	3,977.05	3,849.86	127.18	31.270		
23,000.00	12,446.00	18,634.72	8,565.00	176.69	166.26	11.93	-9,845.55	-310.88	3,985.52	3,857.74	127.78	31.190		
23,100.00	12,446.00	18,634.72	8,565.00	178.28	166.26	11.93	-9,845.55	-310.88	3,996.48	3,868.16	128.32	31.144		
23,200.00	12,446.00	18,634.72	8,565.00	179.88	166.26	11.93	-9,845.55	-310.88	4,009.91	3,881.11	128.80	31.134		
23,300.00	12,446.00	18,634.72	8,565.00	181.48	166.26	11.93	-9,845.55	-310.88	4,025.77	3,896.57	129.20	31.160		
23,400.00	12,446.00	18,634.72	8,565.00	183.08	166.26	11.93	-9,845.55	-310.88	4,044.05	3,914.50	129.55	31.217		
23,500.00	12,446.00	18,634.72	8,565.00	184.69	166.26	11.93	-9,845.55	-310.88	4,064.70	3,934.87	129.83	31.308		
23,600.00	12,446.00	18,634.72	8,565.00	186.29	166.26	11.93	-9,845.55	-310.88	4,087.70	3,957.64	130.05	31.431		
23,700.00	12,446.00	18,634.72	8,565.00	187.89	166.26	11.93	-9,845.55	-310.88	4,113.00	3,982.78	130.22	31.586		
23,800.00	12,446.00	18,634.72	8,565.00	189.50	166.26	11.93	-9,845.55	-310.88	4,140.56	4,010.24	130.32	31.773		
23,900.00	12,446.00	18,634.72	8,565.00	191.10	166.26	11.93	-9,845.55	-310.88	4,170.34	4,039.97	130.37	31.989		
23,929.64	12,446.00	18,634.72	8,565.00	191.58	166.26	11.93	-9,845.55	-310.88	4,179.58	4,049.21	130.38	32.058		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	152.89	-74.59	38.18	83.80					
100.00	100.00	100.00	100.00	0.13	0.13	152.89	-74.59	38.18	83.80	83.62	0.18	472.260		
200.00	200.00	200.00	200.00	0.48	0.48	152.89	-74.59	38.18	83.80	83.11	0.68	122.438		
300.00	300.00	300.00	300.00	0.84	0.84	152.89	-74.59	38.18	83.80	82.60	1.19	70.337		
400.00	400.00	400.00	400.00	1.20	1.20	152.89	-74.59	38.18	83.80	82.10	1.70	49.341		
500.00	500.00	500.00	500.00	1.56	1.56	152.89	-74.59	38.18	83.80	81.59	2.21	37.998		
600.00	600.00	600.00	600.00	1.92	1.92	152.89	-74.59	38.18	83.80	81.08	2.71	30.896		
700.00	700.00	700.00	700.00	2.28	2.28	152.89	-74.59	38.18	83.80	80.58	3.22	26.030		
800.00	800.00	800.00	800.00	2.63	2.63	152.89	-74.59	38.18	83.80	80.07	3.73	22.489		
900.00	900.00	900.00	900.00	2.99	2.99	152.89	-74.59	38.18	83.80	79.56	4.23	19.795		
1,000.00	1,000.00	1,000.00	1,000.00	3.35	3.35	152.89	-74.59	38.18	83.80	79.06	4.74	17.678		
1,100.00	1,100.00	1,100.00	1,100.00	3.71	3.71	152.89	-74.59	38.18	83.80	78.55	5.25	15.970		
1,200.00	1,200.00	1,200.00	1,200.00	4.07	4.07	152.89	-74.59	38.18	83.80	78.04	5.75	14.563		
1,300.00	1,300.00	1,300.00	1,300.00	4.43	4.43	152.89	-74.59	38.18	83.80	77.53	6.26	13.384		
1,400.00	1,400.00	1,400.00	1,400.00	4.79	4.79	152.89	-74.59	38.18	83.80	77.03	6.77	12.381		
1,500.00	1,500.00	1,500.00	1,500.00	5.14	5.14	152.89	-74.59	38.18	83.80	76.52	7.27	11.519		
1,600.00	1,600.00	1,600.00	1,600.00	5.50	5.50	152.89	-74.59	38.18	83.80	76.01	7.78	10.768		
1,700.00	1,700.00	1,700.00	1,700.00	5.86	5.86	152.89	-74.59	38.18	83.80	75.51	8.29	10.110		
1,800.00	1,800.00	1,800.00	1,800.00	6.22	6.22	152.89	-74.59	38.18	83.80	75.00	8.80	9.527		
1,900.00	1,900.00	1,900.00	1,900.00	6.58	6.58	152.89	-74.59	38.18	83.80	74.49	9.30	9.008		
2,000.00	2,000.00	2,000.00	2,000.00	6.94	6.94	152.89	-74.59	38.18	83.80	73.99	9.81	8.542		
2,100.00	2,100.00	2,100.00	2,100.00	7.29	7.29	152.89	-74.59	38.18	83.80	73.48	10.32	8.122		
2,200.00	2,200.00	2,200.00	2,200.00	7.65	7.65	152.89	-74.59	38.18	83.80	72.97	10.82	7.742 CC, ES		
2,300.00	2,299.99	2,300.29	2,300.28	8.01	8.01	123.43	-73.84	39.26	84.35	73.02	11.33	7.446		
2,400.00	2,399.91	2,400.56	2,400.46	8.37	8.36	122.99	-71.59	42.51	86.00	74.17	11.83	7.270		
2,500.00	2,499.69	2,500.78	2,500.47	8.72	8.72	122.30	-67.85	47.91	88.76	76.43	12.33	7.198 SF		
2,600.00	2,599.27	2,600.94	2,600.21	9.08	9.07	121.39	-62.61	55.46	92.65	79.81	12.84	7.218		
2,685.78	2,684.47	2,686.80	2,685.48	9.39	9.38	120.48	-56.94	63.64	96.88	83.61	13.27	7.299		
2,700.00	2,698.58	2,701.02	2,699.59	9.44	9.43	120.32	-55.90	65.14	97.65	84.31	13.35	7.317		
2,800.00	2,797.77	2,800.99	2,798.52	9.81	9.80	118.42	-47.71	76.95	103.00	89.14	13.86	7.432		
2,900.00	2,896.96	2,900.74	2,896.81	10.17	10.17	115.34	-38.07	90.85	108.45	94.07	14.38	7.541		
3,000.00	2,996.15	3,000.23	2,994.45	10.54	10.55	111.41	-27.17	106.58	114.33	99.42	14.91	7.669		
3,100.00	3,095.35	3,099.74	3,092.02	10.92	10.94	107.71	-16.06	122.61	120.74	105.31	15.44	7.821		
3,200.00	3,194.54	3,199.24	3,189.60	11.29	11.33	104.39	-4.95	138.63	127.61	111.64	15.97	7.990		
3,300.00	3,293.73	3,298.74	3,287.17	11.67	11.73	101.41	6.16	154.65	134.87	118.36	16.51	8.169		
3,400.00	3,392.92	3,398.25	3,384.75	12.05	12.13	98.75	17.27	170.68	142.45	125.40	17.05	8.355		
3,500.00	3,492.12	3,497.75	3,482.32	12.43	12.54	96.36	28.38	186.70	150.30	132.71	17.59	8.544		
3,600.00	3,591.31	3,597.26	3,579.90	12.81	12.96	94.20	39.49	202.72	158.39	140.26	18.14	8.733		
3,700.00	3,690.50	3,696.76	3,677.47	13.20	13.37	92.26	50.60	218.75	166.68	148.00	18.68	8.922		
3,800.00	3,789.69	3,796.26	3,775.05	13.58	13.79	90.51	61.71	234.77	175.15	155.92	19.23	9.107		
3,900.00	3,888.89	3,895.77	3,872.62	13.97	14.22	88.91	72.82	250.79	183.76	163.98	19.78	9.290		
4,000.00	3,988.08	3,995.27	3,970.20	14.36	14.65	87.46	83.93	266.82	192.50	172.17	20.33	9.468		
4,100.00	4,087.27	4,094.78	4,067.77	14.75	15.08	86.14	95.04	282.84	201.36	180.47	20.88	9.642		
4,200.00	4,186.46	4,194.28	4,165.35	15.14	15.51	84.93	106.15	298.86	210.31	188.87	21.44	9.810		
4,300.00	4,285.66	4,293.78	4,262.92	15.53	15.94	83.82	117.26	314.88	219.34	197.35	21.99	9.974		
4,400.00	4,384.85	4,393.29	4,360.50	15.92	16.38	82.79	128.37	330.91	228.45	205.91	22.55	10.133		
4,500.00	4,484.04	4,492.79	4,458.07	16.31	16.82	81.85	139.48	346.93	237.63	214.53	23.10	10.286		
4,600.00	4,583.23	4,592.30	4,555.65	16.71	17.26	80.97	150.59	362.95	246.87	223.21	23.66	10.435		
4,700.00	4,682.42	4,691.80	4,653.22	17.10	17.70	80.16	161.69	378.98	256.16	231.95	24.22	10.579		
4,800.00	4,781.62	4,791.30	4,750.80	17.50	18.14	79.41	172.80	395.00	265.50	240.73	24.77	10.717		
4,900.00	4,880.81	4,890.81	4,848.37	17.89	18.59	78.70	183.91	411.02	274.89	249.55	25.33	10.851		
5,000.00	4,980.00	4,990.31	4,945.95	18.29	19.03	78.05	195.02	427.05	284.31	258.41	25.89	10.981		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													PF Fed Com - PF Fed Com 102H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
5,100.00	5,079.19	5,089.82	5,043.53	18.68	19.48	77.43	206.13	443.07	293.76	267.31	26.45	11.106				
5,200.00	5,178.39	5,189.32	5,141.10	19.08	19.93	76.85	217.24	459.09	303.25	276.24	27.01	11.227				
5,300.00	5,277.58	5,288.83	5,238.68	19.48	20.38	76.31	228.35	475.12	312.76	285.19	27.57	11.344				
5,400.00	5,376.77	5,388.33	5,336.25	19.87	20.83	75.80	239.46	491.14	322.30	294.17	28.13	11.457				
5,500.00	5,475.96	5,487.83	5,433.83	20.27	21.28	75.32	250.57	507.16	331.87	303.18	28.69	11.567				
5,600.00	5,575.16	5,587.34	5,531.40	20.67	21.73	74.87	261.68	523.19	341.45	312.20	29.25	11.672				
5,700.00	5,674.35	5,686.84	5,628.98	21.07	22.18	74.44	272.79	539.21	351.06	321.25	29.81	11.775				
5,800.00	5,773.54	5,786.35	5,726.55	21.47	22.64	74.04	283.90	555.23	360.69	330.31	30.38	11.874				
5,900.00	5,872.73	5,885.85	5,824.13	21.87	23.09	73.65	295.01	571.26	370.33	339.39	30.94	11.969				
6,000.00	5,971.93	5,985.35	5,921.70	22.27	23.55	73.29	306.12	587.28	379.99	348.48	31.50	12.062				
6,100.00	6,071.12	6,084.86	6,019.28	22.67	24.00	72.94	317.23	603.30	389.66	357.59	32.07	12.152				
6,200.00	6,170.31	6,184.36	6,116.85	23.07	24.46	72.61	328.34	619.33	399.34	366.71	32.63	12.239				
6,300.00	6,269.50	6,283.87	6,214.43	23.47	24.91	72.30	339.45	635.35	409.04	375.85	33.19	12.324				
6,400.00	6,368.70	6,383.37	6,312.00	23.87	25.37	72.00	350.56	651.37	418.75	385.00	33.76	12.405				
6,500.00	6,467.89	6,482.87	6,409.58	24.27	25.83	71.71	361.66	667.40	428.47	394.15	34.32	12.485				
6,600.00	6,567.08	6,582.38	6,507.15	24.67	26.29	71.44	372.77	683.42	438.20	403.32	34.88	12.562				
6,700.00	6,666.27	6,681.88	6,604.73	25.07	26.75	71.17	383.88	699.44	447.94	412.50	35.45	12.637				
6,800.00	6,765.47	6,781.39	6,702.30	25.47	27.21	70.92	394.99	715.47	457.69	421.68	36.01	12.709				
6,900.00	6,864.66	6,883.34	6,802.30	25.88	27.68	70.69	406.32	731.80	467.38	430.79	36.60	12.771				
6,982.54	6,946.53	6,973.45	6,890.98	26.21	28.08	70.63	415.41	744.91	474.32	437.20	37.12	12.777				
7,000.00	6,963.85	6,992.54	6,909.82	26.28	28.16	70.65	417.18	747.47	475.63	438.40	37.23	12.774				
7,100.00	7,063.25	7,102.03	7,018.12	26.67	28.63	70.74	426.31	760.64	482.43	444.58	37.85	12.747				
7,200.00	7,162.90	7,211.74	7,127.06	27.05	29.07	70.76	433.68	771.27	488.06	449.63	38.42	12.702				
7,300.00	7,262.74	7,321.64	7,236.52	27.41	29.48	70.71	439.28	779.34	492.52	453.55	38.97	12.639				
7,400.00	7,362.69	7,431.69	7,346.37	27.77	29.87	70.58	443.08	784.82	495.80	456.32	39.48	12.559				
7,468.32	7,431.00	7,506.95	7,421.58	28.00	30.13	99.77	444.64	787.07	497.37	457.56	39.81	12.494				
7,500.00	7,462.68	7,541.88	7,456.49	28.10	30.24	99.71	445.08	787.70	497.87	457.91	39.95	12.461				
7,600.00	7,562.68	7,648.07	7,562.68	28.44	30.58	99.66	445.41	788.18	498.24	457.82	40.42	12.327				
7,700.00	7,662.68	7,748.07	7,662.68	28.78	30.89	99.66	445.41	788.18	498.24	457.36	40.89	12.186				
7,800.00	7,762.68	7,848.07	7,762.68	29.11	31.20	99.66	445.41	788.18	498.24	456.89	41.36	12.048				
7,900.00	7,862.68	7,948.07	7,862.68	29.45	31.52	99.66	445.41	788.18	498.24	456.42	41.83	11.912				
8,000.00	7,962.68	8,048.07	7,962.68	29.79	31.83	99.66	445.41	788.18	498.24	455.94	42.30	11.779				
8,100.00	8,062.68	8,148.07	8,062.68	30.13	32.15	99.66	445.41	788.18	498.24	455.47	42.77	11.649				
8,200.00	8,162.68	8,235.17	8,149.52	30.46	32.39	100.28	439.87	788.23	499.43	456.18	43.25	11.548				
8,300.00	8,262.68	8,317.83	8,230.27	30.80	32.57	102.22	422.55	788.40	503.85	460.15	43.70	11.530				
8,400.00	8,362.68	8,394.12	8,301.88	31.14	32.70	105.09	396.41	788.66	512.84	468.80	44.04	11.645				
8,500.00	8,462.68	8,462.40	8,362.54	31.48	32.78	108.42	365.13	788.97	528.12	483.99	44.13	11.967				
8,600.00	8,562.68	8,522.25	8,412.31	31.82	32.82	111.82	331.94	789.29	551.17	507.31	43.86	12.565				
8,700.00	8,662.68	8,574.06	8,452.41	32.16	32.84	115.01	299.16	789.61	582.84	539.65	43.19	13.494				
8,800.00	8,762.68	8,618.66	8,484.43	32.50	32.85	117.89	268.13	789.92	623.25	581.07	42.18	14.776				
8,900.00	8,862.68	8,650.00	8,505.44	32.85	32.85	119.95	244.89	790.14	671.96	631.16	40.79	16.472				
9,000.00	8,962.68	8,700.00	8,536.25	33.19	32.84	123.24	205.53	790.53	728.05	688.26	39.79	18.297				
9,100.00	9,062.68	8,718.69	8,546.86	33.53	32.83	124.47	190.15	790.68	790.33	752.08	38.25	20.663				
9,200.00	9,162.68	8,750.00	8,563.50	33.87	32.81	126.49	163.63	790.94	858.19	821.09	37.10	23.133				
9,300.00	9,262.68	8,765.33	8,571.11	34.22	32.80	127.47	150.32	791.07	930.47	894.65	35.82	25.977				
9,400.00	9,362.68	8,784.47	8,580.11	34.56	32.79	128.67	133.43	791.23	1,006.56	971.77	34.79	28.936				
9,500.00	9,462.68	8,800.00	8,587.00	34.90	32.78	129.63	119.52	791.37	1,085.77	1,051.91	33.86	32.063				
9,600.00	9,562.68	8,816.46	8,593.88	35.25	32.77	130.64	104.57	791.52	1,167.59	1,134.48	33.11	35.265				
9,700.00	9,662.68	8,829.92	8,599.19	35.59	32.76	131.45	92.20	791.64	1,251.59	1,219.14	32.45	38.573				
9,800.00	9,762.68	8,850.00	8,606.56	35.93	32.74	132.63	73.52	791.82	1,337.50	1,305.52	31.99	41.812				
9,900.00	9,862.68	8,850.00	8,606.56	36.28	32.74	132.63	73.52	791.82	1,424.83	1,393.44	31.40	45.383				
10,000.00	9,962.68	8,850.00	8,606.56	36.62	32.74	132.63	73.52	791.82	1,513.73	1,482.81	30.91	48.968				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,100.00	10,062.68	8,871.82	8,613.83	36.97	32.72	133.88	52.95	792.02	1,603.39	1,572.65	30.74	52.160		
10,200.00	10,162.68	8,880.04	8,616.36	37.31	32.71	134.34	45.13	792.10	1,694.21	1,663.72	30.50	55.557		
10,300.00	10,262.68	8,900.00	8,622.05	37.66	32.70	135.44	26.00	792.29	1,786.06	1,755.64	30.42	58.723		
10,400.00	10,362.68	8,900.00	8,622.05	38.01	32.70	135.44	26.00	792.29	1,878.33	1,848.12	30.21	62.166		
10,500.00	10,462.68	8,900.00	8,622.05	38.35	32.70	135.44	26.00	792.29	1,971.36	1,941.29	30.07	65.555		
10,600.00	10,562.68	8,900.00	8,622.05	38.70	32.70	135.44	26.00	792.29	2,065.04	2,035.06	29.98	68.887		
10,700.00	10,662.68	8,900.00	8,622.05	39.04	32.70	135.44	26.00	792.29	2,159.29	2,129.36	29.92	72.161		
10,800.00	10,762.68	8,900.00	8,622.05	39.39	32.70	135.44	26.00	792.29	2,254.03	2,224.12	29.91	75.359		
10,900.00	10,862.68	8,922.19	8,627.58	39.74	32.68	136.63	4.51	792.50	2,348.68	2,318.62	30.06	78.139		
11,000.00	10,962.68	8,926.64	8,628.59	40.09	32.67	136.86	0.17	792.54	2,444.02	2,413.90	30.12	81.138		
11,100.00	11,062.68	8,950.00	8,633.33	40.43	32.66	138.06	-22.69	792.76	2,540.06	2,509.76	30.31	83.808		
11,200.00	11,162.68	8,950.00	8,633.33	40.78	32.66	138.06	-22.69	792.76	2,635.87	2,605.48	30.39	86.730		
11,300.00	11,262.68	8,950.00	8,633.33	41.13	32.66	138.06	-22.69	792.76	2,731.97	2,701.47	30.50	89.578		
11,400.00	11,362.68	8,950.00	8,633.33	41.48	32.66	138.06	-22.69	792.76	2,828.35	2,797.72	30.63	92.354		
11,500.00	11,462.68	8,950.00	8,633.33	41.82	32.66	138.06	-22.69	792.76	2,924.96	2,894.19	30.77	95.064		
11,600.00	11,562.68	8,950.00	8,633.33	42.17	32.66	138.06	-22.69	792.76	3,021.80	2,990.87	30.93	97.701		
11,700.00	11,662.68	8,950.00	8,633.33	42.52	32.66	138.06	-22.69	792.76	3,118.84	3,087.73	31.11	100.268		
11,800.00	11,762.68	8,950.00	8,633.33	42.87	32.66	138.06	-22.69	792.76	3,216.06	3,184.76	31.30	102.764		
11,900.00	11,862.68	8,950.00	8,633.33	43.22	32.66	138.06	-22.69	792.76	3,313.44	3,281.94	31.50	105.191		
11,910.36	11,873.04	8,950.00	8,633.33	43.25	32.66	138.06	-22.69	792.76	3,323.54	3,292.02	31.52	105.438		
11,950.00	11,912.65	8,950.00	8,633.33	43.38	32.66	-25.72	-22.69	792.76	3,361.91	3,330.31	31.60	106.387		
12,000.00	11,962.32	8,950.00	8,633.33	43.53	32.66	-19.88	-22.69	792.76	3,409.35	3,377.66	31.69	107.581		
12,050.00	12,011.30	8,950.00	8,633.33	43.66	32.66	-16.19	-22.69	792.76	3,455.45	3,423.68	31.77	108.759		
12,100.00	12,059.24	8,950.00	8,633.33	43.78	32.66	-13.68	-22.69	792.76	3,499.92	3,468.07	31.84	109.912		
12,150.00	12,105.76	8,950.00	8,633.33	43.89	32.66	-11.88	-22.69	792.76	3,542.47	3,510.56	31.91	111.031		
12,200.00	12,150.50	8,973.10	8,637.09	43.98	32.64	-10.38	-45.48	792.99	3,582.33	3,550.30	32.02	111.870		
12,250.00	12,193.14	8,977.46	8,637.70	44.06	32.63	-9.37	-49.79	793.03	3,620.11	3,588.03	32.08	112.857		
12,300.00	12,233.34	9,000.00	8,640.32	44.13	32.62	-8.48	-72.18	793.25	3,655.55	3,623.39	32.17	113.637		
12,350.00	12,270.79	9,000.00	8,640.32	44.18	32.62	-7.88	-72.18	793.25	3,687.66	3,655.47	32.19	114.546		
12,400.00	12,305.22	9,000.00	8,640.32	44.22	32.62	-7.41	-72.18	793.25	3,716.78	3,684.57	32.22	115.373		
12,450.00	12,336.36	9,000.00	8,640.32	44.25	32.62	-7.02	-72.18	793.25	3,742.76	3,710.53	32.23	116.110		
12,500.00	12,363.98	9,000.00	8,640.32	44.27	32.62	-6.72	-72.18	793.25	3,765.47	3,733.22	32.25	116.744		
12,550.00	12,387.85	9,000.00	8,640.32	44.29	32.62	-6.48	-72.18	793.25	3,784.80	3,752.53	32.27	117.273		
12,600.00	12,407.81	9,000.00	8,640.32	44.29	32.62	-6.29	-72.18	793.25	3,800.65	3,768.35	32.30	117.661		
12,650.00	12,423.70	9,022.45	8,642.05	44.30	32.60	-6.10	-94.57	793.47	3,812.44	3,780.08	32.36	117.818		
12,700.00	12,435.40	9,050.00	8,642.97	44.31	32.59	-5.94	-122.10	793.74	3,821.24	3,788.81	32.43	117.822		
12,750.00	12,442.82	9,050.00	8,642.97	44.34	32.59	-5.90	-122.10	793.74	3,825.62	3,793.16	32.46	117.842		
12,800.00	12,445.90	9,050.00	8,642.97	44.41	32.59	-5.89	-122.10	793.74	3,826.32	3,793.81	32.51	117.682		
12,810.36	12,446.00	9,050.00	8,642.97	44.42	32.59	-5.89	-122.10	793.74	3,826.01	3,793.48	32.53	117.618		
12,900.00	12,446.00	9,055.43	8,643.00	44.59	32.59	-5.93	-127.52	793.79	3,823.76	3,791.10	32.66	117.063		
13,000.00	12,446.00	9,149.74	8,643.00	44.83	32.59	-5.82	-221.83	794.71	3,822.80	3,789.90	32.90	116.185		
13,100.00	12,446.00	9,249.57	8,643.00	45.12	32.72	-5.74	-321.65	795.69	3,822.21	3,789.02	33.20	115.140		
13,200.00	12,446.00	9,349.53	8,643.00	45.46	33.00	-5.71	-421.62	796.67	3,821.98	3,788.44	33.54	113.968		
13,217.18	12,446.00	9,366.71	8,643.00	45.52	33.06	-5.71	-438.79	796.84	3,821.97	3,788.38	33.60	113.757		
13,300.00	12,446.00	9,449.53	8,643.00	45.84	33.40	-5.71	-521.61	797.65	3,821.97	3,788.06	33.91	112.703		
13,400.00	12,446.00	9,549.53	8,643.00	46.27	33.91	-5.71	-621.61	798.63	3,821.97	3,787.65	34.32	111.359		
13,500.00	12,446.00	9,649.53	8,643.00	46.75	34.50	-5.71	-721.60	799.61	3,821.97	3,787.21	34.76	109.946		
13,600.00	12,446.00	9,749.53	8,643.00	47.29	35.16	-5.71	-821.60	800.59	3,821.97	3,786.74	35.23	108.476		
13,700.00	12,446.00	9,849.53	8,643.00	47.87	35.88	-5.71	-921.59	801.57	3,821.97	3,786.24	35.73	106.957		
13,800.00	12,446.00	9,949.53	8,643.00	48.50	36.67	-5.71	-1,021.59	802.55	3,821.97	3,785.71	36.26	105.399		
13,900.00	12,446.00	10,049.53	8,643.00	49.18	37.51	-5.71	-1,121.58	803.53	3,821.97	3,785.15	36.82	103.808		
14,000.00	12,446.00	10,149.53	8,643.00	49.90	38.40	-5.71	-1,221.58	804.51	3,821.97	3,784.57	37.40	102.200		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance						Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,100.00	12,446.00	10,249.53	8,643.00	50.66	39.34	-5.71	-1,321.57	805.48	3,821.97	3,783.97	38.00	100.569		
14,200.00	12,446.00	10,349.53	8,643.00	51.47	40.32	-5.71	-1,421.57	806.46	3,821.97	3,783.34	38.63	98.929		
14,300.00	12,446.00	10,449.53	8,643.00	52.31	41.35	-5.71	-1,521.56	807.44	3,821.97	3,782.68	39.29	97.287		
14,400.00	12,446.00	10,549.53	8,643.00	53.19	42.41	-5.71	-1,621.56	808.42	3,821.97	3,782.01	39.96	95.647		
14,500.00	12,446.00	10,649.53	8,643.00	54.11	43.51	-5.71	-1,721.55	809.40	3,821.97	3,781.32	40.65	94.015		
14,600.00	12,446.00	10,749.53	8,643.00	55.06	44.64	-5.71	-1,821.55	810.38	3,821.97	3,780.60	41.36	92.397		
14,700.00	12,446.00	10,849.53	8,643.00	56.05	45.81	-5.71	-1,921.54	811.36	3,821.97	3,779.87	42.09	90.795		
14,800.00	12,446.00	10,949.53	8,643.00	57.06	47.00	-5.71	-2,021.54	812.34	3,821.97	3,779.13	42.84	89.212		
14,900.00	12,446.00	11,049.53	8,643.00	58.11	48.22	-5.71	-2,121.53	813.32	3,821.97	3,778.36	43.60	87.651		
15,000.00	12,446.00	11,149.53	8,643.00	59.18	49.46	-5.71	-2,221.53	814.30	3,821.97	3,777.58	44.38	86.112		
15,100.00	12,446.00	11,249.53	8,643.00	60.28	50.73	-5.71	-2,321.52	815.28	3,821.97	3,776.79	45.18	84.600		
15,200.00	12,446.00	11,349.53	8,643.00	61.40	52.02	-5.71	-2,421.52	816.26	3,821.97	3,775.98	45.98	83.114		
15,300.00	12,446.00	11,449.53	8,643.00	62.54	53.32	-5.71	-2,521.51	817.24	3,821.97	3,775.16	46.81	81.657		
15,400.00	12,446.00	11,549.53	8,643.00	63.71	54.65	-5.71	-2,621.51	818.22	3,821.96	3,774.33	47.64	80.228		
15,500.00	12,446.00	11,649.53	8,643.00	64.90	55.99	-5.71	-2,721.50	819.20	3,821.96	3,773.48	48.48	78.830		
15,600.00	12,446.00	11,749.53	8,643.00	66.11	57.35	-5.71	-2,821.50	820.17	3,821.96	3,772.62	49.34	77.461		
15,700.00	12,446.00	11,849.53	8,643.00	67.34	58.72	-5.71	-2,921.50	821.15	3,821.96	3,771.76	50.21	76.124		
15,800.00	12,446.00	11,949.53	8,643.00	68.58	60.11	-5.71	-3,021.49	822.13	3,821.96	3,770.88	51.08	74.816		
15,900.00	12,446.00	12,049.53	8,643.00	69.84	61.51	-5.71	-3,121.49	823.11	3,821.96	3,769.99	51.97	73.539		
16,000.00	12,446.00	12,149.53	8,643.00	71.12	62.92	-5.71	-3,221.48	824.09	3,821.96	3,769.09	52.87	72.293		
16,100.00	12,446.00	12,249.53	8,643.00	72.41	64.35	-5.71	-3,321.48	825.07	3,821.96	3,768.19	53.77	71.076		
16,200.00	12,446.00	12,349.53	8,643.00	73.72	65.78	-5.71	-3,421.47	826.05	3,821.96	3,767.28	54.69	69.890		
16,300.00	12,446.00	12,449.53	8,643.00	75.04	67.23	-5.71	-3,521.47	827.03	3,821.96	3,766.35	55.61	68.732		
16,400.00	12,446.00	12,549.53	8,643.00	76.37	68.68	-5.71	-3,621.46	828.01	3,821.96	3,765.43	56.53	67.603		
16,500.00	12,446.00	12,649.53	8,643.00	77.72	70.14	-5.71	-3,721.46	828.99	3,821.96	3,764.49	57.47	66.503		
16,600.00	12,446.00	12,749.53	8,643.00	79.08	71.61	-5.71	-3,821.45	829.97	3,821.96	3,763.55	58.41	65.430		
16,700.00	12,446.00	12,849.53	8,643.00	80.45	73.09	-5.71	-3,921.45	830.95	3,821.96	3,762.60	59.36	64.384		
16,800.00	12,446.00	12,949.53	8,643.00	81.82	74.57	-5.71	-4,021.44	831.93	3,821.96	3,761.64	60.32	63.365		
16,900.00	12,446.00	13,049.53	8,643.00	83.21	76.06	-5.71	-4,121.44	832.91	3,821.96	3,760.68	61.28	62.372		
17,000.00	12,446.00	13,149.53	8,643.00	84.61	77.56	-5.71	-4,221.43	833.89	3,821.96	3,759.71	62.24	61.403		
17,100.00	12,446.00	13,249.53	8,643.00	86.02	79.07	-5.71	-4,321.43	834.86	3,821.96	3,758.74	63.22	60.460		
17,200.00	12,446.00	13,349.53	8,643.00	87.43	80.58	-5.71	-4,421.42	835.84	3,821.96	3,757.77	64.19	59.540		
17,300.00	12,446.00	13,449.53	8,643.00	88.86	82.09	-5.71	-4,521.42	836.82	3,821.96	3,756.78	65.17	58.643		
17,400.00	12,446.00	13,549.53	8,643.00	90.29	83.61	-5.71	-4,621.41	837.80	3,821.96	3,755.80	66.16	57.769		
17,500.00	12,446.00	13,649.53	8,643.00	91.73	85.14	-5.71	-4,721.41	838.78	3,821.96	3,754.81	67.15	56.917		
17,600.00	12,446.00	13,749.53	8,643.00	93.17	86.67	-5.71	-4,821.40	839.76	3,821.96	3,753.81	68.15	56.086		
17,700.00	12,446.00	13,849.53	8,643.00	94.63	88.20	-5.71	-4,921.40	840.74	3,821.95	3,752.81	69.14	55.275		
17,800.00	12,446.00	13,949.53	8,643.00	96.09	89.74	-5.71	-5,021.39	841.72	3,821.95	3,751.81	70.15	54.485		
17,900.00	12,446.00	14,049.53	8,643.00	97.55	91.28	-5.71	-5,121.39	842.70	3,821.95	3,750.80	71.15	53.714		
18,000.00	12,446.00	14,149.53	8,643.00	99.02	92.83	-5.71	-5,221.38	843.68	3,821.95	3,749.79	72.16	52.962		
18,100.00	12,446.00	14,249.53	8,643.00	100.50	94.38	-5.71	-5,321.38	844.66	3,821.95	3,748.78	73.18	52.229		
18,200.00	12,446.00	14,349.53	8,643.00	101.98	95.93	-5.71	-5,421.38	845.64	3,821.95	3,747.76	74.19	51.513		
18,300.00	12,446.00	14,449.53	8,643.00	103.47	97.49	-5.71	-5,521.37	846.62	3,821.95	3,746.74	75.21	50.815		
18,400.00	12,446.00	14,549.53	8,643.00	104.96	99.05	-5.71	-5,621.37	847.60	3,821.95	3,745.71	76.24	50.133		
18,500.00	12,446.00	14,649.53	8,643.00	106.46	100.61	-5.71	-5,721.36	848.58	3,821.95	3,744.69	77.26	49.467		
18,600.00	12,446.00	14,749.53	8,643.00	107.96	102.17	-5.71	-5,821.36	849.55	3,821.95	3,743.66	78.29	48.817		
