

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. [326125]	
2. Name of Operator [373910]		9. API Well No. 30-025-49878	
3a. Address		3b. Phone No. (include area code)	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		10. Field and Pool, or Exploratory [98117] XXXXXXXXXXXXXXXXXXXX 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)	
Title		Date	
Approved by (Signature)		Name (Printed/Typed)	
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

NSL

(Continued on page 2)



Approval Date: 03/07/2022

KZ
03/16/2022

REQUIRES NSL

*(Instructions on page 2)

INSTRUCTIONS

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

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

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

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

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

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

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

NOTICES

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

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

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

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

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

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

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

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

Additional Operator Remarks

Location of Well

0. SHL: TR N / 998 FSL / 1857 FWL / TWSP: 25S / RANGE: 35E / SECTION: 35 / LAT: 32.082309 / LONG: -103.340872 (TVD: 0 feet, MD: 0 feet)

PPP: SWSE / 0 FNL / 2600 FEL / TWSP: 26S / RANGE: 35E / SECTION: 11 / LAT: 32.065054 / LONG: -103.338166 (TVD: 12344 feet, MD: 17500 feet)

PPP: SWSE / 2651 FNL / 2610 FEL / TWSP: 26S / RANGE: 35E / SECTION: 2 / LAT: 32.072283 / LONG: -103.338171 (TVD: 12344 feet, MD: 14900 feet)

PPP: NWNE / 623 FNL / 2602 FEL / TWSP: 26S / RANGE: 35E / SECTION: 2 / LAT: 32.077854 / LONG: -103.338174 (TVD: 12344 feet, MD: 12850 feet)

BHL: TR O / 150 FSL / 2600 FEL / TWSP: 26S / RANGE: 35E / SECTION: 11 / LAT: 32.050813 / LONG: -103.338157 (TVD: 12344 feet, MD: 22642 feet)

BLM Point of Contact

Name: TENILLE ORTIZ

Title: Legal Instruments Examiner

Phone: (575) 234-2224

Email: tortiz@blm.gov

CONFIDENTIAL

Review and Appeal Rights

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

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☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-49878	² Pool Code 98117	³ Pool Name WC-025 G-09 S263504N; WOLFCAMP
⁴ Property Code 326125	⁵ Property Name TATANKA FED COM	⁶ Well Number 703H
⁷ OGRID No. 373910	⁸ Operator Name FRANKLIN MOUNTAIN ENERGY LLC	⁹ Elevation 3136.0'

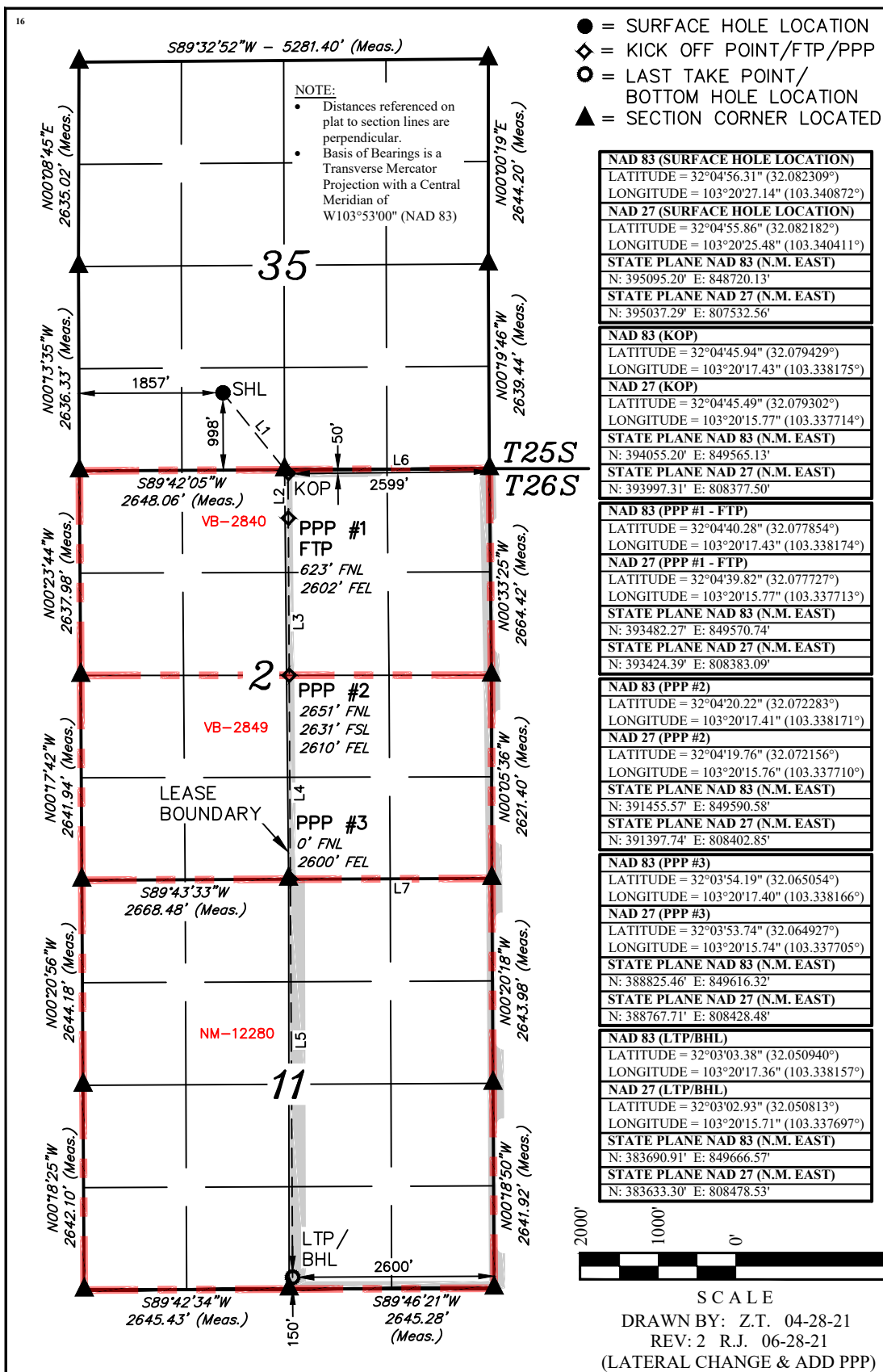
¹⁰Surface Location

UL or lot no. N	Section 35	Township 25S	Range 35E	Lot Idn	Feet from the 998	North/South line SOUTH	Feet from the 1857	East/West line WEST	County LEA
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¹¹ Bottom Hole Location If Different From Surface

UL or lot no. O	Section 11	Township 26S	Range 35E	Lot Idn	Feet from the 150	North/South line SOUTH	Feet from the 2600	East/West line EAST	County LEA
¹² Dedicated Acres 320		¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ Order No.			

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



17 OPERATOR CERTIFICATION

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

Signature Julia Christ Date 7/7/2021

Shelly Albrecht
Printed Name

salbrecht@fmellc.com
E-mail Address

LINE TABLE

LINE	DIRECTION	LENGTH
L1	S38°51'17"E	1340.21'
L2	S00°19'19"E	573.04'
L3	S00°19'19"E	2027.10'
L4	S00°19'19"E	2630.62'
L5	S00°19'19"E	5135.55'
L6	S89°39'43"W	2644.48'
L7	S89°45'53"W	2622.39'

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.

JUNE 03, 2021

Date of Survey _____
Signature and Seal of Professional Surveyor: _____

Certificate Number:

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

Submit Electronically
Via E-permitting

NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

Section 1 – Plan Description

Effective May 25, 2021

I. Operator: Franklin Mountain Energy, LLC **OGRID:** 373910 **Date:** 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: Tatanka North CTB: (f#) TBD [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

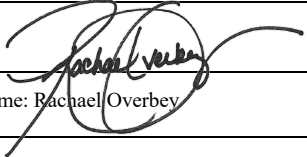
1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(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
Tatanka Fed Com 101H	TBD	C-2-26S-35E	20 FNL 1347 FWL	800 +/-	700 +/-	600 +/-
Tatanka Fed Com 102H	TBD	C-2-26S-35E	20 FNL 1372 FWL	800 +/-	700 +/-	600 +/-
Tatanka Fed Com 103H	TBD	B-2-26S-35E	20 FNL 1875 FEL	800 +/-	700 +/-	600 +/-
Tatanka Fed Com 104H	TBD	B-2-26S-35E	20 FNL 1850 FEL	800 +/-	700 +/-	600 +/-
Tatanka Fed Com 501H	TBD	C-2-26S-35E	20 FNL 1397 FWL	800 +/-	700 +/-	600 +/-
Tatanka Fed Com 502H	TBD	C-2-26S-35E	20 FNL 1422 FWL	800 +/-	700 +/-	600 +/-
Tatanka Fed Com 503H	TBD	B-2-26S-35E	20 FNL 1925 FEL	800 +/-	700 +/-	600 +/-
Tatanka Fed Com 504H	TBD	B-2-26S-35E	20 FNL 1900 FEL	800 +/-	700 +/-	600 +/-
Tatanka Fed Com 601H	TBD	D-2-26S-35E	10 FNL 545 FWL	800 +/-	700 +/-	600 +/-
Tatanka Fed Com 602H	TBD	N-35-25S-35E	998 FSL 1807 FWL	800 +/-	700 +/-	600 +/-
Tatanka Fed Com 603H	TBD	N-35-25S-35E	998 FSL 1907 FWL	800 +/-	700 +/-	600 +/-
Tatanka Fed Com 604H	TBD	A-2-26S-35E	20 FNL 885 FEL	800 +/-	700 +/-	600 +/-
Tatanka Fed Com 701H	TBD	D-2-26S-35E	10 FNL 620 FWL	800 +/-	700 +/-	600 +/-
Tatanka Fed Com 702H	TBD	N-35-25S-35E	998 FSL 1782 FWL	800 +/-	700 +/-	600 +/-
Tatanka Fed Com 703H	TBD 30-025-49878	N-35-25S-35E	998 FSL 1857 FWL	800 +/-	700 +/-	600 +/-
Tatanka Fed Com 704H	TBD	A-2-26S-35E	20 FNL 935 FEL	800 +/-	700 +/-	600 +/-
Tatanka Fed Com 705H	TBD	A-2-26S-35E	20 FNL 860 FEL	800 +/-	700 +/-	600 +/-
Tatanka Fed Com 801H	TBD	D-2-26S-35E	10 FNL 570 FWL	800 +/-	700 +/-	600 +/-
Tatanka Fed Com 802H	TBD	D-2-26S-35E	10 FNL 595 FWL	800 +/-	700 +/-	600 +/-
Tatanka Fed Com 803H	TBD	N-35-25S-35E	998 FSL 1832 FWL	800 +/-	700 +/-	600 +/-
Tatanka Fed Com 804H	TBD	N-35-25S-35E	998 FSL 1882 FWL	800 +/-	700 +/-	600 +/-
Tatanka Fed Com 805H	TBD	A-2-26S-35E	20 FNL 910 FEL	800 +/-	700 +/-	600 +/-
Tatanka Fed Com 806H	TBD	A-2-26S-35E	20 FNL 835 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
Tatanka Fed Com 101H	TBD	TBD	TBD	TBD	TBD	TBD
Tatanka Fed Com 102H	TBD	TBD	TBD	TBD	TBD	TBD
Tatanka Fed Com 103H	TBD	TBD	TBD	TBD	TBD	TBD
Tatanka Fed Com 104H	TBD	TBD	TBD	TBD	TBD	TBD
Tatanka Fed Com 501H	TBD	TBD	TBD	TBD	TBD	TBD
Tatanka Fed Com 502H	TBD	TBD	TBD	TBD	TBD	TBD
Tatanka Fed Com 503H	TBD	TBD	TBD	TBD	TBD	TBD
Tatanka Fed Com 504H	TBD	TBD	TBD	TBD	TBD	TBD
Tatanka Fed Com 601H	TBD	7/15/2022	12/15/2022	2/28/2023	3/28/2023	4/2/2023
Tatanka Fed Com 602H	TBD	6/15/2022	12/15/2022	1/30/2023	3/10/2023	3/13/2023
Tatanka Fed Com 603H	TBD	6/15/2022	12/15/2022	1/30/2023	3/10/2023	3/13/2023
Tatanka Fed Com 604H	TBD	7/1/2022	12/15/2022	1/30/2023	3/1/2023	3/4/2023
Tatanka Fed Com 701H	TBD	7/15/2022	12/15/2022	2/28/2023	3/28/2023	4/2/2023
Tatanka Fed Com 702H	TBD	6/15/2022	12/15/2022	1/30/2023	3/10/2023	3/13/2023
Tatanka Fed Com 703H	TBD 30-025-49878	6/15/2022	12/15/2022	1/30/2023	3/10/2023	3/13/2023
Tatanka Fed Com 704H	TBD	7/1/2022	12/15/2022	1/30/2023	3/1/2023	3/4/2023
Tatanka Fed Com 705H	TBD	7/1/2022	12/15/2022	1/30/2023	3/1/2023	3/4/2023
Tatanka Fed Com 801H	TBD	7/15/2022	12/15/2022	2/28/2023	3/28/2023	4/2/2023
Tatanka Fed Com 802H	TBD	7/15/2022	12/15/2022	2/28/2023	3/28/2023	4/2/2023
Tatanka Fed Com 803H	TBD	6/15/2022	12/15/2022	1/30/2023	3/10/2023	3/13/2023
Tatanka Fed Com 804H	TBD	6/15/2022	12/15/2022	1/30/2023	3/10/2023	3/13/2023
Tatanka Fed Com 805H	TBD	7/1/2022	12/15/2022	1/30/2023	3/1/2023	3/4/2023
Tatanka Fed Com 806H	TBD	7/1/2022	12/15/2022	1/30/2023	3/1/2023	3/4/2023



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.



Tatanka Fed Com 703H

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)	3,130'	30'	30'	0	Sand/Gravels/unconsolidated
Rustler	2,364'	796'			Carbonates
Salado	1,892'	1,268'			Salt, Carbonate & Clastics
Base Salt	-337'	3,497'			Shaley Carbonate & Shale
Lamar	-1,951'	5,111'			Carbonate & Clastics
Bell Canyon	-2,031'	5,191'			Sandstone - oil/gas/water
Cherry Canyon	-2,901'	6,061'			Sandstone - oil/gas/water
Brushy Canyon	-4,337'	7,497'			Sand/carb/shales - oil/gas/water
Bone Spring Lime	-5,655'	8,815'			Shale/Carbonates - oil/gas
Avalon	-5,693'	8,853'			Shale/Carbonates - oil/gas
Chert Zone	-5,873'	9,033'			Carbonate/Chert
First Bone Spring Sand	-6,926'	10,086'			Sandstone - oil/gas/water
Second Bone Spring Carbonates	-7,095'	10,255'			Shale/Carbonates - oil/gas
Second Bone Spring Sand	-7,443'	10,603'			Sandstone - oil/gas/water
Third Bone Spring Carbonates	-8,029'	11,189'			Shale/Carbonates - oil/gas
Third Bone Spring Sand	-8,727'	11,887'			Sandstone - oil/gas/water
Wolfcamp	-9,012'	12,172'			Overpressure shale/sand- Oil/Gas
Wolfcamp A	-9,075'	12,235'			Overpressure Shale - Oil/Gas
HZ Target	-9,184'	12,344'			Overpressure Shale - Oil/Gas
Wolfcamp B	-9,288'	12,448'			Overpressure Shale - Oil/Gas
Wolfcamp C	-9,544'	12,704'			Overpressure Shale - Oil/Gas

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

Upper Permian Sands	0- 400'	Fresh Water
Delaware Sands	5,191'	Oil
Bone Spring	10,086'	Oil
Wolfcamp	12,172'	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	5200	1.77	1.74	2.97	3.38
Intermediate 7 5/8"	29.7	HCP-110	8280	7150	827	Stinger 564	12350	1.07	1.24	1.77	1.21
Long string 5 1/2"	23	P-110	14520	14520	729	Eagle 606 TVD	22642 12344	1.32	1.37	1.17	0.98 1.58



7 5/8" casing will be set at 12,350' MD/12,138' TVD at 40° Inc. Stress calculations on 5 1/2" casing performed assuming 22,642' depth. Actual max vertical depth is 12,344'.

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%
					0.125pps Poly-E-Flake					1% CaCl ₂ , 0.125pps Celo-Flake				
Int1	12.25	9.625	5200	1523	Lead, 12.8 ppg, Class C 5% Salt,	1.79	9.74	0	154	Tail, 14.8 ppg, Class C,	1.33	6.37	4900	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	12350	384	Lite Fill, 9.5 ppg, Class C 3lb/sk	2.13	5.97	4150	94	NeoCem 14.8 ppg, Class C	1.33	6.29	11350	50%
					Bridgemaker Gel, 5% Salt, 5pps LCM, 0.25pps Cello-Flake					0.25 pps Cello-Flake, 2% CaCl ₂				
Prod	6.75	5.5	22642	842	Tail, 14.5 ppg, Gas Migration Control	1.34	6.22	11350						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' – 12,350'	Brine	8.8-10.2	28-34	N/c
12,350' – 22,642' Lateral	Oil Base	10.0-12.0	58-68	3 - 6

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

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

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

7. Auxiliary well control and monitoring equipment:

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

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

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

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

8. Logging, testing and coring program:

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

Open-hole logs are not planned for this well.

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

The estimated bottom-hole temperature at 12,344' TVD (deepest point of the well) is 195F with an estimated maximum bottom-hole pressure (BHP) at the same point of 8,023 psig (based on 12.5 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: Tatanka Fed Com
Well: Tatanka Fed Com 703H
Wellbore: OH
Design: Plan #1

3136' GE + 30' KB @ 3166.00usft



Azimuths to Grid North
True North: -0.53°
Magnetic North: 5.90°

Magnetic Field
Strength: 47432.2nT
Dip Angle: 59.80°
Date: 6/25/2021
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



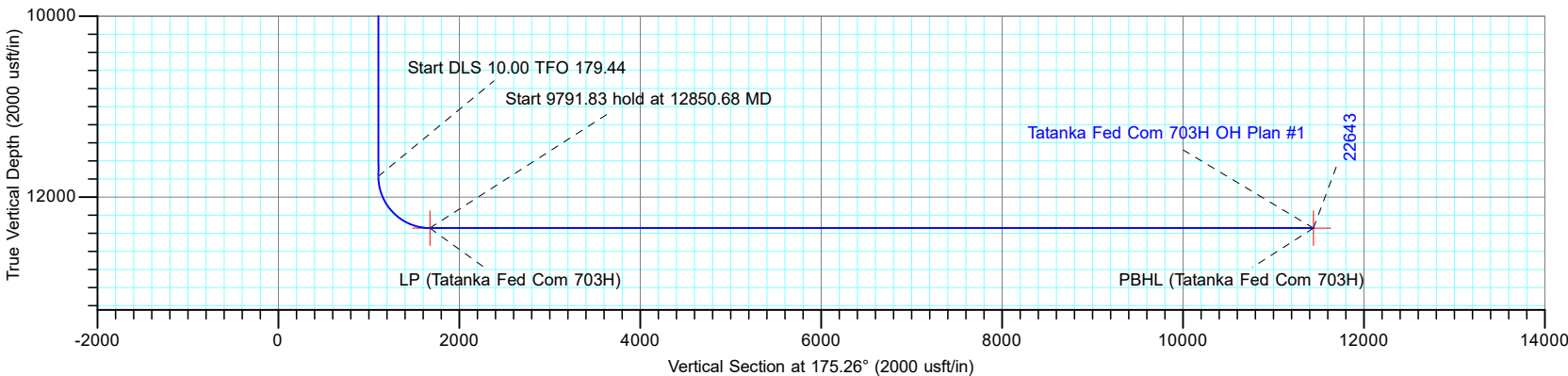
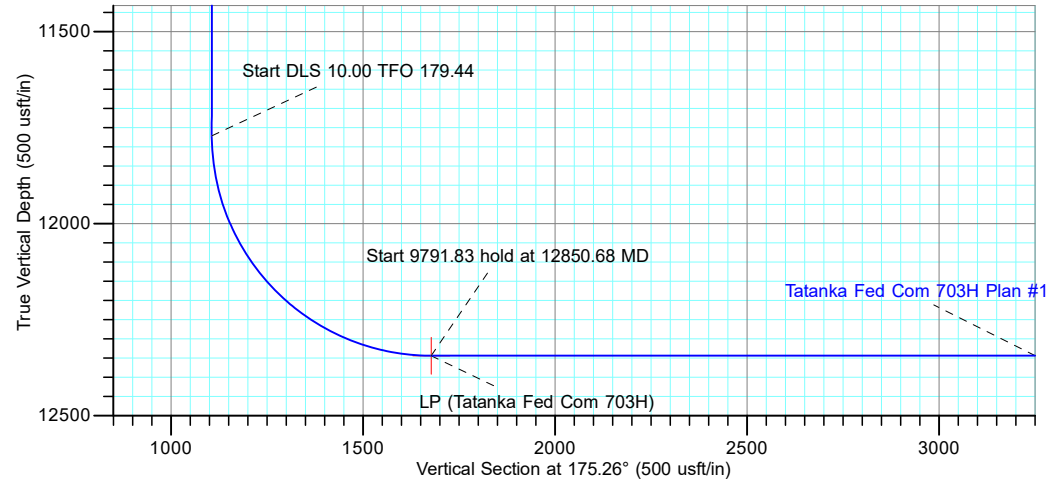
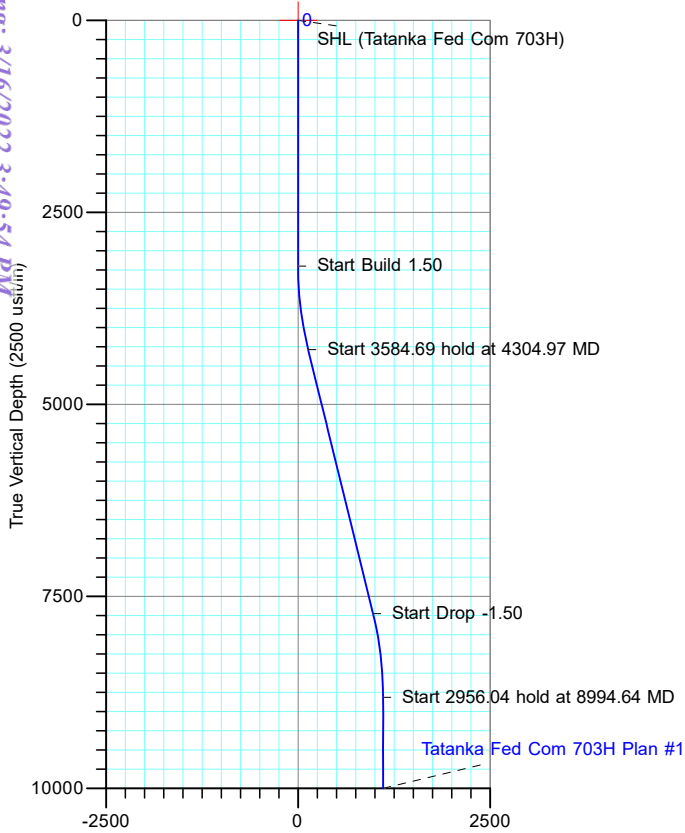
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SECTION DETAILS

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	
3200.00	0.00	0.00	3200.00	0.00	0.00	0.00	0.00	0.00	Start Build 1.50
4304.97	16.57	140.91	4289.63	-123.18	100.08	1.50	140.91	131.03	Start 3584.69 hold at 4304.97 MD
7889.67	16.57	140.91	7725.37	-916.82	744.92	0.00	0.00	975.29	Start Drop -1.50
8994.64	0.00	0.00	8815.00	-1040.00	845.00	1.50	180.00	1106.32	Start 2956.04 hold at 8994.64 MD
11950.68	0.00	0.00	11771.04	-1040.00	845.00	0.00	0.00	1106.32	Start DLS 10.00 TFO 179.44
12850.68	90.00	179.44	12344.00	-1612.93	850.61	10.00	179.44	1677.75	Start 9791.83 hold at 12850.68 MD
22642.51	90.00	179.44	12344.00	-11404.29	946.44	0.00	0.00	11443.50	TD at 22642.51

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
LP (Tatanka Fed Com 703H)	12344.00	-1612.93	850.61	32.077854	-103.338174
PBHL (Tatanka Fed Com 703H)	12344.00	-11404.29	946.44	32.050940	-103.338157
SHL (Tatanka Fed Com 703H)	0.00	0.00	0.00	32.082309	-103.340872



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

Plan: Plan #1 (Tatanka Fed Com 703H/OH)
Tatanka Fed Com
Created By: Dustin Ault Date: 12:07, June 25 2021
Date: _____
Approved: _____ Date: _____

Page 18 of 169

Franklin Mountain Energy

Project: Lea County, NM (NAD83)
Site: Tatanka Fed Com
Well: Tatanka Fed Com 703H
Wellbore: OH
Design: Plan #1



Azimuths to Grid North
True North: -0.53°
Magnetic North: 5.90°

Magnetic Field
Strength: 47432.2nT
Dip Angle: 59.80°
Date: 6/25/2021
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

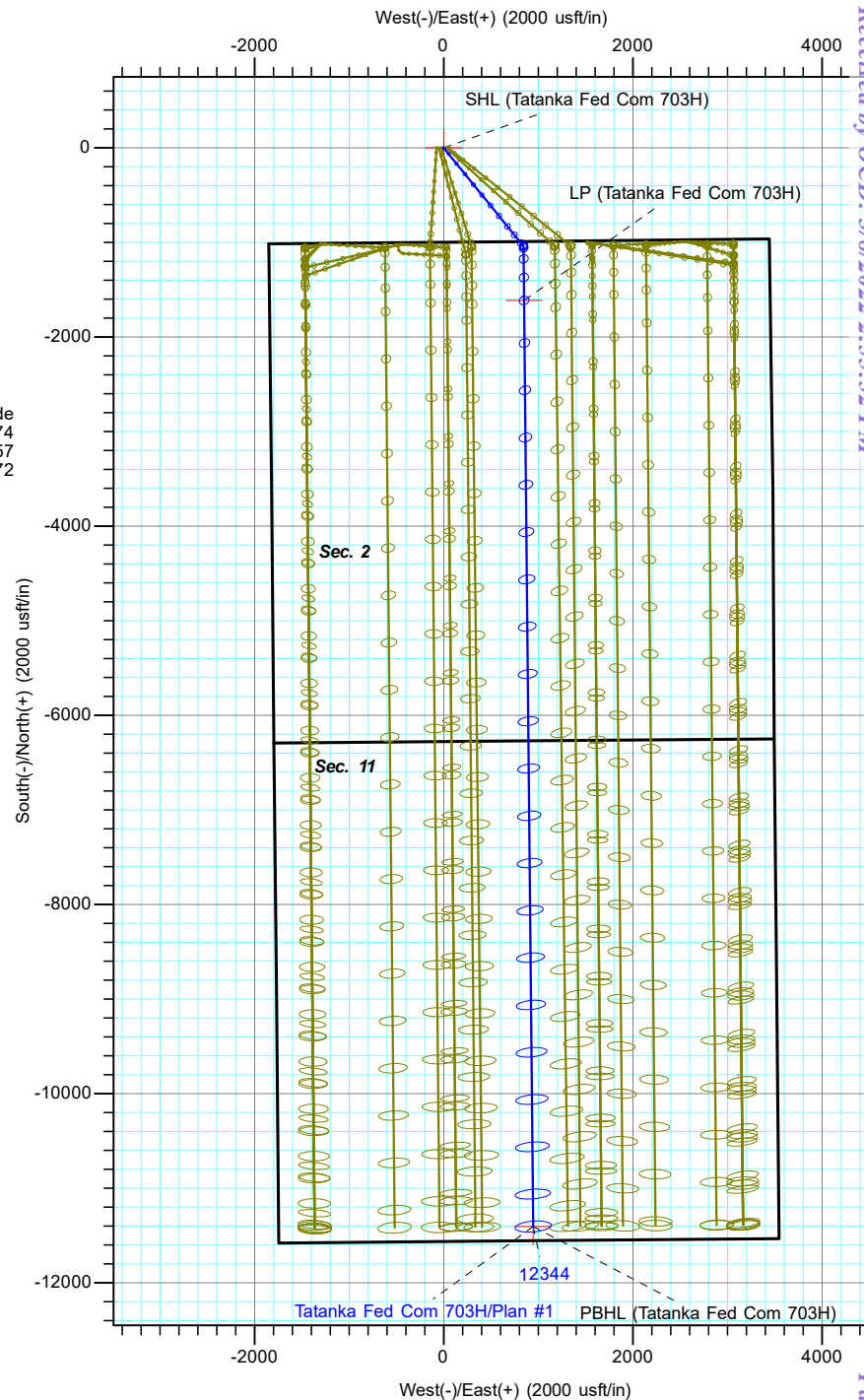
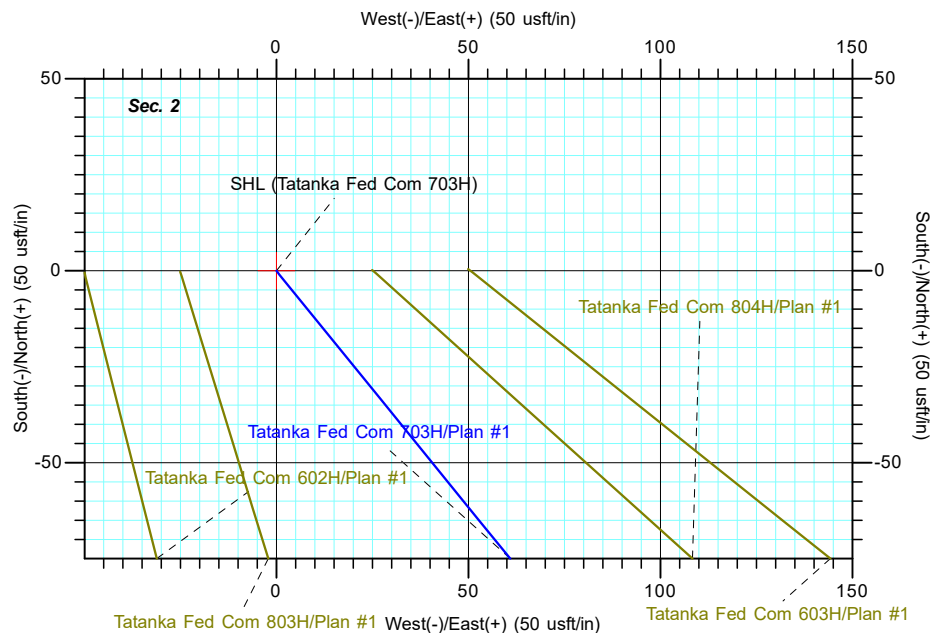


DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
LP (Tatanka Fed Com 703H)	12344.00	-1612.93	850.61	393482.27	849570.74	32.077854	-103.338174
PBHL (Tatanka Fed Com 703H)	12344.00	-11404.29	946.44	383690.91	849666.57	32.050940	-103.338157
SHL (Tatanka Fed Com 703H)	0.00	0.00	0.00	395095.20	848720.13	32.082309	-103.340872

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	
3200.00	0.00	0.00	3200.00	0.00	0.00	0.00	0.00	0.00	Start Build 1.50
4304.97	16.57	140.91	4289.63	-123.18	100.08	1.50	140.91	131.03	Start 3584.69 hold at 4304.97 MD
7889.67	16.57	140.91	7725.37	-916.82	744.92	0.00	0.00	975.29	Start Drop -1.50
8994.64	0.00	0.00	8815.00	-1040.00	845.00	1.50	180.00	1106.32	Start 2956.04 hold at 8994.64 MD
11950.68	0.00	0.00	11771.04	-1040.00	845.00	0.00	0.00	1106.32	Start DLS 10.00 TFO 179.44
12850.68	90.00	179.44	12344.00	-1612.93	850.61	10.00	179.44	1677.75	Start 9791.83 hold at 12850.68 MD
22642.51	90.00	179.44	12344.00	-11404.29	946.44	0.00	0.00	11443.50	TD at 22642.51



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

Plan: Plan #1 (Tatanka Fed Com 703H/OH)
Tatanka Fed Com
Created By: Dustin Ault Date: 12/08, June 25 2021
Date: _____
Approved: _____ Date: _____



Franklin Mountain Energy

Lea County, NM (NAD83)

Tatanka Fed Com

Tatanka Fed Com 703H

OH

Plan: Plan #1

Standard Planning Report

25 June, 2021





Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Company:	Franklin Mountain Energy	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Project:	Lea County, NM (NAD83)	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site:	Tatanka Fed Com	North Reference:	Grid
Well:	Tatanka Fed Com 703H	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	Tatanka Fed Com				
Site Position:		Northing:	394,075.36 usft	Latitude:	32.079539
From:	Map	Easting:	847,416.74 usft	Longitude:	-103.345111
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.52

Well	Tatanka Fed Com 703H					
Well Position	+N/-S	1,019.84 usft	Northing:	395,095.20 usft	Latitude:	32.082309
	+E/-W	1,303.39 usft	Easting:	848,720.13 usft	Longitude:	-103.340873
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	3,136.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	6/25/2021	6.42	59.80	47,432.17525488

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	175.26

Plan Survey Tool Program	Date	6/25/2021		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	22,641.66 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	
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,304.97	16.57	140.91	4,289.63	-123.18	100.08	1.50	1.50	0.00	140.91	
7,889.67	16.57	140.91	7,725.37	-916.82	744.92	0.00	0.00	0.00	0.00	
8,994.64	0.00	0.00	8,815.00	-1,040.00	845.00	1.50	-1.50	0.00	180.00	
11,950.68	0.00	0.00	11,771.04	-1,040.00	845.00	0.00	0.00	0.00	0.00	
12,850.68	90.00	179.44	12,344.00	-1,612.93	850.61	10.00	10.00	19.94	179.44	
22,642.51	90.00	179.44	12,344.00	-11,404.29	946.44	0.00	0.00	0.00	0.00	PBHL (Tatanka Fed C



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Company:	Franklin Mountain Energy	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Project:	Lea County, NM (NAD83)	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site:	Tatanka Fed Com	North Reference:	Grid
Well:	Tatanka Fed Com 703H	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 (Tatanka Fed Com 703H)									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 1.50									
3,300.00	1.50	140.91	3,299.99	-1.02	0.83	1.08	1.50	1.50	0.00
3,400.00	3.00	140.91	3,399.91	-4.06	3.30	4.32	1.50	1.50	0.00
3,500.00	4.50	140.91	3,499.69	-9.14	7.43	9.72	1.50	1.50	0.00
3,600.00	6.00	140.91	3,599.27	-16.24	13.20	17.28	1.50	1.50	0.00
3,700.00	7.50	140.91	3,698.57	-25.36	20.61	26.98	1.50	1.50	0.00
3,800.00	9.00	140.91	3,797.54	-36.50	29.65	38.83	1.50	1.50	0.00
3,900.00	10.50	140.91	3,896.09	-49.64	40.33	52.81	1.50	1.50	0.00
4,000.00	12.00	140.91	3,994.16	-64.78	52.64	68.91	1.50	1.50	0.00
4,100.00	13.50	140.91	4,091.70	-81.91	66.55	87.13	1.50	1.50	0.00
4,200.00	15.00	140.91	4,188.62	-101.01	82.07	107.46	1.50	1.50	0.00
4,304.97	16.57	140.91	4,289.63	-123.18	100.08	131.03	1.50	1.50	0.00
Start 3584.69 hold at 4304.97 MD									
4,400.00	16.57	140.91	4,380.70	-144.22	117.18	153.41	0.00	0.00	0.00
4,500.00	16.57	140.91	4,476.55	-166.36	135.17	176.97	0.00	0.00	0.00
4,600.00	16.57	140.91	4,572.39	-188.50	153.15	200.52	0.00	0.00	0.00
4,700.00	16.57	140.91	4,668.24	-210.64	171.14	224.07	0.00	0.00	0.00
4,800.00	16.57	140.91	4,764.08	-232.78	189.13	247.62	0.00	0.00	0.00
4,900.00	16.57	140.91	4,859.93	-254.92	207.12	271.17	0.00	0.00	0.00



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Company:	Franklin Mountain Energy	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Project:	Lea County, NM (NAD83)	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site:	Tatanka Fed Com	North Reference:	Grid
Well:	Tatanka Fed Com 703H	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)
5,000.00	16.57	140.91	4,955.77	-277.06	225.11	294.72	0.00	0.00	0.00
5,100.00	16.57	140.91	5,051.62	-299.20	243.10	318.28	0.00	0.00	0.00
5,200.00	16.57	140.91	5,147.46	-321.34	261.09	341.83	0.00	0.00	0.00
5,300.00	16.57	140.91	5,243.31	-343.48	279.07	365.38	0.00	0.00	0.00
5,400.00	16.57	140.91	5,339.15	-365.62	297.06	388.93	0.00	0.00	0.00
5,500.00	16.57	140.91	5,435.00	-387.75	315.05	412.48	0.00	0.00	0.00
5,600.00	16.57	140.91	5,530.84	-409.89	333.04	436.03	0.00	0.00	0.00
5,700.00	16.57	140.91	5,626.69	-432.03	351.03	459.59	0.00	0.00	0.00
5,800.00	16.57	140.91	5,722.53	-454.17	369.02	483.14	0.00	0.00	0.00
5,900.00	16.57	140.91	5,818.38	-476.31	387.00	506.69	0.00	0.00	0.00
6,000.00	16.57	140.91	5,914.22	-498.45	404.99	530.24	0.00	0.00	0.00
6,100.00	16.57	140.91	6,010.07	-520.59	422.98	553.79	0.00	0.00	0.00
6,200.00	16.57	140.91	6,105.91	-542.73	440.97	577.34	0.00	0.00	0.00
6,300.00	16.57	140.91	6,201.76	-564.87	458.96	600.90	0.00	0.00	0.00
6,400.00	16.57	140.91	6,297.60	-587.01	476.95	624.45	0.00	0.00	0.00
6,500.00	16.57	140.91	6,393.45	-609.15	494.94	648.00	0.00	0.00	0.00
6,600.00	16.57	140.91	6,489.29	-631.29	512.92	671.55	0.00	0.00	0.00
6,700.00	16.57	140.91	6,585.14	-653.43	530.91	695.10	0.00	0.00	0.00
6,800.00	16.57	140.91	6,680.98	-675.57	548.90	718.65	0.00	0.00	0.00
6,900.00	16.57	140.91	6,776.83	-697.71	566.89	742.21	0.00	0.00	0.00
7,000.00	16.57	140.91	6,872.67	-719.85	584.88	765.76	0.00	0.00	0.00
7,100.00	16.57	140.91	6,968.52	-741.99	602.87	789.31	0.00	0.00	0.00
7,200.00	16.57	140.91	7,064.36	-764.13	620.86	812.86	0.00	0.00	0.00
7,300.00	16.57	140.91	7,160.21	-786.27	638.84	836.41	0.00	0.00	0.00
7,400.00	16.57	140.91	7,256.05	-808.41	656.83	859.96	0.00	0.00	0.00
7,500.00	16.57	140.91	7,351.90	-830.55	674.82	883.52	0.00	0.00	0.00
7,600.00	16.57	140.91	7,447.74	-852.69	692.81	907.07	0.00	0.00	0.00
7,700.00	16.57	140.91	7,543.59	-874.83	710.80	930.62	0.00	0.00	0.00
7,800.00	16.57	140.91	7,639.43	-896.97	728.79	954.17	0.00	0.00	0.00
7,889.67	16.57	140.91	7,725.37	-916.82	744.92	975.29	0.00	0.00	0.00
Start Drop -1.50									
7,900.00	16.42	140.91	7,735.28	-919.10	746.77	977.71	1.50	-1.50	0.00
8,000.00	14.92	140.91	7,831.56	-940.06	763.80	1,000.01	1.50	-1.50	0.00
8,100.00	13.42	140.91	7,928.52	-959.06	779.23	1,020.22	1.50	-1.50	0.00
8,200.00	11.92	140.91	8,026.08	-976.08	793.06	1,038.33	1.50	-1.50	0.00
8,300.00	10.42	140.91	8,124.18	-991.11	805.28	1,054.32	1.50	-1.50	0.00
8,400.00	8.92	140.91	8,222.76	-1,004.15	815.87	1,068.19	1.50	-1.50	0.00
8,500.00	7.42	140.91	8,321.74	-1,015.18	824.83	1,079.92	1.50	-1.50	0.00
8,600.00	5.92	140.91	8,421.06	-1,024.19	832.16	1,089.51	1.50	-1.50	0.00
8,700.00	4.42	140.91	8,520.65	-1,031.18	837.84	1,096.95	1.50	-1.50	0.00
8,800.00	2.92	140.91	8,620.44	-1,036.15	841.87	1,102.23	1.50	-1.50	0.00
8,900.00	1.42	140.91	8,720.37	-1,039.09	844.26	1,105.36	1.50	-1.50	0.00
8,994.64	0.00	0.00	8,815.00	-1,040.00	845.00	1,106.32	1.50	-1.50	0.00
Start 2956.04 hold at 8994.64 MD									
9,000.00	0.00	0.00	8,820.36	-1,040.00	845.00	1,106.32	0.00	0.00	0.00
9,100.00	0.00	0.00	8,920.36	-1,040.00	845.00	1,106.32	0.00	0.00	0.00
9,200.00	0.00	0.00	9,020.36	-1,040.00	845.00	1,106.32	0.00	0.00	0.00
9,300.00	0.00	0.00	9,120.36	-1,040.00	845.00	1,106.32	0.00	0.00	0.00
9,400.00	0.00	0.00	9,220.36	-1,040.00	845.00	1,106.32	0.00	0.00	0.00
9,500.00	0.00	0.00	9,320.36	-1,040.00	845.00	1,106.32	0.00	0.00	0.00
9,600.00	0.00	0.00	9,420.36	-1,040.00	845.00	1,106.32	0.00	0.00	0.00
9,700.00	0.00	0.00	9,520.36	-1,040.00	845.00	1,106.32	0.00	0.00	0.00
9,800.00	0.00	0.00	9,620.36	-1,040.00	845.00	1,106.32	0.00	0.00	0.00
9,900.00	0.00	0.00	9,720.36	-1,040.00	845.00	1,106.32	0.00	0.00	0.00



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Company:	Franklin Mountain Energy	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Project:	Lea County, NM (NAD83)	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site:	Tatanka Fed Com	North Reference:	Grid
Well:	Tatanka Fed Com 703H	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)
10,000.00	0.00	0.00	9,820.36	-1,040.00	845.00	1,106.32	0.00	0.00	0.00
10,100.00	0.00	0.00	9,920.36	-1,040.00	845.00	1,106.32	0.00	0.00	0.00
10,200.00	0.00	0.00	10,020.36	-1,040.00	845.00	1,106.32	0.00	0.00	0.00
10,300.00	0.00	0.00	10,120.36	-1,040.00	845.00	1,106.32	0.00	0.00	0.00
10,400.00	0.00	0.00	10,220.36	-1,040.00	845.00	1,106.32	0.00	0.00	0.00
10,500.00	0.00	0.00	10,320.36	-1,040.00	845.00	1,106.32	0.00	0.00	0.00
10,600.00	0.00	0.00	10,420.36	-1,040.00	845.00	1,106.32	0.00	0.00	0.00
10,700.00	0.00	0.00	10,520.36	-1,040.00	845.00	1,106.32	0.00	0.00	0.00
10,800.00	0.00	0.00	10,620.36	-1,040.00	845.00	1,106.32	0.00	0.00	0.00
10,900.00	0.00	0.00	10,720.36	-1,040.00	845.00	1,106.32	0.00	0.00	0.00
11,000.00	0.00	0.00	10,820.36	-1,040.00	845.00	1,106.32	0.00	0.00	0.00
11,100.00	0.00	0.00	10,920.36	-1,040.00	845.00	1,106.32	0.00	0.00	0.00
11,200.00	0.00	0.00	11,020.36	-1,040.00	845.00	1,106.32	0.00	0.00	0.00
11,300.00	0.00	0.00	11,120.36	-1,040.00	845.00	1,106.32	0.00	0.00	0.00
11,400.00	0.00	0.00	11,220.36	-1,040.00	845.00	1,106.32	0.00	0.00	0.00
11,500.00	0.00	0.00	11,320.36	-1,040.00	845.00	1,106.32	0.00	0.00	0.00
11,600.00	0.00	0.00	11,420.36	-1,040.00	845.00	1,106.32	0.00	0.00	0.00
11,700.00	0.00	0.00	11,520.36	-1,040.00	845.00	1,106.32	0.00	0.00	0.00
11,800.00	0.00	0.00	11,620.36	-1,040.00	845.00	1,106.32	0.00	0.00	0.00
11,900.00	0.00	0.00	11,720.36	-1,040.00	845.00	1,106.32	0.00	0.00	0.00
11,950.68	0.00	0.00	11,771.04	-1,040.00	845.00	1,106.32	0.00	0.00	0.00
Start DLS 10.00 TFO 179.44									
12,000.00	4.93	179.44	11,820.30	-1,042.12	845.02	1,108.44	10.00	10.00	0.00
12,050.00	9.93	179.44	11,869.86	-1,048.59	845.08	1,114.89	10.00	10.00	0.00
12,100.00	14.93	179.44	11,918.67	-1,059.35	845.19	1,125.62	10.00	10.00	0.00
12,150.00	19.93	179.44	11,966.36	-1,074.32	845.34	1,140.55	10.00	10.00	0.00
12,200.00	24.93	179.44	12,012.56	-1,093.39	845.52	1,159.57	10.00	10.00	0.00
12,250.00	29.93	179.44	12,056.93	-1,116.42	845.75	1,182.54	10.00	10.00	0.00
12,300.00	34.93	179.44	12,099.12	-1,143.22	846.01	1,209.28	10.00	10.00	0.00
12,350.00	39.93	179.44	12,138.81	-1,173.60	846.31	1,239.58	10.00	10.00	0.00
12,400.00	44.93	179.44	12,175.70	-1,207.33	846.64	1,273.21	10.00	10.00	0.00
12,450.00	49.93	179.44	12,209.51	-1,244.14	847.00	1,309.92	10.00	10.00	0.00
12,500.00	54.93	179.44	12,239.99	-1,283.75	847.39	1,349.44	10.00	10.00	0.00
12,550.00	59.93	179.44	12,266.90	-1,325.88	847.80	1,391.45	10.00	10.00	0.00
12,600.00	64.93	179.44	12,290.03	-1,370.18	848.23	1,435.64	10.00	10.00	0.00
12,650.00	69.93	179.44	12,309.21	-1,416.34	848.68	1,481.67	10.00	10.00	0.00
12,700.00	74.93	179.44	12,324.30	-1,463.99	849.15	1,529.20	10.00	10.00	0.00
12,750.00	79.93	179.44	12,335.17	-1,512.77	849.63	1,577.86	10.00	10.00	0.00
12,800.00	84.93	179.44	12,341.76	-1,562.32	850.11	1,627.27	10.00	10.00	0.00
12,850.68	90.00	179.44	12,344.00	-1,612.93	850.61	1,677.75	10.00	10.00	0.00
Start 9791.83 hold at 12850.68 MD - LP (Tatanka Fed Com 703H)									
12,900.00	90.00	179.44	12,344.00	-1,662.25	851.09	1,726.94	0.00	0.00	0.00
13,000.00	90.00	179.44	12,344.00	-1,762.24	852.07	1,826.67	0.00	0.00	0.00
13,100.00	90.00	179.44	12,344.00	-1,862.24	853.05	1,926.41	0.00	0.00	0.00
13,200.00	90.00	179.44	12,344.00	-1,962.23	854.03	2,026.14	0.00	0.00	0.00
13,300.00	90.00	179.44	12,344.00	-2,062.23	855.01	2,125.88	0.00	0.00	0.00
13,400.00	90.00	179.44	12,344.00	-2,162.22	855.98	2,225.61	0.00	0.00	0.00
13,500.00	90.00	179.44	12,344.00	-2,262.22	856.96	2,325.34	0.00	0.00	0.00
13,600.00	90.00	179.44	12,344.00	-2,362.21	857.94	2,425.08	0.00	0.00	0.00
13,700.00	90.00	179.44	12,344.00	-2,462.21	858.92	2,524.81	0.00	0.00	0.00
13,800.00	90.00	179.44	12,344.00	-2,562.20	859.90	2,624.54	0.00	0.00	0.00
13,900.00	90.00	179.44	12,344.00	-2,662.20	860.88	2,724.28	0.00	0.00	0.00
14,000.00	90.00	179.44	12,344.00	-2,762.19	861.86	2,824.01	0.00	0.00	0.00
14,100.00	90.00	179.44	12,344.00	-2,862.19	862.83	2,923.74	0.00	0.00	0.00



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Company:	Franklin Mountain Energy	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Project:	Lea County, NM (NAD83)	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site:	Tatanka Fed Com	North Reference:	Grid
Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,200.00	90.00	179.44	12,344.00	-2,962.18	863.81	3,023.48	0.00	0.00	0.00
14,300.00	90.00	179.44	12,344.00	-3,062.18	864.79	3,123.21	0.00	0.00	0.00
14,400.00	90.00	179.44	12,344.00	-3,162.17	865.77	3,222.94	0.00	0.00	0.00
14,500.00	90.00	179.44	12,344.00	-3,262.17	866.75	3,322.68	0.00	0.00	0.00
14,600.00	90.00	179.44	12,344.00	-3,362.16	867.73	3,422.41	0.00	0.00	0.00
14,700.00	90.00	179.44	12,344.00	-3,462.16	868.71	3,522.15	0.00	0.00	0.00
14,800.00	90.00	179.44	12,344.00	-3,562.16	869.69	3,621.88	0.00	0.00	0.00
14,900.00	90.00	179.44	12,344.00	-3,662.15	870.66	3,721.61	0.00	0.00	0.00
15,000.00	90.00	179.44	12,344.00	-3,762.15	871.64	3,821.35	0.00	0.00	0.00
15,100.00	90.00	179.44	12,344.00	-3,862.14	872.62	3,921.08	0.00	0.00	0.00
15,200.00	90.00	179.44	12,344.00	-3,962.14	873.60	4,020.81	0.00	0.00	0.00
15,300.00	90.00	179.44	12,344.00	-4,062.13	874.58	4,120.55	0.00	0.00	0.00
15,400.00	90.00	179.44	12,344.00	-4,162.13	875.56	4,220.28	0.00	0.00	0.00
15,500.00	90.00	179.44	12,344.00	-4,262.12	876.54	4,320.01	0.00	0.00	0.00
15,600.00	90.00	179.44	12,344.00	-4,362.12	877.52	4,419.75	0.00	0.00	0.00
15,700.00	90.00	179.44	12,344.00	-4,462.11	878.49	4,519.48	0.00	0.00	0.00
15,800.00	90.00	179.44	12,344.00	-4,562.11	879.47	4,619.22	0.00	0.00	0.00
15,900.00	90.00	179.44	12,344.00	-4,662.10	880.45	4,718.95	0.00	0.00	0.00
16,000.00	90.00	179.44	12,344.00	-4,762.10	881.43	4,818.68	0.00	0.00	0.00
16,100.00	90.00	179.44	12,344.00	-4,862.09	882.41	4,918.42	0.00	0.00	0.00
16,200.00	90.00	179.44	12,344.00	-4,962.09	883.39	5,018.15	0.00	0.00	0.00
16,300.00	90.00	179.44	12,344.00	-5,062.08	884.37	5,117.88	0.00	0.00	0.00
16,400.00	90.00	179.44	12,344.00	-5,162.08	885.34	5,217.62	0.00	0.00	0.00
16,500.00	90.00	179.44	12,344.00	-5,262.07	886.32	5,317.35	0.00	0.00	0.00
16,600.00	90.00	179.44	12,344.00	-5,362.07	887.30	5,417.08	0.00	0.00	0.00
16,700.00	90.00	179.44	12,344.00	-5,462.06	888.28	5,516.82	0.00	0.00	0.00
16,800.00	90.00	179.44	12,344.00	-5,562.06	889.26	5,616.55	0.00	0.00	0.00
16,900.00	90.00	179.44	12,344.00	-5,662.05	890.24	5,716.28	0.00	0.00	0.00
17,000.00	90.00	179.44	12,344.00	-5,762.05	891.22	5,816.02	0.00	0.00	0.00
17,100.00	90.00	179.44	12,344.00	-5,862.05	892.20	5,915.75	0.00	0.00	0.00
17,200.00	90.00	179.44	12,344.00	-5,962.04	893.17	6,015.49	0.00	0.00	0.00
17,300.00	90.00	179.44	12,344.00	-6,062.04	894.15	6,115.22	0.00	0.00	0.00
17,400.00	90.00	179.44	12,344.00	-6,162.03	895.13	6,214.95	0.00	0.00	0.00
17,500.00	90.00	179.44	12,344.00	-6,262.03	896.11	6,314.69	0.00	0.00	0.00
17,600.00	90.00	179.44	12,344.00	-6,362.02	897.09	6,414.42	0.00	0.00	0.00
17,700.00	90.00	179.44	12,344.00	-6,462.02	898.07	6,514.15	0.00	0.00	0.00
17,800.00	90.00	179.44	12,344.00	-6,562.01	899.05	6,613.89	0.00	0.00	0.00
17,900.00	90.00	179.44	12,344.00	-6,662.01	900.03	6,713.62	0.00	0.00	0.00
18,000.00	90.00	179.44	12,344.00	-6,762.00	901.00	6,813.35	0.00	0.00	0.00
18,100.00	90.00	179.44	12,344.00	-6,862.00	901.98	6,913.09	0.00	0.00	0.00
18,200.00	90.00	179.44	12,344.00	-6,961.99	902.96	7,012.82	0.00	0.00	0.00
18,300.00	90.00	179.44	12,344.00	-7,061.99	903.94	7,112.55	0.00	0.00	0.00
18,400.00	90.00	179.44	12,344.00	-7,161.98	904.92	7,212.29	0.00	0.00	0.00
18,500.00	90.00	179.44	12,344.00	-7,261.98	905.90	7,312.02	0.00	0.00	0.00
18,600.00	90.00	179.44	12,344.00	-7,361.97	906.88	7,411.76	0.00	0.00	0.00
18,700.00	90.00	179.44	12,344.00	-7,461.97	907.85	7,511.49	0.00	0.00	0.00
18,800.00	90.00	179.44	12,344.00	-7,561.96	908.83	7,611.22	0.00	0.00	0.00
18,900.00	90.00	179.44	12,344.00	-7,661.96	909.81	7,710.96	0.00	0.00	0.00
19,000.00	90.00	179.44	12,344.00	-7,761.95	910.79	7,810.69	0.00	0.00	0.00
19,100.00	90.00	179.44	12,344.00	-7,861.95	911.77	7,910.42	0.00	0.00	0.00
19,200.00	90.00	179.44	12,344.00	-7,961.94	912.75	8,010.16	0.00	0.00	0.00
19,300.00	90.00	179.44	12,344.00	-8,061.94	913.73	8,109.89	0.00	0.00	0.00
19,400.00	90.00	179.44	12,344.00	-8,161.94	914.71	8,209.62	0.00	0.00	0.00
19,500.00	90.00	179.44	12,344.00	-8,261.93	915.68	8,309.36	0.00	0.00	0.00



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Company:	Franklin Mountain Energy	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Project:	Lea County, NM (NAD83)	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site:	Tatanka Fed Com	North Reference:	Grid
Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
19,600.00	90.00	179.44	12,344.00	-8,361.93	916.66	8,409.09	0.00	0.00	0.00	
19,700.00	90.00	179.44	12,344.00	-8,461.92	917.64	8,508.82	0.00	0.00	0.00	
19,800.00	90.00	179.44	12,344.00	-8,561.92	918.62	8,608.56	0.00	0.00	0.00	
19,900.00	90.00	179.44	12,344.00	-8,661.91	919.60	8,708.29	0.00	0.00	0.00	
20,000.00	90.00	179.44	12,344.00	-8,761.91	920.58	8,808.03	0.00	0.00	0.00	
20,100.00	90.00	179.44	12,344.00	-8,861.90	921.56	8,907.76	0.00	0.00	0.00	
20,200.00	90.00	179.44	12,344.00	-8,961.90	922.54	9,007.49	0.00	0.00	0.00	
20,300.00	90.00	179.44	12,344.00	-9,061.89	923.51	9,107.23	0.00	0.00	0.00	
20,400.00	90.00	179.44	12,344.00	-9,161.89	924.49	9,206.96	0.00	0.00	0.00	
20,500.00	90.00	179.44	12,344.00	-9,261.88	925.47	9,306.69	0.00	0.00	0.00	
20,600.00	90.00	179.44	12,344.00	-9,361.88	926.45	9,406.43	0.00	0.00	0.00	
20,700.00	90.00	179.44	12,344.00	-9,461.87	927.43	9,506.16	0.00	0.00	0.00	
20,800.00	90.00	179.44	12,344.00	-9,561.87	928.41	9,605.89	0.00	0.00	0.00	
20,900.00	90.00	179.44	12,344.00	-9,661.86	929.39	9,705.63	0.00	0.00	0.00	
21,000.00	90.00	179.44	12,344.00	-9,761.86	930.36	9,805.36	0.00	0.00	0.00	
21,100.00	90.00	179.44	12,344.00	-9,861.85	931.34	9,905.09	0.00	0.00	0.00	
21,200.00	90.00	179.44	12,344.00	-9,961.85	932.32	10,004.83	0.00	0.00	0.00	
21,300.00	90.00	179.44	12,344.00	-10,061.84	933.30	10,104.56	0.00	0.00	0.00	
21,400.00	90.00	179.44	12,344.00	-10,161.84	934.28	10,204.30	0.00	0.00	0.00	
21,500.00	90.00	179.44	12,344.00	-10,261.83	935.26	10,304.03	0.00	0.00	0.00	
21,600.00	90.00	179.44	12,344.00	-10,361.83	936.24	10,403.76	0.00	0.00	0.00	
21,700.00	90.00	179.44	12,344.00	-10,461.83	937.22	10,503.50	0.00	0.00	0.00	
21,800.00	90.00	179.44	12,344.00	-10,561.82	938.19	10,603.23	0.00	0.00	0.00	
21,900.00	90.00	179.44	12,344.00	-10,661.82	939.17	10,702.96	0.00	0.00	0.00	
22,000.00	90.00	179.44	12,344.00	-10,761.81	940.15	10,802.70	0.00	0.00	0.00	
22,100.00	90.00	179.44	12,344.00	-10,861.81	941.13	10,902.43	0.00	0.00	0.00	
22,200.00	90.00	179.44	12,344.00	-10,961.80	942.11	11,002.16	0.00	0.00	0.00	
22,300.00	90.00	179.44	12,344.00	-11,061.80	943.09	11,101.90	0.00	0.00	0.00	
22,400.00	90.00	179.44	12,344.00	-11,161.79	944.07	11,201.63	0.00	0.00	0.00	
22,500.00	90.00	179.44	12,344.00	-11,261.79	945.05	11,301.36	0.00	0.00	0.00	
22,600.00	90.00	179.44	12,344.00	-11,361.78	946.02	11,401.10	0.00	0.00	0.00	
22,642.51	90.00	179.44	12,344.00	-11,404.29	946.44	11,443.50	0.00	0.00	0.00	
TD at 22642.51 - PBHL (Tatanka Fed Com 703H)										

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL (Tatanka Fed Com 703H) - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	395,095.20	848,720.13	32.082309	-103.340873
LP (Tatanka Fed Com 703H) - plan hits target center - Point	0.00	0.00	12,344.00	-1,612.93	850.61	393,482.27	849,570.74	32.077854	-103.338175
PBHL (Tatanka Fed Com 703H) - plan hits target center - Point	0.00	0.00	12,344.00	-11,404.29	946.44	383,690.91	849,666.57	32.050940	-103.338157



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Company:	Franklin Mountain Energy	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Project:	Lea County, NM (NAD83)	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site:	Tatanka Fed Com	North Reference:	Grid
Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
3,200.00	3,200.00	0.00	0.00	Start Build 1.50
4,304.97	4,289.63	-123.18	100.08	Start 3584.69 hold at 4304.97 MD
7,889.67	7,725.37	-916.82	744.92	Start Drop -1.50
8,994.64	8,815.00	-1,040.00	845.00	Start 2956.04 hold at 8994.64 MD
11,950.68	11,771.04	-1,040.00	845.00	Start DLS 10.00 TFO 179.44
12,850.68	12,344.00	-1,612.93	850.61	Start 9791.83 hold at 12850.68 MD
22,642.51	12,344.00	-11,404.29	946.44	TD at 22642.51



Franklin Mountain Energy

Lea County, NM (NAD83)

Tatanka Fed Com

Tatanka Fed Com 703H

OH

Plan #1

Anticollision Report

25 June, 2021





Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

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

Survey Tool Program		Date	6/25/2021		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	22,641.66	Plan #1 (OH)	OWSG (Rev2) MWD	OWSG MWD - Standard	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Tatanka Fed Com						
Tatanka Fed Com 101H - OH - Plan #1	3,247.98	3,228.38	1,138.65	1,122.57	70.817	CC
Tatanka Fed Com 101H - OH - Plan #1	3,300.00	3,271.32	1,138.71	1,122.40	69.821	ES
Tatanka Fed Com 101H - OH - Plan #1	22,642.51	18,762.37	4,223.36	4,051.95	24.639	SF
Tatanka Fed Com 102H - OH - Plan #1	7,399.56	7,326.11	717.22	677.03	17.847	CC
Tatanka Fed Com 102H - OH - Plan #1	7,400.00	7,326.48	717.22	677.03	17.846	ES
Tatanka Fed Com 102H - OH - Plan #1	7,700.00	7,574.34	729.63	687.90	17.486	SF
Tatanka Fed Com 103H - OH - Plan #1	8,569.20	8,319.59	763.69	719.68	17.351	CC, ES
Tatanka Fed Com 103H - OH - Plan #1	8,600.00	8,341.45	763.99	719.88	17.322	SF
Tatanka Fed Com 104H - OH - Plan #1	2,000.00	1,982.40	1,882.68	1,872.92	192.797	CC, ES
Tatanka Fed Com 104H - OH - Plan #1	22,642.51	18,771.73	4,306.51	4,135.26	25.148	SF
Tatanka Fed Com 501H - OH - Plan #1	3,932.55	3,831.21	1,106.19	1,087.04	57.767	CC
Tatanka Fed Com 501H - OH - Plan #1	4,000.00	3,885.55	1,106.41	1,086.97	56.922	ES
Tatanka Fed Com 501H - OH - Plan #1	22,642.51	20,841.66	2,787.32	2,563.43	12.449	SF
Tatanka Fed Com 502H - OH - Plan #1	7,293.50	7,219.74	680.74	641.46	17.330	CC
Tatanka Fed Com 502H - OH - Plan #1	7,300.00	7,225.20	680.74	641.42	17.314	ES
Tatanka Fed Com 502H - OH - Plan #1	22,642.51	20,879.44	1,785.88	1,632.88	11.673	SF
Tatanka Fed Com 503H - OH - Plan #1	10,355.17	10,159.05	723.84	670.21	13.497	CC
Tatanka Fed Com 503H - OH - Plan #1	10,500.00	10,300.00	724.13	669.96	13.368	ES
Tatanka Fed Com 503H - OH - Plan #1	22,642.51	20,840.19	1,761.47	1,611.17	11.720	SF
Tatanka Fed Com 504H - OH - Plan #1	4,925.95	4,424.10	1,775.76	1,753.14	78.500	CC
Tatanka Fed Com 504H - OH - Plan #1	5,200.00	4,692.58	1,776.61	1,752.56	73.865	ES
Tatanka Fed Com 504H - OH - Plan #1	22,642.51	20,815.30	2,745.62	2,522.00	12.278	SF
Tatanka Fed Com 601H - OH - Plan #2	3,200.00	3,198.50	1,654.96	1,639.07	104.156	CC, ES
Tatanka Fed Com 601H - OH - Plan #2	22,642.51	22,129.15	2,320.75	2,060.82	8.928	SF
Tatanka Fed Com 602H - OH - Plan #1	3,200.00	3,199.30	49.99	34.10	3.146	CC, ES
Tatanka Fed Com 602H - OH - Plan #1	22,641.62	22,186.82	692.31	456.59	2.937	SF
Tatanka Fed Com 603H - OH - Plan #1	3,116.63	3,116.73	49.99	34.52	3.231	CC
Tatanka Fed Com 603H - OH - Plan #1	3,300.00	3,299.09	50.18	33.81	3.065	ES
Tatanka Fed Com 603H - OH - Plan #1	22,642.51	22,444.75	572.56	336.55	2.426	SF
Tatanka Fed Com 604H - OH - Plan #2	11,602.02	11,386.83	1,939.68	1,880.33	32.682	CC
Tatanka Fed Com 604H - OH - Plan #2	22,642.51	22,052.25	1,975.77	1,718.29	7.673	ES, SF
Tatanka Fed Com 702H - OH - Plan #1	3,200.00	3,199.30	74.99	59.10	4.719	CC, ES
Tatanka Fed Com 702H - OH - Plan #1	22,642.51	22,375.46	1,010.39	743.98	3.793	SF
Tatanka Fed Com 704H - OH - Plan #2	11,776.60	11,621.26	949.64	889.37	15.755	CC
Tatanka Fed Com 704H - OH - Plan #2	22,642.51	22,294.67	969.23	713.10	3.784	ES, SF
Tatanka Fed Com 705H - OH - Plan #2	11,604.79	11,413.85	2,222.74	2,163.57	37.568	CC
Tatanka Fed Com 705H - OH - Plan #2	22,642.51	22,054.68	2,236.90	1,977.27	8.616	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 Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors 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						
Tatanka Fed Com						
Tatanka Fed Com 801H - OH - Plan #2	3,200.00	3,198.30	1,635.20	1,619.31	102.916	CC
Tatanka Fed Com 801H - OH - Plan #2	3,300.00	3,298.29	1,635.21	1,618.83	99.805	ES
Tatanka Fed Com 801H - OH - Plan #2	22,642.51	22,865.07	2,344.33	2,085.78	9.067	SF
Tatanka Fed Com 802H - OH - Plan #2	6,991.87	7,068.00	1,287.95	1,250.46	34.354	CC
Tatanka Fed Com 802H - OH - Plan #2	22,642.51	22,787.51	1,490.01	1,231.84	5.771	ES, SF
Tatanka Fed Com 803H - OH - Plan #1	3,200.00	3,199.80	25.00	9.11	1.573	CC, ES, SF
Tatanka Fed Com 804H - OH - Plan #1	3,548.78	3,547.77	22.14	4.61	1.263	Level 3, CC
Tatanka Fed Com 804H - OH - Plan #1	3,600.00	3,598.84	22.24	4.47	1.252	Level 3, ES, SF
Tatanka Fed Com 805H - OH - Plan #2	11,950.68	11,747.94	1,293.64	1,232.64	21.204	CC
Tatanka Fed Com 805H - OH - Plan #2	22,642.51	22,640.97	1,309.33	1,051.14	5.071	ES, SF
Tatanka Fed Com 806H - OH - Plan #2	11,950.68	11,751.20	2,219.68	2,158.65	36.373	CC
Tatanka Fed Com 806H - OH - Plan #2	22,642.51	22,520.23	2,221.01	1,960.06	8.511	ES, SF

Offset Design

Tatanka Fed Com - Tatanka 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 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	0.00	0.00	0.00	0.00	-153.87	-1,022.31	-501.48	1,138.76				
100.00	100.00	86.40	86.40	0.13	0.11	-153.87	-1,022.31	-501.48	1,138.68	1,138.52	0.17	6,867.455	
200.00	200.00	186.40	186.40	0.48	0.44	-153.87	-1,022.31	-501.48	1,138.68	1,138.03	0.65	1,749.585	
300.00	300.00	286.40	286.40	0.84	0.79	-153.87	-1,022.31	-501.48	1,138.68	1,137.53	1.16	983.841	
400.00	400.00	386.40	386.40	1.20	1.15	-153.87	-1,022.31	-501.48	1,138.68	1,137.02	1.66	684.229	
500.00	500.00	486.40	486.40	1.56	1.51	-153.87	-1,022.31	-501.48	1,138.68	1,136.51	2.17	524.484	
600.00	600.00	586.40	586.40	1.92	1.87	-153.87	-1,022.31	-501.48	1,138.68	1,136.01	2.68	425.206	
700.00	700.00	686.40	686.40	2.28	2.23	-153.87	-1,022.31	-501.48	1,138.68	1,135.50	3.18	357.528	
800.00	800.00	786.40	786.40	2.63	2.59	-153.87	-1,022.31	-501.48	1,138.68	1,134.99	3.69	308.435	
900.00	900.00	886.40	886.40	2.99	2.94	-153.87	-1,022.31	-501.48	1,138.68	1,134.48	4.20	271.196	
1,000.00	1,000.00	986.40	986.40	3.35	3.30	-153.87	-1,022.31	-501.48	1,138.68	1,133.98	4.71	241.980	
1,100.00	1,100.00	1,086.40	1,086.40	3.71	3.66	-153.87	-1,022.31	-501.48	1,138.68	1,133.47	5.21	218.447	
1,200.00	1,200.00	1,186.40	1,186.40	4.07	4.02	-153.87	-1,022.31	-501.48	1,138.68	1,132.96	5.72	199.085	
1,300.00	1,300.00	1,286.40	1,286.40	4.43	4.38	-153.87	-1,022.31	-501.48	1,138.68	1,132.46	6.23	182.876	
1,400.00	1,400.00	1,386.40	1,386.40	4.79	4.74	-153.87	-1,022.31	-501.48	1,138.68	1,131.95	6.73	169.108	
1,500.00	1,500.00	1,486.40	1,486.40	5.14	5.10	-153.87	-1,022.31	-501.48	1,138.68	1,131.44	7.24	157.268	
1,600.00	1,600.00	1,586.40	1,586.40	5.50	5.45	-153.87	-1,022.31	-501.48	1,138.68	1,130.94	7.75	146.977	
1,700.00	1,700.00	1,686.40	1,686.40	5.86	5.81	-153.87	-1,022.31	-501.48	1,138.68	1,130.43	8.25	137.950	
1,800.00	1,800.00	1,786.40	1,786.40	6.22	6.17	-153.87	-1,022.31	-501.48	1,138.68	1,129.92	8.76	129.968	
1,900.00	1,900.00	1,886.40	1,886.40	6.58	6.53	-153.87	-1,022.31	-501.48	1,138.68	1,129.42	9.27	122.859	
2,000.00	2,000.00	1,986.40	1,986.40	6.94	6.89	-153.87	-1,022.31	-501.48	1,138.68	1,128.91	9.78	116.487	
2,100.00	2,100.00	2,086.40	2,086.40	7.29	7.25	-153.87	-1,022.31	-501.48	1,138.68	1,128.40	10.28	110.744	
2,200.00	2,200.00	2,186.40	2,186.40	7.65	7.60	-153.87	-1,022.31	-501.48	1,138.68	1,127.89	10.79	105.540	
2,300.00	2,300.00	2,286.40	2,286.40	8.01	7.96	-153.87	-1,022.31	-501.48	1,138.68	1,127.39	11.30	100.804	
2,400.00	2,400.00	2,386.40	2,386.40	8.37	8.32	-153.87	-1,022.31	-501.48	1,138.68	1,126.88	11.80	96.474	
2,500.00	2,500.00	2,486.40	2,486.40	8.73	8.68	-153.87	-1,022.31	-501.48	1,138.68	1,126.37	12.31	92.501	
2,600.00	2,600.00	2,586.40	2,586.40	9.09	9.04	-153.87	-1,022.31	-501.48	1,138.68	1,125.87	12.82	88.842	
2,700.00	2,700.00	2,686.40	2,686.40	9.45	9.40	-153.87	-1,022.31	-501.48	1,138.68	1,125.36	13.32	85.462	
2,800.00	2,800.00	2,786.40	2,786.40	9.80	9.76	-153.87	-1,022.31	-501.48	1,138.68	1,124.85	13.83	82.330	
2,900.00	2,900.00	2,886.40	2,886.40	10.16	10.11	-153.87	-1,022.31	-501.48	1,138.68	1,124.35	14.34	79.419	
3,000.00	3,000.00	2,986.40	2,986.40	10.52	10.47	-153.87	-1,022.31	-501.48	1,138.68	1,123.84	14.84	76.706	