18,700.00	12,446.00	14,849.53	8,643.00	109.46	103.74	-5.71	-5,921.35	850.53	3,821.95	3,742.63	79.32	48.182		
18,800.00	12,446.00	14,949.53	8,643.00	110.97	105.31	-5.71	-6,021.35	851.51	3,821.95	3,741.59	80.36	47.562		
18,900.00	12,446.00	15,049.53	8,643.00	112.49	106.88	-5.71	-6,121.34	852.49	3,821.95	3,740.56	81.39	46.957		
19,000.00	12,446.00	15,149.53	8,643.00	114.00	108.46	-5.71	-6,221.34	853.47	3,821.95	3,739.52	82.43	46.366		
19,100.00	12,446.00	15,249.53	8,643.00	115.53	110.04	-5.71	-6,321.33	854.45	3,821.95	3,738.48	83.47	45.789		
19,200.00	12,446.00	15,349.53	8,643.00	117.05	111.62	-5.71	-6,421.33	855.43	3,821.95	3,737.44	84.51	45.224		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design PF Fed Com - PF Fed Com 102H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,300.00	12,446.00	15,449.53	8,643.00	118.58	113.20	-5.71	-6,521.32	856.41	3,821.95	3,736.39	85.56	44.672		
19,400.00	12,446.00	15,549.53	8,643.00	120.11	114.78	-5.71	-6,621.32	857.39	3,821.95	3,735.35	86.60	44.133		
19,500.00	12,446.00	15,649.53	8,643.00	121.64	116.37	-5.71	-6,721.31	858.37	3,821.95	3,734.30	87.65	43.605		
19,600.00	12,446.00	15,749.53	8,643.00	123.18	117.95	-5.71	-6,821.31	859.35	3,821.95	3,733.25	88.70	43.089		
19,700.00	12,446.00	15,849.53	8,643.00	124.72	119.54	-5.71	-6,921.30	860.33	3,821.95	3,732.20	89.75	42.585		
19,800.00	12,446.00	15,949.53	8,643.00	126.27	121.13	-5.71	-7,021.30	861.31	3,821.95	3,731.14	90.80	42.091		
19,900.00	12,446.00	16,049.53	8,643.00	127.81	122.72	-5.71	-7,121.29	862.29	3,821.95	3,730.09	91.86	41.607		
20,000.00	12,446.00	16,149.53	8,643.00	129.36	124.32	-5.71	-7,221.29	863.27	3,821.94	3,729.03	92.92	41.133		
20,100.00	12,446.00	16,249.53	8,643.00	130.91	125.91	-5.71	-7,321.28	864.24	3,821.94	3,727.97	93.98	40.669		
20,200.00	12,446.00	16,349.53	8,643.00	132.46	127.51	-5.71	-7,421.28	865.22	3,821.94	3,726.91	95.04	40.216		
20,300.00	12,446.00	16,449.53	8,643.00	134.02	129.11	-5.71	-7,521.27	866.20	3,821.94	3,725.84	96.10	39.771		
20,400.00	12,446.00	16,549.53	8,643.00	135.58	130.71	-5.71	-7,621.27	867.18	3,821.94	3,724.78	97.16	39.336		
20,500.00	12,446.00	16,649.53	8,643.00	137.14	132.31	-5.71	-7,721.27	868.16	3,821.94	3,723.72	98.23	38.909		
20,600.00	12,446.00	16,749.53	8,643.00	138.70	133.91	-5.71	-7,821.26	869.14	3,821.94	3,722.65	99.29	38.491		
20,700.00	12,446.00	16,849.53	8,643.00	140.27	135.51	-5.71	-7,921.26	870.12	3,821.94	3,721.58	100.36	38.082		
20,800.00	12,446.00	16,949.53	8,643.00	141.83	137.11	-5.71	-8,021.25	871.10	3,821.94	3,720.51	101.43	37.680		
20,900.00	12,446.00	17,049.53	8,643.00	143.40	138.72	-5.71	-8,121.25	872.08	3,821.94	3,719.44	102.50	37.287		
21,000.00	12,446.00	17,149.53	8,643.00	144.97	140.33	-5.71	-8,221.24	873.06	3,821.94	3,718.37	103.57	36.901		
21,100.00	12,446.00	17,249.53	8,643.00	146.54	141.93	-5.71	-8,321.24	874.04	3,821.94	3,717.30	104.64	36.523		
21,200.00	12,446.00	17,349.53	8,643.00	148.12	143.54	-5.71	-8,421.23	875.02	3,821.94	3,716.22	105.72	36.152		
21,300.00	12,446.00	17,449.53	8,643.00	149.69	145.15	-5.71	-8,521.23	876.00	3,821.94	3,715.15	106.79	35.788		
21,400.00	12,446.00	17,549.53	8,643.00	151.27	146.76	-5.71	-8,621.22	876.98	3,821.94	3,714.07	107.87	35.432		
21,500.00	12,446.00	17,649.53	8,643.00	152.85	148.37	-5.71	-8,721.22	877.96	3,821.94	3,712.99	108.94	35.082		
21,600.00	12,446.00	17,749.53	8,643.00	154.43	149.98	-5.71	-8,821.21	878.93	3,821.94	3,711.92	110.02	34.739		
21,700.00	12,446.00	17,849.53	8,643.00	156.01	151.60	-5.71	-8,921.21	879.91	3,821.94	3,710.84	111.10	34.402		
21,800.00	12,446.00	17,949.53	8,643.00	157.59	153.21	-5.71	-9,021.20	880.89	3,821.94	3,709.76	112.18	34.071		
21,900.00	12,446.00	18,049.53	8,643.00	159.18	154.82	-5.71	-9,121.20	881.87	3,821.94	3,708.68	113.26	33.746		
22,000.00	12,446.00	18,149.53	8,643.00	160.76	156.44	-5.71	-9,221.19	882.85	3,821.94	3,707.60	114.34	33.427		
22,100.00	12,446.00	18,249.53	8,643.00	162.35	158.06	-5.71	-9,321.19	883.83	3,821.94	3,706.52	115.42	33.114		
22,200.00	12,446.00	18,349.53	8,643.00	163.94	159.67	-5.71	-9,421.18	884.81	3,821.93	3,705.44	116.50	32.807		
22,300.00	12,446.00	18,449.53	8,643.00	165.53	161.29	-5.71	-9,521.18	885.79	3,821.93	3,704.35	117.58	32.505		
22,400.00	12,446.00	18,549.53	8,643.00	167.12	162.91	-5.71	-9,621.17	886.77	3,821.93	3,703.27	118.66	32.208		
22,500.00	12,446.00	18,649.53	8,643.00	168.71	164.53	-5.71	-9,721.17	887.75	3,821.93	3,702.19	119.75	31.916		
22,600.00	12,446.00	18,749.53	8,643.00	170.30	166.14	-5.71	-9,821.16	888.73	3,821.93	3,701.10	120.83	31.630		
22,700.00	12,446.00	18,849.53	8,643.00	171.90	167.76	-5.71	-9,921.16	889.71	3,821.93	3,700.01	121.92	31.348		
22,800.00	12,446.00	18,949.53	8,643.00	173.49	169.39	-5.71	-10,021.15	890.69	3,821.93	3,698.93	123.01	31.071		
22,900.00	12,446.00	19,049.53	8,643.00	175.09	171.01	-5.71	-10,121.15	891.67	3,821.93	3,697.84	124.09	30.799		
23,000.00	12,446.00	19,149.53	8,643.00	176.69	172.63	-5.71	-10,221.15	892.64	3,821.93	3,696.75	125.18	30.532		
23,100.00	12,446.00	19,249.53	8,643.00	178.28	174.25	-5.71	-10,321.14	893.62	3,821.93	3,695.66	126.27	30.268		
23,200.00	12,446.00	19,349.53	8,643.00	179.88	175.87	-5.71	-10,421.14	894.60	3,821.93	3,694.57	127.36	30.010		
23,300.00	12,446.00	19,449.53	8,643.00	181.48	177.50	-5.70	-10,521.13	895.58	3,821.93	3,693.48	128.45	29.754		
23,400.00	12,446.00	19,549.53	8,643.00	183.08	179.12	-5.70	-10,621.13	896.56	3,821.93	3,692.39	129.54	29.504		
23,500.00	12,446.00	19,649.53	8,643.00	184.69	180.74	-5.70	-10,721.12	897.54	3,821.93	3,691.30	130.63	29.257		
23,600.00	12,446.00	19,749.53	8,643.00	186.29	182.37	-5.70	-10,821.12	898.52	3,821.93	3,690.20	131.72	29.015		
23,700.00	12,446.00	19,849.53	8,643.00	187.89	183.99	-5.70	-10,921.11	899.50	3,821.93	3,689.11	132.82	28.776		
23,800.00	12,446.00	19,949.53	8,643.00	189.50	185.62	-5.70	-11,021.11	900.48	3,821.93	3,688.02	133.91	28.541		
23,900.00	12,446.00	20,049.53	8,643.00	191.10	187.25	-5.70	-11,121.10	901.46	3,821.93	3,686.92	135.00	28.310		
23,928.73	12,446.00	20,078.25	8,643.00	191.56	187.71	-5.70	-11,149.82	901.74	3,821.93	3,686.61	135.32	28.244		
23,929.64	12,446.00	20,078.25	8,643.00	191.58	187.71	-5.70	-11,149.82	901.74	3,821.93	3,686.60	135.33	28.242		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-170.92	-75.06	-12.00	76.01					
100.00	100.00	100.00	100.00	0.13	0.13	-170.92	-75.06	-12.00	76.01	75.84	0.18	428.406		
200.00	200.00	200.00	200.00	0.48	0.48	-170.92	-75.06	-12.00	76.01	75.33	0.68	111.068		
300.00	300.00	300.00	300.00	0.84	0.84	-170.92	-75.06	-12.00	76.01	74.82	1.19	63.805		
400.00	400.00	400.00	400.00	1.20	1.20	-170.92	-75.06	-12.00	76.01	74.32	1.70	44.759		
500.00	500.00	500.00	500.00	1.56	1.56	-170.92	-75.06	-12.00	76.01	73.81	2.21	34.469		
600.00	600.00	600.00	600.00	1.92	1.92	-170.92	-75.06	-12.00	76.01	73.30	2.71	28.027		
700.00	700.00	700.00	700.00	2.28	2.28	-170.92	-75.06	-12.00	76.01	72.79	3.22	23.613		
800.00	800.00	800.00	800.00	2.63	2.63	-170.92	-75.06	-12.00	76.01	72.29	3.73	20.400		
900.00	900.00	900.00	900.00	2.99	2.99	-170.92	-75.06	-12.00	76.01	71.78	4.23	17.957		
1,000.00	1,000.00	1,000.00	1,000.00	3.35	3.35	-170.92	-75.06	-12.00	76.01	71.27	4.74	16.037		
1,100.00	1,100.00	1,100.00	1,100.00	3.71	3.71	-170.92	-75.06	-12.00	76.01	70.77	5.25	14.487		
1,200.00	1,200.00	1,200.00	1,200.00	4.07	4.07	-170.92	-75.06	-12.00	76.01	70.26	5.75	13.211		
1,300.00	1,300.00	1,300.00	1,300.00	4.43	4.43	-170.92	-75.06	-12.00	76.01	69.75	6.26	12.141		
1,400.00	1,400.00	1,400.00	1,400.00	4.79	4.79	-170.92	-75.06	-12.00	76.01	69.25	6.77	11.232		
1,500.00	1,500.00	1,500.00	1,500.00	5.14	5.14	-170.92	-75.06	-12.00	76.01	68.74	7.27	10.449		
1,600.00	1,600.00	1,600.00	1,600.00	5.50	5.50	-170.92	-75.06	-12.00	76.01	68.23	7.78	9.768		
1,700.00	1,700.00	1,700.00	1,700.00	5.86	5.86	-170.92	-75.06	-12.00	76.01	67.73	8.29	9.171		
1,800.00	1,800.00	1,800.00	1,800.00	6.22	6.22	-170.92	-75.06	-12.00	76.01	67.22	8.80	8.642		
1,900.00	1,900.00	1,900.00	1,900.00	6.58	6.58	-170.92	-75.06	-12.00	76.01	66.71	9.30	8.171		
2,000.00	2,000.00	2,000.00	2,000.00	6.94	6.94	-170.92	-75.06	-12.00	76.01	66.20	9.81	7.749		
2,100.00	2,100.00	2,100.00	2,100.00	7.29	7.29	-170.92	-75.06	-12.00	76.01	65.70	10.32	7.368		
2,200.00	2,200.00	2,201.45	2,201.44	7.65	7.66	-170.22	-73.94	-12.75	75.05	64.22	10.82	6.933		
2,300.00	2,299.99	2,302.79	2,302.69	8.01	8.02	163.00	-70.59	-15.00	73.47	62.14	11.33	6.486		
2,394.35	2,394.27	2,398.19	2,397.89	8.35	8.36	167.40	-65.40	-18.48	72.87	61.07	11.80	6.176 CC		
2,400.00	2,399.91	2,403.89	2,403.57	8.37	8.38	167.72	-65.03	-18.73	72.87	61.04	11.83	6.161 ES		
2,500.00	2,499.69	2,504.65	2,503.90	8.72	8.74	174.43	-57.28	-23.93	73.91	61.58	12.33	5.994 SF		
2,600.00	2,599.27	2,604.96	2,603.49	9.08	9.10	-177.43	-47.39	-30.57	77.40	64.56	12.84	6.029		
2,685.78	2,684.47	2,690.47	2,688.12	9.39	9.42	-170.01	-37.26	-37.37	82.96	69.68	13.28	6.246		
2,700.00	2,698.58	2,704.54	2,702.03	9.44	9.47	-168.84	-35.51	-38.55	84.14	70.78	13.36	6.299		
2,800.00	2,797.77	2,803.46	2,799.84	9.81	9.84	-161.47	-23.17	-46.83	93.27	79.40	13.87	6.722		
2,900.00	2,896.96	2,902.39	2,897.64	10.17	10.21	-155.49	-10.82	-55.11	103.67	89.28	14.39	7.204		
3,000.00	2,996.15	3,001.32	2,995.44	10.54	10.58	-150.62	1.52	-63.40	114.99	100.08	14.91	7.713		
3,100.00	3,095.35	3,100.24	3,093.24	10.92	10.96	-146.65	13.86	-71.68	126.98	111.55	15.43	8.231		
3,200.00	3,194.54	3,199.17	3,191.05	11.29	11.35	-143.36	26.20	-79.96	139.48	123.53	15.95	8.745		
3,300.00	3,293.73	3,298.09	3,288.85	11.67	11.73	-140.63	38.55	-88.25	152.35	135.87	16.47	9.248		
3,400.00	3,392.92	3,397.02	3,386.65	12.05	12.12	-138.32	50.89	-96.53	165.51	148.51	17.00	9.736		
3,500.00	3,492.12	3,495.95	3,484.46	12.43	12.51	-136.35	63.23	-104.81	178.90	161.37	17.53	10.205		
3,600.00	3,591.31	3,594.87	3,582.26	12.81	12.90	-134.66	75.57	-113.10	192.47	174.40	18.06	10.656		
3,700.00	3,690.50	3,693.80	3,680.06	13.20	13.30	-133.19	87.92	-121.38	206.18	187.58	18.59	11.088		
3,800.00	3,789.69	3,792.72	3,777.87	13.58	13.69	-131.91	100.26	-129.66	220.00	200.87	19.13	11.500		
3,900.00	3,888.89	3,891.65	3,875.67	13.97	14.09	-130.78	112.60	-137.95	233.93	214.26	19.67	11.894		
4,000.00	3,988.08	3,990.58	3,973.47	14.36	14.49	-129.77	124.94	-146.23	247.93	227.72	20.21	12.270		
4,100.00	4,087.27	4,089.50	4,071.27	14.75	14.89	-128.87	137.29	-154.51	262.00	241.25	20.75	12.628		
4,200.00	4,186.46	4,188.43	4,169.08	15.14	15.29	-128.07	149.63	-162.80	276.12	254.84	21.29	12.971		
4,300.00	4,285.66	4,287.36	4,266.88	15.53	15.69	-127.34	161.97	-171.08	290.30	268.47	21.83	13.297		
4,400.00	4,384.85	4,386.28	4,364.68	15.92	16.10	-126.68	174.31	-179.36	304.52	282.14	22.38	13.609		
4,500.00	4,484.04	4,485.21	4,462.49	16.31	16.50	-126.08	186.66	-187.65	318.77	295.85	22.92	13.907		
4,600.00	4,583.23	4,584.13	4,560.29	16.71	16.91	-125.53	199.00	-195.93	333.05	309.59	23.47	14.192		
4,700.00	4,682.42	4,683.06	4,658.09	17.10	17.31	-125.02	211.34	-204.22	347.36	323.35	24.01	14.465		
4,800.00	4,781.62	4,781.99	4,755.90	17.50	17.72	-124.56	223.68	-212.50	361.70	337.14	24.56	14.726		
4,900.00	4,880.81	4,880.91	4,853.70	17.89	18.13	-124.13	236.03	-220.78	376.06	350.95	25.11	14.976		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,000.00	4,980.00	4,979.84	4,951.50	18.29	18.54	-123.73	248.37	-229.07	390.43	364.77	25.66	15.216		
5,100.00	5,079.19	5,078.76	5,049.30	18.68	18.95	-123.36	260.71	-237.35	404.83	378.62	26.21	15.445		
5,200.00	5,178.39	5,177.69	5,147.11	19.08	19.35	-123.02	273.05	-245.63	419.24	392.48	26.76	15.666		
5,300.00	5,277.58	5,276.62	5,244.91	19.48	19.77	-122.70	285.40	-253.92	433.66	406.35	27.31	15.878		
5,400.00	5,376.77	5,375.54	5,342.71	19.87	20.18	-122.40	297.74	-262.20	448.10	420.23	27.86	16.081		
5,500.00	5,475.96	5,474.47	5,440.52	20.27	20.59	-122.11	310.08	-270.48	462.54	434.12	28.42	16.277		
5,600.00	5,575.16	5,573.40	5,538.32	20.67	21.00	-121.85	322.42	-278.77	477.00	448.03	28.97	16.465		
5,700.00	5,674.35	5,672.32	5,636.12	21.07	21.41	-121.60	334.77	-287.05	491.47	461.94	29.52	16.647		
5,800.00	5,773.54	5,771.25	5,733.93	21.47	21.82	-121.37	347.11	-295.33	505.94	475.86	30.08	16.821		
5,900.00	5,872.73	5,870.17	5,831.73	21.87	22.24	-121.14	359.45	-303.62	520.42	489.79	30.63	16.990		
6,000.00	5,971.93	5,969.10	5,929.53	22.27	22.65	-120.93	371.79	-311.90	534.91	503.73	31.19	17.152		
6,100.00	6,071.12	6,068.03	6,027.34	22.67	23.07	-120.74	384.13	-320.18	549.41	517.67	31.74	17.309		
6,200.00	6,170.31	6,166.95	6,125.14	23.07	23.48	-120.55	396.48	-328.47	563.91	531.61	32.30	17.460		
6,300.00	6,269.50	6,265.88	6,222.94	23.47	23.89	-120.37	408.82	-336.75	578.42	545.57	32.85	17.606		
6,400.00	6,368.70	6,364.80	6,320.74	23.87	24.31	-120.20	421.16	-345.04	592.93	559.53	33.41	17.747		
6,500.00	6,467.89	6,463.73	6,418.55	24.27	24.72	-120.04	433.50	-353.32	607.45	573.49	33.97	17.884		
6,600.00	6,567.08	6,562.66	6,516.35	24.67	25.14	-119.88	445.85	-361.60	621.98	587.45	34.52	18.016		
6,700.00	6,666.27	6,661.58	6,614.15	25.07	25.55	-119.73	458.19	-369.89	636.50	601.42	35.08	18.144		
6,800.00	6,765.47	6,760.51	6,711.96	25.47	25.97	-119.59	470.53	-378.17	651.04	615.40	35.64	18.268		
6,900.00	6,864.66	6,859.44	6,809.76	25.88	26.39	-119.46	482.87	-386.45	665.57	629.37	36.20	18.388		
6,982.54	6,946.53	6,948.13	6,897.55	26.21	26.75	-119.39	493.38	-393.50	677.23	640.53	36.70	18.455		
7,000.00	6,963.85	6,967.31	6,916.57	26.28	26.83	-119.42	495.43	-394.88	679.55	642.74	36.80	18.464		
7,100.00	7,063.25	7,077.51	7,026.06	26.67	27.27	-119.59	505.70	-401.77	691.13	653.73	37.41	18.477		
7,200.00	7,162.90	7,188.20	7,136.37	27.05	27.69	-119.72	513.38	-406.92	699.85	661.87	37.98	18.426		
7,300.00	7,262.74	7,299.25	7,247.25	27.41	28.09	-119.84	518.40	-410.30	705.69	667.16	38.53	18.313		
7,400.00	7,362.69	7,410.51	7,358.46	27.77	28.47	-119.93	520.75	-411.87	708.63	669.57	39.06	18.143		
7,468.32	7,431.00	7,483.05	7,431.00	28.00	28.71	-90.65	520.94	-412.00	709.05	669.65	39.40	17.998		
7,500.00	7,462.68	7,514.73	7,462.68	28.10	28.81	-90.65	520.94	-412.00	709.05	669.50	39.55	17.930		
7,600.00	7,562.68	7,614.73	7,562.68	28.44	29.14	-90.65	520.94	-412.00	709.05	669.02	40.02	17.717		
7,700.00	7,662.68	7,714.73	7,662.68	28.78	29.47	-90.65	520.94	-412.00	709.05	668.55	40.50	17.509		
7,800.00	7,762.68	7,814.73	7,762.68	29.11	29.80	-90.65	520.94	-412.00	709.05	668.07	40.97	17.305		
7,900.00	7,862.68	7,914.73	7,862.68	29.45	30.13	-90.65	520.94	-412.00	709.05	667.59	41.45	17.106		
8,000.00	7,962.68	8,014.73	7,962.68	29.79	30.46	-90.65	520.94	-412.00	709.05	667.12	41.93	16.911		
8,100.00	8,062.68	8,114.73	8,062.68	30.13	30.79	-90.65	520.94	-412.00	709.05	666.64	42.41	16.720		
8,200.00	8,162.68	8,214.73	8,162.68	30.46	31.12	-90.65	520.94	-412.00	709.05	666.16	42.89	16.533		
8,300.00	8,262.68	8,314.73	8,262.68	30.80	31.45	-90.65	520.94	-412.00	709.05	665.68	43.37	16.350		
8,400.00	8,362.68	8,414.73	8,362.68	31.14	31.79	-90.65	520.94	-412.00	709.05	665.20	43.85	16.171		
8,500.00	8,462.68	8,514.73	8,462.68	31.48	32.12	-90.65	520.94	-412.00	709.05	664.72	44.33	15.995		
8,600.00	8,562.68	8,614.73	8,562.68	31.82	32.45	-90.65	520.94	-412.00	709.05	664.24	44.81	15.823		
8,700.00	8,662.68	8,714.73	8,662.68	32.16	32.79	-90.65	520.94	-412.00	709.05	663.75	45.29	15.655		
8,800.00	8,762.68	8,814.73	8,762.68	32.50	33.12	-90.65	520.94	-412.00	709.05	663.27	45.78	15.490		
8,900.00	8,862.68	8,914.73	8,862.68	32.85	33.46	-90.65	520.94	-412.00	709.05	662.79	46.26	15.328		
9,000.00	8,962.68	9,014.73	8,962.68	33.19	33.79	-90.65	520.94	-412.00	709.05	662.30	46.74	15.169		
9,100.00	9,062.68	9,114.73	9,062.68	33.53	34.13	-90.65	520.94	-412.00	709.05	661.82	47.23	15.014		
9,200.00	9,162.68	9,214.73	9,162.68	33.87	34.47	-90.65	520.94	-412.00	709.05	661.33	47.71	14.861		
9,300.00	9,262.68	9,314.73	9,262.68	34.22	34.80	-90.65	520.94	-412.00	709.05	660.85	48.20	14.711		
9,400.00	9,362.68	9,414.73	9,362.68	34.56	35.14	-90.65	520.94	-412.00	709.05	660.36	48.68	14.565		
9,500.00	9,462.68	9,514.73	9,462.68	34.90	35.48	-90.65	520.94	-412.00	709.05	659.88	49.17	14.421		
9,600.00	9,562.68	9,614.73	9,562.68	35.25	35.82	-90.65	520.94	-412.00	709.05	659.39	49.66	14.279		
9,700.00	9,662.68	9,714.73	9,662.68	35.59	36.16	-90.65	520.94	-412.00	709.05	658.90	50.14	14.141		
9,800.00	9,762.68	9,814.73	9,762.68	35.93	36.49	-90.65	520.94	-412.00	709.05	658.42	50.63	14.005		
9,900.00	9,862.68	9,914.73	9,862.68	36.28	36.83	-90.65	520.94	-412.00	709.05	657.93	51.12	13.871		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,000.00	9,962.68	10,014.73	9,962.68	36.62	37.17	-90.65	520.94	-412.00	709.05	657.44	51.61	13.740		
10,010.69	9,973.38	10,025.42	9,973.38	36.66	37.21	-90.65	520.94	-412.00	709.05	657.39	51.66	13.726		
10,100.00	10,062.68	10,114.69	10,062.64	36.97	37.51	-90.67	520.70	-412.00	709.05	656.96	52.09	13.612		
10,200.00	10,162.68	10,212.93	10,160.12	37.31	37.77	-91.58	509.47	-411.89	709.16	656.63	52.53	13.500		
10,300.00	10,262.68	10,304.83	10,248.33	37.66	37.97	-93.63	484.04	-411.64	710.21	657.29	52.92	13.421		
10,400.00	10,362.68	10,386.87	10,322.75	38.01	38.10	-96.39	449.69	-411.30	713.85	660.64	53.21	13.416		
10,500.00	10,462.68	10,457.78	10,382.57	38.35	38.18	-99.41	411.70	-410.93	722.04	668.72	53.33	13.540		
10,600.00	10,562.68	10,517.93	10,429.31	38.70	38.22	-102.37	373.88	-410.57	736.54	683.37	53.17	13.852		
10,700.00	10,662.68	10,568.55	10,465.39	39.04	38.25	-105.08	338.41	-410.22	758.56	705.86	52.69	14.396		
10,800.00	10,762.68	10,611.10	10,493.20	39.39	38.26	-107.49	306.22	-409.91	788.65	736.75	51.90	15.197		
10,900.00	10,862.68	10,650.00	10,516.48	39.74	38.26	-109.77	275.06	-409.60	826.82	775.94	50.88	16.252		
11,000.00	10,962.68	10,677.49	10,531.62	40.09	38.26	-111.40	252.12	-409.38	872.61	822.99	49.62	17.586		
11,100.00	11,062.68	10,700.00	10,543.19	40.43	38.26	-112.75	232.81	-409.19	925.37	877.08	48.28	19.166		
11,200.00	11,162.68	10,725.99	10,555.60	40.78	38.25	-114.32	209.98	-408.97	984.24	937.20	47.04	20.923		
11,300.00	11,262.68	10,750.00	10,566.12	41.13	38.25	-115.76	188.40	-408.76	1,048.47	1,002.60	45.87	22.857		
11,400.00	11,362.68	10,750.00	10,566.12	41.48	38.25	-115.76	188.40	-408.76	1,117.41	1,072.85	44.56	25.079		
11,500.00	11,462.68	10,777.48	10,577.05	41.82	38.24	-117.41	163.19	-408.51	1,189.92	1,146.23	43.69	27.235		
11,600.00	11,562.68	10,800.00	10,585.10	42.17	38.23	-118.74	142.16	-408.30	1,266.01	1,223.11	42.90	29.511		
11,700.00	11,662.68	10,800.00	10,585.10	42.52	38.23	-118.74	142.16	-408.30	1,344.73	1,302.70	42.02	32.000		
11,800.00	11,762.68	10,800.00	10,585.10	42.87	38.23	-118.74	142.16	-408.30	1,426.12	1,384.83	41.28	34.543		
11,900.00	11,862.68	10,822.71	10,592.37	43.22	38.22	-120.08	120.65	-408.10	1,509.18	1,468.32	40.85	36.941		
11,910.36	11,873.04	10,823.64	10,592.65	43.25	38.22	-120.13	119.76	-408.09	1,517.90	1,477.10	40.80	37.201		
11,950.00	11,912.65	10,827.51	10,593.79	43.38	38.22	62.78	116.07	-408.05	1,551.18	1,510.57	40.61	38.194		
12,000.00	11,962.32	10,850.00	10,599.97	43.53	38.21	55.48	94.44	-407.84	1,592.85	1,552.34	40.51	39.319		
12,050.00	12,011.30	10,850.00	10,599.97	43.66	38.21	50.10	94.44	-407.84	1,633.05	1,592.81	40.25	40.576		
12,100.00	12,059.24	10,850.00	10,599.97	43.78	38.21	45.46	94.44	-407.84	1,672.12	1,632.12	40.00	41.805		
12,150.00	12,105.76	10,850.00	10,599.97	43.89	38.21	41.51	94.44	-407.84	1,709.85	1,670.08	39.77	42.995		
12,200.00	12,150.50	10,850.00	10,599.97	43.98	38.21	38.15	94.44	-407.84	1,746.04	1,706.48	39.56	44.138		
12,250.00	12,193.14	10,872.75	10,605.34	44.06	38.20	35.03	72.34	-407.62	1,779.96	1,740.47	39.49	45.073		
12,300.00	12,233.34	10,900.00	10,610.62	44.13	38.19	32.45	45.61	-407.36	1,812.34	1,772.90	39.45	45.942		
12,350.00	12,270.79	10,900.00	10,610.62	44.18	38.19	30.54	45.61	-407.36	1,841.88	1,802.59	39.29	46.882		
12,400.00	12,305.22	10,900.00	10,610.62	44.22	38.19	28.92	45.61	-407.36	1,869.24	1,830.08	39.16	47.736		
12,450.00	12,336.36	10,900.00	10,610.62	44.25	38.19	27.54	45.61	-407.36	1,894.32	1,855.26	39.06	48.497		
12,500.00	12,363.98	10,924.50	10,614.28	44.27	38.18	26.35	21.39	-407.13	1,916.38	1,877.32	39.07	49.055		
12,550.00	12,387.85	10,950.00	10,616.98	44.29	38.17	25.41	-3.97	-406.88	1,936.12	1,897.03	39.09	49.533		
12,600.00	12,407.81	10,950.00	10,616.98	44.29	38.17	24.67	-3.97	-406.88	1,952.61	1,913.54	39.08	49.970		
12,650.00	12,423.70	10,950.00	10,616.98	44.30	38.17	24.07	-3.97	-406.88	1,966.49	1,927.38	39.11	50.286		
12,700.00	12,435.40	10,970.41	10,618.33	44.31	38.16	23.65	-24.33	-406.68	1,977.26	1,938.06	39.20	50.446		
12,750.00	12,442.82	10,998.09	10,619.00	44.34	38.16	23.41	-51.99	-406.41	1,985.38	1,946.07	39.31	50.505		
12,800.00	12,445.90	10,998.09	10,619.00	44.41	38.16	23.23	-51.99	-406.41	1,989.96	1,950.51	39.45	50.444		
12,810.36	12,446.00	10,998.09	10,619.00	44.42	38.16	23.20	-51.99	-406.41	1,990.57	1,951.09	39.48	50.416		
12,900.00	12,446.00	11,080.09	10,619.00	44.59	38.18	23.56	-133.99	-405.61	1,995.07	1,955.30	39.77	50.163		
13,000.00	12,446.00	11,179.65	10,619.00	44.83	38.32	23.87	-233.55	-404.64	1,998.83	1,958.73	40.10	49.844		
13,100.00	12,446.00	11,279.47	10,619.00	45.12	38.58	24.07	-333.37	-403.67	2,001.21	1,960.77	40.44	49.482		
13,200.00	12,446.00	11,379.44	10,619.00	45.46	38.92	24.15	-433.33	-402.69	2,002.17	1,961.38	40.79	49.080		
13,217.18	12,446.00	11,396.62	10,619.00	45.52	38.98	24.15	-450.50	-402.52	2,002.19	1,961.34	40.85	49.008		
13,300.00	12,446.00	11,479.44	10,619.00	45.84	39.32	24.15	-533.32	-401.72	2,002.20	1,961.03	41.17	48.638		
13,400.00	12,446.00	11,579.44	10,619.00	46.27	39.79	24.15	-633.32	-400.74	2,002.20	1,960.62	41.58	48.155		
13,500.00	12,446.00	11,679.44	10,619.00	46.75	40.32	24.15	-733.31	-399.77	2,002.20	1,960.17	42.03	47.634		
13,600.00	12,446.00	11,779.44	10,619.00	47.29	40.90	24.15	-833.31	-398.79	2,002.21	1,959.68	42.53	47.080		
13,700.00	12,446.00	11,879.44	10,619.00	47.87	41.54	24.15	-933.30	-397.81	2,002.21	1,959.15	43.06	46.498		
13,800.00	12,446.00	11,979.44	10,619.00	48.50	42.24	24.15	-1,033.30	-396.84	2,002.21	1,958.58	43.63	45.890		