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 101H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
3,100.00	3,100.00	3,086.40	3,086.40	10.88	10.83	-153.87	-1,022.31	-501.48	1,138.68	1,123.33	15.35	74.173				
3,200.00	3,200.00	3,186.40	3,186.40	11.24	11.19	-153.87	-1,022.31	-501.48	1,138.68	1,122.82	15.86	71.802				
3,247.98	3,247.97	3,228.38	3,228.38	11.40	11.34	65.24	-1,022.34	-501.58	1,138.65	1,122.57	16.08	70.817	CC			
3,300.00	3,299.99	3,271.32	3,271.32	11.58	11.49	65.30	-1,022.53	-502.11	1,138.71	1,122.40	16.31	69.821	ES			
3,400.00	3,399.91	3,353.71	3,353.67	11.91	11.77	65.52	-1,023.31	-504.41	1,139.17	1,122.43	16.73	68.075				
3,500.00	3,499.69	3,435.75	3,435.60	12.24	12.04	65.90	-1,024.67	-508.36	1,140.12	1,122.97	17.15	66.461				
3,600.00	3,599.27	3,517.25	3,516.89	12.57	12.32	66.43	-1,026.58	-513.94	1,141.66	1,124.08	17.57	64.966				
3,700.00	3,698.57	3,600.00	3,599.27	12.91	12.60	67.11	-1,029.09	-521.27	1,143.88	1,125.88	18.00	63.564				
3,800.00	3,797.54	3,678.01	3,676.77	13.25	12.87	67.89	-1,031.99	-529.74	1,146.92	1,128.51	18.40	62.324				
3,900.00	3,896.09	3,756.94	3,754.97	13.60	13.15	68.80	-1,035.45	-539.82	1,150.94	1,132.12	18.81	61.176				
4,000.00	3,994.16	3,834.69	3,831.77	13.96	13.42	69.81	-1,039.36	-551.25	1,156.13	1,136.90	19.22	60.146				
4,100.00	4,091.70	3,911.13	3,907.03	14.32	13.70	70.91	-1,043.71	-563.92	1,162.68	1,143.05	19.63	59.235				
4,200.00	4,188.62	3,986.13	3,980.59	14.70	13.97	72.09	-1,048.44	-577.74	1,170.80	1,150.77	20.03	58.446				
4,304.97	4,289.63	4,063.18	4,055.85	15.12	14.26	73.37	-1,053.79	-593.35	1,181.26	1,160.80	20.45	57.750				
4,400.00	4,380.70	4,131.69	4,122.47	15.51	14.52	74.71	-1,058.96	-608.44	1,192.95	1,172.11	20.84	57.255				
4,500.00	4,476.55	4,200.00	4,188.62	15.93	14.79	76.05	-1,064.50	-624.61	1,207.96	1,186.75	21.22	56.933				
4,600.00	4,572.39	4,272.98	4,258.92	16.36	15.09	77.49	-1,070.84	-643.11	1,225.76	1,204.14	21.63	56.677				
4,700.00	4,668.24	4,342.10	4,325.16	16.81	15.37	78.85	-1,077.25	-661.80	1,246.34	1,224.33	22.01	56.614				
4,800.00	4,764.08	4,419.45	4,398.90	17.26	15.70	80.36	-1,084.81	-683.88	1,269.54	1,247.08	22.46	56.534				
4,900.00	4,859.93	4,507.77	4,483.05	17.72	16.09	82.03	-1,093.52	-709.27	1,294.22	1,271.24	22.97	56.336				
5,000.00	4,955.77	4,596.09	4,567.19	18.18	16.49	83.65	-1,102.22	-734.66	1,320.10	1,296.60	23.50	56.183				
5,100.00	5,051.62	4,684.41	4,651.33	18.66	16.89	85.22	-1,110.92	-760.06	1,347.12	1,323.10	24.02	56.072				
5,200.00	5,147.46	4,772.73	4,735.47	19.14	17.31	86.74	-1,119.62	-785.45	1,375.21	1,350.66	24.56	55.999				
5,300.00	5,243.31	4,861.05	4,819.62	19.63	17.73	88.20	-1,128.32	-810.84	1,404.31	1,379.21	25.09	55.961				
5,400.00	5,339.15	4,949.37	4,903.76	20.12	18.16	89.61	-1,137.02	-836.24	1,434.35	1,408.71	25.63	55.953				
5,500.00	5,435.00	5,037.69	4,987.90	20.62	18.60	90.98	-1,145.73	-861.63	1,465.27	1,439.09	26.18	55.973				
5,600.00	5,530.84	5,126.01	5,072.04	21.12	19.04	92.29	-1,154.43	-887.02	1,497.03	1,470.30	26.72	56.017				
5,700.00	5,626.69	5,214.33	5,156.19	21.63	19.48	93.55	-1,163.13	-912.42	1,529.56	1,502.29	27.27	56.082				
5,800.00	5,722.53	5,302.65	5,240.33	22.14	19.94	94.77	-1,171.83	-937.81	1,562.82	1,535.00	27.83	56.166				
5,900.00	5,818.38	5,390.97	5,324.47	22.65	20.39	95.94	-1,180.53	-963.20	1,596.77	1,568.39	28.38	56.267				
6,000.00	5,914.22	5,479.29	5,408.61	23.17	20.85	97.07	-1,189.23	-988.60	1,631.36	1,602.43	28.93	56.381				
6,100.00	6,010.07	5,567.61	5,492.76	23.69	21.32	98.15	-1,197.94	-1,013.99	1,666.56	1,637.06	29.49	56.508				
6,200.00	6,105.91	5,655.93	5,576.90	24.22	21.79	99.20	-1,206.64	-1,039.38	1,702.31	1,672.26	30.05	56.646				
6,300.00	6,201.76	5,744.25	5,661.04	24.75	22.26	100.20	-1,215.34	-1,064.78	1,738.60	1,707.99	30.61	56.793				
6,400.00	6,297.60	5,832.58	5,745.18	25.28	22.74	101.17	-1,224.04	-1,090.17	1,775.39	1,744.21	31.18	56.947				
6,500.00	6,393.45	5,920.90	5,829.33	25.81	23.22	102.11	-1,232.74	-1,115.56	1,812.64	1,780.90	31.74	57.108				
6,600.00	6,489.29	6,009.22	5,913.47	26.35	23.71	103.01	-1,241.45	-1,140.96	1,850.33	1,818.02	32.31	57.274				
6,700.00	6,585.14	6,097.54	5,997.61	26.89	24.19	103.87	-1,250.15	-1,166.35	1,888.43	1,855.56	32.87	57.444				
6,800.00	6,680.98	6,185.86	6,081.75	27.43	24.68	104.71	-1,258.85	-1,191.74	1,926.92	1,893.48	33.44	57.617				
6,900.00	6,776.83	6,274.18	6,165.89	27.97	25.17	105.51	-1,267.55	-1,217.14	1,965.78	1,931.76	34.01	57.793				
7,000.00	6,872.67	6,362.50	6,250.04	28.52	25.67	106.29	-1,276.25	-1,242.53	2,004.98	1,970.39	34.59	57.971				
7,100.00	6,968.52	6,450.82	6,334.18	29.06	26.16	107.03	-1,284.95	-1,267.92	2,044.50	2,009.34	35.16	58.150				
7,200.00	7,064.36	6,539.14	6,418.32	29.61	26.66	107.75	-1,293.66	-1,293.32	2,084.33	2,048.60	35.73	58.329				
7,300.00	7,160.21	6,636.37	6,507.68	30.16	27.74	109.29	-1,311.52	-1,345.45	2,122.20	2,085.21	36.99	57.373				
7,400.00	7,256.05	6,742.61	6,608.44	30.72	28.77	110.80	-1,326.79	-1,390.00	2,155.59	2,117.39	38.20	56.422				
7,500.00	7,351.90	7,156.12	7,018.64	31.27	29.73	112.30	-1,338.87	-1,425.25	2,184.23	2,144.87	39.35	55.505				
7,600.00	7,447.74	7,375.88	7,236.83	31.82	30.61	113.79	-1,347.30	-1,449.87	2,207.86	2,167.45	40.41	54.638				
7,700.00	7,543.59	7,600.68	7,461.19	32.38	31.39	115.29	-1,351.71	-1,462.73	2,226.29	2,184.94	41.36	53.831				
7,800.00	7,639.43	7,765.34	7,625.83	32.94	31.89	116.38	-1,352.31	-1,464.48	2,240.03	2,197.95	42.08	53.231				
7,889.67	7,725.37	7,851.29	7,711.77	33.44	32.15	116.95	-1,352.31	-1,464.48	2,251.91	2,209.31	42.60	52.859				
7,900.00	7,735.28	7,861.19	7,721.68	33.50	32.18	117.03	-1,352.31	-1,464.48	2,253.28	2,210.62	42.66	52.818				
8,000.00	7,831.56	7,957.47	7,817.96	34.04	32.46	117.79	-1,352.31	-1,464.48	2,266.09	2,222.86	43.23	52.414				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka 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		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
							+N/-S (usft)	+E/-W (usft)								
8,100.00	7,928.52	8,054.43	7,914.92	34.56	32.75	118.48	-1,352.31	-1,464.48	2,277.92	2,234.12	43.80	52.012				
8,200.00	8,026.08	8,151.99	8,012.48	35.06	33.04	119.10	-1,352.31	-1,464.48	2,288.68	2,244.34	44.34	51.612				
8,300.00	8,124.18	8,250.09	8,110.58	35.53	33.34	119.64	-1,352.31	-1,464.48	2,298.32	2,253.44	44.88	51.210				
8,400.00	8,222.76	8,348.67	8,209.16	35.98	33.64	120.11	-1,352.31	-1,464.48	2,306.78	2,261.37	45.40	50.805				
8,500.00	8,321.74	8,416.98	8,277.38	36.40	33.84	120.35	-1,354.99	-1,464.45	2,314.57	2,268.71	45.86	50.473				
8,600.00	8,421.06	8,480.79	8,340.41	36.79	34.05	120.38	-1,364.67	-1,464.36	2,322.58	2,276.29	46.29	50.172				
8,700.00	8,520.65	8,550.00	8,407.11	37.16	34.28	120.17	-1,383.02	-1,464.17	2,330.89	2,284.15	46.74	49.874				
8,800.00	8,620.44	8,600.00	8,453.66	37.51	34.45	119.90	-1,401.21	-1,463.99	2,339.60	2,292.50	47.10	49.670				
8,900.00	8,720.37	8,650.00	8,498.46	37.83	34.63	119.52	-1,423.39	-1,463.77	2,349.06	2,301.62	47.44	49.511				
8,994.64	8,815.00	8,700.00	8,541.15	38.11	34.81	-100.06	-1,449.39	-1,463.51	2,358.93	2,311.18	47.75	49.402				
9,000.00	8,820.36	8,700.00	8,541.15	38.13	34.81	-100.06	-1,449.39	-1,463.51	2,359.53	2,311.77	47.75	49.411				
9,100.00	8,920.36	8,750.00	8,581.41	38.40	35.00	-100.77	-1,479.01	-1,463.21	2,372.01	2,323.98	48.03	49.384				
9,200.00	9,020.36	8,784.63	8,607.70	38.68	35.13	-101.31	-1,501.53	-1,462.99	2,387.27	2,339.06	48.21	49.516				
9,300.00	9,120.36	8,818.95	8,632.38	38.96	35.26	-101.88	-1,525.38	-1,462.75	2,405.48	2,357.12	48.36	49.741				
9,400.00	9,220.36	8,850.00	8,653.44	39.25	35.38	-102.42	-1,548.19	-1,462.52	2,426.74	2,378.29	48.45	50.084				
9,500.00	9,320.36	8,876.76	8,670.57	39.53	35.48	-102.91	-1,568.75	-1,462.32	2,451.13	2,402.64	48.49	50.549				
9,600.00	9,420.36	8,900.00	8,684.66	39.81	35.58	-103.34	-1,587.22	-1,462.13	2,478.66	2,430.19	48.47	51.139				
9,700.00	9,520.36	8,922.90	8,697.79	40.10	35.67	-103.78	-1,605.98	-1,461.94	2,509.33	2,460.92	48.42	51.828				
9,800.00	9,620.36	8,950.00	8,712.36	40.39	35.78	-104.32	-1,628.83	-1,461.72	2,543.15	2,494.79	48.36	52.588				
9,900.00	9,720.36	8,950.00	8,712.36	40.67	35.78	-104.32	-1,628.83	-1,461.72	2,580.02	2,531.92	48.10	53.642				
10,000.00	9,820.36	8,976.07	8,725.33	40.96	35.89	-104.85	-1,651.43	-1,461.49	2,619.78	2,571.79	47.99	54.595				
10,100.00	9,920.36	9,000.00	8,736.33	41.25	35.99	-105.34	-1,672.69	-1,461.28	2,662.54	2,614.70	47.84	55.656				
10,200.00	10,020.36	9,000.00	8,736.33	41.55	35.99	-105.34	-1,672.69	-1,461.28	2,707.99	2,660.48	47.51	56.997				
10,300.00	10,120.36	9,000.00	8,736.33	41.84	35.99	-105.34	-1,672.69	-1,461.28	2,756.32	2,709.15	47.17	58.434				
10,400.00	10,220.36	9,026.75	8,747.56	42.13	36.11	-105.90	-1,696.96	-1,461.04	2,806.90	2,759.89	47.01	59.710				
10,500.00	10,320.36	9,050.00	8,756.38	42.43	36.22	-106.40	-1,718.47	-1,460.82	2,860.21	2,813.39	46.82	61.095				
10,600.00	10,420.36	9,050.00	8,756.38	42.72	36.22	-106.40	-1,718.47	-1,460.82	2,915.62	2,869.16	46.46	62.753				
10,700.00	10,520.36	9,050.00	8,756.38	43.02	36.22	-106.40	-1,718.47	-1,460.82	2,973.37	2,927.26	46.11	64.484				
10,800.00	10,620.36	9,050.00	8,756.38	43.31	36.22	-106.40	-1,718.47	-1,460.82	3,033.32	2,987.55	45.76	66.281				
10,900.00	10,720.36	9,070.19	8,763.34	43.61	36.31	-106.83	-1,737.42	-1,460.63	3,095.03	3,049.47	45.56	67.926				
11,000.00	10,820.36	9,077.08	8,765.56	43.91	36.34	-106.98	-1,743.95	-1,460.57	3,158.75	3,113.46	45.28	69.756				
11,100.00	10,920.36	9,100.00	8,772.37	44.21	36.45	-107.48	-1,765.83	-1,460.35	3,224.45	3,179.33	45.12	71.469				
11,200.00	11,020.36	9,100.00	8,772.37	44.51	36.45	-107.48	-1,765.83	-1,460.35	3,291.49	3,246.68	44.81	73.449				
11,300.00	11,120.36	9,100.00	8,772.37	44.81	36.45	-107.48	-1,765.83	-1,460.35	3,360.18	3,315.66	44.52	75.468				
11,400.00	11,220.36	9,100.00	8,772.37	45.12	36.45	-107.48	-1,765.83	-1,460.35	3,430.41	3,386.15	44.25	77.519				
11,500.00	11,320.36	9,100.00	8,772.37	45.42	36.45	-107.48	-1,765.83	-1,460.35	3,502.08	3,458.08	44.00	79.597				
11,600.00	11,420.36	9,100.00	8,772.37	45.72	36.45	-107.48	-1,765.83	-1,460.35	3,575.11	3,531.35	43.76	81.698				
11,700.00	11,520.36	9,100.00	8,772.37	46.03	36.45	-107.48	-1,765.83	-1,460.35	3,649.43	3,605.89	43.54	83.815				
11,800.00	11,620.36	9,100.00	8,772.37	46.33	36.45	-107.48	-1,765.83	-1,460.35	3,724.94	3,681.60	43.34	85.943				
11,900.00	11,720.36	9,122.59	8,778.23	46.64	36.56	-107.97	-1,787.64	-1,460.13	3,801.17	3,757.87	43.30	87.794				
11,950.68	11,771.04	9,124.50	8,778.68	46.80	36.57	-108.01	-1,789.50	-1,460.11	3,840.35	3,797.13	43.22	88.851				
12,000.00	11,820.30	9,126.64	8,779.19	46.96	36.58	66.94	-1,791.57	-1,460.09	3,878.28	3,835.12	43.16	89.865				
12,050.00	11,869.86	9,150.00	8,784.17	47.14	36.70	61.38	-1,814.39	-1,459.86	3,916.24	3,873.03	43.22	90.618				
12,100.00	11,918.67	9,150.00	8,784.17	47.35	36.70	56.82	-1,814.39	-1,459.86	3,952.64	3,909.49	43.15	91.602				
12,150.00	11,966.36	9,150.00	8,784.17	47.58	36.70	52.81	-1,814.39	-1,459.86	3,987.68	3,944.59	43.09	92.543				
12,200.00	12,012.56	9,150.00	8,784.17	47.83	36.70	49.31	-1,814.39	-1,459.86	4,021.14	3,978.10	43.04	93.435				
12,250.00	12,056.93	9,150.00	8,784.17	48.10	36.70	46.28	-1,814.39	-1,459.86	4,052.79	4,009.80	42.99	94.272				
12,300.00	12,099.12	9,150.00	8,784.17	48.39	36.70	43.67	-1,814.39	-1,459.86	4,082.45	4,039.50	42.95	95.049				
12,350.00	12,138.81	9,150.00	8,784.17	48.69	36.70	41.45	-1,814.39	-1,459.86	4,109.93	4,067.01	42.92	95.762				
12,400.00	12,175.70	9,150.00	8,784.17	49.01	36.70	39.56	-1,814.39	-1,459.86	4,135.08	4,092.18	42.89	96.404				
12,450.00	12,209.51	9,150.00	8,784.17	49.34	36.70	37.96	-1,814.39	-1,459.86	4,157.74	4,114.86	42.88	96.971				
12,500.00	12,239.99	9,173.76	8,788.29	49.69	36.83	36.55	-1,837.80	-1,459.63	4,177.30	4,134.31	42.99	97.164				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka 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				
12,550.00	12,266.90	9,200.00	8,791.69	50.05	36.97	35.40	-1,863.81	-1,459.37	4,194.65	4,151.52	43.13	97.266				
12,600.00	12,290.03	9,200.00	8,791.69	50.42	36.97	34.57	-1,863.81	-1,459.37	4,208.57	4,165.43	43.13	97.569				
12,650.00	12,309.21	9,200.00	8,791.69	50.81	36.97	33.93	-1,863.81	-1,459.37	4,219.57	4,176.42	43.15	97.780				
12,700.00	12,324.30	9,200.00	8,791.69	51.20	36.97	33.48	-1,863.81	-1,459.37	4,227.59	4,184.40	43.18	97.896				
12,750.00	12,335.17	9,200.00	8,791.69	51.60	36.97	33.20	-1,863.81	-1,459.37	4,232.58	4,189.35	43.23	97.913				
12,800.00	12,341.76	9,200.00	8,791.69	52.01	36.97	33.10	-1,863.81	-1,459.37	4,234.52	4,191.24	43.28	97.830				
12,850.68	12,344.00	9,200.00	8,791.69	52.42	36.97	33.16	-1,863.81	-1,459.37	4,233.36	4,190.01	43.36	97.642				
12,900.00	12,344.00	9,228.14	8,794.02	52.83	37.12	33.18	-1,891.84	-1,459.09	4,230.32	4,186.75	43.57	97.090				
13,000.00	12,344.00	9,250.00	8,794.88	53.68	37.24	33.19	-1,913.69	-1,458.87	4,226.49	4,182.64	43.86	96.370				
13,100.00	12,344.00	9,255.99	8,794.97	54.57	37.28	33.19	-1,919.68	-1,458.81	4,224.60	4,180.50	44.10	95.796				
13,200.00	12,344.00	9,321.66	8,795.00	55.50	37.66	33.19	-1,985.34	-1,458.15	4,224.42	4,179.79	44.63	94.646				
13,207.76	12,344.00	9,329.42	8,795.00	55.57	37.71	33.19	-1,993.10	-1,458.08	4,224.42	4,179.73	44.69	94.528				
13,300.00	12,344.00	9,421.66	8,795.00	56.46	38.30	33.19	-2,085.34	-1,457.15	4,224.41	4,179.06	45.36	93.136				
13,400.00	12,344.00	9,521.66	8,795.00	57.45	39.01	33.19	-2,185.33	-1,456.16	4,224.40	4,178.28	46.12	91.590				
13,500.00	12,344.00	9,621.66	8,795.00	58.47	39.77	33.19	-2,285.33	-1,455.16	4,224.39	4,177.46	46.93	90.017				
13,600.00	12,344.00	9,721.66	8,795.00	59.52	40.59	33.19	-2,385.32	-1,454.16	4,224.38	4,176.61	47.77	88.429				
13,700.00	12,344.00	9,821.66	8,795.00	60.60	41.46	33.19	-2,485.32	-1,453.16	4,224.37	4,175.72	48.65	86.834				
13,800.00	12,344.00	9,921.66	8,795.00	61.70	42.39	33.18	-2,585.31	-1,452.16	4,224.36	4,174.80	49.56	85.237				
13,900.00	12,344.00	10,021.66	8,795.00	62.82	43.35	33.18	-2,685.31	-1,451.16	4,224.35	4,173.84	50.50	83.643				
14,000.00	12,344.00	10,121.66	8,795.00	63.97	44.36	33.18	-2,785.30	-1,450.16	4,224.33	4,172.85	51.48	82.057				
14,100.00	12,344.00	10,221.66	8,795.00	65.14	45.41	33.18	-2,885.30	-1,449.16	4,224.32	4,171.84	52.49	80.485				
14,200.00	12,344.00	10,321.66	8,795.00	66.33	46.49	33.18	-2,985.29	-1,448.16	4,224.31	4,170.79	53.52	78.931				
14,300.00	12,344.00	10,421.66	8,795.00	67.54	47.61	33.18	-3,085.29	-1,447.16	4,224.30	4,169.73	54.57	77.404				
14,400.00	12,344.00	10,521.66	8,795.00	68.77	48.76	33.18	-3,185.28	-1,446.16	4,224.29	4,168.64	55.65	75.903				
14,500.00	12,344.00	10,621.66	8,795.00	70.02	49.94	33.18	-3,285.28	-1,445.16	4,224.28	4,167.52	56.76	74.430				
14,600.00	12,344.00	10,721.66	8,795.00	71.28	51.14	33.18	-3,385.27	-1,444.16	4,224.27	4,166.39	57.88	72.985				
14,700.00	12,344.00	10,821.66	8,795.00	72.55	52.37	33.18	-3,485.27	-1,443.16	4,224.26	4,165.23	59.02	71.571				
14,800.00	12,344.00	10,921.66	8,795.00	73.85	53.63	33.18	-3,585.26	-1,442.16	4,224.24	4,164.06	60.18	70.188				
14,900.00	12,344.00	11,021.66	8,795.00	75.15	54.90	33.18	-3,685.26	-1,441.17	4,224.23	4,162.87	61.37	68.836				
15,000.00	12,344.00	11,121.66	8,795.00	76.47	56.20	33.18	-3,785.25	-1,440.17	4,224.22	4,161.66	62.57	67.517				
15,100.00	12,344.00	11,221.66	8,795.00	77.81	57.51	33.18	-3,885.25	-1,439.17	4,224.21	4,160.43	63.78	66.232				
15,200.00	12,344.00	11,321.66	8,795.00	79.15	58.84	33.18	-3,985.24	-1,438.17	4,224.20	4,159.19	65.00	64.983				
15,300.00	12,344.00	11,421.66	8,795.00	80.51	60.19	33.18	-4,085.24	-1,437.17	4,224.19	4,157.94	66.25	63.766				
15,400.00	12,344.00	11,521.66	8,795.00	81.87	61.55	33.18	-4,185.23	-1,436.17	4,224.18	4,156.68	67.50	62.581				
15,500.00	12,344.00	11,621.66	8,795.00	83.25	62.93	33.18	-4,285.23	-1,435.17	4,224.17	4,155.40	68.77	61.428				
15,600.00	12,344.00	11,721.66	8,795.00	84.64	64.32	33.18	-4,385.22	-1,434.17	4,224.15	4,154.11	70.04	60.306				
15,700.00	12,344.00	11,821.66	8,795.00	86.03	65.72	33.18	-4,485.22	-1,433.17	4,224.14	4,152.81	71.33	59.216				
15,800.00	12,344.00	11,921.66	8,795.00	87.44	67.13	33.18	-4,585.21	-1,432.17	4,224.13	4,151.50	72.64	58.155				
15,900.00	12,344.00	12,021.66	8,795.00	88.85	68.55	33.18	-4,685.21	-1,431.17	4,224.12	4,150.17	73.95	57.124				
16,000.00	12,344.00	12,121.66	8,795.00	90.27	69.99	33.18	-4,785.20	-1,430.17	4,224.11	4,148.84	75.27	56.121				
16,100.00	12,344.00	12,221.66	8,795.00	91.70	71.43	33.18	-4,885.20	-1,429.17	4,224.10	4,147.50	76.60	55.147				
16,200.00	12,344.00	12,321.66	8,795.00	93.14	72.88	33.18	-4,985.19	-1,428.17	4,224.09	4,146.15	77.93	54.200				
16,300.00	12,344.00	12,421.66	8,795.00	94.58	74.34	33.18	-5,085.19	-1,427.17	4,224.07	4,144.80	79.28	53.282				
16,400.00	12,344.00	12,521.66	8,795.00	96.03	75.81	33.18	-5,185.18	-1,426.18	4,224.06	4,143.43	80.63	52.389				
16,500.00	12,344.00	12,621.66	8,795.00	97.49	77.29	33.18	-5,285.18	-1,425.18	4,224.05	4,142.06	81.99	51.521				
16,600.00	12,344.00	12,721.66	8,795.00	98.95	78.77	33.18	-5,385.17	-1,424.18	4,224.04	4,140.69	83.35	50.676				
16,700.00	12,344.00	12,821.66	8,795.00	100.42	80.26	33.18	-5,485.17	-1,423.18	4,224.03	4,139.30	84.73	49.854				
16,800.00	12,344.00	12,921.66	8,795.00	101.89	81.76	33.18	-5,585.16	-1,422.18	4,224.02	4,137.91	86.11	49.055				
16,900.00	12,344.00	13,021.66	8,795.00	103.37	83.26	33.18	-5,685.16	-1,421.18	4,224.01	4,136.51	87.49	48.278				
17,000.00	12,344.00	13,121.66	8,795.00	104.86	84.77	33.18	-5,785.15	-1,420.18	4,224.00	4,135.11	88.88	47.523				
17,100.00	12,344.00	13,221.66	8,795.00	106.35	86.28	33.18	-5,885.15	-1,419.18	4,223.98	4,133.71	90.28	46.789				
17,200.00	12,344.00	13,321.66	8,795.00	107.84	87.80	33.18	-5,985.14	-1,418.18	4,223.97	4,132.30	91.68	46.075				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka 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				
17,300.00	12,344.00	13,421.66	8,795.00	109.34	89.32	33.18	-6,085.14	-1,417.18	4,223.96	4,130.88	93.08	45.379				
17,400.00	12,344.00	13,521.66	8,795.00	110.84	90.85	33.18	-6,185.13	-1,416.18	4,223.95	4,129.46	94.49	44.701				
17,500.00	12,344.00	13,621.66	8,795.00	112.35	92.38	33.18	-6,285.13	-1,415.18	4,223.94	4,128.03	95.90	44.043				
17,600.00	12,344.00	13,721.66	8,795.00	113.86	93.92	33.18	-6,385.12	-1,414.18	4,223.93	4,126.61	97.32	43.402				
17,700.00	12,344.00	13,821.66	8,795.00	115.38	95.45	33.18	-6,485.12	-1,413.18	4,223.92	4,125.18	98.74	42.778				
17,800.00	12,344.00	13,921.66	8,795.00	116.89	97.00	33.18	-6,585.11	-1,412.18	4,223.91	4,123.74	100.17	42.169				
17,900.00	12,344.00	14,021.66	8,795.00	118.42	98.54	33.18	-6,685.11	-1,411.19	4,223.89	4,122.30	101.60	41.575				
18,000.00	12,344.00	14,121.66	8,795.00	119.94	100.09	33.18	-6,785.10	-1,410.19	4,223.88	4,120.85	103.03	40.997				
18,100.00	12,344.00	14,221.66	8,795.00	121.47	101.65	33.17	-6,885.10	-1,409.19	4,223.87	4,119.41	104.47	40.433				
18,200.00	12,344.00	14,321.66	8,795.00	123.00	103.20	33.17	-6,985.09	-1,408.19	4,223.86	4,117.96	105.90	39.884				
18,300.00	12,344.00	14,421.66	8,795.00	124.54	104.76	33.17	-7,085.09	-1,407.19	4,223.85	4,116.51	107.34	39.349				
18,400.00	12,344.00	14,521.66	8,795.00	126.08	106.33	33.17	-7,185.08	-1,406.19	4,223.84	4,115.05	108.79	38.827				
18,500.00	12,344.00	14,621.66	8,795.00	127.62	107.89	33.17	-7,285.08	-1,405.19	4,223.83	4,113.59	110.23	38.318				
18,600.00	12,344.00	14,721.66	8,795.00	129.16	109.46	33.17	-7,385.07	-1,404.19	4,223.82	4,112.13	111.68	37.821				
18,700.00	12,344.00	14,821.66	8,795.00	130.71	111.03	33.17	-7,485.07	-1,403.19	4,223.80	4,110.67	113.13	37.335				
18,800.00	12,344.00	14,921.66	8,795.00	132.26	112.60	33.17	-7,585.06	-1,402.19	4,223.79	4,109.21	114.59	36.861				
18,900.00	12,344.00	15,021.66	8,795.00	133.81	114.17	33.17	-7,685.06	-1,401.19	4,223.78	4,107.74	116.04	36.399				
19,000.00	12,344.00	15,121.66	8,795.00	135.36	115.75	33.17	-7,785.05	-1,400.19	4,223.77	4,106.27	117.50	35.947				
19,100.00	12,344.00	15,221.66	8,795.00	136.92	117.33	33.17	-7,885.05	-1,399.19	4,223.76	4,104.80	118.96	35.505				
19,200.00	12,344.00	15,321.66	8,795.00	138.48	118.91	33.17	-7,985.04	-1,398.19	4,223.75	4,103.32	120.43	35.073				
19,300.00	12,344.00	15,421.66	8,795.00	140.04	120.49	33.17	-8,085.04	-1,397.19	4,223.74	4,101.84	121.89	34.651				
19,400.00	12,344.00	15,521.66	8,795.00	141.60	122.08	33.17	-8,185.03	-1,396.20	4,223.72	4,100.37	123.36	34.240				
19,500.00	12,344.00	15,621.66	8,795.00	143.16	123.66	33.17	-8,285.03	-1,395.20	4,223.71	4,098.89	124.82	33.837				
19,600.00	12,344.00	15,721.66	8,795.00	144.73	125.25	33.17	-8,385.02	-1,394.20	4,223.70	4,097.41	126.29	33.444				
19,700.00	12,344.00	15,821.66	8,795.00	146.30	126.84	33.17	-8,485.02	-1,393.20	4,223.69	4,095.93	127.76	33.059				
19,800.00	12,344.00	15,921.66	8,795.00	147.87	128.43	33.17	-8,585.01	-1,392.20	4,223.68	4,094.45	129.23	32.682				
19,900.00	12,344.00	16,021.66	8,795.00	149.44	130.02	33.17	-8,685.01	-1,391.20	4,223.67	4,092.96	130.71	32.314				
20,000.00	12,344.00	16,121.66	8,795.00	151.01	131.62	33.17	-8,785.00	-1,390.20	4,223.66	4,091.47	132.19	31.952				
20,100.00	12,344.00	16,221.66	8,795.00	152.59	133.21	33.17	-8,885.00	-1,389.20	4,223.65	4,089.98	133.66	31.599				
20,200.00	12,344.00	16,321.66	8,795.00	154.17	134.81	33.17	-8,984.99	-1,388.20	4,223.63	4,088.49	135.14	31.254				
20,300.00	12,344.00	16,421.66	8,795.00	155.74	136.41	33.17	-9,084.99	-1,387.20	4,223.62	4,087.00	136.62	30.915				
20,400.00	12,344.00	16,521.66	8,795.00	157.32	138.01	33.17	-9,184.98	-1,386.20	4,223.61	4,085.51	138.10	30.584				
20,500.00	12,344.00	16,621.66	8,795.00	158.91	139.61	33.17	-9,284.98	-1,385.20	4,223.60	4,084.02	139.58	30.259				
20,600.00	12,344.00	16,721.66	8,795.00	160.49	141.21	33.17	-9,384.97	-1,384.20	4,223.59	4,082.53	141.06	29.942				
20,700.00	12,344.00	16,821.66	8,795.00	162.07	142.81	33.17	-9,484.97	-1,383.20	4,223.58	4,081.04	142.54	29.630				
20,800.00	12,344.00	16,921.66	8,795.00	163.66	144.42	33.17	-9,584.96	-1,382.20	4,223.57	4,079.54	144.03	29.325				
20,900.00	12,344.00	17,021.66	8,795.00	165.24	146.02	33.17	-9,684.96	-1,381.21	4,223.56	4,078.04	145.51	29.025				
21,000.00	12,344.00	17,121.66	8,795.00	166.83	147.63	33.17	-9,784.95	-1,380.21	4,223.54	4,076.54	147.00	28.732				
21,100.00	12,344.00	17,221.66	8,795.00	168.42	149.23	33.17	-9,884.95	-1,379.21	4,223.53	4,075.05	148.49	28.444				
21,200.00	12,344.00	17,321.66	8,795.00	170.01	150.84	33.17	-9,984.94	-1,378.21	4,223.52	4,073.55	149.98	28.161				
21,300.00	12,344.00	17,421.66	8,795.00	171.60	152.45	33.17	-10,084.94	-1,377.21	4,223.51	4,072.05	151.46	27.885				
21,400.00	12,344.00	17,521.66	8,795.00	173.20	154.06	33.17	-10,184.93	-1,376.21	4,223.50	4,070.55	152.95	27.613				
21,500.00	12,344.00	17,621.66	8,795.00	174.79	155.67	33.17	-10,284.93	-1,375.21	4,223.49	4,069.05	154.44	27.347				
21,600.00	12,344.00	17,721.66	8,795.00	176.38	157.28	33.17	-10,384.92	-1,374.21	4,223.48	4,067.55	155.93	27.086				
21,700.00	12,344.00	17,821.66	8,795.00	177.98	158.90	33.17	-10,484.92	-1,373.21	4,223.47	4,066.05	157.42	26.829				
21,800.00	12,344.00	17,921.66	8,795.00	179.58	160.51	33.17	-10,584.91	-1,372.21	4,223.45	4,064.54	158.91	26.577				
21,900.00	12,344.00	18,021.66	8,795.00	181.17	162.12	33.17	-10,684.91	-1,371.21	4,223.44	4,063.04	160.40	26.330				
22,000.00	12,344.00	18,121.66	8,795.00	182.77	163.74	33.17	-10,784.90	-1,370.21	4,223.43	4,061.53	161.90	26.087				
22,100.00	12,344.00	18,221.66	8,795.00	184.37	165.35	33.17	-10,884.90	-1,369.21	4,223.42	4,060.03	163.39	25.848				
22,200.00	12,344.00	18,321.66	8,795.00	185.97	166.97	33.17	-10,984.89	-1,368.21	4,223.41	4,058.52	164.89	25.614				
22,300.00	12,344.00	18,421.66	8,795.00	187.57	168.59	33.17	-11,084.89	-1,367.21	4,223.40	4,057.01	166.38	25.383				
22,400.00	12,344.00	18,521.66	8,795.00	189.18	170.20	33.16	-11,184.88	-1,366.22	4,223.39	4,055.51	167.88	25.157				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Tatanka Fed Com - Tatanka 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		
22,500.00	12,344.00	18,621.66	8,795.00	190.78	171.82	33.16	-11,284.88	-1,365.22	4,223.37	4,054.00	169.38	24.935		
22,600.00	12,344.00	18,721.66	8,795.00	192.38	173.44	33.16	-11,384.87	-1,364.22	4,223.36	4,052.49	170.87	24.717		
22,641.17	12,344.00	18,762.37	8,795.00	192.99	174.10	33.16	-11,425.58	-1,363.81	4,223.36	4,051.96	171.40	24.640		
22,642.51	12,344.00	18,762.37	8,795.00	193.01	174.10	33.16	-11,425.58	-1,363.81	4,223.36	4,051.95	171.41	24.639 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 Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 102H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD															Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
							+N/-S (usft)	+E/-W (usft)								
0.00	0.00	0.00	0.00	0.00	0.00	-155.01	-1,022.08	-476.49	1,127.78							
100.00	100.00	85.70	85.70	0.13	0.11	-155.01	-1,022.08	-476.49	1,127.69	1,127.53	0.17	6,824.746				
200.00	200.00	185.70	185.70	0.48	0.43	-155.01	-1,022.08	-476.49	1,127.69	1,127.04	0.65	1,737.169				
300.00	300.00	285.70	285.70	0.84	0.79	-155.01	-1,022.08	-476.49	1,127.69	1,126.54	1.16	975.794				
400.00	400.00	385.70	385.70	1.20	1.15	-155.01	-1,022.08	-476.49	1,127.69	1,126.03	1.66	678.332				
500.00	500.00	485.70	485.70	1.56	1.51	-155.01	-1,022.08	-476.49	1,127.69	1,125.52	2.17	519.839				
600.00	600.00	585.70	585.70	1.92	1.87	-155.01	-1,022.08	-476.49	1,127.69	1,125.02	2.68	421.377				
700.00	700.00	685.70	685.70	2.28	2.23	-155.01	-1,022.08	-476.49	1,127.69	1,124.51	3.18	354.272				
800.00	800.00	785.70	785.70	2.63	2.58	-155.01	-1,022.08	-476.49	1,127.69	1,124.00	3.69	305.603				
900.00	900.00	885.70	885.70	2.99	2.94	-155.01	-1,022.08	-476.49	1,127.69	1,123.50	4.20	268.691				
1,000.00	1,000.00	985.70	985.70	3.35	3.30	-155.01	-1,022.08	-476.49	1,127.69	1,122.99	4.70	239.734				
1,100.00	1,100.00	1,085.70	1,085.70	3.71	3.66	-155.01	-1,022.08	-476.49	1,127.69	1,122.48	5.21	216.412				
1,200.00	1,200.00	1,185.70	1,185.70	4.07	4.02	-155.01	-1,022.08	-476.49	1,127.69	1,121.97	5.72	197.225				
1,300.00	1,300.00	1,285.70	1,285.70	4.43	4.38	-155.01	-1,022.08	-476.49	1,127.69	1,121.47	6.22	181.163				
1,400.00	1,400.00	1,385.70	1,385.70	4.79	4.73	-155.01	-1,022.08	-476.49	1,127.69	1,120.96	6.73	167.520				
1,500.00	1,500.00	1,485.70	1,485.70	5.14	5.09	-155.01	-1,022.08	-476.49	1,127.69	1,120.45	7.24	155.788				
1,600.00	1,600.00	1,585.70	1,585.70	5.50	5.45	-155.01	-1,022.08	-476.49	1,127.69	1,119.95	7.75	145.591				
1,700.00	1,700.00	1,685.70	1,685.70	5.86	5.81	-155.01	-1,022.08	-476.49	1,127.69	1,119.44	8.25	136.648				
1,800.00	1,800.00	1,785.70	1,785.70	6.22	6.17	-155.01	-1,022.08	-476.49	1,127.69	1,118.93	8.76	128.739				
1,900.00	1,900.00	1,885.70	1,885.70	6.58	6.53	-155.01	-1,022.08	-476.49	1,127.69	1,118.43	9.27	121.696				
2,000.00	2,000.00	1,985.70	1,985.70	6.94	6.89	-155.01	-1,022.08	-476.49	1,127.69	1,117.92	9.77	115.384				
2,100.00	2,100.00	2,085.70	2,085.70	7.29	7.24	-155.01	-1,022.08	-476.49	1,127.69	1,117.41	10.28	109.694				
2,200.00	2,200.00	2,185.70	2,185.70	7.65	7.60	-155.01	-1,022.08	-476.49	1,127.69	1,116.91	10.79	104.539				
2,300.00	2,300.00	2,285.70	2,285.70	8.01	7.96	-155.01	-1,022.08	-476.49	1,127.69	1,116.40	11.29	99.846				
2,400.00	2,400.00	2,385.70	2,385.70	8.37	8.32	-155.01	-1,022.08	-476.49	1,127.69	1,115.89	11.80	95.557				
2,500.00	2,500.00	2,485.70	2,485.70	8.73	8.68	-155.01	-1,022.08	-476.49	1,127.69	1,115.38	12.31	91.621				
2,600.00	2,600.00	2,585.70	2,585.70	9.09	9.04	-155.01	-1,022.08	-476.49	1,127.69	1,114.88	12.82	87.997				
2,700.00	2,700.00	2,685.70	2,685.70	9.45	9.39	-155.01	-1,022.08	-476.49	1,127.69	1,114.37	13.32	84.648				
2,800.00	2,800.00	2,785.70	2,785.70	9.80	9.75	-155.01	-1,022.08	-476.49	1,127.69	1,113.86	13.83	81.545				
2,900.00	2,900.00	2,885.70	2,885.70	10.16	10.11	-155.01	-1,022.08	-476.49	1,127.69	1,113.36	14.34	78.662				
3,000.00	3,000.00	2,985.70	2,985.70	10.52	10.47	-155.01	-1,022.08	-476.49	1,127.69	1,112.85	14.84	75.975				
3,100.00	3,100.00	3,085.70	3,085.70	10.88	10.83	-155.01	-1,022.08	-476.49	1,127.69	1,112.34	15.35	73.466				
3,200.00	3,200.00	3,185.70	3,185.70	11.24	11.19	-155.01	-1,022.08	-476.49	1,127.69	1,111.84	15.86	71.117				
3,236.76	3,236.76	3,217.72	3,217.72	11.36	11.30	64.09	-1,022.12	-476.49	1,127.66	1,111.64	16.02	70.371				
3,300.00	3,299.99	3,267.61	3,267.60	11.58	11.47	64.12	-1,022.68	-476.49	1,127.81	1,111.51	16.30	69.207				
3,400.00	3,399.91	3,346.48	3,346.44	11.91	11.73	64.20	-1,024.89	-476.49	1,128.64	1,111.93	16.71	67.561				
3,500.00	3,499.69	3,425.31	3,425.18	12.24	11.98	64.34	-1,028.72	-476.49	1,130.20	1,113.09	17.11	66.062				
3,600.00	3,599.27	3,500.00	3,499.69	12.57	12.23	64.50	-1,033.85	-476.49	1,132.52	1,115.03	17.49	64.734				
3,700.00	3,698.57	3,582.77	3,582.13	12.91	12.50	64.74	-1,041.24	-476.49	1,135.58	1,117.68	17.91	63.417				
3,800.00	3,797.54	3,661.36	3,660.23	13.25	12.75	65.02	-1,049.91	-476.49	1,139.43	1,121.13	18.30	62.251				
3,900.00	3,896.09	3,744.63	3,742.79	13.60	13.03	65.36	-1,060.81	-476.48	1,144.07	1,125.35	18.72	61.113				
4,000.00	3,994.16	3,881.43	3,878.47	13.96	13.49	66.06	-1,078.08	-474.25	1,146.59	1,127.24	19.35	59.269				
4,100.00	4,091.70	4,018.36	4,014.52	14.32	13.96	66.88	-1,092.31	-468.19	1,144.90	1,124.94	19.97	57.342				
4,200.00	4,188.62	4,154.97	4,150.31	14.70	14.44	67.83	-1,103.43	-458.34	1,139.06	1,118.48	20.58	55.343				
4,304.97	4,289.63	4,297.54	4,291.91	15.12	14.94	68.98	-1,111.76	-444.01	1,128.54	1,107.32	21.22	53.180				
4,400.00	4,380.70	4,425.77	4,418.99	15.51	15.40	69.91	-1,116.37	-427.62	1,115.64	1,093.85	21.79	51.195				
4,500.00	4,476.55	4,551.31	4,543.04	15.93	15.85	70.77	-1,118.29	-408.42	1,099.18	1,076.80	22.37	49.134				
4,600.00	4,572.39	4,648.99	4,639.43	16.36	16.20	71.45	-1,119.11	-392.66	1,081.93	1,059.00	22.92	47.200				
4,700.00	4,668.24	4,746.66	4,735.82	16.81	16.56	72.14	-1,119.92	-376.91	1,064.83	1,041.35	23.48	45.347				
4,800.00	4,764.08	4,844.33	4,832.21	17.26	16.93	72.86	-1,120.74	-361.15	1,047.89	1,023.84	24.05	43.570				
4,900.00	4,859.93	4,942.01	4,928.60	17.72	17.29	73.60	-1,121.56	-345.40	1,031.13	1,006.50	24.63	41.869				
5,000.00	4,955.77	5,039.68	5,024.99	18.18	17.66	74.36	-1,122.37	-329.64	1,014.53	989.32	25.21	40.240				

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 Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 102H - OH - Plan #1		Offset Site Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
5,100.00	5,051.62	5,137.35	5,121.38	18.66	18.04	75.15	-1,123.19	-313.88	998.13	972.32	25.80	38.683				
5,200.00	5,147.46	5,235.03	5,217.77	19.14	18.41	75.97	-1,124.00	-298.13	981.91	955.51	26.40	37.193				
5,300.00	5,243.31	5,332.70	5,314.16	19.63	18.79	76.81	-1,124.82	-282.37	965.91	938.90	27.00	35.768				
5,400.00	5,339.15	5,430.37	5,410.55	20.12	19.17	77.68	-1,125.64	-266.62	950.11	922.50	27.61	34.406				
5,500.00	5,435.00	5,528.04	5,506.95	20.62	19.56	78.58	-1,126.45	-250.86	934.54	906.31	28.23	33.105				
5,600.00	5,530.84	5,625.72	5,603.34	21.12	19.94	79.50	-1,127.27	-235.11	919.21	890.36	28.85	31.862				
5,700.00	5,626.69	5,723.39	5,699.73	21.63	20.33	80.46	-1,128.08	-219.35	904.13	874.65	29.47	30.676				
5,800.00	5,722.53	5,821.06	5,796.12	22.14	20.72	81.45	-1,128.90	-203.60	889.31	859.20	30.10	29.543				
5,900.00	5,818.38	5,918.74	5,892.51	22.65	21.11	82.47	-1,129.72	-187.84	874.76	844.03	30.73	28.463				
6,000.00	5,914.22	6,016.41	5,988.90	23.17	21.50	83.53	-1,130.53	-172.09	860.50	829.13	31.37	27.432				
6,100.00	6,010.07	6,114.08	6,085.29	23.69	21.89	84.62	-1,131.35	-156.33	846.55	814.54	32.01	26.450				
6,200.00	6,105.91	6,211.76	6,181.68	24.22	22.29	85.74	-1,132.17	-140.57	832.91	800.26	32.64	25.515				
6,300.00	6,201.76	6,309.43	6,278.07	24.75	22.68	86.90	-1,132.98	-124.82	819.61	786.32	33.28	24.624				
6,400.00	6,297.60	6,407.10	6,374.46	25.28	23.08	88.10	-1,133.80	-109.06	806.66	772.73	33.93	23.777				
6,500.00	6,393.45	6,504.77	6,470.85	25.81	23.48	89.33	-1,134.61	-93.31	794.07	759.51	34.57	22.972				
6,600.00	6,489.29	6,602.45	6,567.24	26.35	23.88	90.60	-1,135.43	-77.55	781.87	746.67	35.21	22.208				
6,700.00	6,585.14	6,700.12	6,663.63	26.89	24.28	91.91	-1,136.25	-61.80	770.08	734.24	35.85	21.483				
6,800.00	6,680.98	6,797.79	6,760.02	27.43	24.68	93.26	-1,137.06	-46.04	758.71	722.23	36.48	20.796				
6,900.00	6,776.83	6,895.47	6,856.41	27.97	25.09	94.65	-1,137.88	-30.29	747.78	710.67	37.12	20.146				
7,000.00	6,872.67	6,989.81	6,949.52	28.52	25.48	96.03	-1,138.66	-15.13	737.38	699.62	37.75	19.531				
7,100.00	6,968.52	7,074.41	7,033.23	29.06	25.82	97.36	-1,139.30	-2.88	728.72	690.32	38.40	18.979				
7,200.00	7,064.36	7,158.77	7,116.95	29.61	26.15	98.80	-1,139.84	7.48	722.40	683.38	39.02	18.514				
7,300.00	7,160.21	7,242.82	7,200.57	30.16	26.48	100.32	-1,140.28	15.97	718.53	678.91	39.62	18.137				
7,399.56	7,255.63	7,326.11	7,283.59	30.71	26.79	101.92	-1,140.62	22.57	717.22	677.03	40.19	17.847 CC				
7,400.00	7,256.05	7,326.48	7,283.96	30.72	26.79	101.93	-1,140.62	22.59	717.22	677.03	40.19	17.846 ES				
7,500.00	7,351.90	7,409.67	7,367.01	31.27	27.10	103.60	-1,140.87	27.37	718.58	677.85	40.74	17.640				
7,600.00	7,447.74	7,492.31	7,449.60	31.82	27.39	105.31	-1,141.02	30.32	722.69	681.45	41.25	17.520				
7,700.00	7,543.59	7,574.34	7,531.62	32.38	27.67	107.05	-1,141.08	31.49	729.63	687.90	41.73	17.486 SF				
7,800.00	7,639.43	7,667.85	7,625.13	32.94	27.99	109.04	-1,141.08	31.51	738.77	696.54	42.23	17.493				
7,889.67	7,725.37	7,753.80	7,711.07	33.44	28.28	110.82	-1,141.08	31.51	747.82	705.14	42.69	17.519				
7,900.00	7,735.28	7,763.70	7,720.98	33.50	28.31	111.04	-1,141.08	31.51	748.91	706.17	42.74	17.523				
8,000.00	7,831.56	7,859.98	7,817.26	34.04	28.63	113.03	-1,141.08	31.51	759.38	716.14	43.24	17.563				
8,100.00	7,928.52	7,956.94	7,914.22	34.56	28.96	114.80	-1,141.08	31.51	769.56	725.84	43.72	17.600				
8,200.00	8,026.08	8,054.50	8,011.78	35.06	29.29	116.37	-1,141.08	31.51	779.22	735.02	44.20	17.628				
8,300.00	8,124.18	8,152.60	8,109.88	35.53	29.62	117.73	-1,141.08	31.51	788.17	743.49	44.68	17.641				
8,400.00	8,222.76	8,251.18	8,208.46	35.98	29.96	118.90	-1,141.08	31.51	796.22	751.07	45.15	17.635				
8,500.00	8,321.74	8,335.22	8,292.31	36.40	30.24	119.44	-1,145.41	31.55	804.04	758.48	45.56	17.649				
8,600.00	8,421.06	8,416.33	8,371.84	36.79	30.51	119.04	-1,161.01	31.71	812.81	766.82	45.99	17.675				
8,700.00	8,520.65	8,493.21	8,444.48	37.16	30.77	117.85	-1,186.02	31.95	822.95	776.55	46.40	17.736				
8,800.00	8,620.44	8,563.06	8,507.04	37.51	31.00	116.16	-1,216.99	32.26	835.46	788.74	46.72	17.882				
8,900.00	8,720.37	8,624.47	8,558.58	37.83	31.20	114.27	-1,250.33	32.59	851.58	804.72	46.86	18.172				
8,994.64	8,815.00	8,674.62	8,597.83	38.11	31.36	-106.56	-1,281.52	32.90	871.21	824.44	46.77	18.629				
9,000.00	8,820.36	8,677.24	8,599.80	38.13	31.37	-106.67	-1,283.24	32.91	872.46	825.71	46.75	18.661				
9,100.00	8,920.36	8,722.41	8,632.55	38.40	31.52	-108.67	-1,314.33	33.22	899.47	853.09	46.38	19.394				
9,200.00	9,020.36	8,761.29	8,658.71	38.68	31.66	-110.48	-1,343.09	33.50	933.29	887.53	45.76	20.395				
9,300.00	9,120.36	8,800.00	8,682.76	38.96	31.79	-112.34	-1,373.41	33.80	973.85	928.80	45.05	21.619				
9,400.00	9,220.36	8,823.85	8,696.53	39.25	31.88	-113.51	-1,392.88	34.00	1,020.72	976.72	43.99	23.202				
9,500.00	9,320.36	8,850.00	8,710.69	39.53	31.98	-114.81	-1,414.86	34.21	1,073.48	1,030.50	42.97	24.979				
9,600.00	9,420.36	8,871.19	8,721.42	39.81	32.06	-115.87	-1,433.13	34.39	1,131.53	1,089.64	41.89	27.010				
9,700.00	9,520.36	8,900.00	8,734.91	40.10	32.18	-117.32	-1,458.58	34.64	1,194.39	1,153.37	41.01	29.121				
9,800.00	9,620.36	8,900.00	8,734.91	40.39	32.18	-117.32	-1,458.58	34.64	1,261.27	1,221.57	39.69	31.774				
9,900.00	9,720.36	8,923.07	8,744.77	40.67	32.28	-118.48	-1,479.43	34.85	1,331.73	1,292.84	38.89	34.244				

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 Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Tatanka Fed Com - Tatanka Fed Com 102H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
10,000.00	9,820.36	8,950.00	8,755.22	40.96	32.39	-119.82	-1,504.25	35.10	1,405.61	1,367.37	38.24	36.758		
10,100.00	9,920.36	8,950.00	8,755.22	41.25	32.39	-119.82	-1,504.25	35.10	1,481.86	1,444.61	37.25	39.779		
10,200.00	10,020.36	8,950.00	8,755.22	41.55	32.39	-119.82	-1,504.25	35.10	1,560.79	1,524.41	36.38	42.900		
10,300.00	10,120.36	8,970.08	8,762.24	41.84	32.49	-120.82	-1,523.06	35.28	1,641.60	1,605.69	35.91	45.717		
10,400.00	10,220.36	8,979.20	8,765.21	42.13	32.53	-121.27	-1,531.69	35.37	1,724.33	1,688.97	35.36	48.766		
10,500.00	10,320.36	9,000.00	8,771.47	42.43	32.63	-122.29	-1,551.52	35.56	1,808.81	1,773.77	35.04	51.615		
10,600.00	10,420.36	9,000.00	8,771.47	42.72	32.63	-122.29	-1,551.52	35.56	1,894.39	1,859.85	34.54	54.853		
10,700.00	10,520.36	9,000.00	8,771.47	43.02	32.63	-122.29	-1,551.52	35.56	1,981.32	1,947.22	34.10	58.096		
10,800.00	10,620.36	9,000.00	8,771.47	43.31	32.63	-122.29	-1,551.52	35.56	2,069.43	2,035.69	33.75	61.325		
10,900.00	10,720.36	9,000.00	8,771.47	43.61	32.63	-122.29	-1,551.52	35.56	2,158.58	2,125.13	33.45	64.536		
11,000.00	10,820.36	9,020.24	8,776.87	43.91	32.72	-123.27	-1,571.02	35.75	2,248.22	2,214.81	33.41	67.288		
11,100.00	10,920.36	9,025.41	8,778.13	44.21	32.75	-123.52	-1,576.03	35.80	2,338.84	2,305.58	33.27	70.309		
11,200.00	11,020.36	9,050.00	8,783.54	44.51	32.87	-124.69	-1,600.02	36.04	2,430.56	2,397.22	33.34	72.904		
11,300.00	11,120.36	9,050.00	8,783.54	44.81	32.87	-124.69	-1,600.02	36.04	2,522.32	2,489.10	33.22	75.931		
11,400.00	11,220.36	9,050.00	8,783.54	45.12	32.87	-124.69	-1,600.02	36.04	2,614.69	2,581.56	33.14	78.905		
11,500.00	11,320.36	9,050.00	8,783.54	45.42	32.87	-124.69	-1,600.02	36.04	2,707.60	2,674.51	33.09	81.814		
11,600.00	11,420.36	9,050.00	8,783.54	45.72	32.87	-124.69	-1,600.02	36.04	2,801.00	2,767.92	33.09	84.661		
11,700.00	11,520.36	9,050.00	8,783.54	46.03	32.87	-124.69	-1,600.02	36.04	2,894.84	2,861.74	33.10	87.453		
11,800.00	11,620.36	9,050.00	8,783.54	46.33	32.87	-124.69	-1,600.02	36.04	2,989.09	2,955.94	33.15	90.179		
11,900.00	11,720.36	9,050.00	8,783.54	46.64	32.87	-124.69	-1,600.02	36.04	3,083.69	3,050.47	33.21	92.840		
11,950.68	11,771.04	9,050.00	8,783.54	46.80	32.87	-124.69	-1,600.02	36.04	3,131.76	3,098.50	33.26	94.164		
12,000.00	11,820.30	9,050.00	8,783.54	46.96	32.87	45.23	-1,600.02	36.04	3,178.20	3,144.90	33.30	95.447		
12,050.00	11,869.86	9,050.00	8,783.54	47.14	32.87	37.40	-1,600.02	36.04	3,224.27	3,190.94	33.33	96.745		
12,100.00	11,918.67	9,050.00	8,783.54	47.35	32.87	31.70	-1,600.02	36.04	3,269.04	3,235.69	33.35	98.030		
12,150.00	11,966.36	9,050.00	8,783.54	47.58	32.87	27.46	-1,600.02	36.04	3,312.23	3,278.87	33.36	99.291		
12,200.00	12,012.56	9,072.62	8,787.60	47.83	32.99	24.04	-1,622.26	36.26	3,353.05	3,319.56	33.49	100.126		
12,250.00	12,056.93	9,077.04	8,788.30	48.10	33.01	21.58	-1,626.63	36.30	3,392.08	3,358.58	33.50	101.248		
12,300.00	12,099.12	9,100.00	8,791.34	48.39	33.13	19.54	-1,649.39	36.53	3,429.06	3,395.45	33.61	102.030		
12,350.00	12,138.81	9,100.00	8,791.34	48.69	33.13	18.06	-1,649.39	36.53	3,462.96	3,429.38	33.58	103.128		
12,400.00	12,175.70	9,100.00	8,791.34	49.01	33.13	16.86	-1,649.39	36.53	3,494.14	3,460.59	33.54	104.164		
12,450.00	12,209.51	9,100.00	8,791.34	49.34	33.13	15.89	-1,649.39	36.53	3,522.42	3,488.91	33.51	105.131		
12,500.00	12,239.99	9,100.00	8,791.34	49.69	33.13	15.11	-1,649.39	36.53	3,547.66	3,514.20	33.46	106.020		
12,550.00	12,266.90	9,100.00	8,791.34	50.05	33.13	14.48	-1,649.39	36.53	3,569.75	3,536.33	33.42	106.825		
12,600.00	12,290.03	9,100.00	8,791.34	50.42	33.13	13.98	-1,649.39	36.53	3,588.56	3,555.19	33.37	107.537		
12,650.00	12,309.21	9,124.09	8,793.55	50.81	33.26	13.57	-1,673.37	36.77	3,603.44	3,570.01	33.42	107.808		
12,700.00	12,324.30	9,150.00	8,794.81	51.20	33.40	13.27	-1,699.25	37.02	3,615.45	3,581.97	33.48	107.987		
12,750.00	12,335.17	9,150.00	8,794.81	51.60	33.40	13.09	-1,699.25	37.02	3,623.29	3,589.86	33.43	108.385		
12,800.00	12,341.76	9,150.00	8,794.81	52.01	33.40	12.99	-1,699.25	37.02	3,627.60	3,594.22	33.38	108.662		
12,850.68	12,344.00	9,150.00	8,794.81	52.42	33.40	12.97	-1,699.25	37.02	3,628.34	3,594.99	33.34	108.814		
12,900.00	12,344.00	9,164.76	8,795.00	52.83	33.48	12.97	-1,714.01	37.17	3,627.57	3,594.20	33.36	108.727		
13,000.00	12,344.00	9,221.04	8,795.00	53.68	33.81	12.97	-1,770.28	37.72	3,627.30	3,593.78	33.52	108.213		
13,009.97	12,344.00	9,231.00	8,795.00	53.77	33.87	12.97	-1,780.25	37.82	3,627.30	3,593.75	33.55	108.107		
13,100.00	12,344.00	9,321.04	8,795.00	54.57	34.45	12.97	-1,870.28	38.71	3,627.30	3,593.45	33.85	107.143		
13,200.00	12,344.00	9,421.04	8,795.00	55.50	35.15	12.97	-1,970.27	39.70	3,627.30	3,593.07	34.23	105.975		
13,300.00	12,344.00	9,521.04	8,795.00	56.46	35.91	12.97	-2,070.27	40.68	3,627.30	3,592.66	34.64	104.720		
13,400.00	12,344.00	9,621.04	8,795.00	57.45	36.73	12.97	-2,170.26	41.67	3,627.30	3,592.21	35.08	103.390		
13,500.00	12,344.00	9,721.04	8,795.00	58.47	37.61	12.97	-2,270.26	42.66	3,627.29	3,591.73	35.56	101.991		
13,600.00	12,344.00	9,821.04	8,795.00	59.52	38.53	12.97	-2,370.25	43.65	3,627.29	3,591.21	36.08	100.536		
13,700.00	12,344.00	9,921.04	8,795.00	60.60	39.51	12.97	-2,470.25	44.63	3,627.29	3,590.66	36.63	99.036		
13,800.00	12,344.00	10,021.04	8,795.00	61.70	40.52	12.97	-2,570.24	45.62	3,627.29	3,590.08	37.20	97.499		
13,900.00	12,344.00	10,121.04	8,795.00	62.82	41.58	12.97	-2,670.24	46.61	3,627.29	3,589.48	37.81	95.935		
14,000.00	12,344.00	10,221.04	8,795.00	63.97	42.68	12.97	-2,770.23	47.59	3,627.28	3,588.84	38.44	94.350		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka 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				
14,100.00	12,344.00	10,321.04	8,795.00	65.14	43.80	12.97	-2,870.23	48.58	3,627.28	3,588.18	39.11	92.754				
14,200.00	12,344.00	10,421.04	8,795.00	66.33	44.97	12.97	-2,970.22	49.57	3,627.28	3,587.49	39.79	91.153				
14,300.00	12,344.00	10,521.04	8,795.00	67.54	46.16	12.97	-3,070.22	50.56	3,627.28	3,586.78	40.50	89.557				
14,400.00	12,344.00	10,621.04	8,795.00	68.77	47.38	12.97	-3,170.21	51.54	3,627.28	3,586.04	41.23	87.969				
14,500.00	12,344.00	10,721.04	8,795.00	70.02	48.62	12.97	-3,270.21	52.53	3,627.27	3,585.29	41.99	86.392				
14,600.00	12,344.00	10,821.04	8,795.00	71.28	49.89	12.97	-3,370.20	53.52	3,627.27	3,584.51	42.76	84.831				
14,700.00	12,344.00	10,921.04	8,795.00	72.55	51.18	12.97	-3,470.20	54.50	3,627.27	3,583.72	43.55	83.289				
14,800.00	12,344.00	11,021.04	8,795.00	73.85	52.49	12.97	-3,570.19	55.49	3,627.27	3,582.91	44.36	81.768				
14,900.00	12,344.00	11,121.04	8,795.00	75.15	53.82	12.97	-3,670.19	56.48	3,627.27	3,582.08	45.19	80.271				
15,000.00	12,344.00	11,221.04	8,795.00	76.47	55.17	12.97	-3,770.18	57.47	3,627.27	3,581.23	46.03	78.800				
15,100.00	12,344.00	11,321.04	8,795.00	77.81	56.53	12.97	-3,870.18	58.45	3,627.26	3,580.37	46.89	77.356				
15,200.00	12,344.00	11,421.04	8,795.00	79.15	57.91	12.97	-3,970.17	59.44	3,627.26	3,579.50	47.76	75.942				
15,300.00	12,344.00	11,521.04	8,795.00	80.51	59.30	12.97	-4,070.17	60.43	3,627.26	3,578.61	48.65	74.557				
15,400.00	12,344.00	11,621.04	8,795.00	81.87	60.70	12.97	-4,170.17	61.42	3,627.26	3,577.71	49.55	73.202				
15,500.00	12,344.00	11,721.04	8,795.00	83.25	62.12	12.97	-4,270.16	62.40	3,627.26	3,576.79	50.46	71.878				
15,600.00	12,344.00	11,821.04	8,795.00	84.64	63.55	12.97	-4,370.16	63.39	3,627.25	3,575.87	51.39	70.586				
15,700.00	12,344.00	11,921.04	8,795.00	86.03	64.98	12.97	-4,470.15	64.38	3,627.25	3,574.93	52.32	69.324				
15,800.00	12,344.00	12,021.04	8,795.00	87.44	66.43	12.97	-4,570.15	65.36	3,627.25	3,573.98	53.27	68.093				
15,900.00	12,344.00	12,121.04	8,795.00	88.85	67.89	12.97	-4,670.14	66.35	3,627.25	3,573.03	54.22	66.896				
16,000.00	12,344.00	12,221.04	8,795.00	90.27	69.36	12.97	-4,770.14	67.34	3,627.25	3,572.06	55.19	65.728				
16,100.00	12,344.00	12,321.04	8,795.00	91.70	70.83	12.97	-4,870.13	68.33	3,627.24	3,571.09	56.16	64.591				
16,200.00	12,344.00	12,421.04	8,795.00	93.14	72.31	12.97	-4,970.13	69.31	3,627.24	3,570.10	57.14	63.482				
16,300.00	12,344.00	12,521.04	8,795.00	94.58	73.80	12.97	-5,070.12	70.30	3,627.24	3,569.11	58.13	62.402				
16,400.00	12,344.00	12,621.04	8,795.00	96.03	75.30	12.97	-5,170.12	71.29	3,627.24	3,568.11	59.12	61.349				
16,500.00	12,344.00	12,721.04	8,795.00	97.49	76.80	12.97	-5,270.11	72.27	3,627.24	3,567.11	60.13	60.324				
16,600.00	12,344.00	12,821.04	8,795.00	98.95	78.31	12.97	-5,370.11	73.26	3,627.23	3,566.10	61.14	59.328				
16,700.00	12,344.00	12,921.04	8,795.00	100.42	79.82	12.97	-5,470.10	74.25	3,627.23	3,565.08	62.15	58.359				
16,800.00	12,344.00	13,021.04	8,795.00	101.89	81.34	12.97	-5,570.10	75.24	3,627.23	3,564.06	63.18	57.415				
16,900.00	12,344.00	13,121.04	8,795.00	103.37	82.87	12.97	-5,670.09	76.22	3,627.23	3,563.03	64.20	56.496				
17,000.00	12,344.00	13,221.04	8,795.00	104.86	84.40	12.97	-5,770.09	77.21	3,627.23	3,561.99	65.24	55.601				
17,100.00	12,344.00	13,321.04	8,795.00	106.35	85.93	12.97	-5,870.08	78.20	3,627.22	3,560.95	66.28	54.729				
17,200.00	12,344.00	13,421.04	8,795.00	107.84	87.47	12.97	-5,970.08	79.19	3,627.22	3,559.90	67.32	53.881				
17,300.00	12,344.00	13,521.04	8,795.00	109.34	89.01	12.97	-6,070.07	80.17	3,627.22	3,558.85	68.37	53.054				
17,400.00	12,344.00	13,621.04	8,795.00	110.84	90.56	12.97	-6,170.07	81.16	3,627.22	3,557.80	69.42	52.249				
17,500.00	12,344.00	13,721.04	8,795.00	112.35	92.11	12.97	-6,270.06	82.15	3,627.22	3,556.74	70.48	51.465				
17,600.00	12,344.00	13,821.04	8,795.00	113.86	93.66	12.97	-6,370.06	83.13	3,627.22	3,555.67	71.54	50.701				
17,700.00	12,344.00	13,921.04	8,795.00	115.38	95.21	12.97	-6,470.05	84.12	3,627.21	3,554.61	72.61	49.956				
17,800.00	12,344.00	14,021.04	8,795.00	116.89	96.77	12.97	-6,570.05	85.11	3,627.21	3,553.53	73.68	49.230				
17,900.00	12,344.00	14,121.04	8,795.00	118.42	98.34	12.97	-6,670.04	86.10	3,627.21	3,552.46	74.75	48.523				
18,000.00	12,344.00	14,221.04	8,795.00	119.94	99.90	12.97	-6,770.04	87.08	3,627.21	3,551.38	75.83	47.834				
18,100.00	12,344.00	14,321.04	8,795.00	121.47	101.47	12.97	-6,870.03	88.07	3,627.21	3,550.30	76.91	47.163				
18,200.00	12,344.00	14,421.04	8,795.00	123.00	103.04	12.97	-6,970.03	89.06	3,627.20	3,549.21	77.99	46.508				
18,300.00	12,344.00	14,521.04	8,795.00	124.54	104.61	12.97	-7,070.02	90.05	3,627.20	3,548.13	79.08	45.870				
18,400.00	12,344.00	14,621.04	8,795.00	126.08	106.19	12.97	-7,170.02	91.03	3,627.20	3,547.04	80.16	45.248				
18,500.00	12,344.00	14,721.04	8,795.00	127.62	107.77	12.97	-7,270.01	92.02	3,627.20	3,545.94	81.26	44.639				
18,600.00	12,344.00	14,821.04	8,795.00	129.16	109.35	12.97	-7,370.01	93.01	3,627.20	3,544.85	82.35	44.046				
18,700.00	12,344.00	14,921.04	8,795.00	130.71	110.93	12.97	-7,470.00	93.99	3,627.19	3,543.75	83.45	43.466				
18,800.00	12,344.00	15,021.04	8,795.00	132.26	112.51	12.97	-7,570.00	94.98	3,627.19	3,542.64	84.55	42.901				
18,900.00	12,344.00	15,121.04	8,795.00	133.81	114.10	12.97	-7,669.99	95.97	3,627.19	3,541.54	85.65	42.349				
19,000.00	12,344.00	15,221.04	8,795.00	135.36	115.69	12.97	-7,769.99	96.96	3,627.19	3,540.44	86.75	41.811				
19,100.00	12,344.00	15,321.04	8,795.00	136.92	117.28	12.97	-7,869.99	97.94	3,627.19	3,539.33	87.86	41.285				
19,200.00	12,344.00	15,421.04	8,795.00	138.48	118.87	12.97	-7,969.98	98.93	3,627.18	3,538.22	88.96	40.771				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka 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	12,344.00	15,521.04	8,795.00	140.04	120.46	12.97	-8,069.98	99.92	3,627.18	3,537.11	90.07	40.269				
19,400.00	12,344.00	15,621.04	8,795.00	141.60	122.06	12.97	-8,169.97	100.90	3,627.18	3,536.00	91.19	39.778				
19,500.00	12,344.00	15,721.04	8,795.00	143.16	123.65	12.97	-8,269.97	101.89	3,627.18	3,534.88	92.30	39.298				
19,600.00	12,344.00	15,821.04	8,795.00	144.73	125.25	12.97	-8,369.96	102.88	3,627.18	3,533.76	93.41	38.829				
19,700.00	12,344.00	15,921.04	8,795.00	146.30	126.85	12.97	-8,469.96	103.87	3,627.18	3,532.64	94.53	38.370				
19,800.00	12,344.00	16,021.04	8,795.00	147.87	128.45	12.97	-8,569.95	104.85	3,627.17	3,531.52	95.65	37.921				
19,900.00	12,344.00	16,121.04	8,795.00	149.44	130.05	12.97	-8,669.95	105.84	3,627.17	3,530.40	96.77	37.482				
20,000.00	12,344.00	16,221.04	8,795.00	151.01	131.65	12.97	-8,769.94	106.83	3,627.17	3,529.28	97.89	37.052				
20,100.00	12,344.00	16,321.04	8,795.00	152.59	133.26	12.97	-8,869.94	107.82	3,627.17	3,528.15	99.02	36.632				
20,200.00	12,344.00	16,421.04	8,795.00	154.17	134.86	12.96	-8,969.93	108.80	3,627.17	3,527.02	100.14	36.220				
20,300.00	12,344.00	16,521.04	8,795.00	155.74	136.47	12.96	-9,069.93	109.79	3,627.16	3,525.89	101.27	35.817				
20,400.00	12,344.00	16,621.04	8,795.00	157.32	138.07	12.96	-9,169.92	110.78	3,627.16	3,524.77	102.39	35.423				
20,500.00	12,344.00	16,721.04	8,795.00	158.91	139.68	12.96	-9,269.92	111.76	3,627.16	3,523.64	103.52	35.038				
20,600.00	12,344.00	16,821.04	8,795.00	160.49	141.29	12.96	-9,369.91	112.75	3,627.16	3,522.51	104.65	34.660				
20,700.00	12,344.00	16,921.04	8,795.00	162.07	142.90	12.96	-9,469.91	113.74	3,627.16	3,521.37	105.78	34.289				
20,800.00	12,344.00	17,021.04	8,795.00	163.66	144.51	12.96	-9,569.90	114.73	3,627.15	3,520.24	106.91	33.926				
20,900.00	12,344.00	17,121.04	8,795.00	165.24	146.13	12.96	-9,669.90	115.71	3,627.15	3,519.10	108.05	33.570				
21,000.00	12,344.00	17,221.04	8,795.00	166.83	147.74	12.96	-9,769.89	116.70	3,627.15	3,517.97	109.18	33.221				
21,100.00	12,344.00	17,321.04	8,795.00	168.42	149.35	12.96	-9,869.89	117.69	3,627.15	3,516.83	110.32	32.879				
21,200.00	12,344.00	17,421.04	8,795.00	170.01	150.97	12.96	-9,969.88	118.67	3,627.15	3,515.69	111.45	32.544				
21,300.00	12,344.00	17,521.04	8,795.00	171.60	152.58	12.96	-10,069.88	119.66	3,627.14	3,514.55	112.59	32.215				
21,400.00	12,344.00	17,621.04	8,795.00	173.20	154.20	12.96	-10,169.87	120.65	3,627.14	3,513.41	113.73	31.893				
21,500.00	12,344.00	17,721.04	8,795.00	174.79	155.81	12.96	-10,269.87	121.64	3,627.14	3,512.27	114.87	31.577				
21,600.00	12,344.00	17,821.04	8,795.00	176.38	157.43	12.96	-10,369.86	122.62	3,627.14	3,511.13	116.01	31.267				
21,700.00	12,344.00	17,921.04	8,795.00	177.98	159.05	12.96	-10,469.86	123.61	3,627.14	3,509.99	117.15	30.963				
21,800.00	12,344.00	18,021.04	8,795.00	179.58	160.67	12.96	-10,569.85	124.60	3,627.13	3,508.85	118.29	30.664				
21,900.00	12,344.00	18,121.04	8,795.00	181.17	162.29	12.96	-10,669.85	125.59	3,627.13	3,507.70	119.43	30.371				
22,000.00	12,344.00	18,221.04	8,795.00	182.77	163.91	12.96	-10,769.84	126.57	3,627.13	3,506.56	120.57	30.083				
22,100.00	12,344.00	18,321.04	8,795.00	184.37	165.53	12.96	-10,869.84	127.56	3,627.13	3,505.41	121.71	29.800				
22,200.00	12,344.00	18,421.04	8,795.00	185.97	167.15	12.96	-10,969.83	128.55	3,627.13	3,504.27	122.86	29.523				
22,300.00	12,344.00	18,521.04	8,795.00	187.57	168.77	12.96	-11,069.83	129.53	3,627.13	3,503.12	124.00	29.250				
22,400.00	12,344.00	18,621.04	8,795.00	189.18	170.40	12.96	-11,169.82	130.52	3,627.12	3,501.97	125.15	28.982				
22,500.00	12,344.00	18,721.04	8,795.00	190.78	172.02	12.96	-11,269.82	131.51	3,627.12	3,500.82	126.30	28.719				
22,600.00	12,344.00	18,821.04	8,795.00	192.38	173.64	12.96	-11,369.81	132.50	3,627.12	3,499.68	127.44	28.460				
22,630.61	12,344.00	18,851.65	8,795.00	192.83	174.14	12.96	-11,400.42	132.80	3,627.12	3,499.41	127.71	28.401				
22,642.51	12,344.00	18,862.99	8,795.00	193.01	174.32	12.96	-11,411.76	132.91	3,627.12	3,499.31	127.81	28.379				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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	122.58	-1,002.40	1,568.79	1,861.77					
100.00	100.00	83.00	83.00	0.13	0.10	122.58	-1,002.40	1,568.79	1,861.69	1,861.53	0.16	N/A		
200.00	200.00	183.00	183.00	0.48	0.42	122.58	-1,002.40	1,568.79	1,861.69	1,861.05	0.64	2,896.476		
300.00	300.00	283.00	283.00	0.84	0.78	122.58	-1,002.40	1,568.79	1,861.69	1,860.55	1.15	1,620.186		
400.00	400.00	383.00	383.00	1.20	1.14	122.58	-1,002.40	1,568.79	1,861.69	1,860.04	1.66	1,124.368		
500.00	500.00	483.00	483.00	1.56	1.50	122.58	-1,002.40	1,568.79	1,861.69	1,859.53	2.16	860.862		
600.00	600.00	583.00	583.00	1.92	1.86	122.58	-1,002.40	1,568.79	1,861.69	1,859.03	2.67	697.403		
700.00	700.00	683.00	683.00	2.28	2.22	122.58	-1,002.40	1,568.79	1,861.69	1,858.52	3.18	586.108		
800.00	800.00	783.00	783.00	2.63	2.57	122.58	-1,002.40	1,568.79	1,861.69	1,858.01	3.68	505.444		
900.00	900.00	883.00	883.00	2.99	2.93	122.58	-1,002.40	1,568.79	1,861.69	1,857.50	4.19	444.297		
1,000.00	1,000.00	983.00	983.00	3.35	3.29	122.58	-1,002.40	1,568.79	1,861.69	1,857.00	4.70	396.347		
1,100.00	1,100.00	1,083.00	1,083.00	3.71	3.65	122.58	-1,002.40	1,568.79	1,861.69	1,856.49	5.20	357.738		
1,200.00	1,200.00	1,183.00	1,183.00	4.07	4.01	122.58	-1,002.40	1,568.79	1,861.69	1,855.98	5.71	325.983		
1,300.00	1,300.00	1,283.00	1,283.00	4.43	4.37	122.58	-1,002.40	1,568.79	1,861.69	1,855.48	6.22	299.406		
1,400.00	1,400.00	1,383.00	1,383.00	4.79	4.72	122.58	-1,002.40	1,568.79	1,861.69	1,854.97	6.72	276.836		
1,500.00	1,500.00	1,483.00	1,483.00	5.14	5.08	122.58	-1,002.40	1,568.79	1,861.69	1,854.46	7.23	257.430		
1,600.00	1,600.00	1,583.00	1,583.00	5.50	5.44	122.58	-1,002.40	1,568.79	1,861.69	1,853.96	7.74	240.567		
1,700.00	1,700.00	1,683.00	1,683.00	5.86	5.80	122.58	-1,002.40	1,568.79	1,861.69	1,853.45	8.25	225.777		
1,800.00	1,800.00	1,783.00	1,783.00	6.22	6.16	122.58	-1,002.40	1,568.79	1,861.69	1,852.94	8.75	212.700		
1,900.00	1,900.00	1,883.00	1,883.00	6.58	6.52	122.58	-1,002.40	1,568.79	1,861.69	1,852.44	9.26	201.055		
2,000.00	2,000.00	1,983.00	1,983.00	6.94	6.88	122.58	-1,002.40	1,568.79	1,861.69	1,851.93	9.77	190.619		
2,100.00	2,100.00	2,083.00	2,083.00	7.29	7.23	122.58	-1,002.40	1,568.79	1,861.69	1,851.42	10.27	181.213		
2,200.00	2,200.00	2,183.00	2,183.00	7.65	7.59	122.58	-1,002.40	1,568.79	1,861.69	1,850.91	10.78	172.691		
2,300.00	2,300.00	2,283.00	2,283.00	8.01	7.95	122.58	-1,002.40	1,568.79	1,861.69	1,850.41	11.29	164.935		
2,400.00	2,400.00	2,383.00	2,383.00	8.37	8.31	122.58	-1,002.40	1,568.79	1,861.69	1,849.90	11.79	157.846		
2,500.00	2,500.00	2,483.00	2,483.00	8.73	8.67	122.58	-1,002.40	1,568.79	1,861.69	1,849.39	12.30	151.341		
2,600.00	2,600.00	2,583.00	2,583.00	9.09	9.03	122.58	-1,002.40	1,568.79	1,861.69	1,848.89	12.81	145.351		
2,700.00	2,700.00	2,683.00	2,683.00	9.45	9.38	122.58	-1,002.40	1,568.79	1,861.69	1,848.38	13.32	139.817		
2,800.00	2,800.00	2,783.00	2,783.00	9.80	9.74	122.58	-1,002.40	1,568.79	1,861.69	1,847.87	13.82	134.689		
2,900.00	2,900.00	2,883.00	2,883.00	10.16	10.10	122.58	-1,002.40	1,568.79	1,861.69	1,847.37	14.33	129.924		
3,000.00	3,000.00	2,983.00	2,983.00	10.52	10.46	122.58	-1,002.40	1,568.79	1,861.69	1,846.86	14.84	125.484		
3,100.00	3,100.00	3,065.61	3,065.60	10.88	10.74	122.59	-1,002.96	1,568.79	1,862.08	1,846.79	15.29	121.784		
3,200.00	3,200.00	3,144.60	3,144.56	11.24	11.01	122.65	-1,005.14	1,568.81	1,863.58	1,847.85	15.73	118.501		
3,300.00	3,299.99	3,223.50	3,223.37	11.58	11.26	-18.16	-1,008.94	1,568.83	1,864.97	1,848.82	16.15	115.513		
3,400.00	3,399.91	3,300.00	3,299.69	11.91	11.51	-18.06	-1,014.17	1,568.86	1,865.00	1,848.46	16.55	112.717		
3,500.00	3,499.69	3,381.04	3,380.40	12.24	11.77	-17.93	-1,021.39	1,568.91	1,863.69	1,846.73	16.96	109.894		
3,600.00	3,599.27	3,459.62	3,458.52	12.57	12.03	-17.79	-1,030.02	1,568.96	1,861.04	1,843.68	17.37	107.164		
3,700.00	3,698.57	3,539.42	3,537.63	12.91	12.30	-17.62	-1,040.42	1,569.03	1,857.06	1,839.28	17.78	104.463		
3,800.00	3,797.54	3,638.98	3,636.22	13.25	12.64	-17.43	-1,054.27	1,569.11	1,851.11	1,832.86	18.25	101.440		
3,900.00	3,896.09	3,738.41	3,734.69	13.60	12.98	-17.26	-1,068.10	1,569.20	1,842.70	1,823.98	18.72	98.419		
4,000.00	3,994.16	3,837.65	3,832.96	13.96	13.32	-17.13	-1,081.90	1,569.29	1,831.82	1,812.62	19.20	95.403		
4,100.00	4,091.70	3,936.63	3,930.98	14.32	13.67	-17.04	-1,095.67	1,569.37	1,818.47	1,798.79	19.68	92.394		
4,200.00	4,188.62	4,035.28	4,028.67	14.70	14.02	-16.97	-1,109.39	1,569.46	1,802.66	1,782.49	20.17	89.394		
4,304.97	4,289.63	4,138.41	4,130.79	15.12	14.40	-16.94	-1,123.74	1,569.55	1,783.41	1,762.74	20.68	86.258		
4,400.00	4,380.70	4,261.09	4,252.50	15.51	14.84	-16.86	-1,139.18	1,569.64	1,764.08	1,742.86	21.23	83.111		
4,500.00	4,476.55	4,393.34	4,384.17	15.93	15.31	-16.89	-1,151.46	1,569.72	1,741.86	1,720.05	21.81	79.875		
4,600.00	4,572.39	4,524.20	4,514.79	16.36	15.77	-17.04	-1,159.12	1,569.77	1,717.72	1,695.34	22.38	76.766		
4,700.00	4,668.24	4,653.38	4,643.93	16.81	16.22	-17.33	-1,162.29	1,569.79	1,691.72	1,668.79	22.93	73.770		
4,800.00	4,764.08	4,756.53	4,747.08	17.26	16.58	-17.64	-1,162.40	1,569.79	1,664.46	1,641.02	23.43	71.027		
4,900.00	4,859.93	4,852.38	4,842.93	17.72	16.92	-17.94	-1,162.40	1,569.79	1,637.19	1,613.27	23.92	68.432		
5,000.00	4,955.77	4,948.22	4,938.77	18.18	17.25	-18.26	-1,162.40	1,569.79	1,609.97	1,585.55	24.42	65.935		
5,100.00	5,051.62	5,044.07	5,034.62	18.66	17.59	-18.58	-1,162.40	1,569.79	1,582.79	1,557.88	24.91	63.531		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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		
5,200.00	5,147.46	5,139.91	5,130.46	19.14	17.92	-18.91	-1,162.40	1,569.79	1,555.67	1,530.25	25.41	61.217		
5,300.00	5,243.31	5,235.76	5,226.31	19.63	18.26	-19.26	-1,162.40	1,569.79	1,528.59	1,502.68	25.91	58.987		
5,400.00	5,339.15	5,331.60	5,322.15	20.12	18.59	-19.61	-1,162.40	1,569.79	1,501.57	1,475.15	26.42	56.838		
5,500.00	5,435.00	5,427.45	5,418.00	20.62	18.93	-19.98	-1,162.40	1,569.79	1,474.60	1,447.67	26.93	54.766		
5,600.00	5,530.84	5,523.29	5,513.84	21.12	19.27	-20.37	-1,162.40	1,569.79	1,447.69	1,420.26	27.44	52.768		
5,700.00	5,626.69	5,619.14	5,609.69	21.63	19.60	-20.77	-1,162.40	1,569.79	1,420.85	1,392.90	27.95	50.839		
5,800.00	5,722.53	5,714.98	5,705.53	22.14	19.94	-21.18	-1,162.40	1,569.79	1,394.07	1,365.61	28.46	48.977		
5,900.00	5,818.38	5,810.83	5,801.38	22.65	20.28	-21.61	-1,162.40	1,569.79	1,367.37	1,338.39	28.98	47.179		
6,000.00	5,914.22	5,906.67	5,897.22	23.17	20.62	-22.06	-1,162.40	1,569.79	1,340.74	1,311.23	29.50	45.442		
6,100.00	6,010.07	6,002.52	5,993.07	23.69	20.95	-22.52	-1,162.40	1,569.79	1,314.19	1,284.16	30.03	43.764		
6,200.00	6,105.91	6,098.36	6,088.91	24.22	21.29	-23.00	-1,162.40	1,569.79	1,287.72	1,257.16	30.56	42.141		
6,300.00	6,201.76	6,194.21	6,184.76	24.75	21.63	-23.51	-1,162.40	1,569.79	1,261.34	1,230.25	31.09	40.572		
6,400.00	6,297.60	6,290.05	6,280.60	25.28	21.97	-24.03	-1,162.40	1,569.79	1,235.06	1,203.44	31.62	39.054		
6,500.00	6,393.45	6,385.90	6,376.45	25.81	22.31	-24.58	-1,162.40	1,569.79	1,208.88	1,176.72	32.16	37.586		
6,600.00	6,489.29	6,481.74	6,472.29	26.35	22.65	-25.15	-1,162.40	1,569.79	1,182.81	1,150.11	32.71	36.166		
6,700.00	6,585.14	6,577.59	6,568.14	26.89	22.99	-25.74	-1,162.40	1,569.79	1,156.86	1,123.60	33.25	34.791		
6,800.00	6,680.98	6,673.43	6,663.98	27.43	23.32	-26.37	-1,162.40	1,569.79	1,131.02	1,097.22	33.80	33.459		
6,900.00	6,776.83	6,769.28	6,759.83	27.97	23.66	-27.02	-1,162.40	1,569.79	1,105.33	1,070.97	34.36	32.170		
7,000.00	6,872.67	6,865.12	6,855.67	28.52	24.00	-27.70	-1,162.40	1,569.79	1,079.77	1,044.85	34.92	30.922		
7,100.00	6,968.52	6,960.97	6,951.52	29.06	24.34	-28.41	-1,162.40	1,569.79	1,054.36	1,018.88	35.49	29.713		
7,200.00	7,064.36	7,056.81	7,047.36	29.61	24.68	-29.16	-1,162.40	1,569.79	1,029.12	993.07	36.06	28.542		
7,300.00	7,160.21	7,152.66	7,143.21	30.16	25.02	-29.95	-1,162.40	1,569.79	1,004.06	967.42	36.64	27.407		
7,400.00	7,256.05	7,248.50	7,239.05	30.72	25.36	-30.77	-1,162.40	1,569.79	979.18	941.96	37.22	26.308		
7,500.00	7,351.90	7,344.35	7,334.90	31.27	25.70	-31.64	-1,162.40	1,569.79	954.51	916.70	37.81	25.244		
7,600.00	7,447.74	7,440.19	7,430.74	31.82	26.04	-32.55	-1,162.40	1,569.79	930.06	891.65	38.41	24.213		
7,700.00	7,543.59	7,536.04	7,526.59	32.38	26.38	-33.51	-1,162.40	1,569.79	905.85	866.83	39.02	23.215		
7,800.00	7,639.43	7,631.88	7,622.43	32.94	26.72	-34.52	-1,162.40	1,569.79	881.90	842.26	39.64	22.249		
7,889.67	7,725.37	7,717.82	7,708.37	33.44	27.03	-35.47	-1,162.40	1,569.79	860.65	820.45	40.20	21.409		
7,900.00	7,735.28	7,727.73	7,718.28	33.50	27.06	-35.56	-1,162.40	1,569.79	858.23	817.97	40.27	21.314		
8,000.00	7,831.56	7,824.01	7,814.56	34.04	27.40	-36.42	-1,162.40	1,569.79	836.10	795.20	40.90	20.444		
8,100.00	7,928.52	7,920.96	7,911.52	34.56	27.75	-37.24	-1,162.40	1,569.79	816.29	774.77	41.52	19.659		
8,200.00	8,026.08	8,018.53	8,009.08	35.06	28.09	-38.02	-1,162.40	1,569.79	798.76	756.62	42.14	18.955		
8,300.00	8,124.18	8,116.63	8,107.18	35.53	28.44	-38.74	-1,162.40	1,569.79	783.46	740.72	42.75	18.328		
8,400.00	8,222.76	8,192.86	8,183.19	35.98	28.71	-38.87	-1,167.35	1,569.84	771.76	728.45	43.31	17.821		
8,500.00	8,321.74	8,268.80	8,257.60	36.40	28.98	-38.22	-1,182.26	1,569.98	765.11	721.34	43.76	17.483		
8,569.20	8,390.43	8,319.59	8,305.98	36.67	29.16	-37.35	-1,197.68	1,570.13	763.69	719.68	44.01	17.351 CC, ES		
8,600.00	8,421.06	8,341.45	8,326.34	36.79	29.24	-36.88	-1,205.62	1,570.21	763.99	719.88	44.11	17.322 SF		
8,700.00	8,520.65	8,408.31	8,386.54	37.16	29.50	-35.08	-1,234.63	1,570.49	769.34	725.04	44.30	17.366		
8,800.00	8,620.44	8,467.96	8,437.06	37.51	29.73	-33.07	-1,266.28	1,570.80	782.29	737.97	44.32	17.652		
8,900.00	8,720.37	8,519.95	8,478.22	37.83	29.94	-31.09	-1,298.03	1,571.11	803.77	759.65	44.12	18.217		
8,994.64	8,815.00	8,562.37	8,509.55	38.11	30.12	111.53	-1,326.60	1,571.39	832.46	788.73	43.73	19.036		
9,000.00	8,820.36	8,564.59	8,511.13	38.13	30.13	111.64	-1,328.16	1,571.40	834.32	790.62	43.70	19.090		
9,100.00	8,920.36	8,600.00	8,535.51	38.40	30.28	113.36	-1,353.83	1,571.65	872.83	829.76	43.07	20.266		
9,200.00	9,020.36	8,636.34	8,558.83	38.68	30.45	115.18	-1,381.69	1,571.92	918.03	875.67	42.36	21.673		
9,300.00	9,120.36	8,665.38	8,576.17	38.96	30.58	116.65	-1,404.99	1,572.15	969.48	927.95	41.53	23.345		
9,400.00	9,220.36	8,700.00	8,595.26	39.25	30.75	118.43	-1,433.86	1,572.43	1,026.67	985.90	40.77	25.183		
9,500.00	9,320.36	8,700.00	8,595.26	39.53	30.75	118.43	-1,433.86	1,572.43	1,088.89	1,049.27	39.61	27.488		
9,600.00	9,420.36	8,732.80	8,611.71	39.81	30.91	120.12	-1,462.22	1,572.71	1,155.22	1,116.29	38.93	29.673		
9,700.00	9,520.36	8,750.00	8,619.68	40.10	30.99	121.01	-1,477.47	1,572.85	1,225.57	1,187.45	38.13	32.145		
9,800.00	9,620.36	8,750.00	8,619.68	40.39	30.99	121.01	-1,477.47	1,572.85	1,299.52	1,262.33	37.20	34.936		
9,900.00	9,720.36	8,779.86	8,632.42	40.67	31.15	122.53	-1,504.46	1,573.12	1,375.79	1,339.07	36.72	37.472		
10,000.00	9,820.36	8,800.00	8,640.21	40.96	31.25	123.55	-1,523.04	1,573.30	1,454.87	1,418.68	36.19	40.196		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 103H - OH - Plan #1		Offset Site Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
10,100.00	9,920.36	8,800.00	8,640.21	41.25	31.25	123.55	-1,523.04	1,573.30	1,535.99	1,500.46	35.53	43.229				
10,200.00	10,020.36	8,800.00	8,640.21	41.55	31.25	123.55	-1,523.04	1,573.30	1,619.23	1,584.28	34.95	46.327				
10,300.00	10,120.36	8,823.56	8,648.49	41.84	31.38	124.73	-1,545.09	1,573.51	1,703.67	1,668.98	34.69	49.114				
10,400.00	10,220.36	8,850.00	8,656.69	42.13	31.52	126.04	-1,570.22	1,573.76	1,790.08	1,755.58	34.51	51.879				
10,500.00	10,320.36	8,850.00	8,656.69	42.43	31.52	126.04	-1,570.22	1,573.76	1,877.16	1,843.04	34.13	55.007				
10,600.00	10,420.36	8,850.00	8,656.69	42.72	31.52	126.04	-1,570.22	1,573.76	1,965.47	1,931.66	33.81	58.135				
10,700.00	10,520.36	8,850.00	8,656.69	43.02	31.52	126.04	-1,570.22	1,573.76	2,054.85	2,021.30	33.55	61.253				
10,800.00	10,620.36	8,850.00	8,656.69	43.31	31.52	126.04	-1,570.22	1,573.76	2,145.17	2,111.83	33.33	64.356				
10,900.00	10,720.36	8,850.00	8,656.69	43.61	31.52	126.04	-1,570.22	1,573.76	2,236.31	2,203.14	33.16	67.431				
11,000.00	10,820.36	8,871.43	8,662.48	43.91	31.64	127.08	-1,590.85	1,573.96	2,327.70	2,294.50	33.20	70.121				
11,100.00	10,920.36	8,876.44	8,663.72	44.21	31.67	127.32	-1,595.71	1,574.00	2,419.96	2,386.83	33.13	73.034				
11,200.00	11,020.36	8,900.00	8,668.99	44.51	31.80	128.43	-1,618.67	1,574.23	2,513.14	2,479.91	33.23	75.626				
11,300.00	11,120.36	8,900.00	8,668.99	44.81	31.80	128.43	-1,618.67	1,574.23	2,606.29	2,573.10	33.19	78.524				
11,400.00	11,220.36	8,900.00	8,668.99	45.12	31.80	128.43	-1,618.67	1,574.23	2,699.93	2,666.75	33.18	81.371				
11,500.00	11,320.36	8,900.00	8,668.99	45.42	31.80	128.43	-1,618.67	1,574.23	2,794.01	2,760.82	33.20	84.166				
11,600.00	11,420.36	8,900.00	8,668.99	45.72	31.80	128.43	-1,618.67	1,574.23	2,888.49	2,855.25	33.24	86.905				
11,700.00	11,520.36	8,900.00	8,668.99	46.03	31.80	128.43	-1,618.67	1,574.23	2,983.33	2,950.03	33.30	89.590				
11,800.00	11,620.36	8,900.00	8,668.99	46.33	31.80	128.43	-1,618.67	1,574.23	3,078.49	3,045.11	33.38	92.223				
11,900.00	11,720.36	8,900.00	8,668.99	46.64	31.80	128.43	-1,618.67	1,574.23	3,173.96	3,140.47	33.48	94.797				
11,950.68	11,771.04	8,900.00	8,668.99	46.80	31.80	128.43	-1,618.67	1,574.23	3,222.44	3,188.90	33.54	96.080				
12,000.00	11,820.30	8,900.00	8,668.99	46.96	31.80	-40.37	-1,618.67	1,574.23	3,269.25	3,235.66	33.59	97.319				
12,050.00	11,869.86	8,900.00	8,668.99	47.14	31.80	-32.92	-1,618.67	1,574.23	3,315.67	3,282.03	33.64	98.564				
12,100.00	11,918.67	8,900.00	8,668.99	47.35	31.80	-27.66	-1,618.67	1,574.23	3,360.74	3,327.06	33.68	99.785				
12,150.00	11,966.36	8,900.00	8,668.99	47.58	31.80	-23.85	-1,618.67	1,574.23	3,404.18	3,370.46	33.71	100.972				
12,200.00	12,012.56	8,922.71	8,673.18	47.83	31.93	-20.81	-1,640.99	1,574.44	3,445.21	3,411.36	33.84	101.798				
12,250.00	12,056.93	8,927.03	8,673.87	48.10	31.95	-18.65	-1,645.25	1,574.48	3,484.40	3,450.52	33.88	102.835				
12,300.00	12,099.12	8,950.00	8,677.03	48.39	32.09	-16.87	-1,668.00	1,574.71	3,521.51	3,487.51	34.00	103.583				
12,350.00	12,138.81	8,950.00	8,677.03	48.69	32.09	-15.58	-1,668.00	1,574.71	3,555.49	3,521.48	34.01	104.550				
12,400.00	12,175.70	8,950.00	8,677.03	49.01	32.09	-14.54	-1,668.00	1,574.71	3,586.69	3,552.67	34.02	105.440				
12,450.00	12,209.51	8,950.00	8,677.03	49.34	32.09	-13.70	-1,668.00	1,574.71	3,614.95	3,580.92	34.02	106.246				
12,500.00	12,239.99	8,950.00	8,677.03	49.69	32.09	-13.03	-1,668.00	1,574.71	3,640.12	3,606.09	34.03	106.960				
12,550.00	12,266.90	8,950.00	8,677.03	50.05	32.09	-12.49	-1,668.00	1,574.71	3,662.08	3,628.04	34.04	107.575				
12,600.00	12,290.03	8,950.00	8,677.03	50.42	32.09	-12.06	-1,668.00	1,574.71	3,680.72	3,646.66	34.05	108.083				
12,650.00	12,309.21	8,972.93	8,679.27	50.81	32.22	-11.71	-1,690.82	1,574.93	3,695.42	3,661.28	34.14	108.241				
12,700.00	12,324.30	9,000.00	8,680.73	51.20	32.38	-11.46	-1,717.85	1,575.19	3,707.23	3,673.00	34.24	108.282				
12,750.00	12,335.17	9,000.00	8,680.73	51.60	32.38	-11.31	-1,717.85	1,575.19	3,714.77	3,680.51	34.26	108.443				
12,800.00	12,341.76	9,000.00	8,680.73	52.01	32.38	-11.23	-1,717.85	1,575.19	3,718.72	3,684.44	34.28	108.475				
12,850.68	12,344.00	9,000.00	8,680.73	52.42	32.38	-11.22	-1,717.85	1,575.19	3,719.04	3,684.73	34.32	108.373				
12,900.00	12,344.00	9,000.00	8,680.73	52.83	32.38	-11.22	-1,717.85	1,575.19	3,717.89	3,683.52	34.36	108.194				
13,000.00	12,344.00	9,037.37	8,681.00	53.68	32.61	-11.22	-1,755.21	1,575.55	3,717.10	3,682.52	34.57	107.521				
13,100.00	12,344.00	9,137.37	8,681.00	54.57	33.26	-11.22	-1,855.20	1,576.53	3,717.09	3,682.16	34.93	106.401				
13,200.00	12,344.00	9,237.37	8,681.00	55.50	33.98	-11.22	-1,955.20	1,577.50	3,717.09	3,681.76	35.33	105.202				
13,300.00	12,344.00	9,337.37	8,681.00	56.46	34.76	-11.22	-2,055.19	1,578.47	3,717.09	3,681.33	35.77	103.930				
13,400.00	12,344.00	9,437.37	8,681.00	57.45	35.60	-11.22	-2,155.19	1,579.44	3,717.09	3,680.86	36.23	102.594				
13,500.00	12,344.00	9,537.37	8,681.00	58.47	36.50	-11.22	-2,255.18	1,580.41	3,717.09	3,680.36	36.73	101.204				
13,600.00	12,344.00	9,637.37	8,681.00	59.52	37.45	-11.22	-2,355.18	1,581.39	3,717.09	3,679.83	37.26	99.769				
13,700.00	12,344.00	9,737.37	8,681.00	60.60	38.44	-11.22	-2,455.18	1,582.36	3,717.09	3,679.27	37.81	98.298				
13,800.00	12,344.00	9,837.37	8,681.00	61.70	39.48	-11.22	-2,555.17	1,583.33	3,717.09	3,678.69	38.40	96.800				
13,900.00	12,344.00	9,937.37	8,681.00	62.82	40.56	-11.22	-2,655.17	1,584.30	3,717.08	3,678.07	39.01	95.281				
14,000.00	12,344.00	10,037.37	8,681.00	63.97	41.68	-11.22	-2,755.16	1,585.28	3,717.08	3,677.43	39.65	93.749				
14,100.00	12,344.00	10,137.37	8,681.00	65.14	42.83	-11.22	-2,855.16	1,586.25	3,717.08	3,676.77	40.31	92.214				
14,200.00	12,344.00	10,237.37	8,681.00	66.33	44.01	-11.22	-2,955.15	1,587.22	3,717.08	3,676.09	40.99	90.677				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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		
14,300.00	12,344.00	10,337.37	8,681.00	67.54	45.23	-11.22	-3,055.15	1,588.19	3,717.08	3,675.38	41.70	89.144		
14,400.00	12,344.00	10,437.37	8,681.00	68.77	46.47	-11.22	-3,155.14	1,589.16	3,717.08	3,674.65	42.42	87.618		
14,500.00	12,344.00	10,537.37	8,681.00	70.02	47.73	-11.22	-3,255.14	1,590.14	3,717.08	3,673.91	43.17	86.104		
14,600.00	12,344.00	10,637.37	8,681.00	71.28	49.02	-11.22	-3,355.13	1,591.11	3,717.07	3,673.14	43.93	84.605		
14,700.00	12,344.00	10,737.37	8,681.00	72.55	50.33	-11.22	-3,455.13	1,592.08	3,717.07	3,672.36	44.72	83.125		
14,800.00	12,344.00	10,837.37	8,681.00	73.85	51.66	-11.22	-3,555.12	1,593.05	3,717.07	3,671.56	45.52	81.665		
14,900.00	12,344.00	10,937.37	8,681.00	75.15	53.00	-11.22	-3,655.12	1,594.03	3,717.07	3,670.74	46.33	80.227		
15,000.00	12,344.00	11,037.37	8,681.00	76.47	54.37	-11.22	-3,755.11	1,595.00	3,717.07	3,669.91	47.16	78.814		
15,100.00	12,344.00	11,137.37	8,681.00	77.81	55.75	-11.22	-3,855.11	1,595.97	3,717.07	3,669.06	48.01	77.427		
15,200.00	12,344.00	11,237.37	8,681.00	79.15	57.14	-11.22	-3,955.10	1,596.94	3,717.07	3,668.20	48.87	76.065		
15,300.00	12,344.00	11,337.37	8,681.00	80.51	58.55	-11.22	-4,055.10	1,597.91	3,717.07	3,667.33	49.74	74.731		
15,400.00	12,344.00	11,437.37	8,681.00	81.87	59.97	-11.22	-4,155.09	1,598.89	3,717.06	3,666.44	50.62	73.428		
15,500.00	12,344.00	11,537.37	8,681.00	83.25	61.40	-11.22	-4,255.09	1,599.86	3,717.06	3,665.55	51.52	72.152		
15,600.00	12,344.00	11,637.37	8,681.00	84.64	62.84	-11.22	-4,355.09	1,600.83	3,717.06	3,664.64	52.42	70.907		
15,700.00	12,344.00	11,737.37	8,681.00	86.03	64.29	-11.22	-4,455.08	1,601.80	3,717.06	3,663.72	53.34	69.690		
15,800.00	12,344.00	11,837.37	8,681.00	87.44	65.76	-11.22	-4,555.08	1,602.78	3,717.06	3,662.80	54.26	68.501		
15,900.00	12,344.00	11,937.37	8,681.00	88.85	67.23	-11.22	-4,655.07	1,603.75	3,717.06	3,661.86	55.20	67.340		
16,000.00	12,344.00	12,037.37	8,681.00	90.27	68.71	-11.22	-4,755.07	1,604.72	3,717.06	3,660.92	56.14	66.208		
16,100.00	12,344.00	12,137.37	8,681.00	91.70	70.19	-11.22	-4,855.06	1,605.69	3,717.06	3,659.96	57.09	65.103		
16,200.00	12,344.00	12,237.37	8,681.00	93.14	71.69	-11.22	-4,955.06	1,606.66	3,717.05	3,659.00	58.06	64.026		
16,300.00	12,344.00	12,337.37	8,681.00	94.58	73.19	-11.22	-5,055.05	1,607.64	3,717.05	3,658.03	59.02	62.975		
16,400.00	12,344.00	12,437.37	8,681.00	96.03	74.69	-11.22	-5,155.05	1,608.61	3,717.05	3,657.05	60.00	61.951		
16,500.00	12,344.00	12,537.37	8,681.00	97.49	76.20	-11.22	-5,255.04	1,609.58	3,717.05	3,656.07	60.98	60.952		
16,600.00	12,344.00	12,637.37	8,681.00	98.95	77.72	-11.22	-5,355.04	1,610.55	3,717.05	3,655.08	61.97	59.979		
16,700.00	12,344.00	12,737.37	8,681.00	100.42	79.25	-11.22	-5,455.03	1,611.53	3,717.05	3,654.08	62.97	59.031		
16,800.00	12,344.00	12,837.37	8,681.00	101.89	80.78	-11.22	-5,555.03	1,612.50	3,717.05	3,653.08	63.97	58.108		
16,900.00	12,344.00	12,937.37	8,681.00	103.37	82.31	-11.22	-5,655.02	1,613.47	3,717.05	3,652.07	64.97	57.209		
17,000.00	12,344.00	13,037.37	8,681.00	104.86	83.85	-11.22	-5,755.02	1,614.44	3,717.04	3,651.06	65.98	56.333		
17,100.00	12,344.00	13,137.37	8,681.00	106.35	85.39	-11.22	-5,855.01	1,615.41	3,717.04	3,650.04	67.00	55.478		
17,200.00	12,344.00	13,237.37	8,681.00	107.84	86.94	-11.22	-5,955.01	1,616.39	3,717.04	3,649.02	68.02	54.645		
17,300.00	12,344.00	13,337.37	8,681.00	109.34	88.49	-11.22	-6,055.01	1,617.36	3,717.04	3,647.99	69.05	53.833		
17,400.00	12,344.00	13,437.37	8,681.00	110.84	90.04	-11.22	-6,155.00	1,618.33	3,717.04	3,646.96	70.08	53.042		
17,500.00	12,344.00	13,537.37	8,681.00	112.35	91.60	-11.22	-6,255.00	1,619.30	3,717.04	3,645.93	71.11	52.270		
17,600.00	12,344.00	13,637.37	8,681.00	113.86	93.16	-11.22	-6,354.99	1,620.28	3,717.04	3,644.89	72.15	51.517		
17,700.00	12,344.00	13,737.37	8,681.00	115.38	94.72	-11.22	-6,454.99	1,621.25	3,717.04	3,643.84	73.20	50.783		
17,800.00	12,344.00	13,837.37	8,681.00	116.89	96.29	-11.22	-6,554.98	1,622.22	3,717.03	3,642.79	74.24	50.066		
17,900.00	12,344.00	13,937.37	8,681.00	118.42	97.86	-11.22	-6,654.98	1,623.19	3,717.03	3,641.74	75.29	49.368		
18,000.00	12,344.00	14,037.37	8,681.00	119.94	99.43	-11.22	-6,754.97	1,624.16	3,717.03	3,640.69	76.35	48.686		
18,100.00	12,344.00	14,137.37	8,681.00	121.47	101.00	-11.22	-6,854.97	1,625.14	3,717.03	3,639.63	77.40	48.021		
18,200.00	12,344.00	14,237.37	8,681.00	123.00	102.58	-11.22	-6,954.96	1,626.11	3,717.03	3,638.56	78.47	47.372		
18,300.00	12,344.00	14,337.37	8,681.00	124.54	104.16	-11.22	-7,054.96	1,627.08	3,717.03	3,637.50	79.53	46.738		
18,400.00	12,344.00	14,437.37	8,681.00	126.08	105.74	-11.22	-7,154.95	1,628.05	3,717.03	3,636.43	80.60	46.119		
18,500.00	12,344.00	14,537.37	8,681.00	127.62	107.32	-11.22	-7,254.95	1,629.03	3,717.03	3,635.36	81.67	45.515		
18,600.00	12,344.00	14,637.37	8,681.00	129.16	108.91	-11.22	-7,354.94	1,630.00	3,717.02	3,634.29	82.74	44.925		
18,700.00	12,344.00	14,737.37	8,681.00	130.71	110.49	-11.22	-7,454.94	1,630.97	3,717.02	3,633.21	83.81	44.349		
18,800.00	12,344.00	14,837.37	8,681.00	132.26	112.08	-11.22	-7,554.93	1,631.94	3,717.02	3,632.13	84.89	43.786		
18,900.00	12,344.00	14,937.37	8,681.00	133.81	113.68	-11.22	-7,654.93	1,632.91	3,717.02	3,631.05	85.97	43.236		
19,000.00	12,344.00	15,037.37	8,681.00	135.36	115.27	-11.22	-7,754.92	1,633.89	3,717.02	3,629.97	87.05	42.698		
19,100.00	12,344.00	15,137.37	8,681.00	136.92	116.86	-11.22	-7,854.92	1,634.86	3,717.02	3,628.88	88.14	42.172		
19,200.00	12,344.00	15,237.37	8,681.00	138.48	118.46	-11.22	-7,954.92	1,635.83	3,717.02	3,627.79	89.23	41.659		
19,300.00	12,344.00	15,337.37	8,681.00	140.04	120.06	-11.22	-8,054.91	1,636.80	3,717.02	3,626.70	90.31	41.157		
19,400.00	12,344.00	15,437.37	8,681.00	141.60	121.65	-11.22	-8,154.91	1,637.77	3,717.01	3,625.61	91.40	40.666		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Tatanka Fed Com - Tatanka Fed Com 103H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,500.00	12,344.00	15,537.37	8,681.00	143.16	123.25	-11.22	-8,254.90	1,638.75	3,717.01	3,624.52	92.49	40.187		
19,600.00	12,344.00	15,637.37	8,681.00	144.73	124.86	-11.22	-8,354.90	1,639.72	3,717.01	3,623.43	93.59	39.717		
19,700.00	12,344.00	15,737.37	8,681.00	146.30	126.46	-11.22	-8,454.89	1,640.69	3,717.01	3,622.33	94.68	39.258		
19,800.00	12,344.00	15,837.37	8,681.00	147.87	128.06	-11.22	-8,554.89	1,641.66	3,717.01	3,621.23	95.78	38.809		
19,900.00	12,344.00	15,937.37	8,681.00	149.44	129.67	-11.22	-8,654.88	1,642.64	3,717.01	3,620.13	96.88	38.369		
20,000.00	12,344.00	16,037.37	8,681.00	151.01	131.27	-11.22	-8,754.88	1,643.61	3,717.01	3,619.03	97.98	37.938		
20,100.00	12,344.00	16,137.37	8,681.00	152.59	132.88	-11.22	-8,854.87	1,644.58	3,717.01	3,617.93	99.08	37.516		
20,200.00	12,344.00	16,237.37	8,681.00	154.17	134.49	-11.22	-8,954.87	1,645.55	3,717.00	3,616.82	100.18	37.103		
20,300.00	12,344.00	16,337.37	8,681.00	155.74	136.10	-11.22	-9,054.86	1,646.52	3,717.00	3,615.72	101.29	36.698		
20,400.00	12,344.00	16,437.37	8,681.00	157.32	137.71	-11.22	-9,154.86	1,647.50	3,717.00	3,614.61	102.39	36.302		
20,500.00	12,344.00	16,537.37	8,681.00	158.91	139.32	-11.22	-9,254.85	1,648.47	3,717.00	3,613.50	103.50	35.914		
20,600.00	12,344.00	16,637.37	8,681.00	160.49	140.94	-11.22	-9,354.85	1,649.44	3,717.00	3,612.39	104.61	35.533		
20,700.00	12,344.00	16,737.37	8,681.00	162.07	142.55	-11.22	-9,454.84	1,650.41	3,717.00	3,611.28	105.72	35.160		
20,800.00	12,344.00	16,837.37	8,681.00	163.66	144.16	-11.22	-9,554.84	1,651.39	3,717.00	3,610.17	106.83	34.795		
20,900.00	12,344.00	16,937.37	8,681.00	165.24	145.78	-11.22	-9,654.84	1,652.36	3,717.00	3,609.06	107.94	34.437		
21,000.00	12,344.00	17,037.37	8,681.00	166.83	147.39	-11.22	-9,754.83	1,653.33	3,716.99	3,607.95	109.05	34.086		
21,100.00	12,344.00	17,137.37	8,681.00	168.42	149.01	-11.22	-9,854.83	1,654.30	3,716.99	3,606.83	110.16	33.741		
21,200.00	12,344.00	17,237.37	8,681.00	170.01	150.63	-11.22	-9,954.82	1,655.27	3,716.99	3,605.71	111.28	33.403		
21,300.00	12,344.00	17,337.37	8,681.00	171.60	152.25	-11.22	-10,054.82	1,656.25	3,716.99	3,604.60	112.39	33.071		
21,400.00	12,344.00	17,437.37	8,681.00	173.20	153.86	-11.22	-10,154.81	1,657.22	3,716.99	3,603.48	113.51	32.746		
21,500.00	12,344.00	17,537.37	8,681.00	174.79	155.48	-11.22	-10,254.81	1,658.19	3,716.99	3,602.36	114.63	32.427		
21,600.00	12,344.00	17,637.37	8,681.00	176.38	157.10	-11.22	-10,354.80	1,659.16	3,716.99	3,601.24	115.75	32.113		
21,700.00	12,344.00	17,737.37	8,681.00	177.98	158.73	-11.22	-10,454.80	1,660.14	3,716.99	3,600.12	116.87	31.806		
21,800.00	12,344.00	17,837.37	8,681.00	179.58	160.35	-11.22	-10,554.79	1,661.11	3,716.98	3,599.00	117.99	31.503		
21,900.00	12,344.00	17,937.37	8,681.00	181.17	161.97	-11.22	-10,654.79	1,662.08	3,716.98	3,597.87	119.11	31.207		
22,000.00	12,344.00	18,037.37	8,681.00	182.77	163.59	-11.22	-10,754.78	1,663.05	3,716.98	3,596.75	120.23	30.916		
22,100.00	12,344.00	18,137.37	8,681.00	184.37	165.21	-11.22	-10,854.78	1,664.02	3,716.98	3,595.63	121.35	30.630		
22,200.00	12,344.00	18,237.37	8,681.00	185.97	166.84	-11.22	-10,954.77	1,665.00	3,716.98	3,594.51	122.47	30.349		
22,300.00	12,344.00	18,337.37	8,681.00	187.57	168.46	-11.21	-11,054.77	1,665.97	3,716.98	3,593.38	123.60	30.074		
22,400.00	12,344.00	18,437.37	8,681.00	189.18	170.09	-11.21	-11,154.76	1,666.94	3,716.98	3,592.26	124.72	29.803		
22,500.00	12,344.00	18,537.37	8,681.00	190.78	171.71	-11.21	-11,254.76	1,667.91	3,716.98	3,591.13	125.84	29.536		
22,600.00	12,344.00	18,637.37	8,681.00	192.38	173.34	-11.21	-11,354.75	1,668.89	3,716.97	3,590.00	126.97	29.274		
22,642.51	12,344.00	18,679.88	8,681.00	193.01	174.03	-11.21	-11,397.26	1,669.30	3,716.97	3,589.64	127.34	29.190		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 104H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
0.00	0.00	0.00	0.00	0.00	0.00	122.16	-1,002.16	1,593.79	1,882.76							
100.00	100.00	82.40	82.40	0.13	0.10	122.16	-1,002.16	1,593.79	1,882.68	1,882.52	0.16	N/A				
200.00	200.00	182.40	182.40	0.48	0.42	122.16	-1,002.16	1,593.79	1,882.68	1,882.04	0.64	2,935.584				
300.00	300.00	282.40	282.40	0.84	0.78	122.16	-1,002.16	1,593.79	1,882.68	1,881.53	1.15	1,640.538				
400.00	400.00	382.40	382.40	1.20	1.14	122.16	-1,002.16	1,593.79	1,882.68	1,881.03	1.65	1,138.060				
500.00	500.00	482.40	482.40	1.56	1.50	122.16	-1,002.16	1,593.79	1,882.68	1,880.52	2.16	871.167				
600.00	600.00	582.40	582.40	1.92	1.85	122.16	-1,002.16	1,593.79	1,882.68	1,880.01	2.67	705.660				
700.00	700.00	682.40	682.40	2.28	2.21	122.16	-1,002.16	1,593.79	1,882.68	1,879.51	3.17	592.995				
800.00	800.00	782.40	782.40	2.63	2.57	122.16	-1,002.16	1,593.79	1,882.68	1,879.00	3.68	511.351				
900.00	900.00	882.40	882.40	2.99	2.93	122.16	-1,002.16	1,593.79	1,882.68	1,878.49	4.19	449.467				
1,000.00	1,000.00	982.40	982.40	3.35	3.29	122.16	-1,002.16	1,593.79	1,882.68	1,877.99	4.70	400.943				
1,100.00	1,100.00	1,082.40	1,082.40	3.71	3.65	122.16	-1,002.16	1,593.79	1,882.68	1,877.48	5.20	361.876				
1,200.00	1,200.00	1,182.40	1,182.40	4.07	4.01	122.16	-1,002.16	1,593.79	1,882.68	1,876.97	5.71	329.745				
1,300.00	1,300.00	1,282.40	1,282.40	4.43	4.36	122.16	-1,002.16	1,593.79	1,882.68	1,876.47	6.22	302.855				
1,400.00	1,400.00	1,382.40	1,382.40	4.79	4.72	122.16	-1,002.16	1,593.79	1,882.68	1,875.96	6.72	280.020				
1,500.00	1,500.00	1,482.40	1,482.40	5.14	5.08	122.16	-1,002.16	1,593.79	1,882.68	1,875.45	7.23	260.387				
1,600.00	1,600.00	1,582.40	1,582.40	5.50	5.44	122.16	-1,002.16	1,593.79	1,882.68	1,874.94	7.74	243.326				
1,700.00	1,700.00	1,682.40	1,682.40	5.86	5.80	122.16	-1,002.16	1,593.79	1,882.68	1,874.44	8.24	228.364				
1,800.00	1,800.00	1,782.40	1,782.40	6.22	6.16	122.16	-1,002.16	1,593.79	1,882.68	1,873.93	8.75	215.135				
1,900.00	1,900.00	1,882.40	1,882.40	6.58	6.51	122.16	-1,002.16	1,593.79	1,882.68	1,873.42	9.26	203.355				
2,000.00	2,000.00	1,982.40	1,982.40	6.94	6.87	122.16	-1,002.16	1,593.79	1,882.68	1,872.92	9.77	192.797	CC, ES			
2,100.00	2,100.00	2,051.43	2,051.43	7.29	7.12	122.16	-1,002.23	1,594.25	1,883.36	1,873.17	10.19	184.835				
2,200.00	2,200.00	2,100.00	2,099.98	7.65	7.28	122.14	-1,002.42	1,595.52	1,886.08	1,875.52	10.56	178.644				
2,300.00	2,300.00	2,176.07	2,175.95	8.01	7.54	122.10	-1,002.96	1,599.14	1,890.64	1,879.65	10.99	172.039				
2,400.00	2,400.00	2,238.16	2,237.89	8.37	7.76	122.04	-1,003.62	1,603.58	1,897.26	1,885.88	11.38	166.673				
2,500.00	2,500.00	2,300.00	2,299.45	8.73	7.97	121.97	-1,004.48	1,609.31	1,905.87	1,894.10	11.77	161.893				
2,600.00	2,600.00	2,361.63	2,360.67	9.09	8.19	121.89	-1,005.53	1,616.33	1,916.45	1,904.29	12.16	157.629				
2,700.00	2,700.00	2,422.89	2,421.35	9.45	8.40	121.79	-1,006.76	1,624.60	1,929.00	1,916.47	12.54	153.848				
2,800.00	2,800.00	2,500.00	2,497.47	9.80	8.68	121.64	-1,008.59	1,636.83	1,943.62	1,930.66	12.96	149.923				
2,900.00	2,900.00	2,544.19	2,540.93	10.16	8.85	121.55	-1,009.78	1,644.76	1,959.97	1,946.68	13.28	147.546				
3,000.00	3,000.00	2,600.00	2,595.62	10.52	9.06	121.42	-1,011.41	1,655.71	1,978.36	1,964.73	13.63	145.107				
3,100.00	3,100.00	2,663.56	2,657.64	10.88	9.30	121.26	-1,013.47	1,669.46	1,998.65	1,984.65	14.01	142.696				
3,200.00	3,200.00	2,722.40	2,714.77	11.24	9.54	121.10	-1,015.55	1,683.40	2,020.85	2,006.49	14.36	140.743				
3,300.00	3,299.99	2,800.00	2,789.64	11.58	9.85	-19.92	-1,018.56	1,703.55	2,043.88	2,029.12	14.76	138.441				
3,400.00	3,399.91	2,838.81	2,826.87	11.91	10.02	-19.94	-1,020.18	1,714.38	2,066.10	2,051.10	15.01	137.665				
3,500.00	3,499.69	2,900.21	2,885.46	12.24	10.29	-20.06	-1,022.89	1,732.53	2,087.97	2,072.64	15.34	136.157				
3,600.00	3,599.27	2,990.75	2,971.58	12.57	10.71	-20.33	-1,027.03	1,760.21	2,108.54	2,092.76	15.78	133.604				
3,700.00	3,698.57	3,087.88	3,063.95	12.91	11.17	-20.64	-1,031.46	1,789.90	2,126.82	2,110.56	16.26	130.795				
3,800.00	3,797.54	3,185.27	3,156.57	13.25	11.65	-20.99	-1,035.91	1,819.67	2,142.79	2,126.05	16.75	127.965				
3,900.00	3,896.09	3,282.86	3,249.38	13.60	12.14	-21.36	-1,040.37	1,849.50	2,156.48	2,139.24	17.24	125.122				
4,000.00	3,994.16	3,380.59	3,342.32	13.96	12.64	-21.77	-1,044.84	1,879.37	2,167.89	2,150.16	17.73	122.272				
4,100.00	4,091.70	3,478.38	3,435.33	14.32	13.15	-22.21	-1,049.30	1,909.27	2,177.03	2,158.80	18.23	119.421				
4,200.00	4,188.62	3,576.17	3,528.33	14.70	13.67	-22.68	-1,053.77	1,939.16	2,183.93	2,165.20	18.73	116.573				
4,304.97	4,289.63	3,678.75	3,625.89	15.12	14.23	-23.20	-1,058.46	1,970.52	2,188.78	2,169.51	19.27	113.589				
4,400.00	4,380.70	3,771.56	3,714.15	15.51	14.74	-23.72	-1,062.69	1,998.89	2,192.17	2,172.41	19.76	110.947				
4,500.00	4,476.55	3,869.22	3,807.03	15.93	15.28	-24.26	-1,067.16	2,028.74	2,195.92	2,175.64	20.28	108.286				
4,600.00	4,572.39	3,966.88	3,899.91	16.36	15.83	-24.80	-1,071.62	2,058.60	2,199.89	2,179.08	20.80	105.743				
4,700.00	4,668.24	4,064.54	3,992.79	16.81	16.38	-25.34	-1,076.08	2,088.45	2,204.05	2,182.72	21.33	103.311				
4,800.00	4,764.08	4,162.21	4,085.67	17.26	16.94	-25.87	-1,080.54	2,118.31	2,208.42	2,186.55	21.87	100.984				
4,900.00	4,859.93	4,259.87	4,178.55	17.72	17.51	-26.40	-1,085.00	2,148.16	2,212.98	2,190.57	22.41	98.758				
5,000.00	4,955.77	4,357.53	4,271.43	18.18	18.07	-26.93	-1,089.46	2,178.02	2,217.75	2,194.80	22.95	96.627				
5,100.00	5,051.62	4,455.19	4,364.31	18.66	18.64	-27.46	-1,093.92	2,207.87	2,222.71	2,199.21	23.50	94.586				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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		
5,200.00	5,147.46	4,552.85	4,457.19	19.14	19.21	-27.99	-1,098.38	2,237.73	2,227.87	2,203.82	24.05	92.630		
5,300.00	5,243.31	4,650.52	4,550.07	19.63	19.79	-28.51	-1,102.85	2,267.58	2,233.22	2,208.62	24.61	90.756		
5,400.00	5,339.15	4,748.18	4,642.95	20.12	20.37	-29.03	-1,107.31	2,297.43	2,238.77	2,213.60	25.17	88.957		
5,500.00	5,435.00	4,845.84	4,735.83	20.62	20.95	-29.55	-1,111.77	2,327.29	2,244.51	2,218.78	25.73	87.232		
5,600.00	5,530.84	4,943.50	4,828.71	21.12	21.53	-30.07	-1,116.23	2,357.14	2,250.44	2,224.14	26.30	85.575		
5,700.00	5,626.69	5,041.16	4,921.59	21.63	22.12	-30.58	-1,120.69	2,387.00	2,256.56	2,229.69	26.87	83.984		
5,800.00	5,722.53	5,138.83	5,014.47	22.14	22.70	-31.09	-1,125.15	2,416.85	2,262.87	2,235.43	27.44	82.454		
5,900.00	5,818.38	5,236.49	5,107.35	22.65	23.29	-31.60	-1,129.61	2,446.71	2,269.36	2,241.34	28.02	80.983		
6,000.00	5,914.22	5,334.15	5,200.23	23.17	23.88	-32.11	-1,134.07	2,476.56	2,276.04	2,247.44	28.60	79.568		
6,100.00	6,010.07	5,431.81	5,293.11	23.69	24.47	-32.61	-1,138.53	2,506.42	2,282.90	2,253.71	29.19	78.206		
6,200.00	6,105.91	5,529.47	5,385.99	24.22	25.07	-33.11	-1,143.00	2,536.27	2,289.95	2,260.17	29.78	76.894		
6,300.00	6,201.76	5,627.14	5,478.87	24.75	25.66	-33.61	-1,147.46	2,566.12	2,297.17	2,266.79	30.37	75.630		
6,400.00	6,297.60	5,724.80	5,571.75	25.28	26.26	-34.10	-1,151.92	2,595.98	2,304.57	2,273.60	30.97	74.412		
6,500.00	6,393.45	5,822.46	5,664.63	25.81	26.85	-34.59	-1,156.38	2,625.83	2,312.14	2,280.57	31.57	73.237		
6,600.00	6,489.29	5,920.12	5,757.51	26.35	27.45	-35.08	-1,160.84	2,655.69	2,319.89	2,287.72	32.17	72.103		
6,700.00	6,585.14	6,017.79	5,850.39	26.89	28.05	-35.56	-1,165.30	2,685.54	2,327.82	2,295.04	32.78	71.009		
6,800.00	6,680.98	6,115.45	5,943.27	27.43	28.65	-36.04	-1,169.76	2,715.40	2,335.91	2,302.52	33.39	69.952		
6,900.00	6,776.83	6,213.11	6,036.15	27.97	29.25	-36.52	-1,174.22	2,745.25	2,344.18	2,310.17	34.01	68.931		
7,000.00	6,872.67	6,310.77	6,129.03	28.52	29.85	-36.99	-1,178.69	2,775.10	2,352.61	2,317.98	34.63	67.944		
7,100.00	6,968.52	6,408.43	6,221.91	29.06	30.45	-37.47	-1,183.15	2,804.96	2,361.20	2,325.96	35.25	66.990		
7,200.00	7,064.36	6,506.10	6,314.79	29.61	31.05	-37.93	-1,187.61	2,834.81	2,369.96	2,334.09	35.87	66.066		
7,300.00	7,160.21	6,603.76	6,407.67	30.16	31.66	-38.40	-1,192.07	2,864.67	2,378.89	2,342.38	36.50	65.173		
7,400.00	7,256.05	6,701.42	6,500.55	30.72	32.26	-38.86	-1,196.53	2,894.52	2,387.97	2,350.83	37.13	64.308		
7,500.00	7,351.90	6,799.08	6,593.43	31.27	32.87	-39.32	-1,200.99	2,924.38	2,397.21	2,359.44	37.77	63.470		
7,600.00	7,447.74	6,896.72	6,685.31	31.82	33.48	-39.77	-1,205.45	2,954.23	2,406.45	2,368.21	38.41	62.665		
7,700.00	7,543.59	6,994.36	6,777.19	32.38	34.09	-40.23	-1,210.00	2,984.08	2,415.46	2,377.22	39.06	61.894		
7,800.00	7,639.43	7,091.99	6,868.67	32.94	34.70	-40.69	-1,214.56	3,013.93	2,424.51	2,386.27	39.72	61.155		
7,889.67	7,725.37	7,188.63	6,959.11	33.44	35.26	-41.13	-1,219.11	3,043.78	2,433.60	2,395.36	40.39	60.446		
7,900.00	7,735.28	7,198.54	6,969.02	33.50	35.39	-41.20	-1,220.00	3,048.00	2,436.00	2,398.00	40.50	60.300		
8,000.00	7,831.56	7,294.82	7,065.30	34.04	35.94	-41.74	-1,224.16	3,066.04	2,439.46	2,401.52	41.17	59.699		
8,100.00	7,928.52	7,391.78	7,162.26	34.56	36.50	-42.28	-1,228.16	3,066.04	2,442.92	2,405.00	41.84	59.130		
8,200.00	8,026.08	7,488.34	7,259.82	35.06	37.06	-42.82	-1,232.16	3,066.04	2,446.38	2,408.48	42.51	58.595		
8,300.00	8,124.18	7,585.40	7,357.92	35.53	37.61	-43.36	-1,236.16	3,066.04	2,449.84	2,411.96	43.18	58.090		
8,400.00	8,222.76	7,682.46	7,456.00	35.98	38.16	-43.90	-1,240.16	3,066.04	2,453.30	2,415.44	43.85	57.610		
8,500.00	8,321.74	7,779.52	7,554.08	36.40	38.71	-44.44	-1,244.16	3,066.04	2,456.76	2,418.92	44.52	57.150		
8,600.00	8,421.06	7,876.58	7,652.16	36.79	39.26	-44.98	-1,248.16	3,066.04	2,460.22	2,422.40	45.19	56.710		
8,658.16	8,478.95	7,923.64	7,709.24	37.01	39.48	-45.16	-1,250.00	3,066.04	2,462.00	2,424.00	45.40	56.500		
8,700.00	8,520.65	7,970.30	7,750.90	37.16	39.63	-45.29	-1,251.16	3,066.04	2,463.16	2,425.16	45.55	56.350		
8,800.00	8,620.44	8,066.47	7,847.07	37.51	39.98	-45.69	-1,255.16	3,066.04	2,466.16	2,428.16	46.11	55.950		
8,900.00	8,720.37	8,162.64	7,943.24	37.83	40.30	-46.09	-1,259.16	3,066.04	2,469.16	2,431.16	46.67	55.575		
8,994.64	8,815.00	8,258.81	8,039.41	38.11	40.58	-46.49	-1,263.16	3,066.04	2,472.16	2,434.16	47.23	55.225		
9,000.00	8,820.36	8,264.17	8,044.77	38.13	40.60	-46.51	-1,263.16	3,067.59	2,472.73	2,434.73	47.25	55.215		
9,100.00	8,920.36	8,360.17	8,140.77	38.40	40.87	-46.78	-1,267.16	3,067.80	2,476.73	2,438.73	47.81	54.885		
9,200.00	9,020.36	8,456.17	8,236.77	38.68	41.15	-47.05	-1,271.16	3,068.18	2,480.73	2,442.73	48.37	54.575		
9,300.00	9,120.36	8,552.17	8,332.77	38.96	41.43	-47.32	-1,275.16	3,068.30	2,484.73	2,446.73	48.93	54.285		
9,400.00	9,220.36	8,648.17	8,428.77	39.25	41.71	-47.59	-1,279.16	3,068.57	2,488.73	2,450.73	49.49	54.005		
9,500.00	9,320.36	8,744.17	8,524.77	39.53	42.00	-47.86	-1,283.16	3,068.57	2,492.73	2,454.73	50.05	53.735		
9,600.00	9,420.36	8,840.17	8,620.77	39.81	42.28	-48.13	-1,287.16	3,068.85	2,496.73	2,458.73	50.61	53.485		
9,700.00	9,520.36	8,936.17	8,716.77	40.10	42.56	-48.40	-1,291.16	3,069.00	2,500.73	2,462.73	51.17	53.245		
9,800.00	9,620.36	9,032.17	8,812.77	40.39	42.84	-48.67	-1,295.16	3,069.00	2,504.73	2,466.73	51.73	53.015		
9,900.00	9,720.36	9,128.17	8,908.77	40.67	43.12	-48.94	-1,299.16	3,069.26	2,508.73	2,470.73	52.29	52.785		
10,000.00	9,820.36	9,224.17	9,004.77	40.96	43.40	-49.21	-1,303.16	3,069.44	2,512.73	2,474.73	52.85	52.555		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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	9,920.36	8,950.00	8,588.91	41.25	40.26	103.34	-1,567.64	3,069.44	2,636.80	2,589.50	47.30	55.741		
10,200.00	10,020.36	8,950.00	8,588.91	41.55	40.26	103.34	-1,567.64	3,069.44	2,688.03	2,640.95	47.07	57.103		
10,300.00	10,120.36	8,975.38	8,598.47	41.84	40.35	103.91	-1,591.15	3,069.67	2,741.50	2,694.57	46.93	58.421		
10,400.00	10,220.36	9,000.00	8,606.74	42.13	40.44	104.47	-1,614.34	3,069.90	2,797.74	2,750.97	46.77	59.822		
10,500.00	10,320.36	9,000.00	8,606.74	42.43	40.44	104.47	-1,614.34	3,069.90	2,855.96	2,809.45	46.51	61.404		
10,600.00	10,420.36	9,000.00	8,606.74	42.72	40.44	104.47	-1,614.34	3,069.90	2,916.46	2,870.21	46.25	63.056		
10,700.00	10,520.36	9,000.00	8,606.74	43.02	40.44	104.47	-1,614.34	3,069.90	2,979.08	2,933.09	45.99	64.773		
10,800.00	10,620.36	9,000.00	8,606.74	43.31	40.44	104.47	-1,614.34	3,069.90	3,043.71	2,997.97	45.74	66.549		
10,900.00	10,720.36	9,019.89	8,612.68	43.61	40.51	104.93	-1,633.32	3,070.09	3,109.89	3,064.33	45.57	68.245		
11,000.00	10,820.36	9,025.57	8,614.26	43.91	40.53	105.06	-1,638.78	3,070.14	3,177.94	3,132.59	45.35	70.074		
11,100.00	10,920.36	9,050.00	8,620.42	44.21	40.63	105.63	-1,662.41	3,070.37	3,247.88	3,202.66	45.22	71.826		
11,200.00	11,020.36	9,050.00	8,620.42	44.51	40.63	105.63	-1,662.41	3,070.37	3,318.92	3,273.92	45.00	73.756		
11,300.00	11,120.36	9,050.00	8,620.42	44.81	40.63	105.63	-1,662.41	3,070.37	3,391.41	3,346.62	44.79	75.717		
11,400.00	11,220.36	9,050.00	8,620.42	45.12	40.63	105.63	-1,662.41	3,070.37	3,465.28	3,420.68	44.59	77.706		
11,500.00	11,320.36	9,050.00	8,620.42	45.42	40.63	105.63	-1,662.41	3,070.37	3,540.42	3,496.01	44.41	79.716		
11,600.00	11,420.36	9,050.00	8,620.42	45.72	40.63	105.63	-1,662.41	3,070.37	3,616.78	3,572.53	44.25	81.743		
11,700.00	11,520.36	9,050.00	8,620.42	46.03	40.63	105.63	-1,662.41	3,070.37	3,694.26	3,650.16	44.09	83.783		
11,800.00	11,620.36	9,050.00	8,620.42	46.33	40.63	105.63	-1,662.41	3,070.37	3,772.80	3,728.84	43.96	85.832		
11,900.00	11,720.36	9,050.00	8,620.42	46.64	40.63	105.63	-1,662.41	3,070.37	3,852.33	3,808.50	43.83	87.888		
11,950.68	11,771.04	9,050.00	8,620.42	46.80	40.63	105.63	-1,662.41	3,070.37	3,893.00	3,849.23	43.78	88.931		
12,000.00	11,820.30	9,050.00	8,620.42	46.96	40.63	-67.63	-1,662.41	3,070.37	3,932.41	3,888.68	43.73	89.933		
12,050.00	11,869.86	9,050.00	8,620.42	47.14	40.63	-61.93	-1,662.41	3,070.37	3,971.58	3,927.90	43.69	90.914		
12,100.00	11,918.67	9,072.24	8,625.15	47.35	40.72	-56.50	-1,684.14	3,070.59	4,009.29	3,965.55	43.74	91.656		
12,150.00	11,966.36	9,075.70	8,625.81	47.58	40.73	-52.07	-1,687.54	3,070.62	4,045.98	4,002.24	43.74	92.510		
12,200.00	12,012.56	9,100.00	8,629.87	47.83	40.83	-47.99	-1,711.49	3,070.85	4,081.43	4,037.61	43.82	93.146		
12,250.00	12,056.93	9,100.00	8,629.87	48.10	40.83	-44.79	-1,711.49	3,070.85	4,114.57	4,070.75	43.82	93.899		
12,300.00	12,099.12	9,100.00	8,629.87	48.39	40.83	-42.05	-1,711.49	3,070.85	4,145.69	4,101.86	43.83	94.580		
12,350.00	12,138.81	9,100.00	8,629.87	48.69	40.83	-39.73	-1,711.49	3,070.85	4,174.61	4,130.75	43.86	95.182		
12,400.00	12,175.70	9,100.00	8,629.87	49.01	40.83	-37.77	-1,711.49	3,070.85	4,201.16	4,157.26	43.90	95.697		
12,450.00	12,209.51	9,100.00	8,629.87	49.34	40.83	-36.12	-1,711.49	3,070.85	4,225.18	4,181.22	43.96	96.122		
12,500.00	12,239.99	9,100.00	8,629.87	49.69	40.83	-34.75	-1,711.49	3,070.85	4,246.53	4,202.50	44.03	96.451		
12,550.00	12,266.90	9,100.00	8,629.87	50.05	40.83	-33.63	-1,711.49	3,070.85	4,265.09	4,220.97	44.12	96.679		
12,600.00	12,290.03	9,123.32	8,632.80	50.42	40.93	-32.67	-1,734.62	3,071.08	4,280.28	4,235.98	44.30	96.627		
12,650.00	12,309.21	9,150.00	8,635.00	50.81	41.04	-31.94	-1,761.21	3,071.34	4,293.02	4,248.52	44.50	96.475		
12,700.00	12,324.30	9,150.00	8,635.00	51.20	41.04	-31.45	-1,761.21	3,071.34	4,302.08	4,257.44	44.64	96.383		
12,750.00	12,335.17	9,150.00	8,635.00	51.60	41.04	-31.14	-1,761.21	3,071.34	4,308.03	4,263.24	44.79	96.184		
12,800.00	12,341.76	9,150.00	8,635.00	52.01	41.04	-30.99	-1,761.21	3,071.34	4,310.84	4,265.88	44.96	95.877		
12,850.68	12,344.00	9,150.00	8,635.00	52.42	41.04	-31.01	-1,761.21	3,071.34	4,310.47	4,265.31	45.16	95.457		
12,900.00	12,344.00	9,150.00	8,635.00	52.83	41.04	-31.01	-1,761.21	3,071.34	4,308.80	4,263.44	45.36	94.992		
13,000.00	12,344.00	9,183.90	8,636.00	53.68	41.19	-31.02	-1,795.09	3,071.68	4,306.60	4,260.71	45.89	93.849		
13,057.43	12,344.00	9,186.65	8,636.00	54.19	41.21	-31.02	-1,797.84	3,071.70	4,306.25	4,260.08	46.17	93.260		
13,100.00	12,344.00	9,229.22	8,636.00	54.57	41.40	-31.02	-1,840.40	3,072.12	4,306.25	4,259.78	46.48	92.650		
13,200.00	12,344.00	9,329.22	8,636.00	55.50	41.92	-31.02	-1,940.40	3,073.11	4,306.26	4,259.03	47.22	91.190		
13,300.00	12,344.00	9,429.22	8,636.00	56.46	42.49	-31.02	-2,040.39	3,074.09	4,306.26	4,258.25	48.01	89.704		
13,400.00	12,344.00	9,529.22	8,636.00	57.45	43.11	-31.02	-2,140.39	3,075.08	4,306.26	4,257.44	48.82	88.202		
13,500.00	12,344.00	9,629.22	8,636.00	58.47	43.79	-31.02	-2,240.38	3,076.06	4,306.27	4,256.59	49.67	86.690		
13,600.00	12,344.00	9,729.22	8,636.00	59.52	44.53	-31.02	-2,340.38	3,077.04	4,306.27	4,255.71	50.56	85.178		
13,700.00	12,344.00	9,829.22	8,636.00	60.60	45.32	-31.02	-2,440.37	3,078.03	4,306.27	4,254.80	51.47	83.673		
13,800.00	12,344.00	9,929.22	8,636.00	61.70	46.15	-31.02	-2,540.37	3,079.01	4,306.27	4,253.87	52.40	82.175		
13,900.00	12,344.00	10,029.22	8,636.00	62.82	47.03	-31.02	-2,640.36	3,079.99	4,306.28	4,252.91	53.37	80.689		
14,000.00	12,344.00	10,129.22	8,636.00	63.97	47.96	-31.02	-2,740.36	3,080.98	4,306.28	4,251.92	54.36	79.215		
14,100.00	12,344.00	10,229.22	8,636.00	65.14	48.92	-31.02	-2,840.35	3,081.96	4,306.28	4,250.90	55.38	77.760		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,200.00	12,344.00	10,329.22	8,636.00	66.33	49.93	-31.02	-2,940.35	3,082.95	4,306.28	4,249.86	56.42	76.327		
14,300.00	12,344.00	10,429.22	8,636.00	67.54	50.97	-31.02	-3,040.34	3,083.93	4,306.29	4,248.81	57.48	74.917		
14,400.00	12,344.00	10,529.22	8,636.00	68.77	52.04	-31.02	-3,140.34	3,084.91	4,306.29	4,247.73	58.56	73.533		
14,500.00	12,344.00	10,629.22	8,636.00	70.02	53.15	-31.02	-3,240.34	3,085.90	4,306.29	4,246.63	59.66	72.180		
14,600.00	12,344.00	10,729.22	8,636.00	71.28	54.28	-31.02	-3,340.33	3,086.88	4,306.29	4,245.52	60.78	70.854		
14,700.00	12,344.00	10,829.22	8,636.00	72.55	55.44	-31.02	-3,440.33	3,087.87	4,306.30	4,244.39	61.91	69.557		
14,800.00	12,344.00	10,929.22	8,636.00	73.85	56.63	-31.02	-3,540.32	3,088.85	4,306.30	4,243.24	63.06	68.288		
14,900.00	12,344.00	11,029.22	8,636.00	75.15	57.84	-31.02	-3,640.32	3,089.83	4,306.30	4,242.08	64.23	67.049		
15,000.00	12,344.00	11,129.22	8,636.00	76.47	59.07	-31.02	-3,740.31	3,090.82	4,306.31	4,240.90	65.41	65.839		
15,100.00	12,344.00	11,229.22	8,636.00	77.81	60.33	-31.02	-3,840.31	3,091.80	4,306.31	4,239.71	66.60	64.659		
15,200.00	12,344.00	11,329.22	8,636.00	79.15	61.60	-31.02	-3,940.30	3,092.79	4,306.31	4,238.50	67.81	63.507		
15,300.00	12,344.00	11,429.22	8,636.00	80.51	62.89	-31.02	-4,040.30	3,093.77	4,306.31	4,237.29	69.03	62.385		
15,400.00	12,344.00	11,529.22	8,636.00	81.87	64.20	-31.02	-4,140.29	3,094.75	4,306.32	4,236.06	70.26	61.292		
15,500.00	12,344.00	11,629.22	8,636.00	83.25	65.53	-31.02	-4,240.29	3,095.74	4,306.32	4,234.82	71.50	60.229		
15,600.00	12,344.00	11,729.22	8,636.00	84.64	66.87	-31.02	-4,340.28	3,096.72	4,306.32	4,233.57	72.75	59.194		
15,700.00	12,344.00	11,829.22	8,636.00	86.03	68.22	-31.02	-4,440.28	3,097.70	4,306.32	4,232.31	74.01	58.186		
15,800.00	12,344.00	11,929.22	8,636.00	87.44	69.59	-31.02	-4,540.27	3,098.69	4,306.33	4,231.04	75.28	57.202		
15,900.00	12,344.00	12,029.22	8,636.00	88.85	70.97	-31.02	-4,640.27	3,099.67	4,306.33	4,229.77	76.56	56.245		
16,000.00	12,344.00	12,129.22	8,636.00	90.27	72.36	-31.02	-4,740.26	3,100.66	4,306.33	4,228.48	77.85	55.315		
16,100.00	12,344.00	12,229.22	8,636.00	91.70	73.76	-31.02	-4,840.26	3,101.64	4,306.33	4,227.19	79.15	54.411		
16,200.00	12,344.00	12,329.22	8,636.00	93.14	75.18	-31.02	-4,940.25	3,102.62	4,306.34	4,225.89	80.45	53.530		
16,300.00	12,344.00	12,429.22	8,636.00	94.58	76.60	-31.02	-5,040.25	3,103.61	4,306.34	4,224.58	81.76	52.673		
16,400.00	12,344.00	12,529.22	8,636.00	96.03	78.03	-31.02	-5,140.24	3,104.59	4,306.34	4,223.27	83.07	51.838		
16,500.00	12,344.00	12,629.22	8,636.00	97.49	79.47	-31.02	-5,240.24	3,105.58	4,306.35	4,221.95	84.40	51.025		
16,600.00	12,344.00	12,729.22	8,636.00	98.95	80.92	-31.02	-5,340.23	3,106.56	4,306.35	4,220.62	85.73	50.234		
16,700.00	12,344.00	12,829.22	8,636.00	100.42	82.38	-31.02	-5,440.23	3,107.54	4,306.35	4,219.29	87.06	49.463		
16,800.00	12,344.00	12,929.22	8,636.00	101.89	83.84	-31.02	-5,540.22	3,108.53	4,306.35	4,217.95	88.40	48.712		
16,900.00	12,344.00	13,029.22	8,636.00	103.37	85.31	-31.02	-5,640.22	3,109.51	4,306.36	4,216.60	89.75	47.981		
17,000.00	12,344.00	13,129.22	8,636.00	104.86	86.79	-31.02	-5,740.21	3,110.50	4,306.36	4,215.25	91.10	47.268		
17,100.00	12,344.00	13,229.22	8,636.00	106.35	88.28	-31.02	-5,840.21	3,111.48	4,306.36	4,213.90	92.46	46.574		
17,200.00	12,344.00	13,329.22	8,636.00	107.84	89.77	-31.02	-5,940.20	3,112.46	4,306.36	4,212.54	93.82	45.899		
17,300.00	12,344.00	13,429.22	8,636.00	109.34	91.26	-31.02	-6,040.20	3,113.45	4,306.37	4,211.18	95.19	45.241		
17,400.00	12,344.00	13,529.22	8,636.00	110.84	92.76	-31.02	-6,140.19	3,114.43	4,306.37	4,209.81	96.56	44.599		
17,500.00	12,344.00	13,629.22	8,636.00	112.35	94.27	-31.02	-6,240.19	3,115.42	4,306.37	4,208.44	97.93	43.973		
17,600.00	12,344.00	13,729.22	8,636.00	113.86	95.78	-31.02	-6,340.19	3,116.40	4,306.38	4,207.07	99.31	43.365		
17,700.00	12,344.00	13,829.22	8,636.00	115.38	97.30	-31.02	-6,440.18	3,117.38	4,306.38	4,205.69	100.69	42.771		
17,800.00	12,344.00	13,929.22	8,636.00	116.89	98.81	-31.02	-6,540.18	3,118.37	4,306.38	4,204.31	102.07	42.191		
17,900.00	12,344.00	14,029.22	8,636.00	118.42	100.34	-31.02	-6,640.17	3,119.35	4,306.38	4,202.93	103.46	41.626		
18,000.00	12,344.00	14,129.22	8,636.00	119.94	101.87	-31.02	-6,740.17	3,120.33	4,306.39	4,201.54	104.85	41.074		
18,100.00	12,344.00	14,229.22	8,636.00	121.47	103.40	-31.02	-6,840.16	3,121.32	4,306.39	4,200.15	106.24	40.535		
18,200.00	12,344.00	14,329.22	8,636.00	123.00	104.94	-31.02	-6,940.16	3,122.30	4,306.39	4,198.76	107.64	40.009		
18,300.00	12,344.00	14,429.22	8,636.00	124.54	106.47	-31.02	-7,040.15	3,123.29	4,306.39	4,197.36	109.03	39.496		
18,400.00	12,344.00	14,529.22	8,636.00	126.08	108.02	-31.02	-7,140.15	3,124.27	4,306.40	4,195.96	110.44	38.994		
18,500.00	12,344.00	14,629.22	8,636.00	127.62	109.56	-31.02	-7,240.14	3,125.25	4,306.40	4,194.56	111.84	38.504		
18,600.00	12,344.00	14,729.22	8,636.00	129.16	111.11	-31.02	-7,340.14	3,126.24	4,306.40	4,193.15	113.25	38.025		
18,700.00	12,344.00	14,829.22	8,636.00	130.71	112.66	-31.02	-7,440.13	3,127.22	4,306.40	4,191.74	114.66	37.557		
18,800.00	12,344.00	14,929.22	8,636.00	132.26	114.22	-31.02	-7,540.13	3,128.21	4,306.41	4,190.33	116.08	37.100		
18,900.00	12,344.00	15,029.22	8,636.00	133.81	115.77	-31.02	-7,640.12	3,129.19	4,306.41	4,188.92	117.49	36.654		
19,000.00	12,344.00	15,129.22	8,636.00	135.36	117.33	-31.02	-7,740.12	3,130.17	4,306.41	4,187.51	118.90	36.217		
19,100.00	12,344.00	15,229.22	8,636.00	136.92	118.90	-31.02	-7,840.11	3,131.16	4,306.42	4,186.10	120.32	35.791		
19,200.00	12,344.00	15,329.22	8,636.00	138.48	120.46	-31.02	-7,940.11	3,132.14	4,306.42	4,184.68	121.74	35.374		
19,300.00	12,344.00	15,429.22	8,636.00	140.04	122.03	-31.02	-8,040.10	3,133.13	4,306.42	4,183.26	123.16	34.967		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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		
19,400.00	12,344.00	15,529.22	8,636.00	141.60	123.60	-31.02	-8,140.10	3,134.11	4,306.42	4,181.84	124.58	34.568		
19,500.00	12,344.00	15,629.22	8,636.00	143.16	125.17	-31.02	-8,240.09	3,135.09	4,306.43	4,180.42	126.00	34.177		
19,600.00	12,344.00	15,729.22	8,636.00	144.73	126.74	-31.02	-8,340.09	3,136.08	4,306.43	4,179.00	127.43	33.795		
19,700.00	12,344.00	15,829.22	8,636.00	146.30	128.32	-31.02	-8,440.08	3,137.06	4,306.43	4,177.58	128.86	33.420		
19,800.00	12,344.00	15,929.22	8,636.00	147.87	129.90	-31.02	-8,540.08	3,138.05	4,306.43	4,176.15	130.29	33.054		
19,900.00	12,344.00	16,029.22	8,636.00	149.44	131.48	-31.02	-8,640.07	3,139.03	4,306.44	4,174.72	131.72	32.695		
20,000.00	12,344.00	16,129.22	8,636.00	151.01	133.06	-31.02	-8,740.07	3,140.01	4,306.44	4,173.29	133.15	32.343		
20,100.00	12,344.00	16,229.22	8,636.00	152.59	134.64	-31.02	-8,840.06	3,141.00	4,306.44	4,171.86	134.58	31.998		
20,200.00	12,344.00	16,329.22	8,636.00	154.17	136.22	-31.02	-8,940.06	3,141.98	4,306.45	4,170.43	136.02	31.660		
20,300.00	12,344.00	16,429.22	8,636.00	155.74	137.81	-31.02	-9,040.05	3,142.96	4,306.45	4,168.99	137.46	31.329		
20,400.00	12,344.00	16,529.22	8,636.00	157.32	139.40	-31.02	-9,140.05	3,143.95	4,306.45	4,167.55	138.90	31.005		
20,500.00	12,344.00	16,629.22	8,636.00	158.91	140.99	-31.02	-9,240.04	3,144.93	4,306.45	4,166.12	140.33	30.687		
20,600.00	12,344.00	16,729.22	8,636.00	160.49	142.58	-31.02	-9,340.04	3,145.92	4,306.46	4,164.68	141.77	30.376		
20,700.00	12,344.00	16,829.22	8,636.00	162.07	144.17	-31.02	-9,440.04	3,146.90	4,306.46	4,163.25	143.21	30.071		
20,800.00	12,344.00	16,929.22	8,636.00	163.66	145.76	-31.02	-9,540.03	3,147.88	4,306.46	4,161.81	144.65	29.772		
20,900.00	12,344.00	17,029.22	8,636.00	165.24	147.36	-31.02	-9,640.03	3,148.87	4,306.46	4,160.37	146.09	29.478		
21,000.00	12,344.00	17,129.22	8,636.00	166.83	148.95	-31.02	-9,740.02	3,149.85	4,306.47	4,158.93	147.53	29.190		
21,100.00	12,344.00	17,229.22	8,636.00	168.42	150.55	-31.02	-9,840.02	3,150.84	4,306.47	4,157.49	148.97	28.907		
21,200.00	12,344.00	17,329.22	8,636.00	170.01	152.15	-31.02	-9,940.01	3,151.82	4,306.47	4,156.05	150.42	28.630		
21,300.00	12,344.00	17,429.22	8,636.00	171.60	153.74	-31.03	-10,040.01	3,152.80	4,306.47	4,154.61	151.86	28.357		
21,400.00	12,344.00	17,529.22	8,636.00	173.20	155.35	-31.03	-10,140.00	3,153.79	4,306.48	4,153.17	153.31	28.090		
21,500.00	12,344.00	17,629.22	8,636.00	174.79	156.95	-31.03	-10,240.00	3,154.77	4,306.48	4,151.72	154.76	27.827		
21,600.00	12,344.00	17,729.22	8,636.00	176.38	158.55	-31.03	-10,339.99	3,155.76	4,306.48	4,150.28	156.21	27.569		
21,700.00	12,344.00	17,829.22	8,636.00	177.98	160.15	-31.03	-10,439.99	3,156.74	4,306.49	4,148.83	157.65	27.316		
21,800.00	12,344.00	17,929.22	8,636.00	179.58	161.76	-31.03	-10,539.98	3,157.72	4,306.49	4,147.38	159.10	27.067		
21,900.00	12,344.00	18,029.22	8,636.00	181.17	163.36	-31.03	-10,639.98	3,158.71	4,306.49	4,145.93	160.56	26.822		
22,000.00	12,344.00	18,129.22	8,636.00	182.77	164.97	-31.03	-10,739.97	3,159.69	4,306.49	4,144.49	162.01	26.582		
22,100.00	12,344.00	18,229.22	8,636.00	184.37	166.58	-31.03	-10,839.97	3,160.68	4,306.50	4,143.04	163.46	26.346		
22,200.00	12,344.00	18,329.22	8,636.00	185.97	168.18	-31.03	-10,939.96	3,161.66	4,306.50	4,141.59	164.91	26.114		
22,300.00	12,344.00	18,429.22	8,636.00	187.57	169.79	-31.03	-11,039.96	3,162.64	4,306.50	4,140.14	166.36	25.887		
22,400.00	12,344.00	18,529.22	8,636.00	189.18	171.40	-31.03	-11,139.95	3,163.63	4,306.50	4,138.70	167.81	25.663		
22,500.00	12,344.00	18,629.22	8,636.00	190.78	173.01	-31.03	-11,239.95	3,164.61	4,306.51	4,137.25	169.26	25.443		
22,600.00	12,344.00	18,729.22	8,636.00	192.38	174.62	-31.03	-11,339.94	3,165.59	4,306.51	4,135.80	170.71	25.227		
22,642.51	12,344.00	18,771.73	8,636.00	193.01	175.31	-31.03	-11,382.45	3,166.01	4,306.51	4,135.26	171.25	25.148 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 Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka 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		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
							+N/-S (usft)	+E/-W (usft)								
0.00	0.00	0.00	0.00	0.00	0.00	-156.16	-1,021.84	-451.49	1,117.24							
100.00	100.00	85.30	85.30	0.13	0.11	-156.16	-1,021.84	-451.49	1,117.14	1,116.97	0.16	6,774.250				
200.00	200.00	185.30	185.30	0.48	0.43	-156.16	-1,021.84	-451.49	1,117.14	1,116.49	0.65	1,723.447				
300.00	300.00	285.30	285.30	0.84	0.79	-156.16	-1,021.84	-451.49	1,117.14	1,115.98	1.15	967.484				
400.00	400.00	385.30	385.30	1.20	1.15	-156.16	-1,021.84	-451.49	1,117.14	1,115.48	1.66	672.385				
500.00	500.00	485.30	485.30	1.56	1.51	-156.16	-1,021.84	-451.49	1,117.14	1,114.97	2.17	515.211				
600.00	600.00	585.30	585.30	1.92	1.87	-156.16	-1,021.84	-451.49	1,117.14	1,114.46	2.68	417.589				
700.00	700.00	685.30	685.30	2.28	2.22	-156.16	-1,021.84	-451.49	1,117.14	1,113.96	3.18	351.067				
800.00	800.00	785.30	785.30	2.63	2.58	-156.16	-1,021.84	-451.49	1,117.14	1,113.45	3.69	302.826				
900.00	900.00	885.30	885.30	2.99	2.94	-156.16	-1,021.84	-451.49	1,117.14	1,112.94	4.20	266.240				
1,000.00	1,000.00	985.30	985.30	3.35	3.30	-156.16	-1,021.84	-451.49	1,117.14	1,112.44	4.70	237.542				
1,100.00	1,100.00	1,085.30	1,085.30	3.71	3.66	-156.16	-1,021.84	-451.49	1,117.14	1,111.93	5.21	214.428				
1,200.00	1,200.00	1,185.30	1,185.30	4.07	4.02	-156.16	-1,021.84	-451.49	1,117.14	1,111.42	5.72	195.413				
1,300.00	1,300.00	1,285.30	1,285.30	4.43	4.37	-156.16	-1,021.84	-451.49	1,117.14	1,110.92	6.22	179.496				
1,400.00	1,400.00	1,385.30	1,385.30	4.79	4.73	-156.16	-1,021.84	-451.49	1,117.14	1,110.41	6.73	165.977				
1,500.00	1,500.00	1,485.30	1,485.30	5.14	5.09	-156.16	-1,021.84	-451.49	1,117.14	1,109.90	7.24	154.351				
1,600.00	1,600.00	1,585.30	1,585.30	5.50	5.45	-156.16	-1,021.84	-451.49	1,117.14	1,109.39	7.74	144.248				
1,700.00	1,700.00	1,685.30	1,685.30	5.86	5.81	-156.16	-1,021.84	-451.49	1,117.14	1,108.89	8.25	135.386				
1,800.00	1,800.00	1,785.30	1,785.30	6.22	6.17	-156.16	-1,021.84	-451.49	1,117.14	1,108.38	8.76	127.549				
1,900.00	1,900.00	1,885.30	1,885.30	6.58	6.53	-156.16	-1,021.84	-451.49	1,117.14	1,107.87	9.27	120.571				
2,000.00	2,000.00	1,985.30	1,985.30	6.94	6.88	-156.16	-1,021.84	-451.49	1,117.14	1,107.37	9.77	114.316				
2,100.00	2,100.00	2,085.30	2,085.30	7.29	7.24	-156.16	-1,021.84	-451.49	1,117.14	1,106.86	10.28	108.678				
2,200.00	2,200.00	2,185.30	2,185.30	7.65	7.60	-156.16	-1,021.84	-451.49	1,117.14	1,106.35	10.79	103.570				
2,300.00	2,300.00	2,285.30	2,285.30	8.01	7.96	-156.16	-1,021.84	-451.49	1,117.14	1,105.85	11.29	98.921				
2,400.00	2,400.00	2,385.30	2,385.30	8.37	8.32	-156.16	-1,021.84	-451.49	1,117.14	1,105.34	11.80	94.671				
2,500.00	2,500.00	2,485.30	2,485.30	8.73	8.68	-156.16	-1,021.84	-451.49	1,117.14	1,104.83	12.31	90.772				
2,600.00	2,600.00	2,585.30	2,585.30	9.09	9.03	-156.16	-1,021.84	-451.49	1,117.14	1,104.33	12.81	87.180				
2,700.00	2,700.00	2,685.30	2,685.30	9.45	9.39	-156.16	-1,021.84	-451.49	1,117.14	1,103.82	13.32	83.863				
2,800.00	2,800.00	2,785.30	2,785.30	9.80	9.75	-156.16	-1,021.84	-451.49	1,117.14	1,103.31	13.83	80.788				
2,900.00	2,900.00	2,885.30	2,885.30	10.16	10.11	-156.16	-1,021.84	-451.49	1,117.14	1,102.80	14.33	77.931				
3,000.00	3,000.00	2,985.30	2,985.30	10.52	10.47	-156.16	-1,021.84	-451.49	1,117.14	1,102.30	14.84	75.269				
3,100.00	3,100.00	3,085.30	3,085.30	10.88	10.83	-156.16	-1,021.84	-451.49	1,117.14	1,101.79	15.35	72.783				
3,200.00	3,200.00	3,185.30	3,185.30	11.24	11.19	-156.16	-1,021.84	-451.49	1,117.14	1,101.28	15.86	70.456				
3,300.00	3,299.99	3,285.29	3,285.29	11.58	11.54	63.00	-1,021.84	-451.49	1,116.54	1,100.19	16.35	68.285				
3,400.00	3,399.91	3,385.21	3,385.21	11.91	11.90	63.20	-1,021.84	-451.49	1,114.77	1,097.93	16.84	66.212				
3,500.00	3,499.69	3,472.09	3,472.08	12.24	12.21	63.52	-1,022.00	-452.15	1,112.32	1,095.04	17.28	64.358				
3,600.00	3,599.27	3,556.34	3,556.29	12.57	12.49	64.01	-1,022.59	-454.60	1,110.12	1,092.40	17.72	62.654				
3,700.00	3,698.57	3,640.00	3,639.84	12.91	12.78	64.67	-1,023.61	-458.82	1,108.28	1,090.13	18.15	61.063				
3,800.00	3,797.54	3,722.88	3,722.49	13.25	13.06	65.48	-1,025.03	-464.75	1,106.92	1,088.34	18.58	59.576				
3,900.00	3,896.09	3,800.00	3,799.27	13.60	13.32	66.39	-1,026.74	-471.83	1,106.25	1,087.25	18.99	58.246				
3,932.55	3,928.06	3,831.21	3,830.29	13.71	13.43	66.80	-1,027.53	-475.13	1,106.19	1,087.04	19.15	57.767 CC				
4,000.00	3,994.16	3,885.55	3,884.24	13.96	13.62	67.56	-1,029.06	-481.45	1,106.41	1,086.97	19.44	56.922 ES				
4,100.00	4,091.70	3,965.00	3,962.94	14.32	13.90	68.78	-1,031.61	-492.04	1,107.68	1,087.82	19.86	55.761				
4,200.00	4,188.62	4,042.98	4,039.94	14.70	14.18	70.11	-1,034.48	-503.98	1,110.30	1,090.01	20.29	54.715				
4,304.97	4,289.63	4,123.10	4,118.79	15.12	14.46	71.60	-1,037.82	-517.83	1,114.79	1,094.05	20.74	53.749				
4,400.00	4,380.70	4,200.00	4,194.16	15.51	14.75	73.17	-1,041.39	-532.64	1,121.03	1,099.85	21.17	52.947				
4,500.00	4,476.55	4,268.31	4,260.85	15.93	15.00	74.60	-1,044.85	-547.03	1,130.28	1,108.71	21.57	52.404				
4,600.00	4,472.39	4,341.23	4,331.73	16.36	15.28	76.14	-1,048.86	-563.66	1,142.41	1,120.42	21.99	51.958				
4,700.00	4,668.24	4,413.08	4,401.24	16.81	15.56	77.67	-1,053.12	-581.34	1,157.43	1,135.03	22.40	51.671				
4,800.00	4,764.08	4,483.83	4,469.34	17.26	15.85	79.18	-1,057.61	-599.98	1,175.36	1,152.55	22.81	51.539				
4,900.00	4,859.93	4,553.45	4,536.00	17.72	16.14	80.66	-1,062.31	-619.52	1,196.18	1,172.98	23.20	51.555				
5,000.00	4,955.77	4,621.93	4,601.19	18.18	16.43	82.12	-1,067.22	-639.89	1,219.88	1,196.29	23.59	51.714				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka 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				
5,100.00	5,051.62	4,700.00	4,675.05	18.66	16.78	83.76	-1,073.15	-664.49	1,246.46	1,222.42	24.04	51.847				
5,200.00	5,147.46	4,758.11	4,729.68	19.14	17.04	84.96	-1,077.78	-683.74	1,275.69	1,251.34	24.35	52.390				
5,300.00	5,243.31	4,843.81	4,810.12	19.63	17.45	86.69	-1,084.71	-712.51	1,306.83	1,281.96	24.86	52.564				
5,400.00	5,339.15	4,929.52	4,890.55	20.12	17.86	88.36	-1,091.64	-741.27	1,339.22	1,313.85	25.38	52.773				
5,500.00	5,435.00	5,015.22	4,970.98	20.62	18.29	89.95	-1,098.57	-770.04	1,372.79	1,346.90	25.90	53.013				
5,600.00	5,530.84	5,100.92	5,051.42	21.12	18.72	91.48	-1,105.50	-798.81	1,407.45	1,381.03	26.42	53.279				
5,700.00	5,626.69	5,186.63	5,131.85	21.63	19.16	92.95	-1,112.43	-827.57	1,443.11	1,416.17	26.94	53.566				
5,800.00	5,722.53	5,272.33	5,212.28	22.14	19.61	94.36	-1,119.36	-856.34	1,479.71	1,452.24	27.47	53.872				
5,900.00	5,818.38	5,358.03	5,292.72	22.65	20.07	95.71	-1,126.28	-885.11	1,517.17	1,489.18	28.00	54.193				
6,000.00	5,914.22	5,443.74	5,373.15	23.17	20.53	97.00	-1,133.21	-913.87	1,555.44	1,526.92	28.53	54.527				
6,100.00	6,010.07	5,529.44	5,453.58	23.69	21.00	98.24	-1,140.14	-942.64	1,594.46	1,565.40	29.06	54.871				
6,200.00	6,105.91	5,615.14	5,534.02	24.22	21.48	99.42	-1,147.07	-971.41	1,634.17	1,604.58	29.59	55.222				
6,300.00	6,201.76	5,700.85	5,614.45	24.75	21.96	100.56	-1,154.00	-1,000.17	1,674.52	1,644.39	30.13	55.579				
6,400.00	6,297.60	5,786.55	5,694.88	25.28	22.45	101.65	-1,160.93	-1,028.94	1,715.47	1,684.81	30.67	55.940				
6,500.00	6,393.45	5,872.25	5,775.31	25.81	22.94	102.69	-1,167.86	-1,057.71	1,756.98	1,725.78	31.21	56.302				
6,600.00	6,489.29	5,957.96	5,855.75	26.35	23.44	103.69	-1,174.79	-1,086.47	1,799.01	1,767.26	31.75	56.666				
6,700.00	6,585.14	6,043.66	5,936.18	26.89	23.94	104.65	-1,181.72	-1,115.24	1,841.52	1,809.23	32.29	57.030				
6,800.00	6,680.98	6,129.36	6,016.61	27.43	24.44	105.57	-1,188.65	-1,144.01	1,884.48	1,851.64	32.84	57.392				
6,900.00	6,776.83	6,215.07	6,097.05	27.97	24.95	106.45	-1,195.58	-1,172.78	1,927.86	1,894.48	33.38	57.752				
7,000.00	6,872.67	6,300.77	6,177.48	28.52	25.47	107.30	-1,202.50	-1,201.54	1,971.63	1,937.70	33.93	58.110				
7,100.00	6,968.52	6,386.47	6,257.91	29.06	25.98	108.11	-1,209.43	-1,230.31	2,015.77	1,981.29	34.48	58.463				
7,200.00	7,064.36	6,552.12	6,414.33	29.61	26.96	109.59	-1,222.19	-1,283.27	2,058.92	2,023.33	35.59	57.851				
7,300.00	7,160.21	6,746.03	6,600.22	30.16	28.03	111.20	-1,235.10	-1,336.87	2,098.15	2,061.32	36.83	56.974				
7,400.00	7,256.05	6,948.41	6,796.94	30.72	29.06	112.77	-1,246.20	-1,382.95	2,133.04	2,095.02	38.02	56.099				
7,500.00	7,351.90	7,158.59	7,003.61	31.27	30.02	114.30	-1,255.13	-1,420.02	2,163.31	2,124.15	39.16	55.245				
7,600.00	7,447.74	7,375.70	7,218.96	31.82	30.90	115.81	-1,261.54	-1,446.64	2,188.66	2,148.45	40.21	54.426				
7,700.00	7,543.59	7,598.63	7,441.33	32.38	31.69	117.31	-1,265.13	-1,461.56	2,208.88	2,167.71	41.17	53.659				
7,800.00	7,639.43	7,782.07	7,624.73	32.94	32.25	118.52	-1,265.84	-1,464.49	2,224.08	2,182.15	41.93	53.047				
7,889.67	7,725.37	7,868.01	7,710.67	33.44	32.50	119.07	-1,265.84	-1,464.49	2,236.80	2,194.36	42.44	52.705				
7,900.00	7,735.28	7,877.92	7,720.58	33.50	32.53	119.16	-1,265.84	-1,464.49	2,238.28	2,195.78	42.50	52.667				
8,000.00	7,831.56	7,974.20	7,816.86	34.04	32.82	119.92	-1,265.84	-1,464.49	2,251.98	2,208.91	43.06	52.293				
8,100.00	7,928.52	8,071.16	7,913.82	34.56	33.10	120.61	-1,265.84	-1,464.49	2,264.60	2,220.98	43.62	51.917				
8,200.00	8,026.08	8,168.72	8,011.38	35.06	33.39	121.22	-1,265.84	-1,464.49	2,276.07	2,231.91	44.16	51.538				
8,300.00	8,124.18	8,266.82	8,109.48	35.53	33.69	121.76	-1,265.84	-1,464.49	2,286.34	2,241.64	44.70	51.154				
8,400.00	8,222.76	8,365.40	8,208.06	35.98	33.98	122.23	-1,265.84	-1,464.49	2,295.33	2,250.11	45.22	50.763				
8,500.00	8,321.74	8,464.38	8,307.04	36.40	34.28	122.63	-1,265.84	-1,464.49	2,303.00	2,257.28	45.73	50.365				
8,600.00	8,421.06	8,563.70	8,406.36	36.79	34.58	122.95	-1,265.84	-1,464.49	2,309.32	2,263.10	46.23	49.958				
8,700.00	8,520.65	8,663.29	8,505.95	37.16	34.88	123.20	-1,265.84	-1,464.49	2,314.25	2,267.54	46.71	49.542				
8,800.00	8,620.44	8,763.08	8,605.74	37.51	35.19	123.37	-1,265.84	-1,464.49	2,317.77	2,270.58	47.19	49.117				
8,900.00	8,720.37	8,863.01	8,705.67	37.83	35.49	123.48	-1,265.84	-1,464.49	2,319.86	2,272.20	47.65	48.681				
8,994.64	8,815.00	8,957.64	8,800.30	38.11	35.78	-95.59	-1,265.84	-1,464.49	2,320.51	2,272.43	48.08	48.263				
9,000.00	8,820.36	8,963.00	8,805.66	38.13	35.80	-95.59	-1,265.84	-1,464.49	2,320.51	2,272.40	48.10	48.239				
9,100.00	8,920.36	9,063.00	8,905.66	38.40	36.11	-95.59	-1,265.84	-1,464.49	2,320.51	2,271.96	48.54	47.802				
9,200.00	9,020.36	9,163.00	9,005.66	38.68	36.42	-95.59	-1,265.84	-1,464.49	2,320.51	2,271.52	48.99	47.370				
9,300.00	9,120.36	9,263.00	9,105.66	38.96	36.72	-95.59	-1,265.84	-1,464.49	2,320.51	2,271.08	49.43	46.946				
9,400.00	9,220.36	9,363.00	9,205.66	39.25	37.03	-95.59	-1,265.84	-1,464.49	2,320.51	2,270.63	49.87	46.528				
9,500.00	9,320.36	9,463.00	9,305.66	39.53	37.35	-95.59	-1,265.84	-1,464.49	2,320.51	2,270.19	50.32	46.116				
9,600.00	9,420.36	9,563.00	9,405.66	39.81	37.66	-95.59	-1,265.84	-1,464.49	2,320.51	2,269.74	50.77	45.710				
9,700.00	9,520.36	9,663.00	9,505.66	40.10	37.97	-95.59	-1,265.84	-1,464.49	2,320.51	2,269.29	51.21	45.310				
9,800.00	9,620.36	9,763.00	9,605.66	40.39	38.28	-95.59	-1,265.84	-1,464.49	2,320.51	2,268.84	51.66	44.917				
9,900.00	9,720.36	9,863.00	9,705.66	40.67	38.60	-95.59	-1,265.84	-1,464.49	2,320.51	2,268.39	52.11	44.529				
10,000.00	9,820.36	9,963.00	9,805.66	40.96	38.91	-95.59	-1,265.84	-1,464.49	2,320.51	2,267.94	52.56	44.147				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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	9,920.36	10,063.00	9,905.66	41.25	39.23	-95.59	-1,265.84	-1,464.49	2,320.51	2,267.49	53.02	43.770		
10,200.00	10,020.36	10,163.00	10,005.66	41.55	39.55	-95.59	-1,265.84	-1,464.49	2,320.51	2,267.04	53.47	43.400		
10,300.00	10,120.36	10,263.00	10,105.66	41.84	39.86	-95.59	-1,265.84	-1,464.49	2,320.51	2,266.58	53.92	43.034		
10,313.52	10,133.88	10,276.52	10,119.18	41.88	39.91	-95.59	-1,265.84	-1,464.49	2,320.51	2,266.52	53.98	42.985		
10,400.00	10,220.36	10,360.75	10,203.40	42.13	40.17	-95.59	-1,265.88	-1,464.49	2,320.51	2,266.14	54.37	42.678		
10,500.00	10,320.36	10,434.07	10,276.47	42.43	40.40	-95.72	-1,271.37	-1,464.44	2,321.18	2,266.41	54.77	42.379		
10,600.00	10,420.36	10,500.00	10,341.10	42.72	40.61	-96.04	-1,284.24	-1,464.31	2,323.09	2,267.93	55.16	42.117		
10,700.00	10,520.36	10,571.29	10,408.80	43.02	40.84	-96.58	-1,306.41	-1,464.09	2,326.42	2,270.86	55.56	41.870		
10,800.00	10,620.36	10,632.11	10,464.02	43.31	41.03	-97.20	-1,331.84	-1,463.84	2,331.51	2,275.58	55.93	41.684		
10,900.00	10,720.36	10,686.84	10,511.15	43.61	41.20	-97.88	-1,359.61	-1,463.56	2,338.68	2,282.41	56.27	41.563		
11,000.00	10,820.36	10,735.49	10,550.66	43.91	41.35	-98.57	-1,387.98	-1,463.28	2,348.25	2,291.69	56.56	41.518		
11,100.00	10,920.36	10,778.43	10,583.42	44.21	41.49	-99.25	-1,415.72	-1,463.00	2,360.48	2,303.69	56.80	41.559		
11,200.00	11,020.36	10,816.21	10,610.46	44.51	41.60	-99.88	-1,442.10	-1,462.74	2,375.61	2,318.63	56.98	41.690		
11,300.00	11,120.36	10,850.00	10,633.12	44.81	41.71	-100.49	-1,467.15	-1,462.50	2,393.80	2,336.69	57.11	41.915		
11,400.00	11,220.36	10,878.68	10,651.17	45.12	41.79	-101.02	-1,489.44	-1,462.27	2,415.15	2,357.98	57.17	42.244		
11,500.00	11,320.36	10,900.00	10,663.85	45.42	41.86	-101.43	-1,506.57	-1,462.10	2,439.74	2,382.59	57.15	42.689		
11,600.00	11,420.36	10,927.39	10,679.19	45.72	41.94	-101.97	-1,529.25	-1,461.88	2,467.55	2,410.42	57.13	43.192		
11,700.00	11,520.36	10,950.00	10,691.03	46.03	42.01	-102.43	-1,548.52	-1,461.69	2,498.60	2,441.56	57.05	43.800		
11,800.00	11,620.36	10,950.00	10,691.03	46.33	42.01	-102.43	-1,548.52	-1,461.69	2,532.97	2,476.18	56.79	44.601		
11,900.00	11,720.36	10,982.21	10,706.56	46.64	42.11	-103.10	-1,576.73	-1,461.41	2,570.18	2,513.47	56.71	45.322		
11,950.68	11,771.04	11,000.00	10,714.45	46.80	42.17	-103.48	-1,592.68	-1,461.25	2,590.32	2,533.66	56.67	45.711		
12,000.00	11,820.36	11,000.00	10,714.45	46.96	42.17	74.99	-1,592.68	-1,461.25	2,610.10	2,553.58	56.52	46.182		
12,050.00	11,869.86	11,000.00	10,714.45	47.14	42.17	72.92	-1,592.68	-1,461.25	2,629.91	2,573.54	56.37	46.652		
12,100.00	11,918.67	11,000.00	10,714.45	47.35	42.17	70.91	-1,592.68	-1,461.25	2,649.35	2,593.12	56.23	47.112		
12,150.00	11,966.36	11,025.27	10,724.80	47.58	42.25	68.60	-1,615.73	-1,461.02	2,667.89	2,611.62	56.27	47.413		
12,200.00	12,012.56	11,050.00	10,733.93	47.83	42.33	66.46	-1,638.70	-1,460.80	2,685.89	2,629.58	56.31	47.700		
12,250.00	12,056.93	11,050.00	10,733.93	48.10	42.33	64.84	-1,638.70	-1,460.80	2,702.70	2,646.49	56.20	48.087		
12,300.00	12,099.12	11,050.00	10,733.93	48.39	42.33	63.33	-1,638.70	-1,460.80	2,718.58	2,662.46	56.12	48.446		
12,350.00	12,138.81	11,070.05	10,740.60	48.69	42.40	61.75	-1,657.61	-1,460.61	2,733.17	2,677.00	56.17	48.662		
12,400.00	12,175.70	11,100.00	10,749.32	49.01	42.50	60.27	-1,686.26	-1,460.32	2,746.68	2,690.39	56.29	48.794		
12,450.00	12,209.51	11,100.00	10,749.32	49.34	42.50	59.23	-1,686.26	-1,460.32	2,758.38	2,702.12	56.25	49.034		
12,500.00	12,239.99	11,100.00	10,749.32	49.69	42.50	58.32	-1,686.26	-1,460.32	2,768.75	2,712.52	56.24	49.234		
12,550.00	12,266.90	11,120.27	10,754.37	50.05	42.57	57.45	-1,705.89	-1,460.13	2,777.48	2,721.12	56.36	49.280		
12,600.00	12,290.03	11,150.00	10,760.52	50.42	42.68	56.72	-1,734.97	-1,459.84	2,784.77	2,728.21	56.56	49.236		
12,650.00	12,309.21	11,150.00	10,760.52	50.81	42.68	56.29	-1,734.97	-1,459.84	2,789.97	2,733.36	56.61	49.282		
12,700.00	12,324.30	11,150.00	10,760.52	51.20	42.68	55.98	-1,734.97	-1,459.84	2,793.66	2,736.97	56.69	49.280		
12,750.00	12,335.17	11,173.14	10,764.25	51.60	42.77	55.80	-1,757.81	-1,459.61	2,795.44	2,738.52	56.92	49.111		
12,800.00	12,341.76	11,200.00	10,767.42	52.01	42.87	55.80	-1,784.47	-1,459.35	2,795.61	2,738.42	57.19	48.879		
12,850.68	12,344.00	11,200.00	10,767.42	52.42	42.87	55.95	-1,784.47	-1,459.35	2,793.71	2,736.35	57.35	48.710		
12,900.00	12,344.00	11,200.00	10,767.42	52.83	42.87	55.95	-1,784.47	-1,459.35	2,791.51	2,733.99	57.53	48.527		
13,000.00	12,344.00	11,254.38	10,770.00	53.68	43.09	56.00	-1,838.77	-1,458.81	2,788.81	2,730.64	58.17	47.946		
13,100.00	12,344.00	11,300.76	10,770.00	54.57	43.29	56.00	-1,885.14	-1,458.35	2,788.28	2,729.50	58.78	47.435		
13,123.80	12,344.00	11,324.56	10,770.00	54.79	43.40	56.00	-1,908.94	-1,458.12	2,788.28	2,729.28	59.00	47.258		
13,200.00	12,344.00	11,400.76	10,770.00	55.50	43.76	56.00	-1,985.14	-1,457.36	2,788.27	2,728.57	59.70	46.701		
13,300.00	12,344.00	11,500.76	10,770.00	56.46	44.30	56.00	-2,085.13	-1,456.37	2,788.26	2,727.58	60.68	45.950		
13,400.00	12,344.00	11,600.76	10,770.00	57.45	44.89	56.00	-2,185.13	-1,455.38	2,788.25	2,726.54	61.71	45.185		
13,500.00	12,344.00	11,700.76	10,770.00	58.47	45.54	56.00	-2,285.12	-1,454.39	2,788.24	2,725.46	62.78	44.411		
13,600.00	12,344.00	11,800.76	10,770.00	59.52	46.24	56.00	-2,385.12	-1,453.40	2,788.23	2,724.33	63.90	43.632		
13,700.00	12,344.00	11,900.76	10,770.00	60.60	46.99	56.00	-2,485.11	-1,452.41	2,788.22	2,723.15	65.07	42.852		
13,800.00	12,344.00	12,000.76	10,770.00	61.70	47.80	56.00	-2,585.11	-1,451.42	2,788.21	2,721.94	66.27	42.073		
13,900.00	12,344.00	12,100.76	10,770.00	62.82	48.65	56.00	-2,685.10	-1,450.43	2,788.20	2,720.69	67.52	41.297		
14,000.00	12,344.00	12,200.76	10,770.00	63.97	49.54	56.00	-2,785.10	-1,449.43	2,788.19	2,719.39	68.80	40.528		