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 PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
13,900.00	12,446.00	12,079.44	10,619.00	49.18	42.98	24.15	-1,133.30	-395.86	2,002.22	1,957.98	44.24	45.261		
14,000.00	12,446.00	12,179.44	10,619.00	49.90	43.78	24.15	-1,233.29	-394.89	2,002.22	1,957.34	44.88	44.615		
14,100.00	12,446.00	12,279.44	10,619.00	50.66	44.62	24.15	-1,333.29	-393.91	2,002.22	1,956.67	45.55	43.956		
14,200.00	12,446.00	12,379.44	10,619.00	51.47	45.50	24.15	-1,433.28	-392.94	2,002.23	1,955.97	46.26	43.286		
14,300.00	12,446.00	12,479.44	10,619.00	52.31	46.42	24.15	-1,533.28	-391.96	2,002.23	1,955.24	46.99	42.610		
14,400.00	12,446.00	12,579.44	10,619.00	53.19	47.39	24.15	-1,633.27	-390.99	2,002.23	1,954.48	47.75	41.929		
14,500.00	12,446.00	12,679.44	10,619.00	54.11	48.39	24.15	-1,733.27	-390.01	2,002.24	1,953.69	48.54	41.247		
14,600.00	12,446.00	12,779.44	10,619.00	55.06	49.42	24.15	-1,833.26	-389.04	2,002.24	1,952.88	49.36	40.566		
14,700.00	12,446.00	12,879.44	10,619.00	56.05	50.49	24.15	-1,933.26	-388.06	2,002.24	1,952.05	50.20	39.888		
14,800.00	12,446.00	12,979.44	10,619.00	57.06	51.59	24.15	-2,033.25	-387.09	2,002.25	1,951.19	51.06	39.215		
14,900.00	12,446.00	13,079.44	10,619.00	58.11	52.71	24.15	-2,133.25	-386.11	2,002.25	1,950.31	51.94	38.547		
15,000.00	12,446.00	13,179.44	10,619.00	59.18	53.87	24.15	-2,233.24	-385.13	2,002.25	1,949.41	52.85	37.887		
15,100.00	12,446.00	13,279.44	10,619.00	60.28	55.05	24.15	-2,333.24	-384.16	2,002.26	1,948.48	53.77	37.236		
15,200.00	12,446.00	13,379.44	10,619.00	61.40	56.25	24.15	-2,433.23	-383.18	2,002.26	1,947.54	54.72	36.593		
15,300.00	12,446.00	13,479.44	10,619.00	62.54	57.47	24.15	-2,533.23	-382.21	2,002.26	1,946.59	55.68	35.961		
15,400.00	12,446.00	13,579.44	10,619.00	63.71	58.72	24.15	-2,633.22	-381.23	2,002.27	1,945.61	56.66	35.340		
15,500.00	12,446.00	13,679.44	10,619.00	64.90	59.98	24.15	-2,733.22	-380.26	2,002.27	1,944.62	57.65	34.730		
15,600.00	12,446.00	13,779.44	10,619.00	66.11	61.26	24.15	-2,833.21	-379.28	2,002.27	1,943.61	58.66	34.132		
15,700.00	12,446.00	13,879.44	10,619.00	67.34	62.56	24.15	-2,933.21	-378.31	2,002.28	1,942.59	59.69	33.546		
15,800.00	12,446.00	13,979.44	10,619.00	68.58	63.88	24.15	-3,033.20	-377.33	2,002.28	1,941.56	60.72	32.974		
15,900.00	12,446.00	14,079.44	10,619.00	69.84	65.21	24.15	-3,133.20	-376.36	2,002.28	1,940.51	61.77	32.415		
16,000.00	12,446.00	14,179.44	10,619.00	71.12	66.56	24.15	-3,233.20	-375.38	2,002.29	1,939.46	62.83	31.868		
16,100.00	12,446.00	14,279.44	10,619.00	72.41	67.92	24.15	-3,333.19	-374.41	2,002.29	1,938.39	63.90	31.333		
16,200.00	12,446.00	14,379.44	10,619.00	73.72	69.29	24.15	-3,433.19	-373.43	2,002.30	1,937.31	64.99	30.810		
16,300.00	12,446.00	14,479.44	10,619.00	75.04	70.67	24.15	-3,533.18	-372.45	2,002.30	1,936.22	66.08	30.300		
16,400.00	12,446.00	14,579.44	10,619.00	76.37	72.07	24.15	-3,633.18	-371.48	2,002.30	1,935.11	67.19	29.802		
16,500.00	12,446.00	14,679.44	10,619.00	77.72	73.47	24.15	-3,733.17	-370.50	2,002.31	1,934.00	68.30	29.315		
16,600.00	12,446.00	14,779.44	10,619.00	79.08	74.89	24.15	-3,833.17	-369.53	2,002.31	1,932.88	69.43	28.841		
16,700.00	12,446.00	14,879.44	10,619.00	80.45	76.31	24.15	-3,933.16	-368.55	2,002.31	1,931.76	70.55	28.380		
16,800.00	12,446.00	14,979.44	10,619.00	81.82	77.75	24.15	-4,033.16	-367.58	2,002.32	1,930.62	71.69	27.930		
16,900.00	12,446.00	15,079.44	10,619.00	83.21	79.19	24.15	-4,133.15	-366.60	2,002.32	1,929.48	72.84	27.491		
17,000.00	12,446.00	15,179.44	10,619.00	84.61	80.64	24.16	-4,233.15	-365.63	2,002.32	1,928.33	73.99	27.063		
17,100.00	12,446.00	15,279.44	10,619.00	86.02	82.10	24.16	-4,333.14	-364.65	2,002.33	1,927.18	75.15	26.645		
17,200.00	12,446.00	15,379.44	10,619.00	87.43	83.56	24.16	-4,433.14	-363.68	2,002.33	1,926.02	76.31	26.238		
17,300.00	12,446.00	15,479.44	10,619.00	88.86	85.03	24.16	-4,533.13	-362.70	2,002.33	1,924.85	77.49	25.841		
17,400.00	12,446.00	15,579.44	10,619.00	90.29	86.51	24.16	-4,633.13	-361.73	2,002.34	1,923.67	78.66	25.454		
17,500.00	12,446.00	15,679.44	10,619.00	91.73	88.00	24.16	-4,733.12	-360.75	2,002.34	1,922.49	79.85	25.077		
17,600.00	12,446.00	15,779.44	10,619.00	93.17	89.49	24.16	-4,833.12	-359.77	2,002.34	1,921.31	81.04	24.709		
17,700.00	12,446.00	15,879.44	10,619.00	94.63	90.98	24.16	-4,933.11	-358.80	2,002.35	1,920.12	82.23	24.351		
17,800.00	12,446.00	15,979.44	10,619.00	96.09	92.49	24.16	-5,033.11	-357.82	2,002.35	1,918.92	83.43	24.002		
17,900.00	12,446.00	16,079.44	10,619.00	97.55	93.99	24.16	-5,133.11	-356.85	2,002.35	1,917.73	84.63	23.661		
18,000.00	12,446.00	16,179.44	10,619.00	99.02	95.50	24.16	-5,233.10	-355.87	2,002.36	1,916.52	85.83	23.328		
18,100.00	12,446.00	16,279.44	10,619.00	100.50	97.02	24.16	-5,333.10	-354.90	2,002.36	1,915.31	87.05	23.004		
18,200.00	12,446.00	16,379.44	10,619.00	101.98	98.54	24.16	-5,433.09	-353.92	2,002.36	1,914.10	88.26	22.687		
18,300.00	12,446.00	16,479.44	10,619.00	103.47	100.06	24.16	-5,533.09	-352.95	2,002.37	1,912.89	89.48	22.377		
18,400.00	12,446.00	16,579.44	10,619.00	104.96	101.59	24.16	-5,633.08	-351.97	2,002.37	1,911.67	90.70	22.076		
18,500.00	12,446.00	16,679.44	10,619.00	106.46	103.12	24.16	-5,733.08	-351.00	2,002.37	1,910.45	91.93	21.782		
18,600.00	12,446.00	16,779.44	10,619.00	107.96	104.66	24.16	-5,833.07	-350.02	2,002.38	1,909.22	93.16	21.495		
18,700.00	12,446.00	16,879.44	10,619.00	109.46	106.20	24.16	-5,933.07	-349.05	2,002.38	1,907.99	94.39	21.215		
18,800.00	12,446.00	16,979.44	10,619.00	110.97	107.74	24.16	-6,033.06	-348.07	2,002.38	1,906.76	95.62	20.941		
18,900.00	12,446.00	17,079.44	10,619.00	112.49	109.28	24.16	-6,133.06	-347.09	2,002.39	1,905.53	96.86	20.673		
19,000.00	12,446.00	17,179.44	10,619.00	114.00	110.83	24.16	-6,233.05	-346.12	2,002.39	1,904.29	98.10	20.412		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design PF Fed Com - PF Fed Com 501H - 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		
19,100.00	12,446.00	17,279.44	10,619.00	115.53	112.38	24.16	-6,333.05	-345.14	2,002.39	1,903.05	99.34	20.157		
19,200.00	12,446.00	17,379.44	10,619.00	117.05	113.94	24.16	-6,433.04	-344.17	2,002.40	1,901.81	100.59	19.907		
19,300.00	12,446.00	17,479.44	10,619.00	118.58	115.50	24.16	-6,533.04	-343.19	2,002.40	1,900.57	101.84	19.663		
19,400.00	12,446.00	17,579.44	10,619.00	120.11	117.06	24.16	-6,633.03	-342.22	2,002.40	1,899.32	103.08	19.425		
19,500.00	12,446.00	17,679.44	10,619.00	121.64	118.62	24.16	-6,733.03	-341.24	2,002.41	1,898.07	104.33	19.192		
19,600.00	12,446.00	17,779.44	10,619.00	123.18	120.18	24.16	-6,833.02	-340.27	2,002.41	1,896.82	105.59	18.965		
19,700.00	12,446.00	17,879.44	10,619.00	124.72	121.75	24.16	-6,933.02	-339.29	2,002.41	1,895.57	106.84	18.742		
19,800.00	12,446.00	17,979.44	10,619.00	126.27	123.32	24.16	-7,033.01	-338.32	2,002.42	1,894.32	108.10	18.524		
19,900.00	12,446.00	18,079.44	10,619.00	127.81	124.89	24.16	-7,133.01	-337.34	2,002.42	1,893.06	109.36	18.310		
20,000.00	12,446.00	18,179.44	10,619.00	129.36	126.46	24.16	-7,233.01	-336.37	2,002.43	1,891.80	110.62	18.102		
20,100.00	12,446.00	18,279.44	10,619.00	130.91	128.04	24.16	-7,333.00	-335.39	2,002.43	1,890.54	111.88	17.897		
20,200.00	12,446.00	18,379.44	10,619.00	132.46	129.61	24.16	-7,433.00	-334.41	2,002.43	1,889.28	113.15	17.697		
20,300.00	12,446.00	18,479.44	10,619.00	134.02	131.19	24.16	-7,532.99	-333.44	2,002.44	1,888.02	114.41	17.502		
20,400.00	12,446.00	18,579.44	10,619.00	135.58	132.77	24.16	-7,632.99	-332.46	2,002.44	1,886.76	115.68	17.310		
20,500.00	12,446.00	18,679.44	10,619.00	137.14	134.36	24.16	-7,732.98	-331.49	2,002.44	1,885.50	116.95	17.123		
20,600.00	12,446.00	18,779.44	10,619.00	138.70	135.94	24.16	-7,832.98	-330.51	2,002.45	1,884.23	118.22	16.939		
20,700.00	12,446.00	18,879.44	10,619.00	140.27	137.52	24.16	-7,932.97	-329.54	2,002.45	1,882.96	119.49	16.759		
20,800.00	12,446.00	18,979.44	10,619.00	141.83	139.11	24.16	-8,032.97	-328.56	2,002.45	1,881.69	120.76	16.582		
20,900.00	12,446.00	19,079.44	10,619.00	143.40	140.70	24.16	-8,132.96	-327.59	2,002.46	1,880.42	122.03	16.409		
21,000.00	12,446.00	19,179.44	10,619.00	144.97	142.29	24.16	-8,232.96	-326.61	2,002.46	1,879.15	123.31	16.240		
21,100.00	12,446.00	19,279.44	10,619.00	146.54	143.88	24.16	-8,332.95	-325.64	2,002.46	1,877.88	124.58	16.074		
21,200.00	12,446.00	19,379.44	10,619.00	148.12	145.47	24.16	-8,432.95	-324.66	2,002.47	1,876.61	125.86	15.911		
21,300.00	12,446.00	19,479.44	10,619.00	149.69	147.07	24.16	-8,532.94	-323.69	2,002.47	1,875.34	127.13	15.751		
21,400.00	12,446.00	19,579.44	10,619.00	151.27	148.66	24.16	-8,632.94	-322.71	2,002.47	1,874.06	128.41	15.595		
21,500.00	12,446.00	19,679.44	10,619.00	152.85	150.26	24.17	-8,732.93	-321.73	2,002.48	1,872.79	129.69	15.441		
21,600.00	12,446.00	19,779.44	10,619.00	154.43	151.86	24.17	-8,832.93	-320.76	2,002.48	1,871.51	130.97	15.290		
21,700.00	12,446.00	19,879.44	10,619.00	156.01	153.46	24.17	-8,932.92	-319.78	2,002.48	1,870.24	132.25	15.142		
21,800.00	12,446.00	19,979.44	10,619.00	157.59	155.06	24.17	-9,032.92	-318.81	2,002.49	1,868.96	133.53	14.997		
21,900.00	12,446.00	20,079.44	10,619.00	159.18	156.66	24.17	-9,132.91	-317.83	2,002.49	1,867.68	134.81	14.854		
22,000.00	12,446.00	20,179.44	10,619.00	160.76	158.26	24.17	-9,232.91	-316.86	2,002.49	1,866.40	136.09	14.714		
22,100.00	12,446.00	20,279.44	10,619.00	162.35	159.86	24.17	-9,332.91	-315.88	2,002.50	1,865.12	137.37	14.577		
22,200.00	12,446.00	20,379.44	10,619.00	163.94	161.47	24.17	-9,432.90	-314.91	2,002.50	1,863.84	138.66	14.442		
22,300.00	12,446.00	20,479.44	10,619.00	165.53	163.07	24.17	-9,532.90	-313.93	2,002.50	1,862.57	139.94	14.310		
22,400.00	12,446.00	20,579.44	10,619.00	167.12	164.68	24.17	-9,632.89	-312.96	2,002.51	1,861.28	141.22	14.180		
22,500.00	12,446.00	20,679.44	10,619.00	168.71	166.28	24.17	-9,732.89	-311.98	2,002.51	1,860.00	142.51	14.052		
22,600.00	12,446.00	20,779.44	10,619.00	170.30	167.74	24.17	-9,832.88	-311.01	2,002.51	1,858.89	143.62	13.943		
22,700.00	12,446.00	20,792.10	10,619.00	171.90	167.92	24.17	-9,845.55	-310.88	2,004.42	1,859.88	144.54	13.867		
22,800.00	12,446.00	20,792.10	10,619.00	173.49	167.92	24.17	-9,845.55	-310.88	2,011.26	1,866.09	145.17	13.854		
22,900.00	12,446.00	20,792.10	10,619.00	175.09	167.92	24.17	-9,845.55	-310.88	2,023.03	1,877.52	145.51	13.903		
23,000.00	12,446.00	20,792.10	10,619.00	176.69	167.92	24.17	-9,845.55	-310.88	2,039.64	1,894.08	145.57	14.012		
23,100.00	12,446.00	20,792.10	10,619.00	178.28	167.92	24.17	-9,845.55	-310.88	2,060.98	1,915.63	145.35	14.180		
23,200.00	12,446.00	20,792.10	10,619.00	179.88	167.92	24.17	-9,845.55	-310.88	2,086.89	1,942.01	144.88	14.404		
23,300.00	12,446.00	20,792.10	10,619.00	181.48	167.92	24.17	-9,845.55	-310.88	2,117.21	1,973.03	144.19	14.684		
23,400.00	12,446.00	20,792.10	10,619.00	183.08	167.92	24.17	-9,845.55	-310.88	2,151.76	2,008.47	143.29	15.017		
23,500.00	12,446.00	20,792.10	10,619.00	184.69	167.92	24.17	-9,845.55	-310.88	2,190.33	2,048.11	142.22	15.401		
23,600.00	12,446.00	20,792.10	10,619.00	186.29	167.92	24.17	-9,845.55	-310.88	2,232.72	2,091.71	141.01	15.834		
23,700.00	12,446.00	20,792.10	10,619.00	187.89	167.92	24.17	-9,845.55	-310.88	2,278.71	2,139.04	139.67	16.315		
23,800.00	12,446.00	20,792.10	10,619.00	189.50	167.92	24.17	-9,845.55	-310.88	2,328.09	2,189.84	138.25	16.840		
23,900.00	12,446.00	20,792.10	10,619.00	191.10	167.92	24.17	-9,845.55	-310.88	2,380.65	2,243.89	136.76	17.408		
23,929.64	12,446.00	20,792.10	10,619.00	191.58	167.92	24.17	-9,845.55	-310.88	2,396.81	2,260.50	136.31	17.584		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design PF Fed Com - PF Fed Com 502H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	170.08	-74.83	13.09	75.96					
100.00	100.00	100.00	100.00	0.13	0.13	170.08	-74.83	13.09	75.96	75.79	0.18	428.117		
200.00	200.00	200.00	200.00	0.48	0.48	170.08	-74.83	13.09	75.96	75.28	0.68	110.993		
300.00	300.00	300.00	300.00	0.84	0.84	170.08	-74.83	13.09	75.96	74.77	1.19	63.762		
400.00	400.00	400.00	400.00	1.20	1.20	170.08	-74.83	13.09	75.96	74.26	1.70	44.729		
500.00	500.00	500.00	500.00	1.56	1.56	170.08	-74.83	13.09	75.96	73.76	2.21	34.446		
600.00	600.00	600.00	600.00	1.92	1.92	170.08	-74.83	13.09	75.96	73.25	2.71	28.008		
700.00	700.00	700.00	700.00	2.28	2.28	170.08	-74.83	13.09	75.96	72.74	3.22	23.597		
800.00	800.00	800.00	800.00	2.63	2.63	170.08	-74.83	13.09	75.96	72.24	3.73	20.387		
900.00	900.00	900.00	900.00	2.99	2.99	170.08	-74.83	13.09	75.96	71.73	4.23	17.945		
1,000.00	1,000.00	1,000.00	1,000.00	3.35	3.35	170.08	-74.83	13.09	75.96	71.22	4.74	16.026		
1,100.00	1,100.00	1,100.00	1,100.00	3.71	3.71	170.08	-74.83	13.09	75.96	70.72	5.25	14.477		
1,200.00	1,200.00	1,200.00	1,200.00	4.07	4.07	170.08	-74.83	13.09	75.96	70.21	5.75	13.202		
1,300.00	1,300.00	1,300.00	1,300.00	4.43	4.43	170.08	-74.83	13.09	75.96	69.70	6.26	12.133		
1,400.00	1,400.00	1,400.00	1,400.00	4.79	4.79	170.08	-74.83	13.09	75.96	69.19	6.77	11.224		
1,500.00	1,500.00	1,500.00	1,500.00	5.14	5.14	170.08	-74.83	13.09	75.96	68.69	7.27	10.442		
1,600.00	1,600.00	1,600.00	1,600.00	5.50	5.50	170.08	-74.83	13.09	75.96	68.18	7.78	9.762		
1,700.00	1,700.00	1,700.00	1,700.00	5.86	5.86	170.08	-74.83	13.09	75.96	67.67	8.29	9.165		
1,800.00	1,800.00	1,800.00	1,800.00	6.22	6.22	170.08	-74.83	13.09	75.96	67.17	8.80	8.636		
1,900.00	1,900.00	1,900.00	1,900.00	6.58	6.58	170.08	-74.83	13.09	75.96	66.66	9.30	8.166		
2,000.00	2,000.00	2,000.00	2,000.00	6.94	6.94	170.08	-74.83	13.09	75.96	66.15	9.81	7.744		
2,100.00	2,100.00	2,100.00	2,100.00	7.29	7.29	170.08	-74.83	13.09	75.96	65.65	10.32	7.363		
2,200.00	2,200.00	2,200.00	2,200.00	7.65	7.65	170.08	-74.83	13.09	75.96	65.14	10.82	7.018 CC, ES		
2,300.00	2,299.99	2,299.99	2,299.99	8.01	8.01	141.37	-74.83	13.09	76.98	65.65	11.33	6.795		
2,400.00	2,399.91	2,401.00	2,400.98	8.37	8.37	142.30	-73.98	14.13	79.40	67.57	11.83	6.709		
2,500.00	2,499.69	2,502.05	2,501.95	8.72	8.73	142.69	-71.45	17.23	82.55	70.22	12.34	6.692		
2,600.00	2,599.27	2,603.13	2,602.81	9.08	9.09	142.59	-67.23	22.41	86.41	73.58	12.84	6.732		
2,685.78	2,684.47	2,689.85	2,689.17	9.39	9.39	142.15	-62.27	28.50	90.30	77.03	13.27	6.806		
2,700.00	2,698.58	2,704.23	2,703.47	9.44	9.45	142.05	-61.33	29.66	90.97	77.63	13.34	6.820		
2,800.00	2,797.77	2,805.35	2,803.88	9.81	9.81	140.56	-53.75	38.97	94.97	81.13	13.84	6.860		
2,900.00	2,896.96	2,906.40	2,903.85	10.17	10.18	137.82	-44.49	50.33	97.82	83.47	14.36	6.814		
3,000.00	2,996.15	3,007.23	3,003.19	10.54	10.55	133.84	-33.60	63.71	99.84	84.96	14.88	6.709		
3,100.00	3,095.35	3,107.71	3,101.70	10.92	10.94	128.64	-21.10	79.06	101.50	86.08	15.42	6.582		
3,200.00	3,194.54	3,207.31	3,198.96	11.29	11.33	122.66	-7.51	95.74	103.55	87.58	15.98	6.482		
3,300.00	3,293.73	3,306.70	3,295.98	11.67	11.72	116.92	6.11	112.46	106.69	90.16	16.53	6.453 SF		
3,400.00	3,392.92	3,406.09	3,393.00	12.05	12.13	111.55	19.73	129.18	110.84	93.75	17.09	6.486		
3,500.00	3,492.12	3,505.48	3,490.02	12.43	12.54	106.61	33.35	145.90	115.90	98.25	17.64	6.569		
3,600.00	3,591.31	3,604.87	3,587.05	12.81	12.96	102.11	46.97	162.62	121.74	103.55	18.20	6.691		
3,700.00	3,690.50	3,704.26	3,684.07	13.20	13.38	98.04	60.58	179.34	128.27	109.53	18.75	6.843		
3,800.00	3,789.69	3,803.65	3,781.09	13.58	13.80	94.38	74.20	196.06	135.39	116.10	19.29	7.017		
3,900.00	3,888.89	3,903.04	3,878.11	13.97	14.24	91.09	87.82	212.78	143.01	123.17	19.84	7.208		
4,000.00	3,988.08	4,002.43	3,975.13	14.36	14.67	88.14	101.44	229.50	151.05	130.66	20.39	7.409		
4,100.00	4,087.27	4,101.82	4,072.15	14.75	15.11	85.50	115.06	246.22	159.44	138.51	20.93	7.617		
4,200.00	4,186.46	4,201.21	4,169.18	15.14	15.55	83.12	128.68	262.94	168.14	146.67	21.48	7.829		
4,300.00	4,285.66	4,300.60	4,266.20	15.53	16.00	80.98	142.30	279.66	177.10	155.08	22.02	8.042		
4,400.00	4,384.85	4,399.99	4,363.22	15.92	16.44	79.04	155.92	296.38	186.29	163.72	22.57	8.254		
4,500.00	4,484.04	4,499.38	4,460.24	16.31	16.89	77.29	169.53	313.10	195.66	172.55	23.11	8.465		
4,600.00	4,583.23	4,598.77	4,557.26	16.71	17.35	75.70	183.15	329.82	205.20	181.54	23.66	8.673		
4,700.00	4,682.42	4,698.16	4,654.29	17.10	17.80	74.25	196.77	346.54	214.89	190.68	24.21	8.877		
4,800.00	4,781.62	4,797.55	4,751.31	17.50	18.26	72.93	210.39	363.26	224.70	199.94	24.75	9.077		
4,900.00	4,880.81	4,896.94	4,848.33	17.89	18.72	71.72	224.01	379.98	234.61	209.31	25.30	9.273		
5,000.00	4,980.00	4,996.33	4,945.35	18.29	19.18	70.61	237.63	396.70	244.62	218.78	25.85	9.464		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													PF Fed Com - PF Fed Com 502H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
5,100.00	5,079.19	5,095.71	5,042.37	18.68	19.64	69.58	251.25	413.42	254.72	228.32	26.40	9.650				
5,200.00	5,178.39	5,195.10	5,139.39	19.08	20.10	68.64	264.89	430.14	264.89	237.95	26.95	9.831				
5,300.00	5,277.58	5,294.49	5,236.42	19.48	20.57	67.76	278.48	446.86	275.13	247.64	27.49	10.007				
5,400.00	5,376.77	5,393.88	5,333.44	19.87	21.03	66.94	292.10	463.58	285.43	257.38	28.04	10.178				
5,500.00	5,475.96	5,493.27	5,430.46	20.27	21.50	66.19	305.72	480.30	295.78	267.18	28.59	10.344				
5,600.00	5,575.16	5,592.66	5,527.48	20.67	21.97	65.48	319.34	497.02	306.18	277.03	29.14	10.506				
5,700.00	5,674.35	5,692.05	5,624.50	21.07	22.44	64.82	332.96	513.74	316.62	286.92	29.69	10.662				
5,800.00	5,773.54	5,791.44	5,721.53	21.47	22.91	64.20	346.58	530.46	327.10	296.85	30.25	10.815				
5,900.00	5,872.73	5,890.83	5,818.55	21.87	23.38	63.63	360.20	547.18	337.61	306.81	30.80	10.962				
6,000.00	5,971.93	5,990.22	5,915.57	22.27	23.85	63.08	373.81	563.90	348.16	316.81	31.35	11.106				
6,100.00	6,071.12	6,089.61	6,012.59	22.67	24.33	62.57	387.43	580.62	358.74	326.83	31.90	11.245				
6,200.00	6,170.31	6,189.00	6,109.61	23.07	24.80	62.09	401.05	597.34	369.34	336.88	32.45	11.380				
6,300.00	6,269.50	6,288.39	6,206.63	23.47	25.28	61.63	414.67	614.06	379.97	346.96	33.01	11.512				
6,400.00	6,368.70	6,387.78	6,303.66	23.87	25.75	61.20	428.29	630.78	390.62	357.06	33.56	11.640				
6,500.00	6,467.89	6,487.17	6,400.68	24.27	26.23	60.79	441.91	647.50	401.29	367.17	34.11	11.764				