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 Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design		Tatanka Fed Com - Tatanka 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		
14,100.00	12,344.00	12,300.76	10,770.00	65.14	50.47	56.00	-2,885.09	-1,448.44	2,788.18	2,718.07	70.11	39.767		
14,200.00	12,344.00	12,400.76	10,770.00	66.33	51.44	56.00	-2,985.09	-1,447.45	2,788.17	2,716.71	71.46	39.015		
14,300.00	12,344.00	12,500.76	10,770.00	67.54	52.45	56.00	-3,085.08	-1,446.46	2,788.16	2,715.32	72.84	38.276		
14,400.00	12,344.00	12,600.76	10,770.00	68.77	53.49	56.00	-3,185.08	-1,445.47	2,788.15	2,713.90	74.25	37.550		
14,500.00	12,344.00	12,700.76	10,770.00	70.02	54.56	56.00	-3,285.07	-1,444.48	2,788.14	2,712.45	75.69	36.838		
14,600.00	12,344.00	12,800.76	10,770.00	71.28	55.66	56.00	-3,385.07	-1,443.49	2,788.13	2,710.98	77.15	36.140		
14,700.00	12,344.00	12,900.76	10,770.00	72.55	56.79	55.99	-3,485.06	-1,442.50	2,788.12	2,709.48	78.64	35.456		
14,800.00	12,344.00	13,000.76	10,770.00	73.85	57.94	55.99	-3,585.06	-1,441.51	2,788.11	2,707.96	80.15	34.788		
14,900.00	12,344.00	13,100.76	10,770.00	75.15	59.12	55.99	-3,685.05	-1,440.52	2,788.10	2,706.42	81.68	34.135		
15,000.00	12,344.00	13,200.76	10,770.00	76.47	60.32	55.99	-3,785.05	-1,439.53	2,788.09	2,704.86	83.23	33.498		
15,100.00	12,344.00	13,300.76	10,770.00	77.81	61.54	55.99	-3,885.04	-1,438.53	2,788.08	2,703.27	84.80	32.876		
15,200.00	12,344.00	13,400.76	10,770.00	79.15	62.79	55.99	-3,985.04	-1,437.54	2,788.07	2,701.67	86.40	32.271		
15,300.00	12,344.00	13,500.76	10,770.00	80.51	64.05	55.99	-4,085.03	-1,436.55	2,788.06	2,700.06	88.00	31.681		
15,400.00	12,344.00	13,600.76	10,770.00	81.87	65.33	55.99	-4,185.03	-1,435.56	2,788.05	2,698.42	89.63	31.107		
15,500.00	12,344.00	13,700.76	10,770.00	83.25	66.63	55.99	-4,285.02	-1,434.57	2,788.04	2,696.77	91.27	30.549		
15,600.00	12,344.00	13,800.76	10,770.00	84.64	67.94	55.99	-4,385.02	-1,433.58	2,788.03	2,695.11	92.92	30.005		
15,700.00	12,344.00	13,900.76	10,770.00	86.03	69.26	55.99	-4,485.01	-1,432.59	2,788.02	2,693.43	94.59	29.475		
15,800.00	12,344.00	14,000.76	10,770.00	87.44	70.60	55.99	-4,585.01	-1,431.60	2,788.01	2,691.74	96.27	28.960		
15,900.00	12,344.00	14,100.76	10,770.00	88.85	71.96	55.99	-4,685.00	-1,430.61	2,788.00	2,690.03	97.97	28.459		
16,000.00	12,344.00	14,200.76	10,770.00	90.27	73.32	55.99	-4,785.00	-1,429.62	2,787.99	2,688.32	99.67	27.972		
16,100.00	12,344.00	14,300.76	10,770.00	91.70	74.70	55.99	-4,885.00	-1,428.63	2,787.98	2,686.59	101.39	27.499		
16,200.00	12,344.00	14,400.76	10,770.00	93.14	76.09	55.99	-4,984.99	-1,427.63	2,787.97	2,684.85	103.11	27.038		
16,300.00	12,344.00	14,500.76	10,770.00	94.58	77.49	55.99	-5,084.99	-1,426.64	2,787.96	2,683.11	104.85	26.590		
16,400.00	12,344.00	14,600.76	10,770.00	96.03	78.90	55.99	-5,184.98	-1,425.65	2,787.95	2,681.35	106.60	26.154		
16,500.00	12,344.00	14,700.76	10,770.00	97.49	80.32	55.99	-5,284.98	-1,424.66	2,787.94	2,679.58	108.35	25.730		
16,600.00	12,344.00	14,800.76	10,770.00	98.95	81.75	55.99	-5,384.97	-1,423.67	2,787.93	2,677.81	110.12	25.318		
16,700.00	12,344.00	14,900.76	10,770.00	100.42	83.18	55.99	-5,484.97	-1,422.68	2,787.92	2,676.03	111.89	24.917		
16,800.00	12,344.00	15,000.76	10,770.00	101.89	84.62	55.99	-5,584.96	-1,421.69	2,787.91	2,674.24	113.67	24.526		
16,900.00	12,344.00	15,100.76	10,770.00	103.37	86.08	55.99	-5,684.96	-1,420.70	2,787.90	2,672.44	115.46	24.146		
17,000.00	12,344.00	15,200.76	10,770.00	104.86	87.53	55.99	-5,784.95	-1,419.71	2,787.89	2,670.63	117.25	23.777		
17,100.00	12,344.00	15,300.76	10,770.00	106.35	89.00	55.99	-5,884.95	-1,418.72	2,787.88	2,668.82	119.05	23.417		
17,200.00	12,344.00	15,400.76	10,770.00	107.84	90.47	55.99	-5,984.94	-1,417.73	2,787.87	2,667.01	120.86	23.067		
17,300.00	12,344.00	15,500.76	10,770.00	109.34	91.95	55.99	-6,084.94	-1,416.73	2,787.86	2,665.18	122.67	22.726		
17,400.00	12,344.00	15,600.76	10,770.00	110.84	93.43	55.99	-6,184.93	-1,415.74	2,787.85	2,663.35	124.49	22.394		
17,500.00	12,344.00	15,700.76	10,770.00	112.35	94.92	55.99	-6,284.93	-1,414.75	2,787.84	2,661.52	126.32	22.070		
17,600.00	12,344.00	15,800.76	10,770.00	113.86	96.42	55.99	-6,384.92	-1,413.76	2,787.83	2,659.68	128.15	21.755		
17,700.00	12,344.00	15,900.76	10,770.00	115.38	97.92	55.99	-6,484.92	-1,412.77	2,787.82	2,657.83	129.98	21.447		
17,800.00	12,344.00	16,000.76	10,770.00	116.89	99.42	55.99	-6,584.91	-1,411.78	2,787.81	2,655.98	131.83	21.148		
17,900.00	12,344.00	16,100.76	10,770.00	118.42	100.93	55.99	-6,684.91	-1,410.79	2,787.80	2,654.12	133.67	20.855		
18,000.00	12,344.00	16,200.76	10,770.00	119.94	102.44	55.99	-6,784.90	-1,409.80	2,787.78	2,652.27	135.52	20.571		
18,100.00	12,344.00	16,300.76	10,770.00	121.47	103.96	55.99	-6,884.90	-1,408.81	2,787.77	2,650.40	137.37	20.294		
18,200.00	12,344.00	16,400.76	10,770.00	123.00	105.48	55.99	-6,984.89	-1,407.82	2,787.76	2,648.54	139.23	20.023		
18,300.00	12,344.00	16,500.76	10,770.00	124.54	107.01	55.99	-7,084.89	-1,406.83	2,787.75	2,646.66	141.09	19.759		
18,400.00	12,344.00	16,600.76	10,770.00	126.08	108.54	55.99	-7,184.88	-1,405.83	2,787.74	2,644.79	142.96	19.501		
18,500.00	12,344.00	16,700.76	10,770.00	127.62	110.07	55.99	-7,284.88	-1,404.84	2,787.73	2,642.91	144.83	19.249		
18,600.00	12,344.00	16,800.76	10,770.00	129.16	111.61	55.99	-7,384.87	-1,403.85	2,787.72	2,641.03	146.70	19.003		
18,700.00	12,344.00	16,900.76	10,770.00	130.71	113.15	55.99	-7,484.87	-1,402.86	2,787.71	2,639.14	148.57	18.763		
18,800.00	12,344.00	17,000.76	10,770.00	132.26	114.69	55.99	-7,584.86	-1,401.87	2,787.70	2,637.26	150.45	18.529		
18,900.00	12,344.00	17,100.76	10,770.00	133.81	116.23	55.99	-7,684.86	-1,400.88	2,787.69	2,635.37	152.33	18.301		
19,000.00	12,344.00	17,200.76	10,770.00	135.36	117.78	55.99	-7,784.85	-1,399.89	2,787.68	2,633.47	154.21	18.077		
19,100.00	12,344.00	17,300.76	10,770.00	136.92	119.33	55.99	-7,884.85	-1,398.90	2,787.67	2,631.57	156.10	17.858		
19,200.00	12,344.00	17,400.76	10,770.00	138.48	120.89	55.99	-7,984.84	-1,397.91	2,787.66	2,629.67	157.99	17.645		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka 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				
19,300.00	12,344.00	17,500.76	10,770.00	140.04	122.44	55.99	-8,084.84	-1,396.92	2,787.65	2,627.77	159.88	17.436				
19,400.00	12,344.00	17,600.76	10,770.00	141.60	124.00	55.99	-8,184.83	-1,395.92	2,787.64	2,625.87	161.77	17.232				
19,500.00	12,344.00	17,700.76	10,770.00	143.16	125.56	55.99	-8,284.83	-1,394.93	2,787.63	2,623.96	163.67	17.032				
19,600.00	12,344.00	17,800.76	10,770.00	144.73	127.13	55.99	-8,384.82	-1,393.94	2,787.62	2,622.06	165.57	16.837				
19,700.00	12,344.00	17,900.76	10,770.00	146.30	128.69	55.99	-8,484.82	-1,392.95	2,787.61	2,620.15	167.47	16.646				
19,800.00	12,344.00	18,000.76	10,770.00	147.87	130.26	55.99	-8,584.81	-1,391.96	2,787.60	2,618.23	169.37	16.459				
19,900.00	12,344.00	18,100.76	10,770.00	149.44	131.83	55.99	-8,684.81	-1,390.97	2,787.59	2,616.32	171.27	16.276				
20,000.00	12,344.00	18,200.76	10,770.00	151.01	133.40	55.99	-8,784.80	-1,389.98	2,787.58	2,614.40	173.18	16.096				
20,100.00	12,344.00	18,300.76	10,770.00	152.59	134.98	55.99	-8,884.80	-1,388.99	2,787.57	2,612.48	175.09	15.921				
20,200.00	12,344.00	18,400.76	10,770.00	154.17	136.55	55.99	-8,984.79	-1,388.00	2,787.56	2,610.56	177.00	15.749				
20,300.00	12,344.00	18,500.76	10,770.00	155.74	138.13	55.99	-9,084.79	-1,387.01	2,787.55	2,608.64	178.91	15.581				
20,400.00	12,344.00	18,600.76	10,770.00	157.32	139.71	55.99	-9,184.78	-1,386.02	2,787.54	2,606.72	180.83	15.416				
20,500.00	12,344.00	18,700.76	10,770.00	158.91	141.29	55.99	-9,284.78	-1,385.02	2,787.53	2,604.79	182.74	15.254				
20,600.00	12,344.00	18,800.76	10,770.00	160.49	142.87	55.99	-9,384.77	-1,384.03	2,787.52	2,602.87	184.65	15.096				
20,700.00	12,344.00	18,900.76	10,770.00	162.07	144.46	55.99	-9,484.77	-1,383.04	2,787.51	2,600.94	186.57	14.941				
20,800.00	12,344.00	19,000.76	10,770.00	163.66	146.04	55.99	-9,584.76	-1,382.05	2,787.50	2,599.01	188.49	14.789				
20,900.00	12,344.00	19,100.76	10,770.00	165.24	147.63	55.99	-9,684.76	-1,381.06	2,787.49	2,597.08	190.41	14.640				
21,000.00	12,344.00	19,200.76	10,770.00	166.83	149.22	55.99	-9,784.75	-1,380.07	2,787.48	2,595.15	192.33	14.493				
21,100.00	12,344.00	19,300.76	10,770.00	168.42	150.81	55.99	-9,884.75	-1,379.08	2,787.47	2,593.22	194.25	14.350				
21,200.00	12,344.00	19,400.76	10,770.00	170.01	152.40	55.99	-9,984.74	-1,378.09	2,787.46	2,591.28	196.18	14.209				
21,300.00	12,344.00	19,500.76	10,770.00	171.60	153.99	55.99	-10,084.74	-1,377.10	2,787.45	2,589.35	198.10	14.071				
21,400.00	12,344.00	19,600.76	10,770.00	173.20	155.59	55.99	-10,184.73	-1,376.11	2,787.44	2,587.41	200.03	13.935				
21,500.00	12,344.00	19,700.76	10,770.00	174.79	157.18	55.99	-10,284.73	-1,375.12	2,787.43	2,585.47	201.96	13.802				
21,600.00	12,344.00	19,800.76	10,770.00	176.38	158.78	55.99	-10,384.73	-1,374.12	2,787.42	2,583.54	203.88	13.672				
21,700.00	12,344.00	19,900.76	10,770.00	177.98	160.37	55.99	-10,484.72	-1,373.13	2,787.41	2,581.60	205.81	13.543				
21,800.00	12,344.00	20,000.76	10,770.00	179.58	161.97	55.98	-10,584.72	-1,372.14	2,787.40	2,579.66	207.74	13.418				
21,900.00	12,344.00	20,100.76	10,770.00	181.17	163.57	55.98	-10,684.71	-1,371.15	2,787.39	2,577.72	209.67	13.294				
22,000.00	12,344.00	20,200.76	10,770.00	182.77	165.17	55.98	-10,784.71	-1,370.16	2,787.38	2,575.78	211.60	13.173				
22,100.00	12,344.00	20,300.76	10,770.00	184.37	166.77	55.98	-10,884.70	-1,369.17	2,787.37	2,573.84	213.53	13.054				
22,200.00	12,344.00	20,400.76	10,770.00	185.97	168.38	55.98	-10,984.70	-1,368.18	2,787.36	2,571.89	215.47	12.936				
22,300.00	12,344.00	20,500.76	10,770.00	187.57	169.98	55.98	-11,084.69	-1,367.19	2,787.35	2,569.95	217.40	12.821				
22,400.00	12,344.00	20,600.76	10,770.00	189.18	171.58	55.98	-11,184.69	-1,366.20	2,787.34	2,568.00	219.33	12.708				
22,500.00	12,344.00	20,700.76	10,770.00	190.78	173.19	55.98	-11,284.68	-1,365.21	2,787.33	2,566.06	221.27	12.597				
22,600.00	12,344.00	20,800.76	10,770.00	192.38	174.79	55.98	-11,384.68	-1,364.22	2,787.32	2,564.11	223.21	12.488				
22,639.81	12,344.00	20,840.56	10,770.00	192.97	175.38	55.98	-11,424.48	-1,363.82	2,787.31	2,563.45	223.86	12.451				
22,642.51	12,344.00	20,841.66	10,770.00	193.01	175.40	55.98	-11,425.58	-1,363.81	2,787.32	2,563.43	223.89	12.449 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 Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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	-157.34	-1,021.60	-426.50	1,107.16					
100.00	100.00	84.80	84.80	0.13	0.11	-157.34	-1,021.60	-426.50	1,107.05	1,106.89	0.16	6,729.680		
200.00	200.00	184.80	184.80	0.48	0.43	-157.34	-1,021.60	-426.50	1,107.05	1,106.41	0.65	1,711.032		
300.00	300.00	284.80	284.80	0.84	0.79	-157.34	-1,021.60	-426.50	1,107.05	1,105.90	1.15	959.768		
400.00	400.00	384.80	384.80	1.20	1.15	-157.34	-1,021.60	-426.50	1,107.05	1,105.39	1.66	666.812		
500.00	500.00	484.80	484.80	1.56	1.50	-157.34	-1,021.60	-426.50	1,107.05	1,104.89	2.17	510.853		
600.00	600.00	584.80	584.80	1.92	1.86	-157.34	-1,021.60	-426.50	1,107.05	1,104.38	2.67	414.013		
700.00	700.00	684.80	684.80	2.28	2.22	-157.34	-1,021.60	-426.50	1,107.05	1,103.87	3.18	348.035		
800.00	800.00	784.80	784.80	2.63	2.58	-157.34	-1,021.60	-426.50	1,107.05	1,103.37	3.69	300.194		
900.00	900.00	884.80	884.80	2.99	2.94	-157.34	-1,021.60	-426.50	1,107.05	1,102.86	4.19	263.916		
1,000.00	1,000.00	984.80	984.80	3.35	3.30	-157.34	-1,021.60	-426.50	1,107.05	1,102.35	4.70	235.460		
1,100.00	1,100.00	1,084.80	1,084.80	3.71	3.66	-157.34	-1,021.60	-426.50	1,107.05	1,101.85	5.21	212.543		
1,200.00	1,200.00	1,184.80	1,184.80	4.07	4.01	-157.34	-1,021.60	-426.50	1,107.05	1,101.34	5.72	193.692		
1,300.00	1,300.00	1,284.80	1,284.80	4.43	4.37	-157.34	-1,021.60	-426.50	1,107.05	1,100.83	6.22	177.912		
1,400.00	1,400.00	1,384.80	1,384.80	4.79	4.73	-157.34	-1,021.60	-426.50	1,107.05	1,100.32	6.73	164.509		
1,500.00	1,500.00	1,484.80	1,484.80	5.14	5.09	-157.34	-1,021.60	-426.50	1,107.05	1,099.82	7.24	152.984		
1,600.00	1,600.00	1,584.80	1,584.80	5.50	5.45	-157.34	-1,021.60	-426.50	1,107.05	1,099.31	7.74	142.969		
1,700.00	1,700.00	1,684.80	1,684.80	5.86	5.81	-157.34	-1,021.60	-426.50	1,107.05	1,098.80	8.25	134.184		
1,800.00	1,800.00	1,784.80	1,784.80	6.22	6.16	-157.34	-1,021.60	-426.50	1,107.05	1,098.30	8.76	126.416		
1,900.00	1,900.00	1,884.80	1,884.80	6.58	6.52	-157.34	-1,021.60	-426.50	1,107.05	1,097.79	9.26	119.498		
2,000.00	2,000.00	1,984.80	1,984.80	6.94	6.88	-157.34	-1,021.60	-426.50	1,107.05	1,097.28	9.77	113.298		
2,100.00	2,100.00	2,084.80	2,084.80	7.29	7.24	-157.34	-1,021.60	-426.50	1,107.05	1,096.78	10.28	107.710		
2,200.00	2,200.00	2,184.80	2,184.80	7.65	7.60	-157.34	-1,021.60	-426.50	1,107.05	1,096.27	10.79	102.647		
2,300.00	2,300.00	2,284.80	2,284.80	8.01	7.96	-157.34	-1,021.60	-426.50	1,107.05	1,095.76	11.29	98.039		
2,400.00	2,400.00	2,384.80	2,384.80	8.37	8.32	-157.34	-1,021.60	-426.50	1,107.05	1,095.26	11.80	93.827		
2,500.00	2,500.00	2,484.80	2,484.80	8.73	8.67	-157.34	-1,021.60	-426.50	1,107.05	1,094.75	12.31	89.961		
2,600.00	2,600.00	2,584.80	2,584.80	9.09	9.03	-157.34	-1,021.60	-426.50	1,107.05	1,094.24	12.81	86.402		
2,700.00	2,700.00	2,684.80	2,684.80	9.45	9.39	-157.34	-1,021.60	-426.50	1,107.05	1,093.73	13.32	83.113		
2,800.00	2,800.00	2,784.80	2,784.80	9.80	9.75	-157.34	-1,021.60	-426.50	1,107.05	1,093.23	13.83	80.066		
2,900.00	2,900.00	2,884.80	2,884.80	10.16	10.11	-157.34	-1,021.60	-426.50	1,107.05	1,092.72	14.33	77.234		
3,000.00	3,000.00	2,984.80	2,984.80	10.52	10.47	-157.34	-1,021.60	-426.50	1,107.05	1,092.21	14.84	74.596		
3,100.00	3,100.00	3,084.80	3,084.80	10.88	10.83	-157.34	-1,021.60	-426.50	1,107.05	1,091.71	15.35	72.132		
3,200.00	3,200.00	3,184.80	3,184.80	11.24	11.18	-157.34	-1,021.60	-426.50	1,107.05	1,091.20	15.85	69.826		
3,300.00	3,299.99	3,293.58	3,293.57	11.58	11.56	61.78	-1,021.68	-425.36	1,106.10	1,089.73	16.37	67.587		
3,400.00	3,399.91	3,403.86	3,403.76	11.91	11.94	61.80	-1,021.96	-421.07	1,102.98	1,086.12	16.86	65.412		
3,500.00	3,499.69	3,513.98	3,513.63	12.24	12.32	61.84	-1,022.45	-413.63	1,097.69	1,080.33	17.36	63.231		
3,600.00	3,599.27	3,623.85	3,622.98	12.57	12.70	61.87	-1,023.14	-403.06	1,090.24	1,072.38	17.86	61.044		
3,700.00	3,698.57	3,725.42	3,723.87	12.91	13.06	61.97	-1,023.91	-391.32	1,080.94	1,062.59	18.35	58.914		
3,800.00	3,797.54	3,824.85	3,822.62	13.25	13.41	62.19	-1,024.67	-379.77	1,070.39	1,051.56	18.84	56.826		
3,900.00	3,896.09	3,924.07	3,921.17	13.60	13.76	62.57	-1,025.43	-368.25	1,058.64	1,039.31	19.33	54.768		
4,000.00	3,994.16	4,023.02	4,019.45	13.96	14.12	63.09	-1,026.19	-356.75	1,045.72	1,025.90	19.83	52.739		
4,100.00	4,091.70	4,121.64	4,117.39	14.32	14.47	63.77	-1,026.94	-345.30	1,031.69	1,011.35	20.33	50.737		
4,200.00	4,188.62	4,219.85	4,214.94	14.70	14.83	64.61	-1,027.69	-333.89	1,016.60	995.76	20.85	48.765		
4,304.97	4,289.63	4,322.44	4,316.82	15.12	15.21	65.67	-1,028.48	-321.97	999.75	978.35	21.40	46.727		
4,400.00	4,380.70	4,415.04	4,408.80	15.51	15.55	66.51	-1,029.18	-311.21	984.15	962.25	21.90	44.938		
4,500.00	4,476.55	4,512.49	4,505.59	15.93	15.91	67.42	-1,029.93	-299.89	967.98	945.54	22.44	43.135		
4,600.00	4,572.39	4,609.94	4,602.38	16.36	16.27	68.37	-1,030.67	-288.57	952.06	929.07	22.99	41.413		
4,700.00	4,668.24	4,707.40	4,699.17	16.81	16.63	69.34	-1,031.42	-277.25	936.41	912.87	23.55	39.768		
4,800.00	4,764.08	4,804.85	4,795.96	17.26	16.99	70.35	-1,032.16	-265.93	921.04	896.93	24.11	38.199		
4,900.00	4,859.93	4,902.30	4,892.75	17.72	17.36	71.38	-1,032.91	-254.61	905.97	881.28	24.68	36.702		
5,000.00	4,955.77	4,999.75	4,989.54	18.18	17.72	72.46	-1,033.65	-243.29	891.20	865.93	25.26	35.275		
5,100.00	5,051.62	5,097.20	5,086.33	18.66	18.09	73.56	-1,034.40	-231.97	876.76	850.91	25.85	33.916		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka 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									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
5,200.00	5,147.46	5,194.66	5,183.11	19.14	18.46	74.71	-1,035.14	-220.65	862.66	836.21	26.44	32.623				
5,300.00	5,243.31	5,292.11	5,279.90	19.63	18.83	75.89	-1,035.89	-209.33	848.91	821.87	27.04	31.392				
5,400.00	5,339.15	5,389.56	5,376.69	20.12	19.20	77.10	-1,036.63	-198.01	835.55	807.90	27.65	30.223				
5,500.00	5,435.00	5,487.01	5,473.48	20.62	19.57	78.36	-1,037.38	-186.69	822.58	794.32	28.26	29.112				
5,600.00	5,530.84	5,584.47	5,570.27	21.12	19.95	79.65	-1,038.12	-175.37	810.02	781.15	28.87	28.058				
5,700.00	5,626.69	5,681.92	5,667.06	21.63	20.32	80.98	-1,038.87	-164.05	797.90	768.41	29.49	27.059				
5,800.00	5,722.53	5,779.37	5,763.85	22.14	20.69	82.35	-1,039.61	-152.73	786.22	756.12	30.11	26.113				
5,900.00	5,818.38	5,876.82	5,860.64	22.65	21.07	83.75	-1,040.36	-141.41	775.03	744.29	30.73	25.219				
6,000.00	5,914.22	5,974.27	5,957.43	23.17	21.44	85.20	-1,041.10	-130.09	764.32	732.96	31.36	24.374				
6,100.00	6,010.07	6,071.73	6,054.22	23.69	21.82	86.69	-1,041.85	-118.77	754.13	722.15	31.99	23.577				
6,200.00	6,105.91	6,169.18	6,151.01	24.22	22.20	88.21	-1,042.59	-107.45	744.48	711.87	32.61	22.827				
6,300.00	6,201.76	6,266.63	6,247.80	24.75	22.57	89.77	-1,043.34	-96.13	735.39	702.15	33.24	22.123				
6,400.00	6,297.60	6,364.08	6,344.59	25.28	22.95	91.37	-1,044.08	-84.81	726.87	693.00	33.87	21.462				
6,500.00	6,393.45	6,461.53	6,441.38	25.81	23.33	93.00	-1,044.82	-73.49	718.96	684.46	34.49	20.843				
6,600.00	6,489.29	6,558.99	6,538.17	26.35	23.71	94.66	-1,045.57	-62.17	711.66	676.54	35.12	20.266				
6,700.00	6,585.14	6,656.44	6,634.96	26.89	24.09	96.36	-1,046.31	-50.84	705.00	669.27	35.73	19.729				
6,800.00	6,680.98	6,753.89	6,731.75	27.43	24.47	98.08	-1,047.06	-39.52	699.00	662.65	36.35	19.230				
6,900.00	6,776.83	6,851.34	6,828.53	27.97	24.85	99.83	-1,047.80	-28.20	693.67	656.71	36.96	18.769				
7,000.00	6,872.67	6,948.79	6,925.32	28.52	25.23	101.61	-1,048.55	-16.88	689.03	651.47	37.56	18.345				
7,100.00	6,968.52	7,046.25	7,022.11	29.06	25.61	103.41	-1,049.29	-5.56	685.10	646.94	38.16	17.955				
7,200.00	7,064.36	7,141.16	7,116.39	29.61	25.98	105.18	-1,050.02	5.43	681.91	643.17	38.74	17.601				
7,293.50	7,153.98	7,219.74	7,194.56	30.13	26.28	106.69	-1,050.54	13.43	680.74	641.46	39.28	17.330	CC			
7,300.00	7,160.21	7,225.20	7,199.99	30.16	26.30	106.80	-1,050.58	13.92	680.74	641.42	39.32	17.314	ES			
7,400.00	7,256.05	7,308.82	7,283.35	30.72	26.62	108.48	-1,051.01	20.55	682.29	642.43	39.87	17.115				
7,500.00	7,351.90	7,391.97	7,366.36	31.27	26.92	110.21	-1,051.33	25.33	686.63	646.25	40.38	17.003				
7,600.00	7,447.74	7,474.57	7,448.90	31.82	27.21	111.95	-1,051.52	28.29	693.82	652.95	40.87	16.978				
7,700.00	7,543.59	7,556.54	7,530.86	32.38	27.50	113.70	-1,051.60	29.47	703.89	662.57	41.32	17.036				
7,800.00	7,639.43	7,649.91	7,624.23	32.94	27.82	115.66	-1,051.60	29.50	716.18	674.38	41.80	17.132				
7,889.67	7,725.37	7,735.85	7,710.17	33.44	28.11	117.42	-1,051.60	29.50	728.00	685.76	42.24	17.233				
7,900.00	7,735.28	7,745.76	7,720.08	33.50	28.14	117.64	-1,051.60	29.50	729.40	687.11	42.29	17.246				
8,000.00	7,831.56	7,842.04	7,816.36	34.04	28.47	119.61	-1,051.60	29.50	742.72	699.94	42.78	17.363				
8,100.00	7,928.52	7,938.99	7,913.32	34.56	28.80	121.35	-1,051.60	29.50	755.42	712.17	43.25	17.464				
8,200.00	8,026.08	8,036.56	8,010.88	35.06	29.14	122.87	-1,051.60	29.50	767.29	723.56	43.73	17.547				
8,300.00	8,124.18	8,134.66	8,108.98	35.53	29.47	124.19	-1,051.60	29.50	778.13	733.94	44.20	17.605				
8,400.00	8,222.76	8,233.24	8,207.56	35.98	29.81	125.31	-1,051.60	29.50	787.80	743.13	44.67	17.637				
8,500.00	8,321.74	8,332.22	8,306.54	36.40	30.15	126.24	-1,051.60	29.50	796.17	751.03	45.13	17.640				
8,600.00	8,421.06	8,431.54	8,405.86	36.79	30.49	126.99	-1,051.60	29.50	803.12	757.53	45.60	17.613				
8,700.00	8,520.65	8,531.13	8,505.45	37.16	30.83	127.56	-1,051.60	29.50	808.60	762.53	46.06	17.554				
8,800.00	8,620.44	8,630.92	8,605.24	37.51	31.17	127.97	-1,051.60	29.50	812.52	766.00	46.53	17.464				
8,900.00	8,720.37	8,730.85	8,705.17	37.83	31.52	128.21	-1,051.60	29.50	814.86	767.87	46.99	17.342				
8,994.64	8,815.00	8,825.48	8,799.80	38.11	31.84	-90.81	-1,051.60	29.50	815.58	768.16	47.42	17.200				
9,000.00	8,820.36	8,830.84	8,805.16	38.13	31.86	-90.81	-1,051.60	29.50	815.58	768.14	47.44	17.191				
9,100.00	8,920.36	8,930.84	8,905.16	38.40	32.21	-90.81	-1,051.60	29.50	815.58	767.69	47.89	17.030				
9,200.00	9,020.36	9,030.84	9,005.16	38.68	32.55	-90.81	-1,051.60	29.50	815.58	767.24	48.34	16.871				
9,300.00	9,120.36	9,130.84	9,105.16	38.96	32.90	-90.81	-1,051.60	29.50	815.58	766.79	48.80	16.714				
9,400.00	9,220.36	9,230.84	9,205.16	39.25	33.24	-90.81	-1,051.60	29.50	815.58	766.33	49.25	16.560				
9,500.00	9,320.36	9,330.84	9,305.16	39.53	33.59	-90.81	-1,051.60	29.50	815.58	765.88	49.70	16.409				
9,600.00	9,420.36	9,430.84	9,405.16	39.81	33.94	-90.81	-1,051.60	29.50	815.58	765.42	50.16	16.260				
9,700.00	9,520.36	9,530.84	9,505.16	40.10	34.28	-90.81	-1,051.60	29.50	815.58	764.97	50.62	16.113				
9,800.00	9,620.36	9,630.84	9,605.16	40.39	34.63	-90.81	-1,051.60	29.50	815.58	764.51	51.07	15.969				
9,900.00	9,720.36	9,730.84	9,705.16	40.67	34.98	-90.81	-1,051.60	29.50	815.58	764.05	51.53	15.827				
10,000.00	9,820.36	9,830.84	9,805.16	40.96	35.32	-90.81	-1,051.60	29.50	815.58	763.59	51.99	15.687				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka 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				
10,100.00	9,920.36	9,930.84	9,905.16	41.25	35.67	-90.81	-1,051.60	29.50	815.58	763.13	52.45	15.549				
10,200.00	10,020.36	10,030.84	10,005.16	41.55	36.02	-90.81	-1,051.60	29.50	815.58	762.67	52.91	15.414				
10,300.00	10,120.36	10,130.84	10,105.16	41.84	36.37	-90.81	-1,051.60	29.50	815.58	762.21	53.37	15.280				
10,309.69	10,130.05	10,140.53	10,114.85	41.87	36.40	-90.81	-1,051.60	29.50	815.58	762.16	53.42	15.268				
10,400.00	10,220.36	10,230.54	10,204.83	42.13	36.70	-90.91	-1,052.91	29.51	815.59	761.75	53.84	15.149				
10,500.00	10,320.36	10,327.41	10,300.46	42.43	37.02	-91.94	-1,067.59	29.66	815.82	761.48	54.34	15.014				
10,600.00	10,420.36	10,417.02	10,385.58	42.72	37.30	-93.88	-1,095.33	29.94	817.17	762.33	54.85	14.899				
10,700.00	10,520.36	10,496.41	10,456.57	43.02	37.54	-96.35	-1,130.72	30.29	821.18	765.90	55.28	14.855				
10,800.00	10,620.36	10,564.72	10,513.25	43.31	37.73	-98.99	-1,168.78	30.67	829.56	774.01	55.55	14.933				
10,900.00	10,720.36	10,622.57	10,557.42	43.61	37.89	-101.53	-1,206.10	31.04	843.77	788.20	55.57	15.185				
11,000.00	10,820.36	10,671.25	10,591.52	43.91	38.02	-103.86	-1,240.81	31.39	864.83	809.55	55.28	15.646				
11,100.00	10,920.36	10,712.22	10,617.85	44.21	38.13	-105.93	-1,272.20	31.70	893.26	838.58	54.68	16.336				
11,200.00	11,020.36	10,750.00	10,640.08	44.51	38.23	-107.91	-1,302.73	32.01	929.12	875.25	53.88	17.246				
11,300.00	11,120.36	10,776.31	10,654.35	44.81	38.31	-109.31	-1,324.82	32.23	972.09	919.32	52.77	18.421				
11,400.00	11,220.36	10,800.00	10,666.33	45.12	38.38	-110.59	-1,345.27	32.43	1,021.66	970.09	51.58	19.808				
11,500.00	11,320.36	10,823.31	10,677.27	45.42	38.45	-111.86	-1,365.85	32.64	1,077.20	1,026.80	50.40	21.373				
11,600.00	11,420.36	10,850.00	10,688.76	45.72	38.53	-113.31	-1,389.93	32.88	1,138.08	1,088.73	49.34	23.064				
11,700.00	11,520.36	10,850.00	10,688.76	46.03	38.53	-113.31	-1,389.93	32.88	1,203.54	1,155.60	47.93	25.109				
11,800.00	11,620.36	10,873.44	10,697.92	46.33	38.61	-114.59	-1,411.50	33.09	1,272.91	1,225.88	47.03	27.066				
11,900.00	11,720.36	10,900.00	10,707.22	46.64	38.70	-116.03	-1,436.38	33.34	1,346.03	1,299.74	46.28	29.082				
11,950.68	11,771.04	10,900.00	10,707.22	46.80	38.70	-116.03	-1,436.38	33.34	1,384.02	1,338.27	45.75	30.253				
12,000.00	11,820.30	10,900.00	10,707.22	46.96	38.70	59.56	-1,436.38	33.34	1,421.13	1,375.88	45.25	31.408				
12,050.00	11,869.86	10,900.00	10,707.22	47.14	38.70	54.95	-1,436.38	33.34	1,458.06	1,413.31	44.75	32.584				
12,100.00	11,918.67	10,900.00	10,707.22	47.35	38.70	50.81	-1,436.38	33.34	1,494.08	1,449.82	44.26	33.756				
12,150.00	11,966.36	10,922.80	10,714.28	47.58	38.77	46.46	-1,458.05	33.56	1,528.44	1,484.35	44.09	34.670				
12,200.00	12,012.56	10,932.33	10,716.97	47.83	38.81	43.10	-1,467.19	33.65	1,561.50	1,517.76	43.74	35.701				
12,250.00	12,056.93	10,950.00	10,721.56	48.10	38.87	40.04	-1,484.26	33.82	1,592.92	1,549.42	43.50	36.619				
12,300.00	12,099.12	10,950.00	10,721.56	48.39	38.87	37.75	-1,484.26	33.82	1,622.34	1,579.28	43.06	37.677				
12,350.00	12,138.81	10,950.00	10,721.56	48.69	38.87	35.77	-1,484.26	33.82	1,649.96	1,607.32	42.64	38.691				
12,400.00	12,175.70	10,975.81	10,727.31	49.01	38.97	33.75	-1,509.41	34.07	1,674.98	1,632.45	42.53	39.388				
12,450.00	12,209.51	11,000.00	10,731.67	49.34	39.06	32.09	-1,533.21	34.31	1,698.04	1,655.65	42.39	40.055				
12,500.00	12,239.99	11,000.00	10,731.67	49.69	39.06	30.93	-1,533.21	34.31	1,718.35	1,676.31	42.04	40.876				
12,550.00	12,266.90	11,000.00	10,731.67	50.05	39.06	29.95	-1,533.21	34.31	1,736.44	1,694.72	41.72	41.623				
12,600.00	12,290.03	11,025.12	10,735.13	50.42	39.15	29.00	-1,558.09	34.56	1,751.58	1,709.94	41.64	42.062				
12,650.00	12,309.21	11,050.00	10,737.48	50.81	39.25	28.27	-1,582.85	34.80	1,764.35	1,722.77	41.58	42.436				
12,700.00	12,324.30	11,050.00	10,737.48	51.20	39.25	27.80	-1,582.85	34.80	1,774.06	1,732.71	41.35	42.906				
12,750.00	12,335.17	11,050.00	10,737.48	51.60	39.25	27.46	-1,582.85	34.80	1,781.33	1,740.17	41.16	43.274				
12,800.00	12,341.76	11,091.72	10,739.00	52.01	39.42	27.21	-1,624.53	35.22	1,785.57	1,744.30	41.27	43.261				
12,850.68	12,344.00	11,091.72	10,739.00	52.42	39.42	27.15	-1,624.53	35.22	1,786.74	1,745.58	41.16	43.409				
12,869.68	12,344.00	11,107.25	10,739.00	52.58	39.49	27.15	-1,640.06	35.37	1,786.74	1,745.53	41.21	43.354				
12,900.00	12,344.00	11,137.58	10,739.00	52.83	39.62	27.15	-1,670.39	35.68	1,786.74	1,745.41	41.33	43.232				
13,000.00	12,344.00	11,237.58	10,739.00	53.68	40.09	27.15	-1,770.38	36.67	1,786.73	1,744.99	41.74	42.811				
13,100.00	12,344.00	11,337.58	10,739.00	54.57	40.63	27.15	-1,870.38	37.67	1,786.72	1,744.53	42.19	42.352				
13,200.00	12,344.00	11,437.58	10,739.00	55.50	41.22	27.15	-1,970.37	38.67	1,786.71	1,744.03	42.68	41.860				
13,300.00	12,344.00	11,537.58	10,739.00	56.46	41.86	27.15	-2,070.37	39.67	1,786.70	1,743.48	43.22	41.339				
13,400.00	12,344.00	11,637.58	10,739.00	57.45	42.57	27.15	-2,170.36	40.67	1,786.69	1,742.89	43.80	40.793				
13,500.00	12,344.00	11,737.58	10,739.00	58.47	43.32	27.15	-2,270.36	41.67	1,786.68	1,742.27	44.42	40.225				
13,600.00	12,344.00	11,837.58	10,739.00	59.52	44.12	27.15	-2,370.35	42.66	1,786.68	1,741.61	45.07	39.643				
13,700.00	12,344.00	11,937.58	10,739.00	60.60	44.97	27.15	-2,470.35	43.66	1,786.67	1,740.91	45.76	39.047				
13,800.00	12,344.00	12,037.58	10,739.00	61.70	45.86	27.15	-2,570.34	44.66	1,786.66	1,740.18	46.48	38.439				
13,900.00	12,344.00	12,137.58	10,739.00	62.82	46.79	27.15	-2,670.34	45.66	1,786.65	1,739.41	47.23	37.826				
14,000.00	12,344.00	12,237.58	10,739.00	63.97	47.76	27.15	-2,770.33	46.66	1,786.64	1,738.62	48.02	37.208				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka 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		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
							+N/-S (usft)	+E/-W (usft)								
14,100.00	12,344.00	12,337.58	10,739.00	65.14	48.77	27.15	-2,870.33	47.65	1,786.63	1,737.80	48.83	36.588				
14,200.00	12,344.00	12,437.58	10,739.00	66.33	49.81	27.15	-2,970.32	48.65	1,786.62	1,736.95	49.67	35.968				
14,300.00	12,344.00	12,537.58	10,739.00	67.54	50.88	27.15	-3,070.32	49.65	1,786.61	1,736.07	50.54	35.350				
14,400.00	12,344.00	12,637.58	10,739.00	68.77	51.98	27.15	-3,170.31	50.65	1,786.60	1,735.17	51.43	34.738				
14,500.00	12,344.00	12,737.58	10,739.00	70.02	53.12	27.15	-3,270.31	51.65	1,786.60	1,734.25	52.34	34.132				
14,600.00	12,344.00	12,837.58	10,739.00	71.28	54.28	27.15	-3,370.30	52.64	1,786.59	1,733.30	53.28	33.530				
14,700.00	12,344.00	12,937.58	10,739.00	72.55	55.46	27.14	-3,470.30	53.64	1,786.58	1,732.34	54.24	32.937				
14,800.00	12,344.00	13,037.58	10,739.00	73.85	56.67	27.14	-3,570.29	54.64	1,786.57	1,731.35	55.22	32.355				
14,900.00	12,344.00	13,137.58	10,739.00	75.15	57.90	27.14	-3,670.29	55.64	1,786.56	1,730.35	56.21	31.781				
15,000.00	12,344.00	13,237.58	10,739.00	76.47	59.15	27.14	-3,770.28	56.64	1,786.55	1,729.32	57.23	31.218				
15,100.00	12,344.00	13,337.58	10,739.00	77.81	60.41	27.14	-3,870.28	57.63	1,786.54	1,728.28	58.26	30.665				
15,200.00	12,344.00	13,437.58	10,739.00	79.15	61.70	27.14	-3,970.27	58.63	1,786.53	1,727.23	59.30	30.125				
15,300.00	12,344.00	13,537.58	10,739.00	80.51	63.01	27.14	-4,070.27	59.63	1,786.52	1,726.16	60.37	29.595				
15,400.00	12,344.00	13,637.58	10,739.00	81.87	64.33	27.14	-4,170.26	60.63	1,786.52	1,725.07	61.44	29.076				
15,500.00	12,344.00	13,737.58	10,739.00	83.25	65.66	27.14	-4,270.26	61.63	1,786.51	1,723.98	62.53	28.570				
15,600.00	12,344.00	13,837.58	10,739.00	84.64	67.01	27.14	-4,370.25	62.63	1,786.50	1,722.87	63.63	28.076				
15,700.00	12,344.00	13,937.58	10,739.00	86.03	68.37	27.14	-4,470.25	63.62	1,786.49	1,721.75	64.74	27.593				
15,800.00	12,344.00	14,037.58	10,739.00	87.44	69.75	27.14	-4,570.24	64.62	1,786.48	1,720.61	65.87	27.122				
15,900.00	12,344.00	14,137.58	10,739.00	88.85	71.13	27.14	-4,670.24	65.62	1,786.47	1,719.47	67.00	26.663				
16,000.00	12,344.00	14,237.58	10,739.00	90.27	72.53	27.14	-4,770.23	66.62	1,786.46	1,718.32	68.15	26.215				
16,100.00	12,344.00	14,337.58	10,739.00	91.70	73.94	27.14	-4,870.23	67.62	1,786.45	1,717.15	69.30	25.778				
16,200.00	12,344.00	14,437.58	10,739.00	93.14	75.36	27.14	-4,970.22	68.61	1,786.45	1,715.98	70.46	25.352				
16,300.00	12,344.00	14,537.58	10,739.00	94.58	76.78	27.14	-5,070.22	69.61	1,786.44	1,714.80	71.64	24.938				
16,400.00	12,344.00	14,637.58	10,739.00	96.03	78.22	27.14	-5,170.21	70.61	1,786.43	1,713.61	72.82	24.534				
16,500.00	12,344.00	14,737.58	10,739.00	97.49	79.67	27.13	-5,270.21	71.61	1,786.42	1,712.41	74.00	24.140				
16,600.00	12,344.00	14,837.58	10,739.00	98.95	81.12	27.13	-5,370.20	72.61	1,786.41	1,711.21	75.20	23.756				
16,700.00	12,344.00	14,937.58	10,739.00	100.42	82.58	27.13	-5,470.20	73.60	1,786.40	1,710.00	76.40	23.383				
16,800.00	12,344.00	15,037.58	10,739.00	101.89	84.04	27.13	-5,570.19	74.60	1,786.39	1,708.79	77.61	23.019				
16,900.00	12,344.00	15,137.58	10,739.00	103.37	85.52	27.13	-5,670.19	75.60	1,786.38	1,707.56	78.82	22.664				
17,000.00	12,344.00	15,237.58	10,739.00	104.86	87.00	27.13	-5,770.18	76.60	1,786.37	1,706.33	80.04	22.319				
17,100.00	12,344.00	15,337.58	10,739.00	106.35	88.48	27.13	-5,870.18	77.60	1,786.37	1,705.10	81.27	21.982				
17,200.00	12,344.00	15,437.58	10,739.00	107.84	89.98	27.13	-5,970.17	78.59	1,786.36	1,703.86	82.50	21.654				
17,300.00	12,344.00	15,537.58	10,739.00	109.34	91.47	27.13	-6,070.17	79.59	1,786.35	1,702.62	83.73	21.334				
17,400.00	12,344.00	15,637.58	10,739.00	110.84	92.98	27.13	-6,170.16	80.59	1,786.34	1,701.37	84.97	21.023				
17,500.00	12,344.00	15,737.58	10,739.00	112.35	94.48	27.13	-6,270.16	81.59	1,786.33	1,700.11	86.22	20.719				
17,600.00	12,344.00	15,837.58	10,739.00	113.86	96.00	27.13	-6,370.15	82.59	1,786.32	1,698.86	87.47	20.423				
17,700.00	12,344.00	15,937.58	10,739.00	115.38	97.51	27.13	-6,470.15	83.59	1,786.31	1,697.59	88.72	20.135				
17,800.00	12,344.00	16,037.58	10,739.00	116.89	99.03	27.13	-6,570.14	84.58	1,786.30	1,696.33	89.98	19.853				
17,900.00	12,344.00	16,137.58	10,739.00	118.42	100.56	27.13	-6,670.14	85.58	1,786.29	1,695.06	91.24	19.579				
18,000.00	12,344.00	16,237.58	10,739.00	119.94	102.09	27.13	-6,770.13	86.58	1,786.29	1,693.79	92.50	19.311				
18,100.00	12,344.00	16,337.58	10,739.00	121.47	103.62	27.13	-6,870.13	87.58	1,786.28	1,692.51	93.77	19.050				
18,200.00	12,344.00	16,437.58	10,739.00	123.00	105.16	27.13	-6,970.12	88.58	1,786.27	1,691.23	95.04	18.795				
18,300.00	12,344.00	16,537.58	10,739.00	124.54	106.70	27.12	-7,070.12	89.57	1,786.26	1,689.95	96.31	18.547				
18,400.00	12,344.00	16,637.58	10,739.00	126.08	108.24	27.12	-7,170.11	90.57	1,786.25	1,688.66	97.59	18.304				
18,500.00	12,344.00	16,737.58	10,739.00	127.62	109.79	27.12	-7,270.11	91.57	1,786.24	1,687.38	98.87	18.067				
18,600.00	12,344.00	16,837.58	10,739.00	129.16	111.34	27.12	-7,370.10	92.57	1,786.23	1,686.08	100.15	17.836				
18,700.00	12,344.00	16,937.58	10,739.00	130.71	112.89	27.12	-7,470.10	93.57	1,786.22	1,684.79	101.43	17.610				
18,800.00	12,344.00	17,037.58	10,739.00	132.26	114.45	27.12	-7,570.09	94.56	1,786.22	1,683.50	102.72	17.389				
18,900.00	12,344.00	17,137.58	10,739.00	133.81	116.00	27.12	-7,670.09	95.56	1,786.21	1,682.20	104.01	17.174				
19,000.00	12,344.00	17,237.58	10,739.00	135.36	117.56	27.12	-7,770.08	96.56	1,786.20	1,680.90	105.30	16.963				
19,100.00	12,344.00	17,337.58	10,739.00	136.92	119.13	27.12	-7,870.08	97.56	1,786.19	1,679.60	106.59	16.758				
19,200.00	12,344.00	17,437.58	10,739.00	138.48	120.69	27.12	-7,970.07	98.56	1,786.18	1,678.30	107.88	16.556				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka 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		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
							+N/-S (usft)	+E/-W (usft)								
19,300.00	12,344.00	17,537.58	10,739.00	140.04	122.26	27.12	-8,070.07	99.55	1,786.17	1,676.99	109.18	16.360				
19,400.00	12,344.00	17,637.58	10,739.00	141.60	123.83	27.12	-8,170.06	100.55	1,786.16	1,675.68	110.48	16.167				
19,500.00	12,344.00	17,737.58	10,739.00	143.16	125.40	27.12	-8,270.06	101.55	1,786.15	1,674.37	111.78	15.979				
19,600.00	12,344.00	17,837.58	10,739.00	144.73	126.97	27.12	-8,370.05	102.55	1,786.14	1,673.07	113.08	15.796				
19,700.00	12,344.00	17,937.58	10,739.00	146.30	128.55	27.12	-8,470.05	103.55	1,786.14	1,671.75	114.38	15.615				
19,800.00	12,344.00	18,037.58	10,739.00	147.87	130.13	27.12	-8,570.04	104.55	1,786.13	1,670.44	115.69	15.439				
19,900.00	12,344.00	18,137.58	10,739.00	149.44	131.71	27.12	-8,670.04	105.54	1,786.12	1,669.13	116.99	15.267				
20,000.00	12,344.00	18,237.58	10,739.00	151.01	133.29	27.12	-8,770.03	106.54	1,786.11	1,667.81	118.30	15.098				
20,100.00	12,344.00	18,337.58	10,739.00	152.59	134.87	27.11	-8,870.03	107.54	1,786.10	1,666.49	119.61	14.933				
20,200.00	12,344.00	18,437.58	10,739.00	154.17	136.46	27.11	-8,970.02	108.54	1,786.09	1,665.18	120.92	14.771				
20,300.00	12,344.00	18,537.58	10,739.00	155.74	138.04	27.11	-9,070.02	109.54	1,786.08	1,663.86	122.22	14.613				
20,400.00	12,344.00	18,637.58	10,739.00	157.32	139.63	27.11	-9,170.01	110.53	1,786.07	1,662.54	123.54	14.458				
20,500.00	12,344.00	18,737.58	10,739.00	158.91	141.22	27.11	-9,270.01	111.53	1,786.06	1,661.22	124.85	14.306				
20,600.00	12,344.00	18,837.58	10,739.00	160.49	142.81	27.11	-9,370.00	112.53	1,786.06	1,659.89	126.16	14.157				
20,700.00	12,344.00	18,937.58	10,739.00	162.07	144.40	27.11	-9,470.00	113.53	1,786.05	1,658.57	127.47	14.011				
20,800.00	12,344.00	19,037.58	10,739.00	163.66	145.99	27.11	-9,569.99	114.53	1,786.04	1,657.25	128.79	13.868				
20,900.00	12,344.00	19,137.58	10,739.00	165.24	147.59	27.11	-9,669.99	115.52	1,786.03	1,655.92	130.11	13.728				
21,000.00	12,344.00	19,237.58	10,739.00	166.83	149.18	27.11	-9,769.98	116.52	1,786.02	1,654.60	131.42	13.590				
21,100.00	12,344.00	19,337.58	10,739.00	168.42	150.78	27.11	-9,869.98	117.52	1,786.01	1,653.27	132.74	13.455				
21,200.00	12,344.00	19,437.58	10,739.00	170.01	152.38	27.11	-9,969.97	118.52	1,786.00	1,651.95	134.06	13.323				
21,300.00	12,344.00	19,537.58	10,739.00	171.60	153.98	27.11	-10,069.97	119.52	1,785.99	1,650.62	135.37	13.193				
21,400.00	12,344.00	19,637.58	10,739.00	173.20	155.58	27.11	-10,169.96	120.51	1,785.99	1,649.29	136.69	13.066				
21,500.00	12,344.00	19,737.58	10,739.00	174.79	157.18	27.11	-10,269.96	121.51	1,785.98	1,647.96	138.01	12.941				
21,600.00	12,344.00	19,837.58	10,739.00	176.38	158.78	27.11	-10,369.95	122.51	1,785.97	1,646.64	139.33	12.818				
21,700.00	12,344.00	19,937.58	10,739.00	177.98	160.38	27.11	-10,469.95	123.51	1,785.96	1,645.31	140.65	12.698				
21,800.00	12,344.00	20,037.58	10,739.00	179.58	161.99	27.11	-10,569.94	124.51	1,785.95	1,643.98	141.97	12.580				
21,900.00	12,344.00	20,137.58	10,739.00	181.17	163.59	27.10	-10,669.94	125.51	1,785.94	1,642.65	143.29	12.464				
22,000.00	12,344.00	20,237.58	10,739.00	182.77	165.20	27.10	-10,769.93	126.50	1,785.93	1,641.32	144.62	12.350				
22,100.00	12,344.00	20,337.58	10,739.00	184.37	166.81	27.10	-10,869.93	127.50	1,785.92	1,639.99	145.94	12.238				
22,200.00	12,344.00	20,437.58	10,739.00	185.97	168.42	27.10	-10,969.92	128.50	1,785.91	1,638.66	147.26	12.128				
22,300.00	12,344.00	20,537.58	10,739.00	187.57	170.02	27.10	-11,069.92	129.50	1,785.91	1,637.32	148.58	12.020				
22,400.00	12,344.00	20,637.58	10,739.00	189.18	171.63	27.10	-11,169.91	130.50	1,785.90	1,635.99	149.90	11.914				
22,500.00	12,344.00	20,737.58	10,739.00	190.78	173.24	27.10	-11,269.91	131.49	1,785.89	1,634.66	151.23	11.809				
22,600.00	12,344.00	20,837.58	10,739.00	192.38	174.85	27.10	-11,369.90	132.49	1,785.88	1,633.33	152.55	11.707				
22,632.66	12,344.00	20,870.24	10,739.00	192.86	175.38	27.10	-11,402.57	132.82	1,785.88	1,632.98	152.90	11.680				
22,642.51	12,344.00	20,879.44	10,739.00	193.01	175.53	27.10	-11,411.76	132.91	1,785.88	1,632.88	152.99	11.673 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 Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 503H - 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	123.44	-1,002.88	1,518.80	1,820.12									
100.00	100.00	82.30	82.30	0.13	0.10	123.44	-1,002.88	1,518.80	1,820.03	1,819.87	0.16	N/A						
200.00	200.00	182.30	182.30	0.48	0.42	123.44	-1,002.88	1,518.80	1,820.03	1,819.39	0.64	2,838.419						
300.00	300.00	282.30	282.30	0.84	0.78	123.44	-1,002.88	1,518.80	1,820.03	1,818.89	1.15	1,586.115						
400.00	400.00	382.30	382.30	1.20	1.14	123.44	-1,002.88	1,518.80	1,820.03	1,818.38	1.65	1,100.272						
500.00	500.00	482.30	482.30	1.56	1.50	123.44	-1,002.88	1,518.80	1,820.03	1,817.87	2.16	842.226						
600.00	600.00	582.30	582.30	1.92	1.85	123.44	-1,002.88	1,518.80	1,820.03	1,817.37	2.67	682.210						
700.00	700.00	682.30	682.30	2.28	2.21	123.44	-1,002.88	1,518.80	1,820.03	1,816.86	3.17	573.285						
800.00	800.00	782.30	782.30	2.63	2.57	123.44	-1,002.88	1,518.80	1,820.03	1,816.35	3.68	494.352						
900.00	900.00	882.30	882.30	2.99	2.93	123.44	-1,002.88	1,518.80	1,820.03	1,815.84	4.19	434.523						
1,000.00	1,000.00	982.30	982.30	3.35	3.29	123.44	-1,002.88	1,518.80	1,820.03	1,815.34	4.70	387.612						
1,100.00	1,100.00	1,082.30	1,082.30	3.71	3.65	123.44	-1,002.88	1,518.80	1,820.03	1,814.83	5.20	349.842						
1,200.00	1,200.00	1,182.30	1,182.30	4.07	4.01	123.44	-1,002.88	1,518.80	1,820.03	1,814.32	5.71	318.780						
1,300.00	1,300.00	1,282.30	1,282.30	4.43	4.36	123.44	-1,002.88	1,518.80	1,820.03	1,813.82	6.22	292.783						
1,400.00	1,400.00	1,382.30	1,382.30	4.79	4.72	123.44	-1,002.88	1,518.80	1,820.03	1,813.31	6.72	270.707						
1,500.00	1,500.00	1,482.30	1,482.30	5.14	5.08	123.44	-1,002.88	1,518.80	1,820.03	1,812.80	7.23	251.726						
1,600.00	1,600.00	1,582.30	1,582.30	5.50	5.44	123.44	-1,002.88	1,518.80	1,820.03	1,812.30	7.74	235.233						
1,700.00	1,700.00	1,682.30	1,682.30	5.86	5.80	123.44	-1,002.88	1,518.80	1,820.03	1,811.79	8.24	220.768						
1,800.00	1,800.00	1,782.30	1,782.30	6.22	6.16	123.44	-1,002.88	1,518.80	1,820.03	1,811.28	8.75	207.979						
1,900.00	1,900.00	1,882.30	1,882.30	6.58	6.51	123.44	-1,002.88	1,518.80	1,820.03	1,810.78	9.26	196.590						
2,000.00	2,000.00	1,982.30	1,982.30	6.94	6.87	123.44	-1,002.88	1,518.80	1,820.03	1,810.27	9.76	186.384						
2,100.00	2,100.00	2,082.30	2,082.30	7.29	7.23	123.44	-1,002.88	1,518.80	1,820.03	1,809.76	10.27	177.186						
2,200.00	2,200.00	2,182.30	2,182.30	7.65	7.59	123.44	-1,002.88	1,518.80	1,820.03	1,809.25	10.78	168.852						
2,300.00	2,300.00	2,282.30	2,282.30	8.01	7.95	123.44	-1,002.88	1,518.80	1,820.03	1,808.75	11.29	161.268						
2,400.00	2,400.00	2,382.30	2,382.30	8.37	8.31	123.44	-1,002.88	1,518.80	1,820.03	1,808.24	11.79	154.335						
2,500.00	2,500.00	2,482.30	2,482.30	8.73	8.67	123.44	-1,002.88	1,518.80	1,820.03	1,807.73	12.30	147.974						
2,600.00	2,600.00	2,582.30	2,582.30	9.09	9.02	123.44	-1,002.88	1,518.80	1,820.03	1,807.23	12.81	142.116						
2,700.00	2,700.00	2,682.30	2,682.30	9.45	9.38	123.44	-1,002.88	1,518.80	1,820.03	1,806.72	13.31	136.705						
2,800.00	2,800.00	2,782.30	2,782.30	9.80	9.74	123.44	-1,002.88	1,518.80	1,820.03	1,806.21	13.82	131.690						
2,900.00	2,900.00	2,882.30	2,882.30	10.16	10.10	123.44	-1,002.88	1,518.80	1,820.03	1,805.71	14.33	127.031						
3,000.00	3,000.00	2,982.30	2,982.30	10.52	10.46	123.44	-1,002.88	1,518.80	1,820.03	1,805.20	14.83	122.690						
3,100.00	3,100.00	3,082.30	3,082.30	10.88	10.82	123.44	-1,002.88	1,518.80	1,820.03	1,804.69	15.34	118.635						
3,200.00	3,200.00	3,182.30	3,182.30	11.24	11.17	123.44	-1,002.88	1,518.80	1,820.03	1,804.19	15.85	114.840						
3,300.00	3,299.99	3,282.29	3,282.29	11.58	11.53	-17.49	-1,002.88	1,518.80	1,818.78	1,802.44	16.34	111.284						
3,400.00	3,399.91	3,382.21	3,382.21	11.91	11.89	-17.54	-1,002.88	1,518.80	1,815.04	1,798.21	16.83	107.857						
3,500.00	3,499.69	3,481.99	3,481.99	12.24	12.25	-17.63	-1,002.88	1,518.80	1,808.81	1,791.49	17.31	104.476						
3,600.00	3,599.27	3,581.57	3,581.57	12.57	12.61	-17.76	-1,002.88	1,518.80	1,800.08	1,782.29	17.80	101.137						
3,700.00	3,698.57	3,680.87	3,680.87	12.91	12.96	-17.93	-1,002.88	1,518.80	1,788.89	1,770.61	18.28	97.841						
3,800.00	3,797.54	3,779.84	3,779.84	13.25	13.32	-18.13	-1,002.88	1,518.80	1,775.23	1,756.46	18.77	94.586						
3,900.00	3,896.09	3,878.39	3,878.39	13.60	13.67	-18.38	-1,002.88	1,518.80	1,759.13	1,739.87	19.25	91.370						
4,000.00	3,994.16	3,976.46	3,976.46	13.96	14.02	-18.67	-1,002.88	1,518.80	1,740.59	1,720.86	19.74	88.190						
4,100.00	4,091.70	4,074.00	4,074.00	14.32	14.37	-19.01	-1,002.88	1,518.80	1,719.65	1,699.43	20.22	85.046						
4,200.00	4,188.62	4,170.92	4,170.92	14.70	14.72	-19.40	-1,002.88	1,518.80	1,696.33	1,675.63	20.70	81.935						
4,304.97	4,289.63	4,271.93	4,271.93	15.12	15.08	-19.87	-1,002.88	1,518.80	1,669.32	1,648.11	21.21	78.704						
4,400.00	4,380.70	4,363.00	4,363.00	15.51	15.41	-20.19	-1,002.88	1,518.80	1,643.73	1,622.06	21.67	75.853						
4,500.00	4,476.55	4,458.85	4,458.85	15.93	15.75	-20.54	-1,002.88	1,518.80	1,616.85	1,594.70	22.16	72.976						
4,600.00	4,572.39	4,538.62	4,538.62	16.36	16.03	-20.83	-1,002.98	1,518.97	1,590.31	1,567.71	22.60	70.355						
4,700.00	4,668.24	4,600.00	4,599.99	16.81	16.24	-21.07	-1,003.55	1,519.92	1,565.40	1,542.40	23.01	68.045						
4,800.00	4,764.08	4,679.06	4,678.99	17.26	16.51	-21.38	-1,005.03	1,522.38	1,542.23	1,518.79	23.44	65.786						
4,900.00	4,859.93	4,775.98	4,775.83	17.72	16.83	-21.76	-1,007.21	1,526.01	1,519.81	1,495.88	23.93	63.512						
5,000.00	4,955.77	4,872.91	4,872.66	18.18	17.15	-22.16	-1,009.39	1,529.65	1,497.47	1,473.05	24.42	61.321						
5,100.00	5,051.62	4,969.83	4,969.49	18.66	17.48	-22.57	-1,011.57	1,533.28	1,475.19	1,450.28	24.91	59.210						