6,600.00	6,567.08	6,586.56	6,497.70	24.67	26.71	60.40	455.53	664.22	411.98	377.31	34.67	11.884				
6,700.00	6,666.27	6,685.95	6,594.72	25.07	27.18	60.04	469.14	680.94	422.69	387.46	35.22	12.001				
6,800.00	6,765.47	6,791.78	6,698.18	25.47	27.69	59.72	483.22	698.22	432.92	397.08	35.84	12.081				
6,900.00	6,864.66	6,901.27	6,805.79	25.88	28.18	59.65	495.97	713.87	441.05	404.58	36.47	12.092				
6,982.54	6,946.53	6,991.90	6,895.27	26.21	28.58	59.78	505.04	725.00	446.07	409.08	36.99	12.058				
7,000.00	6,963.85	7,011.09	6,914.26	26.28	28.66	59.84	506.79	727.15	446.96	409.86	37.10	12.047				
7,100.00	7,063.25	7,121.08	7,023.35	26.67	29.11	60.11	515.65	738.03	451.49	413.79	37.70	11.975				
7,200.00	7,162.90	7,231.20	7,132.92	27.05	29.53	60.30	522.53	746.48	455.08	416.81	38.27	11.892				
7,300.00	7,262.74	7,341.41	7,242.86	27.41	29.93	60.41	527.42	752.48	457.73	418.93	38.80	11.798				
7,400.00	7,362.69	7,451.70	7,353.05	27.77	30.30	60.45	530.30	756.01	459.42	420.13	39.29	11.694				
7,468.32	7,431.00	7,527.08	7,428.41	28.00	30.54	89.74	531.11	757.01	460.02	420.42	39.60	11.616				
7,500.00	7,462.68	7,561.34	7,462.68	28.10	30.65	89.73	531.17	757.09	460.10	420.35	39.75	11.576				
7,600.00	7,562.68	7,661.34	7,562.68	28.44	30.96	89.73	531.17	757.09	460.10	419.88	40.22	11.441				
7,700.00	7,662.68	7,761.34	7,662.68	28.78	31.26	89.73	531.17	757.09	460.10	419.41	40.69	11.308				
7,800.00	7,762.68	7,861.34	7,762.68	29.11	31.57	89.73	531.17	757.09	460.10	418.94	41.16	11.179				
7,900.00	7,862.68	7,961.34	7,862.68	29.45	31.88	89.73	531.17	757.09	460.10	418.46	41.63	11.052				
8,000.00	7,962.68	8,061.34	7,962.68	29.79	32.19	89.73	531.17	757.09	460.10	417.99	42.10	10.927				
8,100.00	8,062.68	8,161.34	8,062.68	30.13	32.51	89.73	531.17	757.09	460.10	417.52	42.58	10.806				
8,200.00	8,162.68	8,261.34	8,162.68	30.46	32.82	89.73	531.17	757.09	460.10	417.04	43.05	10.687				
8,300.00	8,262.68	8,361.34	8,262.68	30.80	33.13	89.73	531.17	757.09	460.10	416.57	43.53	10.570				
8,400.00	8,362.68	8,461.34	8,362.68	31.14	33.45	89.73	531.17	757.09	460.10	416.09	44.01	10.456				
8,500.00	8,462.68	8,561.34	8,462.68	31.48	33.77	89.73	531.17	757.09	460.10	415.61	44.48	10.343				
8,600.00	8,562.68	8,661.34	8,562.68	31.82	34.08	89.73	531.17	757.09	460.10	415.14	44.96	10.234				
8,700.00	8,662.68	8,761.34	8,662.68	32.16	34.40	89.73	531.17	757.09	460.10	414.66	45.44	10.126				
8,800.00	8,762.68	8,861.34	8,762.68	32.50	34.72	89.73	531.17	757.09	460.10	414.18	45.92	10.020				
8,900.00	8,862.68	8,961.34	8,862.68	32.85	35.04	89.73	531.17	757.09	460.10	413.70	46.40	9.917				
9,000.00	8,962.68	9,061.34	8,962.68	33.19	35.36	89.73	531.17	757.09	460.10	413.22	46.88	9.815				
9,100.00	9,062.68	9,161.34	9,062.68	33.53	35.68	89.73	531.17	757.09	460.10	412.74	47.36	9.716				
9,200.00	9,162.68	9,261.34	9,162.68	33.87	36.00	89.73	531.17	757.09	460.10	412.26	47.84	9.618				
9,300.00	9,262.68	9,361.34	9,262.68	34.22	36.32	89.73	531.17	757.09	460.10	411.78	48.32	9.522				
9,400.00	9,362.68	9,461.34	9,362.68	34.56	36.64	89.73	531.17	757.09	460.10	411.29	48.80	9.428				
9,500.00	9,462.68	9,561.34	9,462.68	34.90	36.97	89.73	531.17	757.09	460.10	410.81	49.28	9.336				
9,600.00	9,562.68	9,661.34	9,562.68	35.25	37.29	89.73	531.17	757.09	460.10	410.33	49.77	9.245				
9,700.00	9,662.68	9,761.34	9,662.68	35.59	37.62	89.73	531.17	757.09	460.10	409.84	50.25	9.156				
9,800.00	9,762.68	9,861.34	9,762.68	35.93	37.94	89.73	531.17	757.09	460.10	409.36	50.73	9.069				
9,900.00	9,862.68	9,961.34	9,862.68	36.28	38.27	89.73	531.17	757.09	460.10	408.88	51.22	8.983				
9,905.91	9,868.59	9,967.25	9,868.59	36.30	38.29	89.73	531.17	757.09	460.10	408.85	51.25	8.978				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,000.00	9,962.68	10,060.33	9,961.66	36.62	38.58	89.79	530.69	757.12	460.12	408.42	51.70	8.899		
10,100.00	10,062.68	10,154.58	10,055.09	36.97	38.83	91.23	519.11	757.79	460.95	408.74	52.22	8.828		
10,200.00	10,162.68	10,242.82	10,139.74	37.31	39.01	94.26	494.56	759.20	464.05	411.31	52.74	8.799		
10,300.00	10,262.68	10,321.96	10,211.66	37.66	39.13	98.25	461.73	761.09	471.71	418.58	53.13	8.878		
10,400.00	10,362.68	10,390.82	10,270.04	38.01	39.20	102.53	425.36	763.19	486.48	433.29	53.19	9.146		
10,500.00	10,462.68	10,450.00	10,316.42	38.35	39.23	106.68	388.70	765.31	510.28	457.55	52.73	9.677		
10,600.00	10,562.68	10,500.00	10,352.48	38.70	39.25	110.40	354.14	767.30	544.01	492.28	51.73	10.517		
10,700.00	10,662.68	10,550.00	10,385.38	39.04	39.25	114.21	316.58	769.46	587.57	537.09	50.48	11.639		
10,800.00	10,762.68	10,577.55	10,402.07	39.39	39.24	116.32	294.70	770.73	639.81	591.13	48.67	13.145		
10,900.00	10,862.68	10,600.00	10,414.88	39.74	39.23	118.02	276.29	771.79	699.86	653.03	46.84	14.943		
11,000.00	10,962.68	10,634.32	10,433.04	40.09	39.22	120.60	247.23	773.46	766.12	720.66	45.46	16.854		
11,100.00	11,062.68	10,650.00	10,440.75	40.43	39.21	121.76	233.60	774.25	837.75	793.84	43.91	19.078		
11,200.00	11,162.68	10,676.71	10,453.02	40.78	39.19	123.69	209.91	775.61	913.52	870.70	42.82	21.332		
11,300.00	11,262.68	10,700.00	10,462.80	41.13	39.18	125.34	188.81	776.83	992.87	950.99	41.88	23.707		
11,400.00	11,362.68	10,700.00	10,462.80	41.48	39.18	125.34	188.81	776.83	1,075.06	1,034.30	40.76	26.374		
11,500.00	11,462.68	10,722.78	10,471.52	41.82	39.16	126.90	167.81	778.04	1,159.42	1,119.24	40.18	28.857		
11,600.00	11,562.68	10,750.00	10,480.85	42.17	39.13	128.71	142.28	779.51	1,246.09	1,206.31	39.78	31.324		
11,700.00	11,662.68	10,750.00	10,480.85	42.52	39.13	128.71	142.28	779.51	1,333.83	1,294.67	39.16	34.060		
11,800.00	11,762.68	10,750.00	10,480.85	42.87	39.13	128.71	142.28	779.51	1,423.19	1,384.51	38.68	36.797		
11,900.00	11,862.68	10,750.00	10,480.85	43.22	39.13	128.71	142.28	779.51	1,513.88	1,475.58	38.31	39.521		
11,910.36	11,873.04	10,750.00	10,480.85	43.25	39.13	128.71	142.28	779.51	1,523.34	1,485.07	38.27	39.801		
11,950.00	11,912.65	10,768.77	10,486.56	43.38	39.12	-36.21	124.43	780.54	1,558.82	1,520.50	38.32	40.681		
12,000.00	11,962.32	10,774.13	10,488.09	43.53	39.11	-30.92	119.30	780.84	1,602.70	1,564.52	38.18	41.977		
12,050.00	12,011.30	10,780.30	10,489.78	43.66	39.11	-26.87	113.37	781.18	1,645.02	1,606.98	38.04	43.246		
12,100.00	12,059.24	10,800.00	10,494.77	43.78	39.09	-23.44	94.35	782.28	1,685.72	1,647.73	38.00	44.366		
12,150.00	12,105.76	10,800.00	10,494.77	43.89	39.09	-21.17	94.35	782.28	1,724.08	1,686.29	37.78	45.629		
12,200.00	12,150.50	10,800.00	10,494.77	43.98	39.09	-19.34	94.35	782.28	1,760.37	1,722.79	37.58	46.846		
12,250.00	12,193.14	10,800.00	10,494.77	44.06	39.09	-17.86	94.35	782.28	1,794.46	1,757.08	37.38	48.005		
12,300.00	12,233.34	10,820.89	10,499.33	44.13	39.07	-16.42	74.00	783.45	1,825.72	1,788.40	37.32	48.925		
12,350.00	12,270.79	10,830.50	10,501.18	44.18	39.06	-15.36	64.59	783.99	1,854.47	1,817.29	37.19	49.871		
12,400.00	12,305.22	10,850.00	10,504.45	44.22	39.04	-14.42	45.39	785.10	1,880.54	1,843.42	37.11	50.674		
12,450.00	12,336.36	10,850.00	10,504.45	44.25	39.04	-13.79	45.39	785.10	1,903.50	1,866.54	36.95	51.511		
12,500.00	12,363.98	10,850.00	10,504.45	44.27	39.04	-13.28	45.39	785.10	1,923.70	1,886.88	36.83	52.237		
12,550.00	12,387.85	10,872.14	10,507.36	44.29	39.02	-12.75	23.49	786.36	1,940.55	1,903.76	36.80	52.738		
12,600.00	12,407.81	10,900.00	10,509.82	44.29	39.00	-12.30	-4.22	787.96	1,954.71	1,917.92	36.79	53.131		
12,650.00	12,423.70	10,900.00	10,509.82	44.30	39.00	-12.08	-4.22	787.96	1,965.08	1,928.34	36.73	53.496		
12,700.00	12,435.40	10,900.00	10,509.82	44.31	39.00	-11.92	-4.22	787.96	1,972.48	1,935.76	36.71	53.725		
12,750.00	12,442.82	10,916.85	10,510.65	44.34	38.99	-11.78	-21.02	788.93	1,976.57	1,939.83	36.75	53.785		
12,800.00	12,445.90	10,936.70	10,511.00	44.41	38.97	-11.71	-40.83	790.07	1,977.50	1,940.69	36.81	53.725		
12,810.36	12,446.00	10,936.70	10,511.00	44.42	38.97	-11.71	-40.83	790.07	1,977.22	1,940.40	36.82	53.696		
12,900.00	12,446.00	11,009.29	10,511.00	44.59	38.93	-11.57	-113.35	793.33	1,975.45	1,938.47	36.98	53.418		
13,000.00	12,446.00	11,117.80	10,511.00	44.83	38.94	-11.34	-221.84	795.12	1,973.71	1,936.53	37.19	53.073		
13,100.00	12,446.00	11,217.63	10,511.00	45.12	39.06	-11.19	-321.66	796.09	1,972.57	1,935.12	37.46	52.664		
13,200.00	12,446.00	11,317.59	10,511.00	45.46	39.31	-11.13	-421.62	797.06	1,972.12	1,934.33	37.78	52.195		
13,217.18	12,446.00	11,334.77	10,511.00	45.52	39.36	-11.13	-438.80	797.23	1,972.11	1,934.26	37.85	52.107		
13,300.00	12,446.00	11,417.59	10,511.00	45.84	39.67	-11.13	-521.62	798.04	1,972.11	1,933.94	38.16	51.677		
13,400.00	12,446.00	11,517.59	10,511.00	46.27	40.11	-11.13	-621.62	799.02	1,972.10	1,933.53	38.57	51.126		
13,500.00	12,446.00	11,617.59	10,511.00	46.75	40.63	-11.13	-721.61	799.99	1,972.10	1,933.09	39.02	50.546		
13,600.00	12,446.00	11,717.59	10,511.00	47.29	41.21	-11.13	-821.61	800.97	1,972.10	1,932.61	39.49	49.942		
13,700.00	12,446.00	11,817.59	10,511.00	47.87	41.85	-11.13	-921.60	801.94	1,972.10	1,932.11	39.99	49.316		
13,800.00	12,446.00	11,917.59	10,511.00	48.50	42.54	-11.13	-1,021.60	802.92	1,972.10	1,931.58	40.52	48.672		
13,900.00	12,446.00	12,017.59	10,511.00	49.18	43.28	-11.13	-1,121.59	803.89	1,972.10	1,931.02	41.07	48.013		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design PF Fed Com - PF Fed Com 502H - 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	12,446.00	12,117.59	10,511.00	49.90	44.07	-11.13	-1,221.59	804.87	1,972.09	1,930.44	41.66	47.343		
14,100.00	12,446.00	12,217.59	10,511.00	50.66	44.90	-11.13	-1,321.58	805.85	1,972.09	1,929.83	42.26	46.664		
14,200.00	12,446.00	12,317.59	10,511.00	51.47	45.78	-11.13	-1,421.58	806.82	1,972.09	1,929.20	42.89	45.980		
14,300.00	12,446.00	12,417.59	10,511.00	52.31	46.70	-11.13	-1,521.57	807.80	1,972.09	1,928.55	43.54	45.292		
14,400.00	12,446.00	12,517.59	10,511.00	53.19	47.66	-11.13	-1,621.57	808.77	1,972.09	1,927.87	44.21	44.603		
14,500.00	12,446.00	12,617.59	10,511.00	54.11	48.65	-11.13	-1,721.56	809.75	1,972.09	1,927.18	44.91	43.914		
14,600.00	12,446.00	12,717.59	10,511.00	55.06	49.68	-11.13	-1,821.56	810.72	1,972.08	1,926.46	45.62	43.228		
14,700.00	12,446.00	12,817.59	10,511.00	56.05	50.74	-11.13	-1,921.55	811.70	1,972.08	1,925.73	46.35	42.546		
14,800.00	12,446.00	12,917.59	10,511.00	57.06	51.83	-11.13	-2,021.55	812.68	1,972.08	1,924.98	47.10	41.870		
14,900.00	12,446.00	13,017.59	10,511.00	58.11	52.95	-11.13	-2,121.54	813.65	1,972.08	1,924.21	47.87	41.199		
15,000.00	12,446.00	13,117.59	10,511.00	59.18	54.09	-11.13	-2,221.54	814.63	1,972.08	1,923.43	48.65	40.537		
15,100.00	12,446.00	13,217.59	10,511.00	60.28	55.26	-11.13	-2,321.53	815.60	1,972.08	1,922.63	49.45	39.883		
15,200.00	12,446.00	13,317.59	10,511.00	61.40	56.46	-11.13	-2,421.53	816.58	1,972.08	1,921.82	50.26	39.238		
15,300.00	12,446.00	13,417.59	10,511.00	62.54	57.67	-11.13	-2,521.52	817.55	1,972.07	1,920.99	51.09	38.603		
15,400.00	12,446.00	13,517.59	10,511.00	63.71	58.91	-11.13	-2,621.52	818.53	1,972.07	1,920.15	51.93	37.979		
15,500.00	12,446.00	13,617.59	10,511.00	64.90	60.17	-11.13	-2,721.52	819.50	1,972.07	1,919.29	52.78	37.366		
15,600.00	12,446.00	13,717.59	10,511.00	66.11	61.44	-11.13	-2,821.51	820.48	1,972.07	1,918.43	53.64	36.763		
15,700.00	12,446.00	13,817.59	10,511.00	67.34	62.74	-11.13	-2,921.51	821.46	1,972.07	1,917.55	54.52	36.174		
15,800.00	12,446.00	13,917.59	10,511.00	68.58	64.05	-11.13	-3,021.50	822.43	1,972.07	1,916.66	55.40	35.596		
15,900.00	12,446.00	14,017.59	10,511.00	69.84	65.37	-11.13	-3,121.50	823.41	1,972.06	1,915.77	56.30	35.030		
16,000.00	12,446.00	14,117.59	10,511.00	71.12	66.71	-11.13	-3,221.49	824.38	1,972.06	1,914.86	57.20	34.475		
16,100.00	12,446.00	14,217.59	10,511.00	72.41	68.06	-11.13	-3,321.49	825.36	1,972.06	1,913.94	58.12	33.932		
16,200.00	12,446.00	14,317.59	10,511.00	73.72	69.43	-11.13	-3,421.48	826.33	1,972.06	1,913.02	59.04	33.401		
16,300.00	12,446.00	14,417.59	10,511.00	75.04	70.80	-11.13	-3,521.48	827.31	1,972.06	1,912.08	59.98	32.881		
16,400.00	12,446.00	14,517.59	10,511.00	76.37	72.19	-11.12	-3,621.47	828.29	1,972.06	1,911.14	60.92	32.373		
16,500.00	12,446.00	14,617.59	10,511.00	77.72	73.59	-11.12	-3,721.47	829.26	1,972.06	1,910.19	61.86	31.877		
16,600.00	12,446.00	14,717.59	10,511.00	79.08	75.00	-11.12	-3,821.46	830.24	1,972.05	1,909.23	62.82	31.392		
16,700.00	12,446.00	14,817.59	10,511.00	80.45	76.42	-11.12	-3,921.46	831.21	1,972.05	1,908.27	63.78	30.918		
16,800.00	12,446.00	14,917.59	10,511.00	81.82	77.85	-11.12	-4,021.45	832.19	1,972.05	1,907.30	64.75	30.456		
16,900.00	12,446.00	15,017.59	10,511.00	83.21	79.28	-11.12	-4,121.45	833.16	1,972.05	1,906.32	65.73	30.003		
17,000.00	12,446.00	15,117.59	10,511.00	84.61	80.73	-11.12	-4,221.44	834.14	1,972.05	1,905.34	66.71	29.561		
17,100.00	12,446.00	15,217.59	10,511.00	86.02	82.18	-11.12	-4,321.44	835.12	1,972.05	1,904.35	67.70	29.130		
17,200.00	12,446.00	15,317.59	10,511.00	87.43	83.64	-11.12	-4,421.43	836.09	1,972.04	1,903.35	68.69	28.709		
17,300.00	12,446.00	15,417.59	10,511.00	88.86	85.11	-11.12	-4,521.43	837.07	1,972.04	1,902.35	69.69	28.298		
17,400.00	12,446.00	15,517.59	10,511.00	90.29	86.58	-11.12	-4,621.42	838.04	1,972.04	1,901.35	70.69	27.896		
17,500.00	12,446.00	15,617.59	10,511.00	91.73	88.06	-11.12	-4,721.42	839.02	1,972.04	1,900.34	71.70	27.504		
17,600.00	12,446.00	15,717.59	10,511.00	93.17	89.55	-11.12	-4,821.42	839.99	1,972.04	1,899.33	72.71	27.121		
17,700.00	12,446.00	15,817.59	10,511.00	94.63	91.04	-11.12	-4,921.41	840.97	1,972.04	1,898.31	73.73	26.747		
17,800.00	12,446.00	15,917.59	10,511.00	96.09	92.54	-11.12	-5,021.41	841.95	1,972.03	1,897.28	74.75	26.381		
17,900.00	12,446.00	16,017.59	10,511.00	97.55	94.04	-11.12	-5,121.40	842.92	1,972.03	1,896.26	75.78	26.024		
18,000.00	12,446.00	16,117.59	10,511.00	99.02	95.55	-11.12	-5,221.40	843.90	1,972.03	1,895.22	76.81	25.675		
18,100.00	12,446.00	16,217.59	10,511.00	100.50	97.06	-11.12	-5,321.39	844.87	1,972.03	1,894.19	77.84	25.334		
18,200.00	12,446.00	16,317.59	10,511.00	101.98	98.57	-11.12	-5,421.39	845.85	1,972.03	1,893.15	78.88	25.001		
18,300.00	12,446.00	16,417.59	10,511.00	103.47	100.09	-11.12	-5,521.38	846.82	1,972.03	1,892.11	79.92	24.675		
18,400.00	12,446.00	16,517.59	10,511.00	104.96	101.62	-11.12	-5,621.38	847.80	1,972.03	1,891.06	80.96	24.357		
18,500.00	12,446.00	16,617.59	10,511.00	106.46	103.15	-11.12	-5,721.37	848.77	1,972.02	1,890.02	82.01	24.047		
18,600.00	12,446.00	16,717.59	10,511.00	107.96	104.68	-11.12	-5,821.37	849.75	1,972.02	1,888.96	83.06	23.743		
18,700.00	12,446.00	16,817.59	10,511.00	109.46	106.21	-11.12	-5,921.36	850.73	1,972.02	1,887.91	84.11	23.446		
18,800.00	12,446.00	16,917.59	10,511.00	110.97	107.75	-11.12	-6,021.36	851.70	1,972.02	1,886.85	85.17	23.155		
18,900.00	12,446.00	17,017.59	10,511.00	112.49	109.29	-11.12	-6,121.35	852.68	1,972.02	1,885.79	86.22	22.871		
19,000.00	12,446.00	17,117.59	10,511.00	114.00	110.84	-11.12	-6,221.35	853.65	1,972.02	1,884.73	87.29	22.592		
19,100.00	12,446.00	17,217.59	10,511.00	115.53	112.39	-11.12	-6,321.34	854.63	1,972.01	1,883.66	88.35	22.321		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design PF Fed Com - PF Fed Com 502H - 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	12,446.00	17,317.59	10,511.00	117.05	113.94	-11.12	-6,421.34	855.60	1,972.01	1,882.60	89.42	22.055		
19,300.00	12,446.00	17,417.59	10,511.00	118.58	115.49	-11.12	-6,521.33	856.58	1,972.01	1,881.53	90.48	21.794		
19,400.00	12,446.00	17,517.59	10,511.00	120.11	117.05	-11.12	-6,621.33	857.56	1,972.01	1,880.46	91.55	21.540		
19,500.00	12,446.00	17,617.59	10,511.00	121.64	118.61	-11.12	-6,721.32	858.53	1,972.01	1,879.38	92.62	21.290		
19,600.00	12,446.00	17,717.59	10,511.00	123.18	120.17	-11.12	-6,821.32	859.51	1,972.01	1,878.31	93.70	21.046		
19,700.00	12,446.00	17,817.59	10,511.00	124.72	121.74	-11.12	-6,921.32	860.48	1,972.01	1,877.23	94.77	20.807		
19,800.00	12,446.00	17,917.59	10,511.00	126.27	123.30	-11.12	-7,021.31	861.46	1,972.00	1,876.15	95.85	20.573		
19,900.00	12,446.00	18,017.59	10,511.00	127.81	124.87	-11.12	-7,121.31	862.43	1,972.00	1,875.07	96.93	20.344		
20,000.00	12,446.00	18,117.59	10,511.00	129.36	126.44	-11.12	-7,221.30	863.41	1,972.00	1,873.98	98.02	20.119		
20,100.00	12,446.00	18,217.59	10,511.00	130.91	128.01	-11.12	-7,321.30	864.39	1,972.00	1,872.90	99.10	19.899		
20,200.00	12,446.00	18,317.59	10,511.00	132.46	129.59	-11.12	-7,421.29	865.36	1,972.00	1,871.81	100.18	19.684		
20,300.00	12,446.00	18,417.59	10,511.00	134.02	131.16	-11.12	-7,521.29	866.34	1,972.00	1,870.73	101.27	19.473		
20,400.00	12,446.00	18,517.59	10,511.00	135.58	132.74	-11.12	-7,621.28	867.31	1,971.99	1,869.64	102.36	19.266		
20,500.00	12,446.00	18,617.59	10,511.00	137.14	134.32	-11.12	-7,721.28	868.29	1,971.99	1,868.55	103.45	19.063		
20,600.00	12,446.00	18,717.59	10,511.00	138.70	135.90	-11.12	-7,821.27	869.26	1,971.99	1,867.45	104.54	18.864		
20,700.00	12,446.00	18,817.59	10,511.00	140.27	137.49	-11.11	-7,921.27	870.24	1,971.99	1,866.36	105.63	18.669		
20,800.00	12,446.00	18,917.59	10,511.00	141.83	139.07	-11.11	-8,021.26	871.21	1,971.99	1,865.27	106.72	18.478		
20,900.00	12,446.00	19,017.59	10,511.00	143.40	140.66	-11.11	-8,121.26	872.19	1,971.99	1,864.17	107.82	18.290		
21,000.00	12,446.00	19,117.59	10,511.00	144.97	142.25	-11.11	-8,221.25	873.17	1,971.98	1,863.07	108.91	18.106		
21,100.00	12,446.00	19,217.59	10,511.00	146.54	143.84	-11.11	-8,321.25	874.14	1,971.98	1,861.97	110.01	17.925		
21,200.00	12,446.00	19,317.59	10,511.00	148.12	145.43	-11.11	-8,421.24	875.12	1,971.98	1,860.87	111.11	17.748		
21,300.00	12,446.00	19,417.59	10,511.00	149.69	147.02	-11.11	-8,521.24	876.09	1,971.98	1,859.77	112.21	17.574		
21,400.00	12,446.00	19,517.59	10,511.00	151.27	148.61	-11.11	-8,621.23	877.07	1,971.98	1,858.66	113.31	17.403		
21,500.00	12,446.00	19,617.59	10,511.00	152.85	150.21	-11.11	-8,721.23	878.04	1,971.98	1,857.56	114.42	17.235		
21,600.00	12,446.00	19,717.59	10,511.00	154.43	151.80	-11.11	-8,821.23	879.02	1,971.98	1,856.46	115.52	17.071		
21,700.00	12,446.00	19,817.59	10,511.00	156.01	153.40	-11.11	-8,921.22	880.00	1,971.97	1,855.35	116.62	16.909		
21,800.00	12,446.00	19,917.59	10,511.00	157.59	155.00	-11.11	-9,021.22	880.97	1,971.97	1,854.25	117.73	16.750		
21,900.00	12,446.00	20,017.59	10,511.00	159.18	156.60	-11.11	-9,121.21	881.95	1,971.97	1,853.14	118.83	16.594		
22,000.00	12,446.00	20,117.59	10,511.00	160.76	158.20	-11.11	-9,221.21	882.92	1,971.97	1,852.03	119.94	16.441		
22,100.00	12,446.00	20,217.59	10,511.00	162.35	159.80	-11.11	-9,321.20	883.90	1,971.97	1,850.92	121.05	16.291		
22,200.00	12,446.00	20,317.59	10,511.00	163.94	161.40	-11.11	-9,421.20	884.87	1,971.97	1,849.81	122.16	16.143		
22,300.00	12,446.00	20,417.59	10,511.00	165.53	163.00	-11.11	-9,521.19	885.85	1,971.96	1,848.70	123.27	15.998		
22,400.00	12,446.00	20,517.59	10,511.00	167.12	164.61	-11.11	-9,621.19	886.83	1,971.96	1,847.59	124.38	15.855		
22,500.00	12,446.00	20,617.59	10,511.00	168.71	166.21	-11.11	-9,721.18	887.80	1,971.96	1,846.48	125.49	15.715		
22,600.00	12,446.00	20,717.59	10,511.00	170.30	167.82	-11.11	-9,821.18	888.78	1,971.96	1,845.36	126.60	15.577		
22,700.00	12,446.00	20,817.59	10,511.00	171.90	169.43	-11.11	-9,921.17	889.75	1,971.96	1,844.25	127.71	15.441		
22,800.00	12,446.00	20,917.59	10,511.00	173.49	171.03	-11.11	-10,021.17	890.73	1,971.96	1,843.14	128.82	15.308		
22,900.00	12,446.00	21,017.59	10,511.00	175.09	172.64	-11.11	-10,121.16	891.70	1,971.96	1,842.02	129.93	15.177		
23,000.00	12,446.00	21,117.59	10,511.00	176.69	174.25	-11.11	-10,221.16	892.68	1,971.95	1,840.90	131.05	15.047		
23,100.00	12,446.00	21,217.59	10,511.00	178.28	175.86	-11.11	-10,321.15	893.65	1,971.95	1,839.79	132.16	14.921		
23,200.00	12,446.00	21,317.59	10,511.00	179.88	177.47	-11.11	-10,421.15	894.63	1,971.95	1,838.67	133.28	14.796		
23,300.00	12,446.00	21,417.59	10,511.00	181.48	179.08	-11.11	-10,521.14	895.61	1,971.95	1,837.55	134.40	14.673		
23,400.00	12,446.00	21,517.59	10,511.00	183.08	180.70	-11.11	-10,621.14	896.58	1,971.95	1,836.44	135.51	14.552		
23,500.00	12,446.00	21,617.59	10,511.00	184.69	182.31	-11.11	-10,721.13	897.56	1,971.95	1,835.32	136.63	14.433		
23,600.00	12,446.00	21,717.59	10,511.00	186.29	183.92	-11.11	-10,821.13	898.53	1,971.94	1,834.20	137.74	14.316		
23,700.00	12,446.00	21,817.59	10,511.00	187.89	185.54	-11.11	-10,921.13	899.51	1,971.94	1,833.08	138.86	14.201		
23,800.00	12,446.00	21,917.59	10,511.00	189.50	187.15	-11.11	-11,021.12	900.48	1,971.94	1,831.96	139.98	14.087		
23,900.00	12,446.00	22,017.59	10,511.00	191.10	188.77	-11.11	-11,121.12	901.46	1,971.94	1,830.84	141.10	13.976		
23,928.74	12,446.00	22,046.30	10,511.00	191.56	189.23	-11.11	-11,149.82	901.74	1,971.94	1,830.52	141.42	13.944		
23,929.64	12,446.00	22,046.30	10,511.00	191.58	189.23	-11.11	-11,149.82	901.74	1,971.94	1,830.51	141.43	13.943		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-90.54	-0.23	-25.09	25.09					
100.00	100.00	100.00	100.00	0.13	0.13	-90.54	-0.23	-25.09	25.09	24.91	0.18	141.407		
200.00	200.00	200.00	200.00	0.48	0.48	-90.54	-0.23	-25.09	25.09	24.41	0.68	36.661		
300.00	300.00	300.00	300.00	0.84	0.84	-90.54	-0.23	-25.09	25.09	23.90	1.19	21.061		
400.00	400.00	400.00	400.00	1.20	1.20	-90.54	-0.23	-25.09	25.09	23.39	1.70	14.774		
500.00	500.00	500.00	500.00	1.56	1.56	-90.54	-0.23	-25.09	25.09	22.89	2.21	11.378		
600.00	600.00	600.00	600.00	1.92	1.92	-90.54	-0.23	-25.09	25.09	22.38	2.71	9.251		
700.00	700.00	700.00	700.00	2.28	2.28	-90.54	-0.23	-25.09	25.09	21.87	3.22	7.794		
800.00	800.00	800.00	800.00	2.63	2.63	-90.54	-0.23	-25.09	25.09	21.36	3.73	6.734		
900.00	900.00	900.00	900.00	2.99	2.99	-90.54	-0.23	-25.09	25.09	20.86	4.23	5.927		
1,000.00	1,000.00	1,000.00	1,000.00	3.35	3.35	-90.54	-0.23	-25.09	25.09	20.35	4.74	5.293		
1,100.00	1,100.00	1,100.00	1,100.00	3.71	3.71	-90.54	-0.23	-25.09	25.09	19.84	5.25	4.782		
1,200.00	1,200.00	1,200.00	1,200.00	4.07	4.07	-90.54	-0.23	-25.09	25.09	19.34	5.75	4.361		
1,300.00	1,300.00	1,300.00	1,300.00	4.43	4.43	-90.54	-0.23	-25.09	25.09	18.83	6.26	4.008		
1,400.00	1,400.00	1,400.00	1,400.00	4.79	4.79	-90.54	-0.23	-25.09	25.09	18.32	6.77	3.707		
1,500.00	1,500.00	1,500.00	1,500.00	5.14	5.14	-90.54	-0.23	-25.09	25.09	17.82	7.27	3.449		
1,600.00	1,600.00	1,600.00	1,600.00	5.50	5.50	-90.54	-0.23	-25.09	25.09	17.31	7.78	3.224		
1,700.00	1,700.00	1,700.00	1,700.00	5.86	5.86	-90.54	-0.23	-25.09	25.09	16.80	8.29	3.027		
1,800.00	1,800.00	1,800.00	1,800.00	6.22	6.22	-90.54	-0.23	-25.09	25.09	16.29	8.80	2.853		
1,900.00	1,900.00	1,900.00	1,900.00	6.58	6.58	-90.54	-0.23	-25.09	25.09	15.79	9.30	2.697		
2,000.00	2,000.00	2,000.00	2,000.00	6.94	6.94	-90.54	-0.23	-25.09	25.09	15.28	9.81	2.558 CC, ES		
2,100.00	2,100.00	2,099.53	2,099.52	7.29	7.29	-88.43	0.71	-25.98	25.99	15.68	10.31	2.520 SF		
2,200.00	2,200.00	2,198.93	2,198.84	7.65	7.64	-82.94	3.55	-28.63	28.87	18.07	10.81	2.672		
2,300.00	2,299.99	2,298.09	2,297.78	8.01	8.00	-107.29	8.25	-33.04	34.49	23.20	11.29	3.055		
2,400.00	2,399.91	2,396.87	2,396.15	8.37	8.35	-105.26	14.80	-39.17	43.13	31.36	11.77	3.665		
2,500.00	2,499.69	2,495.15	2,493.76	8.72	8.71	-105.06	23.16	-47.00	54.64	42.39	12.24	4.463		
2,600.00	2,599.27	2,593.29	2,590.93	9.08	9.06	-105.86	33.22	-56.42	68.84	56.11	12.73	5.409		
2,685.78	2,684.47	2,678.01	2,674.74	9.39	9.38	-107.48	42.26	-64.88	82.02	68.86	13.16	6.232		
2,700.00	2,698.58	2,692.05	2,688.63	9.44	9.43	-107.82	43.75	-66.28	84.27	71.03	13.24	6.367		
2,800.00	2,797.77	2,790.73	2,786.26	9.81	9.80	-109.84	54.27	-76.14	100.10	86.35	13.75	7.281		
2,900.00	2,896.96	2,889.42	2,883.88	10.17	10.18	-111.30	64.80	-85.99	116.01	101.75	14.26	8.135		
3,000.00	2,996.15	2,988.11	2,981.51	10.54	10.56	-112.41	75.32	-95.85	131.99	117.21	14.78	8.931		
3,100.00	3,095.35	3,086.80	3,079.14	10.92	10.94	-113.28	85.84	-105.70	148.00	132.70	15.30	9.674		
3,200.00	3,194.54	3,185.48	3,176.77	11.29	11.32	-113.98	96.36	-115.55	164.04	148.22	15.82	10.369		
3,300.00	3,293.73	3,284.17	3,274.40	11.67	11.71	-114.56	106.88	-125.41	180.09	163.75	16.34	11.019		
3,400.00	3,392.92	3,382.86	3,372.03	12.05	12.10	-115.04	117.40	-135.26	196.17	179.30	16.87	11.628		
3,500.00	3,492.12	3,481.55	3,469.66	12.43	12.49	-115.45	127.92	-145.12	212.25	194.85	17.40	12.200		
3,600.00	3,591.31	3,580.24	3,567.29	12.81	12.88	-115.80	138.45	-154.97	228.34	210.42	17.93	12.737		
3,700.00	3,690.50	3,678.92	3,664.92	13.20	13.27	-116.10	148.97	-164.82	244.44	225.99	18.46	13.243		
3,800.00	3,789.69	3,777.61	3,762.55	13.58	13.67	-116.37	159.49	-174.68	260.55	241.56	18.99	13.720		
3,900.00	3,888.89	3,876.30	3,860.18	13.97	14.07	-116.60	170.01	-184.53	276.66	257.14	19.53	14.169		
4,000.00	3,988.08	3,974.99	3,957.80	14.36	14.46	-116.81	180.53	-194.38	292.78	272.72	20.06	14.595		
4,100.00	4,087.27	4,073.67	4,055.43	14.75	14.86	-117.00	191.05	-204.24	308.90	288.30	20.60	14.997		
4,200.00	4,186.46	4,172.36	4,153.06	15.14	15.26	-117.17	201.58	-214.09	325.02	303.88	21.13	15.378		
4,300.00	4,285.66	4,271.05	4,250.69	15.53	15.67	-117.33	212.10	-223.95	341.14	319.47	21.67	15.740		
4,400.00	4,384.85	4,369.74	4,348.32	15.92	16.07	-117.46	222.62	-233.80	357.27	335.05	22.21	16.084		
4,500.00	4,484.04	4,468.42	4,445.95	16.31	16.47	-117.59	233.14	-243.65	373.40	350.64	22.75	16.410		
4,600.00	4,583.23	4,567.11	4,543.58	16.71	16.87	-117.71	243.66	-253.51	389.53	366.23	23.29	16.722		
4,700.00	4,682.42	4,665.80	4,641.21	17.10	17.28	-117.82	254.18	-263.36	405.66	381.82	23.84	17.018		
4,800.00	4,781.62	4,764.49	4,738.84	17.50	17.68	-117.92	264.71	-273.22	421.79	397.41	24.38	17.301		
4,900.00	4,880.81	4,863.17	4,836.47	17.89	18.09	-118.01	275.23	-283.07	437.92	413.00	24.92	17.571		
5,000.00	4,980.00	4,961.86	4,934.10	18.29	18.50	-118.09	285.75	-292.92	454.06	428.59	25.47	17.829		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.00	5,079.19	5,060.55	5,031.72	18.68	18.90	-118.17	296.27	-302.78	470.19	444.18	26.01	18.076		
5,200.00	5,178.39	5,159.24	5,129.35	19.08	19.31	-118.25	306.79	-312.63	486.33	459.77	26.56	18.312		
5,300.00	5,277.58	5,257.92	5,226.98	19.48	19.72	-118.32	317.31	-322.49	502.47	475.36	27.10	18.539		
5,400.00	5,376.77	5,356.61	5,324.61	19.87	20.13	-118.38	327.84	-332.34	518.60	490.95	27.65	18.756		
5,500.00	5,475.96	5,455.30	5,422.24	20.27	20.54	-118.44	338.36	-342.19	534.74	506.55	28.20	18.965		
5,600.00	5,575.16	5,553.99	5,519.87	20.67	20.95	-118.50	348.88	-352.05	550.88	522.14	28.74	19.165		
5,700.00	5,674.35	5,652.67	5,617.50	21.07	21.36	-118.56	359.40	-361.90	567.02	537.73	29.29	19.358		
5,800.00	5,773.54	5,751.36	5,715.13	21.47	21.77	-118.61	369.92	-371.75	583.16	553.32	29.84	19.543		
5,900.00	5,872.73	5,850.05	5,812.76	21.87	22.18	-118.66	380.44	-381.61	599.30	568.91	30.39	19.721		
6,000.00	5,971.93	5,948.74	5,910.39	22.27	22.59	-118.70	390.96	-391.46	615.44	584.50	30.94	19.893		
6,100.00	6,071.12	6,047.43	6,008.02	22.67	23.00	-118.75	401.49	-401.32	631.58	600.10	31.49	20.059		
6,200.00	6,170.31	6,146.11	6,105.64	23.07	23.41	-118.79	412.01	-411.17	647.72	615.69	32.04	20.218		
6,300.00	6,269.50	6,244.80	6,203.27	23.47	23.82	-118.83	422.53	-421.02	663.87	631.28	32.59	20.372		
6,400.00	6,368.70	6,343.49	6,300.90	23.87	24.24	-118.86	433.05	-430.88	680.01	646.87	33.14	20.521		
6,500.00	6,467.89	6,442.18	6,398.53	24.27	24.65	-118.90	443.57	-440.73	696.15	662.46	33.69	20.665		
6,600.00	6,567.08	6,540.86	6,496.16	24.67	25.06	-118.93	454.09	-450.59	712.29	678.06	34.24	20.804		
6,700.00	6,666.27	6,639.55	6,593.79	25.07	25.47	-118.97	464.62	-460.44	728.44	693.65	34.79	20.939		
6,800.00	6,765.47	6,738.24	6,691.42	25.47	25.89	-119.00	475.14	-470.29	744.58	709.24	35.34	21.069		
6,900.00	6,864.66	6,836.93	6,789.05	25.88	26.30	-119.03	485.66	-480.15	760.72	724.83	35.89	21.195		
6,982.54	6,946.53	6,925.10	6,876.32	26.21	26.66	-119.07	494.83	-488.74	773.86	737.48	36.39	21.268		
7,000.00	6,963.85	6,945.12	6,896.17	26.28	26.75	-119.13	496.75	-490.53	776.48	739.99	36.50	21.274		
7,100.00	7,063.25	7,060.29	7,010.60	26.67	27.20	-119.40	506.27	-499.45	789.55	752.43	37.12	21.268		
7,200.00	7,162.90	7,176.15	7,126.05	27.05	27.64	-119.63	513.30	-506.04	799.31	761.59	37.72	21.190		
7,300.00	7,262.74	7,292.49	7,242.22	27.41	28.06	-119.80	517.79	-510.24	805.72	767.44	38.29	21.044		
7,400.00	7,362.69	7,409.10	7,358.79	27.77	28.46	-119.92	519.69	-512.02	808.78	769.96	38.82	20.832		
7,468.32	7,431.00	7,481.30	7,431.00	28.00	28.70	-90.65	519.77	-512.09	809.14	769.98	39.16	20.662		
7,500.00	7,462.68	7,512.99	7,462.68	28.10	28.80	-90.65	519.77	-512.09	809.14	769.83	39.31	20.583		
7,600.00	7,562.68	7,612.99	7,562.68	28.44	29.13	-90.65	519.77	-512.09	809.14	769.35	39.79	20.336		
7,700.00	7,662.68	7,712.99	7,662.68	28.78	29.46	-90.65	519.77	-512.09	809.14	768.88	40.27	20.095		
7,800.00	7,762.68	7,812.99	7,762.68	29.11	29.79	-90.65	519.77	-512.09	809.14	768.40	40.75	19.859		
7,900.00	7,862.68	7,912.99	7,862.68	29.45	30.11	-90.65	519.77	-512.09	809.14	767.92	41.22	19.628		
8,000.00	7,962.68	8,012.99	7,962.68	29.79	30.44	-90.65	519.77	-512.09	809.14	767.44	41.70	19.402		
8,100.00	8,062.68	8,112.99	8,062.68	30.13	30.78	-90.65	519.77	-512.09	809.14	766.96	42.18	19.181		
8,200.00	8,162.68	8,212.99	8,162.68	30.46	31.11	-90.65	519.77	-512.09	809.14	766.48	42.67	18.965		
8,300.00	8,262.68	8,312.99	8,262.68	30.80	31.44	-90.65	519.77	-512.09	809.14	765.99	43.15	18.753		
8,400.00	8,362.68	8,412.99	8,362.68	31.14	31.77	-90.65	519.77	-512.09	809.14	765.51	43.63	18.546		
8,500.00	8,462.68	8,512.99	8,462.68	31.48	32.10	-90.65	519.77	-512.09	809.14	765.03	44.11	18.343		
8,600.00	8,562.68	8,612.99	8,562.68	31.82	32.44	-90.65	519.77	-512.09	809.14	764.55	44.60	18.144		
8,700.00	8,662.68	8,712.99	8,662.68	32.16	32.77	-90.65	519.77	-512.09	809.14	764.06	45.08	17.949		
8,800.00	8,762.68	8,812.99	8,762.68	32.50	33.11	-90.65	519.77	-512.09	809.14	763.58	45.56	17.758		
8,900.00	8,862.68	8,912.99	8,862.68	32.85	33.44	-90.65	519.77	-512.09	809.14	763.09	46.05	17.571		
9,000.00	8,962.68	9,012.99	8,962.68	33.19	33.78	-90.65	519.77	-512.09	809.14	762.61	46.53	17.388		
9,100.00	9,062.68	9,112.99	9,062.68	33.53	34.11	-90.65	519.77	-512.09	809.14	762.12	47.02	17.208		
9,200.00	9,162.68	9,212.99	9,162.68	33.87	34.45	-90.65	519.77	-512.09	809.14	761.64	47.51	17.032		
9,300.00	9,262.68	9,312.99	9,262.68	34.22	34.79	-90.65	519.77	-512.09	809.14	761.15	47.99	16.860		
9,400.00	9,362.68	9,412.99	9,362.68	34.56	35.12	-90.65	519.77	-512.09	809.14	760.66	48.48	16.690		
9,500.00	9,462.68	9,512.99	9,462.68	34.90	35.46	-90.65	519.77	-512.09	809.14	760.17	48.97	16.524		
9,600.00	9,562.68	9,612.99	9,562.68	35.25	35.80	-90.65	519.77	-512.09	809.14	759.69	49.46	16.361		
9,700.00	9,662.68	9,712.99	9,662.68	35.59	36.14	-90.65	519.77	-512.09	809.14	759.20	49.94	16.201		
9,800.00	9,762.68	9,812.99	9,762.68	35.93	36.48	-90.65	519.77	-512.09	809.14	758.71	50.43	16.044		
9,900.00	9,862.68	9,912.99	9,862.68	36.28	36.82	-90.65	519.77	-512.09	809.14	758.22	50.92	15.890		
10,000.00	9,962.68	10,012.99	9,962.68	36.62	37.16	-90.65	519.77	-512.09	809.14	757.73	51.41	15.739		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,100.00	10,062.68	10,112.99	10,062.68	36.97	37.50	-90.65	519.77	-512.09	809.14	757.24	51.90	15.590		
10,200.00	10,162.68	10,212.99	10,162.68	37.31	37.84	-90.65	519.77	-512.09	809.14	756.75	52.39	15.445		
10,300.00	10,262.68	10,312.99	10,262.68	37.66	38.18	-90.65	519.77	-512.09	809.14	756.26	52.88	15.301		
10,400.00	10,362.68	10,412.99	10,362.68	38.01	38.52	-90.65	519.77	-512.09	809.14	755.77	53.37	15.161		
10,500.00	10,462.68	10,512.99	10,462.68	38.35	38.86	-90.65	519.77	-512.09	809.14	755.28	53.86	15.023		
10,600.00	10,562.68	10,612.99	10,562.68	38.70	39.20	-90.65	519.77	-512.09	809.14	754.79	54.35	14.887		
10,700.00	10,662.68	10,712.99	10,662.68	39.04	39.54	-90.65	519.77	-512.09	809.14	754.30	54.84	14.753		
10,800.00	10,762.68	10,812.99	10,762.68	39.39	39.89	-90.65	519.77	-512.09	809.14	753.81	55.34	14.622		
10,900.00	10,862.68	10,912.99	10,862.68	39.74	40.23	-90.65	519.77	-512.09	809.14	753.31	55.83	14.493		
11,000.00	10,962.68	11,012.99	10,962.68	40.09	40.57	-90.65	519.77	-512.09	809.14	752.82	56.32	14.367		
11,100.00	11,062.68	11,112.99	11,062.68	40.43	40.92	-90.65	519.77	-512.09	809.14	752.33	56.81	14.242		
11,200.00	11,162.68	11,212.99	11,162.68	40.78	41.26	-90.65	519.77	-512.09	809.14	751.84	57.31	14.120		
11,300.00	11,262.68	11,312.99	11,262.68	41.13	41.60	-90.65	519.77	-512.09	809.14	751.34	57.80	13.999		
11,400.00	11,362.68	11,412.99	11,362.68	41.48	41.95	-90.65	519.77	-512.09	809.14	750.85	58.29	13.881		
11,500.00	11,462.68	11,512.99	11,462.68	41.82	42.29	-90.65	519.77	-512.09	809.14	750.36	58.79	13.764		
11,600.00	11,562.68	11,612.99	11,562.68	42.17	42.64	-90.65	519.77	-512.09	809.14	749.86	59.28	13.650		
11,700.00	11,662.68	11,712.99	11,662.68	42.52	42.98	-90.65	519.77	-512.09	809.14	749.37	59.77	13.537		
11,800.00	11,762.68	11,812.99	11,762.68	42.87	43.32	-90.65	519.77	-512.09	809.14	748.87	60.27	13.426		
11,900.00	11,862.68	11,912.99	11,862.68	43.22	43.67	-90.65	519.77	-512.09	809.14	748.38	60.76	13.317		
11,910.36	11,873.04	11,923.34	11,873.04	43.25	43.71	-90.65	519.77	-512.09	809.14	748.33	60.81	13.305		
11,950.00	11,912.65	11,962.95	11,912.65	43.38	43.84	-98.12	519.77	-512.09	809.34	748.33	61.00	13.267		
12,000.00	11,962.32	12,012.62	11,962.32	43.53	44.01	98.43	519.77	-512.09	810.15	748.93	61.22	13.233		
12,050.00	12,011.30	12,062.65	12,012.31	43.66	44.17	98.88	518.28	-512.07	811.66	750.23	61.43	13.213		
12,100.00	12,059.24	12,113.52	12,062.82	43.78	44.32	99.26	512.37	-512.02	813.85	752.24	61.61	13.210		
12,150.00	12,105.76	12,165.15	12,113.35	43.89	44.45	99.57	501.81	-511.91	816.71	754.93	61.77	13.221		
12,200.00	12,150.50	12,217.57	12,163.45	43.98	44.57	99.80	486.49	-511.76	820.20	758.28	61.92	13.247		
12,250.00	12,193.14	12,270.77	12,212.67	44.06	44.68	99.96	466.33	-511.57	824.29	762.24	62.04	13.286		
12,300.00	12,233.34	12,324.76	12,260.47	44.13	44.77	100.04	441.29	-511.32	828.93	766.78	62.15	13.338		
12,350.00	12,270.79	12,379.51	12,306.33	44.18	44.85	100.04	411.42	-511.03	834.09	771.85	62.24	13.401		
12,400.00	12,305.22	12,435.02	12,349.70	44.22	44.91	99.96	376.81	-510.69	839.71	777.40	62.31	13.476		
12,450.00	12,336.36	12,491.25	12,390.01	44.25	44.96	99.79	337.64	-510.31	845.73	783.37	62.37	13.560		
12,500.00	12,363.98	12,548.16	12,426.70	44.27	44.99	99.55	294.17	-509.89	852.10	789.69	62.42	13.652		
12,550.00	12,387.85	12,605.70	12,459.23	44.29	45.00	99.22	246.74	-509.43	858.76	796.30	62.46	13.749		
12,600.00	12,407.81	12,663.81	12,487.09	44.29	45.00	98.81	195.77	-508.93	865.64	803.14	62.50	13.850		
12,650.00	12,423.70	12,722.42	12,509.81	44.30	44.99	98.34	141.78	-508.40	872.68	810.14	62.55	13.953		
12,700.00	12,435.40	12,781.45	12,527.00	44.31	44.97	97.78	85.34	-507.85	879.83	817.23	62.60	14.055		
12,750.00	12,442.82	12,840.81	12,538.35	44.34	44.94	97.17	27.10	-507.28	887.01	824.35	62.66	14.156		
12,800.00	12,445.90	12,900.40	12,543.62	44.41	44.90	96.49	-32.22	-506.70	894.17	831.44	62.73	14.254		
12,810.36	12,446.00	12,912.76	12,543.93	44.42	44.89	96.34	-44.58	-506.58	895.65	832.90	62.75	14.274		
12,900.00	12,446.00	13,003.15	12,544.00	44.59	44.86	96.24	-134.97	-505.70	906.89	843.98	62.91	14.415		
13,000.00	12,446.00	13,102.71	12,544.00	44.83	45.04	96.16	-234.52	-504.73	916.16	852.98	63.18	14.502		
13,100.00	12,446.00	13,202.54	12,544.00	45.12	45.32	96.11	-334.34	-503.76	921.97	858.45	63.52	14.515		
13,200.00	12,446.00	13,302.50	12,544.00	45.46	45.64	96.09	-434.31	-502.78	924.31	860.36	63.94	14.455		
13,217.18	12,446.00	13,319.68	12,544.00	45.52	45.71	96.09	-451.48	-502.61	924.36	860.33	64.03	14.437		
13,300.00	12,446.00	13,402.50	12,544.00	45.84	46.03	96.09	-534.30	-501.81	924.36	859.92	64.44	14.344		
13,400.00	12,446.00	13,502.50	12,544.00	46.27	46.46	96.09	-634.30	-500.83	924.37	859.35	65.02	14.216		
13,500.00	12,446.00	13,602.50	12,544.00	46.75	46.94	96.09	-734.29	-499.86	924.38	858.70	65.68	14.074		
13,600.00	12,446.00	13,702.50	12,544.00	47.29	47.47	96.09	-834.29	-498.88	924.39	857.97	66.41	13.918		
13,700.00	12,446.00	13,802.50	12,544.00	47.87	48.05	96.09	-934.28	-497.90	924.40	857.18	67.22	13.752		
13,800.00	12,446.00	13,902.50	12,544.00	48.50	48.68	96.09	-1,034.28	-496.93	924.41	856.31	68.10	13.575		
13,900.00	12,446.00	14,002.50	12,544.00	49.18	49.35	96.09	-1,134.27	-495.95	924.41	855.38	69.04	13.390		
14,000.00	12,446.00	14,102.50	12,544.00	49.90	50.07	96.09	-1,234.27	-494.98	924.42	854.38	70.04	13.198		