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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		
5,200.00	5,147.46	5,066.76	5,066.32	19.14	17.81	-23.00	-1,013.75	1,536.91	1,452.99	1,427.58	25.41	57.176		
5,300.00	5,243.31	5,163.69	5,163.16	19.63	18.13	-23.43	-1,015.93	1,540.54	1,430.87	1,404.96	25.91	55.215		
5,400.00	5,339.15	5,260.61	5,259.99	20.12	18.46	-23.88	-1,018.10	1,544.17	1,408.83	1,382.41	26.42	53.323		
5,500.00	5,435.00	5,357.54	5,356.82	20.62	18.79	-24.35	-1,020.28	1,547.81	1,386.88	1,359.95	26.93	51.499		
5,600.00	5,530.84	5,454.46	5,453.66	21.12	19.12	-24.83	-1,022.46	1,551.44	1,365.02	1,337.58	27.44	49.739		
5,700.00	5,626.69	5,551.39	5,550.49	21.63	19.45	-25.32	-1,024.64	1,555.07	1,343.25	1,315.29	27.96	48.040		
5,800.00	5,722.53	5,648.31	5,647.32	22.14	19.79	-25.83	-1,026.82	1,558.70	1,321.59	1,293.10	28.48	46.399		
5,900.00	5,818.38	5,745.24	5,744.15	22.65	20.12	-26.36	-1,029.00	1,562.34	1,300.02	1,271.01	29.01	44.815		
6,000.00	5,914.22	5,846.11	5,844.93	23.17	20.46	-26.92	-1,031.26	1,566.10	1,278.56	1,249.01	29.55	43.273		
6,100.00	6,010.07	5,989.89	5,988.67	23.69	20.96	-27.79	-1,032.87	1,568.79	1,255.11	1,224.95	30.17	41.608		
6,200.00	6,105.91	6,089.43	6,088.21	24.22	21.32	-28.42	-1,032.88	1,568.80	1,229.73	1,199.02	30.71	40.039		
6,300.00	6,201.76	6,185.28	6,184.06	24.75	21.66	-29.06	-1,032.88	1,568.80	1,204.48	1,173.22	31.26	38.529		
6,400.00	6,297.60	6,281.12	6,279.90	25.28	22.00	-29.73	-1,032.88	1,568.80	1,179.38	1,147.57	31.81	37.070		
6,500.00	6,393.45	6,376.97	6,375.75	25.81	22.34	-30.42	-1,032.88	1,568.80	1,154.44	1,122.07	32.37	35.661		
6,600.00	6,489.29	6,472.81	6,471.59	26.35	22.69	-31.15	-1,032.88	1,568.80	1,129.67	1,096.73	32.94	34.299		
6,700.00	6,585.14	6,568.66	6,567.44	26.89	23.03	-31.90	-1,032.88	1,568.80	1,105.07	1,071.57	33.50	32.984		
6,800.00	6,680.98	6,664.50	6,663.28	27.43	23.37	-32.69	-1,032.88	1,568.80	1,080.68	1,046.60	34.08	31.712		
6,900.00	6,776.83	6,760.35	6,759.13	27.97	23.71	-33.52	-1,032.88	1,568.80	1,056.49	1,021.83	34.66	30.483		
7,000.00	6,872.67	6,856.19	6,854.97	28.52	24.06	-34.38	-1,032.88	1,568.80	1,032.52	997.27	35.24	29.296		
7,100.00	6,968.52	6,952.04	6,950.82	29.06	24.40	-35.28	-1,032.88	1,568.80	1,008.78	972.94	35.84	28.148		
7,200.00	7,064.36	7,047.88	7,046.66	29.61	24.74	-36.23	-1,032.88	1,568.80	985.30	948.86	36.44	27.038		
7,300.00	7,160.21	7,143.73	7,142.51	30.16	25.08	-37.22	-1,032.88	1,568.80	962.10	925.05	37.05	25.967		
7,400.00	7,256.05	7,239.57	7,238.35	30.72	25.42	-38.25	-1,032.88	1,568.80	939.19	901.52	37.67	24.932		
7,500.00	7,351.90	7,335.42	7,334.20	31.27	25.77	-39.34	-1,032.88	1,568.80	916.59	878.29	38.30	23.933		
7,600.00	7,447.74	7,431.26	7,430.04	31.82	26.11	-40.48	-1,032.88	1,568.80	894.33	855.39	38.94	22.969		
7,700.00	7,543.59	7,527.11	7,525.89	32.38	26.45	-41.67	-1,032.88	1,568.80	872.44	832.85	39.59	22.039		
7,800.00	7,639.43	7,622.95	7,621.73	32.94	26.79	-42.93	-1,032.88	1,568.80	850.94	810.69	40.25	21.144		
7,889.67	7,725.37	7,708.89	7,707.67	33.44	27.10	-44.10	-1,032.88	1,568.80	832.02	791.17	40.85	20.369		
7,900.00	7,735.28	7,718.80	7,717.58	33.50	27.14	-44.22	-1,032.88	1,568.80	829.87	788.95	40.92	20.282		
8,000.00	7,831.56	7,815.08	7,813.86	34.04	27.48	-45.31	-1,032.88	1,568.80	810.34	768.75	41.59	19.484		
8,100.00	7,928.52	7,912.04	7,910.82	34.56	27.83	-46.36	-1,032.88	1,568.80	793.01	750.76	42.25	18.768		
8,200.00	8,026.08	8,009.60	8,008.38	35.06	28.18	-47.34	-1,032.88	1,568.80	777.81	734.91	42.91	18.128		
8,300.00	8,124.18	8,107.70	8,106.48	35.53	28.53	-48.25	-1,032.88	1,568.80	764.66	721.12	43.54	17.561		
8,400.00	8,222.76	8,206.28	8,205.06	35.98	28.88	-49.07	-1,032.88	1,568.80	753.48	709.31	44.16	17.061		
8,500.00	8,321.74	8,305.26	8,304.04	36.40	29.23	-49.78	-1,032.88	1,568.80	744.18	699.42	44.76	16.625		
8,600.00	8,421.06	8,404.58	8,403.36	36.79	29.59	-50.38	-1,032.88	1,568.80	736.70	691.36	45.34	16.249		
8,700.00	8,520.65	8,504.17	8,502.95	37.16	29.94	-50.86	-1,032.88	1,568.80	730.96	685.07	45.89	15.928		
8,800.00	8,620.44	8,603.96	8,602.74	37.51	30.30	-51.20	-1,032.88	1,568.80	726.93	680.52	46.42	15.661		
8,900.00	8,720.37	8,703.89	8,702.67	37.83	30.66	-51.41	-1,032.88	1,568.80	724.57	677.65	46.92	15.443		
8,994.64	8,815.00	8,798.52	8,797.30	38.11	31.00	-89.44	-1,032.88	1,568.80	723.84	676.47	47.37	15.282		
9,000.00	8,820.36	8,803.88	8,802.66	38.13	31.02	-89.44	-1,032.88	1,568.80	723.84	676.45	47.39	15.274		
9,100.00	8,920.36	8,903.88	8,902.66	38.40	31.37	-89.44	-1,032.88	1,568.80	723.84	675.99	47.84	15.129		
9,200.00	9,020.36	9,003.88	9,002.66	38.68	31.73	-89.44	-1,032.88	1,568.80	723.84	675.54	48.30	14.986		
9,300.00	9,120.36	9,103.88	9,102.66	38.96	32.09	-89.44	-1,032.88	1,568.80	723.84	675.08	48.76	14.846		
9,400.00	9,220.36	9,203.88	9,202.66	39.25	32.45	-89.44	-1,032.88	1,568.80	723.84	674.62	49.21	14.708		
9,500.00	9,320.36	9,303.88	9,302.66	39.53	32.80	-89.44	-1,032.88	1,568.80	723.84	674.16	49.67	14.572		
9,600.00	9,420.36	9,403.88	9,402.66	39.81	33.16	-89.44	-1,032.88	1,568.80	723.84	673.70	50.13	14.438		
9,700.00	9,520.36	9,503.88	9,502.66	40.10	33.52	-89.44	-1,032.88	1,568.80	723.84	673.24	50.59	14.307		
9,800.00	9,620.36	9,603.88	9,602.66	40.39	33.88	-89.44	-1,032.88	1,568.80	723.84	672.78	51.05	14.178		
9,900.00	9,720.36	9,703.88	9,702.66	40.67	34.23	-89.44	-1,032.88	1,568.80	723.84	672.32	51.52	14.050		
10,000.00	9,820.36	9,803.88	9,802.66	40.96	34.59	-89.44	-1,032.88	1,568.80	723.84	671.85	51.98	13.925		
10,100.00	9,920.36	9,903.88	9,902.66	41.25	34.95	-89.44	-1,032.88	1,568.80	723.84	671.39	52.44	13.802		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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		
10,200.00	10,020.36	10,003.88	10,002.66	41.55	35.31	89.44	-1,032.88	1,568.80	723.84	670.93	52.91	13.681		
10,300.00	10,120.36	10,103.88	10,102.66	41.84	35.67	89.44	-1,032.88	1,568.80	723.84	670.46	53.37	13.561		
10,355.17	10,175.53	10,159.05	10,157.83	42.00	35.86	89.44	-1,032.98	1,568.80	723.84	670.21	53.63	13.497 CC		
10,400.00	10,220.36	10,203.72	10,202.41	42.13	36.01	89.65	-1,035.56	1,568.83	723.84	670.02	53.81	13.451		
10,500.00	10,320.36	10,300.00	10,297.01	42.43	36.32	91.02	-1,052.85	1,568.99	724.13	669.96	54.17	13.368 ES		
10,600.00	10,420.36	10,388.73	10,380.51	42.72	36.60	93.37	-1,082.60	1,569.28	725.87	671.43	54.45	13.332		
10,700.00	10,520.36	10,466.57	10,449.23	43.02	36.83	96.23	-1,119.05	1,569.64	730.89	676.26	54.63	13.378		
10,800.00	10,620.36	10,533.23	10,503.69	43.31	37.04	99.20	-1,157.41	1,570.01	741.09	686.42	54.67	13.555		
10,900.00	10,720.36	10,589.51	10,545.95	43.61	37.21	102.03	-1,194.55	1,570.37	758.02	703.54	54.49	13.912		
11,000.00	10,820.36	10,636.80	10,578.50	43.91	37.37	104.59	-1,228.84	1,570.70	782.65	728.62	54.03	14.485		
11,100.00	10,920.36	10,676.59	10,603.62	44.21	37.50	106.84	-1,259.68	1,571.00	815.33	762.01	53.31	15.293		
11,200.00	11,020.36	10,700.00	10,617.37	44.51	37.57	108.19	-1,278.62	1,571.18	855.99	803.72	52.28	16.375		
11,300.00	11,120.36	10,750.00	10,644.10	44.81	37.74	111.13	-1,320.85	1,571.59	903.93	852.50	51.43	17.575		
11,400.00	11,220.36	10,763.39	10,650.62	45.12	37.79	111.93	-1,332.54	1,571.71	958.34	908.17	50.18	19.099		
11,500.00	11,320.36	10,784.58	10,660.39	45.42	37.86	113.19	-1,351.35	1,571.89	1,018.73	969.69	49.05	20.770		
11,600.00	11,420.36	10,800.00	10,667.05	45.72	37.91	114.10	-1,365.26	1,572.02	1,084.19	1,036.26	47.93	22.620		
11,700.00	11,520.36	10,819.18	10,674.81	46.03	37.98	115.24	-1,382.80	1,572.19	1,153.97	1,107.01	46.96	24.572		
11,800.00	11,620.36	10,833.44	10,680.20	46.33	38.04	116.08	-1,396.00	1,572.32	1,227.46	1,181.41	46.06	26.652		
11,900.00	11,720.36	10,850.00	10,686.04	46.64	38.09	117.05	-1,411.49	1,572.47	1,304.12	1,258.83	45.29	28.793		
11,950.68	11,771.04	10,850.00	10,686.04	46.80	38.09	117.05	-1,411.49	1,572.47	1,344.01	1,299.15	44.86	29.960		
12,000.00	11,820.30	10,850.00	10,686.04	46.96	38.09	-56.94	-1,411.49	1,572.47	1,382.87	1,338.41	44.46	31.103		
12,050.00	11,869.86	10,850.00	10,686.04	47.14	38.09	-52.00	-1,411.49	1,572.47	1,421.49	1,377.42	44.07	32.255		
12,100.00	11,918.67	10,873.11	10,693.44	47.35	38.18	-46.81	-1,433.39	1,572.68	1,458.53	1,414.61	43.92	33.211		
12,150.00	11,966.36	10,881.84	10,696.00	47.58	38.21	-42.89	-1,441.73	1,572.76	1,494.43	1,450.79	43.63	34.250		
12,200.00	12,012.56	10,900.00	10,700.92	47.83	38.28	-39.32	-1,459.21	1,572.93	1,528.80	1,485.35	43.45	35.187		
12,250.00	12,056.93	10,900.00	10,700.92	48.10	38.28	-36.70	-1,459.21	1,572.93	1,561.21	1,518.08	43.12	36.204		
12,300.00	12,099.12	10,900.00	10,700.92	48.39	38.28	-34.44	-1,459.21	1,572.93	1,591.86	1,549.04	42.82	37.172		
12,350.00	12,138.81	10,922.82	10,706.32	48.69	38.37	-32.20	-1,481.37	1,573.15	1,620.08	1,577.35	42.72	37.921		
12,400.00	12,175.70	10,950.00	10,711.59	49.01	38.47	-30.28	-1,508.03	1,573.41	1,646.42	1,603.76	42.66	38.594		
12,450.00	12,209.51	10,950.00	10,711.59	49.34	38.47	-28.97	-1,508.03	1,573.41	1,669.84	1,627.40	42.44	39.349		
12,500.00	12,239.99	10,950.00	10,711.59	49.69	38.47	-27.86	-1,508.03	1,573.41	1,691.04	1,648.79	42.25	40.022		
12,550.00	12,266.90	10,970.53	10,714.73	50.05	38.55	-26.80	-1,528.32	1,573.60	1,709.49	1,667.27	42.22	40.494		
12,600.00	12,290.03	11,000.00	10,717.97	50.42	38.67	-25.90	-1,557.61	1,573.89	1,725.61	1,683.37	42.24	40.851		
12,650.00	12,309.21	11,000.00	10,717.97	50.81	38.67	-25.33	-1,557.61	1,573.89	1,738.37	1,696.20	42.17	41.226		
12,700.00	12,324.30	11,000.00	10,717.97	51.20	38.67	-24.89	-1,557.61	1,573.89	1,748.65	1,706.50	42.14	41.494		
12,750.00	12,335.17	11,021.87	10,719.39	51.60	38.75	-24.53	-1,579.43	1,574.10	1,755.90	1,713.67	42.23	41.580		
12,800.00	12,341.76	11,048.26	10,720.00	52.01	38.86	-24.31	-1,605.81	1,574.36	1,760.52	1,718.17	42.35	41.567		
12,850.68	12,344.00	11,048.36	10,720.00	52.42	38.86	-24.26	-1,605.91	1,574.36	1,761.83	1,719.37	42.47	41.486		
12,900.00	12,344.00	11,097.68	10,720.00	52.83	39.06	-24.26	-1,655.23	1,574.83	1,761.83	1,719.15	42.68	41.281		
13,000.00	12,344.00	11,197.68	10,720.00	53.68	39.53	-24.26	-1,755.22	1,575.80	1,761.83	1,718.69	43.14	40.843		
13,100.00	12,344.00	11,297.68	10,720.00	54.57	40.06	-24.26	-1,855.22	1,576.77	1,761.83	1,718.19	43.63	40.380		
13,200.00	12,344.00	11,397.68	10,720.00	55.50	40.65	-24.25	-1,955.21	1,577.74	1,761.82	1,717.66	44.16	39.893		
13,300.00	12,344.00	11,497.68	10,720.00	56.46	41.30	-24.25	-2,055.21	1,578.71	1,761.82	1,717.09	44.73	39.386		
13,400.00	12,344.00	11,597.68	10,720.00	57.45	42.00	-24.25	-2,155.21	1,579.68	1,761.81	1,716.48	45.34	38.861		
13,500.00	12,344.00	11,697.68	10,720.00	58.47	42.76	-24.25	-2,255.20	1,580.65	1,761.81	1,715.84	45.97	38.324		
13,600.00	12,344.00	11,797.68	10,720.00	59.52	43.56	-24.25	-2,355.20	1,581.62	1,761.81	1,715.17	46.64	37.776		
13,700.00	12,344.00	11,897.68	10,720.00	60.60	44.41	-24.25	-2,455.19	1,582.59	1,761.80	1,714.47	47.34	37.219		
13,800.00	12,344.00	11,997.68	10,720.00	61.70	45.31	-24.25	-2,555.19	1,583.56	1,761.80	1,713.74	48.06	36.656		
13,900.00	12,344.00	12,097.68	10,720.00	62.82	46.24	-24.25	-2,655.18	1,584.53	1,761.80	1,712.98	48.82	36.089		
14,000.00	12,344.00	12,197.68	10,720.00	63.97	47.22	-24.25	-2,755.18	1,585.50	1,761.79	1,712.19	49.60	35.521		
14,100.00	12,344.00	12,297.68	10,720.00	65.14	48.23	-24.25	-2,855.17	1,586.47	1,761.79	1,711.38	50.40	34.954		
14,200.00	12,344.00	12,397.68	10,720.00	66.33	49.28	-24.25	-2,955.17	1,587.44	1,761.78	1,710.55	51.23	34.388		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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		
14,300.00	12,344.00	12,497.68	10,720.00	67.54	50.36	-24.25	-3,055.16	1,588.41	1,761.78	1,709.70	52.08	33.826		
14,400.00	12,344.00	12,597.68	10,720.00	68.77	51.47	-24.25	-3,155.16	1,589.38	1,761.78	1,708.82	52.96	33.267		
14,500.00	12,344.00	12,697.68	10,720.00	70.02	52.61	-24.25	-3,255.15	1,590.35	1,761.77	1,707.92	53.85	32.715		
14,600.00	12,344.00	12,797.68	10,720.00	71.28	53.77	-24.25	-3,355.15	1,591.32	1,761.77	1,707.01	54.76	32.170		
14,700.00	12,344.00	12,897.68	10,720.00	72.55	54.96	-24.25	-3,455.14	1,592.29	1,761.77	1,706.07	55.70	31.632		
14,800.00	12,344.00	12,997.68	10,720.00	73.85	56.18	-24.25	-3,555.14	1,593.26	1,761.76	1,705.12	56.64	31.102		
14,900.00	12,344.00	13,097.68	10,720.00	75.15	57.41	-24.25	-3,655.13	1,594.23	1,761.76	1,704.15	57.61	30.581		
15,000.00	12,344.00	13,197.68	10,720.00	76.47	58.67	-24.25	-3,755.13	1,595.20	1,761.75	1,703.17	58.59	30.070		
15,100.00	12,344.00	13,297.68	10,720.00	77.81	59.94	-24.25	-3,855.13	1,596.17	1,761.75	1,702.17	59.58	29.568		
15,200.00	12,344.00	13,397.68	10,720.00	79.15	61.24	-24.25	-3,955.12	1,597.14	1,761.75	1,701.15	60.59	29.075		
15,300.00	12,344.00	13,497.68	10,720.00	80.51	62.55	-24.25	-4,055.12	1,598.11	1,761.74	1,700.13	61.62	28.592		
15,400.00	12,344.00	13,597.68	10,720.00	81.87	63.87	-24.25	-4,155.11	1,599.07	1,761.74	1,699.09	62.65	28.120		
15,500.00	12,344.00	13,697.68	10,720.00	83.25	65.21	-24.25	-4,255.11	1,600.04	1,761.74	1,698.04	63.70	27.658		
15,600.00	12,344.00	13,797.68	10,720.00	84.64	66.57	-24.25	-4,355.10	1,601.01	1,761.73	1,696.98	64.76	27.206		
15,700.00	12,344.00	13,897.68	10,720.00	86.03	67.93	-24.25	-4,455.10	1,601.98	1,761.73	1,695.90	65.82	26.764		
15,800.00	12,344.00	13,997.68	10,720.00	87.44	69.31	-24.25	-4,555.09	1,602.95	1,761.72	1,694.82	66.90	26.333		
15,900.00	12,344.00	14,097.68	10,720.00	88.85	70.71	-24.25	-4,655.09	1,603.92	1,761.72	1,693.73	67.99	25.911		
16,000.00	12,344.00	14,197.68	10,720.00	90.27	72.11	-24.25	-4,755.08	1,604.89	1,761.72	1,692.63	69.09	25.499		
16,100.00	12,344.00	14,297.68	10,720.00	91.70	73.52	-24.25	-4,855.08	1,605.86	1,761.71	1,691.52	70.19	25.098		
16,200.00	12,344.00	14,397.68	10,720.00	93.14	74.94	-24.25	-4,955.07	1,606.83	1,761.71	1,690.40	71.31	24.706		
16,300.00	12,344.00	14,497.68	10,720.00	94.58	76.38	-24.25	-5,055.07	1,607.80	1,761.71	1,689.27	72.43	24.323		
16,400.00	12,344.00	14,597.68	10,720.00	96.03	77.82	-24.25	-5,155.06	1,608.77	1,761.70	1,688.14	73.56	23.949		
16,500.00	12,344.00	14,697.68	10,720.00	97.49	79.27	-24.25	-5,255.06	1,609.74	1,761.70	1,687.00	74.70	23.585		
16,600.00	12,344.00	14,797.68	10,720.00	98.95	80.72	-24.25	-5,355.05	1,610.71	1,761.69	1,685.85	75.84	23.229		
16,700.00	12,344.00	14,897.68	10,720.00	100.42	82.19	-24.25	-5,455.05	1,611.68	1,761.69	1,684.70	76.99	22.882		
16,800.00	12,344.00	14,997.68	10,720.00	101.89	83.66	-24.25	-5,555.05	1,612.65	1,761.69	1,683.54	78.15	22.544		
16,900.00	12,344.00	15,097.68	10,720.00	103.37	85.14	-24.24	-5,655.04	1,613.62	1,761.68	1,682.38	79.31	22.213		
17,000.00	12,344.00	15,197.68	10,720.00	104.86	86.62	-24.24	-5,755.04	1,614.59	1,761.68	1,681.21	80.47	21.891		
17,100.00	12,344.00	15,297.68	10,720.00	106.35	88.11	-24.24	-5,855.03	1,615.56	1,761.68	1,680.03	81.65	21.577		
17,200.00	12,344.00	15,397.68	10,720.00	107.84	89.60	-24.24	-5,955.03	1,616.53	1,761.67	1,678.85	82.82	21.270		
17,300.00	12,344.00	15,497.68	10,720.00	109.34	91.11	-24.24	-6,055.02	1,617.50	1,761.67	1,677.66	84.01	20.971		
17,400.00	12,344.00	15,597.68	10,720.00	110.84	92.61	-24.24	-6,155.02	1,618.47	1,761.66	1,676.47	85.19	20.678		
17,500.00	12,344.00	15,697.68	10,720.00	112.35	94.12	-24.24	-6,255.01	1,619.44	1,761.66	1,675.28	86.38	20.394		
17,600.00	12,344.00	15,797.68	10,720.00	113.86	95.64	-24.24	-6,355.01	1,620.41	1,761.66	1,674.08	87.58	20.115		
17,700.00	12,344.00	15,897.68	10,720.00	115.38	97.16	-24.24	-6,455.00	1,621.38	1,761.65	1,672.88	88.78	19.844		
17,800.00	12,344.00	15,997.68	10,720.00	116.89	98.68	-24.24	-6,555.00	1,622.35	1,761.65	1,671.67	89.98	19.578		
17,900.00	12,344.00	16,097.68	10,720.00	118.42	100.21	-24.24	-6,654.99	1,623.32	1,761.65	1,670.46	91.19	19.319		
18,000.00	12,344.00	16,197.68	10,720.00	119.94	101.74	-24.24	-6,754.99	1,624.28	1,761.64	1,669.25	92.39	19.067		
18,100.00	12,344.00	16,297.68	10,720.00	121.47	103.28	-24.24	-6,854.98	1,625.25	1,761.64	1,668.03	93.61	18.819		
18,200.00	12,344.00	16,397.68	10,720.00	123.00	104.82	-24.24	-6,954.98	1,626.22	1,761.64	1,666.81	94.82	18.578		
18,300.00	12,344.00	16,497.68	10,720.00	124.54	106.36	-24.24	-7,054.98	1,627.19	1,761.63	1,665.59	96.04	18.343		
18,400.00	12,344.00	16,597.68	10,720.00	126.08	107.91	-24.24	-7,154.97	1,628.16	1,761.63	1,664.37	97.26	18.112		
18,500.00	12,344.00	16,697.68	10,720.00	127.62	109.46	-24.24	-7,254.97	1,629.13	1,761.62	1,663.14	98.49	17.887		
18,600.00	12,344.00	16,797.68	10,720.00	129.16	111.01	-24.24	-7,354.96	1,630.10	1,761.62	1,661.91	99.71	17.667		
18,700.00	12,344.00	16,897.68	10,720.00	130.71	112.56	-24.24	-7,454.96	1,631.07	1,761.62	1,660.67	100.94	17.452		
18,800.00	12,344.00	16,997.68	10,720.00	132.26	114.12	-24.24	-7,554.95	1,632.04	1,761.61	1,659.44	102.17	17.242		
18,900.00	12,344.00	17,097.68	10,720.00	133.81	115.68	-24.24	-7,654.95	1,633.01	1,761.61	1,658.20	103.41	17.036		
19,000.00	12,344.00	17,197.68	10,720.00	135.36	117.24	-24.24	-7,754.94	1,633.98	1,761.61	1,656.96	104.64	16.835		
19,100.00	12,344.00	17,297.68	10,720.00	136.92	118.81	-24.24	-7,854.94	1,634.95	1,761.60	1,655.72	105.88	16.638		
19,200.00	12,344.00	17,397.68	10,720.00	138.48	120.37	-24.24	-7,954.93	1,635.92	1,761.60	1,654.48	107.12	16.446		
19,300.00	12,344.00	17,497.68	10,720.00	140.04	121.94	-24.24	-8,054.93	1,636.89	1,761.59	1,653.24	108.36	16.257		
19,400.00	12,344.00	17,597.68	10,720.00	141.60	123.52	-24.24	-8,154.92	1,637.86	1,761.59	1,651.99	109.60	16.073		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Tatanka Fed Com - Tatanka Fed Com 503H - 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		
19,500.00	12,344.00	17,697.68	10,720.00	143.16	125.09	-24.24	-8,254.92	1,638.83	1,761.59	1,650.74	110.85	15.892		
19,600.00	12,344.00	17,797.68	10,720.00	144.73	126.66	-24.24	-8,354.91	1,639.80	1,761.58	1,649.49	112.09	15.715		
19,700.00	12,344.00	17,897.68	10,720.00	146.30	128.24	-24.24	-8,454.91	1,640.77	1,761.58	1,648.24	113.34	15.542		
19,800.00	12,344.00	17,997.68	10,720.00	147.87	129.82	-24.24	-8,554.90	1,641.74	1,761.58	1,646.99	114.59	15.373		
19,900.00	12,344.00	18,097.68	10,720.00	149.44	131.40	-24.24	-8,654.90	1,642.71	1,761.57	1,645.73	115.84	15.207		
20,000.00	12,344.00	18,197.68	10,720.00	151.01	132.99	-24.24	-8,754.90	1,643.68	1,761.57	1,644.48	117.09	15.045		
20,100.00	12,344.00	18,297.68	10,720.00	152.59	134.57	-24.24	-8,854.89	1,644.65	1,761.56	1,643.22	118.34	14.885		
20,200.00	12,344.00	18,397.68	10,720.00	154.17	136.16	-24.24	-8,954.89	1,645.62	1,761.56	1,641.96	119.60	14.729		
20,300.00	12,344.00	18,497.68	10,720.00	155.74	137.74	-24.24	-9,054.88	1,646.59	1,761.56	1,640.70	120.85	14.576		
20,400.00	12,344.00	18,597.68	10,720.00	157.32	139.33	-24.24	-9,154.88	1,647.56	1,761.55	1,639.44	122.11	14.426		
20,500.00	12,344.00	18,697.68	10,720.00	158.91	140.92	-24.24	-9,254.87	1,648.53	1,761.55	1,638.18	123.37	14.279		
20,600.00	12,344.00	18,797.68	10,720.00	160.49	142.52	-24.23	-9,354.87	1,649.49	1,761.55	1,636.92	124.62	14.135		
20,700.00	12,344.00	18,897.68	10,720.00	162.07	144.11	-24.23	-9,454.86	1,650.46	1,761.54	1,635.66	125.88	13.993		
20,800.00	12,344.00	18,997.68	10,720.00	163.66	145.70	-24.23	-9,554.86	1,651.43	1,761.54	1,634.39	127.14	13.855		
20,900.00	12,344.00	19,097.68	10,720.00	165.24	147.30	-24.23	-9,654.85	1,652.40	1,761.53	1,633.13	128.41	13.718		
21,000.00	12,344.00	19,197.68	10,720.00	166.83	148.90	-24.23	-9,754.85	1,653.37	1,761.53	1,631.86	129.67	13.585		
21,100.00	12,344.00	19,297.68	10,720.00	168.42	150.50	-24.23	-9,854.84	1,654.34	1,761.53	1,630.60	130.93	13.454		
21,200.00	12,344.00	19,397.68	10,720.00	170.01	152.09	-24.23	-9,954.84	1,655.31	1,761.52	1,629.33	132.19	13.325		
21,300.00	12,344.00	19,497.68	10,720.00	171.60	153.70	-24.23	-10,054.83	1,656.28	1,761.52	1,628.06	133.46	13.199		
21,400.00	12,344.00	19,597.68	10,720.00	173.20	155.30	-24.23	-10,154.83	1,657.25	1,761.52	1,626.79	134.72	13.075		
21,500.00	12,344.00	19,697.68	10,720.00	174.79	156.90	-24.23	-10,254.82	1,658.22	1,761.51	1,625.53	135.99	12.954		
21,600.00	12,344.00	19,797.68	10,720.00	176.38	158.50	-24.23	-10,354.82	1,659.19	1,761.51	1,624.26	137.25	12.834		
21,700.00	12,344.00	19,897.68	10,720.00	177.98	160.11	-24.23	-10,454.82	1,660.16	1,761.50	1,622.98	138.52	12.717		
21,800.00	12,344.00	19,997.68	10,720.00	179.58	161.71	-24.23	-10,554.81	1,661.13	1,761.50	1,621.71	139.79	12.601		
21,900.00	12,344.00	20,097.68	10,720.00	181.17	163.32	-24.23	-10,654.81	1,662.10	1,761.50	1,620.44	141.06	12.488		
22,000.00	12,344.00	20,197.68	10,720.00	182.77	164.93	-24.23	-10,754.80	1,663.07	1,761.49	1,619.17	142.32	12.377		
22,100.00	12,344.00	20,297.68	10,720.00	184.37	166.54	-24.23	-10,854.80	1,664.04	1,761.49	1,617.90	143.59	12.267		
22,200.00	12,344.00	20,397.68	10,720.00	185.97	168.14	-24.23	-10,954.79	1,665.01	1,761.49	1,616.63	144.86	12.160		
22,300.00	12,344.00	20,497.68	10,720.00	187.57	169.75	-24.23	-11,054.79	1,665.98	1,761.48	1,615.35	146.13	12.054		
22,400.00	12,344.00	20,597.68	10,720.00	189.18	171.36	-24.23	-11,154.78	1,666.95	1,761.48	1,614.08	147.40	11.951		
22,500.00	12,344.00	20,697.68	10,720.00	190.78	172.98	-24.23	-11,254.78	1,667.92	1,761.47	1,612.81	148.67	11.848		
22,600.00	12,344.00	20,797.68	10,720.00	192.38	174.59	-24.23	-11,354.77	1,668.89	1,761.47	1,611.53	149.94	11.748		
22,642.51	12,344.00	20,840.19	10,720.00	193.01	175.20	-24.23	-11,397.28	1,669.30	1,761.47	1,611.17	150.30	11.720 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 Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 504H - 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	123.00	-1,002.64	1,543.80	1,840.90							
100.00	100.00	82.00	82.00	0.13	0.10	123.00	-1,002.64	1,543.80	1,840.82	1,840.65	0.16	N/A				
200.00	200.00	182.00	182.00	0.48	0.42	123.00	-1,002.64	1,543.80	1,840.82	1,840.18	0.64	2,874.518				
300.00	300.00	282.00	282.00	0.84	0.78	123.00	-1,002.64	1,543.80	1,840.82	1,839.67	1.15	1,605.418				
400.00	400.00	382.00	382.00	1.20	1.14	123.00	-1,002.64	1,543.80	1,840.82	1,839.16	1.65	1,113.417				
500.00	500.00	482.00	482.00	1.56	1.49	123.00	-1,002.64	1,543.80	1,840.82	1,838.66	2.16	852.186				
600.00	600.00	582.00	582.00	1.92	1.85	123.00	-1,002.64	1,543.80	1,840.82	1,838.15	2.67	690.226				
700.00	700.00	682.00	682.00	2.28	2.21	123.00	-1,002.64	1,543.80	1,840.82	1,837.64	3.17	579.991				
800.00	800.00	782.00	782.00	2.63	2.57	123.00	-1,002.64	1,543.80	1,840.82	1,837.14	3.68	500.116				
900.00	900.00	882.00	882.00	2.99	2.93	123.00	-1,002.64	1,543.80	1,840.82	1,836.63	4.19	439.577				
1,000.00	1,000.00	982.00	982.00	3.35	3.29	123.00	-1,002.64	1,543.80	1,840.82	1,836.12	4.69	392.111				
1,100.00	1,100.00	1,082.00	1,082.00	3.71	3.65	123.00	-1,002.64	1,543.80	1,840.82	1,835.61	5.20	353.897				
1,200.00	1,200.00	1,182.00	1,182.00	4.07	4.00	123.00	-1,002.64	1,543.80	1,840.82	1,835.11	5.71	322.469				
1,300.00	1,300.00	1,282.00	1,282.00	4.43	4.36	123.00	-1,002.64	1,543.80	1,840.82	1,834.60	6.22	296.168				
1,400.00	1,400.00	1,382.00	1,382.00	4.79	4.72	123.00	-1,002.64	1,543.80	1,840.82	1,834.09	6.72	273.834				
1,500.00	1,500.00	1,482.00	1,482.00	5.14	5.08	123.00	-1,002.64	1,543.80	1,840.82	1,833.59	7.23	254.632				
1,600.00	1,600.00	1,582.00	1,582.00	5.50	5.44	123.00	-1,002.64	1,543.80	1,840.82	1,833.08	7.74	237.946				
1,700.00	1,700.00	1,682.00	1,682.00	5.86	5.80	123.00	-1,002.64	1,543.80	1,840.82	1,832.57	8.24	223.313				
1,800.00	1,800.00	1,782.00	1,782.00	6.22	6.15	123.00	-1,002.64	1,543.80	1,840.82	1,832.07	8.75	210.375				
1,900.00	1,900.00	1,882.00	1,882.00	6.58	6.51	123.00	-1,002.64	1,543.80	1,840.82	1,831.56	9.26	198.854				
2,000.00	2,000.00	1,982.00	1,982.00	6.94	6.87	123.00	-1,002.64	1,543.80	1,840.82	1,831.05	9.76	188.530				
2,100.00	2,100.00	2,082.00	2,082.00	7.29	7.23	123.00	-1,002.64	1,543.80	1,840.82	1,830.55	10.27	179.224				
2,200.00	2,200.00	2,182.00	2,182.00	7.65	7.59	123.00	-1,002.64	1,543.80	1,840.82	1,830.04	10.78	170.794				
2,300.00	2,300.00	2,282.00	2,282.00	8.01	7.95	123.00	-1,002.64	1,543.80	1,840.82	1,829.53	11.28	163.122				
2,400.00	2,400.00	2,382.00	2,382.00	8.37	8.31	123.00	-1,002.64	1,543.80	1,840.82	1,829.02	11.79	156.109				
2,500.00	2,500.00	2,482.00	2,482.00	8.73	8.66	123.00	-1,002.64	1,543.80	1,840.82	1,828.52	12.30	149.674				
2,600.00	2,600.00	2,582.00	2,582.00	9.09	9.02	123.00	-1,002.64	1,543.80	1,840.82	1,828.01	12.81	143.749				
2,700.00	2,700.00	2,682.00	2,682.00	9.45	9.38	123.00	-1,002.64	1,543.80	1,840.82	1,827.50	13.31	138.275				
2,800.00	2,800.00	2,782.00	2,782.00	9.80	9.74	123.00	-1,002.64	1,543.80	1,840.82	1,827.00	13.82	133.203				
2,900.00	2,900.00	2,882.00	2,882.00	10.16	10.10	123.00	-1,002.64	1,543.80	1,840.82	1,826.49	14.33	128.489				
3,000.00	3,000.00	2,982.00	2,982.00	10.52	10.46	123.00	-1,002.64	1,543.80	1,840.82	1,825.98	14.83	124.098				
3,100.00	3,100.00	3,082.00	3,082.00	10.88	10.82	123.00	-1,002.64	1,543.80	1,840.82	1,825.48	15.34	119.997				
3,200.00	3,200.00	3,182.00	3,182.00	11.24	11.17	123.00	-1,002.64	1,543.80	1,840.82	1,824.97	15.85	116.158				
3,300.00	3,299.99	3,281.99	3,281.99	11.58	11.53	-17.92	-1,002.64	1,543.80	1,839.57	1,823.23	16.34	112.562				
3,400.00	3,399.91	3,351.69	3,351.68	11.91	11.78	-17.97	-1,002.71	1,544.26	1,836.51	1,819.76	16.75	109.674				
3,500.00	3,499.69	3,400.00	3,399.98	12.24	11.94	-18.03	-1,002.91	1,545.52	1,833.03	1,815.95	17.08	107.290				
3,600.00	3,599.27	3,477.73	3,477.62	12.57	12.21	-18.16	-1,003.48	1,549.25	1,828.89	1,811.40	17.50	104.535				
3,700.00	3,698.57	3,540.69	3,540.40	12.91	12.42	-18.32	-1,004.18	1,553.79	1,824.38	1,806.52	17.86	102.138				
3,800.00	3,797.54	3,600.00	3,599.45	13.25	12.63	-18.49	-1,005.03	1,559.31	1,819.43	1,801.22	18.21	99.900				
3,900.00	3,896.09	3,666.35	3,665.35	13.60	12.86	-18.73	-1,006.20	1,566.92	1,814.04	1,795.46	18.58	97.630				
4,000.00	3,994.16	3,729.00	3,727.40	13.96	13.08	-18.99	-1,007.53	1,575.49	1,808.24	1,789.31	18.93	95.507				
4,100.00	4,091.70	3,800.00	3,797.47	14.32	13.33	-19.33	-1,009.27	1,586.81	1,802.08	1,782.77	19.31	93.317				
4,200.00	4,188.62	3,853.87	3,850.43	14.70	13.52	-19.63	-1,010.77	1,596.55	1,795.50	1,775.88	19.62	91.495				
4,304.97	4,289.63	3,919.12	3,914.32	15.12	13.76	-20.02	-1,012.80	1,609.66	1,788.27	1,768.29	19.98	89.503				
4,400.00	4,380.70	3,978.09	3,971.77	15.51	13.98	-20.36	-1,014.81	1,622.74	1,782.55	1,762.25	20.30	87.814				
4,500.00	4,476.55	4,040.08	4,031.88	15.93	14.21	-20.74	-1,017.13	1,637.75	1,778.66	1,758.03	20.63	86.209				
4,600.00	4,572.39	4,104.77	4,094.23	16.36	14.46	-21.15	-1,019.75	1,654.77	1,776.96	1,755.99	20.97	84.725				
4,700.00	4,668.24	4,202.74	4,188.43	16.81	14.86	-21.79	-1,023.85	1,681.37	1,776.34	1,754.87	21.47	82.729				
4,800.00	4,764.08	4,300.70	4,282.63	17.26	15.26	-22.42	-1,027.95	1,707.97	1,775.94	1,753.96	21.98	80.811				
4,900.00	4,859.93	4,398.67	4,376.83	17.72	15.68	-23.05	-1,032.06	1,734.56	1,775.77	1,753.28	22.49	78.968				
4,925.95	4,884.80	4,424.10	4,401.27	17.84	15.79	-23.22	-1,033.12	1,741.47	1,775.76	1,753.14	22.62	78.500 CC				
5,000.00	4,955.77	4,496.64	4,471.03	18.18	16.10	-23.69	-1,036.16	1,761.16	1,775.82	1,752.82	23.00	77.198				

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 Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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	5,051.62	4,594.61	4,565.23	18.66	16.54	-24.32	-1,040.26	1,787.76	1,776.10	1,752.58	23.53	75.498		
5,200.00	5,147.46	4,692.58	4,659.43	19.14	16.98	-24.96	-1,044.36	1,814.36	1,776.61	1,752.56	24.05	73.865 ES		
5,300.00	5,243.31	4,790.55	4,753.62	19.63	17.43	-25.59	-1,048.46	1,840.95	1,777.34	1,752.76	24.58	72.295		
5,400.00	5,339.15	4,888.51	4,847.82	20.12	17.88	-26.22	-1,052.56	1,867.55	1,778.30	1,753.18	25.12	70.788		
5,500.00	5,435.00	4,986.48	4,942.02	20.62	18.34	-26.85	-1,056.66	1,894.15	1,779.49	1,753.83	25.66	69.339		
5,600.00	5,530.84	5,084.45	5,036.22	21.12	18.81	-27.48	-1,060.76	1,920.74	1,780.90	1,754.69	26.21	67.947		
5,700.00	5,626.69	5,182.42	5,130.42	21.63	19.29	-28.11	-1,064.87	1,947.34	1,782.53	1,755.77	26.76	66.608		
5,800.00	5,722.53	5,280.39	5,224.62	22.14	19.77	-28.74	-1,068.97	1,973.94	1,784.39	1,757.07	27.32	65.320		
5,900.00	5,818.38	5,378.36	5,318.82	22.65	20.25	-29.37	-1,073.07	2,000.53	1,786.47	1,758.60	27.88	64.082		
6,000.00	5,914.22	5,476.32	5,413.02	23.17	20.74	-30.00	-1,077.17	2,027.13	1,788.78	1,760.33	28.44	62.890		
6,100.00	6,010.07	5,574.29	5,507.22	23.69	21.23	-30.62	-1,081.27	2,053.73	1,791.30	1,762.29	29.01	61.743		
6,200.00	6,105.91	5,672.26	5,601.42	24.22	21.73	-31.24	-1,085.37	2,080.32	1,794.05	1,764.46	29.59	60.639		
6,300.00	6,201.76	5,770.23	5,695.62	24.75	22.23	-31.86	-1,089.47	2,106.92	1,797.01	1,766.85	30.16	59.575		
6,400.00	6,297.60	5,868.20	5,789.82	25.28	22.73	-32.48	-1,093.57	2,133.52	1,800.20	1,769.45	30.75	58.550		
6,500.00	6,393.45	5,966.17	5,884.02	25.81	23.23	-33.10	-1,097.68	2,160.12	1,803.60	1,772.27	31.33	57.562		
6,600.00	6,489.29	6,064.13	5,978.22	26.35	23.74	-33.71	-1,101.78	2,186.71	1,807.22	1,775.30	31.92	56.610		
6,700.00	6,585.14	6,162.10	6,072.42	26.89	24.26	-34.32	-1,105.88	2,213.31	1,811.05	1,778.53	32.52	55.692		
6,800.00	6,680.98	6,260.07	6,166.62	27.43	24.77	-34.93	-1,109.98	2,239.91	1,815.10	1,781.98	33.12	54.805		
6,900.00	6,776.83	6,358.04	6,260.82	27.97	25.29	-35.54	-1,114.08	2,266.50	1,819.36	1,785.63	33.72	53.950		
7,000.00	6,872.67	6,456.01	6,355.02	28.52	25.81	-36.14	-1,118.18	2,293.10	1,823.83	1,789.49	34.33	53.124		
7,100.00	6,968.52	6,553.98	6,449.22	29.06	26.33	-36.74	-1,122.28	2,319.70	1,828.50	1,793.56	34.94	52.327		
7,200.00	7,064.36	6,651.94	6,543.42	29.61	26.85	-37.34	-1,126.38	2,346.29	1,833.39	1,797.83	35.56	51.557		
7,300.00	7,160.21	6,749.91	6,637.62	30.16	27.38	-37.94	-1,130.49	2,372.89	1,838.48	1,802.30	36.18	50.813		
7,400.00	7,256.05	6,847.88	6,731.82	30.72	27.90	-38.53	-1,134.59	2,399.49	1,843.78	1,806.97	36.81	50.093		
7,500.00	7,351.90	6,945.85	6,826.02	31.27	28.43	-39.12	-1,138.69	2,426.08	1,849.27	1,811.84	37.44	49.397		
7,600.00	7,447.74	7,043.82	6,920.22	31.82	28.96	-39.70	-1,142.79	2,452.68	1,854.97	1,816.90	38.07	48.724		
7,700.00	7,543.59	7,141.79	7,014.42	32.38	29.50	-40.28	-1,146.89	2,479.28	1,860.87	1,822.16	38.71	48.074		
7,800.00	7,639.43	7,239.75	7,108.62	32.94	30.03	-40.86	-1,150.99	2,505.88	1,866.96	1,827.61	39.35	47.444		
7,889.67	7,725.37	7,327.60	7,193.08	33.44	30.51	-41.37	-1,154.67	2,529.72	1,872.59	1,832.66	39.93	46.898		
7,900.00	7,735.28	7,337.72	7,202.82	33.50	30.56	-41.44	-1,155.09	2,532.47	1,873.26	1,833.27	40.00	46.836		
8,000.00	7,831.56	7,435.80	7,297.12	34.04	31.10	-42.06	-1,159.20	2,559.10	1,880.91	1,840.28	40.64	46.285		
8,100.00	7,928.52	7,534.01	7,391.56	34.56	31.64	-42.64	-1,163.31	2,585.76	1,890.66	1,849.39	41.27	45.815		
8,200.00	8,026.08	7,632.29	7,486.05	35.06	32.18	-43.19	-1,167.42	2,612.44	1,902.44	1,860.55	41.88	45.421		
8,300.00	8,124.18	7,730.56	7,580.55	35.53	32.72	-43.70	-1,171.54	2,639.12	1,916.20	1,873.71	42.49	45.102		
8,400.00	8,222.76	7,828.77	7,674.97	35.98	33.26	-44.18	-1,175.65	2,665.78	1,931.91	1,888.83	43.07	44.852		
8,500.00	8,321.74	7,926.84	7,769.27	36.40	33.80	-44.62	-1,179.75	2,692.41	1,949.51	1,905.87	43.64	44.670		
8,600.00	8,421.06	8,024.70	7,863.37	36.79	34.35	-45.03	-1,183.85	2,718.98	1,968.97	1,924.78	44.20	44.551		
8,700.00	8,520.65	8,122.30	7,957.21	37.16	34.89	-45.40	-1,187.94	2,745.47	1,990.26	1,945.53	44.73	44.494		
8,800.00	8,620.44	8,219.56	8,050.73	37.51	35.43	-45.73	-1,192.01	2,771.88	2,013.35	1,968.11	45.25	44.496		
8,900.00	8,720.37	8,316.41	8,143.85	37.83	35.97	-46.03	-1,196.06	2,798.17	2,038.22	1,992.47	45.75	44.554		
8,994.64	8,815.00	8,407.64	8,231.58	38.11	36.48	94.62	-1,199.88	2,822.94	2,063.37	2,017.17	46.20	44.662		
9,000.00	8,820.36	8,412.79	8,236.53	38.13	36.50	94.62	-1,200.10	2,824.34	2,064.84	2,018.62	46.22	44.670		
9,100.00	8,920.36	8,508.94	8,328.98	38.40	37.04	94.68	-1,204.12	2,850.44	2,092.25	2,045.56	46.69	44.812		
9,200.00	9,020.36	8,605.10	8,421.44	38.68	37.58	94.73	-1,208.15	2,876.55	2,119.65	2,072.50	47.15	44.951		
9,300.00	9,120.36	8,701.25	8,513.89	38.96	38.12	94.78	-1,212.17	2,902.65	2,147.06	2,099.44	47.62	45.085		
9,400.00	9,220.36	8,797.40	8,606.35	39.25	38.65	94.83	-1,216.20	2,928.75	2,174.47	2,126.38	48.09	45.216		
9,500.00	9,320.36	8,893.56	8,698.80	39.53	39.19	94.88	-1,220.22	2,954.86	2,201.88	2,153.32	48.56	45.342		
9,600.00	9,420.36	8,970.40	8,796.50	39.81	41.06	95.03	-1,232.61	3,035.20	2,224.15	2,173.97	50.19	44.316		
9,700.00	9,520.36	9,116.17	8,910.59	40.10	42.63	95.08	-1,237.64	3,067.78	2,231.56	2,180.40	51.17	43.615		
9,702.52	9,522.87	9,669.41	9,463.85	40.11	42.49	95.08	-1,237.54	3,067.14	2,231.28	2,180.12	51.16	43.610		
9,800.00	9,620.36	9,807.93	9,602.36	40.39	42.89	95.08	-1,237.64	3,067.80	2,231.57	2,179.96	51.61	43.240		
9,900.00	9,720.36	9,907.93	9,702.36	40.67	43.17	95.08	-1,237.64	3,067.80	2,231.57	2,179.51	52.06	42.869		