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 PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													PF Fed Com - PF Fed Com 801H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
14,100.00	12,446.00	14,202.50	12,544.00	50.66	50.83	96.09	-1,334.26	-494.00	924.43	853.32	71.11	12.999				
14,200.00	12,446.00	14,302.50	12,544.00	51.47	51.63	96.09	-1,434.26	-493.03	924.44	852.20	72.24	12.797				
14,300.00	12,446.00	14,402.50	12,544.00	52.31	52.47	96.09	-1,534.25	-492.05	924.45	851.02	73.42	12.590				
14,400.00	12,446.00	14,502.50	12,544.00	53.19	53.35	96.09	-1,634.25	-491.08	924.45	849.79	74.66	12.382				
14,500.00	12,446.00	14,602.50	12,544.00	54.11	54.26	96.09	-1,734.24	-490.10	924.46	848.51	75.95	12.172				
14,600.00	12,446.00	14,702.50	12,544.00	55.06	55.21	96.09	-1,834.24	-489.12	924.47	847.18	77.29	11.962				
14,700.00	12,446.00	14,802.50	12,544.00	56.05	56.19	96.09	-1,934.23	-488.15	924.48	845.81	78.67	11.751				
14,800.00	12,446.00	14,902.50	12,544.00	57.06	57.20	96.09	-2,034.23	-487.17	924.49	844.39	80.10	11.542				
14,900.00	12,446.00	15,002.50	12,544.00	58.11	58.23	96.09	-2,134.22	-486.20	924.50	842.93	81.56	11.335				
15,000.00	12,446.00	15,102.50	12,544.00	59.18	59.30	96.08	-2,234.22	-485.22	924.50	841.43	83.07	11.129				
15,100.00	12,446.00	15,202.50	12,544.00	60.28	60.39	96.08	-2,334.22	-484.25	924.51	839.90	84.61	10.926				
15,200.00	12,446.00	15,302.50	12,544.00	61.40	61.51	96.08	-2,434.21	-483.27	924.52	838.33	86.19	10.726				
15,300.00	12,446.00	15,402.50	12,544.00	62.54	62.65	96.08	-2,534.21	-482.30	924.53	836.72	87.80	10.529				
15,400.00	12,446.00	15,502.50	12,544.00	63.71	63.81	96.08	-2,634.20	-481.32	924.54	835.09	89.45	10.336				
15,500.00	12,446.00	15,602.50	12,544.00	64.90	65.00	96.08	-2,734.20	-480.34	924.54	833.42	91.12	10.146				
15,600.00	12,446.00	15,702.50	12,544.00	66.11	66.20	96.08	-2,834.19	-479.37	924.55	831.73	92.82	9.961				
15,700.00	12,446.00	15,802.50	12,544.00	67.34	67.42	96.08	-2,934.19	-478.39	924.56	830.01	94.55	9.779				
15,800.00	12,446.00	15,902.50	12,544.00	68.58	68.66	96.08	-3,034.18	-477.42	924.57	828.27	96.30	9.601				
15,900.00	12,446.00	16,002.50	12,544.00	69.84	69.92	96.08	-3,134.18	-476.44	924.58	826.50	98.08	9.427				
16,000.00	12,446.00	16,102.50	12,544.00	71.12	71.19	96.08	-3,234.17	-475.47	924.59	824.71	99.87	9.257				
16,100.00	12,446.00	16,202.50	12,544.00	72.41	72.48	96.08	-3,334.17	-474.49	924.59	822.90	101.70	9.092				
16,200.00	12,446.00	16,302.50	12,544.00	73.72	73.79	96.08	-3,434.16	-473.52	924.60	821.07	103.53	8.930				
16,300.00	12,446.00	16,402.50	12,544.00	75.04	75.10	96.08	-3,534.16	-472.54	924.61	819.22	105.39	8.773				
16,400.00	12,446.00	16,502.50	12,544.00	76.37	76.43	96.08	-3,634.15	-471.57	924.62	817.35	107.27	8.620				
16,500.00	12,446.00	16,602.50	12,544.00	77.72	77.77	96.08	-3,734.15	-470.59	924.63	815.46	109.16	8.470				
16,600.00	12,446.00	16,702.50	12,544.00	79.08	79.13	96.08	-3,834.14	-469.61	924.63	813.56	111.07	8.324				
16,700.00	12,446.00	16,802.50	12,544.00	80.45	80.49	96.08	-3,934.14	-468.64	924.64	811.64	113.00	8.183				
16,800.00	12,446.00	16,902.50	12,544.00	81.82	81.87	96.08	-4,034.13	-467.66	924.65	809.71	114.94	8.045				
16,900.00	12,446.00	17,002.50	12,544.00	83.21	83.25	96.08	-4,134.13	-466.69	924.66	807.76	116.90	7.910				
17,000.00	12,446.00	17,102.50	12,544.00	84.61	84.65	96.08	-4,234.12	-465.71	924.67	805.80	118.86	7.779				
17,100.00	12,446.00	17,202.50	12,544.00	86.02	86.05	96.08	-4,334.12	-464.74	924.68	803.83	120.84	7.652				
17,200.00	12,446.00	17,302.50	12,544.00	87.43	87.46	96.08	-4,434.12	-463.76	924.68	801.85	122.84	7.528				
17,300.00	12,446.00	17,402.50	12,544.00	88.86	88.88	96.08	-4,534.11	-462.79	924.69	799.85	124.84	7.407				
17,400.00	12,446.00	17,502.50	12,544.00	90.29	90.31	96.08	-4,634.11	-461.81	924.70	797.85	126.85	7.289				
17,500.00	12,446.00	17,602.50	12,544.00	91.73	91.75	96.08	-4,734.10	-460.83	924.71	795.83	128.88	7.175				
17,600.00	12,446.00	17,702.50	12,544.00	93.17	93.19	96.08	-4,834.10	-459.86	924.72	793.80	130.91	7.064				
17,700.00	12,446.00	17,802.50	12,544.00	94.63	94.64	96.08	-4,934.09	-458.88	924.72	791.77	132.96	6.955				
17,800.00	12,446.00	17,902.50	12,544.00	96.09	96.10	96.08	-5,034.09	-457.91	924.73	789.72	135.01	6.849				
17,900.00	12,446.00	18,002.50	12,544.00	97.55	97.56	96.08	-5,134.08	-456.93	924.74	787.67	137.07	6.746				
18,000.00	12,446.00	18,102.50	12,544.00	99.02	99.03	96.08	-5,234.08	-455.96	924.75	785.61	139.14	6.646				
18,100.00	12,446.00	18,202.50	12,544.00	100.50	100.50	96.08	-5,334.07	-454.98	924.76	783.54	141.22	6.548				
18,200.00	12,446.00	18,302.50	12,544.00	101.98	101.98	96.08	-5,434.07	-454.01	924.77	781.46	143.31	6.453				
18,300.00	12,446.00	18,402.50	12,544.00	103.47	103.47	96.08	-5,534.06	-453.03	924.77	779.37	145.40	6.360				
18,400.00	12,446.00	18,502.50	12,544.00	104.96	104.96	96.08	-5,634.06	-452.05	924.78	777.28	147.50	6.270				
18,500.00	12,446.00	18,602.50	12,544.00	106.46	106.45	96.08	-5,734.05	-451.08	924.79	775.19	149.60	6.182				
18,600.00	12,446.00	18,702.50	12,544.00	107.96	107.95	96.08	-5,834.05	-450.10	924.80	773.08	151.72	6.096				
18,700.00	12,446.00	18,802.50	12,544.00	109.46	109.45	96.08	-5,934.04	-449.13	924.81	770.97	153.83	6.012				
18,800.00	12,446.00	18,902.50	12,544.00	110.97	110.96	96.08	-6,034.04	-448.15	924.81	768.86	155.96	5.930				
18,900.00	12,446.00	19,002.50	12,544.00	112.49	112.47	96.08	-6,134.03	-447.18	924.82	766.73	158.09	5.850				
19,000.00	12,446.00	19,102.50	12,544.00	114.00	113.99	96.08	-6,234.03	-446.20	924.83	764.61	160.22	5.772				
19,100.00	12,446.00	19,202.50	12,544.00	115.53	115.51	96.08	-6,334.03	-445.23	924.84	762.48	162.36	5.696				
19,200.00	12,446.00	19,302.50	12,544.00	117.05	117.03	96.08	-6,434.02	-444.25	924.85	760.34	164.51	5.622				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													PF Fed Com - PF 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)								
19,300.00	12,446.00	19,402.50	12,544.00	118.58	118.56	96.08	-6,534.02	-443.27	924.86	758.20	166.66	5.549				
19,400.00	12,446.00	19,502.50	12,544.00	120.11	120.08	96.08	-6,634.01	-442.30	924.86	756.05	168.81	5.479				
19,500.00	12,446.00	19,602.50	12,544.00	121.64	121.62	96.08	-6,734.01	-441.32	924.87	753.90	170.97	5.410				
19,600.00	12,446.00	19,702.50	12,544.00	123.18	123.15	96.08	-6,834.00	-440.35	924.88	751.75	173.13	5.342				
19,700.00	12,446.00	19,802.50	12,544.00	124.72	124.69	96.08	-6,934.00	-439.37	924.89	749.59	175.30	5.276				
19,800.00	12,446.00	19,902.50	12,544.00	126.27	126.23	96.08	-7,033.99	-438.40	924.90	747.43	177.47	5.212				
19,900.00	12,446.00	20,002.50	12,544.00	127.81	127.78	96.08	-7,133.99	-437.42	924.90	745.26	179.64	5.149				
20,000.00	12,446.00	20,102.50	12,544.00	129.36	129.33	96.08	-7,233.98	-436.45	924.91	743.09	181.82	5.087				
20,100.00	12,446.00	20,202.50	12,544.00	130.91	130.87	96.08	-7,333.98	-435.47	924.92	740.92	184.00	5.027				
20,200.00	12,446.00	20,302.50	12,544.00	132.46	132.43	96.08	-7,433.97	-434.50	924.93	738.74	186.19	4.968				
20,300.00	12,446.00	20,402.50	12,544.00	134.02	133.98	96.08	-7,533.97	-433.52	924.94	736.56	188.37	4.910				
20,400.00	12,446.00	20,502.50	12,544.00	135.58	135.54	96.08	-7,633.96	-432.54	924.95	734.38	190.56	4.854				
20,500.00	12,446.00	20,602.50	12,544.00	137.14	137.10	96.08	-7,733.96	-431.57	924.95	732.20	192.76	4.799				
20,600.00	12,446.00	20,702.50	12,544.00	138.70	138.66	96.08	-7,833.95	-430.59	924.96	730.01	194.95	4.744				
20,700.00	12,446.00	20,802.50	12,544.00	140.27	140.22	96.08	-7,933.95	-429.62	924.97	727.82	197.15	4.692				
20,800.00	12,446.00	20,902.50	12,544.00	141.83	141.79	96.08	-8,033.94	-428.64	924.98	725.62	199.36	4.640				
20,900.00	12,446.00	21,002.50	12,544.00	143.40	143.35	96.08	-8,133.94	-427.67	924.99	723.43	201.56	4.589				
21,000.00	12,446.00	21,102.50	12,544.00	144.97	144.92	96.08	-8,233.93	-426.69	924.99	721.23	203.77	4.539				
21,100.00	12,446.00	21,202.50	12,544.00	146.54	146.49	96.08	-8,333.93	-425.72	925.00	719.03	205.98	4.491				
21,200.00	12,446.00	21,302.50	12,544.00	148.12	148.06	96.08	-8,433.93	-424.74	925.01	716.82	208.19	4.443				
21,300.00	12,446.00	21,402.50	12,544.00	149.69	149.64	96.08	-8,533.92	-423.76	925.02	714.62	210.40	4.396				
21,400.00	12,446.00	21,502.50	12,544.00	151.27	151.21	96.08	-8,633.92	-422.79	925.03	712.41	212.62	4.351				
21,500.00	12,446.00	21,602.50	12,544.00	152.85	152.79	96.08	-8,733.91	-421.81	925.04	710.20	214.84	4.306				
21,600.00	12,446.00	21,702.50	12,544.00	154.43	154.37	96.08	-8,833.91	-420.84	925.04	707.98	217.06	4.262				
21,700.00	12,446.00	21,802.50	12,544.00	156.01	155.95	96.08	-8,933.90	-419.86	925.05	705.77	219.28	4.219				
21,800.00	12,446.00	21,902.50	12,544.00	157.59	157.53	96.08	-9,033.90	-418.89	925.06	703.55	221.51	4.176				
21,900.00	12,446.00	22,002.50	12,544.00	159.18	159.12	96.08	-9,133.89	-417.91	925.07	701.33	223.74	4.135				
22,000.00	12,446.00	22,102.50	12,544.00	160.76	160.70	96.08	-9,233.89	-416.94	925.08	699.11	225.96	4.094				
22,100.00	12,446.00	22,202.50	12,544.00	162.35	162.29	96.08	-9,333.88	-415.96	925.08	696.89	228.19	4.054				
22,200.00	12,446.00	22,302.50	12,544.00	163.94	163.87	96.08	-9,433.88	-414.98	925.09	694.67	230.43	4.015				
22,300.00	12,446.00	22,402.50	12,544.00	165.53	165.46	96.08	-9,533.87	-414.01	925.10	692.44	232.66	3.976				
22,400.00	12,446.00	22,502.50	12,544.00	167.12	167.05	96.08	-9,633.87	-413.03	925.11	690.21	234.90	3.938				
22,500.00	12,446.00	22,602.50	12,544.00	168.71	168.64	96.08	-9,733.86	-412.06	925.12	687.99	237.13	3.901				
22,600.00	12,446.00	22,702.50	12,544.00	170.30	170.24	96.08	-9,833.86	-411.08	925.13	685.76	239.37	3.865				
22,700.00	12,446.00	22,715.49	12,544.00	171.90	170.44	96.08	-9,846.84	-410.96	929.22	689.94	239.28	3.883				
22,800.00	12,446.00	22,715.49	12,544.00	173.49	170.44	96.08	-9,846.84	-410.96	943.86	707.99	235.87	4.002				
22,900.00	12,446.00	22,715.49	12,544.00	175.09	170.44	96.08	-9,846.84	-410.96	968.65	738.86	229.79	4.215				
23,000.00	12,446.00	22,715.49	12,544.00	176.69	170.44	96.08	-9,846.84	-410.96	1,002.85	781.04	221.81	4.521				
23,100.00	12,446.00	22,715.49	12,544.00	178.28	170.44	96.08	-9,846.84	-410.96	1,045.52	832.82	212.71	4.915				
23,200.00	12,446.00	22,715.49	12,544.00	179.88	170.44	96.08	-9,846.84	-410.96	1,095.69	892.53	203.16	5.393				
23,300.00	12,446.00	22,715.49	12,544.00	181.48	170.44	96.08	-9,846.84	-410.96	1,152.37	958.71	193.65	5.951				
23,400.00	12,446.00	22,715.49	12,544.00	183.08	170.44	96.08	-9,846.84	-410.96	1,214.65	1,030.12	184.53	6.583				
23,500.00	12,446.00	22,715.49	12,544.00	184.69	170.44	96.08	-9,846.84	-410.96	1,281.71	1,105.76	175.96	7.284				
23,600.00	12,446.00	22,715.49	12,544.00	186.29	170.44	96.08	-9,846.84	-410.96	1,352.85	1,184.82	168.04	8.051				
23,700.00	12,446.00	22,715.49	12,544.00	187.89	170.44	96.08	-9,846.84	-410.96	1,427.46	1,266.67	160.79	8.878				
23,800.00	12,446.00	22,715.49	12,544.00	189.50	170.44	96.08	-9,846.84	-410.96	1,505.01	1,350.81	154.20	9.760				
23,900.00	12,446.00	22,715.49	12,544.00	191.10	170.44	96.08	-9,846.84	-410.96	1,585.08	1,436.85	148.23	10.693				
23,929.64	12,446.00	22,715.49	12,544.00	191.58	170.44	96.08	-9,846.84	-410.96	1,609.24	1,462.67	146.57	10.979				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	89.46	0.23	24.78	24.78					
100.00	100.00	100.00	100.00	0.13	0.13	89.46	0.23	24.78	24.78	24.60	0.18	139.662		
200.00	200.00	200.00	200.00	0.48	0.48	89.46	0.23	24.78	24.78	24.10	0.68	36.209		
300.00	300.00	300.00	300.00	0.84	0.84	89.46	0.23	24.78	24.78	23.59	1.19	20.801		
400.00	400.00	400.00	400.00	1.20	1.20	89.46	0.23	24.78	24.78	23.08	1.70	14.592		
500.00	500.00	500.00	500.00	1.56	1.56	89.46	0.23	24.78	24.78	22.58	2.21	11.237		
600.00	600.00	600.00	600.00	1.92	1.92	89.46	0.23	24.78	24.78	22.07	2.71	9.137		
700.00	700.00	700.00	700.00	2.28	2.28	89.46	0.23	24.78	24.78	21.56	3.22	7.698		
800.00	800.00	800.00	800.00	2.63	2.63	89.46	0.23	24.78	24.78	21.05	3.73	6.651		
900.00	900.00	900.00	900.00	2.99	2.99	89.46	0.23	24.78	24.78	20.55	4.23	5.854		
1,000.00	1,000.00	1,000.00	1,000.00	3.35	3.35	89.46	0.23	24.78	24.78	20.04	4.74	5.228		
1,100.00	1,100.00	1,100.00	1,100.00	3.71	3.71	89.46	0.23	24.78	24.78	19.53	5.25	4.723		
1,200.00	1,200.00	1,200.00	1,200.00	4.07	4.07	89.46	0.23	24.78	24.78	19.03	5.75	4.307		
1,300.00	1,300.00	1,300.00	1,300.00	4.43	4.43	89.46	0.23	24.78	24.78	18.52	6.26	3.958		
1,400.00	1,400.00	1,400.00	1,400.00	4.79	4.79	89.46	0.23	24.78	24.78	18.01	6.77	3.662		
1,500.00	1,500.00	1,500.00	1,500.00	5.14	5.14	89.46	0.23	24.78	24.78	17.51	7.27	3.406		
1,600.00	1,600.00	1,600.00	1,600.00	5.50	5.50	89.46	0.23	24.78	24.78	17.00	7.78	3.184 CC, ES, SF		
1,700.00	1,700.00	1,699.17	1,699.15	5.86	5.85	88.02	0.91	26.36	26.39	18.11	8.28	3.187		
1,800.00	1,800.00	1,798.10	1,797.94	6.22	6.20	84.61	2.93	31.07	31.28	22.52	8.76	3.570		
1,900.00	1,900.00	1,896.56	1,896.03	6.58	6.55	80.82	6.28	38.87	39.57	30.34	9.23	4.287		
2,000.00	2,000.00	1,994.32	1,993.08	6.94	6.90	77.59	10.93	49.68	51.33	41.64	9.69	5.297		
2,100.00	2,100.00	2,091.17	2,088.77	7.29	7.26	75.14	16.81	63.37	66.52	56.38	10.14	6.562		
2,200.00	2,200.00	2,186.90	2,182.80	7.65	7.62	73.35	23.88	79.82	85.07	74.50	10.57	8.048		
2,300.00	2,299.99	2,281.54	2,275.13	8.01	7.99	42.98	32.08	98.92	105.99	95.00	10.99	9.644		
2,400.00	2,399.91	2,376.03	2,366.59	8.37	8.39	42.84	41.44	120.71	128.17	116.76	11.41	11.230		
2,500.00	2,499.69	2,473.71	2,460.88	8.72	8.81	43.35	51.51	144.15	149.53	137.62	11.91	12.554		
2,600.00	2,599.27	2,571.73	2,555.49	9.08	9.25	44.32	61.62	167.68	169.06	156.65	12.41	13.620		
2,685.78	2,684.47	2,656.03	2,636.87	9.39	9.63	45.43	70.31	187.91	184.43	171.58	12.85	14.354		
2,700.00	2,698.58	2,670.02	2,650.37	9.44	9.70	45.66	71.75	191.27	186.87	173.95	12.92	14.463		
2,800.00	2,797.77	2,768.40	2,745.34	9.81	10.15	47.10	81.90	214.88	204.13	190.70	13.44	15.193		
2,900.00	2,896.96	2,866.78	2,840.30	10.17	10.62	48.32	92.04	238.49	221.51	207.55	13.96	15.872		
3,000.00	2,996.15	2,965.16	2,935.26	10.54	11.10	49.36	102.18	262.10	238.96	224.48	14.48	16.503		
3,100.00	3,095.35	3,063.54	3,030.23	10.92	11.58	50.25	112.33	285.71	256.48	241.47	15.01	17.091		
3,200.00	3,194.54	3,161.91	3,125.19	11.29	12.07	51.04	122.47	309.32	274.05	258.51	15.54	17.638		
3,300.00	3,293.73	3,260.29	3,220.15	11.67	12.56	51.73	132.61	332.93	291.67	275.60	16.07	18.148		
3,400.00	3,392.92	3,358.67	3,315.12	12.05	13.05	52.34	142.76	356.54	309.32	292.71	16.61	18.624		
3,500.00	3,492.12	3,457.05	3,410.08	12.43	13.55	52.88	152.90	380.16	327.00	309.86	17.15	19.070		
3,600.00	3,591.31	3,555.43	3,505.04	12.81	14.06	53.37	163.04	403.77	344.71	327.02	17.69	19.487		
3,700.00	3,690.50	3,653.81	3,600.01	13.20	14.56	53.81	173.19	427.38	362.44	344.21	18.23	19.878		
3,800.00	3,789.69	3,752.19	3,694.97	13.58	15.07	54.21	183.33	450.99	380.19	361.41	18.78	20.245		
3,900.00	3,888.89	3,850.57	3,789.94	13.97	15.59	54.57	193.47	474.60	397.96	378.63	19.33	20.590		
4,000.00	3,988.08	3,948.95	3,884.90	14.36	16.10	54.91	203.62	498.21	415.74	395.86	19.88	20.915		
4,100.00	4,087.27	4,047.33	3,979.86	14.75	16.62	55.21	213.76	521.82	433.53	413.10	20.43	21.222		
4,200.00	4,186.46	4,145.71	4,074.83	15.14	17.14	55.50	223.90	545.43	451.33	430.35	20.98	21.511		
4,300.00	4,285.66	4,244.08	4,169.79	15.53	17.66	55.76	234.05	569.05	469.15	447.61	21.54	21.785		
4,400.00	4,384.85	4,342.46	4,264.75	15.92	18.18	56.00	244.19	592.66	486.97	464.88	22.09	22.044		
4,500.00	4,484.04	4,440.84	4,359.72	16.31	18.70	56.22	254.33	616.27	504.80	482.15	22.65	22.290		
4,600.00	4,583.23	4,539.22	4,454.68	16.71	19.23	56.43	264.48	639.88	522.64	499.43	23.20	22.523		
4,700.00	4,682.42	4,637.60	4,549.64	17.10	19.75	56.62	274.62	663.49	540.48	516.72	23.76	22.744		
4,800.00	4,781.62	4,735.98	4,644.61	17.50	20.28	56.81	284.76	687.10	558.33	534.00	24.32	22.954		
4,900.00	4,880.81	4,834.36	4,739.57	17.89	20.81	56.98	294.91	710.71	576.18	551.30	24.88	23.154		
5,000.00	4,980.00	4,932.74	4,834.53	18.29	21.34	57.14	305.05	734.32	594.04	568.60	25.45	23.345		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design PF Fed Com - PF 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		
5,100.00	5,079.19	5,031.12	4,929.50	18.68	21.87	57.29	315.20	757.94	611.90	585.90	26.01	23.527		
5,200.00	5,178.39	5,129.50	5,024.46	19.08	22.40	57.43	325.34	781.55	629.77	603.20	26.57	23.701		
5,300.00	5,277.58	5,227.88	5,119.42	19.48	22.93	57.57	335.48	805.16	647.64	620.51	27.14	23.867		
5,400.00	5,376.77	5,326.26	5,214.39	19.87	23.46	57.70	345.63	828.77	665.52	637.82	27.70	24.026		
5,500.00	5,475.96	5,424.63	5,309.35	20.27	24.00	57.82	355.77	852.38	683.39	655.13	28.27	24.178		
5,600.00	5,575.16	5,523.01	5,404.32	20.67	24.53	57.93	365.91	875.99	701.27	672.44	28.83	24.324		
5,700.00	5,674.35	5,621.39	5,499.28	21.07	25.06	58.04	376.06	899.60	719.15	689.76	29.40	24.463		
5,800.00	5,773.54	5,719.77	5,594.24	21.47	25.60	58.15	386.20	923.21	737.04	707.07	29.96	24.597		
5,900.00	5,872.73	5,818.15	5,689.21	21.87	26.14	58.25	396.34	946.82	754.93	724.39	30.53	24.726		
6,000.00	5,971.93	5,916.53	5,784.17	22.27	26.67	58.34	406.49	970.44	772.81	741.71	31.10	24.850		
6,100.00	6,071.12	6,014.91	5,879.13	22.67	27.21	58.43	416.63	994.05	790.71	759.04	31.67	24.969		
6,200.00	6,170.31	6,113.29	5,974.10	23.07	27.74	58.52	426.77	1,017.66	808.60	776.36	32.24	25.083		
6,300.00	6,269.50	6,211.67	6,069.06	23.47	28.28	58.60	436.92	1,041.27	826.49	793.69	32.81	25.193		
6,400.00	6,368.70	6,310.05	6,164.02	23.87	28.82	58.68	447.06	1,064.88	844.39	811.01	33.38	25.299		
6,500.00	6,467.89	6,408.43	6,258.99	24.27	29.36	58.75	457.20	1,088.49	862.29	828.34	33.95	25.402		
6,600.00	6,567.08	6,506.80	6,353.95	24.67	29.90	58.83	467.35	1,112.10	880.18	845.67	34.52	25.500		
6,700.00	6,666.27	6,605.18	6,448.91	25.07	30.43	58.90	477.49	1,135.71	898.08	863.00	35.09	25.596		
6,800.00	6,765.47	6,703.56	6,543.88	25.47	30.97	58.96	487.63	1,159.33	915.99	880.33	35.66	25.688		
6,900.00	6,864.66	6,801.94	6,638.84	25.88	31.51	59.03	497.78	1,182.94	933.89	897.66	36.23	25.777		
6,982.54	6,946.53	6,918.12	6,751.55	26.21	32.12	59.15	508.88	1,208.79	947.20	910.27	36.93	25.649		
7,000.00	6,963.85	6,943.03	6,775.86	26.28	32.24	59.22	511.03	1,213.79	949.64	912.57	37.07	25.615		
7,100.00	7,063.25	7,086.54	6,916.76	26.67	32.92	59.57	521.76	1,238.77	961.72	923.87	37.85	25.410		
7,200.00	7,162.90	7,231.21	7,059.99	27.05	33.52	59.85	529.75	1,257.36	970.49	931.96	38.53	25.186		
7,300.00	7,262.74	7,376.67	7,204.85	27.41	34.04	60.05	534.89	1,269.34	975.91	936.79	39.12	24.946		
7,400.00	7,362.69	7,522.54	7,350.59	27.77	34.49	60.17	537.13	1,274.54	977.96	938.34	39.61	24.688		
7,468.32	7,431.00	7,602.95	7,431.00	28.00	34.71	89.52	537.23	1,274.78	977.81	937.89	39.92	24.494		
7,500.00	7,462.68	7,634.63	7,462.68	28.10	34.79	89.52	537.23	1,274.78	977.81	937.75	40.07	24.405		
7,600.00	7,562.68	7,734.63	7,562.68	28.44	35.06	89.52	537.23	1,274.78	977.81	937.29	40.53	24.127		
7,700.00	7,662.68	7,834.63	7,662.68	28.78	35.33	89.52	537.23	1,274.78	977.81	936.82	40.99	23.855		
7,800.00	7,762.68	7,934.63	7,762.68	29.11	35.61	89.52	537.23	1,274.78	977.81	936.36	41.45	23.588		