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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Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 504H - OH - Plan #1		Offset Site Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
10,000.00	9,820.36	10,007.93	9,802.36	40.96	43.45	95.08	-1,237.64	3,067.80	2,231.57	2,179.07	52.50	42.504				
10,100.00	9,920.36	10,107.93	9,902.36	41.25	43.73	95.08	-1,237.64	3,067.80	2,231.57	2,178.62	52.95	42.144				
10,200.00	10,020.36	10,207.93	10,002.36	41.55	44.01	95.08	-1,237.64	3,067.80	2,231.57	2,178.17	53.40	41.790				
10,300.00	10,120.36	10,307.93	10,102.36	41.84	44.29	95.08	-1,237.64	3,067.80	2,231.57	2,177.72	53.85	41.440				
10,304.67	10,125.02	10,312.60	10,107.02	41.85	44.31	95.08	-1,237.64	3,067.80	2,231.57	2,177.70	53.87	41.424				
10,400.00	10,220.36	10,389.76	10,184.13	42.13	44.52	95.13	-1,239.58	3,067.82	2,231.83	2,177.54	54.29	41.108				
10,500.00	10,320.36	10,460.50	10,254.10	42.43	44.73	95.39	-1,249.72	3,067.92	2,233.31	2,178.60	54.71	40.821				
10,600.00	10,420.36	10,527.80	10,319.02	42.72	44.92	95.84	-1,267.31	3,068.09	2,236.23	2,181.12	55.11	40.580				
10,700.00	10,520.36	10,590.21	10,377.00	43.02	45.11	96.42	-1,290.31	3,068.31	2,240.86	2,185.38	55.48	40.389				
10,800.00	10,620.36	10,650.00	10,429.89	43.31	45.29	97.13	-1,318.13	3,068.58	2,247.53	2,191.70	55.83	40.256				
10,900.00	10,720.36	10,700.00	10,471.70	43.61	45.44	97.82	-1,345.53	3,068.84	2,256.55	2,200.41	56.15	40.189				
11,000.00	10,820.36	10,750.00	10,510.96	43.91	45.58	98.60	-1,376.46	3,069.14	2,268.25	2,211.81	56.43	40.192				
11,100.00	10,920.36	10,782.76	10,535.16	44.21	45.68	99.16	-1,398.54	3,069.36	2,282.80	2,226.13	56.67	40.285				
11,200.00	11,020.36	10,817.91	10,559.67	44.51	45.78	99.79	-1,423.72	3,069.60	2,300.45	2,243.59	56.86	40.460				
11,300.00	11,120.36	10,850.00	10,580.66	44.81	45.88	100.39	-1,447.99	3,069.84	2,321.32	2,264.32	57.00	40.725				
11,400.00	11,220.36	10,876.29	10,596.83	45.12	45.96	100.91	-1,468.72	3,070.04	2,345.48	2,288.39	57.09	41.086				
11,500.00	11,320.36	10,900.00	10,610.58	45.42	46.03	101.38	-1,488.03	3,070.22	2,372.95	2,315.83	57.13	41.539				
11,600.00	11,420.36	10,922.14	10,622.69	45.72	46.10	101.84	-1,506.56	3,070.40	2,403.75	2,346.63	57.12	42.083				
11,700.00	11,520.36	10,950.00	10,636.89	46.03	46.18	102.43	-1,530.52	3,070.64	2,437.85	2,380.76	57.09	42.702				
11,800.00	11,620.36	10,950.00	10,636.89	46.33	46.18	102.43	-1,530.52	3,070.64	2,475.12	2,418.18	56.94	43.469				
11,900.00	11,720.36	10,974.21	10,648.27	46.64	46.26	102.95	-1,551.88	3,070.84	2,515.45	2,458.61	56.84	44.256				
11,950.68	11,771.04	10,981.49	10,651.52	46.80	46.28	103.11	-1,558.40	3,070.91	2,537.08	2,480.32	56.76	44.699				
12,000.00	11,820.30	11,000.00	10,659.39	46.96	46.34	-73.66	-1,575.15	3,071.07	2,558.44	2,501.72	56.73	45.102				
12,050.00	11,869.86	11,000.00	10,659.39	47.14	46.34	-71.44	-1,575.15	3,071.07	2,579.58	2,522.95	56.64	45.545				
12,100.00	11,918.67	11,000.00	10,659.39	47.35	46.34	-69.30	-1,575.15	3,071.07	2,600.26	2,543.70	56.56	45.971				
12,150.00	11,966.36	11,000.00	10,659.39	47.58	46.34	-67.26	-1,575.15	3,071.07	2,620.33	2,563.83	56.50	46.375				
12,200.00	12,012.56	11,025.74	10,669.44	47.83	46.42	-64.98	-1,598.85	3,071.30	2,639.23	2,582.67	56.55	46.668				
12,250.00	12,056.93	11,050.00	10,677.93	48.10	46.50	-62.91	-1,621.57	3,071.52	2,657.36	2,600.75	56.61	46.938				
12,300.00	12,099.12	11,050.00	10,677.93	48.39	46.50	-61.35	-1,621.57	3,071.52	2,674.07	2,617.46	56.61	47.236				
12,350.00	12,138.81	11,050.00	10,677.93	48.69	46.50	-59.92	-1,621.57	3,071.52	2,689.64	2,633.01	56.63	47.494				
12,400.00	12,175.70	11,070.80	10,684.43	49.01	46.57	-58.46	-1,641.33	3,071.71	2,703.67	2,646.92	56.75	47.644				
12,450.00	12,209.51	11,100.00	10,692.34	49.34	46.67	-57.13	-1,669.43	3,071.98	2,716.42	2,659.51	56.91	47.730				
12,500.00	12,239.99	11,100.00	10,692.34	49.69	46.67	-56.21	-1,669.43	3,071.98	2,727.16	2,670.14	57.02	47.832				
12,550.00	12,266.90	11,100.00	10,692.34	50.05	46.67	-55.43	-1,669.43	3,071.98	2,736.40	2,679.25	57.15	47.881				
12,600.00	12,290.03	11,120.54	10,697.04	50.42	46.75	-54.72	-1,689.42	3,072.17	2,743.80	2,686.42	57.38	47.821				
12,650.00	12,309.21	11,150.00	10,702.53	50.81	46.85	-54.17	-1,718.36	3,072.45	2,749.60	2,691.95	57.65	47.693				
12,700.00	12,324.30	11,150.00	10,702.53	51.20	46.85	-53.88	-1,718.36	3,072.45	2,753.16	2,695.27	57.89	47.561				
12,750.00	12,335.17	11,150.00	10,702.53	51.60	46.85	-53.73	-1,718.36	3,072.45	2,755.05	2,696.89	58.16	47.372				
12,800.00	12,341.76	11,172.29	10,705.69	52.01	46.94	-53.73	-1,740.42	3,072.67	2,754.93	2,696.42	58.51	47.083				
12,850.68	12,344.00	11,200.00	10,708.41	52.42	47.04	-53.93	-1,768.00	3,072.93	2,753.06	2,694.16	58.91	46.737				
12,900.00	12,344.00	11,200.00	10,708.41	52.83	47.04	-53.93	-1,768.00	3,072.93	2,750.34	2,691.07	59.27	46.406				
13,000.00	12,344.00	11,224.34	10,709.71	53.68	47.14	-53.95	-1,792.30	3,073.17	2,747.11	2,687.03	60.07	45.729				
13,100.00	12,344.00	11,272.79	10,710.00	54.57	47.34	-53.96	-1,840.74	3,073.64	2,746.44	2,685.50	60.95	45.063				
13,200.00	12,344.00	11,372.79	10,710.00	55.50	47.79	-53.96	-1,940.73	3,074.61	2,746.43	2,684.52	61.91	44.361				
13,300.00	12,344.00	11,472.79	10,710.00	56.46	48.29	-53.96	-2,040.73	3,075.57	2,746.42	2,683.50	62.92	43.647				
13,400.00	12,344.00	11,572.79	10,710.00	57.45	48.84	-53.96	-2,140.73	3,076.54	2,746.42	2,682.43	63.98	42.925				
13,500.00	12,344.00	11,672.79	10,710.00	58.47	49.44	-53.96	-2,240.72	3,077.51	2,746.41	2,681.33	65.08	42.200				
13,600.00	12,344.00	11,772.79	10,710.00	59.52	50.09	-53.96	-2,340.72	3,078.48	2,746.40	2,680.18	66.22	41.473				
13,700.00	12,344.00	11,872.79	10,710.00	60.60	50.79	-53.96	-2,440.71	3,079.45	2,746.39	2,678.99	67.40	40.747				
13,800.00	12,344.00	11,972.79	10,710.00	61.70	51.53	-53.96	-2,540.71	3,080.42	2,746.38	2,677.76	68.62	40.024				
13,900.00	12,344.00	12,072.79	10,710.00	62.82	52.32	-53.96	-2,640.70	3,081.38	2,746.37	2,676.50	69.87	39.306				
14,000.00	12,344.00	12,172.79	10,710.00	63.97	53.15	-53.96	-2,740.70	3,082.35	2,746.36	2,675.21	71.16	38.595				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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	12,344.00	12,272.79	10,710.00	65.14	54.02	-53.96	-2,840.69	3,083.32	2,746.36	2,673.88	72.48	37.893		
14,200.00	12,344.00	12,372.79	10,710.00	66.33	54.92	-53.96	-2,940.69	3,084.29	2,746.35	2,672.52	73.82	37.201		
14,300.00	12,344.00	12,472.79	10,710.00	67.54	55.87	-53.96	-3,040.68	3,085.26	2,746.34	2,671.14	75.20	36.520		
14,400.00	12,344.00	12,572.79	10,710.00	68.77	56.84	-53.95	-3,140.68	3,086.22	2,746.33	2,669.72	76.61	35.850		
14,500.00	12,344.00	12,672.79	10,710.00	70.02	57.85	-53.95	-3,240.67	3,087.19	2,746.32	2,668.29	78.03	35.194		
14,600.00	12,344.00	12,772.79	10,710.00	71.28	58.89	-53.95	-3,340.67	3,088.16	2,746.31	2,666.83	79.49	34.550		
14,700.00	12,344.00	12,872.79	10,710.00	72.55	59.96	-53.95	-3,440.66	3,089.13	2,746.30	2,665.34	80.96	33.921		
14,800.00	12,344.00	12,972.79	10,710.00	73.85	61.06	-53.95	-3,540.66	3,090.10	2,746.30	2,663.84	82.46	33.307		
14,900.00	12,344.00	13,072.79	10,710.00	75.15	62.18	-53.95	-3,640.65	3,091.06	2,746.29	2,662.32	83.97	32.705		
15,000.00	12,344.00	13,172.79	10,710.00	76.47	63.32	-53.95	-3,740.65	3,092.03	2,746.28	2,660.77	85.51	32.118		
15,100.00	12,344.00	13,272.79	10,710.00	77.81	64.49	-53.95	-3,840.65	3,093.00	2,746.27	2,659.21	87.06	31.545		
15,200.00	12,344.00	13,372.79	10,710.00	79.15	65.68	-53.95	-3,940.64	3,093.97	2,746.26	2,657.63	88.63	30.985		
15,300.00	12,344.00	13,472.79	10,710.00	80.51	66.89	-53.95	-4,040.64	3,094.94	2,746.25	2,656.04	90.22	30.441		
15,400.00	12,344.00	13,572.79	10,710.00	81.87	68.12	-53.95	-4,140.63	3,095.90	2,746.24	2,654.43	91.82	29.910		
15,500.00	12,344.00	13,672.79	10,710.00	83.25	69.37	-53.95	-4,240.63	3,096.87	2,746.24	2,652.80	93.43	29.393		
15,600.00	12,344.00	13,772.79	10,710.00	84.64	70.63	-53.95	-4,340.62	3,097.84	2,746.23	2,651.17	95.06	28.890		
15,700.00	12,344.00	13,872.79	10,710.00	86.03	71.91	-53.95	-4,440.62	3,098.81	2,746.22	2,649.52	96.70	28.399		
15,800.00	12,344.00	13,972.79	10,710.00	87.44	73.21	-53.95	-4,540.61	3,099.78	2,746.21	2,647.85	98.36	27.921		
15,900.00	12,344.00	14,072.79	10,710.00	88.85	74.52	-53.95	-4,640.61	3,100.74	2,746.20	2,646.18	100.02	27.456		
16,000.00	12,344.00	14,172.79	10,710.00	90.27	75.84	-53.95	-4,740.60	3,101.71	2,746.19	2,644.49	101.70	27.003		
16,100.00	12,344.00	14,272.79	10,710.00	91.70	77.18	-53.95	-4,840.60	3,102.68	2,746.18	2,642.80	103.39	26.563		
16,200.00	12,344.00	14,372.79	10,710.00	93.14	78.52	-53.95	-4,940.59	3,103.65	2,746.18	2,641.09	105.08	26.134		
16,300.00	12,344.00	14,472.79	10,710.00	94.58	79.88	-53.95	-5,040.59	3,104.62	2,746.17	2,639.38	106.79	25.716		
16,400.00	12,344.00	14,572.79	10,710.00	96.03	81.26	-53.95	-5,140.58	3,105.59	2,746.16	2,637.65	108.51	25.309		
16,500.00	12,344.00	14,672.79	10,710.00	97.49	82.64	-53.95	-5,240.58	3,106.55	2,746.15	2,635.92	110.23	24.913		
16,600.00	12,344.00	14,772.79	10,710.00	98.95	84.03	-53.95	-5,340.58	3,107.52	2,746.14	2,634.18	111.96	24.527		
16,700.00	12,344.00	14,872.79	10,710.00	100.42	85.43	-53.95	-5,440.57	3,108.49	2,746.13	2,632.43	113.71	24.151		
16,800.00	12,344.00	14,972.79	10,710.00	101.89	86.84	-53.95	-5,540.57	3,109.46	2,746.12	2,630.67	115.45	23.786		
16,900.00	12,344.00	15,072.79	10,710.00	103.37	88.26	-53.95	-5,640.56	3,110.43	2,746.12	2,628.91	117.21	23.430		
17,000.00	12,344.00	15,172.79	10,710.00	104.86	89.68	-53.95	-5,740.56	3,111.39	2,746.11	2,627.14	118.97	23.083		
17,100.00	12,344.00	15,272.79	10,710.00	106.35	91.12	-53.95	-5,840.55	3,112.36	2,746.10	2,625.36	120.74	22.745		
17,200.00	12,344.00	15,372.79	10,710.00	107.84	92.56	-53.95	-5,940.55	3,113.33	2,746.09	2,623.58	122.51	22.415		
17,300.00	12,344.00	15,472.79	10,710.00	109.34	94.01	-53.95	-6,040.54	3,114.30	2,746.08	2,621.79	124.29	22.094		
17,400.00	12,344.00	15,572.79	10,710.00	110.84	95.46	-53.95	-6,140.54	3,115.27	2,746.07	2,620.00	126.08	21.781		
17,500.00	12,344.00	15,672.79	10,710.00	112.35	96.93	-53.95	-6,240.53	3,116.23	2,746.06	2,618.20	127.87	21.476		
17,600.00	12,344.00	15,772.79	10,710.00	113.86	98.39	-53.95	-6,340.53	3,117.20	2,746.06	2,616.39	129.66	21.179		
17,700.00	12,344.00	15,872.79	10,710.00	115.38	99.87	-53.95	-6,440.52	3,118.17	2,746.05	2,614.58	131.46	20.889		
17,800.00	12,344.00	15,972.79	10,710.00	116.89	101.35	-53.95	-6,540.52	3,119.14	2,746.04	2,612.77	133.27	20.605		
17,900.00	12,344.00	16,072.79	10,710.00	118.42	102.83	-53.95	-6,640.51	3,120.11	2,746.03	2,610.95	135.08	20.329		
18,000.00	12,344.00	16,172.79	10,710.00	119.94	104.32	-53.95	-6,740.51	3,121.07	2,746.02	2,609.13	136.89	20.060		
18,100.00	12,344.00	16,272.79	10,710.00	121.47	105.81	-53.95	-6,840.50	3,122.04	2,746.01	2,607.30	138.71	19.797		
18,200.00	12,344.00	16,372.79	10,710.00	123.00	107.31	-53.95	-6,940.50	3,123.01	2,746.00	2,605.47	140.53	19.540		
18,300.00	12,344.00	16,472.79	10,710.00	124.54	108.82	-53.95	-7,040.50	3,123.98	2,746.00	2,603.64	142.35	19.290		
18,400.00	12,344.00	16,572.79	10,710.00	126.08	110.32	-53.95	-7,140.49	3,124.95	2,745.99	2,601.80	144.18	19.045		
18,500.00	12,344.00	16,672.79	10,710.00	127.62	111.84	-53.95	-7,240.49	3,125.91	2,745.98	2,599.96	146.01	18.806		
18,600.00	12,344.00	16,772.79	10,710.00	129.16	113.35	-53.95	-7,340.48	3,126.88	2,745.97	2,598.12	147.85	18.573		
18,700.00	12,344.00	16,872.79	10,710.00	130.71	114.87	-53.95	-7,440.48	3,127.85	2,745.96	2,596.27	149.69	18.345		
18,800.00	12,344.00	16,972.79	10,710.00	132.26	116.39	-53.95	-7,540.47	3,128.82	2,745.95	2,594.42	151.53	18.121		
18,900.00	12,344.00	17,072.79	10,710.00	133.81	117.92	-53.95	-7,640.47	3,129.79	2,745.94	2,592.57	153.38	17.903		
19,000.00	12,344.00	17,172.79	10,710.00	135.36	119.45	-53.95	-7,740.46	3,130.75	2,745.93	2,590.71	155.22	17.690		
19,100.00	12,344.00	17,272.79	10,710.00	136.92	120.98	-53.95	-7,840.46	3,131.72	2,745.93	2,588.85	157.08	17.481		
19,200.00	12,344.00	17,372.79	10,710.00	138.48	122.52	-53.95	-7,940.45	3,132.69	2,745.92	2,586.99	158.93	17.278		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,300.00	12,344.00	17,472.79	10,710.00	140.04	124.06	-53.95	-8,040.45	3,133.66	2,745.91	2,585.13	160.78	17.078		
19,400.00	12,344.00	17,572.79	10,710.00	141.60	125.60	-53.95	-8,140.44	3,134.63	2,745.90	2,583.26	162.64	16.883		
19,500.00	12,344.00	17,672.79	10,710.00	143.16	127.15	-53.95	-8,240.44	3,135.60	2,745.89	2,581.39	164.50	16.692		
19,600.00	12,344.00	17,772.79	10,710.00	144.73	128.69	-53.95	-8,340.43	3,136.56	2,745.88	2,579.52	166.36	16.505		
19,700.00	12,344.00	17,872.79	10,710.00	146.30	130.24	-53.95	-8,440.43	3,137.53	2,745.87	2,577.65	168.23	16.323		
19,800.00	12,344.00	17,972.79	10,710.00	147.87	131.80	-53.95	-8,540.43	3,138.50	2,745.87	2,575.77	170.09	16.143		
19,900.00	12,344.00	18,072.79	10,710.00	149.44	133.35	-53.95	-8,640.42	3,139.47	2,745.86	2,573.90	171.96	15.968		
20,000.00	12,344.00	18,172.79	10,710.00	151.01	134.91	-53.95	-8,740.42	3,140.44	2,745.85	2,572.02	173.83	15.796		
20,100.00	12,344.00	18,272.79	10,710.00	152.59	136.47	-53.95	-8,840.41	3,141.40	2,745.84	2,570.14	175.70	15.628		
20,200.00	12,344.00	18,372.79	10,710.00	154.17	138.03	-53.95	-8,940.41	3,142.37	2,745.83	2,568.26	177.57	15.463		
20,300.00	12,344.00	18,472.79	10,710.00	155.74	139.59	-53.95	-9,040.40	3,143.34	2,745.82	2,566.38	179.45	15.302		
20,400.00	12,344.00	18,572.79	10,710.00	157.32	141.16	-53.95	-9,140.40	3,144.31	2,745.81	2,564.49	181.32	15.143		
20,500.00	12,344.00	18,672.79	10,710.00	158.91	142.73	-53.95	-9,240.39	3,145.28	2,745.81	2,562.61	183.20	14.988		
20,600.00	12,344.00	18,772.79	10,710.00	160.49	144.30	-53.95	-9,340.39	3,146.24	2,745.80	2,560.72	185.07	14.836		
20,700.00	12,344.00	18,872.79	10,710.00	162.07	145.87	-53.95	-9,440.38	3,147.21	2,745.79	2,558.84	186.95	14.687		
20,800.00	12,344.00	18,972.79	10,710.00	163.66	147.44	-53.95	-9,540.38	3,148.18	2,745.78	2,556.95	188.83	14.541		
20,900.00	12,344.00	19,072.79	10,710.00	165.24	149.02	-53.95	-9,640.37	3,149.15	2,745.77	2,555.05	190.72	14.397		
21,000.00	12,344.00	19,172.79	10,710.00	166.83	150.59	-53.95	-9,740.37	3,150.12	2,745.76	2,553.16	192.60	14.256		
21,100.00	12,344.00	19,272.79	10,710.00	168.42	152.17	-53.95	-9,840.36	3,151.08	2,745.75	2,551.27	194.49	14.118		
21,200.00	12,344.00	19,372.79	10,710.00	170.01	153.75	-53.95	-9,940.36	3,152.05	2,745.75	2,549.37	196.37	13.982		
21,300.00	12,344.00	19,472.79	10,710.00	171.60	155.33	-53.95	-10,040.36	3,153.02	2,745.74	2,547.47	198.26	13.849		
21,400.00	12,344.00	19,572.79	10,710.00	173.20	156.91	-53.95	-10,140.35	3,153.99	2,745.73	2,545.58	200.15	13.718		
21,500.00	12,344.00	19,672.79	10,710.00	174.79	158.50	-53.95	-10,240.35	3,154.96	2,745.72	2,543.68	202.04	13.590		
21,600.00	12,344.00	19,772.79	10,710.00	176.38	160.08	-53.95	-10,340.34	3,155.92	2,745.71	2,541.78	203.93	13.464		
21,700.00	12,344.00	19,872.79	10,710.00	177.98	161.67	-53.95	-10,440.34	3,156.89	2,745.70	2,539.88	205.82	13.340		
21,800.00	12,344.00	19,972.79	10,710.00	179.58	163.26	-53.95	-10,540.33	3,157.86	2,745.69	2,537.98	207.71	13.219		
21,900.00	12,344.00	20,072.79	10,710.00	181.17	164.85	-53.95	-10,640.33	3,158.83	2,745.69	2,536.08	209.61	13.099		
22,000.00	12,344.00	20,172.79	10,710.00	182.77	166.44	-53.95	-10,740.32	3,159.80	2,745.68	2,534.18	211.50	12.982		
22,100.00	12,344.00	20,272.79	10,710.00	184.37	168.03	-53.94	-10,840.32	3,160.77	2,745.67	2,532.27	213.39	12.867		
22,200.00	12,344.00	20,372.79	10,710.00	185.97	169.62	-53.94	-10,940.31	3,161.73	2,745.66	2,530.37	215.29	12.753		
22,300.00	12,344.00	20,472.79	10,710.00	187.57	171.22	-53.94	-11,040.31	3,162.70	2,745.65	2,528.47	217.18	12.642		
22,400.00	12,344.00	20,572.79	10,710.00	189.18	172.81	-53.94	-11,140.30	3,163.67	2,745.64	2,526.56	219.08	12.533		
22,500.00	12,344.00	20,672.79	10,710.00	190.78	174.41	-53.94	-11,240.30	3,164.64	2,745.63	2,524.66	220.98	12.425		
22,600.00	12,344.00	20,772.79	10,710.00	192.38	176.00	-53.94	-11,340.29	3,165.61	2,745.63	2,522.75	222.88	12.319		
22,642.51	12,344.00	20,815.30	10,710.00	193.01	176.68	-53.94	-11,382.80	3,166.02	2,745.62	2,522.00	223.62	12.278 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 Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 601H - OH - Plan #2		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD															Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
0.00	0.00	0.00	0.00	0.00	0.00	-128.04	-1,019.84	-1,303.39	1,654.96							
100.00	100.00	98.50	98.50	0.13	0.12	-128.04	-1,019.84	-1,303.39	1,654.96	1,654.79	0.18	9,397.378				
200.00	200.00	198.50	198.50	0.48	0.48	-128.04	-1,019.84	-1,303.39	1,654.96	1,654.28	0.68	2,431.628				
300.00	300.00	298.50	298.50	0.84	0.84	-128.04	-1,019.84	-1,303.39	1,654.96	1,653.77	1.19	1,393.595				
400.00	400.00	398.50	398.50	1.20	1.20	-128.04	-1,019.84	-1,303.39	1,654.96	1,653.27	1.69	976.665				
500.00	500.00	498.50	498.50	1.56	1.55	-128.04	-1,019.84	-1,303.39	1,654.96	1,652.76	2.20	751.758				
600.00	600.00	598.50	598.50	1.92	1.91	-128.04	-1,019.84	-1,303.39	1,654.96	1,652.25	2.71	611.045				
700.00	700.00	698.50	698.50	2.28	2.27	-128.04	-1,019.84	-1,303.39	1,654.96	1,651.75	3.22	514.704				
800.00	800.00	798.50	798.50	2.63	2.63	-128.04	-1,019.84	-1,303.39	1,654.96	1,651.24	3.72	444.605				
900.00	900.00	898.50	898.50	2.99	2.99	-128.04	-1,019.84	-1,303.39	1,654.96	1,650.73	4.23	391.311				
1,000.00	1,000.00	998.50	998.50	3.35	3.35	-128.04	-1,019.84	-1,303.39	1,654.96	1,650.23	4.74	349.426				
1,100.00	1,100.00	1,098.50	1,098.50	3.71	3.70	-128.04	-1,019.84	-1,303.39	1,654.96	1,649.72	5.24	315.640				
1,200.00	1,200.00	1,198.50	1,198.50	4.07	4.06	-128.04	-1,019.84	-1,303.39	1,654.96	1,649.21	5.75	287.812				
1,300.00	1,300.00	1,298.50	1,298.50	4.43	4.42	-128.04	-1,019.84	-1,303.39	1,654.96	1,648.70	6.26	264.494				
1,400.00	1,400.00	1,398.50	1,398.50	4.79	4.78	-128.04	-1,019.84	-1,303.39	1,654.96	1,648.20	6.76	244.670				
1,500.00	1,500.00	1,498.50	1,498.50	5.14	5.14	-128.04	-1,019.84	-1,303.39	1,654.96	1,647.69	7.27	227.611				
1,600.00	1,600.00	1,598.50	1,598.50	5.50	5.50	-128.04	-1,019.84	-1,303.39	1,654.96	1,647.18	7.78	212.776				
1,700.00	1,700.00	1,698.50	1,698.50	5.86	5.86	-128.04	-1,019.84	-1,303.39	1,654.96	1,646.68	8.28	199.756				
1,800.00	1,800.00	1,798.50	1,798.50	6.22	6.21	-128.04	-1,019.84	-1,303.39	1,654.96	1,646.17	8.79	188.238				
1,900.00	1,900.00	1,898.50	1,898.50	6.58	6.57	-128.04	-1,019.84	-1,303.39	1,654.96	1,645.66	9.30	177.975				
2,000.00	2,000.00	1,998.50	1,998.50	6.94	6.93	-128.04	-1,019.84	-1,303.39	1,654.96	1,645.16	9.81	168.774				
2,100.00	2,100.00	2,098.50	2,098.50	7.29	7.29	-128.04	-1,019.84	-1,303.39	1,654.96	1,644.65	10.31	160.477				
2,200.00	2,200.00	2,198.50	2,198.50	7.65	7.65	-128.04	-1,019.84	-1,303.39	1,654.96	1,644.14	10.82	152.958				
2,300.00	2,300.00	2,298.50	2,298.50	8.01	8.01	-128.04	-1,019.84	-1,303.39	1,654.96	1,643.64	11.33	146.112				
2,400.00	2,400.00	2,398.50	2,398.50	8.37	8.36	-128.04	-1,019.84	-1,303.39	1,654.96	1,643.13	11.83	139.853				
2,500.00	2,500.00	2,498.50	2,498.50	8.73	8.72	-128.04	-1,019.84	-1,303.39	1,654.96	1,642.62	12.34	134.108				
2,600.00	2,600.00	2,598.50	2,598.50	9.09	9.08	-128.04	-1,019.84	-1,303.39	1,654.96	1,642.11	12.85	128.816				
2,700.00	2,700.00	2,698.50	2,698.50	9.45	9.44	-128.04	-1,019.84	-1,303.39	1,654.96	1,641.61	13.35	123.926				
2,800.00	2,800.00	2,798.50	2,798.50	9.80	9.80	-128.04	-1,019.84	-1,303.39	1,654.96	1,641.10	13.86	119.393				
2,900.00	2,900.00	2,898.50	2,898.50	10.16	10.16	-128.04	-1,019.84	-1,303.39	1,654.96	1,640.59	14.37	115.181				
3,000.00	3,000.00	2,998.50	2,998.50	10.52	10.52	-128.04	-1,019.84	-1,303.39	1,654.96	1,640.09	14.88	111.255				
3,100.00	3,100.00	3,098.50	3,098.50	10.88	10.87	-128.04	-1,019.84	-1,303.39	1,654.96	1,639.58	15.38	107.589				
3,200.00	3,200.00	3,198.50	3,198.50	11.24	11.23	-128.04	-1,019.84	-1,303.39	1,654.96	1,639.07	15.89	104.156 CC, ES				
3,300.00	3,299.99	3,268.86	3,268.85	11.58	11.47	91.07	-1,020.28	-1,303.83	1,655.87	1,639.57	16.30	101.588				
3,400.00	3,399.91	3,338.68	3,338.65	11.91	11.71	91.11	-1,021.61	-1,305.18	1,658.64	1,641.95	16.69	99.379				
3,500.00	3,499.69	3,400.00	3,399.91	12.24	11.91	91.17	-1,023.53	-1,307.10	1,663.32	1,646.27	17.05	97.553				
3,600.00	3,599.27	3,482.40	3,482.15	12.57	12.18	91.30	-1,027.17	-1,310.77	1,669.80	1,652.33	17.47	95.591				
3,700.00	3,698.57	3,581.55	3,581.05	12.91	12.51	91.56	-1,032.05	-1,315.68	1,677.07	1,659.13	17.94	93.495				
3,800.00	3,797.54	3,680.37	3,679.63	13.25	12.84	91.91	-1,036.92	-1,320.57	1,684.49	1,666.08	18.41	91.494				
3,900.00	3,896.09	3,778.80	3,777.82	13.60	13.18	92.33	-1,041.76	-1,325.45	1,692.13	1,673.24	18.89	89.581				
4,000.00	3,994.16	3,876.77	3,875.55	13.96	13.51	92.82	-1,046.59	-1,330.30	1,700.05	1,680.68	19.37	87.751				
4,100.00	4,091.70	3,974.22	3,972.76	14.32	13.84	93.38	-1,051.38	-1,335.13	1,708.33	1,688.46	19.87	85.997				
4,200.00	4,188.62	4,071.07	4,069.38	14.70	14.17	94.01	-1,056.15	-1,339.93	1,717.04	1,696.68	20.36	84.315				
4,304.97	4,289.63	4,172.04	4,170.10	15.12	14.52	94.74	-1,061.12	-1,344.93	1,726.77	1,705.87	20.90	82.623				
4,400.00	4,380.70	4,263.08	4,260.92	15.51	14.84	95.56	-1,065.60	-1,349.44	1,736.06	1,714.66	21.39	81.152				
4,500.00	4,476.55	4,358.89	4,356.50	15.93	15.17	96.41	-1,070.32	-1,354.18	1,746.24	1,724.32	21.92	79.665				
4,600.00	4,572.39	4,454.70	4,452.07	16.36	15.51	97.25	-1,075.04	-1,358.93	1,756.83	1,734.38	22.45	78.239				
4,700.00	4,668.24	4,550.51	4,547.65	16.81	15.84	98.09	-1,079.75	-1,363.67	1,767.82	1,744.83	23.00	76.874				
4,800.00	4,764.08	4,646.32	4,643.22	17.26	16.18	98.91	-1,084.47	-1,368.42	1,779.21	1,755.66	23.54	75.568				
4,900.00	4,859.93	4,742.13	4,738.80	17.72	16.51	99.73	-1,089.18	-1,373.16	1,790.98	1,766.88	24.10	74.320				
5,000.00	4,955.77	4,837.94	4,834.38	18.18	16.85	100.53	-1,093.90	-1,377.91	1,803.13	1,778.47	24.66	73.129				
5,100.00	5,051.62	4,933.75	4,929.95	18.66	17.19	101.32	-1,098.62	-1,382.65	1,815.65	1,790.43	25.22	71.991				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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		
5,200.00	5,147.46	5,029.56	5,025.53	19.14	17.53	102.11	-1,103.33	-1,387.40	1,828.53	1,802.74	25.79	70.907		
5,300.00	5,243.31	5,125.37	5,121.10	19.63	17.87	102.88	-1,108.05	-1,392.14	1,841.77	1,815.41	26.36	69.872		
5,400.00	5,339.15	5,221.18	5,216.68	20.12	18.22	103.64	-1,112.77	-1,396.89	1,855.35	1,828.42	26.93	68.887		
5,500.00	5,435.00	5,316.99	5,312.25	20.62	18.56	104.40	-1,117.48	-1,401.63	1,869.28	1,841.77	27.51	67.947		
5,600.00	5,530.84	5,412.80	5,407.83	21.12	18.90	105.14	-1,122.20	-1,406.38	1,883.54	1,855.45	28.09	67.052		
5,700.00	5,626.69	5,508.61	5,503.41	21.63	19.25	105.87	-1,126.91	-1,411.13	1,898.12	1,869.45	28.67	66.200		
5,800.00	5,722.53	5,604.42	5,598.98	22.14	19.59	106.59	-1,131.63	-1,415.87	1,913.03	1,883.77	29.26	65.388		
5,900.00	5,818.38	5,700.23	5,694.56	22.65	19.94	107.30	-1,136.35	-1,420.62	1,928.24	1,898.40	29.84	64.615		
6,000.00	5,914.22	5,796.04	5,790.13	23.17	20.28	108.00	-1,141.06	-1,425.36	1,943.75	1,913.32	30.43	63.879		
6,100.00	6,010.07	5,891.85	5,885.71	23.69	20.63	108.69	-1,145.78	-1,430.11	1,959.56	1,928.55	31.02	63.177		
6,200.00	6,105.91	5,987.66	5,981.29	24.22	20.97	109.37	-1,150.50	-1,434.85	1,975.66	1,944.06	31.61	62.509		
6,300.00	6,201.76	6,083.47	6,076.86	24.75	21.32	110.04	-1,155.21	-1,439.60	1,992.05	1,959.85	32.20	61.873		
6,400.00	6,297.60	6,179.28	6,172.44	25.28	21.67	110.69	-1,159.93	-1,444.34	2,008.70	1,975.92	32.79	61.267		
6,500.00	6,393.45	6,275.09	6,268.01	25.81	22.02	111.34	-1,164.65	-1,449.09	2,025.63	1,992.25	33.38	60.690		
6,600.00	6,489.29	6,370.90	6,363.59	26.35	22.37	111.98	-1,169.36	-1,453.83	2,042.81	2,008.85	33.97	60.140		
6,700.00	6,585.14	6,466.71	6,459.17	26.89	22.72	112.61	-1,174.08	-1,458.58	2,060.25	2,025.70	34.56	59.616		
6,800.00	6,680.98	6,562.40	6,554.61	27.43	23.07	113.25	-1,178.79	-1,463.32	2,077.69	2,041.51	35.15	59.091		
6,900.00	6,776.83	6,658.14	6,650.33	27.97	23.42	113.89	-1,183.50	-1,468.06	2,095.12	2,054.02	35.74	58.566		
7,000.00	6,872.67	6,753.89	6,745.97	28.52	23.77	114.53	-1,188.21	-1,472.80	2,112.56	2,066.96	36.33	58.041		
7,100.00	6,968.52	6,849.74	6,841.81	29.06	24.12	115.17	-1,192.92	-1,477.54	2,130.00	2,078.22	36.92	57.516		
7,200.00	7,064.36	6,945.58	6,937.65	29.61	24.47	115.81	-1,197.63	-1,482.28	2,147.44	2,090.78	37.51	56.991		
7,300.00	7,160.21	7,041.43	7,033.50	30.16	24.82	116.45	-1,202.34	-1,487.02	2,164.88	2,103.65	38.10	56.466		
7,400.00	7,256.05	7,137.27	7,129.34	30.72	25.17	117.09	-1,207.05	-1,491.76	2,182.32	2,116.80	38.69	55.941		
7,500.00	7,351.90	7,233.12	7,225.19	31.27	25.52	117.73	-1,211.76	-1,496.50	2,199.76	2,130.25	39.28	55.416		
7,600.00	7,447.74	7,328.96	7,321.03	31.82	25.87	118.37	-1,216.47	-1,501.24	2,217.20	2,143.98	39.87	54.891		
7,700.00	7,543.59	7,424.81	7,416.88	32.38	26.22	119.01	-1,221.18	-1,505.98	2,234.64	2,157.99	40.46	54.366		
7,800.00	7,639.43	7,520.65	7,512.72	32.94	26.57	119.65	-1,225.89	-1,510.72	2,252.08	2,172.27	41.05	53.841		
7,889.67	7,725.37	7,606.49	7,598.56	33.44	26.87	120.17	-1,229.99	-1,514.96	2,268.52	2,185.31	41.64	53.316		
7,900.00	7,735.28	7,616.40	7,608.47	33.50	27.16	121.26	-1,231.84	-1,516.39	2,278.70	2,188.82	41.88	53.213		
8,000.00	7,831.56	7,712.68	7,704.75	34.04	27.50	122.02	-1,236.55	-1,521.13	2,296.14	2,200.81	42.47	52.688		
8,100.00	7,928.52	7,809.64	7,801.71	34.56	27.84	122.70	-1,241.26	-1,525.87	2,313.58	2,213.65	43.06	52.163		
8,200.00	8,026.08	7,906.70	7,898.77	35.06	28.18	123.31	-1,245.98	-1,530.61	2,331.02	2,225.26	43.65	51.638		
8,300.00	8,124.18	8,004.76	8,000.00	35.53	28.52	123.85	-1,250.69	-1,535.35	2,348.46	2,235.58	44.24	51.113		
8,400.00	8,222.76	8,102.82	8,100.00	35.98	28.86	124.32	-1,255.40	-1,540.09	2,365.90	2,244.57	44.83	50.588		
8,500.00	8,321.74	8,200.88	8,200.00	36.40	29.21	124.71	-1,260.11	-1,544.83	2,383.34	2,252.16	45.42	50.063		
8,600.00	8,421.06	8,298.94	8,298.00	36.79	29.56	125.03	-1,264.82	-1,549.57	2,400.78	2,258.33	46.01	49.538		
8,700.00	8,520.65	8,396.99	8,396.00	37.16	29.91	125.27	-1,269.53	-1,554.31	2,418.22	2,263.04	46.60	49.013		
8,800.00	8,620.44	8,495.05	8,495.00	37.51	30.26	125.45	-1,274.24	-1,559.05	2,435.66	2,266.27	47.19	48.488		
8,900.00	8,720.37	8,593.11	8,593.00	37.83	30.61	125.55	-1,278.95	-1,563.79	2,453.10	2,267.99	47.78	47.963		
8,994.64	8,815.00	8,691.17	8,691.00	38.11	30.94	125.55	-1,283.66	-1,568.53	2,470.54	2,268.24	48.37	47.438		
9,000.00	8,820.36	8,696.53	8,696.00	38.13	30.96	125.55	-1,283.66	-1,568.53	2,470.54	2,268.22	48.37	47.438		
9,100.00	8,920.36	8,794.59	8,794.00	38.40	31.31	125.55	-1,288.37	-1,573.27	2,487.98	2,267.77	48.96	46.913		
9,200.00	9,020.36	8,892.65	8,892.00	38.68	31.66	125.55	-1,293.08	-1,578.01	2,505.42	2,267.32	49.55	46.388		
9,300.00	9,120.36	8,990.71	8,990.00	38.96	32.01	125.55	-1,297.79	-1,582.75	2,522.86	2,266.87	50.14	45.863		
9,400.00	9,220.36	9,088.77	9,088.00	39.25	32.36	125.55	-1,302.50	-1,587.49	2,540.30	2,266.42	50.73	45.338		
9,500.00	9,320.36	9,186.83	9,186.00	39.53	32.71	125.55	-1,307.21	-1,592.23	2,557.74	2,265.97	51.32	44.813		
9,600.00	9,420.36	9,284.89	9,284.00	39.81	33.06	125.55	-1,311.92	-1,596.97	2,575.18	2,265.51	51.91	44.288		
9,700.00	9,520.36	9,382.95	9,382.00	40.10	33.41	125.55	-1,316.63	-1,601.71	2,592.62	2,265.06	52.50	43.763		
9,800.00	9,620.36	9,481.01	9,481.00	40.39	33.77	125.55	-1,321.34	-1,606.45	2,610.06	2,264.60	53.09	43.238		
9,900.00	9,720.36	9,579.07	9,579.00	40.67	34.12	125.55	-1,326.05	-1,611.19	2,627.50	2,264.14	53.68	42.713		
10,000.00	9,820.36	9,677.13	9,677.00	40.96	34.47	125.55	-1,330.76	-1,615.93	2,644.94	2,263.69	54.27	42.188		
10,100.00	9,920.36	9,775.19	9,775.00	41.25	34.82	125.55	-1,335.47	-1,620.67	2,662.38	2,263.23	54.86	41.663		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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
Tatanka Fed Com - Tatanka Fed Com 601H - OH - Plan #2													Offset Well Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD														
Reference		Offset		Semi Major Axis		Distance								Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,200.00	10,020.36	10,026.67	10,018.86	41.55	35.18	-93.51	-1,181.84	-1,466.39	2,315.74	2,262.77	52.97	43.718		
10,300.00	10,120.36	10,126.67	10,118.86	41.84	35.53	-93.51	-1,181.84	-1,466.39	2,315.74	2,262.31	53.43	43.341		
10,400.00	10,220.36	10,226.67	10,218.86	42.13	35.88	-93.51	-1,181.84	-1,466.39	2,315.74	2,261.85	53.89	42.970		
10,500.00	10,320.36	10,326.67	10,318.86	42.43	36.23	-93.51	-1,181.84	-1,466.39	2,315.74	2,261.38	54.35	42.605		
10,600.00	10,420.36	10,426.67	10,418.86	42.72	36.59	-93.51	-1,181.84	-1,466.39	2,315.74	2,260.92	54.82	42.245		
10,700.00	10,520.36	10,526.67	10,518.86	43.02	36.94	-93.51	-1,181.84	-1,466.39	2,315.74	2,260.46	55.28	41.891		
10,800.00	10,620.36	10,626.67	10,618.86	43.31	37.29	-93.51	-1,181.84	-1,466.39	2,315.74	2,259.99	55.74	41.542		
10,900.00	10,720.36	10,726.67	10,718.86	43.61	37.64	-93.51	-1,181.84	-1,466.39	2,315.74	2,259.53	56.21	41.198		
11,000.00	10,820.36	10,826.67	10,818.86	43.91	38.00	-93.51	-1,181.84	-1,466.39	2,315.74	2,259.06	56.68	40.860		
11,100.00	10,920.36	10,926.67	10,918.86	44.21	38.35	-93.51	-1,181.84	-1,466.39	2,315.74	2,258.60	57.14	40.526		
11,200.00	11,020.36	11,026.67	11,018.86	44.51	38.70	-93.51	-1,181.84	-1,466.39	2,315.74	2,258.13	57.61	40.197		
11,300.00	11,120.36	11,126.67	11,118.86	44.81	39.06	-93.51	-1,181.84	-1,466.39	2,315.74	2,257.66	58.08	39.874		
11,400.00	11,220.36	11,226.67	11,218.86	45.12	39.41	-93.51	-1,181.84	-1,466.39	2,315.74	2,257.19	58.55	39.555		
11,500.00	11,320.36	11,326.67	11,318.86	45.42	39.77	-93.51	-1,181.84	-1,466.39	2,315.74	2,256.72	59.01	39.240		
11,600.00	11,420.36	11,426.67	11,418.86	45.72	40.12	-93.51	-1,181.84	-1,466.39	2,315.74	2,256.25	59.48	38.930		
11,700.00	11,520.36	11,526.67	11,518.86	46.03	40.47	-93.51	-1,181.84	-1,466.39	2,315.74	2,255.78	59.95	38.625		
11,800.00	11,620.36	11,614.68	11,606.77	46.33	40.78	-93.58	-1,184.66	-1,466.36	2,315.92	2,255.52	60.39	38.348		
11,900.00	11,720.36	11,695.02	11,685.90	46.64	41.06	-93.92	-1,198.18	-1,466.23	2,316.87	2,256.05	60.82	38.095		
11,950.68	11,771.04	11,733.93	11,723.36	46.80	41.19	-94.17	-1,208.68	-1,466.12	2,317.73	2,256.70	61.03	37.976		
12,000.00	11,820.36	11,770.80	11,758.12	46.96	41.32	86.02	-1,220.96	-1,466.00	2,318.72	2,257.48	61.25	37.860		
12,050.00	11,869.86	11,807.72	11,792.06	47.14	41.45	85.67	-1,235.46	-1,465.85	2,319.74	2,258.26	61.47	37.736		
12,100.00	11,918.67	11,850.00	11,829.69	47.35	41.59	85.32	-1,254.72	-1,465.66	2,320.74	2,259.01	61.74	37.592		
12,150.00	11,966.36	11,880.41	11,855.82	47.58	41.70	85.05	-1,270.25	-1,465.50	2,321.69	2,259.73	61.96	37.469		
12,200.00	12,012.56	11,916.27	11,885.53	47.83	41.82	84.79	-1,290.33	-1,465.30	2,322.60	2,260.37	62.22	37.327		
12,250.00	12,056.93	11,950.00	11,912.28	48.10	41.94	84.56	-1,310.87	-1,465.10	2,323.43	2,260.94	62.49	37.183		
12,300.00	12,099.12	11,987.27	11,940.36	48.39	42.07	84.34	-1,335.35	-1,464.85	2,324.16	2,261.38	62.78	37.022		
12,350.00	12,138.81	12,022.48	11,965.39	48.69	42.20	84.17	-1,360.12	-1,464.60	2,324.79	2,261.72	63.07	36.860		
12,400.00	12,175.70	12,057.54	11,988.75	49.01	42.33	84.04	-1,386.26	-1,464.34	2,325.30	2,261.93	63.38	36.690		
12,450.00	12,209.51	12,100.00	12,014.83	49.34	42.49	83.92	-1,419.75	-1,464.01	2,325.71	2,261.98	63.73	36.493		
12,500.00	12,239.99	12,127.39	12,030.31	49.69	42.59	83.87	-1,442.34	-1,463.78	2,325.94	2,261.92	64.02	36.331		
12,550.00	12,266.90	12,162.23	12,048.41	50.05	42.73	83.84	-1,472.10	-1,463.48	2,326.05	2,261.68	64.36	36.141		
12,600.00	12,290.03	12,200.00	12,065.95	50.42	42.88	83.85	-1,505.54	-1,463.15	2,326.01	2,261.29	64.73	35.936		
12,650.00	12,309.21	12,231.92	12,079.02	50.81	43.01	83.89	-1,534.65	-1,462.86	2,325.84	2,260.76	65.07	35.741		
12,700.00	12,324.30	12,266.83	12,091.45	51.20	43.15	83.97	-1,567.27	-1,462.53	2,325.52	2,260.08	65.45	35.533		
12,750.00	12,335.17	12,300.00	12,101.39	51.60	43.29	84.08	-1,598.91	-1,462.21	2,325.08	2,259.26	65.82	35.326		
12,800.00	12,341.76	12,336.93	12,110.28	52.01	43.45	84.24	-1,634.74	-1,461.85	2,324.51	2,258.29	66.22	35.105		
12,850.68	12,344.00	12,372.68	12,116.68	52.42	43.60	84.42	-1,669.91	-1,461.50	2,323.81	2,257.19	66.62	34.883		
12,900.00	12,344.00	12,407.83	12,120.82	52.83	43.75	84.52	-1,704.81	-1,461.15	2,323.24	2,256.22	67.01	34.670		
13,000.00	12,344.00	12,488.49	12,123.00	53.68	44.11	84.58	-1,785.40	-1,460.35	2,322.92	2,255.06	67.87	34.228		
13,100.00	12,344.00	12,588.49	12,123.00	54.57	44.60	84.58	-1,885.39	-1,459.34	2,322.90	2,254.03	68.87	33.729		
13,200.00	12,344.00	12,688.49	12,123.00	55.50	45.14	84.58	-1,985.39	-1,458.34	2,322.88	2,252.94	69.94	33.214		
13,300.00	12,344.00	12,788.49	12,123.00	56.46	45.73	84.58	-2,085.38	-1,457.34	2,322.86	2,251.79	71.06	32.687		
13,400.00	12,344.00	12,888.49	12,123.00	57.45	46.37	84.58	-2,185.38	-1,456.34	2,322.83	2,250.59	72.25	32.151		
13,500.00	12,344.00	12,988.49	12,123.00	58.47	47.06	84.58	-2,285.37	-1,455.34	2,322.81	2,249.33	73.49	31.609		
13,600.00	12,344.00	13,088.49	12,123.00	59.52	47.80	84.58	-2,385.37	-1,454.34	2,322.79	2,248.01	74.78	31.063		
13,700.00	12,344.00	13,188.49	12,123.00	60.60	48.59	84.58	-2,485.36	-1,453.34	2,322.77	2,246.65	76.12	30.516		
13,800.00	12,344.00	13,288.49	12,123.00	61.70	49.41	84.58	-2,585.36	-1,452.34	2,322.74	2,245.24	77.50	29.970		
13,900.00	12,344.00	13,388.49	12,123.00	62.82	50.28	84.58	-2,685.35	-1,451.33	2,322.72	2,243.79	78.93	29.427		
14,000.00	12,344.00	13,488.49	12,123.00	63.97	51.19	84.58	-2,785.35	-1,450.33	2,322.70	2,242.29	80.41	28.887		
14,100.00	12,344.00	13,588.49	12,123.00	65.14	52.13	84.58	-2,885.34	-1,449.33	2,322.68	2,240.76	81.92	28.354		
14,200.00	12,344.00	13,688.49	12,123.00	66.33	53.11	84.58	-2,985.34	-1,448.33	2,322.65	2,239.19	83.47	27.827		
14,300.00	12,344.00	13,788.49	12,123.00	67.54	54.12	84.58	-3,085.33	-1,447.33	2,322.63	2,237.58	85.05	27.308		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 601H - OH - Plan #2		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD															Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
14,400.00	12,344.00	13,888.49	12,123.00	68.77	55.16	84.58	-3,185.33	-1,446.33	2,322.61	2,235.94	86.67	26.798				
14,500.00	12,344.00	13,988.49	12,123.00	70.02	56.23	84.58	-3,285.32	-1,445.33	2,322.59	2,234.26	88.32	26.297				
14,600.00	12,344.00	14,088.49	12,123.00	71.28	57.32	84.58	-3,385.32	-1,444.32	2,322.56	2,232.56	90.00	25.806				
14,700.00	12,344.00	14,188.49	12,123.00	72.55	58.45	84.58	-3,485.31	-1,443.32	2,322.54	2,230.83	91.71	25.325				
14,800.00	12,344.00	14,288.49	12,123.00	73.85	59.60	84.58	-3,585.31	-1,442.32	2,322.52	2,229.07	93.45	24.854				
14,900.00	12,344.00	14,388.49	12,123.00	75.15	60.77	84.58	-3,685.30	-1,441.32	2,322.50	2,227.29	95.21	24.394				
15,000.00	12,344.00	14,488.49	12,123.00	76.47	61.96	84.58	-3,785.30	-1,440.32	2,322.47	2,225.48	96.99	23.945				
15,100.00	12,344.00	14,588.49	12,123.00	77.81	63.17	84.58	-3,885.29	-1,439.32	2,322.45	2,223.65	98.80	23.507				
15,200.00	12,344.00	14,688.49	12,123.00	79.15	64.41	84.58	-3,985.29	-1,438.32	2,322.43	2,221.80	100.63	23.080				
15,300.00	12,344.00	14,788.49	12,123.00	80.51	65.66	84.58	-4,085.28	-1,437.32	2,322.41	2,219.93	102.47	22.663				
15,400.00	12,344.00	14,888.49	12,123.00	81.87	66.93	84.58	-4,185.28	-1,436.31	2,322.38	2,218.04	104.34	22.257				
15,500.00	12,344.00	14,988.49	12,123.00	83.25	68.21	84.58	-4,285.27	-1,435.31	2,322.36	2,216.13	106.23	21.862				
15,600.00	12,344.00	15,088.49	12,123.00	84.64	69.51	84.58	-4,385.27	-1,434.31	2,322.34	2,214.21	108.13	21.477				
15,700.00	12,344.00	15,188.49	12,123.00	86.03	70.83	84.58	-4,485.26	-1,433.31	2,322.32	2,212.27	110.05	21.102				
15,800.00	12,344.00	15,288.49	12,123.00	87.44	72.16	84.58	-4,585.26	-1,432.31	2,322.29	2,210.31	111.98	20.738				
15,900.00	12,344.00	15,388.49	12,123.00	88.85	73.50	84.58	-4,685.25	-1,431.31	2,322.27	2,208.34	113.93	20.383				
16,000.00	12,344.00	15,488.49	12,123.00	90.27	74.86	84.58	-4,785.25	-1,430.31	2,322.25	2,206.35	115.90	20.037				
16,100.00	12,344.00	15,588.49	12,123.00	91.70	76.22	84.58	-4,885.24	-1,429.30	2,322.23	2,204.35	117.87	19.701				
16,200.00	12,344.00	15,688.49	12,123.00	93.14	77.60	84.58	-4,985.24	-1,428.30	2,322.20	2,202.34	119.86	19.374				
16,300.00	12,344.00	15,788.49	12,123.00	94.58	78.99	84.58	-5,085.23	-1,427.30	2,322.18	2,200.32	121.86	19.056				
16,400.00	12,344.00	15,888.49	12,123.00	96.03	80.39	84.58	-5,185.23	-1,426.30	2,322.16	2,198.28	123.87	18.746				
16,500.00	12,344.00	15,988.49	12,123.00	97.49	81.79	84.58	-5,285.22	-1,425.30	2,322.14	2,196.24	125.90	18.445				
16,600.00	12,344.00	16,088.49	12,123.00	98.95	83.21	84.58	-5,385.22	-1,424.30	2,322.11	2,194.18	127.93	18.151				
16,700.00	12,344.00	16,188.49	12,123.00	100.42	84.64	84.58	-5,485.21	-1,423.30	2,322.09	2,192.12	129.97	17.866				
16,800.00	12,344.00	16,288.49	12,123.00	101.89	86.07	84.58	-5,585.21	-1,422.30	2,322.07	2,190.04	132.03	17.588				
16,900.00	12,344.00	16,388.49	12,123.00	103.37	87.51	84.58	-5,685.20	-1,421.29	2,322.05	2,187.96	134.09	17.318				
17,000.00	12,344.00	16,488.49	12,123.00	104.86	88.96	84.58	-5,785.20	-1,420.29	2,322.02	2,185.87	136.16	17.054				
17,100.00	12,344.00	16,588.49	12,123.00	106.35	90.41	84.58	-5,885.19	-1,419.29	2,322.00	2,183.77	138.23	16.798				
17,200.00	12,344.00	16,688.49	12,123.00	107.84	91.87	84.58	-5,985.19	-1,418.29	2,321.98	2,181.66	140.32	16.548				
17,300.00	12,344.00	16,788.49	12,123.00	109.34	93.34	84.58	-6,085.18	-1,417.29	2,321.96	2,179.54	142.41	16.304				
17,400.00	12,344.00	16,888.49	12,123.00	110.84	94.82	84.58	-6,185.18	-1,416.29	2,321.93	2,177.42	144.51	16.067				
17,500.00	12,344.00	16,988.49	12,123.00	112.35	96.30	84.58	-6,285.17	-1,415.29	2,321.91	2,175.29	146.62	15.836				
17,600.00	12,344.00	17,088.49	12,123.00	113.86	97.78	84.58	-6,385.17	-1,414.28	2,321.89	2,173.15	148.73	15.611				
17,700.00	12,344.00	17,188.49	12,123.00	115.38	99.27	84.58	-6,485.16	-1,413.28	2,321.87	2,171.01	150.85	15.391				
17,800.00	12,344.00	17,288.49	12,123.00	116.89	100.77	84.58	-6,585.16	-1,412.28	2,321.84	2,168.86	152.98	15.177				
17,900.00	12,344.00	17,388.49	12,123.00	118.42	102.27	84.58	-6,685.15	-1,411.28	2,321.82	2,166.71	155.11	14.969				
18,000.00	12,344.00	17,488.49	12,123.00	119.94	103.77	84.58	-6,785.15	-1,410.28	2,321.80	2,164.55	157.25	14.765				
18,100.00	12,344.00	17,588.49	12,123.00	121.47	105.28	84.58	-6,885.14	-1,409.28	2,321.78	2,162.38	159.39	14.567				
18,200.00	12,344.00	17,688.49	12,123.00	123.00	106.80	84.58	-6,985.14	-1,408.28	2,321.75	2,160.21	161.54	14.373				
18,300.00	12,344.00	17,788.49	12,123.00	124.54	108.31	84.58	-7,085.13	-1,407.27	2,321.73	2,158.04	163.69	14.184				
18,400.00	12,344.00	17,888.49	12,123.00	126.08	109.84	84.58	-7,185.13	-1,406.27	2,321.71	2,155.86	165.85	13.999				
18,500.00	12,344.00	17,988.49	12,123.00	127.62	111.36	84.57	-7,285.12	-1,405.27	2,321.68	2,153.67	168.01	13.819				
18,600.00	12,344.00	18,088.49	12,123.00	129.16	112.89	84.57	-7,385.12	-1,404.27	2,321.66	2,151.49	170.18	13.643				
18,700.00	12,344.00	18,188.49	12,123.00	130.71	114.42	84.57	-7,485.11	-1,403.27	2,321.64	2,149.29	172.35	13.471				
18,800.00	12,344.00	18,288.49	12,123.00	132.26	115.96	84.57	-7,585.11	-1,402.27	2,321.62	2,147.10	174.52	13.303				
18,900.00	12,344.00	18,388.49	12,123.00	133.81	117.50	84.57	-7,685.10	-1,401.27	2,321.59	2,144.90	176.70	13.139				
19,000.00	12,344.00	18,488.49	12,123.00	135.36	119.04	84.57	-7,785.10	-1,400.27	2,321.57	2,142.69	178.88	12.978				
19,100.00	12,344.00	18,588.49	12,123.00	136.92	120.58	84.57	-7,885.09	-1,399.26	2,321.55	2,140.48	181.07	12.822				
19,200.00	12,344.00	18,688.49	12,123.00	138.48	122.13	84.57	-7,985.09	-1,398.26	2,321.53	2,138.27	183.25	12.668				
19,300.00	12,344.00	18,788.49	12,123.00	140.04	123.68	84.57	-8,085.08	-1,397.26	2,321.50	2,136.06	185.45	12.518				
19,400.00	12,344.00	18,888.49	12,123.00	141.60	125.23	84.57	-8,185.08	-1,396.26	2,321.48	2,133.84	187.64	12.372				
19,500.00	12,344.00	18,988.49	12,123.00	143.16	126.79	84.57	-8,285.07	-1,395.26	2,321.46	2,131.62	189.84	12.228				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 601H - OH - Plan #2		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance						Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
19,600.00	12,344.00	19,088.49	12,123.00	144.73	128.34	84.57	-8,385.07	-1,394.26	2,321.44	2,129.39	192.04	12.088				
19,700.00	12,344.00	19,188.49	12,123.00	146.30	129.90	84.57	-8,485.06	-1,393.26	2,321.41	2,127.17	194.25	11.951				
19,800.00	12,344.00	19,288.49	12,123.00	147.87	131.47	84.57	-8,585.06	-1,392.25	2,321.39	2,124.94	196.45	11.816				
19,900.00	12,344.00	19,388.49	12,123.00	149.44	133.03	84.57	-8,685.05	-1,391.25	2,321.37	2,122.70	198.66	11.685				
20,000.00	12,344.00	19,488.49	12,123.00	151.01	134.60	84.57	-8,785.05	-1,390.25	2,321.35	2,120.47	200.88	11.556				
20,100.00	12,344.00	19,588.49	12,123.00	152.59	136.16	84.57	-8,885.04	-1,389.25	2,321.32	2,118.23	203.09	11.430				
20,200.00	12,344.00	19,688.49	12,123.00	154.17	137.74	84.57	-8,985.04	-1,388.25	2,321.30	2,115.99	205.31	11.306				
20,300.00	12,344.00	19,788.49	12,123.00	155.74	139.31	84.57	-9,085.03	-1,387.25	2,321.28	2,113.75	207.53	11.185				
20,400.00	12,344.00	19,888.49	12,123.00	157.32	140.88	84.57	-9,185.03	-1,386.25	2,321.26	2,111.50	209.75	11.067				
20,500.00	12,344.00	19,988.49	12,123.00	158.91	142.46	84.57	-9,285.02	-1,385.25	2,321.23	2,109.26	211.98	10.950				
20,600.00	12,344.00	20,088.49	12,123.00	160.49	144.03	84.57	-9,385.02	-1,384.24	2,321.21	2,107.01	214.20	10.836				
20,700.00	12,344.00	20,188.49	12,123.00	162.07	145.61	84.57	-9,485.01	-1,383.24	2,321.19	2,104.76	216.43	10.725				
20,800.00	12,344.00	20,288.49	12,123.00	163.66	147.19	84.57	-9,585.01	-1,382.24	2,321.17	2,102.50	218.66	10.615				
20,900.00	12,344.00	20,388.49	12,123.00	165.24	148.78	84.57	-9,685.00	-1,381.24	2,321.14	2,100.25	220.90	10.508				
21,000.00	12,344.00	20,488.49	12,123.00	166.83	150.36	84.57	-9,785.00	-1,380.24	2,321.12	2,097.99	223.13	10.403				
21,100.00	12,344.00	20,588.49	12,123.00	168.42	151.95	84.57	-9,884.99	-1,379.24	2,321.10	2,095.73	225.37	10.299				
21,200.00	12,344.00	20,688.49	12,123.00	170.01	153.53	84.57	-9,984.99	-1,378.24	2,321.08	2,093.47	227.60	10.198				
21,300.00	12,344.00	20,788.49	12,123.00	171.60	155.12	84.57	-10,084.98	-1,377.23	2,321.05	2,091.21	229.84	10.098				
21,400.00	12,344.00	20,888.49	12,123.00	173.20	156.71	84.57	-10,184.98	-1,376.23	2,321.03	2,088.95	232.08	10.001				
21,500.00	12,344.00	20,988.49	12,123.00	174.79	158.30	84.57	-10,284.97	-1,375.23	2,321.01	2,086.68	234.33	9.905				
21,600.00	12,344.00	21,088.49	12,123.00	176.38	159.89	84.57	-10,384.97	-1,374.23	2,320.99	2,084.41	236.57	9.811				
21,700.00	12,344.00	21,188.49	12,123.00	177.98	161.48	84.57	-10,484.96	-1,373.23	2,320.96	2,082.15	238.82	9.719				
21,800.00	12,344.00	21,288.49	12,123.00	179.58	163.08	84.57	-10,584.96	-1,372.23	2,320.94	2,079.88	241.06	9.628				
21,900.00	12,344.00	21,388.49	12,123.00	181.17	164.67	84.57	-10,684.95	-1,371.23	2,320.92	2,077.60	243.31	9.539				
22,000.00	12,344.00	21,488.49	12,123.00	182.77	166.27	84.57	-10,784.95	-1,370.23	2,320.90	2,075.33	245.56	9.451				
22,100.00	12,344.00	21,588.49	12,123.00	184.37	167.87	84.57	-10,884.94	-1,369.22	2,320.87	2,073.06	247.82	9.365				
22,200.00	12,344.00	21,688.49	12,123.00	185.97	169.47	84.57	-10,984.94	-1,368.22	2,320.85	2,070.78	250.07	9.281				
22,300.00	12,344.00	21,788.49	12,123.00	187.57	171.07	84.57	-11,084.93	-1,367.22	2,320.83	2,068.51	252.32	9.198				
22,400.00	12,344.00	21,888.49	12,123.00	189.18	172.67	84.57	-11,184.93	-1,366.22	2,320.81	2,066.23	254.58	9.116				
22,500.00	12,344.00	21,988.49	12,123.00	190.78	174.27	84.57	-11,284.92	-1,365.22	2,320.78	2,063.95	256.83	9.036				
22,600.00	12,344.00	22,088.49	12,123.00	192.38	175.87	84.57	-11,384.92	-1,364.22	2,320.76	2,061.67	259.09	8.957				
22,641.38	12,344.00	22,129.15	12,123.00	192.99	176.47	84.57	-11,425.58	-1,363.81	2,320.75	2,060.82	259.93	8.928				
22,642.51	12,344.00	22,129.15	12,123.00	193.01	176.47	84.57	-11,425.58	-1,363.81	2,320.75	2,060.82	259.93	8.928 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 Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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	-0.47	-49.99	50.00					
100.00	100.00	99.30	99.30	0.13	0.12	-90.54	-0.47	-49.99	49.99	49.82	0.18	282.738		
200.00	200.00	199.30	199.30	0.48	0.48	-90.54	-0.47	-49.99	49.99	49.31	0.68	73.236		
300.00	300.00	299.30	299.30	0.84	0.84	-90.54	-0.47	-49.99	49.99	48.80	1.19	42.025		
400.00	400.00	399.30	399.30	1.20	1.20	-90.54	-0.47	-49.99	49.99	48.30	1.70	29.467		
500.00	500.00	499.30	499.30	1.56	1.56	-90.54	-0.47	-49.99	49.99	47.79	2.20	22.688		
600.00	600.00	599.30	599.30	1.92	1.92	-90.54	-0.47	-49.99	49.99	47.28	2.71	18.444		
700.00	700.00	699.30	699.30	2.28	2.27	-90.54	-0.47	-49.99	49.99	46.77	3.22	15.538		
800.00	800.00	799.30	799.30	2.63	2.63	-90.54	-0.47	-49.99	49.99	46.27	3.72	13.423		
900.00	900.00	899.30	899.30	2.99	2.99	-90.54	-0.47	-49.99	49.99	45.76	4.23	11.815		
1,000.00	1,000.00	999.30	999.30	3.35	3.35	-90.54	-0.47	-49.99	49.99	45.25	4.74	10.551		
1,100.00	1,100.00	1,099.30	1,099.30	3.71	3.71	-90.54	-0.47	-49.99	49.99	44.75	5.25	9.531		
1,200.00	1,200.00	1,199.30	1,199.30	4.07	4.07	-90.54	-0.47	-49.99	49.99	44.24	5.75	8.691		
1,300.00	1,300.00	1,299.30	1,299.30	4.43	4.42	-90.54	-0.47	-49.99	49.99	43.73	6.26	7.987		
1,400.00	1,400.00	1,399.30	1,399.30	4.79	4.78	-90.54	-0.47	-49.99	49.99	43.23	6.77	7.389		
1,500.00	1,500.00	1,499.30	1,499.30	5.14	5.14	-90.54	-0.47	-49.99	49.99	42.72	7.27	6.874		
1,600.00	1,600.00	1,599.30	1,599.30	5.50	5.50	-90.54	-0.47	-49.99	49.99	42.21	7.78	6.426		
1,700.00	1,700.00	1,699.30	1,699.30	5.86	5.86	-90.54	-0.47	-49.99	49.99	41.71	8.29	6.033		
1,800.00	1,800.00	1,799.30	1,799.30	6.22	6.22	-90.54	-0.47	-49.99	49.99	41.20	8.79	5.685		
1,900.00	1,900.00	1,899.30	1,899.30	6.58	6.58	-90.54	-0.47	-49.99	49.99	40.69	9.30	5.375		
2,000.00	2,000.00	1,999.30	1,999.30	6.94	6.93	-90.54	-0.47	-49.99	49.99	40.18	9.81	5.097		
2,100.00	2,100.00	2,099.30	2,099.30	7.29	7.29	-90.54	-0.47	-49.99	49.99	39.68	10.31	4.847		
2,200.00	2,200.00	2,199.30	2,199.30	7.65	7.65	-90.54	-0.47	-49.99	49.99	39.17	10.82	4.620		
2,300.00	2,300.00	2,299.30	2,299.30	8.01	8.01	-90.54	-0.47	-49.99	49.99	38.66	11.33	4.413		
2,400.00	2,400.00	2,399.30	2,399.30	8.37	8.37	-90.54	-0.47	-49.99	49.99	38.16	11.84	4.224		
2,500.00	2,500.00	2,499.30	2,499.30	8.73	8.73	-90.54	-0.47	-49.99	49.99	37.65	12.34	4.050		
2,600.00	2,600.00	2,599.30	2,599.30	9.09	9.08	-90.54	-0.47	-49.99	49.99	37.14	12.85	3.891		
2,700.00	2,700.00	2,699.30	2,699.30	9.45	9.44	-90.54	-0.47	-49.99	49.99	36.64	13.36	3.743		
2,800.00	2,800.00	2,799.30	2,799.30	9.80	9.80	-90.54	-0.47	-49.99	49.99	36.13	13.86	3.606		
2,900.00	2,900.00	2,899.30	2,899.30	10.16	10.16	-90.54	-0.47	-49.99	49.99	35.62	14.37	3.479		
3,000.00	3,000.00	2,999.30	2,999.30	10.52	10.52	-90.54	-0.47	-49.99	49.99	35.11	14.88	3.360		
3,100.00	3,100.00	3,099.30	3,099.30	10.88	10.88	-90.54	-0.47	-49.99	49.99	34.61	15.38	3.250		
3,200.00	3,200.00	3,199.30	3,199.30	11.24	11.24	-90.54	-0.47	-49.99	49.99	34.10	15.89	3.146 CC, ES		
3,300.00	3,299.99	3,299.61	3,299.59	11.58	11.58	128.28	-1.73	-49.67	50.50	34.13	16.37	3.084		
3,400.00	3,399.91	3,399.89	3,399.80	11.91	11.90	127.46	-5.54	-48.71	52.03	35.20	16.83	3.091		
3,500.00	3,499.69	3,500.14	3,499.83	12.24	12.23	126.17	-11.90	-47.10	54.60	37.30	17.29	3.157		
3,600.00	3,599.27	3,600.34	3,599.60	12.57	12.56	124.55	-20.79	-44.85	58.23	40.47	17.76	3.279		
3,700.00	3,698.57	3,700.45	3,699.02	12.91	12.89	122.74	-32.21	-41.96	62.95	44.72	18.23	3.453		
3,800.00	3,797.54	3,800.47	3,798.00	13.25	13.22	120.86	-46.13	-38.43	68.78	50.07	18.71	3.676		
3,900.00	3,896.09	3,900.38	3,896.46	13.60	13.57	119.00	-62.54	-34.28	75.73	56.53	19.19	3.945		
4,000.00	3,994.16	4,000.16	3,994.32	13.96	13.92	117.23	-81.42	-29.50	83.81	64.12	19.69	4.256		
4,100.00	4,091.70	4,099.79	4,091.49	14.32	14.28	115.59	-102.73	-24.11	93.02	72.82	20.20	4.604		
4,200.00	4,188.62	4,199.25	4,188.07	14.70	14.65	114.49	-125.79	-18.27	103.36	82.63	20.73	4.986		
4,304.97	4,289.63	4,303.53	4,289.30	15.12	15.05	114.74	-150.05	-12.13	115.39	94.09	21.29	5.419		
4,400.00	4,380.70	4,397.84	4,380.86	15.51	15.42	115.59	-171.99	-6.58	126.83	105.02	21.82	5.813		
4,500.00	4,476.55	4,497.10	4,477.21	15.93	15.81	116.33	-195.08	-0.73	138.91	116.53	22.38	6.206		
4,600.00	4,572.39	4,596.35	4,573.56	16.36	16.22	116.95	-218.17	5.11	151.00	128.04	22.95	6.578		
4,700.00	4,668.24	4,695.60	4,669.92	16.81	16.63	117.48	-241.26	10.96	163.10	139.57	23.54	6.929		
4,800.00	4,764.08	4,794.86	4,766.27	17.26	17.05	117.94	-264.35	16.80	175.22	151.09	24.13	7.261		
4,900.00	4,859.93	4,894.11	4,862.62	17.72	17.47	118.34	-287.44	22.64	187.35	162.62	24.73	7.575		
5,000.00	4,955.77	4,993.37	4,958.98	18.18	17.90	118.69	-310.53	28.49	199.49	174.14	25.34	7.872		
5,100.00	5,051.62	5,092.62	5,055.33	18.66	18.33	119.00	-333.62	34.33	211.63	185.67	25.96	8.152		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 602H - 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				
5,200.00	5,147.46	5,191.87	5,151.69	19.14	18.77	119.27	-356.71	40.18	223.78	197.19	26.58	8.418				
5,300.00	5,243.31	5,291.13	5,248.04	19.63	19.21	119.52	-379.80	46.02	235.93	208.71	27.21	8.669				
5,400.00	5,339.15	5,390.38	5,344.39	20.12	19.66	119.74	-402.89	51.87	248.08	220.23	27.85	8.908				
5,500.00	5,435.00	5,489.64	5,440.75	20.62	20.11	119.94	-425.98	57.71	260.24	231.75	28.49	9.134				
5,600.00	5,530.84	5,588.89	5,537.10	21.12	20.56	120.13	-449.07	63.55	272.41	243.27	29.14	9.348				
5,700.00	5,626.69	5,688.14	5,633.46	21.63	21.02	120.30	-472.16	69.40	284.57	254.78	29.79	9.552				
5,800.00	5,722.53	5,787.40	5,729.81	22.14	21.48	120.45	-495.25	75.24	296.74	266.29	30.45	9.745				
5,900.00	5,818.38	5,886.65	5,826.16	22.65	21.94	120.59	-518.34	81.09	308.91	277.80	31.11	9.929				
6,000.00	5,914.22	5,985.91	5,922.52	23.17	22.41	120.73	-541.43	86.93	321.08	289.30	31.78	10.104				
6,100.00	6,010.07	6,085.16	6,018.87	23.69	22.87	120.85	-564.52	92.78	333.25	300.81	32.45	10.271				
6,200.00	6,105.91	6,184.41	6,115.22	24.22	23.35	120.96	-587.61	98.62	345.42	312.31	33.12	10.430				
6,300.00	6,201.76	6,283.67	6,211.58	24.75	23.82	121.07	-610.70	104.46	357.60	323.81	33.79	10.582				
6,400.00	6,297.60	6,382.92	6,307.93	25.28	24.29	121.17	-633.79	110.31	369.78	335.30	34.47	10.727				
6,500.00	6,393.45	6,482.18	6,404.29	25.81	24.77	121.26	-656.88	116.15	381.95	346.80	35.15	10.865				
6,600.00	6,489.29	6,581.43	6,500.64	26.35	25.25	121.35	-679.97	122.00	394.13	358.29	35.84	10.997				
6,700.00	6,585.14	6,680.68	6,596.99	26.89	25.73	121.43	-703.06	127.84	406.31	369.78	36.53	11.124				
6,800.00	6,680.98	6,779.94	6,693.35	27.43	26.21	121.50	-726.15	133.68	418.49	381.27	37.22	11.245				
6,900.00	6,776.83	6,879.19	6,789.70	27.97	26.70	121.58	-749.24	139.53	430.67	392.76	37.91	11.361				
7,000.00	6,872.67	6,978.45	6,886.05	28.52	27.19	121.65	-772.33	145.37	442.85	404.25	38.60	11.472				
7,100.00	6,968.52	7,077.70	6,982.41	29.06	27.67	121.71	-795.42	151.22	455.03	415.73	39.30	11.579				
7,200.00	7,064.36	7,176.95	7,078.76	29.61	28.16	121.77	-818.51	157.06	467.21	427.22	40.00	11.681				
7,300.00	7,160.21	7,276.21	7,175.12	30.16	28.65	121.83	-841.60	162.91	479.40	438.70	40.70	11.779				
7,400.00	7,256.05	7,375.46	7,271.47	30.72	29.14	121.89	-864.69	168.75	491.58	450.18	41.40	11.874				
7,500.00	7,351.90	7,474.72	7,367.82	31.27	29.64	121.94	-887.78	174.59	503.76	461.66	42.10	11.965				
7,600.00	7,447.74	7,573.97	7,464.18	31.82	30.13	121.99	-910.87	180.44	515.95	473.14	42.81	12.052				
7,700.00	7,543.59	7,673.22	7,560.53	32.38	30.62	122.04	-933.95	186.28	528.13	484.62	43.52	12.136				
7,800.00	7,639.43	7,772.48	7,656.89	32.94	31.12	122.08	-957.04	192.13	540.32	496.09	44.23	12.217				
7,889.67	7,725.37	7,861.48	7,743.28	33.44	31.56	122.12	-977.75	197.37	551.24	506.38	44.86	12.288				
7,900.00	7,735.28	7,871.73	7,753.24	33.50	31.62	122.14	-980.13	197.97	552.49	507.56	44.93	12.295				
8,000.00	7,831.56	7,971.08	7,849.68	34.04	32.11	122.19	-1,003.25	203.82	563.85	518.20	45.65	12.352				
8,100.00	7,928.52	8,069.84	7,945.60	34.56	32.61	122.22	-1,026.08	209.60	573.84	527.48	46.36	12.378				
8,200.00	8,026.08	8,167.46	8,040.84	35.06	33.08	121.83	-1,046.78	214.84	582.74	535.70	47.04	12.388				
8,300.00	8,124.18	8,265.21	8,136.74	35.53	33.54	121.66	-1,065.15	219.49	590.60	542.91	47.69	12.384				
8,400.00	8,222.76	8,363.09	8,233.22	35.98	33.97	121.52	-1,081.15	223.54	597.42	549.11	48.31	12.366				
8,500.00	8,321.74	8,461.09	8,330.20	36.40	34.38	121.39	-1,094.76	226.98	603.19	554.29	48.90	12.334				
8,600.00	8,421.06	8,559.17	8,427.60	36.79	34.78	121.29	-1,105.97	229.82	607.90	558.44	49.47	12.289				
8,700.00	8,520.65	8,657.34	8,525.34	37.16	35.15	121.20	-1,114.75	232.04	611.55	561.56	50.00	12.232				
8,800.00	8,620.44	8,755.57	8,623.35	37.51	35.50	121.12	-1,121.10	233.65	614.14	563.64	50.49	12.163				
8,900.00	8,720.37	8,853.84	8,721.53	37.83	35.84	121.07	-1,125.00	234.64	615.65	564.69	50.96	12.081				
8,994.64	8,815.00	8,946.87	8,814.55	38.11	36.13	-98.07	-1,126.44	235.00	616.09	564.72	51.37	11.994				
9,000.00	8,820.36	8,952.13	8,819.82	38.13	36.14	-98.07	-1,126.46	235.01	616.09	564.70	51.39	11.988				
9,036.77	8,857.13	8,988.74	8,856.43	38.23	36.25	-98.07	-1,126.47	235.01	616.09	564.55	51.54	11.953				
9,100.00	8,920.36	9,051.97	8,919.66	38.40	36.43	-98.07	-1,126.47	235.01	616.09	564.29	51.80	11.894				
9,200.00	9,020.36	9,151.97	9,019.66	38.68	36.72	-98.07	-1,126.47	235.01	616.09	563.88	52.21	11.801				
9,300.00	9,120.36	9,251.97	9,119.66	38.96	37.02	-98.07	-1,126.47	235.01	616.09	563.47	52.62	11.709				
9,400.00	9,220.36	9,351.97	9,219.66	39.25	37.31	-98.07	-1,126.47	235.01	616.09	563.06	53.03	11.618				
9,500.00	9,320.36	9,451.97	9,319.66	39.53	37.60	-98.07	-1,126.47	235.01	616.09	562.65	53.44	11.528				
9,600.00	9,420.36	9,551.97	9,419.66	39.81	37.90	-98.07	-1,126.47	235.01	616.09	562.23	53.86	11.439				
9,700.00	9,520.36	9,651.97	9,519.66	40.10	38.19	-98.07	-1,126.47	235.01	616.09	561.81	54.28	11.351				
9,800.00	9,620.36	9,751.97	9,619.66	40.39	38.49	-98.07	-1,126.47	235.01	616.09	561.39	54.69	11.264				
9,900.00	9,720.36	9,851.97	9,719.66	40.67	38.79	-98.07	-1,126.47	235.01	616.09	560.97	55.11	11.179				
10,000.00	9,820.36	9,951.97	9,819.66	40.96	39.08	-98.07	-1,126.47	235.01	616.09	560.55	55.53	11.094				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 602H - OH - Plan #1		Offset Site Error:		0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD															Offset Well Error:		0.00 usft	
Reference		Offset		Semi Major Axis			Distance											
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning					
10,100.00	9,920.36	10,051.97	9,919.66	41.25	39.38	-98.07	-1,126.47	235.01	616.09	560.13	55.96	11.010						
10,200.00	10,020.36	10,151.97	10,019.66	41.55	39.68	-98.07	-1,126.47	235.01	616.09	559.71	56.38	10.927						
10,300.00	10,120.36	10,251.97	10,119.66	41.84	39.99	-98.07	-1,126.47	235.01	616.09	559.28	56.81	10.845						
10,400.00	10,220.36	10,351.97	10,219.66	42.13	40.29	-98.07	-1,126.47	235.01	616.09	558.85	57.23	10.764						
10,500.00	10,320.36	10,451.97	10,319.66	42.43	40.59	-98.07	-1,126.47	235.01	616.09	558.43	57.66	10.684						
10,600.00	10,420.36	10,551.97	10,419.66	42.72	40.90	-98.07	-1,126.47	235.01	616.09	558.00	58.09	10.605						
10,700.00	10,520.36	10,651.97	10,519.66	43.02	41.20	-98.07	-1,126.47	235.01	616.09	557.57	58.52	10.527						
10,800.00	10,620.36	10,751.97	10,619.66	43.31	41.51	-98.07	-1,126.47	235.01	616.09	557.13	58.95	10.450						
10,900.00	10,720.36	10,851.97	10,719.66	43.61	41.82	-98.07	-1,126.47	235.01	616.09	556.70	59.39	10.374						
11,000.00	10,820.36	10,951.97	10,819.66	43.91	42.12	-98.07	-1,126.47	235.01	616.09	556.27	59.82	10.299						
11,100.00	10,920.36	11,051.97	10,919.66	44.21	42.43	-98.07	-1,126.47	235.01	616.09	555.83	60.26	10.224						
11,200.00	11,020.36	11,151.97	11,019.66	44.51	42.74	-98.07	-1,126.47	235.01	616.09	555.40	60.69	10.151						
11,300.00	11,120.36	11,251.97	11,119.66	44.81	43.05	-98.07	-1,126.47	235.01	616.09	554.96	61.13	10.078						
11,400.00	11,220.36	11,351.97	11,219.66	45.12	43.36	-98.07	-1,126.47	235.01	616.09	554.52	61.57	10.006						
11,500.00	11,320.36	11,451.97	11,319.66	45.42	43.67	-98.07	-1,126.47	235.01	616.09	554.08	62.01	9.935						
11,600.00	11,420.36	11,551.97	11,419.66	45.72	43.99	-98.07	-1,126.47	235.01	616.09	553.64	62.45	9.865						
11,700.00	11,520.36	11,642.37	11,509.91	46.03	44.30	-98.42	-1,130.27	235.05	616.67	553.79	62.88	9.807						
11,800.00	11,620.36	11,726.79	11,592.75	46.33	44.67	-99.87	-1,146.10	235.20	619.54	556.16	63.38	9.775						
11,900.00	11,720.36	11,805.05	11,666.71	46.64	45.07	-102.17	-1,171.51	235.45	625.82	561.97	63.85	9.801						
11,950.68	11,771.04	11,841.71	11,700.01	46.80	45.29	-103.55	-1,186.82	235.60	630.77	566.74	64.03	9.851						
12,000.00	11,820.30	11,876.04	11,730.24	46.96	45.50	75.14	-1,203.07	235.76	636.46	572.30	64.16	9.920						
12,050.00	11,869.86	11,910.31	11,759.40	47.14	45.71	73.33	-1,221.06	235.94	642.54	578.29	64.24	10.002						
12,100.00	11,918.67	11,950.00	11,791.76	47.35	45.98	71.43	-1,244.04	236.16	648.81	584.41	64.40	10.074						
12,150.00	11,966.36	11,977.51	11,813.21	47.58	46.17	70.02	-1,261.25	236.33	655.03	590.75	64.28	10.190						
12,200.00	12,012.56	12,010.55	11,837.85	47.83	46.41	68.54	-1,283.26	236.55	661.20	596.95	64.24	10.292						
12,250.00	12,056.93	12,050.00	11,865.55	48.10	46.70	67.03	-1,311.34	236.82	667.19	602.85	64.34	10.370						
12,300.00	12,099.12	12,075.78	11,882.58	48.39	46.91	65.97	-1,330.68	237.01	672.76	608.68	64.08	10.499						
12,350.00	12,138.81	12,100.00	11,897.77	48.69	47.09	65.02	-1,349.55	237.20	678.04	614.27	63.76	10.634						
12,400.00	12,175.70	12,140.11	11,921.13	49.01	47.42	63.93	-1,382.14	237.52	682.67	618.81	63.86	10.691						
12,450.00	12,209.51	12,172.02	11,938.05	49.34	47.69	63.12	-1,409.19	237.78	686.80	623.06	63.74	10.775						
12,500.00	12,239.99	12,200.00	11,951.63	49.69	47.92	62.49	-1,433.65	238.02	690.32	626.78	63.54	10.864						
12,550.00	12,266.90	12,235.48	11,967.11	50.05	48.23	61.92	-1,465.57	238.34	693.12	629.55	63.56	10.904						
12,600.00	12,290.03	12,267.08	11,979.20	50.42	48.51	61.53	-1,494.76	238.62	695.21	631.69	63.52	10.944						
12,650.00	12,309.21	12,300.00	11,990.07	50.81	48.80	61.28	-1,525.82	238.93	696.56	633.01	63.55	10.960						
12,700.00	12,324.30	12,330.16	11,998.45	51.20	49.07	61.18	-1,554.79	239.21	697.13	633.56	63.57	10.966						
12,750.00	12,335.17	12,361.67	12,005.56	51.60	49.35	61.22	-1,585.49	239.51	696.93	633.25	63.68	10.944						
12,800.00	12,341.76	12,400.00	12,011.92	52.01	49.70	61.42	-1,623.27	239.88	696.01	632.00	64.01	10.874						
12,850.68	12,344.00	12,425.21	12,014.72	52.42	49.93	61.72	-1,648.33	240.13	694.19	630.08	64.12	10.827						
12,900.00	12,344.00	12,456.51	12,016.65	52.83	50.22	61.86	-1,679.56	240.43	692.75	628.37	64.38	10.760						
12,948.52	12,344.00	12,493.71	12,017.00	53.24	50.56	61.89	-1,716.76	240.80	692.49	627.79	64.70	10.703						
13,000.00	12,344.00	12,545.19	12,017.00	53.68	51.04	61.89	-1,768.23	241.30	692.49	627.24	65.25	10.613						
13,100.00	12,344.00	12,645.19	12,017.00	54.57	51.99	61.89	-1,868.23	242.29	692.49	626.13	66.36	10.436						
13,200.00	12,344.00	12,745.19	12,017.00	55.50	52.98	61.89	-1,968.22	243.27	692.49	624.98	67.51	10.258						
13,300.00	12,344.00	12,845.19	12,017.00	56.46	54.00	61.89	-2,068.22	244.25	692.48	623.78	68.70	10.080						
13,400.00	12,344.00	12,945.19	12,017.00	57.45	55.05	61.89	-2,168.21	245.23	692.48	622.55	69.94	9.902						
13,500.00	12,344.00	13,045.19	12,017.00	58.47	56.13	61.89	-2,268.21	246.21	692.48	621.27	71.21	9.724						
13,600.00	12,344.00	13,145.19	12,017.00	59.52	57.23	61.89	-2,368.20	247.19	692.48	619.96	72.52	9.548						
13,700.00	12,344.00	13,245.19	12,017.00	60.60	58.37	61.89	-2,468.20	248.17	692.48	618.61	73.87	9.375						
13,800.00	12,344.00	13,345.19	12,017.00	61.70	59.52	61.89	-2,568.19	249.15	692.47	617.23	75.25	9.203						
13,900.00	12,344.00	13,445.19	12,017.00	62.82	60.70	61.89	-2,668.19	250.13	692.47	615.81	76.66	9.033						
14,000.00	12,344.00	13,545.19	12,017.00	63.97	61.90	61.89	-2,768.18	251.11	692.47	614.37	78.10	8.867						
14,100.00	12,344.00	13,645.19	12,017.00	65.14	63.12	61.89	-2,868.18	252.09	692.47	612.90	79.57	8.703						

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 602H - 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			
14,200.00	12,344.00	13,745.19	12,017.00	66.33	64.36	61.89	-2,968.17	253.07	692.47	611.41	81.06	8.543				
14,300.00	12,344.00	13,845.19	12,017.00	67.54	65.62	61.89	-3,068.17	254.05	692.47	609.89	82.58	8.386				
14,400.00	12,344.00	13,945.19	12,017.00	68.77	66.90	61.89	-3,168.16	255.04	692.46	608.34	84.12	8.232				
14,500.00	12,344.00	14,045.19	12,017.00	70.02	68.19	61.89	-3,268.16	256.02	692.46	606.78	85.68	8.082				
14,600.00	12,344.00	14,145.19	12,017.00	71.28	69.50	61.89	-3,368.16	257.00	692.46	605.19	87.27	7.935				
14,700.00	12,344.00	14,245.19	12,017.00	72.55	70.82	61.89	-3,468.15	257.98	692.46	603.59	88.87	7.792				
14,800.00	12,344.00	14,345.19	12,017.00	73.85	72.15	61.89	-3,568.15	258.96	692.46	601.97	90.49	7.652				
14,900.00	12,344.00	14,445.19	12,017.00	75.15	73.50	61.89	-3,668.14	259.94	692.45	600.33	92.13	7.516				
15,000.00	12,344.00	14,545.19	12,017.00	76.47	74.86	61.89	-3,768.14	260.92	692.45	598.67	93.78	7.384				
15,100.00	12,344.00	14,645.19	12,017.00	77.81	76.23	61.89	-3,868.13	261.90	692.45	597.00	95.45	7.254				
15,200.00	12,344.00	14,745.19	12,017.00	79.15	77.62	61.89	-3,968.13	262.88	692.45	595.31	97.14	7.129				
15,300.00	12,344.00	14,845.19	12,017.00	80.51	79.01	61.89	-4,068.12	263.86	692.45	593.61	98.83	7.006				
15,400.00	12,344.00	14,945.19	12,017.00	81.87	80.41	61.89	-4,168.12	264.84	692.45	591.90	100.55	6.887				
15,500.00	12,344.00	15,045.19	12,017.00	83.25	81.82	61.89	-4,268.11	265.82	692.44	590.18	102.27	6.771				
15,600.00	12,344.00	15,145.19	12,017.00	84.64	83.24	61.89	-4,368.11	266.80	692.44	588.44	104.00	6.658				
15,700.00	12,344.00	15,245.19	12,017.00	86.03	84.67	61.89	-4,468.10	267.78	692.44	586.69	105.75	6.548				
15,800.00	12,344.00	15,345.19	12,017.00	87.44	86.11	61.89	-4,568.10	268.77	692.44	584.94	107.50	6.441				
15,900.00	12,344.00	15,445.19	12,017.00	88.85	87.56	61.89	-4,668.09	269.75	692.44	583.17	109.26	6.337				
16,000.00	12,344.00	15,545.19	12,017.00	90.27	89.01	61.89	-4,768.09	270.73	692.43	581.40	111.04	6.236				
16,100.00	12,344.00	15,645.19	12,017.00	91.70	90.47	61.89	-4,868.08	271.71	692.43	579.61	112.82	6.138				
16,200.00	12,344.00	15,745.19	12,017.00	93.14	91.93	61.89	-4,968.08	272.69	692.43	577.82	114.61	6.042				
16,300.00	12,344.00	15,845.19	12,017.00	94.58	93.40	61.89	-5,068.07	273.67	692.43	576.02	116.41	5.948				
16,400.00	12,344.00	15,945.19	12,017.00	96.03	94.88	61.89	-5,168.07	274.65	692.43	574.22	118.21	5.858				
16,500.00	12,344.00	16,045.19	12,017.00	97.49	96.36	61.89	-5,268.06	275.63	692.43	572.40	120.02	5.769				
16,600.00	12,344.00	16,145.19	12,017.00	98.95	97.85	61.88	-5,368.06	276.61	692.42	570.58	121.84	5.683				
16,700.00	12,344.00	16,245.19	12,017.00	100.42	99.34	61.88	-5,468.05	277.59	692.42	568.76	123.66	5.599				
16,800.00	12,344.00	16,345.19	12,017.00	101.89	100.84	61.88	-5,568.05	278.57	692.42	566.93	125.49	5.518				
16,900.00	12,344.00	16,445.19	12,017.00	103.37	102.35	61.88	-5,668.04	279.55	692.42	565.09	127.33	5.438				
17,000.00	12,344.00	16,545.19	12,017.00	104.86	103.85	61.88	-5,768.04	280.53	692.42	563.25	129.17	5.361				
17,100.00	12,344.00	16,645.19	12,017.00	106.35	105.37	61.88	-5,868.03	281.52	692.41	561.40	131.01	5.285				
17,200.00	12,344.00	16,745.19	12,017.00	107.84	106.88	61.88	-5,968.03	282.50	692.41	559.56	132.86	5.212				
17,300.00	12,344.00	16,845.19	12,017.00	109.34	108.40	61.88	-6,068.03	283.48	692.41	557.70	134.71	5.140				
17,400.00	12,344.00	16,945.19	12,017.00	110.84	109.93	61.88	-6,168.02	284.46	692.41	555.84	136.57	5.070				
17,500.00	12,344.00	17,045.19	12,017.00	112.35	111.45	61.88	-6,268.02	285.44	692.41	553.98	138.43	5.002				
17,600.00	12,344.00	17,145.19	12,017.00	113.86	112.98	61.88	-6,368.01	286.42	692.41	552.11	140.29	4.935				
17,700.00	12,344.00	17,245.19	12,017.00	115.38	114.52	61.88	-6,468.01	287.40	692.40	550.24	142.16	4.871				
17,800.00	12,344.00	17,345.19	12,017.00	116.89	116.06	61.88	-6,568.00	288.38	692.40	548.37	144.03	4.807				
17,900.00	12,344.00	17,445.19	12,017.00	118.42	117.60	61.88	-6,668.00	289.36	692.40	546.50	145.90	4.746				
18,000.00	12,344.00	17,545.19	12,017.00	119.94	119.14	61.88	-6,767.99	290.34	692.40	544.62	147.78	4.685				
18,100.00	12,344.00	17,645.19	12,017.00	121.47	120.69	61.88	-6,867.99	291.32	692.40	542.74	149.66	4.627				
18,200.00	12,344.00	17,745.19	12,017.00	123.00	122.24	61.88	-6,967.98	292.30	692.39	540.86	151.54	4.569				
18,300.00	12,344.00	17,845.19	12,017.00	124.54	123.79	61.88	-7,067.98	293.28	692.39	538.97	153.42	4.513				
18,400.00	12,344.00	17,945.19	12,017.00	126.08	125.34	61.88	-7,167.97	294.27	692.39	537.08	155.31	4.458				
18,500.00	12,344.00	18,045.19	12,017.00	127.62	126.90	61.88	-7,267.97	295.25	692.39	535.19	157.19	4.405				
18,600.00	12,344.00	18,145.19	12,017.00	129.16	128.46	61.88	-7,367.96	296.23	692.39	533.30	159.08	4.352				
18,700.00	12,344.00	18,245.19	12,017.00	130.71	130.02	61.88	-7,467.96	297.21	692.39	531.41	160.97	4.301				
18,800.00	12,344.00	18,345.19	12,017.00	132.26	131.58	61.88	-7,567.95	298.19	692.38	529.52	162.87	4.251				
18,900.00	12,344.00	18,445.19	12,017.00	133.81	133.15	61.88	-7,667.95	299.17	692.38	527.62	164.76	4.202				
19,000.00	12,344.00	18,545.19	12,017.00	135.36	134.72	61.88	-7,767.94	300.15	692.38	525.73	166.65	4.155				
19,100.00	12,344.00	18,645.19	12,017.00	136.92	136.29	61.88	-7,867.94	301.13	692.38	523.83	168.55	4.108				
19,200.00	12,344.00	18,745.19	12,017.00	138.48	137.86	61.88	-7,967.93	302.11	692.38	521.93	170.45	4.062				
19,300.00	12,344.00	18,845.19	12,017.00	140.04	139.43	61.88	-8,067.93	303.09	692.37	520.03	172.35	4.017				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)						
19,400.00	12,344.00	18,945.19	12,017.00	141.60	141.01	61.88	-8,167.92	304.07	692.37	518.13	174.24	3.974		
19,500.00	12,344.00	19,045.19	12,017.00	143.16	142.58	61.88	-8,267.92	305.05	692.37	516.23	176.14	3.931		
19,600.00	12,344.00	19,145.19	12,017.00	144.73	144.16	61.88	-8,367.91	306.03	692.37	514.32	178.04	3.889		
19,700.00	12,344.00	19,245.19	12,017.00	146.30	145.74	61.88	-8,467.91	307.02	692.37	512.42	179.95	3.848		
19,800.00	12,344.00	19,345.19	12,017.00	147.87	147.32	61.88	-8,567.91	308.00	692.37	510.52	181.85	3.807		
19,900.00	12,344.00	19,445.19	12,017.00	149.44	148.91	61.88	-8,667.90	308.98	692.36	508.61	183.75	3.768		
20,000.00	12,344.00	19,545.19	12,017.00	151.01	150.49	61.88	-8,767.90	309.96	692.36	506.71	185.65	3.729		
20,100.00	12,344.00	19,645.19	12,017.00	152.59	152.08	61.88	-8,867.89	310.94	692.36	504.81	187.55	3.692		
20,200.00	12,344.00	19,745.19	12,017.00	154.17	153.67	61.88	-8,967.89	311.92	692.36	502.90	189.46	3.654		
20,300.00	12,344.00	19,845.19	12,017.00	155.74	155.26	61.88	-9,067.88	312.90	692.36	501.00	191.36	3.618		
20,400.00	12,344.00	19,945.19	12,017.00	157.32	156.85	61.88	-9,167.88	313.88	692.35	499.09	193.26	3.582		
20,500.00	12,344.00	20,045.19	12,017.00	158.91	158.44	61.88	-9,267.87	314.86	692.35	497.19	195.16	3.548		
20,600.00	12,344.00	20,145.19	12,017.00	160.49	160.03	61.88	-9,367.87	315.84	692.35	495.28	197.07	3.513		
20,700.00	12,344.00	20,245.19	12,017.00	162.07	161.62	61.88	-9,467.86	316.82	692.35	493.38	198.97	3.480		
20,800.00	12,344.00	20,345.19	12,017.00	163.66	163.22	61.88	-9,567.86	317.80	692.35	491.48	200.87	3.447		
20,900.00	12,344.00	20,445.19	12,017.00	165.24	164.82	61.88	-9,667.85	318.78	692.35	489.57	202.77	3.414		
21,000.00	12,344.00	20,545.19	12,017.00	166.83	166.41	61.88	-9,767.85	319.76	692.34	487.67	204.68	3.383		
21,100.00	12,344.00	20,645.19	12,017.00	168.42	168.01	61.88	-9,867.84	320.75	692.34	485.76	206.58	3.351		
21,200.00	12,344.00	20,745.19	12,017.00	170.01	169.61	61.88	-9,967.84	321.73	692.34	483.86	208.48	3.321		
21,300.00	12,344.00	20,845.19	12,017.00	171.60	171.21	61.88	-10,067.83	322.71	692.34	481.96	210.38	3.291		
21,400.00	12,344.00	20,945.19	12,017.00	173.20	172.81	61.88	-10,167.83	323.69	692.34	480.06	212.28	3.261		
21,500.00	12,344.00	21,045.19	12,017.00	174.79	174.41	61.88	-10,267.82	324.67	692.33	478.16	214.18	3.233		
21,600.00	12,344.00	21,145.19	12,017.00	176.38	176.02	61.88	-10,367.82	325.65	692.33	476.25	216.08	3.204		
21,700.00	12,344.00	21,245.19	12,017.00	177.98	177.62	61.88	-10,467.81	326.63	692.33	474.36	217.98	3.176		
21,800.00	12,344.00	21,345.19	12,017.00	179.58	179.23	61.88	-10,567.81	327.61	692.33	472.46	219.87	3.149		
21,900.00	12,344.00	21,445.19	12,017.00	181.17	180.83	61.88	-10,667.80	328.59	692.33	470.56	221.77	3.122		
22,000.00	12,344.00	21,545.19	12,017.00	182.77	182.44	61.88	-10,767.80	329.57	692.33	468.66	223.67	3.095		
22,100.00	12,344.00	21,645.19	12,017.00	184.37	184.05	61.88	-10,867.79	330.55	692.32	466.76	225.56	3.069		
22,200.00	12,344.00	21,745.19	12,017.00	185.97	185.65	61.88	-10,967.79	331.53	692.32	464.87	227.46	3.044		
22,300.00	12,344.00	21,845.19	12,017.00	187.57	187.26	61.88	-11,067.78	332.51	692.32	462.97	229.35	3.019		
22,400.00	12,344.00	21,945.19	12,017.00	189.18	188.87	61.88	-11,167.78	333.50	692.32	461.08	231.24	2.994		
22,500.00	12,344.00	22,045.19	12,017.00	190.78	190.48	61.88	-11,267.78	334.48	692.32	459.18	233.13	2.970		
22,600.00	12,344.00	22,145.19	12,017.00	192.38	192.09	61.88	-11,367.77	335.46	692.31	457.29	235.02	2.946		
22,641.62	12,344.00	22,186.82	12,017.00	193.00	192.77	61.88	-11,409.39	335.87	692.31	456.59	235.72	2.937 SF		
22,642.51	12,344.00	22,187.30	12,017.00	193.01	192.77	61.88	-11,409.88	335.87	692.31	456.59	235.72	2.937		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design		Tatanka Fed Com - Tatanka Fed Com 603H - OH - Plan #1											Offset Site Error:	0.00 usft
Survey Program:		0-OWSG (Rev2) MWD											Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	+N/-S (usft)	+E/-W (usft)	(usft)	(usft)	(usft)			
0.00	0.00	0.10	0.10	0.00	0.00	89.46	0.47	49.99	49.99					
100.00	100.00	100.10	100.10	0.13	0.13	89.46	0.47	49.99	49.99	49.81	0.18	281.348		
200.00	200.00	200.10	200.10	0.48	0.48	89.46	0.47	49.99	49.99	49.31	0.68	73.019		
300.00	300.00	300.10	300.10	0.84	0.84	89.46	0.47	49.99	49.99	48.80	1.19	41.954		
400.00	400.00	400.10	400.10	1.20	1.20	89.46	0.47	49.99	49.99	48.29	1.70	29.432		
500.00	500.00	500.10	500.10	1.56	1.56	89.46	0.47	49.99	49.99	47.79	2.21	22.667		
600.00	600.00	600.10	600.10	1.92	1.92	89.46	0.47	49.99	49.99	47.28	2.71	18.431		
700.00	700.00	700.10	700.10	2.28	2.28	89.46	0.47	49.99	49.99	46.77	3.22	15.528		
800.00	800.00	800.10	800.10	2.63	2.64	89.46	0.47	49.99	49.99	46.27	3.73	13.416		
900.00	900.00	900.10	900.10	2.99	2.99	89.46	0.47	49.99	49.99	45.76	4.23	11.809		
1,000.00	1,000.00	1,000.10	1,000.10	3.35	3.35	89.46	0.47	49.99	49.99	45.25	4.74	10.546		
1,100.00	1,100.00	1,100.10	1,100.10	3.71	3.71	89.46	0.47	49.99	49.99	44.74	5.25	9.527		
1,200.00	1,200.00	1,200.10	1,200.10	4.07	4.07	89.46	0.47	49.99	49.99	44.24	5.75	8.688		
1,300.00	1,300.00	1,300.10	1,300.10	4.43	4.43	89.46	0.47	49.99	49.99	43.73	6.26	7.985		
1,400.00	1,400.00	1,400.10	1,400.10	4.79	4.79	89.46	0.47	49.99	49.99	43.22	6.77	7.386		
1,500.00	1,500.00	1,500.10	1,500.10	5.14	5.14	89.46	0.47	49.99	49.99	42.72	7.28	6.872		
1,600.00	1,600.00	1,600.10	1,600.10	5.50	5.50	89.46	0.47	49.99	49.99	42.21	7.78	6.424		
1,700.00	1,700.00	1,700.10	1,700.10	5.86	5.86	89.46	0.47	49.99	49.99	41.70	8.29	6.031		
1,800.00	1,800.00	1,800.10	1,800.10	6.22	6.22	89.46	0.47	49.99	49.99	41.20	8.80	5.684		
1,900.00	1,900.00	1,900.10	1,900.10	6.58	6.58	89.46	0.47	49.99	49.99	40.69	9.30	5.374		
2,000.00	2,000.00	2,000.10	2,000.10	6.94	6.94	89.46	0.47	49.99	49.99	40.18	9.81	5.096		
2,100.00	2,100.00	2,100.10	2,100.10	7.29	7.30	89.46	0.47	49.99	49.99	39.68	10.32	4.846		
2,200.00	2,200.00	2,200.10	2,200.10	7.65	7.65	89.46	0.47	49.99	49.99	39.17	10.82	4.619		
2,300.00	2,300.00	2,300.10	2,300.10	8.01	8.01	89.46	0.47	49.99	49.99	38.66	11.33	4.412		
2,400.00	2,400.00	2,400.10	2,400.10	8.37	8.37	89.46	0.47	49.99	49.99	38.15	11.84	4.223		
2,500.00	2,500.00	2,500.10	2,500.10	8.73	8.73	89.46	0.47	49.99	49.99	37.65	12.34	4.050		
2,600.00	2,600.00	2,600.10	2,600.10	9.09	9.09	89.46	0.47	49.99	49.99	37.14	12.85	3.890		
2,700.00	2,700.00	2,700.10	2,700.10	9.45	9.45	89.46	0.47	49.99	49.99	36.63	13.36	3.742		
2,800.00	2,800.00	2,800.10	2,800.10	9.80	9.80	89.46	0.47	49.99	49.99	36.13	13.87	3.606		
2,900.00	2,900.00	2,900.10	2,900.10	10.16	10.16	89.46	0.47	49.99	49.99	35.62	14.37	3.478		
3,000.00	3,000.00	3,000.10	3,000.10	10.52	10.52	89.46	0.47	49.99	49.99	35.11	14.88	3.360		
3,100.00	3,100.00	3,100.10	3,100.10	10.88	10.88	89.46	0.47	49.99	49.99	34.61	15.39	3.249		
3,116.63	3,116.63	3,116.73	3,116.73	10.94	10.94	89.46	0.47	49.99	49.99	34.52	15.47	3.231 CC		
3,200.00	3,200.00	3,200.00	3,200.00	11.24	11.24	89.46	0.47	49.99	49.99	34.10	15.89	3.146		
3,300.00	3,299.99	3,299.09	3,299.08	11.58	11.58	-51.67	-0.33	50.99	50.18	33.81	16.37	3.065 ES		
3,400.00	3,399.91	3,398.09	3,398.00	11.91	11.91	-52.35	-2.74	54.00	50.76	33.93	16.82	3.017		
3,500.00	3,499.69	3,497.07	3,496.77	12.24	12.24	-53.44	-6.74	59.01	51.72	34.46	17.27	2.996		
3,600.00	3,599.27	3,596.04	3,595.33	12.57	12.57	-54.90	-12.34	66.01	53.11	35.40	17.71	2.999		
3,700.00	3,698.57	3,695.00	3,693.61	12.91	12.91	-56.66	-19.54	75.00	54.94	36.78	18.15	3.026		
3,800.00	3,797.54	3,793.93	3,791.54	13.25	13.25	-58.66	-28.32	85.97	57.24	38.63	18.60	3.077		
3,900.00	3,896.09	3,892.85	3,889.05	13.60	13.59	-60.82	-38.68	98.92	60.03	40.97	19.06	3.150		
4,000.00	3,994.16	3,991.73	3,986.08	13.96	13.95	-63.06	-50.61	113.83	63.35	43.82	19.53	3.244		
4,100.00	4,091.70	4,090.59	4,082.54	14.32	14.32	-65.31	-64.09	130.70	67.21	47.20	20.01	3.358		
4,200.00	4,188.62	4,189.41	4,178.39	14.70	14.70	-67.54	-79.13	149.49	71.63	51.11	20.52	3.490		
4,304.97	4,289.63	4,293.12	4,278.26	15.12	15.11	-69.79	-96.57	171.30	76.88	55.80	21.09	3.646		
4,400.00	4,380.70	4,386.94	4,367.93	15.51	15.50	-71.03	-113.81	192.84	82.55	60.95	21.60	3.821		
4,500.00	4,476.55	4,485.94	4,461.83	15.93	15.93	-70.85	-133.39	217.32	89.75	67.59	22.16	4.051		
4,600.00	4,572.39	4,585.66	4,556.24	16.36	16.38	-70.41	-153.45	242.39	97.24	74.49	22.75	4.275		
4,700.00	4,668.24	4,685.37	4,650.64	16.81	16.84	-70.04	-173.51	267.47	104.74	81.38	23.35	4.485		
4,800.00	4,764.08	4,785.09	4,745.05	17.26	17.31	-69.72	-193.57	292.55	112.24	88.27	23.97	4.682		
4,900.00	4,859.93	4,884.80	4,839.45	17.72	17.80	-69.43	-213.64	317.62	119.74	95.14	24.60	4.867		
5,000.00	4,955.77	4,984.52	4,933.85	18.18	18.29	-69.18	-233.70	342.70	127.25	102.01	25.24	5.041		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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	5,051.62	5,084.24	5,028.26	18.66	18.80	-68.96	-253.76	367.77	134.76	108.87	25.89	5.205		
5,200.00	5,147.46	5,183.95	5,122.66	19.14	19.31	-68.76	-273.82	392.85	142.27	115.72	26.55	5.359		
5,300.00	5,243.31	5,283.67	5,217.07	19.63	19.83	-68.58	-293.88	417.93	149.78	122.56	27.22	5.503		
5,400.00	5,339.15	5,383.39	5,311.47	20.12	20.36	-68.42	-313.94	443.00	157.29	129.40	27.89	5.640		
5,500.00	5,435.00	5,483.10	5,405.87	20.62	20.90	-68.27	-334.00	468.08	164.81	136.23	28.57	5.768		
5,600.00	5,530.84	5,582.82	5,500.28	21.12	21.44	-68.14	-354.06	493.15	172.32	143.06	29.26	5.890		
5,700.00	5,626.69	5,682.54	5,594.68	21.63	21.98	-68.01	-374.12	518.23	179.84	149.88	29.95	6.004		
5,800.00	5,722.53	5,782.25	5,689.09	22.14	22.54	-67.90	-394.18	543.31	187.35	156.70	30.65	6.112		
5,900.00	5,818.38	5,881.97	5,783.49	22.65	23.09	-67.80	-414.24	568.38	194.87	163.51	31.36	6.215		
6,000.00	5,914.22	5,981.69	5,877.89	23.17	23.65	-67.70	-434.30	593.46	202.39	170.32	32.07	6.312		
6,100.00	6,010.07	6,081.40	5,972.30	23.69	24.22	-67.61	-454.36	618.53	209.91	177.13	32.78	6.403		
6,200.00	6,105.91	6,181.12	6,066.70	24.22	24.79	-67.53	-474.43	643.61	217.42	183.93	33.50	6.490		
6,300.00	6,201.76	6,280.83	6,161.11	24.75	25.36	-67.45	-494.49	668.68	224.94	190.72	34.22	6.573		
6,400.00	6,297.60	6,380.55	6,255.51	25.28	25.94	-67.38	-514.55	693.76	232.46	197.52	34.95	6.652		
6,500.00	6,393.45	6,480.27	6,349.92	25.81	26.52	-67.31	-534.61	718.84	239.98	204.31	35.68	6.726		
6,600.00	6,489.29	6,579.98	6,444.32	26.35	27.11	-67.24	-554.67	743.91	247.50	211.09	36.41	6.798		
6,700.00	6,585.14	6,679.70	6,538.72	26.89	27.69	-67.18	-574.73	768.99	255.02	217.88	37.15	6.865		
6,800.00	6,680.98	6,779.42	6,633.13	27.43	28.28	-67.13	-594.79	794.06	262.55	224.66	37.89	6.930		
6,900.00	6,776.83	6,879.13	6,727.53	27.97	28.87	-67.07	-614.85	819.14	270.07	231.44	38.63	6.991		
7,000.00	6,872.67	6,978.85	6,821.94	28.52	29.47	-67.02	-634.91	844.22	277.59	238.21	39.37	7.050		
7,100.00	6,968.52	7,078.57	6,916.34	29.06	30.06	-66.97	-654.97	869.29	285.11	244.99	40.12	7.106		
7,200.00	7,064.36	7,178.28	7,010.74	29.61	30.66	-66.93	-675.03	894.37	292.63	251.76	40.87	7.160		
7,300.00	7,160.21	7,278.00	7,105.15	30.16	31.26	-66.88	-695.09	919.44	300.15	258.53	41.62	7.212		
7,400.00	7,256.05	7,377.72	7,199.55	30.72	31.87	-66.84	-715.15	944.52	307.67	265.30	42.37	7.261		
7,500.00	7,351.90	7,477.43	7,293.96	31.27	32.47	-66.80	-735.21	969.60	315.20	272.07	43.13	7.308		
7,600.00	7,447.74	7,577.15	7,388.36	31.82	33.08	-66.77	-755.28	994.67	322.72	278.83	43.89	7.353		
7,700.00	7,543.59	7,676.87	7,482.76	32.38	33.68	-66.73	-775.34	1,019.75	330.24	285.59	44.65	7.397		
7,800.00	7,639.43	7,776.58	7,577.17	32.94	34.29	-66.70	-795.40	1,044.82	337.76	292.36	45.41	7.438		
7,889.67	7,725.37	7,865.99	7,661.82	33.44	34.84	-66.67	-813.38	1,067.31	344.51	298.42	46.09	7.474		
7,900.00	7,735.28	7,876.30	7,671.57	33.50	34.90	-66.67	-815.46	1,069.90	345.29	299.12	46.17	7.479		
8,000.00	7,831.56	7,975.95	7,765.91	34.04	35.51	-66.52	-835.50	1,094.96	353.44	306.55	46.89	7.537		
8,100.00	7,928.52	8,075.44	7,860.11	34.56	36.12	-66.01	-855.52	1,119.98	362.66	315.11	47.55	7.627		
8,200.00	8,026.08	8,174.71	7,954.09	35.06	36.74	-65.18	-875.49	1,144.94	373.00	324.86	48.14	7.748		
8,300.00	8,124.18	8,273.68	8,047.79	35.53	37.35	-64.08	-895.40	1,169.83	384.59	335.93	48.66	7.903		
8,400.00	8,222.76	8,372.29	8,141.14	35.98	37.96	-62.73	-915.24	1,194.63	397.54	348.43	49.12	8.094		
8,500.00	8,321.74	8,470.47	8,234.09	36.40	38.56	-61.18	-934.99	1,219.32	412.00	362.50	49.50	8.323		
8,600.00	8,421.06	8,568.16	8,326.57	36.79	39.17	-59.47	-954.64	1,243.88	428.14	378.31	49.83	8.592		
8,700.00	8,520.65	8,665.28	8,418.52	37.16	39.77	-57.65	-974.18	1,268.31	446.10	396.00	50.10	8.904		
8,800.00	8,620.44	8,761.77	8,509.87	37.51	40.37	-55.74	-993.59	1,292.57	466.03	415.71	50.32	9.262		
8,900.00	8,720.37	8,857.56	8,600.56	37.83	40.97	-53.80	-1,012.87	1,316.66	488.08	437.58	50.50	9.665		
8,994.64	8,815.00	9,076.40	8,815.10	38.11	41.94	89.49	-1,035.53	1,344.99	500.01	448.86	51.15	9.776		
9,000.00	8,820.36	9,081.76	8,820.46	38.13	41.95	89.49	-1,035.53	1,344.99	500.01	448.84	51.17	9.771		
9,100.00	8,920.36	9,181.76	8,920.46	38.40	42.21	89.49	-1,035.53	1,344.99	500.01	448.43	51.58	9.694		
9,200.00	9,020.36	9,281.76	9,020.46	38.68	42.47	89.49	-1,035.53	1,344.99	500.01	448.02	51.99	9.617		
9,300.00	9,120.36	9,381.76	9,120.46	38.96	42.73	89.49	-1,035.53	1,344.99	500.01	447.61	52.40	9.542		
9,400.00	9,220.36	9,481.76	9,220.46	39.25	42.99	89.49	-1,035.53	1,344.99	500.01	447.19	52.82	9.467		
9,500.00	9,320.36	9,581.76	9,320.46	39.53	43.25	89.49	-1,035.53	1,344.99	500.01	446.78	53.23	9.393		
9,600.00	9,420.36	9,681.76	9,420.46	39.81	43.51	89.49	-1,035.53	1,344.99	500.01	446.36	53.65	9.320		
9,700.00	9,520.36	9,781.76	9,520.46	40.10	43.78	89.49	-1,035.53	1,344.99	500.01	445.94	54.07	9.248		
9,800.00	9,620.36	9,881.76	9,620.46	40.39	44.04	89.49	-1,035.53	1,344.99	500.01	445.52	54.49	9.177		
9,900.00	9,720.36	9,981.76	9,720.46	40.67	44.31	89.49	-1,035.53	1,344.99	500.01	445.10	54.91	9.106		
10,000.00	9,820.36	10,081.76	9,820.46	40.96	44.58	89.49	-1,035.53	1,344.99	500.01	444.68	55.33	9.037		