7,900.00	7,862.68	8,034.63	7,862.68	29.45	35.88	89.52	537.23	1,274.78	977.81	935.90	41.92	23.326		
8,000.00	7,962.68	8,134.63	7,962.68	29.79	36.16	89.52	537.23	1,274.78	977.81	935.43	42.38	23.070		
8,100.00	8,062.68	8,234.63	8,062.68	30.13	36.44	89.52	537.23	1,274.78	977.81	934.96	42.85	22.819		
8,200.00	8,162.68	8,334.63	8,162.68	30.46	36.72	89.52	537.23	1,274.78	977.81	934.50	43.32	22.573		
8,300.00	8,262.68	8,434.63	8,262.68	30.80	37.00	89.52	537.23	1,274.78	977.81	934.03	43.79	22.331		
8,400.00	8,362.68	8,534.63	8,362.68	31.14	37.28	89.52	537.23	1,274.78	977.81	933.56	44.26	22.094		
8,500.00	8,462.68	8,634.63	8,462.68	31.48	37.56	89.52	537.23	1,274.78	977.81	933.09	44.73	21.862		
8,600.00	8,562.68	8,734.63	8,562.68	31.82	37.84	89.52	537.23	1,274.78	977.81	932.62	45.20	21.635		
8,700.00	8,662.68	8,834.63	8,662.68	32.16	38.13	89.52	537.23	1,274.78	977.81	932.15	45.67	21.411		
8,800.00	8,762.68	8,934.63	8,762.68	32.50	38.42	89.52	537.23	1,274.78	977.81	931.67	46.14	21.192		
8,900.00	8,862.68	9,034.63	8,862.68	32.85	38.71	89.52	537.23	1,274.78	977.81	931.20	46.61	20.977		
9,000.00	8,962.68	9,134.63	8,962.68	33.19	38.99	89.52	537.23	1,274.78	977.81	930.73	47.09	20.766		
9,100.00	9,062.68	9,234.63	9,062.68	33.53	39.28	89.52	537.23	1,274.78	977.81	930.25	47.56	20.559		
9,200.00	9,162.68	9,334.63	9,162.68	33.87	39.58	89.52	537.23	1,274.78	977.81	929.78	48.04	20.355		
9,300.00	9,262.68	9,434.63	9,262.68	34.22	39.87	89.52	537.23	1,274.78	977.81	929.30	48.51	20.156		
9,400.00	9,362.68	9,534.63	9,362.68	34.56	40.16	89.52	537.23	1,274.78	977.81	928.82	48.99	19.960		
9,500.00	9,462.68	9,634.63	9,462.68	34.90	40.46	89.52	537.23	1,274.78	977.81	928.35	49.47	19.767		
9,600.00	9,562.68	9,734.63	9,562.68	35.25	40.75	89.52	537.23	1,274.78	977.81	927.87	49.94	19.578		
9,700.00	9,662.68	9,834.63	9,662.68	35.59	41.05	89.52	537.23	1,274.78	977.81	927.39	50.42	19.392		
9,800.00	9,762.68	9,934.63	9,762.68	35.93	41.35	89.52	537.23	1,274.78	977.81	926.91	50.90	19.210		
9,900.00	9,862.68	10,034.63	9,862.68	36.28	41.65	89.52	537.23	1,274.78	977.81	926.43	51.38	19.031		
10,000.00	9,962.68	10,134.63	9,962.68	36.62	41.94	89.52	537.23	1,274.78	977.81	925.95	51.86	18.855		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,100.00	10,062.68	10,234.63	10,062.68	36.97	42.25	89.52	537.23	1,274.78	977.81	925.47	52.34	18.682		
10,200.00	10,162.68	10,334.63	10,162.68	37.31	42.55	89.52	537.23	1,274.78	977.81	924.99	52.82	18.512		
10,300.00	10,262.68	10,434.63	10,262.68	37.66	42.85	89.52	537.23	1,274.78	977.81	924.51	53.30	18.345		
10,400.00	10,362.68	10,534.63	10,362.68	38.01	43.15	89.52	537.23	1,274.78	977.81	924.03	53.78	18.180		
10,500.00	10,462.68	10,634.63	10,462.68	38.35	43.46	89.52	537.23	1,274.78	977.81	923.55	54.27	18.019		
10,600.00	10,562.68	10,734.63	10,562.68	38.70	43.76	89.52	537.23	1,274.78	977.81	923.07	54.75	17.860		
10,700.00	10,662.68	10,834.63	10,662.68	39.04	44.07	89.52	537.23	1,274.78	977.81	922.58	55.23	17.704		
10,800.00	10,762.68	10,934.63	10,762.68	39.39	44.37	89.52	537.23	1,274.78	977.81	922.10	55.72	17.550		
10,900.00	10,862.68	11,034.63	10,862.68	39.74	44.68	89.52	537.23	1,274.78	977.81	921.61	56.20	17.399		
11,000.00	10,962.68	11,134.63	10,962.68	40.09	44.99	89.52	537.23	1,274.78	977.81	921.13	56.68	17.250		
11,100.00	11,062.68	11,234.63	11,062.68	40.43	45.30	89.52	537.23	1,274.78	977.81	920.65	57.17	17.104		
11,200.00	11,162.68	11,334.63	11,162.68	40.78	45.61	89.52	537.23	1,274.78	977.81	920.16	57.65	16.960		
11,300.00	11,262.68	11,434.63	11,262.68	41.13	45.92	89.52	537.23	1,274.78	977.81	919.67	58.14	16.818		
11,400.00	11,362.68	11,534.63	11,362.68	41.48	46.23	89.52	537.23	1,274.78	977.81	919.19	58.63	16.679		
11,500.00	11,462.68	11,634.63	11,462.68	41.82	46.54	89.52	537.23	1,274.78	977.81	918.70	59.11	16.542		
11,600.00	11,562.68	11,734.63	11,562.68	42.17	46.85	89.52	537.23	1,274.78	977.81	918.22	59.60	16.407		
11,700.00	11,662.68	11,834.63	11,662.68	42.52	47.16	89.52	537.23	1,274.78	977.81	917.73	60.09	16.274		
11,800.00	11,762.68	11,934.63	11,762.68	42.87	47.48	89.52	537.23	1,274.78	977.81	917.24	60.57	16.143		
11,900.00	11,862.68	12,034.63	11,862.68	43.22	47.79	89.52	537.23	1,274.78	977.81	916.75	61.06	16.014		
11,910.36	11,873.04	12,044.99	11,873.04	43.25	47.82	89.52	537.23	1,274.78	977.81	916.70	61.11	16.001		
11,950.00	11,912.65	12,084.60	11,912.65	43.38	47.95	-81.88	537.23	1,274.78	977.62	916.33	61.29	15.950		
12,000.00	11,962.32	12,131.08	11,959.13	43.53	48.09	-82.24	537.03	1,274.81	976.87	915.37	61.50	15.885		
12,050.00	12,011.30	12,172.16	12,000.12	43.66	48.21	-82.67	534.51	1,275.16	975.92	914.24	61.68	15.822		
12,100.00	12,059.24	12,213.58	12,041.16	43.78	48.32	-83.14	529.02	1,275.93	974.88	913.04	61.84	15.765		
12,150.00	12,105.76	12,255.39	12,082.07	43.89	48.42	-83.65	520.52	1,277.13	973.78	911.80	61.98	15.711		
12,200.00	12,150.50	12,300.00	12,124.90	43.98	48.53	-84.24	508.22	1,278.86	972.64	910.54	62.10	15.661		
12,250.00	12,193.14	12,340.40	12,162.75	44.06	48.61	-84.81	494.27	1,280.82	971.48	909.27	62.21	15.616		
12,300.00	12,233.34	12,383.70	12,202.11	44.13	48.69	-85.45	476.42	1,283.33	970.33	908.03	62.30	15.575		
12,350.00	12,270.79	12,427.61	12,240.52	44.18	48.77	-86.12	455.36	1,286.29	969.22	906.83	62.39	15.536		
12,400.00	12,305.22	12,472.20	12,277.74	44.22	48.83	-86.82	431.07	1,289.70	968.16	905.70	62.46	15.501		
12,450.00	12,336.36	12,517.53	12,313.51	44.25	48.89	-87.55	403.51	1,293.57	967.18	904.65	62.53	15.469		
12,500.00	12,363.98	12,563.67	12,347.54	44.27	48.94	-88.30	372.67	1,297.91	966.30	903.72	62.59	15.440		
12,550.00	12,387.85	12,610.70	12,379.53	44.29	48.98	-89.06	338.55	1,302.70	965.54	902.90	62.64	15.414		
12,600.00	12,407.81	12,658.69	12,409.16	44.29	49.01	-89.84	301.18	1,307.95	964.92	902.23	62.69	15.392		
12,650.00	12,423.70	12,707.73	12,436.05	44.30	49.03	-90.63	260.60	1,313.66	964.45	901.72	62.73	15.374		
12,700.00	12,435.40	12,757.89	12,459.84	44.31	49.05	-91.43	216.88	1,319.80	964.13	901.36	62.77	15.360		
12,750.00	12,442.82	12,809.25	12,480.10	44.34	49.06	-92.22	170.16	1,326.37	963.97	901.17	62.80	15.350		
12,777.99	12,445.08	12,838.55	12,489.74	44.37	49.07	-92.66	142.76	1,330.22	963.95	901.13	62.81	15.346		
12,800.00	12,445.90	12,861.89	12,496.40	44.41	49.07	-93.00	120.61	1,333.33	963.96	901.13	62.83	15.343		
12,810.36	12,446.00	12,872.96	12,499.24	44.42	49.08	-93.17	110.02	1,334.82	963.98	901.15	62.83	15.342		
12,900.00	12,446.00	12,972.32	12,515.33	44.59	49.12	-94.12	13.05	1,348.45	965.23	902.29	62.93	15.338		
13,000.00	12,446.00	13,108.91	12,517.00	44.83	49.23	-94.21	-122.36	1,365.96	967.98	904.77	63.20	15.315		
13,100.00	12,446.00	13,259.78	12,517.00	45.12	49.40	-94.20	-272.72	1,378.14	969.24	905.68	63.56	15.250		
13,200.00	12,446.00	13,402.97	12,517.00	45.46	49.64	-94.20	-415.83	1,382.41	968.79	904.82	63.97	15.145		
13,217.17	12,446.00	13,420.14	12,517.00	45.52	49.68	-94.20	-433.00	1,382.58	968.74	904.69	64.05	15.125		
13,217.18	12,446.00	13,420.15	12,517.00	45.52	49.68	-94.20	-433.01	1,382.58	968.74	904.69	64.05	15.125		
13,300.00	12,446.00	13,502.97	12,517.00	45.84	49.87	-94.20	-515.83	1,383.39	968.74	904.29	64.45	15.030		
13,400.00	12,446.00	13,602.97	12,517.00	46.27	50.15	-94.20	-615.82	1,384.38	968.74	903.72	65.02	14.900		
13,500.00	12,446.00	13,702.97	12,517.00	46.75	50.49	-94.20	-715.82	1,385.36	968.74	903.08	65.66	14.754		
13,600.00	12,446.00	13,802.97	12,517.00	47.29	50.89	-94.20	-815.81	1,386.35	968.74	902.36	66.38	14.594		
13,700.00	12,446.00	13,902.97	12,517.00	47.87	51.36	-94.20	-915.81	1,387.33	968.74	901.57	67.17	14.422		
13,800.00	12,446.00	14,002.97	12,517.00	48.50	51.88	-94.20	-1,015.80	1,388.31	968.74	900.71	68.03	14.240		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
13,900.00	12,446.00	14,102.97	12,517.00	49.18	52.45	-94.20	-1,115.80	1,389.30	968.74	899.78	68.96	14.048		
14,000.00	12,446.00	14,202.97	12,517.00	49.90	53.08	-94.20	-1,215.79	1,390.28	968.74	898.79	69.95	13.848		
14,100.00	12,446.00	14,302.97	12,517.00	50.66	53.76	-94.20	-1,315.79	1,391.27	968.74	897.73	71.01	13.642		
14,200.00	12,446.00	14,402.97	12,517.00	51.47	54.48	-94.20	-1,415.78	1,392.25	968.74	896.62	72.13	13.431		
14,300.00	12,446.00	14,502.97	12,517.00	52.31	55.25	-94.20	-1,515.78	1,393.23	968.74	895.44	73.30	13.216		
14,400.00	12,446.00	14,602.97	12,517.00	53.19	56.06	-94.20	-1,615.78	1,394.22	968.74	894.22	74.53	12.999		
14,500.00	12,446.00	14,702.97	12,517.00	54.11	56.91	-94.20	-1,715.77	1,395.20	968.74	892.94	75.81	12.779		
14,600.00	12,446.00	14,802.97	12,517.00	55.06	57.80	-94.20	-1,815.77	1,396.19	968.74	891.61	77.13	12.559		
14,700.00	12,446.00	14,902.97	12,517.00	56.05	58.72	-94.20	-1,915.76	1,397.17	968.74	890.23	78.51	12.339		
14,800.00	12,446.00	15,002.97	12,517.00	57.06	59.67	-94.20	-2,015.76	1,398.15	968.74	888.82	79.93	12.120		
14,900.00	12,446.00	15,102.97	12,517.00	58.11	60.66	-94.20	-2,115.75	1,399.14	968.74	887.36	81.39	11.903		
15,000.00	12,446.00	15,202.97	12,517.00	59.18	61.67	-94.20	-2,215.75	1,400.12	968.74	885.86	82.89	11.687		
15,100.00	12,446.00	15,302.97	12,517.00	60.28	62.72	-94.20	-2,315.74	1,401.11	968.75	884.32	84.43	11.475		
15,200.00	12,446.00	15,402.97	12,517.00	61.40	63.78	-94.20	-2,415.74	1,402.09	968.75	882.75	86.00	11.265		
15,300.00	12,446.00	15,502.97	12,517.00	62.54	64.88	-94.20	-2,515.73	1,403.07	968.75	881.14	87.61	11.058		
15,400.00	12,446.00	15,602.97	12,517.00	63.71	65.99	-94.20	-2,615.73	1,404.06	968.75	879.50	89.24	10.855		
15,500.00	12,446.00	15,702.97	12,517.00	64.90	67.13	-94.20	-2,715.72	1,405.04	968.75	877.83	90.91	10.656		
15,600.00	12,446.00	15,802.97	12,517.00	66.11	68.29	-94.20	-2,815.72	1,406.03	968.75	876.14	92.61	10.461		
15,700.00	12,446.00	15,902.97	12,517.00	67.34	69.47	-94.20	-2,915.71	1,407.01	968.75	874.41	94.33	10.269		
15,800.00	12,446.00	16,002.97	12,517.00	68.58	70.67	-94.20	-3,015.71	1,407.99	968.75	872.66	96.08	10.082		
15,900.00	12,446.00	16,102.97	12,517.00	69.84	71.89	-94.20	-3,115.70	1,408.98	968.75	870.89	97.86	9.900		
16,000.00	12,446.00	16,202.97	12,517.00	71.12	73.12	-94.20	-3,215.70	1,409.96	968.75	869.09	99.65	9.721		
16,100.00	12,446.00	16,302.97	12,517.00	72.41	74.38	-94.20	-3,315.69	1,410.94	968.75	867.27	101.47	9.547		
16,200.00	12,446.00	16,402.97	12,517.00	73.72	75.64	-94.20	-3,415.69	1,411.93	968.75	865.44	103.31	9.377		
16,300.00	12,446.00	16,502.97	12,517.00	75.04	76.92	-94.20	-3,515.68	1,412.91	968.75	863.58	105.17	9.211		
16,400.00	12,446.00	16,602.97	12,517.00	76.37	78.22	-94.20	-3,615.68	1,413.90	968.75	861.70	107.05	9.050		
16,500.00	12,446.00	16,702.97	12,517.00	77.72	79.53	-94.20	-3,715.67	1,414.88	968.75	859.81	108.94	8.893		
16,600.00	12,446.00	16,802.97	12,517.00	79.08	80.85	-94.20	-3,815.67	1,415.86	968.75	857.90	110.85	8.739		
16,700.00	12,446.00	16,902.97	12,517.00	80.45	82.18	-94.20	-3,915.66	1,416.85	968.75	855.97	112.78	8.590		
16,800.00	12,446.00	17,002.97	12,517.00	81.82	83.52	-94.20	-4,015.66	1,417.83	968.75	854.03	114.72	8.445		
16,900.00	12,446.00	17,102.97	12,517.00	83.21	84.88	-94.20	-4,115.65	1,418.82	968.75	852.08	116.67	8.303		
17,000.00	12,446.00	17,202.97	12,517.00	84.61	86.24	-94.20	-4,215.65	1,419.80	968.75	850.11	118.64	8.165		
17,100.00	12,446.00	17,302.97	12,517.00	86.02	87.62	-94.20	-4,315.64	1,420.78	968.75	848.13	120.62	8.031		
17,200.00	12,446.00	17,402.97	12,517.00	87.43	89.00	-94.20	-4,415.64	1,421.77	968.75	846.13	122.61	7.901		
17,300.00	12,446.00	17,502.97	12,517.00	88.86	90.39	-94.20	-4,515.63	1,422.75	968.75	844.13	124.62	7.774		
17,400.00	12,446.00	17,602.97	12,517.00	90.29	91.80	-94.20	-4,615.63	1,423.74	968.75	842.11	126.64	7.650		
17,500.00	12,446.00	17,702.97	12,517.00	91.73	93.21	-94.20	-4,715.63	1,424.72	968.75	840.09	128.66	7.529		
17,600.00	12,446.00	17,802.97	12,517.00	93.17	94.62	-94.20	-4,815.62	1,425.70	968.75	838.05	130.70	7.412		
17,700.00	12,446.00	17,902.97	12,517.00	94.63	96.05	-94.20	-4,915.62	1,426.69	968.75	836.00	132.75	7.298		
17,800.00	12,446.00	18,002.97	12,517.00	96.09	97.48	-94.20	-5,015.61	1,427.67	968.75	833.95	134.80	7.186		
17,900.00	12,446.00	18,102.97	12,517.00	97.55	98.92	-94.20	-5,115.61	1,428.66	968.75	831.88	136.87	7.078		
18,000.00	12,446.00	18,202.97	12,517.00	99.02	100.37	-94.20	-5,215.60	1,429.64	968.75	829.81	138.94	6.973		
18,100.00	12,446.00	18,302.97	12,517.00	100.50	101.82	-94.20	-5,315.60	1,430.62	968.75	827.73	141.02	6.870		
18,200.00	12,446.00	18,402.97	12,517.00	101.98	103.28	-94.20	-5,415.59	1,431.61	968.75	825.64	143.11	6.769		
18,300.00	12,446.00	18,502.97	12,517.00	103.47	104.74	-94.20	-5,515.59	1,432.59	968.75	823.55	145.20	6.672		
18,400.00	12,446.00	18,602.97	12,517.00	104.96	106.21	-94.20	-5,615.58	1,433.58	968.75	821.45	147.30	6.576		
18,500.00	12,446.00	18,702.97	12,517.00	106.46	107.68	-94.20	-5,715.58	1,434.56	968.75	819.34	149.41	6.484		
18,600.00	12,446.00	18,802.97	12,517.00	107.96	109.16	-94.20	-5,815.57	1,435.54	968.75	817.22	151.53	6.393		
18,700.00	12,446.00	18,902.97	12,517.00	109.46	110.65	-94.20	-5,915.57	1,436.53	968.75	815.10	153.65	6.305		
18,800.00	12,446.00	19,002.97	12,517.00	110.97	112.14	-94.20	-6,015.56	1,437.51	968.75	812.97	155.78	6.219		
18,900.00	12,446.00	19,102.97	12,517.00	112.49	113.63	-94.20	-6,115.56	1,438.49	968.75	810.84	157.91	6.135		
19,000.00	12,446.00	19,202.97	12,517.00	114.00	115.13	-94.20	-6,215.55	1,439.48	968.75	808.70	160.05	6.053		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design PF Fed Com - PF 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		Highside Toolface (°)	Distance				Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)		Minimum Separation (usft)	Separation Factor	
19,100.00	12,446.00	19,302.97	12,517.00	115.53	116.63	-94.20	-6,315.55	1,440.46	968.75	806.56	162.19	5.973		
19,200.00	12,446.00	19,402.97	12,517.00	117.05	118.14	-94.20	-6,415.54	1,441.45	968.75	804.41	164.34	5.895		
19,300.00	12,446.00	19,502.97	12,517.00	118.58	119.65	-94.20	-6,515.54	1,442.43	968.75	802.26	166.50	5.818		
19,400.00	12,446.00	19,602.97	12,517.00	120.11	121.16	-94.20	-6,615.53	1,443.41	968.75	800.10	168.65	5.744		
19,500.00	12,446.00	19,702.97	12,517.00	121.64	122.68	-94.20	-6,715.53	1,444.40	968.75	797.94	170.82	5.671		
19,600.00	12,446.00	19,802.97	12,517.00	123.18	124.20	-94.20	-6,815.52	1,445.38	968.75	795.77	172.98	5.600		
19,700.00	12,446.00	19,902.97	12,517.00	124.72	125.72	-94.20	-6,915.52	1,446.37	968.75	793.60	175.15	5.531		
19,800.00	12,446.00	20,002.97	12,517.00	126.27	127.25	-94.20	-7,015.51	1,447.35	968.75	791.43	177.33	5.463		
19,900.00	12,446.00	20,102.97	12,517.00	127.81	128.78	-94.20	-7,115.51	1,448.33	968.75	789.25	179.51	5.397		
20,000.00	12,446.00	20,202.97	12,517.00	129.36	130.31	-94.20	-7,215.50	1,449.32	968.75	787.07	181.69	5.332		
20,100.00	12,446.00	20,302.97	12,517.00	130.91	131.85	-94.20	-7,315.50	1,450.30	968.75	784.88	183.87	5.269		
20,200.00	12,446.00	20,402.97	12,517.00	132.46	133.38	-94.20	-7,415.49	1,451.29	968.75	782.69	186.06	5.207		
20,300.00	12,446.00	20,502.97	12,517.00	134.02	134.92	-94.20	-7,515.49	1,452.27	968.75	780.50	188.26	5.146		
20,400.00	12,446.00	20,602.97	12,517.00	135.58	136.47	-94.20	-7,615.48	1,453.25	968.75	778.30	190.45	5.087		
20,500.00	12,446.00	20,702.97	12,517.00	137.14	138.01	-94.20	-7,715.48	1,454.24	968.75	776.10	192.65	5.029		
20,600.00	12,446.00	20,802.97	12,517.00	138.70	139.56	-94.20	-7,815.48	1,455.22	968.76	773.90	194.85	4.972		
20,700.00	12,446.00	20,902.97	12,517.00	140.27	141.11	-94.20	-7,915.47	1,456.21	968.76	771.70	197.06	4.916		
20,800.00	12,446.00	21,002.97	12,517.00	141.83	142.67	-94.20	-8,015.47	1,457.19	968.76	769.49	199.26	4.862		
20,900.00	12,446.00	21,102.97	12,517.00	143.40	144.22	-94.20	-8,115.46	1,458.17	968.76	767.28	201.47	4.808		
21,000.00	12,446.00	21,202.97	12,517.00	144.97	145.78	-94.20	-8,215.46	1,459.16	968.76	765.07	203.69	4.756		
21,100.00	12,446.00	21,302.97	12,517.00	146.54	147.34	-94.20	-8,315.45	1,460.14	968.76	762.86	205.90	4.705		
21,200.00	12,446.00	21,402.97	12,517.00	148.12	148.90	-94.20	-8,415.45	1,461.13	968.76	760.64	208.12	4.655		
21,300.00	12,446.00	21,502.97	12,517.00	149.69	150.46	-94.20	-8,515.44	1,462.11	968.76	758.42	210.34	4.606		
21,400.00	12,446.00	21,602.97	12,517.00	151.27	152.03	-94.20	-8,615.44	1,463.09	968.76	756.20	212.56	4.558		
21,500.00	12,446.00	21,702.97	12,517.00	152.85	153.60	-94.20	-8,715.43	1,464.08	968.76	753.97	214.78	4.510		
21,600.00	12,446.00	21,802.97	12,517.00	154.43	155.17	-94.20	-8,815.43	1,465.06	968.76	751.75	217.01	4.464		
21,700.00	12,446.00	21,902.97	12,517.00	156.01	156.74	-94.20	-8,915.42	1,466.05	968.76	749.52	219.24	4.419		
21,800.00	12,446.00	22,002.97	12,517.00	157.59	158.31	-94.20	-9,015.42	1,467.03	968.76	747.29	221.47	4.374		
21,900.00	12,446.00	22,102.97	12,517.00	159.18	159.88	-94.20	-9,115.41	1,468.01	968.76	745.05	223.70	4.331		
22,000.00	12,446.00	22,202.97	12,517.00	160.76	161.46	-94.20	-9,215.41	1,469.00	968.76	742.82	225.94	4.288		
22,100.00	12,446.00	22,302.97	12,517.00	162.35	163.03	-94.20	-9,315.40	1,469.98	968.76	740.58	228.17	4.246		
22,200.00	12,446.00	22,402.97	12,517.00	163.94	164.61	-94.20	-9,415.40	1,470.96	968.76	738.35	230.41	4.204		
22,300.00	12,446.00	22,502.97	12,517.00	165.53	166.19	-94.20	-9,515.39	1,471.95	968.76	736.11	232.65	4.164		
22,400.00	12,446.00	22,602.97	12,517.00	167.12	167.77	-94.20	-9,615.39	1,472.93	968.76	733.87	234.89	4.124		
22,500.00	12,446.00	22,702.97	12,517.00	168.71	169.36	-94.20	-9,715.38	1,473.92	968.76	731.62	237.13	4.085		
22,600.00	12,446.00	22,802.97	12,517.00	170.30	170.94	-94.20	-9,815.38	1,474.90	968.76	729.38	239.38	4.047		
22,700.00	12,446.00	22,902.97	12,517.00	171.90	172.52	-94.20	-9,915.37	1,475.88	968.76	727.13	241.62	4.009		
22,800.00	12,446.00	23,002.97	12,517.00	173.49	174.11	-94.20	-10,015.37	1,476.87	968.76	724.89	243.87	3.972		
22,900.00	12,446.00	23,102.97	12,517.00	175.09	175.70	-94.20	-10,115.36	1,477.85	968.76	722.64	246.12	3.936		
23,000.00	12,446.00	23,202.97	12,517.00	176.69	177.29	-94.20	-10,215.36	1,478.84	968.76	720.39	248.37	3.900		
23,100.00	12,446.00	23,302.97	12,517.00	178.28	178.88	-94.20	-10,315.35	1,479.82	968.76	718.14	250.62	3.865		
23,200.00	12,446.00	23,402.97	12,517.00	179.88	180.47	-94.20	-10,415.35	1,480.80	968.76	715.88	252.88	3.831		
23,300.00	12,446.00	23,502.97	12,517.00	181.48	182.06	-94.20	-10,515.34	1,481.79	968.76	713.63	255.13	3.797		
23,400.00	12,446.00	23,602.97	12,517.00	183.08	183.65	-94.20	-10,615.34	1,482.77	968.76	711.38	257.38	3.764		
23,500.00	12,446.00	23,702.97	12,517.00	184.69	185.25	-94.20	-10,715.33	1,483.76	968.76	709.12	259.64	3.731		
23,600.00	12,446.00	23,802.97	12,517.00	186.29	186.84	-94.20	-10,815.33	1,484.74	968.76	706.86	261.90	3.699		
23,700.00	12,446.00	23,902.97	12,517.00	187.89	188.44	-94.20	-10,915.33	1,485.72	968.76	704.60	264.16	3.667		
23,800.00	12,446.00	24,002.97	12,517.00	189.50	190.03	-94.20	-11,015.32	1,486.71	968.76	702.34	266.42	3.636		
23,900.00	12,446.00	24,102.97	12,517.00	191.10	191.63	-94.20	-11,115.32	1,487.69	968.76	700.09	268.67	3.606		
23,902.41	12,446.00	24,105.38	12,517.00	191.14	191.67	-94.20	-11,117.72	1,487.72	968.76	700.04	268.73	3.605		
23,929.64	12,446.00	24,130.17	12,517.00	191.58	192.05	-94.20	-11,142.51	1,487.96	968.76	699.44	269.33	3.597		