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Total Directional Services

Anticollision Report



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Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 603H - OH - Plan #1		Offset Site Error:		0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:		0.00 usft			
Reference		Offset		Semi Major Axis			Distance							Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor						
10,100.00	9,920.36	10,181.76	9,920.46	41.25	44.85	89.49	-1,035.53	1,344.99	500.01	444.25	55.76	8.968						
10,200.00	10,020.36	10,281.76	10,020.46	41.55	45.12	89.49	-1,035.53	1,344.99	500.01	443.83	56.18	8.900						
10,300.00	10,120.36	10,381.76	10,120.46	41.84	45.39	89.49	-1,035.53	1,344.99	500.01	443.40	56.61	8.833						
10,400.00	10,220.36	10,481.76	10,220.46	42.13	45.66	89.49	-1,035.53	1,344.99	500.01	442.97	57.04	8.766						
10,500.00	10,320.36	10,581.76	10,320.46	42.43	45.94	89.49	-1,035.53	1,344.99	500.01	442.54	57.47	8.701						
10,600.00	10,420.36	10,681.76	10,420.46	42.72	46.21	89.49	-1,035.53	1,344.99	500.01	442.11	57.90	8.636						
10,700.00	10,520.36	10,781.76	10,520.46	43.02	46.49	89.49	-1,035.53	1,344.99	500.01	441.68	58.33	8.572						
10,800.00	10,620.36	10,881.76	10,620.46	43.31	46.77	89.49	-1,035.53	1,344.99	500.01	441.25	58.76	8.509						
10,900.00	10,720.36	10,981.76	10,720.46	43.61	47.05	89.49	-1,035.53	1,344.99	500.01	440.81	59.20	8.447						
11,000.00	10,820.36	11,081.76	10,820.46	43.91	47.33	89.49	-1,035.53	1,344.99	500.01	440.38	59.63	8.385						
11,100.00	10,920.36	11,181.76	10,920.46	44.21	47.61	89.49	-1,035.53	1,344.99	500.01	439.94	60.07	8.324						
11,200.00	11,020.36	11,281.76	11,020.46	44.51	47.89	89.49	-1,035.53	1,344.99	500.01	439.50	60.51	8.264						
11,300.00	11,120.36	11,381.76	11,120.46	44.81	48.17	89.49	-1,035.53	1,344.99	500.01	439.06	60.95	8.204						
11,400.00	11,220.36	11,481.76	11,220.46	45.12	48.46	89.49	-1,035.53	1,344.99	500.01	438.62	61.39	8.145						
11,500.00	11,320.36	11,581.76	11,320.46	45.42	48.74	89.49	-1,035.53	1,344.99	500.01	438.18	61.83	8.087						
11,600.00	11,420.36	11,681.76	11,420.46	45.72	49.03	89.49	-1,035.53	1,344.99	500.01	437.74	62.27	8.030						
11,608.58	11,428.94	11,690.34	11,429.04	45.75	49.05	89.49	-1,035.53	1,344.99	500.01	437.70	62.31	8.025						
11,700.00	11,520.36	11,781.72	11,520.40	46.03	49.32	89.57	-1,036.23	1,345.00	500.01	437.31	62.70	7.974						
11,800.00	11,620.36	11,879.58	11,617.26	46.33	49.66	91.07	-1,049.38	1,345.13	500.22	437.24	62.98	7.943						
11,900.00	11,720.36	11,970.55	11,704.08	46.64	50.04	94.14	-1,076.21	1,345.39	501.96	438.85	63.11	7.953						
11,950.68	11,771.04	12,012.89	11,742.81	46.80	50.24	96.08	-1,093.32	1,345.56	504.18	441.04	63.14	7.985						
12,000.00	11,820.30	12,050.00	11,775.62	46.96	50.42	-81.25	-1,110.63	1,345.72	507.35	444.16	63.18	8.030						
12,050.00	11,869.86	12,091.22	11,810.67	47.14	50.64	-78.97	-1,132.30	1,345.94	511.25	448.02	63.23	8.085						
12,100.00	11,918.67	12,129.39	11,841.67	47.35	50.85	-76.87	-1,154.56	1,346.15	515.73	452.42	63.31	8.146						
12,150.00	11,966.36	12,166.85	11,870.58	47.58	51.06	-74.88	-1,178.37	1,346.39	520.65	457.25	63.39	8.213						
12,200.00	12,012.56	12,200.00	11,894.81	47.83	51.25	-73.12	-1,200.98	1,346.61	525.88	462.41	63.47	8.285						
12,250.00	12,056.93	12,240.00	11,922.26	48.10	51.50	-71.22	-1,230.07	1,346.89	531.25	467.70	63.55	8.359						
12,300.00	12,099.12	12,275.83	11,945.06	48.39	51.72	-69.58	-1,257.69	1,347.16	536.67	473.04	63.63	8.434						
12,350.00	12,138.81	12,311.25	11,965.87	48.69	51.95	-68.07	-1,286.35	1,347.44	542.02	478.31	63.71	8.507						
12,400.00	12,175.70	12,350.00	11,986.56	49.01	52.20	-66.61	-1,319.11	1,347.76	547.21	483.39	63.82	8.574						
12,450.00	12,209.51	12,381.06	12,001.51	49.34	52.42	-65.47	-1,346.32	1,348.03	552.07	488.14	63.93	8.636						
12,500.00	12,239.99	12,415.54	12,016.36	49.69	52.65	-64.38	-1,377.44	1,348.33	556.58	492.51	64.08	8.686						
12,550.00	12,266.90	12,450.00	12,029.29	50.05	52.90	-63.44	-1,409.37	1,348.65	560.64	496.37	64.27	8.723						
12,600.00	12,290.03	12,483.88	12,040.12	50.42	53.14	-62.64	-1,441.47	1,348.96	564.19	499.67	64.52	8.745						
12,650.00	12,309.21	12,517.80	12,049.04	50.81	53.39	-61.99	-1,474.19	1,349.28	567.17	502.34	64.83	8.748						
12,700.00	12,324.30	12,550.00	12,055.70	51.20	53.63	-61.49	-1,505.68	1,349.59	569.54	504.31	65.23	8.732						
12,750.00	12,335.17	12,585.32	12,060.96	51.60	53.90	-61.12	-1,540.60	1,349.93	571.25	505.56	65.69	8.696						
12,800.00	12,341.76	12,618.98	12,063.97	52.01	54.15	-60.90	-1,574.12	1,350.26	572.28	506.04	66.24	8.639						
12,850.68	12,344.00	12,653.34	12,065.00	52.42	54.42	-60.83	-1,608.46	1,350.59	572.63	505.74	66.89	8.561						
12,867.51	12,344.00	12,669.75	12,065.00	52.56	54.55	-60.83	-1,624.86	1,350.75	572.63	505.56	67.07	8.538						
12,900.00	12,344.00	12,702.24	12,065.00	52.83	54.80	-60.83	-1,657.36	1,351.07	572.63	505.21	67.41	8.494						
13,000.00	12,344.00	12,802.24	12,065.00	53.68	55.61	-60.83	-1,757.35	1,352.05	572.63	504.12	68.51	8.358						
13,100.00	12,344.00	12,902.24	12,065.00	54.57	56.45	-60.83	-1,857.35	1,353.03	572.63	502.98	69.65	8.221						
13,200.00	12,344.00	13,002.24	12,065.00	55.50	57.33	-60.83	-1,957.34	1,354.00	572.62	501.79	70.83	8.084						
13,300.00	12,344.00	13,102.24	12,065.00	56.46	58.24	-60.83	-2,057.34	1,354.98	572.62	500.57	72.05	7.947						
13,400.00	12,344.00	13,202.24	12,065.00	57.45	59.19	-60.83	-2,157.33	1,355.96	572.62	499.31	73.31	7.811						
13,500.00	12,344.00	13,302.24	12,065.00	58.47	60.16	-60.83	-2,257.33	1,356.94	572.62	498.02	74.61	7.675						
13,600.00	12,344.00	13,402.24	12,065.00	59.52	61.17	-60.83	-2,357.32	1,357.92	572.62	496.69	75.93	7.541						
13,700.00	12,344.00	13,502.24	12,065.00	60.60	62.20	-60.83	-2,457.32	1,358.89	572.62	495.33	77.29	7.408						
13,800.00	12,344.00	13,602.24	12,065.00	61.70	63.26	-60.83	-2,557.31	1,359.87	572.62	493.94	78.68	7.278						
13,900.00	12,344.00	13,702.24	12,065.00	62.82	64.35	-60.83	-2,657.31	1,360.85	572.62	492.52	80.10	7.149						
14,000.00	12,344.00	13,802.24	12,065.00	63.97	65.45	-60.83	-2,757.30	1,361.83	572.62	491.08	81.54	7.022						

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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	12,344.00	13,902.24	12,065.00	65.14	66.58	-60.83	-2,857.30	1,362.81	572.62	489.61	83.01	6.898		
14,200.00	12,344.00	14,002.24	12,065.00	66.33	67.74	-60.83	-2,957.29	1,363.78	572.62	488.11	84.51	6.776		
14,300.00	12,344.00	14,102.24	12,065.00	67.54	68.91	-60.83	-3,057.29	1,364.76	572.62	486.60	86.02	6.657		
14,400.00	12,344.00	14,202.24	12,065.00	68.77	70.10	-60.83	-3,157.29	1,365.74	572.62	485.06	87.56	6.540		
14,500.00	12,344.00	14,302.24	12,065.00	70.02	71.31	-60.83	-3,257.28	1,366.72	572.62	483.50	89.11	6.426		
14,600.00	12,344.00	14,402.24	12,065.00	71.28	72.54	-60.83	-3,357.28	1,367.70	572.61	481.92	90.69	6.314		
14,700.00	12,344.00	14,502.24	12,065.00	72.55	73.79	-60.83	-3,457.27	1,368.67	572.61	480.33	92.28	6.205		
14,800.00	12,344.00	14,602.24	12,065.00	73.85	75.05	-60.83	-3,557.27	1,369.65	572.61	478.72	93.89	6.099		
14,900.00	12,344.00	14,702.24	12,065.00	75.15	76.32	-60.83	-3,657.26	1,370.63	572.61	477.09	95.52	5.995		
15,000.00	12,344.00	14,802.24	12,065.00	76.47	77.61	-60.83	-3,757.26	1,371.61	572.61	475.45	97.16	5.894		
15,100.00	12,344.00	14,902.24	12,065.00	77.81	78.92	-60.83	-3,857.25	1,372.58	572.61	473.80	98.81	5.795		
15,200.00	12,344.00	15,002.24	12,065.00	79.15	80.23	-60.83	-3,957.25	1,373.56	572.61	472.13	100.48	5.699		
15,300.00	12,344.00	15,102.24	12,065.00	80.51	81.56	-60.83	-4,057.24	1,374.54	572.61	470.45	102.16	5.605		
15,400.00	12,344.00	15,202.24	12,065.00	81.87	82.90	-60.83	-4,157.24	1,375.52	572.61	468.76	103.85	5.514		
15,500.00	12,344.00	15,302.24	12,065.00	83.25	84.25	-60.83	-4,257.23	1,376.50	572.61	467.05	105.56	5.425		
15,600.00	12,344.00	15,402.24	12,065.00	84.64	85.62	-60.83	-4,357.23	1,377.47	572.61	465.34	107.27	5.338		
15,700.00	12,344.00	15,502.24	12,065.00	86.03	86.99	-60.83	-4,457.22	1,378.45	572.61	463.61	108.99	5.254		
15,800.00	12,344.00	15,602.24	12,065.00	87.44	88.37	-60.83	-4,557.22	1,379.43	572.61	461.88	110.73	5.171		
15,900.00	12,344.00	15,702.24	12,065.00	88.85	89.76	-60.83	-4,657.21	1,380.41	572.61	460.14	112.47	5.091		
16,000.00	12,344.00	15,802.24	12,065.00	90.27	91.16	-60.83	-4,757.21	1,381.39	572.61	458.39	114.22	5.013		
16,100.00	12,344.00	15,902.24	12,065.00	91.70	92.57	-60.83	-4,857.20	1,382.36	572.60	456.63	115.97	4.937		
16,200.00	12,344.00	16,002.24	12,065.00	93.14	93.98	-60.83	-4,957.20	1,383.34	572.60	454.87	117.74	4.863		
16,300.00	12,344.00	16,102.24	12,065.00	94.58	95.41	-60.83	-5,057.19	1,384.32	572.60	453.09	119.51	4.791		
16,400.00	12,344.00	16,202.24	12,065.00	96.03	96.84	-60.83	-5,157.19	1,385.30	572.60	451.32	121.29	4.721		
16,500.00	12,344.00	16,302.24	12,065.00	97.49	98.28	-60.83	-5,257.18	1,386.28	572.60	449.53	123.07	4.653		
16,600.00	12,344.00	16,402.24	12,065.00	98.95	99.72	-60.83	-5,357.18	1,387.25	572.60	447.74	124.86	4.586		
16,700.00	12,344.00	16,502.24	12,065.00	100.42	101.17	-60.83	-5,457.18	1,388.23	572.60	445.95	126.65	4.521		
16,800.00	12,344.00	16,602.24	12,065.00	101.89	102.63	-60.83	-5,557.17	1,389.21	572.60	444.15	128.45	4.458		
16,900.00	12,344.00	16,702.24	12,065.00	103.37	104.09	-60.83	-5,657.17	1,390.19	572.60	442.34	130.26	4.396		
17,000.00	12,344.00	16,802.24	12,065.00	104.86	105.56	-60.83	-5,757.16	1,391.16	572.60	440.53	132.07	4.336		
17,100.00	12,344.00	16,902.24	12,065.00	106.35	107.03	-60.83	-5,857.16	1,392.14	572.60	438.72	133.88	4.277		
17,200.00	12,344.00	17,002.24	12,065.00	107.84	108.51	-60.83	-5,957.15	1,393.12	572.60	436.90	135.70	4.220		
17,300.00	12,344.00	17,102.24	12,065.00	109.34	110.00	-60.83	-6,057.15	1,394.10	572.60	435.08	137.52	4.164		
17,400.00	12,344.00	17,202.24	12,065.00	110.84	111.48	-60.83	-6,157.14	1,395.08	572.60	433.25	139.34	4.109		
17,500.00	12,344.00	17,302.24	12,065.00	112.35	112.98	-60.83	-6,257.14	1,396.05	572.59	431.43	141.17	4.056		
17,600.00	12,344.00	17,402.24	12,065.00	113.86	114.47	-60.83	-6,357.13	1,397.03	572.59	429.59	143.00	4.004		
17,700.00	12,344.00	17,502.24	12,065.00	115.38	115.98	-60.83	-6,457.13	1,398.01	572.59	427.76	144.83	3.953		
17,800.00	12,344.00	17,602.24	12,065.00	116.89	117.48	-60.83	-6,557.12	1,398.99	572.59	425.92	146.67	3.904		
17,900.00	12,344.00	17,702.24	12,065.00	118.42	118.99	-60.83	-6,657.12	1,399.97	572.59	424.09	148.51	3.856		
18,000.00	12,344.00	17,802.24	12,065.00	119.94	120.50	-60.83	-6,757.11	1,400.94	572.59	422.25	150.35	3.809		
18,100.00	12,344.00	17,902.24	12,065.00	121.47	122.02	-60.83	-6,857.11	1,401.92	572.59	420.40	152.19	3.762		
18,200.00	12,344.00	18,002.24	12,065.00	123.00	123.54	-60.83	-6,957.10	1,402.90	572.59	418.56	154.03	3.717		
18,300.00	12,344.00	18,102.24	12,065.00	124.54	125.06	-60.83	-7,057.10	1,403.88	572.59	416.71	155.88	3.673		
18,400.00	12,344.00	18,202.24	12,065.00	126.08	126.59	-60.83	-7,157.09	1,404.85	572.59	414.87	157.72	3.630		
18,500.00	12,344.00	18,302.24	12,065.00	127.62	128.12	-60.83	-7,257.09	1,405.83	572.59	413.02	159.57	3.588		
18,600.00	12,344.00	18,402.24	12,065.00	129.16	129.65	-60.83	-7,357.08	1,406.81	572.59	411.17	161.42	3.547		
18,700.00	12,344.00	18,502.24	12,065.00	130.71	131.19	-60.83	-7,457.08	1,407.79	572.59	409.32	163.27	3.507		
18,800.00	12,344.00	18,602.24	12,065.00	132.26	132.73	-60.83	-7,557.07	1,408.77	572.59	407.46	165.12	3.468		
18,900.00	12,344.00	18,702.24	12,065.00	133.81	134.27	-60.83	-7,657.07	1,409.74	572.58	405.61	166.97	3.429		
19,000.00	12,344.00	18,802.24	12,065.00	135.36	135.81	-60.83	-7,757.07	1,410.72	572.58	403.76	168.83	3.392		
19,100.00	12,344.00	18,902.24	12,065.00	136.92	137.36	-60.83	-7,857.06	1,411.70	572.58	401.90	170.68	3.355		
19,200.00	12,344.00	19,002.24	12,065.00	138.48	138.91	-60.83	-7,957.06	1,412.68	572.58	400.05	172.53	3.319		