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



Total Directional Services

Anticollision Report

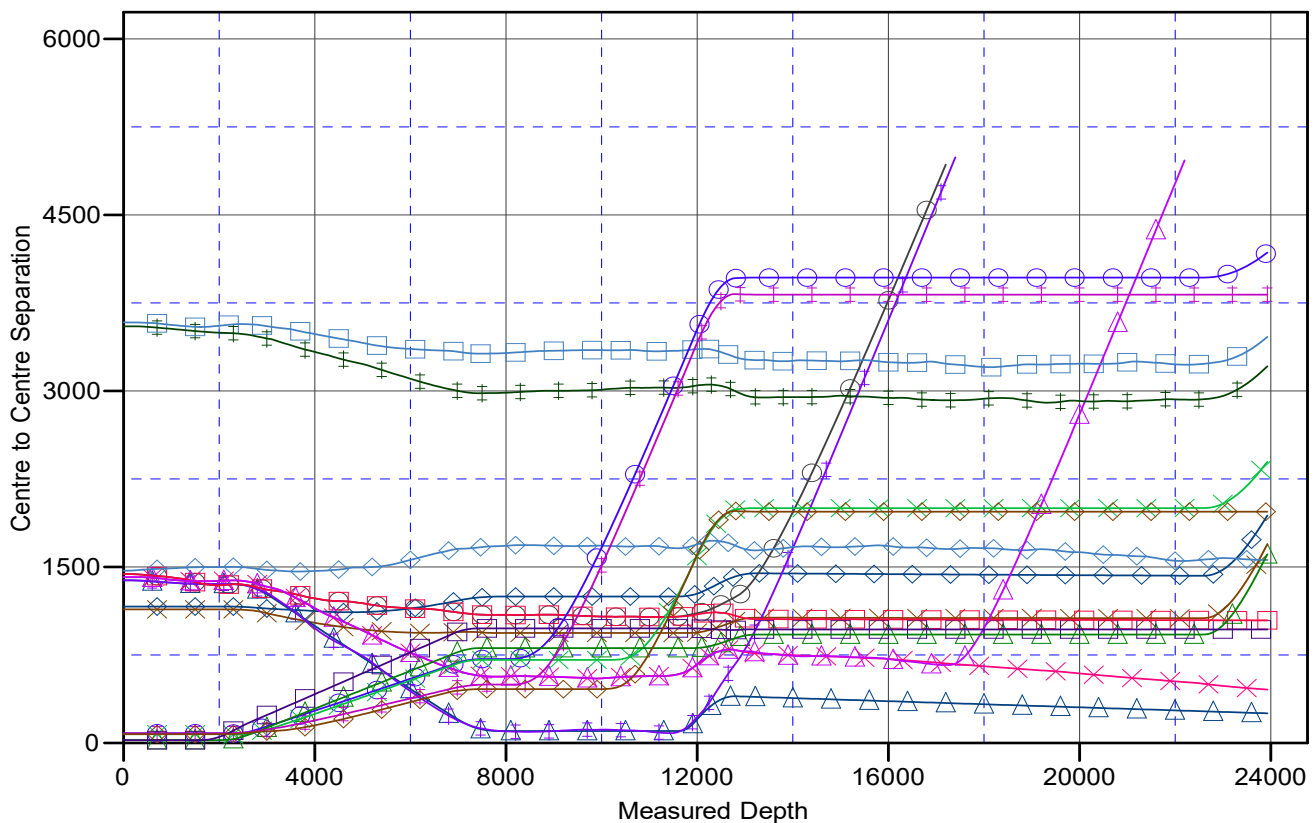


Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to 3053' GE + 30' KB @ 3083.00usft
 Offset Depths are relative to Offset Datum
 Central Meridian is -104.333334

Coordinates are relative to: PF Fed Com 802H
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.54°

Ladder Plot



LEGEND

Judge Baylor Fed Com 701H, OH, Plan #5 V0	Kaston Fed Com 603H, OH, OH V0	PF Fed Com 501H, OH, Plan #1 V0
Judge Baylor Fed Com 601H, OH, Plan #5 V0	Bus Driver Fed Com 602H, OH, Plan #6 V0	PF Fed Com 601H, OH, Plan #1 V0
Bus Driver Fed Com 702H, OH, Plan #5 V0	Bus Driver Fed Com 602H, OH, OH V0	PF Fed Com 102H, OH, Plan #1 V0
Bus Driver Fed Com 702H, OH, OH V0	LHS Wildcat Fed Com 604H, OH, OH V0	PF Fed Com 803H, OH, Plan #1 V0
Kaston Fed Com 703H, OH, OH V0	LHS Wildcat Fed Com 705H, OH, OH V0	PF Fed Com 502H, OH, Plan #1 V0
Kaston Fed Com 703H, OH, Plan #9 V0	PF Fed Com 101H, 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

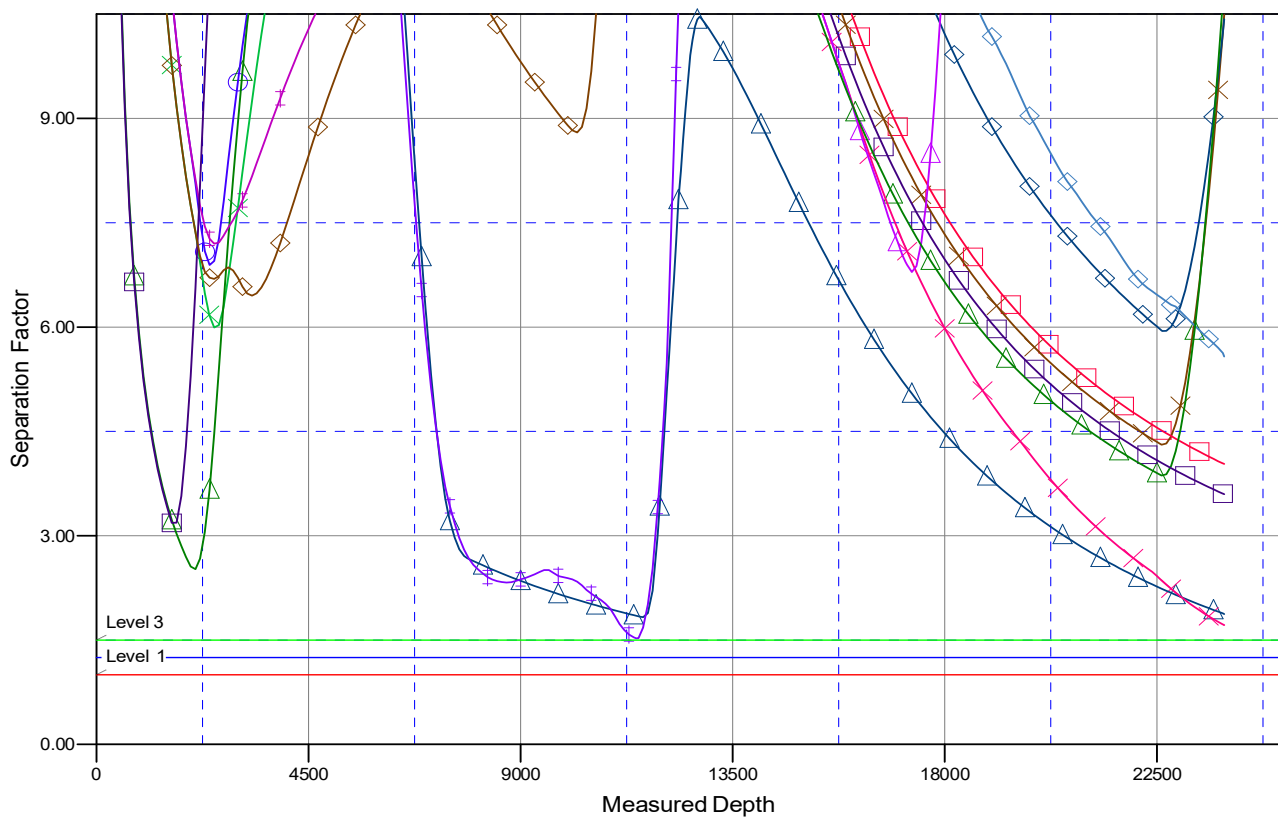


Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well PF Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3053' GE + 30' KB @ 3083.00usft
Reference Site:	PF Fed Com	MD Reference:	3053' GE + 30' KB @ 3083.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	PF Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to 3053' GE + 30' KB @ 3083.00usft
 Offset Depths are relative to Offset Datum
 Central Meridian is -104.333334

Coordinates are relative to: PF Fed Com 802H
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.54°

Separation Factor Plot



LEGEND

Judge Baylor Fed Com 701H, OH, Plan #5 V0	Kastori Fed Com 803H, OH, OH V0	PF Fed Com 501H, OH, Plan #1 V0
Judge Baylor Fed Com 801H, OH, Plan #5 V0	Bus Driver Fed Com 602H, OH, Plan #6 V0	PF Fed Com 801H, OH, Plan #1 V0
Bus Driver Fed Com 702H, OH, Plan #5 V0	Bus Driver Fed Com 602H, OH, OH V0	PF Fed Com 102H, OH, Plan #1 V0
Bus Driver Fed Com 702H, OH, OH V0	LHS Wildcat Fed Com 604H, OH, OH V0	PF Fed Com 803H, OH, Plan #1 V0
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Kastori Fed Com 703H, OH, Plan #9 V0	PF Fed Com 101H, OH, Plan #1 V0	

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

**PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	Franklin Mountain Energy, LLC
LEASE NO.:	NMNM117126, NMNM12280, NMNM119761, NMNM130330
COUNTY:	Lea County

Wells:

Paul Foster MH West Pad 1	
Paul Foster Fed Com 101H	650 FNL, 1,268 FWL
Paul Foster Fed Com 102H	650 FNL, 1,343 FWL
Paul Foster Fed Com 501H	650 FNL, 1,293 FWL
Paul Foster Fed Com 502H	650 FNL, 1,318 FWL
Paul Foster Fed Com 801H	575 FNL, 1,281 FWL
Paul Foster Fed Com 802H	575 FNL, 1,306 FWL
Paul Foster Fed Com 803H	575 FNL, 1,331 FWL
Paul Foster MH East Pad 2	
Paul Foster Fed Com 103H	285 FNL, 1,125 FEL
Paul Foster Fed Com 104H	285 FNL, 1,050 FEL
Paul Foster Fed Com 503H	285 FNL, 1,100 FEL
Paul Foster Fed Com 504H	285 FNL, 1,075 FEL
Paul Foster Fed Com 804H	210 FNL, 1,112 FEL
Paul Foster Fed Com 805H	210 FNL, 1,087 FEL
Paul Foster Fed Com 806H	210 FNL, 1,062 FEL

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
 - Watershed
 - Lesser Prairie Chicken
 - VRM IV
- ☐ **Construction**
 - Notification
 - Topsoil
 - Closed Loop System
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
- ☒ **Production (Post Drilling)**
 - Well Structures & Facilities
 - Pipelines
 - Electric Lines
- ☐ **Interim Reclamation**
- ☐ **Final Abandonment & Reclamation**

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

OR

If the entire project is covered under the Permian Basin Programmatic Agreement (cultural resources only):

The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See information below discussing NAGPRA.

If the proposed project is split between a Class III inventory and a Permian Basin Programmatic Agreement contribution, the portion of the project covered under Class III inventory should default to the first paragraph stipulations.

The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of project work, the proponent shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The proponent or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes."

Any paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Watershed:

The entire well pad(s) will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. The compacted berm shall be constructed at a minimum of 12 inches with impermeable mineral material (e.g. caliche). Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed. Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion. Stockpiling of topsoil is required. The topsoil shall be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and not used for berming or erosion control. If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.

BURIED/SURFACE LINE(S):

When crossing ephemeral drainages the pipeline(s) will be buried to a minimum depth of 48 inches from the top of pipe to ground level. Erosion control methods such as gabions and/or rock aprons should be placed on both up and downstream sides of the pipeline crossing. In addition, curled (weed free) wood/straw fiber wattles/logs and/or silt fences should be placed on the downstream side for sediment control during construction and maintained until soils and vegetation have stabilized. Water bars should be placed within the ROW to divert and dissipate surface runoff. A pipeline access road is not permitted to cross these ephemeral drainages. Traffic should be diverted to a preexisting route. Additional seeding may be required in floodplains and drainages to restore energy dissipating vegetation.

Prior to pipeline installation/construction a leak detection plan will be developed. The method(s) could incorporate gauges to detect pressure drops, situating valves and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.

ELECTRIC LINE(S):

Any water erosion that may occur due to the construction of overhead electric line and during the life of the power line will be quickly corrected and proper measures will be taken to prevent future erosion. A power pole should not be placed in drainages, playas, wetlands, riparian areas, or

floodplains and must span across the features at a distance away that would not promote further erosion.

Timing Limitation Stipulation/Condition of Approval for Lesser Prairie-Chicken:

Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

Timing Limitation Exceptions:

The Carlsbad Field Office will publish an annual map of where the LPC timing and noise stipulations and conditions of approval (Limitations) will apply for the identified year (between March 1 and June 15) based on the latest survey information. The LPC Timing Area map will identify areas which are Habitat Areas (HA), Isolated Population Area (IPA), and Primary Population Area (PPA). The LPC Timing Area map will also have an area in red crosshatch. The red crosshatch area is the only area where an operator is required to submit a request for exception to the LPC Limitations. If an operator is operating outside the red crosshatch area, the LPC Limitations do not apply for that year and an exception to LPC Limitations is not required.

Ground-level Abandoned Well Marker to avoid raptor perching:

Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

VRM IV:

Above-ground structures including meter housing that are not subject to safety requirements are painted a flat non-reflective paint color, Shale Green from the BLM Standard Environmental Color Chart (CC-001: June 2008).

Short-term mitigation measures include painting all above-ground structures that are not subject to safety requirements (including meter housing) Shale Green, which is a flat non-reflective paint color listed in the BLM Standard Environmental Color Chart (CC-001: June 2013). Long-term mitigation measures include the removal of wells and associated infrastructure following abandonment (end of cost-effective production). Previously impacted areas will be reclaimed by removing structures and caliche pads, returning disturbed areas to natural grade, and revegetating with an approved BLM seed mixture; thereby eliminating visual impacts.

VI. CONSTRUCTION**A. NOTIFICATION**

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation. The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)**Exclosure Fencing**

The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. ON LEASE ACCESS ROADS

Road Width

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

Surfacing

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning

Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching

Ditching shall be required on both sides of the road.

Turnouts

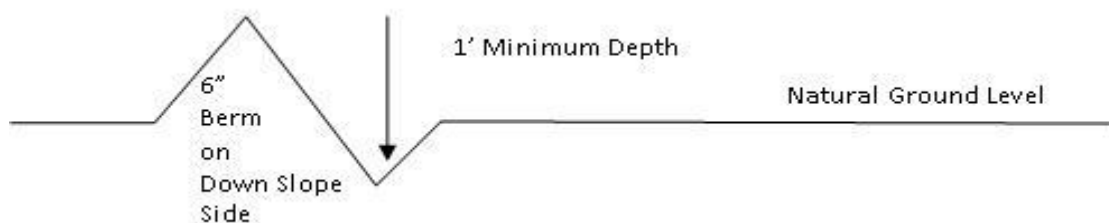
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsliping and insliping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$400 \text{ foot road with } 4\% \text{ road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

Cattle guards

An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattle guards that are in place and are utilized during lease operations.

Fence Requirement

Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Construction Steps

1. Salvage topsoil
2. Construct road

3. Redistribute topsoil
4. Revegetate slopes

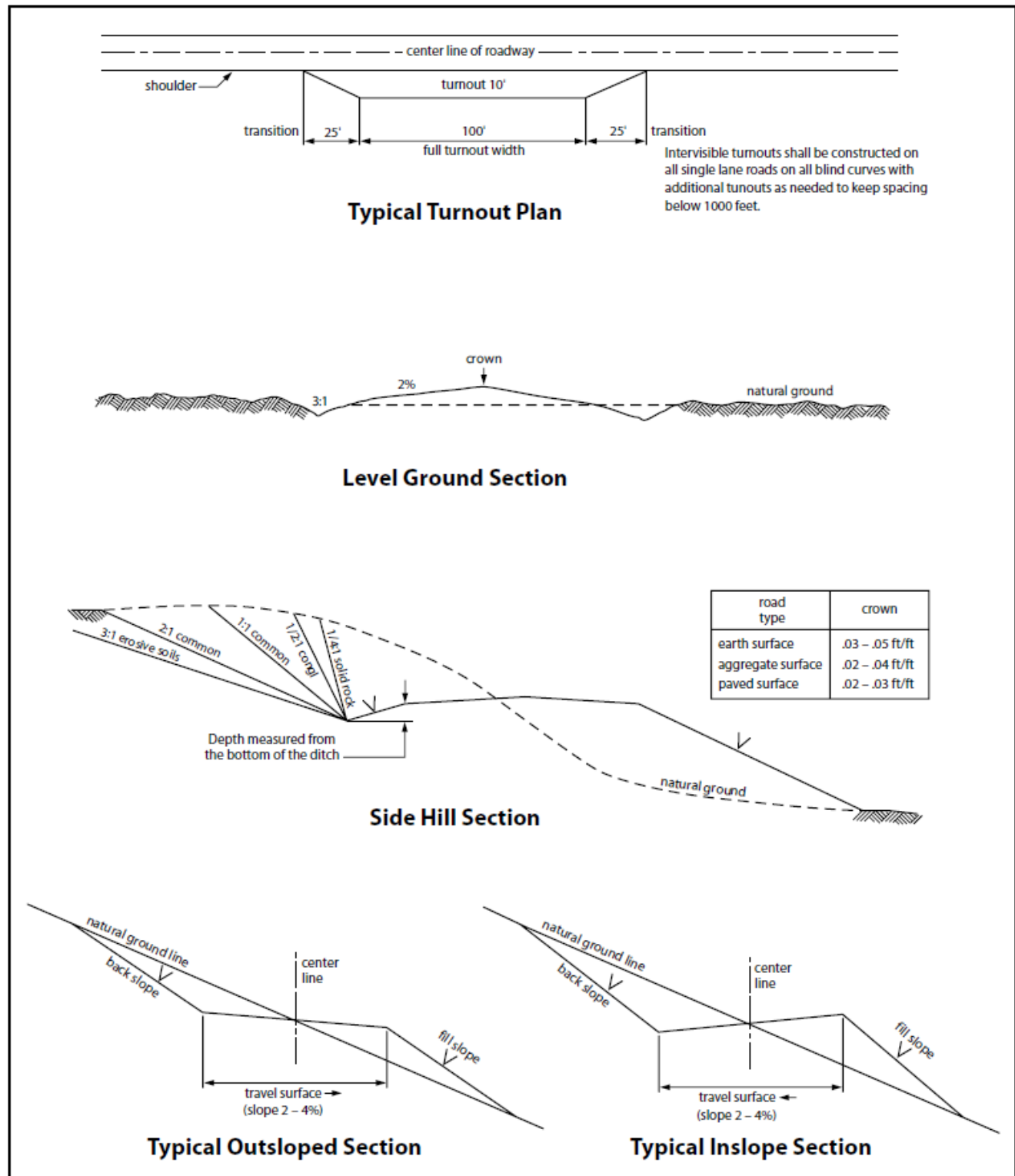


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Exclosure Netting (Open-top Tanks)

Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening

The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Exclosures

The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures

Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

B. PIPELINES

- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, passages, or voids are intersected by trenching, and no pipe will be laid in the trench at that point until clearance has been issued by the Authorized Officer.
- If a void is encountered alignments may be rerouted to avoid the karst feature and lessen; the potential of subsidence or collapse of karst features, buildup of toxic or combustible gas, or other possible impacts to cave and karst resources from the buried pipeline.
- Special restoration stipulations or realignment may be required at such intersections, if any.
- A leak detection plan **will be submitted to the BLM Carlsbad Field Office for approval** prior to pipeline installation. The method could incorporate gauges to detect pressure drops, siting valves and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.
- Regular monitoring is required to quickly identify leaks for their immediate and proper treatment.
- All spills or leaks will be reported to the BLM immediately for their immediate and proper treatment.

BURIED PIPELINE STIPULATIONS

A copy of the application (Grant, APD, or Sundry Notice) and attachments, including conditions of approval, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
2. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.
3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the

Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of holder, regardless of fault. Upon failure of holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized right-of-way.

6. The pipeline will be buried with a minimum cover of 36 inches between the top of the pipe and ground level.

7. The maximum allowable disturbance for construction in this right-of-way will be 30 feet:

- Blading of vegetation within the right-of-way will be allowed: maximum width of blading operations will not exceed 20 feet. The trench is included in this area. (*Blading is defined as the complete removal of brush and ground vegetation.*)
- Clearing of brush species within the right-of-way will be allowed: maximum width of clearing operations will not exceed 30 feet. The trench and bladed area are included in this area. (*Clearing is defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface.*)
- The remaining area of the right-of-way (if any) shall only be disturbed by compressing the vegetation. (*Compressing can be caused by vehicle tires, placement of equipment, etc.*)

8. The holder shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately 6 inches in depth. The topsoil will be segregated from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.

9. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

10. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in rows, piles, or berms, unless otherwise approved by the Authorized Officer. The entire right-of-way shall be recontoured to match the surrounding landscape. The backfilled soil shall be compacted and a 6 inch berm will be left over the ditch line to allow for settling back to grade.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

- ☐Seed Mixture 1
- ☐Seed Mixture 2
- ☐Seed Mixture 2/LPC
- ☐Seed Mixture 3
- ☐Seed Mixture 4
- ☐Seed Mixture Aplomado Falcon Mixture

13. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2.

14. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.

15. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder before maintenance begins. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway. As determined necessary during the life of the pipeline, the Authorized Officer may ask the holder to construct temporary deterrence structures.

16. Any cultural resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See Stipulation 17 for more information.

If the proposed project is split between a Class III inventory and a Permian Basin Programmatic Agreement contribution, the portion of the project covered under Class III inventory should default to the first paragraph stipulations.

17. The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of project work, the proponent shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The proponent or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes."

18. Any paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

19. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes associated roads, pipeline corridor and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

20. Escape Ramps - The operator will construct and maintain pipeline/utility trenches [that are not otherwise fenced, screened, or netted] to prevent livestock, wildlife, and humans from becoming entrapped. At a minimum, the operator will construct and maintain escape ramps, ladders, or other methods of avian and terrestrial wildlife escape in the trenches according to the following criteria:

- a. Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them at least 100 yards from the trench.
- b. For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30 degree slope and spaced no more than 500 feet apart) shall be placed in the trench.

VIII. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

IX. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

Seed Mixture 2, for Sandy Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law (s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species

	<u>lb/acre</u>
Sand dropseed (<i>Sporobolus cryptandrus</i>)	1.0
Sand love grass (<i>Eragrostis trichodes</i>)	1.0
Plains bristlegrass (<i>Setaria macrostachya</i>)	2.0

*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed

**PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	Franklin Mountain Energy LLC
LEASE NO.:	NMNM117126
LOCATION:	Section 1, T.26 S., R.35 E., NMPM
COUNTY:	Lea County, New Mexico
Sundry ID:	N/A

WELL NAME & NO.:	PF Fed Com 101H
SURFACE HOLE FOOTAGE:	650'/N & 1268'/W
BOTTOM HOLE FOOTAGE:	150'/S & 900'/W

WELL NAME & NO.:	PF Fed Com 102H
SURFACE HOLE FOOTAGE:	650'/N & 1343'/W
BOTTOM HOLE FOOTAGE:	1170'/N & 2100'/W

WELL NAME & NO.:	PF Fed Com 103H
SURFACE HOLE FOOTAGE:	285'/N & 1125'/E
BOTTOM HOLE FOOTAGE:	1170'/N & 1880'/E

WELL NAME & NO.:	PF Fed Com 501H
SURFACE HOLE FOOTAGE:	650'/N & 1293'/W
BOTTOM HOLE FOOTAGE:	150'/S & 900'/W

WELL NAME & NO.:	PF Fed Com 502H
SURFACE HOLE FOOTAGE:	650'/N & 1318'/W
BOTTOM HOLE FOOTAGE:	1170'/N & 2100'/W

WELL NAME & NO.:	PF Fed Com 504H
SURFACE HOLE FOOTAGE:	285'/N & 1075'/E
BOTTOM HOLE FOOTAGE:	150'/S & 380'/E

WELL NAME & NO.:	PF Fed Com 801H
SURFACE HOLE FOOTAGE:	575'/N & 1281'/W
BOTTOM HOLE FOOTAGE:	150'/S & 800'/W

WELL NAME & NO.:	PF Fed Com 802H
SURFACE HOLE FOOTAGE:	575'/N & 1306'/W
BOTTOM HOLE FOOTAGE:	1170'/N & 1720'/W

WELL NAME & NO.:	PF Fed Com 803H
SURFACE HOLE FOOTAGE:	575'/N & 1331'/W
BOTTOM HOLE FOOTAGE:	1170'/N & 2600'/E

WELL NAME & NO.:	PF Fed Com 804H
SURFACE HOLE FOOTAGE:	210'/N & 1112'/E
BOTTOM HOLE FOOTAGE:	1170'/N & 1680'/E

WELL NAME & NO.:	PF Fed Com 805H
SURFACE HOLE FOOTAGE:	210'/N & 1087'/E
BOTTOM HOLE FOOTAGE:	150'/S & 780'/E

WELL NAME & NO.:	PF Fed Com 806H
SURFACE HOLE FOOTAGE:	210'/N & 1062'/E
BOTTOM HOLE FOOTAGE:	150'/S & 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 **970 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.

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.

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 **200 feet** into previous casing string. Operator shall provide method of verification.

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

C. PRESSURE CONTROL

1.

Option 1:

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

Option 2:

- a. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the **13-3/8** inch surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M) psi**. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.**
 - i. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - ii. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - iii. Manufacturer representative shall install the test plug for the initial BOP test.
 - iv. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
 - v. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

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

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

GENERAL REQUIREMENTS

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

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

☒ Eddy County

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

☒ Lea County

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

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

A. CASING

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

B. PRESSURE CONTROL

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

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

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

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

District I

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

District II

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

District III

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

District IV

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

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

CONDITIONS

Action 88431

CONDITIONS

Operator: Franklin Mountain Energy LLC 44 Cook Street Denver, CO 80206	OGRID: 373910
	Action Number: 88431
	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	3/15/2022
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	3/15/2022
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	3/15/2022
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing	3/15/2022