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 Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,300.00	12,344.00	19,102.24	12,065.00	140.04	140.46	-60.83	-8,057.05	1,413.66	572.58	398.19	174.39	3.283		
19,400.00	12,344.00	19,202.24	12,065.00	141.60	142.01	-60.83	-8,157.05	1,414.63	572.58	396.34	176.24	3.249		
19,500.00	12,344.00	19,302.24	12,065.00	143.16	143.57	-60.83	-8,257.04	1,415.61	572.58	394.48	178.10	3.215		
19,600.00	12,344.00	19,402.24	12,065.00	144.73	145.13	-60.83	-8,357.04	1,416.59	572.58	392.63	179.95	3.182		
19,700.00	12,344.00	19,502.24	12,065.00	146.30	146.69	-60.83	-8,457.03	1,417.57	572.58	390.77	181.81	3.149		
19,800.00	12,344.00	19,602.24	12,065.00	147.87	148.25	-60.83	-8,557.03	1,418.55	572.58	388.92	183.66	3.118		
19,900.00	12,344.00	19,702.24	12,065.00	149.44	149.81	-60.83	-8,657.02	1,419.52	572.58	387.06	185.52	3.086		
20,000.00	12,344.00	19,802.24	12,065.00	151.01	151.38	-60.83	-8,757.02	1,420.50	572.58	385.21	187.37	3.056		
20,100.00	12,344.00	19,902.24	12,065.00	152.59	152.95	-60.83	-8,857.01	1,421.48	572.58	383.35	189.22	3.026		
20,200.00	12,344.00	20,002.24	12,065.00	154.17	154.51	-60.83	-8,957.01	1,422.46	572.58	381.50	191.08	2.997		
20,300.00	12,344.00	20,102.24	12,065.00	155.74	156.09	-60.83	-9,057.00	1,423.43	572.57	379.64	192.93	2.968		
20,400.00	12,344.00	20,202.24	12,065.00	157.32	157.66	-60.83	-9,157.00	1,424.41	572.57	377.79	194.78	2.940		
20,500.00	12,344.00	20,302.24	12,065.00	158.91	159.23	-60.83	-9,256.99	1,425.39	572.57	375.94	196.63	2.912		
20,600.00	12,344.00	20,402.24	12,065.00	160.49	160.81	-60.83	-9,356.99	1,426.37	572.57	374.09	198.48	2.885		
20,700.00	12,344.00	20,502.24	12,065.00	162.07	162.38	-60.83	-9,456.98	1,427.35	572.57	372.24	200.33	2.858		
20,800.00	12,344.00	20,602.24	12,065.00	163.66	163.96	-60.83	-9,556.98	1,428.32	572.57	370.39	202.18	2.832		
20,900.00	12,344.00	20,702.24	12,065.00	165.24	165.54	-60.83	-9,656.97	1,429.30	572.57	368.54	204.03	2.806		
21,000.00	12,344.00	20,802.24	12,065.00	166.83	167.12	-60.83	-9,756.97	1,430.28	572.57	366.69	205.88	2.781		
21,100.00	12,344.00	20,902.24	12,065.00	168.42	168.71	-60.83	-9,856.96	1,431.26	572.57	364.84	207.72	2.756		
21,200.00	12,344.00	21,002.24	12,065.00	170.01	170.29	-60.83	-9,956.96	1,432.24	572.57	363.00	209.57	2.732		
21,300.00	12,344.00	21,102.24	12,065.00	171.60	171.88	-60.83	-10,056.96	1,433.21	572.57	361.16	211.41	2.708		
21,400.00	12,344.00	21,202.24	12,065.00	173.20	173.46	-60.83	-10,156.95	1,434.19	572.57	359.31	213.26	2.685		
21,500.00	12,344.00	21,302.24	12,065.00	174.79	175.05	-60.83	-10,256.95	1,435.17	572.57	357.47	215.10	2.662		
21,600.00	12,344.00	21,402.24	12,065.00	176.38	176.64	-60.83	-10,356.94	1,436.15	572.57	355.63	216.94	2.639		
21,700.00	12,344.00	21,502.24	12,065.00	177.98	178.23	-60.83	-10,456.94	1,437.13	572.56	353.79	218.77	2.617		
21,800.00	12,344.00	21,602.24	12,065.00	179.58	179.82	-60.83	-10,556.93	1,438.10	572.56	351.95	220.61	2.595		
21,900.00	12,344.00	21,702.24	12,065.00	181.17	181.41	-60.83	-10,656.93	1,439.08	572.56	350.12	222.45	2.574		
22,000.00	12,344.00	21,802.24	12,065.00	182.77	183.01	-60.83	-10,756.92	1,440.06	572.56	348.28	224.28	2.553		
22,100.00	12,344.00	21,902.24	12,065.00	184.37	184.60	-60.83	-10,856.92	1,441.04	572.56	346.45	226.11	2.532		
22,200.00	12,344.00	22,002.24	12,065.00	185.97	186.20	-60.83	-10,956.91	1,442.01	572.56	344.62	227.95	2.512		
22,300.00	12,344.00	22,102.24	12,065.00	187.57	187.79	-60.83	-11,056.91	1,442.99	572.56	342.79	229.78	2.492		
22,400.00	12,344.00	22,202.24	12,065.00	189.18	189.39	-60.83	-11,156.90	1,443.97	572.56	340.96	231.60	2.472		
22,500.00	12,344.00	22,302.24	12,065.00	190.78	190.99	-60.83	-11,256.90	1,444.95	572.56	339.13	233.43	2.453		
22,600.00	12,344.00	22,402.24	12,065.00	192.38	192.59	-60.83	-11,356.89	1,445.93	572.56	337.31	235.25	2.434		
22,642.51	12,344.00	22,444.75	12,065.00	193.01	193.27	-60.83	-11,399.40	1,446.34	572.56	336.55	236.01	2.426 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 Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 604H - OH - Plan #2		Offset Site Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	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	111.20	-992.37	2,558.58	2,744.63							
100.00	100.00	56.70	56.70	0.13	0.07	111.20	-992.37	2,558.58	2,744.29	2,744.15	0.14	N/A				
200.00	200.00	156.70	156.70	0.48	0.33	111.20	-992.37	2,558.58	2,744.29	2,743.71	0.59	4,690.918				
300.00	300.00	256.70	256.70	0.84	0.69	111.20	-992.37	2,558.58	2,744.29	2,743.20	1.09	2,524.312				
400.00	400.00	356.70	356.70	1.20	1.05	111.20	-992.37	2,558.58	2,744.29	2,742.70	1.59	1,723.441				
500.00	500.00	456.70	456.70	1.56	1.40	111.20	-992.37	2,558.58	2,744.29	2,742.19	2.10	1,307.819				
600.00	600.00	556.70	556.70	1.92	1.76	111.20	-992.37	2,558.58	2,744.29	2,741.69	2.60	1,053.564				
700.00	700.00	656.70	656.70	2.28	2.12	111.20	-992.37	2,558.58	2,744.29	2,741.18	3.11	882.026				
800.00	800.00	756.70	756.70	2.63	2.48	111.20	-992.37	2,558.58	2,744.29	2,740.67	3.62	758.504				
900.00	900.00	856.70	856.70	2.99	2.84	111.20	-992.37	2,558.58	2,744.29	2,740.17	4.12	665.318				
1,000.00	1,000.00	956.70	956.70	3.35	3.20	111.20	-992.37	2,558.58	2,744.29	2,739.66	4.63	592.517				
1,100.00	1,100.00	1,056.70	1,056.70	3.71	3.55	111.20	-992.37	2,558.58	2,744.29	2,739.15	5.14	534.074				
1,200.00	1,200.00	1,156.70	1,156.70	4.07	3.91	111.20	-992.37	2,558.58	2,744.29	2,738.65	5.65	486.123				
1,300.00	1,300.00	1,256.70	1,256.70	4.43	4.27	111.20	-992.37	2,558.58	2,744.29	2,738.14	6.15	446.072				
1,400.00	1,400.00	1,356.70	1,356.70	4.79	4.63	111.20	-992.37	2,558.58	2,744.29	2,737.63	6.66	412.117				
1,500.00	1,500.00	1,456.70	1,456.70	5.14	4.99	111.20	-992.37	2,558.58	2,744.29	2,737.12	7.17	382.966				
1,600.00	1,600.00	1,556.70	1,556.70	5.50	5.35	111.20	-992.37	2,558.58	2,744.29	2,736.62	7.67	357.665				
1,700.00	1,700.00	1,656.70	1,656.70	5.86	5.71	111.20	-992.37	2,558.58	2,744.29	2,736.11	8.18	335.500				
1,800.00	1,800.00	1,756.70	1,756.70	6.22	6.06	111.20	-992.37	2,558.58	2,744.29	2,735.60	8.69	315.922				
1,900.00	1,900.00	1,856.70	1,856.70	6.58	6.42	111.20	-992.37	2,558.58	2,744.29	2,735.10	9.19	298.502				
2,000.00	2,000.00	1,956.70	1,956.70	6.94	6.78	111.20	-992.37	2,558.58	2,744.29	2,734.59	9.70	282.903				
2,100.00	2,100.00	2,056.70	2,056.70	7.29	7.14	111.20	-992.37	2,558.58	2,744.29	2,734.08	10.21	268.854				
2,200.00	2,200.00	2,156.70	2,156.70	7.65	7.50	111.20	-992.37	2,558.58	2,744.29	2,733.58	10.71	256.133				
2,300.00	2,300.00	2,256.70	2,256.70	8.01	7.86	111.20	-992.37	2,558.58	2,744.29	2,733.07	11.22	244.562				
2,400.00	2,400.00	2,356.70	2,356.70	8.37	8.22	111.20	-992.37	2,558.58	2,744.29	2,732.56	11.73	233.991				
2,500.00	2,500.00	2,456.70	2,456.70	8.73	8.57	111.20	-992.37	2,558.58	2,744.29	2,732.06	12.24	224.297				
2,600.00	2,600.00	2,556.70	2,556.70	9.09	8.93	111.20	-992.37	2,558.58	2,744.29	2,731.55	12.74	215.373				
2,700.00	2,700.00	2,656.70	2,656.70	9.45	9.29	111.20	-992.37	2,558.58	2,744.29	2,731.04	13.25	207.132				
2,800.00	2,800.00	2,756.70	2,756.70	9.80	9.65	111.20	-992.37	2,558.58	2,744.29	2,730.53	13.76	199.499				
2,900.00	2,900.00	2,856.70	2,856.70	10.16	10.01	111.20	-992.37	2,558.58	2,744.29	2,730.03	14.26	192.408				
3,000.00	3,000.00	2,956.70	2,956.70	10.52	10.37	111.20	-992.37	2,558.58	2,744.29	2,729.52	14.77	185.804				
3,100.00	3,100.00	3,056.70	3,056.70	10.88	10.72	111.20	-992.37	2,558.58	2,744.29	2,729.01	15.28	179.639				
3,200.00	3,200.00	3,156.70	3,156.70	11.24	11.08	111.20	-992.37	2,558.58	2,744.29	2,728.51	15.78	173.869				
3,300.00	3,299.99	3,256.69	3,256.69	11.58	11.44	-29.73	-992.37	2,558.58	2,743.15	2,726.87	16.28	168.510				
3,400.00	3,399.91	3,356.61	3,356.61	11.91	11.80	-29.79	-992.37	2,558.58	2,739.74	2,722.98	16.76	163.439				
3,500.00	3,499.69	3,433.28	3,433.28	12.24	12.07	-29.89	-992.39	2,558.72	2,734.31	2,717.12	17.19	159.093				
3,600.00	3,599.27	3,500.00	3,499.99	12.57	12.30	-30.01	-992.53	2,559.88	2,727.98	2,710.40	17.58	155.156				
3,700.00	3,698.57	3,550.92	3,550.88	12.91	12.48	-30.13	-992.74	2,561.54	2,720.85	2,702.92	17.93	151.729				
3,800.00	3,797.54	3,600.00	3,599.91	13.25	12.64	-30.28	-993.01	2,563.78	2,713.02	2,694.75	18.27	148.457				
3,900.00	3,896.09	3,649.27	3,649.05	13.60	12.88	-30.49	-993.54	2,567.99	2,704.40	2,685.73	18.67	144.852				
4,000.00	3,994.16	3,768.09	3,767.63	13.96	13.22	-30.81	-994.38	2,574.84	2,694.30	2,675.16	19.15	140.716				
4,100.00	4,091.70	3,866.50	3,865.79	14.32	13.56	-31.18	-995.23	2,581.66	2,682.03	2,662.40	19.63	136.653				
4,200.00	4,188.62	3,964.42	3,963.48	14.70	13.90	-31.60	-996.07	2,588.45	2,667.60	2,647.50	20.11	132.659				
4,304.97	4,289.63	4,066.63	4,065.43	15.12	14.25	-32.09	-996.95	2,595.53	2,650.18	2,629.56	20.62	128.536				
4,400.00	4,380.70	4,158.85	4,157.43	15.51	14.58	-32.43	-997.74	2,601.93	2,633.41	2,612.33	21.08	124.905				
4,500.00	4,476.55	4,255.89	4,254.24	15.93	14.92	-32.79	-998.57	2,608.65	2,615.87	2,594.29	21.58	121.231				
4,600.00	4,572.39	4,352.94	4,351.05	16.36	15.26	-33.16	-999.41	2,615.38	2,598.43	2,576.35	22.08	117.698				
4,700.00	4,668.24	4,449.99	4,447.86	16.81	15.60	-33.53	-1,000.24	2,622.10	2,581.09	2,558.51	22.58	114.301				
4,800.00	4,764.08	4,547.04	4,544.67	17.26	15.94	-33.91	-1,001.07	2,628.83	2,563.87	2,540.78	23.09	111.033				
4,900.00	4,859.93	4,644.08	4,641.48	17.72	16.29	-34.29	-1,001.91	2,635.56	2,546.76	2,523.15	23.61	107.889				
5,000.00	4,955.77	4,741.13	4,738.29	18.18	16.63	-34.67	-1,002.74	2,642.28	2,529.76	2,505.64	24.12	104.864				
5,100.00	5,051.62	4,838.18	4,835.10	18.66	16.98	-35.06	-1,003.57	2,649.01	2,512.88	2,488.23	24.65	101.952				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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		
5,200.00	5,147.46	4,935.23	4,931.91	19.14	17.33	-35.46	-1,004.41	2,655.73	2,496.12	2,470.94	25.18	99.148		
5,300.00	5,243.31	5,032.27	5,028.72	19.63	17.67	-35.86	-1,005.24	2,662.46	2,479.48	2,453.77	25.71	96.448		
5,400.00	5,339.15	5,129.32	5,125.54	20.12	18.02	-36.27	-1,006.07	2,669.19	2,462.96	2,436.71	26.24	93.847		
5,500.00	5,435.00	5,226.37	5,222.35	20.62	18.37	-36.68	-1,006.91	2,675.91	2,446.57	2,419.78	26.79	91.341		
5,600.00	5,530.84	5,323.42	5,319.16	21.12	18.72	-37.10	-1,007.74	2,682.64	2,430.31	2,402.98	27.33	88.925		
5,700.00	5,626.69	5,420.47	5,415.97	21.63	19.07	-37.52	-1,008.57	2,689.36	2,414.18	2,386.30	27.88	86.595		
5,800.00	5,722.53	5,517.51	5,512.78	22.14	19.42	-37.95	-1,009.41	2,696.09	2,398.18	2,369.75	28.43	84.348		
5,900.00	5,818.38	5,614.56	5,609.59	22.65	19.77	-38.38	-1,010.24	2,702.82	2,382.32	2,353.33	28.99	82.180		
6,000.00	5,914.22	5,711.61	5,706.40	23.17	20.12	-38.82	-1,011.07	2,709.54	2,366.60	2,337.05	29.55	80.088		
6,100.00	6,010.07	5,808.66	5,803.21	23.69	20.47	-39.27	-1,011.91	2,716.27	2,351.02	2,320.91	30.11	78.068		
6,200.00	6,105.91	5,905.70	5,900.02	24.22	20.83	-39.72	-1,012.74	2,722.99	2,335.59	2,304.90	30.68	76.118		
6,300.00	6,201.76	6,002.75	5,996.83	24.75	21.18	-40.17	-1,013.57	2,729.72	2,320.30	2,289.05	31.26	74.234		
6,400.00	6,297.60	6,099.80	6,093.64	25.28	21.53	-40.64	-1,014.41	2,736.45	2,305.17	2,273.34	31.83	72.413		
6,500.00	6,393.45	6,196.85	6,190.45	25.81	21.89	-41.10	-1,015.24	2,743.17	2,290.19	2,257.78	32.41	70.654		
6,600.00	6,489.29	6,293.90	6,287.26	26.35	22.24	-41.58	-1,016.07	2,749.90	2,275.37	2,242.37	33.00	68.953		
6,700.00	6,585.14	6,390.94	6,384.08	26.89	22.59	-42.06	-1,016.91	2,756.62	2,260.71	2,227.12	33.59	67.308		
6,800.00	6,680.98	6,487.99	6,480.89	27.43	22.95	-42.54	-1,017.74	2,763.35	2,246.21	2,212.03	34.18	65.717		
6,900.00	6,776.83	6,585.04	6,577.70	27.97	23.30	-43.03	-1,018.57	2,770.08	2,231.87	2,197.10	34.78	64.178		
7,000.00	6,872.67	6,711.58	6,703.96	28.52	23.76	-43.69	-1,019.62	2,778.51	2,217.57	2,182.12	35.45	62.563		
7,100.00	6,968.52	6,832.96	6,825.22	29.06	24.55	-44.85	-1,020.37	2,784.58	2,199.40	2,163.12	36.28	60.619		
7,200.00	7,064.36	7,028.81	7,021.06	29.61	24.89	-45.37	-1,020.37	2,784.58	2,178.84	2,141.96	36.88	59.074		
7,300.00	7,160.21	7,124.65	7,116.91	30.16	25.22	-45.90	-1,020.37	2,784.58	2,158.47	2,120.98	37.49	57.576		
7,400.00	7,256.05	7,220.50	7,212.75	30.72	25.56	-46.43	-1,020.37	2,784.58	2,138.28	2,100.18	38.10	56.125		
7,500.00	7,351.90	7,316.34	7,308.60	31.27	25.89	-46.98	-1,020.37	2,784.58	2,118.28	2,079.57	38.71	54.719		
7,600.00	7,447.74	7,412.19	7,404.44	31.82	26.23	-47.54	-1,020.37	2,784.58	2,098.48	2,059.15	39.33	53.355		
7,700.00	7,543.59	7,508.03	7,500.29	32.38	26.57	-48.10	-1,020.37	2,784.58	2,078.88	2,038.93	39.95	52.034		
7,800.00	7,639.43	7,603.88	7,596.13	32.94	26.90	-48.68	-1,020.37	2,784.58	2,059.49	2,018.91	40.58	50.753		
7,889.67	7,725.37	7,689.82	7,682.07	33.44	27.20	-49.21	-1,020.37	2,784.58	2,042.29	2,001.15	41.14	49.637		
7,900.00	7,735.28	7,699.72	7,691.98	33.50	27.24	-49.24	-1,020.37	2,784.58	2,040.33	1,999.12	41.21	49.511		
8,000.00	7,831.56	7,796.01	7,788.26	34.04	27.58	-49.60	-1,020.37	2,784.58	2,022.38	1,980.54	41.84	48.340		
8,100.00	7,928.52	7,892.96	7,885.22	34.56	27.92	-49.94	-1,020.37	2,784.58	2,006.28	1,963.83	42.45	47.261		
8,200.00	8,026.08	7,990.52	7,982.78	35.06	28.26	-50.25	-1,020.37	2,784.58	1,992.01	1,948.95	43.05	46.267		
8,300.00	8,124.18	8,088.63	8,080.88	35.53	28.61	-50.53	-1,020.37	2,784.58	1,979.52	1,935.87	43.64	45.357		
8,400.00	8,222.76	8,187.20	8,179.46	35.98	28.95	-50.78	-1,020.37	2,784.58	1,968.78	1,924.56	44.22	44.525		
8,500.00	8,321.74	8,286.18	8,278.44	36.40	29.30	-50.99	-1,020.37	2,784.58	1,959.75	1,914.98	44.77	43.769		
8,600.00	8,421.06	8,385.50	8,377.76	36.79	29.65	-51.17	-1,020.37	2,784.58	1,952.43	1,907.11	45.32	43.085		
8,700.00	8,520.65	8,485.09	8,477.35	37.16	30.00	-51.31	-1,020.37	2,784.58	1,946.77	1,900.93	45.84	42.470		
8,800.00	8,620.44	8,584.89	8,577.14	37.51	30.35	-51.41	-1,020.37	2,784.58	1,942.77	1,896.43	46.34	41.920		
8,900.00	8,720.37	8,684.81	8,677.07	37.83	30.71	-51.47	-1,020.37	2,784.58	1,940.41	1,893.58	46.83	41.433		
8,994.64	8,815.00	8,779.44	8,771.70	38.11	31.04	89.42	-1,020.37	2,784.58	1,939.68	1,892.41	47.27	41.032		
9,000.00	8,820.36	8,784.80	8,777.06	38.13	31.06	89.42	-1,020.37	2,784.58	1,939.68	1,892.38	47.30	41.011		
9,100.00	8,920.36	8,884.80	8,877.06	38.40	31.41	89.42	-1,020.37	2,784.58	1,939.68	1,891.93	47.75	40.622		
9,200.00	9,020.36	8,984.80	8,977.06	38.68	31.77	89.42	-1,020.37	2,784.58	1,939.68	1,891.48	48.20	40.240		
9,300.00	9,120.36	9,084.80	9,077.06	38.96	32.12	89.42	-1,020.37	2,784.58	1,939.68	1,891.02	48.66	39.865		
9,400.00	9,220.36	9,184.80	9,177.06	39.25	32.47	89.42	-1,020.37	2,784.58	1,939.68	1,890.57	49.11	39.495		
9,500.00	9,320.36	9,284.80	9,277.06	39.53	32.83	89.42	-1,020.37	2,784.58	1,939.68	1,890.11	49.57	39.131		
9,600.00	9,420.36	9,384.80	9,377.06	39.81	33.18	89.42	-1,020.37	2,784.58	1,939.68	1,889.65	50.03	38.773		
9,700.00	9,520.36	9,484.80	9,477.06	40.10	33.53	89.42	-1,020.37	2,784.58	1,939.68	1,889.19	50.48	38.421		
9,800.00	9,620.36	9,584.80	9,577.06	40.39	33.89	89.42	-1,020.37	2,784.58	1,939.68	1,888.74	50.94	38.075		
9,900.00	9,720.36	9,684.80	9,677.06	40.67	34.24	89.42	-1,020.37	2,784.58	1,939.68	1,888.28	51.40	37.734		
10,000.00	9,820.36	9,784.80	9,777.06	40.96	34.60	89.42	-1,020.37	2,784.58	1,939.68	1,887.81	51.87	37.398		
10,100.00	9,920.36	9,884.80	9,877.06	41.25	34.95	89.42	-1,020.37	2,784.58	1,939.68	1,887.35	52.33	37.068		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 604H - OH - Plan #2		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD															Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
							+N/-S (usft)	+E/-W (usft)								
10,200.00	10,020.36	9,984.80	9,977.06	41.55	35.30	89.42	-1,020.37	2,784.58	1,939.68	1,886.89	52.79	36.743				
10,300.00	10,120.36	10,084.80	10,077.06	41.84	35.66	89.42	-1,020.37	2,784.58	1,939.68	1,886.43	53.25	36.424				
10,400.00	10,220.36	10,184.80	10,177.06	42.13	36.01	89.42	-1,020.37	2,784.58	1,939.68	1,885.96	53.72	36.109				
10,500.00	10,320.36	10,284.80	10,277.06	42.43	36.37	89.42	-1,020.37	2,784.58	1,939.68	1,885.50	54.18	35.799				
10,600.00	10,420.36	10,384.80	10,377.06	42.72	36.72	89.42	-1,020.37	2,784.58	1,939.68	1,885.03	54.65	35.494				
10,700.00	10,520.36	10,484.80	10,477.06	43.02	37.08	89.42	-1,020.37	2,784.58	1,939.68	1,884.56	55.12	35.193				
10,800.00	10,620.36	10,584.80	10,577.06	43.31	37.43	89.42	-1,020.37	2,784.58	1,939.68	1,884.10	55.58	34.897				
10,900.00	10,720.36	10,684.80	10,677.06	43.61	37.78	89.42	-1,020.37	2,784.58	1,939.68	1,883.63	56.05	34.606				
11,000.00	10,820.36	10,784.80	10,777.06	43.91	38.14	89.42	-1,020.37	2,784.58	1,939.68	1,883.16	56.52	34.319				
11,100.00	10,920.36	10,884.80	10,877.06	44.21	38.49	89.42	-1,020.37	2,784.58	1,939.68	1,882.69	56.99	34.036				
11,200.00	11,020.36	10,984.80	10,977.06	44.51	38.85	89.42	-1,020.37	2,784.58	1,939.68	1,882.22	57.46	33.758				
11,300.00	11,120.36	11,084.80	11,077.06	44.81	39.20	89.42	-1,020.37	2,784.58	1,939.68	1,881.75	57.93	33.484				
11,400.00	11,220.36	11,184.80	11,177.06	45.12	39.56	89.42	-1,020.37	2,784.58	1,939.68	1,881.28	58.40	33.214				
11,500.00	11,320.36	11,284.80	11,277.06	45.42	39.91	89.42	-1,020.37	2,784.58	1,939.68	1,880.81	58.87	32.948				
11,600.00	11,420.36	11,384.81	11,377.06	45.72	40.27	89.44	-1,020.92	2,784.59	1,939.68	1,880.34	59.34	32.687				
11,602.02	11,422.38	11,386.83	11,379.08	45.73	40.27	89.44	-1,021.01	2,784.59	1,939.68	1,880.33	59.35	32.682 CC				
11,700.00	11,520.36	11,483.01	11,474.31	46.03	40.59	89.81	-1,033.57	2,784.71	1,939.72	1,879.95	59.77	32.453				
11,800.00	11,620.36	11,574.42	11,561.69	46.33	40.88	90.59	-1,060.10	2,784.97	1,940.13	1,879.97	60.16	32.248				
11,900.00	11,720.36	11,655.71	11,634.98	46.64	41.12	91.63	-1,095.10	2,785.31	1,941.55	1,881.03	60.52	32.081				
11,950.68	11,771.04	11,692.61	11,666.46	46.80	41.23	92.19	-1,114.35	2,785.50	1,942.89	1,882.20	60.69	32.014				
12,000.00	11,820.30	11,726.75	11,694.43	46.96	41.32	-86.53	-1,133.92	2,785.69	1,944.59	1,883.74	60.86	31.954				
12,050.00	11,869.86	11,760.67	11,721.01	47.14	41.42	-85.82	-1,154.98	2,785.90	1,946.59	1,885.55	61.04	31.889				
12,100.00	11,918.67	11,800.00	11,750.21	47.35	41.53	-85.04	-1,181.32	2,786.16	1,948.82	1,887.57	61.25	31.817				
12,150.00	11,966.36	11,826.84	11,769.06	47.58	41.60	-84.44	-1,200.42	2,786.34	1,951.19	1,889.72	61.46	31.747				
12,200.00	12,012.56	11,859.23	11,790.60	47.83	41.70	-83.78	-1,224.61	2,786.58	1,953.67	1,891.98	61.69	31.668				
12,250.00	12,056.93	11,891.25	11,810.50	48.10	41.79	-83.14	-1,249.67	2,786.83	1,956.22	1,894.28	61.94	31.585				
12,300.00	12,099.12	11,922.94	11,828.80	48.39	41.89	-82.54	-1,275.54	2,787.08	1,958.77	1,896.58	62.19	31.495				
12,350.00	12,138.81	11,950.00	11,843.27	48.69	41.97	-82.01	-1,298.40	2,787.30	1,961.29	1,898.83	62.46	31.401				
12,400.00	12,175.70	11,985.50	11,860.59	49.01	42.09	-81.44	-1,329.39	2,787.61	1,963.70	1,900.95	62.75	31.292				
12,450.00	12,209.51	12,016.46	11,874.10	49.34	42.19	-80.96	-1,357.23	2,787.88	1,966.00	1,902.94	63.06	31.178				
12,500.00	12,239.99	12,050.00	11,887.02	49.69	42.30	-80.51	-1,388.18	2,788.18	1,968.12	1,904.74	63.38	31.052				
12,550.00	12,266.90	12,077.86	11,896.36	50.05	42.39	-80.14	-1,414.42	2,788.44	1,970.03	1,906.31	63.72	30.918				
12,600.00	12,290.03	12,100.00	11,902.86	50.42	42.47	-79.85	-1,435.59	2,788.65	1,971.73	1,907.67	64.07	30.777				
12,650.00	12,309.21	12,138.76	11,912.26	50.81	42.60	-79.54	-1,473.18	2,789.01	1,973.11	1,908.67	64.45	30.616				
12,700.00	12,324.30	12,169.07	11,917.83	51.20	42.71	-79.32	-1,502.97	2,789.31	1,974.24	1,909.40	64.84	30.449				
12,750.00	12,335.17	12,200.00	11,921.88	51.60	42.82	-79.16	-1,533.63	2,789.61	1,975.06	1,909.81	65.24	30.272				
12,800.00	12,341.76	12,229.56	11,924.20	52.01	42.93	-79.07	-1,563.09	2,789.89	1,975.56	1,909.89	65.66	30.085				
12,850.68	12,344.00	12,260.42	11,925.00	52.42	43.04	-79.04	-1,593.94	2,790.20	1,975.73	1,909.63	66.10	29.889				
12,900.00	12,344.00	12,309.74	11,925.00	52.83	43.23	-79.04	-1,643.25	2,790.68	1,975.73	1,909.19	66.54	29.691				
13,000.00	12,344.00	12,409.74	11,925.00	53.68	43.66	-79.04	-1,743.25	2,791.66	1,975.73	1,908.25	67.48	29.278				
13,100.00	12,344.00	12,509.74	11,925.00	54.57	44.14	-79.04	-1,843.25	2,792.64	1,975.73	1,907.25	68.48	28.849				
13,200.00	12,344.00	12,609.74	11,925.00	55.50	44.68	-79.04	-1,943.24	2,793.62	1,975.73	1,906.18	69.55	28.408				
13,300.00	12,344.00	12,709.74	11,925.00	56.46	45.27	-79.04	-2,043.24	2,794.60	1,975.73	1,905.06	70.67	27.956				
13,400.00	12,344.00	12,809.74	11,925.00	57.45	45.92	-79.04	-2,143.23	2,795.57	1,975.73	1,903.88	71.85	27.497				
13,500.00	12,344.00	12,909.74	11,925.00	58.47	46.61	-79.04	-2,243.23	2,796.55	1,975.73	1,902.65	73.09	27.032				
13,600.00	12,344.00	13,009.74	11,925.00	59.52	47.35	-79.04	-2,343.22	2,797.53	1,975.73	1,901.36	74.37	26.566				
13,700.00	12,344.00	13,109.74	11,925.00	60.60	48.14	-79.04	-2,443.22	2,798.51	1,975.73	1,900.03	75.70	26.098				
13,800.00	12,344.00	13,209.74	11,925.00	61.70	48.96	-79.04	-2,543.21	2,799.49	1,975.74	1,898.65	77.08	25.631				
13,900.00	12,344.00	13,309.74	11,925.00	62.82	49.83	-79.04	-2,643.21	2,800.47	1,975.74	1,897.23	78.51	25.167				
14,000.00	12,344.00	13,409.74	11,925.00	63.97	50.74	-79.04	-2,743.20	2,801.45	1,975.74	1,895.77	79.97	24.707				
14,100.00	12,344.00	13,509.74	11,925.00	65.14	51.69	-79.04	-2,843.20	2,802.43	1,975.74	1,894.27	81.47	24.252				
14,200.00	12,344.00	13,609.74	11,925.00	66.33	52.66	-79.04	-2,943.19	2,803.41	1,975.74	1,892.73	83.01	23.802				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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		
14,300.00	12,344.00	13,709.74	11,925.00	67.54	53.68	-79.04	-3,043.19	2,804.39	1,975.74	1,891.16	84.58	23.360		
14,400.00	12,344.00	13,809.74	11,925.00	68.77	54.72	-79.04	-3,143.18	2,805.37	1,975.74	1,889.55	86.18	22.925		
14,500.00	12,344.00	13,909.74	11,925.00	70.02	55.79	-79.04	-3,243.18	2,806.34	1,975.74	1,887.92	87.82	22.498		
14,600.00	12,344.00	14,009.74	11,925.00	71.28	56.89	-79.04	-3,343.17	2,807.32	1,975.74	1,886.26	89.48	22.079		
14,700.00	12,344.00	14,109.74	11,925.00	72.55	58.02	-79.04	-3,443.17	2,808.30	1,975.74	1,884.56	91.18	21.669		
14,800.00	12,344.00	14,209.74	11,925.00	73.85	59.17	-79.04	-3,543.16	2,809.28	1,975.74	1,882.84	92.90	21.269		
14,900.00	12,344.00	14,309.74	11,925.00	75.15	60.35	-79.04	-3,643.16	2,810.26	1,975.74	1,881.10	94.64	20.877		
15,000.00	12,344.00	14,409.74	11,925.00	76.47	61.54	-79.04	-3,743.15	2,811.24	1,975.74	1,879.33	96.41	20.494		
15,100.00	12,344.00	14,509.74	11,925.00	77.81	62.76	-79.04	-3,843.15	2,812.22	1,975.74	1,877.55	98.19	20.121		
15,200.00	12,344.00	14,609.74	11,925.00	79.15	64.00	-79.04	-3,943.14	2,813.20	1,975.74	1,875.74	100.00	19.757		
15,300.00	12,344.00	14,709.74	11,925.00	80.51	65.25	-79.04	-4,043.14	2,814.18	1,975.74	1,873.91	101.83	19.402		
15,400.00	12,344.00	14,809.74	11,925.00	81.87	66.52	-79.04	-4,143.14	2,815.16	1,975.74	1,872.06	103.68	19.056		
15,500.00	12,344.00	14,909.74	11,925.00	83.25	67.81	-79.04	-4,243.13	2,816.14	1,975.74	1,870.19	105.55	18.719		
15,600.00	12,344.00	15,009.74	11,925.00	84.64	69.12	-79.04	-4,343.13	2,817.11	1,975.74	1,868.31	107.43	18.391		
15,700.00	12,344.00	15,109.74	11,925.00	86.03	70.44	-79.04	-4,443.12	2,818.09	1,975.74	1,866.41	109.33	18.071		
15,800.00	12,344.00	15,209.74	11,925.00	87.44	71.77	-79.04	-4,543.12	2,819.07	1,975.74	1,864.50	111.25	17.760		
15,900.00	12,344.00	15,309.74	11,925.00	88.85	73.11	-79.04	-4,643.11	2,820.05	1,975.74	1,862.57	113.17	17.457		
16,000.00	12,344.00	15,409.74	11,925.00	90.27	74.47	-79.04	-4,743.11	2,821.03	1,975.74	1,860.63	115.12	17.163		
16,100.00	12,344.00	15,509.74	11,925.00	91.70	75.84	-79.04	-4,843.10	2,822.01	1,975.74	1,858.67	117.07	16.876		
16,200.00	12,344.00	15,609.74	11,925.00	93.14	77.22	-79.04	-4,943.10	2,822.99	1,975.75	1,856.71	119.04	16.597		
16,300.00	12,344.00	15,709.74	11,925.00	94.58	78.61	-79.04	-5,043.09	2,823.97	1,975.75	1,854.73	121.02	16.326		
16,400.00	12,344.00	15,809.74	11,925.00	96.03	80.01	-79.04	-5,143.09	2,824.95	1,975.75	1,852.74	123.01	16.062		
16,500.00	12,344.00	15,909.74	11,925.00	97.49	81.42	-79.04	-5,243.08	2,825.93	1,975.75	1,850.74	125.01	15.805		
16,600.00	12,344.00	16,009.74	11,925.00	98.95	82.84	-79.04	-5,343.08	2,826.91	1,975.75	1,848.73	127.02	15.555		
16,700.00	12,344.00	16,109.74	11,925.00	100.42	84.27	-79.04	-5,443.07	2,827.89	1,975.75	1,846.71	129.04	15.311		
16,800.00	12,344.00	16,209.74	11,925.00	101.89	85.70	-79.04	-5,543.07	2,828.86	1,975.75	1,844.68	131.07	15.074		
16,900.00	12,344.00	16,309.74	11,925.00	103.37	87.15	-79.04	-5,643.06	2,829.84	1,975.75	1,842.64	133.11	14.843		
17,000.00	12,344.00	16,409.74	11,925.00	104.86	88.60	-79.04	-5,743.06	2,830.82	1,975.75	1,840.59	135.15	14.618		
17,100.00	12,344.00	16,509.74	11,925.00	106.35	90.06	-79.04	-5,843.05	2,831.80	1,975.75	1,838.54	137.21	14.399		
17,200.00	12,344.00	16,609.74	11,925.00	107.84	91.52	-79.04	-5,943.05	2,832.78	1,975.75	1,836.48	139.27	14.186		
17,300.00	12,344.00	16,709.74	11,925.00	109.34	92.99	-79.04	-6,043.04	2,833.76	1,975.75	1,834.41	141.34	13.979		
17,400.00	12,344.00	16,809.74	11,925.00	110.84	94.47	-79.04	-6,143.04	2,834.74	1,975.75	1,832.33	143.42	13.776		
17,500.00	12,344.00	16,909.74	11,925.00	112.35	95.95	-79.04	-6,243.03	2,835.72	1,975.75	1,830.25	145.50	13.579		
17,600.00	12,344.00	17,009.74	11,925.00	113.86	97.44	-79.04	-6,343.03	2,836.70	1,975.75	1,828.16	147.59	13.387		
17,700.00	12,344.00	17,109.74	11,925.00	115.38	98.93	-79.04	-6,443.02	2,837.68	1,975.75	1,826.07	149.69	13.199		
17,800.00	12,344.00	17,209.74	11,925.00	116.89	100.43	-79.04	-6,543.02	2,838.66	1,975.75	1,823.97	151.79	13.017		
17,900.00	12,344.00	17,309.74	11,925.00	118.42	101.93	-79.04	-6,643.02	2,839.63	1,975.75	1,821.86	153.89	12.838		
18,000.00	12,344.00	17,409.74	11,925.00	119.94	103.44	-79.04	-6,743.01	2,840.61	1,975.75	1,819.75	156.01	12.665		
18,100.00	12,344.00	17,509.74	11,925.00	121.47	104.95	-79.04	-6,843.01	2,841.59	1,975.75	1,817.63	158.12	12.495		
18,200.00	12,344.00	17,609.74	11,925.00	123.00	106.46	-79.04	-6,943.00	2,842.57	1,975.75	1,815.51	160.25	12.330		
18,300.00	12,344.00	17,709.74	11,925.00	124.54	107.98	-79.04	-7,043.00	2,843.55	1,975.75	1,813.38	162.37	12.168		
18,400.00	12,344.00	17,809.74	11,925.00	126.08	109.50	-79.04	-7,142.99	2,844.53	1,975.75	1,811.25	164.50	12.010		
18,500.00	12,344.00	17,909.74	11,925.00	127.62	111.03	-79.04	-7,242.99	2,845.51	1,975.75	1,809.11	166.64	11.856		
18,600.00	12,344.00	18,009.74	11,925.00	129.16	112.56	-79.04	-7,342.98	2,846.49	1,975.75	1,806.97	168.78	11.706		
18,700.00	12,344.00	18,109.74	11,925.00	130.71	114.10	-79.04	-7,442.98	2,847.47	1,975.76	1,804.83	170.93	11.559		
18,800.00	12,344.00	18,209.74	11,925.00	132.26	115.63	-79.04	-7,542.97	2,848.45	1,975.76	1,802.68	173.07	11.416		
18,900.00	12,344.00	18,309.74	11,925.00	133.81	117.17	-79.04	-7,642.97	2,849.43	1,975.76	1,800.53	175.22	11.276		
19,000.00	12,344.00	18,409.74	11,925.00	135.36	118.72	-79.04	-7,742.96	2,850.40	1,975.76	1,798.38	177.38	11.139		
19,100.00	12,344.00	18,509.74	11,925.00	136.92	120.26	-79.04	-7,842.96	2,851.38	1,975.76	1,796.22	179.54	11.005		
19,200.00	12,344.00	18,609.74	11,925.00	138.48	121.81	-79.04	-7,942.95	2,852.36	1,975.76	1,794.06	181.70	10.874		
19,300.00	12,344.00	18,709.74	11,925.00	140.04	123.36	-79.04	-8,042.95	2,853.34	1,975.76	1,791.89	183.87	10.746		
19,400.00	12,344.00	18,809.74	11,925.00	141.60	124.92	-79.04	-8,142.94	2,854.32	1,975.76	1,789.72	186.04	10.620		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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		
19,500.00	12,344.00	18,909.74	11,925.00	143.16	126.47	-79.04	-8,242.94	2,855.30	1,975.76	1,787.55	188.21	10.498		
19,600.00	12,344.00	19,009.74	11,925.00	144.73	128.03	-79.04	-8,342.93	2,856.28	1,975.76	1,785.38	190.38	10.378		
19,700.00	12,344.00	19,109.74	11,925.00	146.30	129.59	-79.04	-8,442.93	2,857.26	1,975.76	1,783.20	192.56	10.260		
19,800.00	12,344.00	19,209.74	11,925.00	147.87	131.16	-79.04	-8,542.92	2,858.24	1,975.76	1,781.02	194.74	10.146		
19,900.00	12,344.00	19,309.74	11,925.00	149.44	132.72	-79.04	-8,642.92	2,859.22	1,975.76	1,778.84	196.92	10.033		
20,000.00	12,344.00	19,409.74	11,925.00	151.01	134.29	-79.04	-8,742.91	2,860.20	1,975.76	1,776.65	199.11	9.923		
20,100.00	12,344.00	19,509.74	11,925.00	152.59	135.86	-79.04	-8,842.91	2,861.17	1,975.76	1,774.47	201.30	9.815		
20,200.00	12,344.00	19,609.74	11,925.00	154.17	137.43	-79.04	-8,942.91	2,862.15	1,975.76	1,772.28	203.49	9.710		
20,300.00	12,344.00	19,709.74	11,925.00	155.74	139.00	-79.04	-9,042.90	2,863.13	1,975.76	1,770.08	205.68	9.606		
20,400.00	12,344.00	19,809.74	11,925.00	157.32	140.58	-79.04	-9,142.90	2,864.11	1,975.76	1,767.89	207.87	9.505		
20,500.00	12,344.00	19,909.74	11,925.00	158.91	142.16	-79.04	-9,242.89	2,865.09	1,975.76	1,765.69	210.07	9.405		
20,600.00	12,344.00	20,009.74	11,925.00	160.49	143.74	-79.04	-9,342.89	2,866.07	1,975.76	1,763.49	212.27	9.308		
20,700.00	12,344.00	20,109.74	11,925.00	162.07	145.32	-79.04	-9,442.88	2,867.05	1,975.76	1,761.29	214.47	9.212		
20,800.00	12,344.00	20,209.74	11,925.00	163.66	146.90	-79.04	-9,542.88	2,868.03	1,975.76	1,759.09	216.67	9.119		
20,900.00	12,344.00	20,309.74	11,925.00	165.24	148.48	-79.04	-9,642.87	2,869.01	1,975.76	1,756.89	218.88	9.027		
21,000.00	12,344.00	20,409.74	11,925.00	166.83	150.06	-79.04	-9,742.87	2,869.99	1,975.76	1,754.68	221.08	8.937		
21,100.00	12,344.00	20,509.74	11,925.00	168.42	151.65	-79.04	-9,842.86	2,870.97	1,975.76	1,752.47	223.29	8.848		
21,200.00	12,344.00	20,609.74	11,925.00	170.01	153.24	-79.04	-9,942.86	2,871.94	1,975.77	1,750.27	225.50	8.762		
21,300.00	12,344.00	20,709.74	11,925.00	171.60	154.83	-79.04	-10,042.85	2,872.92	1,975.77	1,748.05	227.71	8.677		
21,400.00	12,344.00	20,809.74	11,925.00	173.20	156.42	-79.04	-10,142.85	2,873.90	1,975.77	1,745.84	229.92	8.593		
21,500.00	12,344.00	20,909.74	11,925.00	174.79	158.01	-79.04	-10,242.84	2,874.88	1,975.77	1,743.63	232.14	8.511		
21,600.00	12,344.00	21,009.74	11,925.00	176.38	159.60	-79.04	-10,342.84	2,875.86	1,975.77	1,741.41	234.35	8.431		
21,700.00	12,344.00	21,109.74	11,925.00	177.98	161.20	-79.04	-10,442.83	2,876.84	1,975.77	1,739.19	236.57	8.352		
21,800.00	12,344.00	21,209.74	11,925.00	179.58	162.79	-79.04	-10,542.83	2,877.82	1,975.77	1,736.98	238.79	8.274		
21,900.00	12,344.00	21,309.74	11,925.00	181.17	164.39	-79.04	-10,642.82	2,878.80	1,975.77	1,734.76	241.01	8.198		
22,000.00	12,344.00	21,409.74	11,925.00	182.77	165.98	-79.04	-10,742.82	2,879.78	1,975.77	1,732.53	243.23	8.123		
22,100.00	12,344.00	21,509.74	11,925.00	184.37	167.58	-79.04	-10,842.81	2,880.76	1,975.77	1,730.31	245.46	8.049		
22,200.00	12,344.00	21,609.74	11,925.00	185.97	169.18	-79.04	-10,942.81	2,881.74	1,975.77	1,728.09	247.68	7.977		
22,300.00	12,344.00	21,709.74	11,925.00	187.57	170.78	-79.04	-11,042.80	2,882.72	1,975.77	1,725.86	249.91	7.906		
22,400.00	12,344.00	21,809.74	11,925.00	189.18	172.38	-79.04	-11,142.80	2,883.69	1,975.77	1,723.64	252.13	7.836		
22,500.00	12,344.00	21,909.74	11,925.00	190.78	173.98	-79.04	-11,242.79	2,884.67	1,975.77	1,721.41	254.36	7.768		
22,600.00	12,344.00	22,009.74	11,925.00	192.38	175.59	-79.04	-11,342.79	2,885.65	1,975.77	1,719.18	256.59	7.700		
22,642.51	12,344.00	22,052.25	11,925.00	193.01	176.27	-79.04	-11,385.30	2,886.07	1,975.77	1,718.29	257.48	7.673 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 Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 702H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
0.00	0.00	0.00	0.00	0.00	0.00	-90.53	-0.70	-74.99	75.00							
100.00	100.00	99.30	99.30	0.13	0.12	-90.53	-0.70	-74.99	74.99	74.82	0.18	424.135				
200.00	200.00	199.30	199.30	0.48	0.48	-90.53	-0.70	-74.99	74.99	74.31	0.68	109.861				
300.00	300.00	299.30	299.30	0.84	0.84	-90.53	-0.70	-74.99	74.99	73.80	1.19	63.042				
400.00	400.00	399.30	399.30	1.20	1.20	-90.53	-0.70	-74.99	74.99	73.30	1.70	44.204				
500.00	500.00	499.30	499.30	1.56	1.56	-90.53	-0.70	-74.99	74.99	72.79	2.20	34.034				
600.00	600.00	599.30	599.30	1.92	1.92	-90.53	-0.70	-74.99	74.99	72.28	2.71	27.668				
700.00	700.00	699.30	699.30	2.28	2.27	-90.53	-0.70	-74.99	74.99	71.78	3.22	23.309				
800.00	800.00	799.30	799.30	2.63	2.63	-90.53	-0.70	-74.99	74.99	71.27	3.72	20.136				
900.00	900.00	899.30	899.30	2.99	2.99	-90.53	-0.70	-74.99	74.99	70.76	4.23	17.723				
1,000.00	1,000.00	999.30	999.30	3.35	3.35	-90.53	-0.70	-74.99	74.99	70.26	4.74	15.827				
1,100.00	1,100.00	1,099.30	1,099.30	3.71	3.71	-90.53	-0.70	-74.99	74.99	69.75	5.25	14.297				
1,200.00	1,200.00	1,199.30	1,199.30	4.07	4.07	-90.53	-0.70	-74.99	74.99	69.24	5.75	13.037				
1,300.00	1,300.00	1,299.30	1,299.30	4.43	4.42	-90.53	-0.70	-74.99	74.99	68.73	6.26	11.981				
1,400.00	1,400.00	1,399.30	1,399.30	4.79	4.78	-90.53	-0.70	-74.99	74.99	68.23	6.77	11.084				
1,500.00	1,500.00	1,499.30	1,499.30	5.14	5.14	-90.53	-0.70	-74.99	74.99	67.72	7.27	10.311				
1,600.00	1,600.00	1,599.30	1,599.30	5.50	5.50	-90.53	-0.70	-74.99	74.99	67.21	7.78	9.639				
1,700.00	1,700.00	1,699.30	1,699.30	5.86	5.86	-90.53	-0.70	-74.99	74.99	66.71	8.29	9.050				
1,800.00	1,800.00	1,799.30	1,799.30	6.22	6.22	-90.53	-0.70	-74.99	74.99	66.20	8.79	8.528				
1,900.00	1,900.00	1,899.30	1,899.30	6.58	6.58	-90.53	-0.70	-74.99	74.99	65.69	9.30	8.063				
2,000.00	2,000.00	1,999.30	1,999.30	6.94	6.93	-90.53	-0.70	-74.99	74.99	65.19	9.81	7.646				
2,100.00	2,100.00	2,099.30	2,099.30	7.29	7.29	-90.53	-0.70	-74.99	74.99	64.68	10.31	7.270				
2,200.00	2,200.00	2,199.30	2,199.30	7.65	7.65	-90.53	-0.70	-74.99	74.99	64.17	10.82	6.930				
2,300.00	2,300.00	2,299.30	2,299.30	8.01	8.01	-90.53	-0.70	-74.99	74.99	63.66	11.33	6.620				
2,400.00	2,400.00	2,399.30	2,399.30	8.37	8.37	-90.53	-0.70	-74.99	74.99	63.16	11.84	6.336				
2,500.00	2,500.00	2,499.30	2,499.30	8.73	8.73	-90.53	-0.70	-74.99	74.99	62.65	12.34	6.076				
2,600.00	2,600.00	2,599.30	2,599.30	9.09	9.08	-90.53	-0.70	-74.99	74.99	62.14	12.85	5.836				
2,700.00	2,700.00	2,699.30	2,699.30	9.45	9.44	-90.53	-0.70	-74.99	74.99	61.64	13.36	5.615				
2,800.00	2,800.00	2,799.30	2,799.30	9.80	9.80	-90.53	-0.70	-74.99	74.99	61.13	13.86	5.409				
2,900.00	2,900.00	2,899.30	2,899.30	10.16	10.16	-90.53	-0.70	-74.99	74.99	60.62	14.37	5.219				
3,000.00	3,000.00	2,999.30	2,999.30	10.52	10.52	-90.53	-0.70	-74.99	74.99	60.12	14.88	5.041				
3,100.00	3,100.00	3,099.30	3,099.30	10.88	10.88	-90.53	-0.70	-74.99	74.99	59.61	15.38	4.875				
3,200.00	3,200.00	3,199.30	3,199.30	11.24	11.24	-90.53	-0.70	-74.99	74.99	59.10	15.89	4.719 CC, ES				
3,300.00	3,299.99	3,299.29	3,299.29	11.58	11.59	129.32	-0.70	-74.99	75.82	59.43	16.39	4.627				
3,400.00	3,399.91	3,399.21	3,399.21	11.91	11.95	131.51	-0.70	-74.99	78.36	61.49	16.87	4.645				
3,500.00	3,499.69	3,499.05	3,499.03	12.24	12.29	133.97	-1.98	-75.08	82.81	65.47	17.34	4.775				
3,600.00	3,599.27	3,598.89	3,598.80	12.57	12.61	135.63	-5.87	-75.34	89.14	71.33	17.80	5.007				
3,700.00	3,698.57	3,698.69	3,698.39	12.91	12.94	136.57	-12.35	-75.77	97.25	78.98	18.27	5.324				
3,800.00	3,797.54	3,798.39	3,797.67	13.25	13.26	136.89	-21.41	-76.37	107.10	88.37	18.73	5.717				
3,900.00	3,896.09	3,897.94	3,896.53	13.60	13.59	136.72	-33.04	-77.15	118.66	99.45	19.20	6.179				
4,000.00	3,994.16	3,997.29	3,994.86	13.96	13.92	136.21	-47.20	-78.10	131.92	112.23	19.68	6.703				
4,100.00	4,091.70	4,096.38	4,092.52	14.32	14.26	135.45	-63.86	-79.21	146.88	126.72	20.17	7.284				
4,200.00	4,188.62	4,195.16	4,189.43	14.70	14.60	134.53	-82.98	-80.49	163.56	142.90	20.66	7.917				
4,304.97	4,289.63	4,298.42	4,290.20	15.12	14.97	133.52	-105.47	-81.99	182.93	161.74	21.19	8.632				
4,400.00	4,380.70	4,391.63	4,381.04	15.51	15.31	133.05	-126.30	-83.38	201.36	179.67	21.68	9.286				
4,500.00	4,476.55	4,489.72	4,476.64	15.93	15.68	132.64	-148.21	-84.84	220.76	198.54	22.21	9.938				
4,600.00	4,572.39	4,587.81	4,572.24	16.36	16.06	132.30	-170.13	-86.31	240.16	217.41	22.75	10.555				
4,700.00	4,668.24	4,685.90	4,667.84	16.81	16.44	132.00	-192.04	-87.77	259.58	236.28	23.30	11.140				
4,800.00	4,764.08	4,783.99	4,763.44	17.26	16.82	131.75	-213.96	-89.23	279.00	255.14	23.86	11.693				
4,900.00	4,859.93	4,882.08	4,859.03	17.72	17.22	131.54	-235.87	-90.70	298.43	274.00	24.43	12.217				
5,000.00	4,955.77	4,980.17	4,954.63	18.18	17.62	131.34	-257.79	-92.16	317.85	292.85	25.00	12.713				
5,100.00	5,051.62	5,078.26	5,050.23	18.66	18.02	131.17	-279.70	-93.63	337.29	311.70	25.59	13.183				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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
Tatanka Fed Com - Tatanka Fed Com 702H - OH - Plan #1													Offset Well Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD														
Reference		Offset		Semi Major Axis		Distance								Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,200.00	5,147.46	5,176.34	5,145.83	19.14	18.43	131.02	-301.62	-95.09	356.72	330.55	26.17	13.628		
5,300.00	5,243.31	5,274.43	5,241.43	19.63	18.84	130.89	-323.53	-96.55	376.16	349.39	26.77	14.051		
5,400.00	5,339.15	5,372.52	5,337.03	20.12	19.26	130.76	-345.44	-98.02	395.60	368.22	27.37	14.452		
5,500.00	5,435.00	5,470.61	5,432.63	20.62	19.68	130.65	-367.36	-99.48	415.04	387.05	27.98	14.833		
5,600.00	5,530.84	5,568.70	5,528.23	21.12	20.10	130.55	-389.27	-100.94	434.48	405.88	28.59	15.194		
5,700.00	5,626.69	5,666.79	5,623.82	21.63	20.53	130.46	-411.19	-102.41	453.92	424.71	29.21	15.538		
5,800.00	5,722.53	5,764.88	5,719.42	22.14	20.96	130.38	-433.10	-103.87	473.36	443.53	29.84	15.865		
5,900.00	5,818.38	5,862.97	5,815.02	22.65	21.40	130.30	-455.02	-105.34	492.81	462.34	30.46	16.177		
6,000.00	5,914.22	5,961.06	5,910.62	23.17	21.83	130.23	-476.93	-106.80	512.25	481.16	31.10	16.473		
6,100.00	6,010.07	6,059.15	6,006.22	23.69	22.27	130.16	-498.85	-108.26	531.70	499.97	31.73	16.756		
6,200.00	6,105.91	6,157.24	6,101.82	24.22	22.71	130.10	-520.76	-109.73	551.15	518.77	32.37	17.026		
6,300.00	6,201.76	6,255.33	6,197.42	24.75	23.16	130.04	-542.68	-111.19	570.59	537.58	33.01	17.283		
6,400.00	6,297.60	6,353.42	6,293.01	25.28	23.60	129.99	-564.59	-112.65	590.04	556.38	33.66	17.529		
6,500.00	6,393.45	6,451.50	6,388.61	25.81	24.05	129.94	-586.50	-114.12	609.49	575.18	34.31	17.764		
6,600.00	6,489.29	6,549.59	6,484.21	26.35	24.50	129.89	-608.42	-115.58	628.94	593.98	34.96	17.989		
6,700.00	6,585.14	6,647.68	6,579.81	26.89	24.96	129.84	-630.33	-117.05	648.39	612.77	35.62	18.204		
6,800.00	6,680.98	6,745.77	6,675.41	27.43	25.41	129.80	-652.25	-118.51	667.84	631.56	36.27	18.410		
6,900.00	6,776.83	6,843.86	6,771.01	27.97	25.87	129.76	-674.16	-119.97	687.29	650.35	36.94	18.608		
7,000.00	6,872.67	6,941.95	6,866.61	28.52	26.32	129.72	-696.08	-121.44	706.74	669.14	37.60	18.797		
7,100.00	6,968.52	7,040.04	6,962.21	29.06	26.78	129.69	-717.99	-122.90	726.19	687.92	38.26	18.979		
7,200.00	7,064.36	7,138.13	7,057.80	29.61	27.24	129.66	-739.91	-124.36	745.64	706.71	38.93	19.154		
7,300.00	7,160.21	7,236.22	7,153.40	30.16	27.71	129.62	-761.82	-125.83	765.09	725.49	39.60	19.321		
7,400.00	7,256.05	7,334.31	7,249.00	30.72	28.17	129.59	-783.74	-127.29	784.54	744.27	40.27	19.482		
7,500.00	7,351.90	7,432.40	7,344.60	31.27	28.63	129.56	-805.65	-128.76	803.99	763.05	40.94	19.637		
7,600.00	7,447.74	7,530.49	7,440.20	31.82	29.10	129.54	-827.57	-130.22	823.44	781.82	41.62	19.786		
7,700.00	7,543.59	7,628.58	7,538.80	32.38	29.57	129.51	-849.48	-131.68	842.89	800.60	42.29	19.930		
7,800.00	7,639.43	7,726.66	7,631.40	32.94	30.04	129.49	-871.39	-133.15	862.34	819.37	42.97	20.068		
7,889.67	7,725.37	7,814.62	7,717.12	33.44	30.46	129.46	-891.04	-134.46	879.79	836.21	43.58	20.188		
7,900.00	7,735.28	7,824.76	7,727.00	33.50	30.50	129.48	-893.31	-134.61	881.79	838.14	43.65	20.202		
8,000.00	7,831.56	7,923.02	7,822.77	34.04	30.97	129.60	-915.26	-136.08	900.25	855.93	44.33	20.309		
8,100.00	7,928.52	8,021.53	7,918.77	34.56	31.45	129.57	-937.27	-137.55	917.08	872.08	45.00	20.377		
8,200.00	8,026.08	8,120.62	8,015.38	35.06	31.92	129.41	-959.27	-139.02	932.29	886.61	45.68	20.409		
8,300.00	8,124.18	8,220.86	8,113.54	35.53	32.39	129.24	-979.52	-140.37	945.77	899.43	46.34	20.410		
8,400.00	8,222.76	8,321.51	8,212.61	35.98	32.84	129.10	-997.27	-141.55	957.50	910.52	46.97	20.384		
8,500.00	8,321.74	8,422.52	8,312.46	36.40	33.27	128.97	-1,012.45	-142.57	967.44	919.86	47.58	20.332		
8,600.00	8,421.06	8,523.84	8,412.99	36.79	33.68	128.86	-1,025.03	-143.41	975.59	927.43	48.16	20.257		
8,700.00	8,520.65	8,625.40	8,514.06	37.16	34.08	128.77	-1,034.97	-144.07	981.94	933.22	48.71	20.158		
8,800.00	8,620.44	8,727.16	8,615.55	37.51	34.45	128.69	-1,042.23	-144.56	986.46	937.23	49.23	20.037		
8,900.00	8,720.37	8,829.06	8,717.34	37.83	34.80	128.64	-1,046.80	-144.86	989.16	939.43	49.72	19.893		
8,994.64	8,815.00	8,925.56	8,813.83	38.11	35.11	-90.50	-1,048.62	-144.98	990.02	939.87	50.16	19.739		
9,000.00	8,820.36	8,931.03	8,819.29	38.13	35.13	-90.50	-1,048.65	-144.99	990.02	939.85	50.18	19.730		
9,100.00	8,920.36	9,031.39	8,919.66	38.40	35.43	-90.50	-1,048.70	-144.99	990.03	939.43	50.60	19.566		
9,200.00	9,020.36	9,131.39	9,019.66	38.68	35.73	-90.50	-1,048.70	-144.99	990.03	939.01	51.02	19.406		
9,300.00	9,120.36	9,231.39	9,119.66	38.96	36.03	-90.50	-1,048.70	-144.99	990.03	938.59	51.44	19.247		
9,400.00	9,220.36	9,331.39	9,219.66	39.25	36.33	-90.50	-1,048.70	-144.99	990.03	938.17	51.86	19.091		
9,500.00	9,320.36	9,431.39	9,319.66	39.53	36.63	-90.50	-1,048.70	-144.99	990.03	937.75	52.28	18.937		
9,600.00	9,420.36	9,531.39	9,419.66	39.81	36.93	-90.50	-1,048.70	-144.99	990.03	937.32	52.70	18.784		
9,700.00	9,520.36	9,631.39	9,519.66	40.10	37.24	-90.50	-1,048.70	-144.99	990.03	936.90	53.13	18.634		
9,800.00	9,620.36	9,731.39	9,619.66	40.39	37.54	-90.50	-1,048.70	-144.99	990.03	936.47	53.56	18.485		
9,900.00	9,720.36	9,831.39	9,719.66	40.67	37.85	-90.50	-1,048.70	-144.99	990.03	936.04	53.99	18.339		
10,000.00	9,820.36	9,931.39	9,819.66	40.96	38.15	-90.50	-1,048.70	-144.99	990.03	935.61	54.42	18.194		
10,100.00	9,920.36	10,031.39	9,919.66	41.25	38.46	-90.50	-1,048.70	-144.99	990.03	935.18	54.85	18.051		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 702H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
10,200.00	10,020.36	10,131.39	10,019.66	41.55	38.77	-90.50	-1,048.70	-144.99	990.03	934.75	55.28	17.910				
10,300.00	10,120.36	10,231.39	10,119.66	41.84	39.08	-90.50	-1,048.70	-144.99	990.03	934.32	55.71	17.770				
10,400.00	10,220.36	10,331.39	10,219.66	42.13	39.39	-90.50	-1,048.70	-144.99	990.03	933.88	56.15	17.633				
10,500.00	10,320.36	10,431.39	10,319.66	42.43	39.70	-90.50	-1,048.70	-144.99	990.03	933.44	56.58	17.497				
10,600.00	10,420.36	10,531.39	10,419.66	42.72	40.01	-90.50	-1,048.70	-144.99	990.03	933.01	57.02	17.363				
10,700.00	10,520.36	10,631.39	10,519.66	43.02	40.32	-90.50	-1,048.70	-144.99	990.03	932.57	57.46	17.230				
10,800.00	10,620.36	10,731.39	10,619.66	43.31	40.63	-90.50	-1,048.70	-144.99	990.03	932.13	57.90	17.099				
10,900.00	10,720.36	10,831.39	10,719.66	43.61	40.95	-90.50	-1,048.70	-144.99	990.03	931.69	58.34	16.970				
11,000.00	10,820.36	10,931.39	10,819.66	43.91	41.26	-90.50	-1,048.70	-144.99	990.03	931.25	58.78	16.843				
11,100.00	10,920.36	11,031.39	10,919.66	44.21	41.58	-90.50	-1,048.70	-144.99	990.03	930.80	59.22	16.717				
11,200.00	11,020.36	11,131.39	11,019.66	44.51	41.89	-90.50	-1,048.70	-144.99	990.03	930.36	59.67	16.592				
11,300.00	11,120.36	11,231.39	11,119.66	44.81	42.21	-90.50	-1,048.70	-144.99	990.03	929.92	60.11	16.470				
11,400.00	11,220.36	11,331.39	11,219.66	45.12	42.53	-90.50	-1,048.70	-144.99	990.03	929.47	60.56	16.349				
11,500.00	11,320.36	11,431.39	11,319.66	45.42	42.84	-90.50	-1,048.70	-144.99	990.03	929.02	61.00	16.229				
11,600.00	11,420.36	11,531.39	11,419.66	45.72	43.16	-90.50	-1,048.70	-144.99	990.03	928.58	61.45	16.111				
11,700.00	11,520.36	11,631.39	11,519.66	46.03	43.48	-90.50	-1,048.70	-144.99	990.03	928.13	61.90	15.994				
11,784.20	11,604.56	11,715.61	11,603.86	46.29	43.76	-90.56	-1,049.64	-144.98	990.03	927.74	62.29	15.894				
11,800.00	11,620.36	11,731.36	11,619.56	46.33	43.82	-90.62	-1,050.76	-144.97	990.03	927.66	62.37	15.874				
11,900.00	11,720.36	11,828.42	11,715.12	46.64	44.23	-91.57	-1,067.11	-144.81	990.19	927.26	62.93	15.735				
11,950.68	11,771.04	11,874.87	11,759.55	46.80	44.46	-92.35	-1,080.60	-144.68	990.57	927.34	63.23	15.665				
12,000.00	11,820.30	11,918.42	11,800.10	46.96	44.69	87.33	-1,096.48	-144.52	991.23	927.69	63.54	15.600				
12,050.00	11,869.86	11,961.62	11,839.00	47.14	44.94	86.46	-1,115.22	-144.34	992.13	928.26	63.86	15.535				
12,100.00	11,918.67	12,003.96	11,875.66	47.35	45.20	85.61	-1,136.39	-144.14	993.22	929.03	64.20	15.472				
12,150.00	11,966.36	12,045.53	11,910.04	47.58	45.46	84.80	-1,159.74	-143.91	994.48	929.95	64.54	15.410				
12,200.00	12,012.56	12,086.42	11,942.11	47.83	45.74	84.02	-1,185.09	-143.66	995.87	930.99	64.88	15.350				
12,250.00	12,056.93	12,126.69	11,971.86	48.10	46.02	83.28	-1,212.23	-143.40	997.35	932.12	65.23	15.291				
12,300.00	12,099.12	12,166.43	11,999.27	48.39	46.31	82.58	-1,240.99	-143.12	998.88	933.31	65.57	15.233				
12,350.00	12,138.81	12,205.69	12,024.33	48.69	46.61	81.93	-1,271.20	-142.82	1,000.43	934.51	65.92	15.176				
12,400.00	12,175.70	12,244.53	12,047.03	49.01	46.91	81.32	-1,302.71	-142.52	1,001.95	935.68	66.27	15.119				
12,450.00	12,209.51	12,283.01	12,067.35	49.34	47.22	80.78	-1,335.37	-142.20	1,003.42	936.79	66.63	15.060				
12,500.00	12,239.99	12,321.17	12,085.30	49.69	47.54	80.29	-1,369.03	-141.87	1,004.79	937.81	66.99	14.999				
12,550.00	12,266.90	12,359.05	12,100.87	50.05	47.86	79.86	-1,403.56	-141.53	1,006.05	938.70	67.36	14.937				
12,600.00	12,290.03	12,400.00	12,115.09	50.42	48.20	79.46	-1,441.95	-141.16	1,007.18	939.41	67.77	14.862				
12,650.00	12,309.21	12,434.18	12,124.84	50.81	48.50	79.18	-1,474.71	-140.84	1,008.12	940.00	68.11	14.801				
12,700.00	12,324.30	12,471.51	12,133.23	51.20	48.82	78.94	-1,511.07	-140.49	1,008.88	940.37	68.51	14.726				
12,750.00	12,335.17	12,508.72	12,139.22	51.60	49.15	78.76	-1,547.79	-140.13	1,009.44	940.52	68.92	14.647				
12,800.00	12,341.76	12,550.00	12,143.06	52.01	49.51	78.65	-1,588.88	-139.73	1,009.80	940.41	69.39	14.553				
12,850.68	12,344.00	12,583.72	12,144.00	52.42	49.81	78.62	-1,622.57	-139.40	1,009.92	940.13	69.79	14.471				
12,900.00	12,344.00	12,633.03	12,144.00	52.83	50.25	78.62	-1,671.89	-138.92	1,009.92	939.54	70.38	14.350				
13,000.00	12,344.00	12,733.03	12,144.00	53.68	51.16	78.62	-1,771.88	-137.95	1,009.92	938.32	71.61	14.104				
13,100.00	12,344.00	12,833.03	12,144.00	54.57	52.11	78.62	-1,871.88	-136.97	1,009.93	937.04	72.89	13.856				
13,200.00	12,344.00	12,933.03	12,144.00	55.50	53.10	78.62	-1,971.87	-136.00	1,009.93	935.72	74.22	13.608				
13,300.00	12,344.00	13,033.03	12,144.00	56.46	54.12	78.62	-2,071.87	-135.03	1,009.94	934.34	75.59	13.360				
13,400.00	12,344.00	13,133.03	12,144.00	57.45	55.16	78.62	-2,171.86	-134.05	1,009.94	932.93	77.01	13.114				
13,500.00	12,344.00	13,233.03	12,144.00	58.47	56.24	78.62	-2,271.86	-133.08	1,009.95	931.47	78.48	12.869				
13,600.00	12,344.00	13,333.03	12,144.00	59.52	57.35	78.62	-2,371.85	-132.11	1,009.95	929.98	79.98	12.628				
13,700.00	12,344.00	13,433.03	12,144.00	60.60	58.48	78.62	-2,471.85	-131.13	1,009.96	928.44	81.51	12.390				
13,800.00	12,344.00	13,533.03	12,144.00	61.70	59.63	78.62	-2,571.84	-130.16	1,009.96	926.88	83.09	12.156				
13,900.00	12,344.00	13,633.03	12,144.00	62.82	60.81	78.62	-2,671.84	-129.18	1,009.97	925.28	84.69	11.925				
14,000.00	12,344.00	13,733.03	12,144.00	63.97	62.01	78.62	-2,771.83	-128.21	1,009.97	923.64	86.33	11.699				
14,100.00	12,344.00	13,833.03	12,144.00	65.14	63.23	78.62	-2,871.83	-127.24	1,009.98	921.98	87.99	11.478				
14,200.00	12,344.00	13,933.03	12,144.00	66.33	64.46	78.62	-2,971.83	-126.26	1,009.98	920.30	89.69	11.261				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 702H - 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			
14,300.00	12,344.00	14,033.03	12,144.00	67.54	65.72	78.62	-3,071.82	-125.29	1,009.99	918.58	91.40	11.050				
14,400.00	12,344.00	14,133.03	12,144.00	68.77	67.00	78.62	-3,171.82	-124.32	1,009.99	916.84	93.15	10.843				
14,500.00	12,344.00	14,233.03	12,144.00	70.02	68.29	78.62	-3,271.81	-123.34	1,010.00	915.08	94.92	10.641				
14,600.00	12,344.00	14,333.03	12,144.00	71.28	69.59	78.62	-3,371.81	-122.37	1,010.00	913.30	96.70	10.444				
14,700.00	12,344.00	14,433.03	12,144.00	72.55	70.91	78.62	-3,471.80	-121.39	1,010.01	911.49	98.51	10.252				
14,800.00	12,344.00	14,533.03	12,144.00	73.85	72.24	78.62	-3,571.80	-120.42	1,010.01	909.67	100.34	10.065				
14,900.00	12,344.00	14,633.03	12,144.00	75.15	73.59	78.62	-3,671.79	-119.45	1,010.02	907.82	102.19	9.883				
15,000.00	12,344.00	14,733.03	12,144.00	76.47	74.95	78.62	-3,771.79	-118.47	1,010.02	905.96	104.06	9.706				
15,100.00	12,344.00	14,833.03	12,144.00	77.81	76.32	78.62	-3,871.78	-117.50	1,010.03	904.08	105.94	9.534				
15,200.00	12,344.00	14,933.03	12,144.00	79.15	77.70	78.62	-3,971.78	-116.53	1,010.03	902.19	107.84	9.366				
15,300.00	12,344.00	15,033.03	12,144.00	80.51	79.09	78.62	-4,071.77	-115.55	1,010.04	900.28	109.75	9.203				
15,400.00	12,344.00	15,133.03	12,144.00	81.87	80.49	78.62	-4,171.77	-114.58	1,010.04	898.36	111.68	9.044				
15,500.00	12,344.00	15,233.03	12,144.00	83.25	81.90	78.62	-4,271.76	-113.60	1,010.05	896.42	113.62	8.890				
15,600.00	12,344.00	15,333.03	12,144.00	84.64	83.32	78.62	-4,371.76	-112.63	1,010.05	894.48	115.57	8.739				
15,700.00	12,344.00	15,433.03	12,144.00	86.03	84.75	78.62	-4,471.75	-111.66	1,010.06	892.52	117.54	8.593				
15,800.00	12,344.00	15,533.03	12,144.00	87.44	86.19	78.62	-4,571.75	-110.68	1,010.06	890.54	119.52	8.451				
15,900.00	12,344.00	15,633.03	12,144.00	88.85	87.63	78.62	-4,671.74	-109.71	1,010.06	888.56	121.50	8.313				
16,000.00	12,344.00	15,733.03	12,144.00	90.27	89.08	78.62	-4,771.74	-108.74	1,010.07	886.57	123.50	8.179				
16,100.00	12,344.00	15,833.03	12,144.00	91.70	90.54	78.62	-4,871.74	-107.76	1,010.07	884.56	125.51	8.048				
16,200.00	12,344.00	15,933.03	12,144.00	93.14	92.00	78.62	-4,971.73	-106.79	1,010.08	882.55	127.53	7.920				
16,300.00	12,344.00	16,033.03	12,144.00	94.58	93.47	78.62	-5,071.73	-105.81	1,010.08	880.53	129.56	7.797				
16,400.00	12,344.00	16,133.03	12,144.00	96.03	94.95	78.62	-5,171.72	-104.84	1,010.09	878.50	131.59	7.676				
16,500.00	12,344.00	16,233.03	12,144.00	97.49	96.43	78.62	-5,271.72	-103.87	1,010.09	876.46	133.63	7.559				
16,600.00	12,344.00	16,333.03	12,144.00	98.95	97.92	78.62	-5,371.71	-102.89	1,010.10	874.42	135.68	7.445				
16,700.00	12,344.00	16,433.03	12,144.00	100.42	99.41	78.62	-5,471.71	-101.92	1,010.10	872.36	137.74	7.333				
16,800.00	12,344.00	16,533.03	12,144.00	101.89	100.91	78.62	-5,571.70	-100.95	1,010.11	870.30	139.81	7.225				
16,900.00	12,344.00	16,633.03	12,144.00	103.37	102.41	78.62	-5,671.70	-99.97	1,010.11	868.23	141.88	7.119				
17,000.00	12,344.00	16,733.03	12,144.00	104.86	103.92	78.62	-5,771.69	-99.00	1,010.12	866.16	143.96	7.017				
17,100.00	12,344.00	16,833.03	12,144.00	106.35	105.43	78.62	-5,871.69	-98.02	1,010.12	864.08	146.04	6.917				
17,200.00	12,344.00	16,933.03	12,144.00	107.84	106.95	78.62	-5,971.68	-97.05	1,010.13	861.99	148.13	6.819				
17,300.00	12,344.00	17,033.03	12,144.00	109.34	108.47	78.62	-6,071.68	-96.08	1,010.13	859.90	150.23	6.724				
17,400.00	12,344.00	17,133.03	12,144.00	110.84	109.99	78.62	-6,171.67	-95.10	1,010.14	857.81	152.33	6.631				
17,500.00	12,344.00	17,233.03	12,144.00	112.35	111.52	78.62	-6,271.67	-94.13	1,010.14	855.71	154.44	6.541				
17,600.00	12,344.00	17,333.03	12,144.00	113.86	113.05	78.62	-6,371.66	-93.16	1,010.15	853.60	156.55	6.453				
17,700.00	12,344.00	17,433.03	12,144.00	115.38	114.58	78.62	-6,471.66	-92.18	1,010.15	851.49	158.67	6.367				
17,800.00	12,344.00	17,533.03	12,144.00	116.89	116.12	78.62	-6,571.65	-91.21	1,010.16	849.37	160.79	6.283				
17,900.00	12,344.00	17,633.03	12,144.00	118.42	117.66	78.62	-6,671.65	-90.23	1,010.16	847.25	162.91	6.201				
18,000.00	12,344.00	17,733.03	12,144.00	119.94	119.20	78.62	-6,771.65	-89.26	1,010.17	845.13	165.04	6.121				
18,100.00	12,344.00	17,833.03	12,144.00	121.47	120.74	78.62	-6,871.64	-88.29	1,010.17	843.00	167.17	6.043				
18,200.00	12,344.00	17,933.03	12,144.00	123.00	122.29	78.62	-6,971.64	-87.31	1,010.18	840.86	169.31	5.966				
18,300.00	12,344.00	18,033.03	12,144.00	124.54	123.84	78.62	-7,071.63	-86.34	1,010.18	838.73	171.45	5.892				
18,400.00	12,344.00	18,133.03	12,144.00	126.08	125.40	78.62	-7,171.63	-85.37	1,010.19	836.59	173.60	5.819				
18,500.00	12,344.00	18,233.03	12,144.00	127.62	126.95	78.62	-7,271.62	-84.39	1,010.19	834.45	175.75	5.748				
18,600.00	12,344.00	18,333.03	12,144.00	129.16	128.51	78.62	-7,371.62	-83.42	1,010.20	832.30	177.90	5.679				
18,700.00	12,344.00	18,433.03	12,144.00	130.71	130.07	78.62	-7,471.61	-82.44	1,010.20	830.15	180.05	5.611				
18,800.00	12,344.00	18,533.03	12,144.00	132.26	131.64	78.62	-7,571.61	-81.47	1,010.21	828.00	182.21	5.544				
18,900.00	12,344.00	18,633.03	12,144.00	133.81	133.20	78.62	-7,671.60	-80.50	1,010.21	825.84	184.37	5.479				
19,000.00	12,344.00	18,733.03	12,144.00	135.36	134.77	78.62	-7,771.60	-79.52	1,010.22	823.68	186.53	5.416				
19,100.00	12,344.00	18,833.03	12,144.00	136.92	136.34	78.62	-7,871.59	-78.55	1,010.22	821.52	188.70	5.354				
19,200.00	12,344.00	18,933.03	12,144.00	138.48	137.91	78.62	-7,971.59	-77.58	1,010.23	819.36	190.87	5.293				
19,300.00	12,344.00	19,033.03	12,144.00	140.04	139.48	78.62	-8,071.58	-76.60	1,010.23	817.19	193.04	5.233				
19,400.00	12,344.00	19,133.03	12,144.00	141.60	141.06	78.62	-8,171.58	-75.63	1,010.24	815.02	195.21	5.175				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Tatanka Fed Com - Tatanka Fed Com 702H - 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	
19,500.00	12,344.00	19,233.03	12,144.00	143.16	142.64	78.62	-8,271.57	-74.65	1,010.24	812.85	197.39	5.118		
19,600.00	12,344.00	19,333.03	12,144.00	144.73	144.21	78.62	-8,371.57	-73.68	1,010.24	810.68	199.56	5.062		
19,700.00	12,344.00	19,433.03	12,144.00	146.30	145.79	78.62	-8,471.56	-72.71	1,010.25	808.51	201.74	5.008		
19,800.00	12,344.00	19,533.03	12,144.00	147.87	147.38	78.62	-8,571.56	-71.73	1,010.25	806.33	203.93	4.954		
19,900.00	12,344.00	19,633.03	12,144.00	149.44	148.96	78.62	-8,671.56	-70.76	1,010.26	804.15	206.11	4.902		
20,000.00	12,344.00	19,733.03	12,144.00	151.01	150.54	78.62	-8,771.55	-69.79	1,010.26	801.97	208.30	4.850		
20,100.00	12,344.00	19,833.03	12,144.00	152.59	152.13	78.62	-8,871.55	-68.81	1,010.27	799.79	210.48	4.800		
20,200.00	12,344.00	19,933.03	12,144.00	154.17	153.72	78.62	-8,971.54	-67.84	1,010.27	797.60	212.67	4.750		
20,300.00	12,344.00	20,033.03	12,144.00	155.74	155.30	78.62	-9,071.54	-66.86	1,010.28	795.41	214.87	4.702		
20,400.00	12,344.00	20,133.03	12,144.00	157.32	156.89	78.62	-9,171.53	-65.89	1,010.28	793.22	217.06	4.654		
20,500.00	12,344.00	20,233.03	12,144.00	158.91	158.49	78.62	-9,271.53	-64.92	1,010.29	791.03	219.25	4.608		
20,600.00	12,344.00	20,333.03	12,144.00	160.49	160.08	78.62	-9,371.52	-63.94	1,010.29	788.84	221.45	4.562		
20,700.00	12,344.00	20,433.03	12,144.00	162.07	161.67	78.62	-9,471.52	-62.97	1,010.30	786.65	223.65	4.517		
20,800.00	12,344.00	20,533.03	12,144.00	163.66	163.27	78.62	-9,571.51	-62.00	1,010.30	784.46	225.85	4.473		
20,900.00	12,344.00	20,633.03	12,144.00	165.24	164.86	78.62	-9,671.51	-61.02	1,010.31	782.26	228.05	4.430		
21,000.00	12,344.00	20,733.03	12,144.00	166.83	166.46	78.62	-9,771.50	-60.05	1,010.31	780.06	230.25	4.388		
21,100.00	12,344.00	20,833.03	12,144.00	168.42	168.06	78.62	-9,871.50	-59.07	1,010.32	777.86	232.45	4.346		
21,200.00	12,344.00	20,933.03	12,144.00	170.01	169.66	78.62	-9,971.49	-58.10	1,010.32	775.66	234.66	4.305		
21,300.00	12,344.00	21,033.03	12,144.00	171.60	171.26	78.62	-10,071.49	-57.13	1,010.33	773.46	236.86	4.265		
21,400.00	12,344.00	21,133.03	12,144.00	173.20	172.86	78.62	-10,171.48	-56.15	1,010.33	771.26	239.07	4.226		
21,500.00	12,344.00	21,233.03	12,144.00	174.79	174.46	78.62	-10,271.48	-55.18	1,010.34	769.06	241.28	4.187		
21,600.00	12,344.00	21,333.03	12,144.00	176.38	176.06	78.62	-10,371.47	-54.21	1,010.34	766.85	243.49	4.149		
21,700.00	12,344.00	21,433.03	12,144.00	177.98	177.67	78.62	-10,471.47	-53.23	1,010.35	764.65	245.70	4.112		
21,800.00	12,344.00	21,533.03	12,144.00	179.58	179.27	78.62	-10,571.47	-52.26	1,010.35	762.44	247.91	4.075		
21,900.00	12,344.00	21,633.03	12,144.00	181.17	180.88	78.62	-10,671.46	-51.28	1,010.36	760.23	250.12	4.039		
22,000.00	12,344.00	21,733.03	12,144.00	182.77	182.48	78.62	-10,771.46	-50.31	1,010.36	758.02	252.34	4.004		
22,100.00	12,344.00	21,833.03	12,144.00	184.37	184.09	78.62	-10,871.45	-49.34	1,010.37	755.82	254.55	3.969		
22,200.00	12,344.00	21,933.03	12,144.00	185.97	185.70	78.62	-10,971.45	-48.36	1,010.37	753.61	256.77	3.935		
22,300.00	12,344.00	22,033.03	12,144.00	187.57	187.31	78.62	-11,071.44	-47.39	1,010.38	751.39	258.98	3.901		
22,400.00	12,344.00	22,133.03	12,144.00	189.18	188.92	78.62	-11,171.44	-46.42	1,010.38	749.18	261.20	3.868		
22,500.00	12,344.00	22,233.03	12,144.00	190.78	190.53	78.62	-11,271.43	-45.44	1,010.39	746.97	263.42	3.836		
22,600.00	12,344.00	22,333.03	12,144.00	192.38	192.08	78.62	-11,371.43	-44.47	1,010.39	744.80	265.59	3.804		
22,642.51	12,344.00	22,375.46	12,144.00	193.01	192.68	78.62	-11,413.85	-44.06	1,010.39	743.98	266.42	3.793 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 Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 704H - OH - Plan #2		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	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	111.59	-992.88	2,508.59	2,698.26							
100.00	100.00	57.80	57.80	0.13	0.07	111.59	-992.88	2,508.59	2,697.93	2,697.79	0.14	N/A				
200.00	200.00	157.80	157.80	0.48	0.33	111.59	-992.88	2,508.59	2,697.93	2,697.34	0.59	4,594.205				
300.00	300.00	257.80	257.80	0.84	0.69	111.59	-992.88	2,508.59	2,697.93	2,696.84	1.09	2,475.983				
400.00	400.00	357.80	357.80	1.20	1.05	111.59	-992.88	2,508.59	2,697.93	2,696.34	1.59	1,691.574				
500.00	500.00	457.80	457.80	1.56	1.41	111.59	-992.88	2,508.59	2,697.93	2,695.83	2.10	1,284.110				
600.00	600.00	557.80	557.80	1.92	1.77	111.59	-992.88	2,508.59	2,697.93	2,695.32	2.61	1,034.706				
700.00	700.00	657.80	657.80	2.28	2.13	111.59	-992.88	2,508.59	2,697.93	2,694.82	3.11	866.378				
800.00	800.00	757.80	757.80	2.63	2.48	111.59	-992.88	2,508.59	2,697.93	2,694.31	3.62	745.134				
900.00	900.00	857.80	857.80	2.99	2.84	111.59	-992.88	2,508.59	2,697.93	2,693.80	4.13	653.649				
1,000.00	1,000.00	957.80	957.80	3.35	3.20	111.59	-992.88	2,508.59	2,697.93	2,693.30	4.63	582.166				
1,100.00	1,100.00	1,057.80	1,057.80	3.71	3.56	111.59	-992.88	2,508.59	2,697.93	2,692.79	5.14	524.774				
1,200.00	1,200.00	1,157.80	1,157.80	4.07	3.92	111.59	-992.88	2,508.59	2,697.93	2,692.28	5.65	477.680				
1,300.00	1,300.00	1,257.80	1,257.80	4.43	4.28	111.59	-992.88	2,508.59	2,697.93	2,691.78	6.15	438.342				
1,400.00	1,400.00	1,357.80	1,357.80	4.79	4.63	111.59	-992.88	2,508.59	2,697.93	2,691.27	6.66	404.989				
1,500.00	1,500.00	1,457.80	1,457.80	5.14	4.99	111.59	-992.88	2,508.59	2,697.93	2,690.76	7.17	376.352				
1,600.00	1,600.00	1,557.80	1,557.80	5.50	5.35	111.59	-992.88	2,508.59	2,697.93	2,690.26	7.68	351.497				
1,700.00	1,700.00	1,657.80	1,657.80	5.86	5.71	111.59	-992.88	2,508.59	2,697.93	2,689.75	8.18	329.722				
1,800.00	1,800.00	1,757.80	1,757.80	6.22	6.07	111.59	-992.88	2,508.59	2,697.93	2,689.24	8.69	310.487				
1,900.00	1,900.00	1,857.80	1,857.80	6.58	6.43	111.59	-992.88	2,508.59	2,697.93	2,688.74	9.20	293.372				
2,000.00	2,000.00	1,957.80	1,957.80	6.94	6.79	111.59	-992.88	2,508.59	2,697.93	2,688.23	9.70	278.045				
2,100.00	2,100.00	2,057.80	2,057.80	7.29	7.14	111.59	-992.88	2,508.59	2,697.93	2,687.72	10.21	264.241				
2,200.00	2,200.00	2,157.80	2,157.80	7.65	7.50	111.59	-992.88	2,508.59	2,697.93	2,687.21	10.72	251.742				
2,300.00	2,300.00	2,257.80	2,257.80	8.01	7.86	111.59	-992.88	2,508.59	2,697.93	2,686.71	11.22	240.372				
2,400.00	2,400.00	2,357.80	2,357.80	8.37	8.22	111.59	-992.88	2,508.59	2,697.93	2,686.20	11.73	229.985				
2,500.00	2,500.00	2,457.80	2,457.80	8.73	8.58	111.59	-992.88	2,508.59	2,697.93	2,685.69	12.24	220.458				
2,600.00	2,600.00	2,557.80	2,557.80	9.09	8.94	111.59	-992.88	2,508.59	2,697.93	2,685.19	12.74	211.689				
2,700.00	2,700.00	2,657.80	2,657.80	9.45	9.29	111.59	-992.88	2,508.59	2,697.93	2,684.68	13.25	203.591				
2,800.00	2,800.00	2,757.80	2,757.80	9.80	9.65	111.59	-992.88	2,508.59	2,697.93	2,684.17	13.76	196.089				
2,900.00	2,900.00	2,857.80	2,857.80	10.16	10.01	111.59	-992.88	2,508.59	2,697.93	2,683.67	14.27	189.121				
3,000.00	3,000.00	2,957.80	2,957.80	10.52	10.37	111.59	-992.88	2,508.59	2,697.93	2,683.16	14.77	182.631				
3,100.00	3,100.00	3,057.80	3,057.80	10.88	10.73	111.59	-992.88	2,508.59	2,697.93	2,682.65	15.28	176.572				
3,200.00	3,200.00	3,157.80	3,157.80	11.24	11.09	111.59	-992.88	2,508.59	2,697.93	2,682.15	15.79	170.902				
3,300.00	3,299.99	3,361.33	3,361.28	11.58	11.80	-29.33	-993.06	2,505.19	2,695.68	2,679.16	16.52	163.181				
3,400.00	3,399.91	3,637.87	3,636.91	11.91	12.75	-29.33	-994.19	2,483.56	2,685.14	2,667.78	17.36	154.667				
3,500.00	3,499.69	3,907.82	3,903.78	12.24	13.71	-29.29	-996.31	2,443.28	2,665.91	2,647.77	18.14	146.959				
3,600.00	3,599.27	4,038.87	4,032.30	12.57	14.20	-29.38	-997.65	2,417.72	2,640.22	2,621.56	18.66	141.458				
3,700.00	3,698.57	4,134.83	4,126.35	12.91	14.57	-29.53	-998.65	2,398.73	2,612.21	2,593.08	19.13	136.534				
3,800.00	3,797.54	4,230.15	4,219.78	13.25	14.93	-29.74	-999.64	2,379.86	2,582.02	2,562.42	19.60	131.734				
3,900.00	3,896.09	4,324.77	4,312.53	13.60	15.30	-30.00	-1,000.62	2,361.13	2,549.67	2,529.60	20.07	127.051				
4,000.00	3,994.16	4,418.62	4,404.52	13.96	15.68	-30.31	-1,001.60	2,342.55	2,515.18	2,494.64	20.54	122.477				
4,100.00	4,091.70	4,511.64	4,495.69	14.32	16.05	-30.68	-1,002.57	2,324.13	2,478.58	2,457.58	21.00	118.008				
4,200.00	4,188.62	4,603.76	4,585.98	14.70	16.42	-31.10	-1,003.53	2,305.90	2,439.90	2,418.43	21.47	113.638				
4,304.97	4,289.63	4,699.44	4,679.76	15.12	16.81	-31.62	-1,004.52	2,286.96	2,397.10	2,375.14	21.96	109.150				
4,400.00	4,380.70	4,785.54	4,764.15	15.51	17.17	-31.78	-1,005.42	2,269.91	2,357.35	2,334.94	22.41	105.206				
4,500.00	4,476.55	4,876.15	4,852.97	15.93	17.54	-31.95	-1,006.36	2,251.97	2,315.54	2,292.66	22.88	101.206				
4,600.00	4,572.39	4,966.76	4,941.78	16.36	17.92	-32.13	-1,007.30	2,234.04	2,273.74	2,250.39	23.36	97.352				
4,700.00	4,668.24	5,057.38	5,030.59	16.81	18.30	-32.32	-1,008.24	2,216.10	2,231.97	2,208.13	23.84	93.635				
4,800.00	4,764.08	5,147.99	5,119.41	17.26	18.69	-32.51	-1,009.18	2,198.16	2,190.21	2,165.89	24.32	90.052				
4,900.00	4,859.93	5,238.60	5,208.22	17.72	19.07	-32.71	-1,010.13	2,180.22	2,148.48	2,123.67	24.81	86.596				
5,000.00	4,955.77	5,329.21	5,297.04	18.18	19.46	-32.92	-1,011.07	2,162.29	2,106.77	2,081.47	25.30	83.262				
5,100.00	5,051.62	5,419.82	5,385.85	18.66	19.85	-33.13	-1,012.01	2,144.35	2,065.08	2,039.28	25.80	80.046				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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		
5,200.00	5,147.46	5,510.44	5,474.66	19.14	20.24	-33.36	-1,012.95	2,126.41	2,023.42	1,997.12	26.30	76.941		
5,300.00	5,243.31	5,601.05	5,563.48	19.63	20.64	-33.59	-1,013.89	2,108.47	1,981.79	1,954.99	26.80	73.945		
5,400.00	5,339.15	5,691.66	5,652.29	20.12	21.03	-33.84	-1,014.84	2,090.54	1,940.18	1,912.88	27.31	71.052		
5,500.00	5,435.00	5,782.27	5,741.10	20.62	21.43	-34.09	-1,015.78	2,072.60	1,898.61	1,870.79	27.82	68.258		
5,600.00	5,530.84	5,872.88	5,829.92	21.12	21.83	-34.36	-1,016.72	2,054.66	1,857.07	1,828.74	28.33	65.558		
5,700.00	5,626.69	5,963.50	5,918.73	21.63	22.23	-34.64	-1,017.66	2,036.72	1,815.56	1,786.72	28.84	62.950		
5,800.00	5,722.53	6,054.11	6,007.55	22.14	22.63	-34.93	-1,018.60	2,018.79	1,774.09	1,744.73	29.36	60.428		
5,900.00	5,818.38	6,144.72	6,096.36	22.65	23.04	-35.24	-1,019.55	2,000.85	1,732.66	1,702.78	29.88	57.989		
6,000.00	5,914.22	6,235.33	6,185.17	23.17	23.44	-35.56	-1,020.49	1,982.91	1,691.28	1,660.87	30.40	55.630		
6,100.00	6,010.07	6,325.94	6,273.99	23.69	23.85	-35.89	-1,021.43	1,964.97	1,649.94	1,619.01	30.93	53.346		
6,200.00	6,105.91	6,416.56	6,362.80	24.22	24.25	-36.25	-1,022.37	1,947.04	1,608.65	1,577.19	31.46	51.136		
6,300.00	6,201.76	6,507.17	6,451.62	24.75	24.66	-36.62	-1,023.32	1,929.10	1,567.41	1,535.42	31.99	48.996		
6,400.00	6,297.60	6,597.78	6,540.43	25.28	25.07	-37.01	-1,024.26	1,911.16	1,526.24	1,493.71	32.53	46.923		
6,500.00	6,393.45	6,688.39	6,629.24	25.81	25.48	-37.43	-1,025.20	1,893.22	1,485.12	1,452.06	33.07	44.915		
6,600.00	6,489.29	6,779.00	6,718.06	26.35	25.89	-37.86	-1,026.14	1,875.29	1,444.08	1,410.47	33.61	42.969		
6,700.00	6,585.14	6,852.72	6,790.37	26.89	26.22	-38.24	-1,026.89	1,861.00	1,403.50	1,369.33	34.17	41.072		
6,800.00	6,680.98	6,920.68	6,857.25	27.43	26.52	-38.62	-1,027.52	1,848.98	1,364.48	1,329.73	34.75	39.268		
6,900.00	6,776.83	7,000.00	6,935.58	27.97	26.86	-39.11	-1,028.18	1,836.46	1,327.18	1,291.86	35.32	37.579		
7,000.00	6,872.67	7,059.19	6,994.18	28.52	27.11	-39.50	-1,028.62	1,828.18	1,291.49	1,255.58	35.91	35.968		
7,100.00	6,968.52	7,129.68	7,064.14	29.06	27.39	-40.00	-1,029.07	1,819.51	1,257.62	1,221.13	36.49	34.466		
7,200.00	7,064.36	7,200.00	7,134.06	29.61	27.67	-40.54	-1,029.46	1,812.13	1,225.59	1,188.52	37.07	33.058		
7,300.00	7,160.21	7,272.97	7,206.76	30.16	27.94	-41.14	-1,029.79	1,805.85	1,195.44	1,157.78	37.66	31.745		
7,400.00	7,256.05	7,345.68	7,279.30	30.72	28.21	-41.77	-1,030.05	1,800.96	1,167.24	1,128.99	38.24	30.521		
7,500.00	7,351.90	7,419.05	7,352.59	31.27	28.47	-42.45	-1,030.23	1,797.43	1,141.04	1,102.21	38.83	29.386		
7,600.00	7,447.74	7,500.00	7,433.51	31.82	28.75	-43.25	-1,030.35	1,795.17	1,116.93	1,077.51	39.43	28.330		
7,700.00	7,543.59	7,567.88	7,501.39	32.38	28.97	-43.95	-1,030.38	1,794.59	1,094.90	1,054.90	40.00	27.371		
7,800.00	7,639.43	7,663.73	7,597.23	32.94	29.28	-44.99	-1,030.38	1,794.59	1,074.12	1,033.49	40.63	26.436		
7,889.67	7,725.37	7,749.67	7,683.17	33.44	29.56	-45.95	-1,030.38	1,794.59	1,055.80	1,014.60	41.20	25.625		
7,900.00	7,735.28	7,759.58	7,693.08	33.50	29.59	-46.04	-1,030.38	1,794.59	1,053.72	1,012.45	41.27	25.533		
8,000.00	7,831.56	7,855.86	7,789.36	34.04	29.90	-46.88	-1,030.38	1,794.59	1,034.74	992.83	41.91	24.691		
8,100.00	7,928.52	7,952.81	7,886.32	34.56	30.22	-47.68	-1,030.38	1,794.59	1,017.86	975.32	42.54	23.928		
8,200.00	8,026.08	8,050.38	7,983.88	35.06	30.54	-48.42	-1,030.38	1,794.59	1,003.00	959.84	43.16	23.239		
8,300.00	8,124.18	8,148.48	8,081.98	35.53	30.86	-49.11	-1,030.38	1,794.59	990.09	946.32	43.77	22.622		
8,400.00	8,222.76	8,247.06	8,180.56	35.98	31.18	-49.72	-1,030.38	1,794.59	979.07	934.71	44.36	22.072		
8,500.00	8,321.74	8,346.04	8,279.54	36.40	31.50	-50.25	-1,030.38	1,794.59	969.88	924.95	44.93	21.586		
8,600.00	8,421.06	8,445.36	8,378.86	36.79	31.83	-50.69	-1,030.38	1,794.59	962.45	916.97	45.49	21.159		
8,700.00	8,520.65	8,544.95	8,478.45	37.16	32.16	-51.04	-1,030.38	1,794.59	956.75	910.73	46.02	20.790		
8,800.00	8,620.44	8,644.74	8,578.24	37.51	32.49	-51.29	-1,030.38	1,794.59	952.73	906.20	46.53	20.475		
8,900.00	8,720.37	8,744.67	8,678.17	37.83	32.82	-51.44	-1,030.38	1,794.59	950.37	903.35	47.02	20.212		
8,994.64	8,815.00	8,839.30	8,772.80	38.11	33.13	-51.44	-1,030.38	1,794.59	949.64	902.18	47.46	20.010		
9,000.00	8,820.36	8,844.66	8,778.16	38.13	33.15	-51.44	-1,030.38	1,794.59	949.64	902.16	47.48	20.000		
9,100.00	8,920.36	8,944.66	8,878.16	38.40	33.48	-51.44	-1,030.38	1,794.59	949.64	901.71	47.93	19.813		
9,200.00	9,020.36	9,044.66	8,978.16	38.68	33.81	-51.44	-1,030.38	1,794.59	949.64	901.26	48.38	19.628		
9,300.00	9,120.36	9,144.66	9,078.16	38.96	34.14	-51.44	-1,030.38	1,794.59	949.64	900.81	48.83	19.447		
9,400.00	9,220.36	9,244.66	9,178.16	39.25	34.48	-51.44	-1,030.38	1,794.59	949.64	900.36	49.28	19.269		
9,500.00	9,320.36	9,344.66	9,278.16	39.53	34.81	-51.44	-1,030.38	1,794.59	949.64	899.90	49.74	19.094		
9,600.00	9,420.36	9,444.66	9,378.16	39.81	35.14	-51.44	-1,030.38	1,794.59	949.64	899.45	50.19	18.921		
9,700.00	9,520.36	9,544.66	9,478.16	40.10	35.48	-51.44	-1,030.38	1,794.59	949.64	898.99	50.64	18.751		
9,800.00	9,620.36	9,644.66	9,578.16	40.39	35.81	-51.44	-1,030.38	1,794.59	949.64	898.54	51.10	18.584		
9,900.00	9,720.36	9,744.66	9,678.16	40.67	36.15	-51.44	-1,030.38	1,794.59	949.64	898.08	51.56	18.419		
10,000.00	9,820.36	9,844.66	9,778.16	40.96	36.48	-51.44	-1,030.38	1,794.59	949.64	897.62	52.01	18.257		
10,100.00	9,920.36	9,944.66	9,878.16	41.25	36.82	-51.44	-1,030.38	1,794.59	949.64	897.17	52.47	18.098		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Tatanka Fed Com - Tatanka Fed Com 704H - OH - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
10,200.00	10,020.36	10,044.66	9,978.16	41.55	37.16	89.42	-1,030.38	1,794.59	949.64	896.71	52.93	17.941		
10,300.00	10,120.36	10,144.66	10,078.16	41.84	37.50	89.42	-1,030.38	1,794.59	949.64	896.25	53.39	17.786		
10,400.00	10,220.36	10,244.66	10,178.16	42.13	37.83	89.42	-1,030.38	1,794.59	949.64	895.79	53.85	17.634		
10,500.00	10,320.36	10,344.66	10,278.16	42.43	38.17	89.42	-1,030.38	1,794.59	949.64	895.32	54.32	17.484		
10,600.00	10,420.36	10,444.66	10,378.16	42.72	38.51	89.42	-1,030.38	1,794.59	949.64	894.86	54.78	17.336		
10,700.00	10,520.36	10,544.66	10,478.16	43.02	38.85	89.42	-1,030.38	1,794.59	949.64	894.40	55.24	17.191		
10,800.00	10,620.36	10,644.66	10,578.16	43.31	39.19	89.42	-1,030.38	1,794.59	949.64	893.93	55.71	17.047		
10,900.00	10,720.36	10,744.66	10,678.16	43.61	39.53	89.42	-1,030.38	1,794.59	949.64	893.47	56.17	16.906		
11,000.00	10,820.36	10,844.66	10,778.16	43.91	39.87	89.42	-1,030.38	1,794.59	949.64	893.00	56.64	16.767		
11,100.00	10,920.36	10,944.66	10,878.16	44.21	40.21	89.42	-1,030.38	1,794.59	949.64	892.54	57.10	16.630		
11,200.00	11,020.36	11,044.66	10,978.16	44.51	40.55	89.42	-1,030.38	1,794.59	949.64	892.07	57.57	16.495		
11,300.00	11,120.36	11,144.66	11,078.16	44.81	40.89	89.42	-1,030.38	1,794.59	949.64	891.60	58.04	16.362		
11,400.00	11,220.36	11,244.66	11,178.16	45.12	41.23	89.42	-1,030.38	1,794.59	949.64	891.13	58.51	16.231		
11,500.00	11,320.36	11,344.66	11,278.16	45.42	41.57	89.42	-1,030.38	1,794.59	949.64	890.66	58.98	16.102		
11,600.00	11,420.36	11,444.66	11,378.16	45.72	41.91	89.42	-1,030.38	1,794.59	949.64	890.19	59.45	15.975		
11,700.00	11,520.36	11,544.66	11,478.16	46.03	42.25	89.42	-1,030.38	1,794.59	949.64	889.72	59.92	15.850		
11,776.60	11,596.96	11,621.26	11,554.76	46.26	42.51	89.44	-1,030.69	1,794.59	949.64	889.37	60.27	15.755 CC		
11,800.00	11,620.36	11,644.66	11,578.07	46.33	42.59	89.51	-1,031.92	1,794.61	949.64	889.26	60.38	15.728		
11,900.00	11,720.36	11,741.92	11,674.05	46.64	42.90	90.44	-1,047.25	1,794.76	949.79	889.02	60.77	15.629		
11,950.68	11,771.04	11,788.61	11,718.86	46.80	43.04	91.23	-1,060.33	1,794.88	950.15	889.21	60.95	15.590		
12,000.00	11,820.30	11,832.44	11,759.82	46.96	43.17	-87.32	-1,075.89	1,795.04	950.79	889.68	61.12	15.557		
12,050.00	11,869.86	11,875.93	11,799.17	47.14	43.29	-86.43	-1,094.37	1,795.22	951.66	890.36	61.30	15.524		
12,100.00	11,918.67	11,918.57	11,836.29	47.35	43.41	-85.58	-1,115.35	1,795.42	952.73	891.22	61.51	15.490		
12,150.00	11,966.36	11,960.44	11,871.12	47.58	43.52	-84.75	-1,138.57	1,795.65	953.96	892.24	61.72	15.456		
12,200.00	12,012.56	12,000.00	11,902.38	47.83	43.62	-83.99	-1,162.79	1,795.89	955.32	893.37	61.95	15.422		
12,250.00	12,056.93	12,042.23	11,933.83	48.10	43.72	-83.21	-1,190.96	1,796.17	956.76	894.57	62.19	15.385		
12,300.00	12,099.12	12,082.28	11,961.66	48.39	43.81	-82.51	-1,219.75	1,796.45	958.26	895.82	62.44	15.348		
12,350.00	12,138.81	12,121.85	11,987.12	48.69	43.90	-81.85	-1,250.04	1,796.74	959.77	897.08	62.69	15.309		
12,400.00	12,175.70	12,161.01	12,010.19	49.01	43.98	-81.24	-1,281.66	1,797.05	961.26	898.30	62.96	15.267		
12,450.00	12,209.51	12,200.00	12,030.96	49.34	44.07	-80.69	-1,314.65	1,797.38	962.70	899.45	63.24	15.222		
12,500.00	12,239.99	12,238.26	12,049.12	49.69	44.15	-80.20	-1,348.32	1,797.71	964.05	900.51	63.54	15.172		
12,550.00	12,266.90	12,276.46	12,064.97	50.05	44.23	-79.76	-1,383.07	1,798.05	965.28	901.42	63.85	15.117		
12,600.00	12,290.03	12,314.44	12,078.40	50.42	44.32	-79.39	-1,418.58	1,798.40	966.37	902.18	64.18	15.056		
12,650.00	12,309.21	12,350.00	12,088.81	50.81	44.41	-79.09	-1,452.58	1,798.73	967.29	902.76	64.53	14.989		
12,700.00	12,324.30	12,389.86	12,097.95	51.20	44.51	-78.84	-1,491.36	1,799.11	968.03	903.13	64.91	14.914		
12,750.00	12,335.17	12,427.38	12,104.08	51.60	44.62	-78.67	-1,528.38	1,799.47	968.57	903.28	65.30	14.833		
12,800.00	12,341.76	12,464.84	12,107.76	52.01	44.73	-78.56	-1,565.64	1,799.84	968.91	903.20	65.71	14.745		
12,850.68	12,344.00	12,502.84	12,109.00	52.42	44.85	-78.52	-1,603.62	1,800.21	969.02	902.88	66.15	14.650		
12,900.00	12,344.00	12,552.16	12,109.00	52.83	45.02	-78.52	-1,652.93	1,800.70	969.03	902.45	66.58	14.555		
13,000.00	12,344.00	12,652.16	12,109.00	53.68	45.40	-78.52	-1,752.93	1,801.68	969.03	901.53	67.50	14.356		
13,100.00	12,344.00	12,752.16	12,109.00	54.57	45.85	-78.52	-1,852.92	1,802.66	969.03	900.55	68.48	14.150		
13,200.00	12,344.00	12,852.16	12,109.00	55.50	46.35	-78.52	-1,952.92	1,803.64	969.03	899.50	69.53	13.937		
13,300.00	12,344.00	12,952.16	12,109.00	56.46	46.92	-78.52	-2,052.91	1,804.62	969.03	898.40	70.63	13.719		
13,400.00	12,344.00	13,052.16	12,109.00	57.45	47.53	-78.52	-2,152.91	1,805.60	969.04	897.24	71.79	13.497		
13,500.00	12,344.00	13,152.16	12,109.00	58.47	48.19	-78.52	-2,252.90	1,806.58	969.04	896.03	73.01	13.273		
13,600.00	12,344.00	13,252.16	12,109.00	59.52	48.90	-78.52	-2,352.90	1,807.56	969.04	894.76	74.28	13.047		
13,700.00	12,344.00	13,352.16	12,109.00	60.60	49.66	-78.52	-2,452.89	1,808.54	969.04	893.45	75.59	12.820		
13,800.00	12,344.00	13,452.16	12,109.00	61.70	50.46	-78.52	-2,552.89	1,809.52	969.04	892.09	76.95	12.593		
13,900.00	12,344.00	13,552.16	12,109.00	62.82	51.30	-78.52	-2,652.88	1,810.50	969.05	890.69	78.36	12.367		
14,000.00	12,344.00	13,652.16	12,109.00	63.97	52.18	-78.52	-2,752.88	1,811.49	969.05	889.25	79.80	12.143		
14,100.00	12,344.00	13,752.16	12,109.00	65.14	53.10	-78.52	-2,852.87	1,812.47	969.05	887.76	81.29	11.921		
14,200.00	12,344.00	13,852.16	12,109.00	66.33	54.05	-78.52	-2,952.87	1,813.45	969.05	886.24	82.81	11.702		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 704H - OH - Plan #2		Offset Site Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
14,300.00	12,344.00	13,952.16	12,109.00	67.54	55.04	-78.52	-3,052.86	1,814.43	969.05	884.69	84.37	11.486				
14,400.00	12,344.00	14,052.16	12,109.00	68.77	56.06	-78.52	-3,152.86	1,815.41	969.06	883.10	85.96	11.274				
14,500.00	12,344.00	14,152.16	12,109.00	70.02	57.10	-78.52	-3,252.85	1,816.39	969.06	881.48	87.58	11.065				
14,600.00	12,344.00	14,252.16	12,109.00	71.28	58.18	-78.52	-3,352.85	1,817.37	969.06	879.84	89.23	10.861				
14,700.00	12,344.00	14,352.16	12,109.00	72.55	59.28	-78.52	-3,452.85	1,818.35	969.06	878.16	90.90	10.660				
14,800.00	12,344.00	14,452.16	12,109.00	73.85	60.41	-78.52	-3,552.84	1,819.33	969.07	876.46	92.61	10.464				
14,900.00	12,344.00	14,552.16	12,109.00	75.15	61.56	-78.52	-3,652.84	1,820.31	969.07	874.73	94.34	10.272				
15,000.00	12,344.00	14,652.16	12,109.00	76.47	62.73	-78.52	-3,752.83	1,821.29	969.07	872.98	96.09	10.085				
15,100.00	12,344.00	14,752.16	12,109.00	77.81	63.93	-78.52	-3,852.83	1,822.27	969.07	871.21	97.87	9.902				
15,200.00	12,344.00	14,852.16	12,109.00	79.15	65.14	-78.52	-3,952.82	1,823.26	969.07	869.41	99.66	9.723				
15,300.00	12,344.00	14,952.16	12,109.00	80.51	66.38	-78.52	-4,052.82	1,824.24	969.08	867.60	101.48	9.549				
15,400.00	12,344.00	15,052.16	12,109.00	81.87	67.63	-78.52	-4,152.81	1,825.22	969.08	865.76	103.32	9.380				
15,500.00	12,344.00	15,152.16	12,109.00	83.25	68.89	-78.52	-4,252.81	1,826.20	969.08	863.91	105.17	9.214				
15,600.00	12,344.00	15,252.16	12,109.00	84.64	70.18	-78.52	-4,352.80	1,827.18	969.08	862.04	107.04	9.054				
15,700.00	12,344.00	15,352.16	12,109.00	86.03	71.48	-78.52	-4,452.80	1,828.16	969.08	860.16	108.92	8.897				
15,800.00	12,344.00	15,452.16	12,109.00	87.44	72.79	-78.52	-4,552.79	1,829.14	969.09	858.26	110.83	8.744				
15,900.00	12,344.00	15,552.16	12,109.00	88.85	74.12	-78.52	-4,652.79	1,830.12	969.09	856.35	112.74	8.596				
16,000.00	12,344.00	15,652.16	12,109.00	90.27	75.46	-78.52	-4,752.78	1,831.10	969.09	854.42	114.67	8.451				
16,100.00	12,344.00	15,752.16	12,109.00	91.70	76.81	-78.52	-4,852.78	1,832.08	969.09	852.48	116.61	8.310				
16,200.00	12,344.00	15,852.16	12,109.00	93.14	78.17	-78.52	-4,952.77	1,833.06	969.09	850.53	118.57	8.173				
16,300.00	12,344.00	15,952.16	12,109.00	94.58	79.55	-78.52	-5,052.77	1,834.04	969.10	848.56	120.54	8.040				
16,400.00	12,344.00	16,052.16	12,109.00	96.03	80.93	-78.52	-5,152.76	1,835.03	969.10	846.59	122.51	7.910				
16,500.00	12,344.00	16,152.16	12,109.00	97.49	82.33	-78.52	-5,252.76	1,836.01	969.10	844.60	124.50	7.784				
16,600.00	12,344.00	16,252.16	12,109.00	98.95	83.73	-78.52	-5,352.75	1,836.99	969.10	842.60	126.50	7.661				
16,700.00	12,344.00	16,352.16	12,109.00	100.42	85.14	-78.52	-5,452.75	1,837.97	969.11	840.60	128.51	7.541				
16,800.00	12,344.00	16,452.16	12,109.00	101.89	86.56	-78.52	-5,552.74	1,838.95	969.11	838.58	130.53	7.425				
16,900.00	12,344.00	16,552.16	12,109.00	103.37	87.99	-78.52	-5,652.74	1,839.93	969.11	836.56	132.55	7.311				
17,000.00	12,344.00	16,652.16	12,109.00	104.86	89.43	-78.52	-5,752.73	1,840.91	969.11	834.52	134.59	7.201				
17,100.00	12,344.00	16,752.16	12,109.00	106.35	90.87	-78.52	-5,852.73	1,841.89	969.11	832.48	136.63	7.093				
17,200.00	12,344.00	16,852.16	12,109.00	107.84	92.32	-78.52	-5,952.73	1,842.87	969.12	830.44	138.68	6.988				
17,300.00	12,344.00	16,952.16	12,109.00	109.34	93.78	-78.52	-6,052.72	1,843.85	969.12	828.38	140.74	6.886				
17,400.00	12,344.00	17,052.16	12,109.00	110.84	95.25	-78.52	-6,152.72	1,844.83	969.12	826.32	142.80	6.786				
17,500.00	12,344.00	17,152.16	12,109.00	112.35	96.72	-78.52	-6,252.71	1,845.81	969.12	824.25	144.87	6.689				
17,600.00	12,344.00	17,252.16	12,109.00	113.86	98.19	-78.52	-6,352.71	1,846.80	969.12	822.17	146.95	6.595				
17,700.00	12,344.00	17,352.16	12,109.00	115.38	99.67	-78.52	-6,452.70	1,847.78	969.13	820.09	149.03	6.503				
17,800.00	12,344.00	17,452.16	12,109.00	116.89	101.16	-78.52	-6,552.70	1,848.76	969.13	818.00	151.12	6.413				
17,900.00	12,344.00	17,552.16	12,109.00	118.42	102.65	-78.52	-6,652.69	1,849.74	969.13	815.91	153.22	6.325				
18,000.00	12,344.00	17,652.16	12,109.00	119.94	104.15	-78.52	-6,752.69	1,850.72	969.13	813.81	155.32	6.240				
18,100.00	12,344.00	17,752.16	12,109.00	121.47	105.65	-78.52	-6,852.68	1,851.70	969.13	811.71	157.42	6.156				
18,200.00	12,344.00	17,852.16	12,109.00	123.00	107.16	-78.53	-6,952.68	1,852.68	969.14	809.60	159.53	6.075				
18,300.00	12,344.00	17,952.16	12,109.00	124.54	108.67	-78.53	-7,052.67	1,853.66	969.14	807.49	161.65	5.995				
18,400.00	12,344.00	18,052.16	12,109.00	126.08	110.18	-78.53	-7,152.67	1,854.64	969.14	805.37	163.77	5.918				
18,500.00	12,344.00	18,152.16	12,109.00	127.62	111.70	-78.53	-7,252.66	1,855.62	969.14	803.25	165.89	5.842				
18,600.00	12,344.00	18,252.16	12,109.00	129.16	113.22	-78.53	-7,352.66	1,856.60	969.15	801.12	168.02	5.768				
18,700.00	12,344.00	18,352.16	12,109.00	130.71	114.74	-78.53	-7,452.65	1,857.58	969.15	799.00	170.15	5.696				
18,800.00	12,344.00	18,452.16	12,109.00	132.26	116.27	-78.53	-7,552.65	1,858.57	969.15	796.86	172.29	5.625				
18,900.00	12,344.00	18,552.16	12,109.00	133.81	117.80	-78.53	-7,652.64	1,859.55	969.15	794.73	174.43	5.556				
19,000.00	12,344.00	18,652.16	12,109.00	135.36	119.34	-78.53	-7,752.64	1,860.53	969.15	792.58	176.57	5.489				
19,100.00	12,344.00	18,752.16	12,109.00	136.92	120.88	-78.53	-7,852.63	1,861.51	969.16	790.44	178.72	5.423				
19,200.00	12,344.00	18,852.16	12,109.00	138.48	122.42	-78.53	-7,952.63	1,862.49	969.16	788.29	180.86	5.358				
19,300.00	12,344.00	18,952.16	12,109.00	140.04	123.96	-78.53	-8,052.62	1,863.47	969.16	786.14	183.02	5.295				
19,400.00	12,344.00	19,052.16	12,109.00	141.60	125.51	-78.53	-8,152.62	1,864.45	969.16	783.99	185.17	5.234				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 704H - OH - Plan #2		Offset Site Error:		0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:		0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor					
19,500.00	12,344.00	19,152.16	12,109.00	143.16	127.06	-78.53	-8,252.61	1,865.43	969.16	781.83	187.33	5.173					
19,600.00	12,344.00	19,252.16	12,109.00	144.73	128.61	-78.53	-8,352.61	1,866.41	969.17	779.67	189.49	5.114					
19,700.00	12,344.00	19,352.16	12,109.00	146.30	130.16	-78.53	-8,452.60	1,867.39	969.17	777.51	191.66	5.057					
19,800.00	12,344.00	19,452.16	12,109.00	147.87	131.72	-78.53	-8,552.60	1,868.37	969.17	775.35	193.82	5.000					
19,900.00	12,344.00	19,552.16	12,109.00	149.44	133.28	-78.53	-8,652.60	1,869.35	969.17	773.18	195.99	4.945					
20,000.00	12,344.00	19,652.16	12,109.00	151.01	134.84	-78.53	-8,752.59	1,870.34	969.17	771.01	198.16	4.891					
20,100.00	12,344.00	19,752.16	12,109.00	152.59	136.40	-78.53	-8,852.59	1,871.32	969.18	768.84	200.34	4.838					
20,200.00	12,344.00	19,852.16	12,109.00	154.17	137.97	-78.53	-8,952.58	1,872.30	969.18	766.66	202.52	4.786					
20,300.00	12,344.00	19,952.16	12,109.00	155.74	139.54	-78.53	-9,052.58	1,873.28	969.18	764.49	204.69	4.735					
20,400.00	12,344.00	20,052.16	12,109.00	157.32	141.11	-78.53	-9,152.57	1,874.26	969.18	762.31	206.88	4.685					
20,500.00	12,344.00	20,152.16	12,109.00	158.91	142.68	-78.53	-9,252.57	1,875.24	969.18	760.13	209.06	4.636					
20,600.00	12,344.00	20,252.16	12,109.00	160.49	144.25	-78.53	-9,352.56	1,876.22	969.19	757.95	211.24	4.588					
20,700.00	12,344.00	20,352.16	12,109.00	162.07	145.83	-78.53	-9,452.56	1,877.20	969.19	755.76	213.43	4.541					
20,800.00	12,344.00	20,452.16	12,109.00	163.66	147.40	-78.53	-9,552.55	1,878.18	969.19	753.58	215.62	4.495					
20,900.00	12,344.00	20,552.16	12,109.00	165.24	148.98	-78.53	-9,652.55	1,879.16	969.19	751.39	217.81	4.450					
21,000.00	12,344.00	20,652.16	12,109.00	166.83	150.56	-78.53	-9,752.54	1,880.14	969.20	749.20	220.00	4.405					
21,100.00	12,344.00	20,752.16	12,109.00	168.42	152.14	-78.53	-9,852.54	1,881.13	969.20	747.01	222.19	4.362					
21,200.00	12,344.00	20,852.16	12,109.00	170.01	153.72	-78.53	-9,952.53	1,882.11	969.20	744.81	224.39	4.319					
21,300.00	12,344.00	20,952.16	12,109.00	171.60	155.31	-78.53	-10,052.53	1,883.09	969.20	742.62	226.58	4.277					
21,400.00	12,344.00	21,052.16	12,109.00	173.20	156.89	-78.53	-10,152.52	1,884.07	969.20	740.42	228.78	4.236					
21,500.00	12,344.00	21,152.16	12,109.00	174.79	158.48	-78.53	-10,252.52	1,885.05	969.21	738.23	230.98	4.196					
21,600.00	12,344.00	21,252.16	12,109.00	176.38	160.07	-78.53	-10,352.51	1,886.03	969.21	736.03	233.18	4.157					
21,700.00	12,344.00	21,352.16	12,109.00	177.98	161.66	-78.53	-10,452.51	1,887.01	969.21	733.83	235.38	4.118					
21,800.00	12,344.00	21,452.16	12,109.00	179.58	163.25	-78.53	-10,552.50	1,887.99	969.21	731.63	237.58	4.079					
21,900.00	12,344.00	21,552.16	12,109.00	181.17	164.84	-78.53	-10,652.50	1,888.97	969.21	729.43	239.79	4.042					
22,000.00	12,344.00	21,652.16	12,109.00	182.77	166.43	-78.53	-10,752.49	1,889.95	969.22	727.22	241.99	4.005					
22,100.00	12,344.00	21,752.16	12,109.00	184.37	168.03	-78.53	-10,852.49	1,890.93	969.22	725.02	244.20	3.969					
22,200.00	12,344.00	21,852.16	12,109.00	185.97	169.62	-78.53	-10,952.48	1,891.91	969.22	722.81	246.41	3.933					
22,300.00	12,344.00	21,952.16	12,109.00	187.57	171.22	-78.53	-11,052.48	1,892.90	969.22	720.61	248.62	3.898					
22,400.00	12,344.00	22,052.16	12,109.00	189.18	172.81	-78.53	-11,152.48	1,893.88	969.22	718.40	250.83	3.864					
22,500.00	12,344.00	22,152.16	12,109.00	190.78	174.41	-78.53	-11,252.47	1,894.86	969.23	716.19	253.04	3.830					
22,600.00	12,344.00	22,252.16	12,109.00	192.38	176.01	-78.53	-11,352.47	1,895.84	969.23	713.98	255.25	3.797					
22,642.51	12,344.00	22,294.67	12,109.00	193.01	176.69	-78.53	-11,394.97	1,896.25	969.23	713.10	256.13	3.784 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 Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 705H - OH - Plan #2		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD															Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
							+N/-S (usft)	+E/-W (usft)								
0.00	0.00	0.00	0.00	0.00	0.00	111.01	-992.12	2,583.57	2,767.86							
100.00	100.00	56.00	56.00	0.13	0.07	111.01	-992.12	2,583.57	2,767.51	2,767.37	0.14	N/A				
200.00	200.00	156.00	156.00	0.48	0.33	111.01	-992.12	2,583.57	2,767.51	2,766.93	0.58	4,742.015				
300.00	300.00	256.00	256.00	0.84	0.68	111.01	-992.12	2,583.57	2,767.51	2,766.43	1.09	2,549.390				
400.00	400.00	356.00	356.00	1.20	1.04	111.01	-992.12	2,583.57	2,767.51	2,765.92	1.59	1,739.825				
500.00	500.00	456.00	456.00	1.56	1.40	111.01	-992.12	2,583.57	2,767.51	2,765.42	2.10	1,319.942				
600.00	600.00	556.00	556.00	1.92	1.76	111.01	-992.12	2,583.57	2,767.51	2,764.91	2.60	1,063.173				
700.00	700.00	656.00	656.00	2.28	2.12	111.01	-992.12	2,583.57	2,767.51	2,764.40	3.11	889.980				
800.00	800.00	756.00	756.00	2.63	2.48	111.01	-992.12	2,583.57	2,767.51	2,763.90	3.62	765.286				
900.00	900.00	856.00	856.00	2.99	2.84	111.01	-992.12	2,583.57	2,767.51	2,763.39	4.12	671.229				
1,000.00	1,000.00	956.00	956.00	3.35	3.19	111.01	-992.12	2,583.57	2,767.51	2,762.88	4.63	597.755				
1,100.00	1,100.00	1,056.00	1,056.00	3.71	3.55	111.01	-992.12	2,583.57	2,767.51	2,762.38	5.14	538.776				
1,200.00	1,200.00	1,156.00	1,156.00	4.07	3.91	111.01	-992.12	2,583.57	2,767.51	2,761.87	5.64	490.388				
1,300.00	1,300.00	1,256.00	1,256.00	4.43	4.27	111.01	-992.12	2,583.57	2,767.51	2,761.36	6.15	449.975				
1,400.00	1,400.00	1,356.00	1,356.00	4.79	4.63	111.01	-992.12	2,583.57	2,767.51	2,760.86	6.66	415.714				
1,500.00	1,500.00	1,456.00	1,456.00	5.14	4.99	111.01	-992.12	2,583.57	2,767.51	2,760.35	7.16	386.301				
1,600.00	1,600.00	1,556.00	1,556.00	5.50	5.34	111.01	-992.12	2,583.57	2,767.51	2,759.84	7.67	360.774				
1,700.00	1,700.00	1,656.00	1,656.00	5.86	5.70	111.01	-992.12	2,583.57	2,767.51	2,759.34	8.18	338.412				
1,800.00	1,800.00	1,756.00	1,756.00	6.22	6.06	111.01	-992.12	2,583.57	2,767.51	2,758.83	8.68	318.660				
1,900.00	1,900.00	1,856.00	1,856.00	6.58	6.42	111.01	-992.12	2,583.57	2,767.51	2,758.32	9.19	301.086				
2,000.00	2,000.00	1,956.00	1,956.00	6.94	6.78	111.01	-992.12	2,583.57	2,767.51	2,757.82	9.70	285.349				
2,100.00	2,100.00	2,056.00	2,056.00	7.29	7.14	111.01	-992.12	2,583.57	2,767.51	2,757.31	10.21	271.176				
2,200.00	2,200.00	2,156.00	2,156.00	7.65	7.50	111.01	-992.12	2,583.57	2,767.51	2,756.80	10.71	258.343				
2,300.00	2,300.00	2,256.00	2,256.00	8.01	7.85	111.01	-992.12	2,583.57	2,767.51	2,756.30	11.22	246.671				
2,400.00	2,400.00	2,356.00	2,356.00	8.37	8.21	111.01	-992.12	2,583.57	2,767.51	2,755.79	11.73	236.007				
2,500.00	2,500.00	2,456.00	2,456.00	8.73	8.57	111.01	-992.12	2,583.57	2,767.51	2,755.28	12.23	226.227				
2,600.00	2,600.00	2,556.00	2,556.00	9.09	8.93	111.01	-992.12	2,583.57	2,767.51	2,754.77	12.74	217.226				
2,700.00	2,700.00	2,656.00	2,656.00	9.45	9.29	111.01	-992.12	2,583.57	2,767.51	2,754.27	13.25	208.913				
2,800.00	2,800.00	2,756.00	2,756.00	9.80	9.65	111.01	-992.12	2,583.57	2,767.51	2,753.76	13.75	201.213				
2,900.00	2,900.00	2,856.00	2,856.00	10.16	10.00	111.01	-992.12	2,583.57	2,767.51	2,753.25	14.26	194.061				
3,000.00	3,000.00	2,956.00	2,956.00	10.52	10.36	111.01	-992.12	2,583.57	2,767.51	2,752.75	14.77	187.399				
3,100.00	3,100.00	3,056.00	3,056.00	10.88	10.72	111.01	-992.12	2,583.57	2,767.51	2,752.24	15.27	181.180				
3,200.00	3,200.00	3,156.00	3,156.00	11.24	11.08	111.01	-992.12	2,583.57	2,767.51	2,751.73	15.78	175.360				
3,300.00	3,299.99	3,255.99	3,255.99	11.58	11.44	-29.92	-992.12	2,583.57	2,766.38	2,750.10	16.28	169.955				
3,400.00	3,399.91	3,332.48	3,332.48	11.91	11.71	-29.97	-992.16	2,583.70	2,763.21	2,746.52	16.70	165.470				
3,500.00	3,499.69	3,400.00	3,399.99	12.24	11.94	-30.05	-992.50	2,584.82	2,759.18	2,742.09	17.09	161.403				
3,600.00	3,599.27	3,448.50	3,448.47	12.57	12.11	-30.14	-992.96	2,586.33	2,754.35	2,736.91	17.44	157.958				
3,700.00	3,698.57	3,500.00	3,499.91	12.91	12.28	-30.25	-993.64	2,588.58	2,748.81	2,731.03	17.78	154.567				
3,800.00	3,797.54	3,564.43	3,564.22	13.25	12.50	-30.40	-994.77	2,592.33	2,742.52	2,724.36	18.16	150.991				
3,900.00	3,896.09	3,622.33	3,621.94	13.60	12.70	-30.56	-996.06	2,596.58	2,735.52	2,716.99	18.53	147.666				
4,000.00	3,994.16	3,700.00	3,699.27	13.96	12.96	-30.80	-998.19	2,603.60	2,727.93	2,708.99	18.94	144.017				
4,100.00	4,091.70	3,737.96	3,737.00	14.32	13.09	-30.96	-999.39	2,607.57	2,719.39	2,700.14	19.25	141.290				
4,200.00	4,188.62	3,800.00	3,798.57	14.70	13.31	-31.21	-1,001.59	2,614.85	2,710.30	2,690.68	19.62	138.131				
4,304.97	4,289.63	3,882.02	3,879.85	15.12	13.60	-31.55	-1,004.80	2,625.44	2,699.72	2,679.65	20.07	134.528				
4,400.00	4,380.70	3,975.30	3,972.27	15.51	13.93	-31.86	-1,008.47	2,637.55	2,689.24	2,668.71	20.54	130.957				
4,500.00	4,476.55	4,073.47	4,069.52	15.93	14.28	-32.20	-1,012.33	2,650.29	2,678.30	2,657.27	21.03	127.342				
4,600.00	4,572.39	4,171.63	4,166.78	16.36	14.63	-32.53	-1,016.19	2,663.03	2,667.45	2,645.92	21.54	123.866				
4,700.00	4,668.24	4,269.80	4,264.04	16.81	14.99	-32.87	-1,020.05	2,675.77	2,656.70	2,634.65	22.04	120.522				
4,800.00	4,764.08	4,367.96	4,361.30	17.26	15.35	-33.21	-1,023.91	2,688.51	2,646.04	2,623.48	22.56	117.307				
4,900.00	4,859.93	4,466.13	4,458.55	17.72	15.71	-33.55	-1,027.77	2,701.25	2,635.47	2,612.39	23.07	114.213				
5,000.00	4,955.77	4,564.29	4,555.81	18.18	16.07	-33.89	-1,031.62	2,713.99	2,625.00	2,601.40	23.60	111.237				
5,100.00	5,051.62	4,662.46	4,653.07	18.66	16.44	-34.24	-1,035.48	2,726.73	2,614.62	2,590.50	24.13	108.372				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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 (Rev21) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,200.00	5,147.46	4,760.62	4,750.33	19.14	16.81	-34.59	-1,039.34	2,739.47	2,604.35	2,579.69	24.66	105.615		
5,300.00	5,243.31	4,858.79	4,847.59	19.63	17.18	-34.94	-1,043.20	2,752.21	2,594.17	2,568.97	25.20	102.960		
5,400.00	5,339.15	4,956.95	4,944.84	20.12	17.55	-35.30	-1,047.06	2,764.95	2,584.09	2,558.36	25.74	100.403		
5,500.00	5,435.00	5,055.11	5,042.10	20.62	17.93	-35.66	-1,050.92	2,777.69	2,574.12	2,547.84	26.28	97.940		
5,600.00	5,530.84	5,153.28	5,139.36	21.12	18.30	-36.02	-1,054.78	2,790.43	2,564.25	2,537.42	26.83	95.566		
5,700.00	5,626.69	5,251.44	5,236.62	21.63	18.68	-36.38	-1,058.64	2,803.17	2,554.48	2,527.10	27.39	93.277		
5,800.00	5,722.53	5,349.61	5,333.87	22.14	19.06	-36.75	-1,062.50	2,815.91	2,544.82	2,516.88	27.94	91.070		
5,900.00	5,818.38	5,447.77	5,431.13	22.65	19.44	-37.12	-1,066.36	2,828.65	2,535.27	2,506.76	28.51	88.941		
6,000.00	5,914.22	5,545.94	5,528.39	23.17	19.82	-37.49	-1,070.21	2,841.39	2,525.82	2,496.75	29.07	86.887		
6,100.00	6,010.07	5,644.10	5,625.65	23.69	20.21	-37.86	-1,074.07	2,854.13	2,516.49	2,486.85	29.64	84.904		
6,200.00	6,105.91	5,742.27	5,722.91	24.22	20.59	-38.24	-1,077.93	2,866.87	2,507.26	2,477.05	30.21	82.989		
6,300.00	6,201.76	5,840.43	5,820.16	24.75	20.98	-38.62	-1,081.79	2,879.61	2,498.14	2,467.35	30.79	81.139		
6,400.00	6,297.60	5,938.59	5,917.42	25.28	21.36	-39.00	-1,085.65	2,892.35	2,489.14	2,457.77	31.37	79.352		
6,500.00	6,393.45	6,036.76	6,014.68	25.81	21.75	-39.39	-1,089.51	2,905.09	2,480.25	2,448.30	31.95	77.625		
6,600.00	6,489.29	6,134.92	6,111.94	26.35	22.14	-39.77	-1,093.37	2,917.83	2,471.48	2,438.94	32.54	75.954		
6,700.00	6,585.14	6,233.09	6,209.19	26.89	22.53	-40.16	-1,097.23	2,930.57	2,462.82	2,429.69	33.13	74.339		
6,800.00	6,680.98	6,331.25	6,306.45	27.43	22.92	-40.56	-1,101.09	2,943.31	2,454.28	2,420.56	33.72	72.776		
6,900.00	6,776.83	6,429.42	6,403.71	27.97	23.31	-40.95	-1,104.95	2,956.05	2,445.86	2,411.54	34.32	71.264		
7,000.00	6,872.67	6,527.58	6,500.97	28.52	23.70	-41.35	-1,108.80	2,968.79	2,437.56	2,402.64	34.92	69.800		
7,100.00	6,968.52	6,625.75	6,598.22	29.06	24.09	-41.75	-1,112.66	2,981.53	2,429.38	2,393.85	35.53	68.382		
7,200.00	7,064.36	6,723.91	6,695.48	29.61	24.48	-42.15	-1,116.52	2,994.27	2,421.32	2,385.19	36.13	67.009		
7,300.00	7,160.21	6,822.08	6,792.74	30.16	24.88	-42.56	-1,120.38	3,007.01	2,413.39	2,376.65	36.75	65.679		
7,400.00	7,256.05	6,920.24	6,890.00	30.72	25.27	-42.97	-1,124.24	3,019.75	2,405.58	2,368.22	37.36	64.390		
7,500.00	7,351.90	7,026.98	6,995.75	31.27	25.70	-43.42	-1,128.43	3,033.58	2,397.89	2,359.89	38.00	63.097		
7,600.00	7,447.74	7,282.27	7,249.75	31.82	26.68	-44.54	-1,135.74	3,057.72	2,386.76	2,347.73	39.02	61.163		
7,700.00	7,543.59	7,531.64	7,498.94	32.38	27.56	-45.74	-1,138.12	3,065.57	2,369.45	2,329.55	39.89	59.392		
7,800.00	7,639.43	7,628.13	7,595.43	32.94	27.88	-46.23	-1,138.12	3,065.57	2,349.19	2,308.68	40.51	57.993		
7,889.67	7,725.37	7,714.07	7,681.37	33.44	28.17	-46.67	-1,138.12	3,065.57	2,331.18	2,290.12	41.06	56.774		
7,900.00	7,735.28	7,723.98	7,691.28	33.50	28.21	-46.70	-1,138.12	3,065.57	2,329.12	2,288.00	41.12	56.636		
8,000.00	7,831.56	7,820.26	7,787.56	34.04	28.53	-46.97	-1,138.12	3,065.57	2,310.28	2,268.54	41.74	55.353		
8,100.00	7,928.52	7,917.22	7,884.52	34.56	28.86	-47.22	-1,138.12	3,065.57	2,293.34	2,251.00	42.34	54.166		
8,200.00	8,026.08	8,014.78	7,982.08	35.06	29.19	-47.45	-1,138.12	3,065.57	2,278.28	2,235.35	42.93	53.070		
8,300.00	8,124.18	8,112.88	8,080.18	35.53	29.52	-47.66	-1,138.12	3,065.57	2,265.07	2,221.56	43.51	52.061		
8,400.00	8,222.76	8,211.46	8,178.76	35.98	29.85	-47.85	-1,138.12	3,065.57	2,253.68	2,209.61	44.07	51.137		
8,500.00	8,321.74	8,310.44	8,277.74	36.40	30.19	-48.01	-1,138.12	3,065.57	2,244.11	2,199.49	44.62	50.293		
8,600.00	8,421.06	8,409.76	8,377.06	36.79	30.53	-48.14	-1,138.12	3,065.57	2,236.32	2,191.16	45.15	49.526		
8,700.00	8,520.65	8,509.35	8,476.65	37.16	30.86	-48.24	-1,138.12	3,065.57	2,230.30	2,184.63	45.67	48.833		
8,800.00	8,620.44	8,609.14	8,576.44	37.51	31.20	-48.32	-1,138.12	3,065.57	2,226.03	2,179.86	46.17	48.210		
8,900.00	8,720.37	8,709.07	8,676.37	37.83	31.55	-48.36	-1,138.12	3,065.57	2,223.52	2,176.86	46.66	47.656		
8,994.64	8,815.00	8,803.70	8,771.00	38.11	31.87	92.53	-1,138.12	3,065.57	2,222.74	2,175.64	47.10	47.196		
9,000.00	8,820.36	8,809.06	8,776.36	38.13	31.89	92.53	-1,138.12	3,065.57	2,222.74	2,175.62	47.12	47.172		
9,100.00	8,920.36	8,909.06	8,876.36	38.40	32.23	92.53	-1,138.12	3,065.57	2,222.74	2,175.17	47.57	46.724		
9,200.00	9,020.36	9,009.06	8,976.36	38.68	32.57	92.53	-1,138.12	3,065.57	2,222.74	2,174.71	48.02	46.284		
9,300.00	9,120.36	9,109.06	9,076.36	38.96	32.91	92.53	-1,138.12	3,065.57	2,222.74	2,174.26	48.48	45.852		
9,400.00	9,220.36	9,209.06	9,176.36	39.25	33.26	92.53	-1,138.12	3,065.57	2,222.74	2,173.81	48.93	45.426		
9,500.00	9,320.36	9,309.06	9,276.36	39.53	33.60	92.53	-1,138.12	3,065.57	2,222.74	2,173.35	49.39	45.007		
9,600.00	9,420.36	9,409.06	9,376.36	39.81	33.94	92.53	-1,138.12	3,065.57	2,222.74	2,172.89	49.84	44.595		
9,700.00	9,520.36	9,509.06	9,476.36	40.10	34.29	92.53	-1,138.12	3,065.57	2,222.74	2,172.44	50.30	44.190		
9,800.00	9,620.36	9,609.06	9,576.36	40.39	34.63	92.53	-1,138.12	3,065.57	2,222.74	2,171.98	50.76	43.791		
9,900.00	9,720.36	9,709.06	9,676.36	40.67	34.97	92.53	-1,138.12	3,065.57	2,222.74	2,171.52	51.22	43.398		
10,000.00	9,820.36	9,809.06	9,776.36	40.96	35.32	92.53	-1,138.12	3,065.57	2,222.74	2,171.06	51.68	43.012		
10,100.00	9,920.36	9,909.06	9,876.36	41.25	35.66	92.53	-1,138.12	3,065.57	2,222.74	2,170.60	52.14	42.631		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 705H - OH - Plan #2		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
10,200.00	10,020.36	10,009.06	9,976.36	41.55	36.01	92.53	-1,138.12	3,065.57	2,222.74	2,170.14	52.60	42.257				
10,300.00	10,120.36	10,109.06	10,076.36	41.84	36.35	92.53	-1,138.12	3,065.57	2,222.74	2,169.67	53.06	41.889				
10,400.00	10,220.36	10,209.06	10,176.36	42.13	36.70	92.53	-1,138.12	3,065.57	2,222.74	2,169.21	53.53	41.526				
10,500.00	10,320.36	10,309.06	10,276.36	42.43	37.05	92.53	-1,138.12	3,065.57	2,222.74	2,168.75	53.99	41.169				
10,600.00	10,420.36	10,409.06	10,376.36	42.72	37.39	92.53	-1,138.12	3,065.57	2,222.74	2,168.28	54.46	40.818				
10,700.00	10,520.36	10,509.06	10,476.36	43.02	37.74	92.53	-1,138.12	3,065.57	2,222.74	2,167.82	54.92	40.471				
10,800.00	10,620.36	10,609.06	10,576.36	43.31	38.08	92.53	-1,138.12	3,065.57	2,222.74	2,167.35	55.39	40.131				
10,900.00	10,720.36	10,709.06	10,676.36	43.61	38.43	92.53	-1,138.12	3,065.57	2,222.74	2,166.88	55.85	39.795				
11,000.00	10,820.36	10,809.06	10,776.36	43.91	38.78	92.53	-1,138.12	3,065.57	2,222.74	2,166.41	56.32	39.464				
11,100.00	10,920.36	10,909.06	10,876.36	44.21	39.13	92.53	-1,138.12	3,065.57	2,222.74	2,165.95	56.79	39.139				
11,200.00	11,020.36	11,009.06	10,976.36	44.51	39.47	92.53	-1,138.12	3,065.57	2,222.74	2,165.48	57.26	38.818				
11,300.00	11,120.36	11,109.06	11,076.36	44.81	39.82	92.53	-1,138.12	3,065.57	2,222.74	2,165.01	57.73	38.503				
11,400.00	11,220.36	11,209.06	11,176.36	45.12	40.17	92.53	-1,138.12	3,065.57	2,222.74	2,164.54	58.20	38.191				
11,500.00	11,320.36	11,309.06	11,276.36	45.42	40.52	92.53	-1,138.12	3,065.57	2,222.74	2,164.07	58.67	37.885				
11,600.00	11,420.36	11,409.06	11,376.36	45.72	40.86	92.53	-1,138.12	3,065.57	2,222.74	2,163.59	59.14	37.583				
11,604.79	11,425.15	11,413.85	11,381.15	45.74	40.88	92.53	-1,138.12	3,065.57	2,222.74	2,163.57	59.16	37.568 CC				
11,700.00	11,520.36	11,504.49	11,471.79	46.03	41.19	92.54	-1,138.53	3,065.57	2,222.76	2,163.16	59.61	37.291				
11,800.00	11,620.36	11,586.07	11,552.81	46.33	41.47	92.77	-1,147.41	3,065.66	2,223.38	2,163.35	60.03	37.039				
11,900.00	11,720.36	11,663.64	11,627.95	46.64	41.73	93.26	-1,166.44	3,065.85	2,224.97	2,164.54	60.43	36.821				
11,950.68	11,771.04	11,700.00	11,662.13	46.80	41.85	93.58	-1,178.82	3,065.97	2,226.25	2,165.63	60.62	36.725				
12,000.00	11,820.30	11,735.57	11,694.75	46.96	41.96	-85.39	-1,193.00	3,066.11	2,227.70	2,166.89	60.81	36.633				
12,050.00	11,869.86	11,770.51	11,725.87	47.14	42.08	-84.94	-1,208.88	3,066.26	2,229.20	2,168.17	61.03	36.529				
12,100.00	11,918.67	11,800.00	11,751.33	47.35	42.17	-84.55	-1,223.73	3,066.41	2,230.71	2,169.46	61.25	36.420				
12,150.00	11,966.36	11,839.24	11,783.98	47.58	42.30	-84.12	-1,245.49	3,066.62	2,232.17	2,170.66	61.50	36.293				
12,200.00	12,012.56	11,873.12	11,810.91	47.83	42.40	-83.76	-1,266.04	3,066.82	2,233.57	2,171.80	61.77	36.160				
12,250.00	12,056.93	11,900.00	11,831.38	48.10	42.49	-83.47	-1,283.45	3,067.00	2,234.90	2,172.86	62.04	36.024				
12,300.00	12,099.12	11,940.15	11,860.39	48.39	42.61	-83.14	-1,311.20	3,067.27	2,236.09	2,173.75	62.35	35.866				
12,350.00	12,138.81	11,973.38	11,882.87	48.69	42.72	-82.89	-1,335.65	3,067.51	2,237.16	2,174.50	62.66	35.704				
12,400.00	12,175.70	12,000.00	11,899.84	49.01	42.80	-82.70	-1,356.16	3,067.71	2,238.09	2,175.11	62.98	35.536				
12,450.00	12,209.51	12,039.39	11,923.16	49.34	42.93	-82.51	-1,387.90	3,068.02	2,238.82	2,175.49	63.34	35.349				
12,500.00	12,239.99	12,072.25	11,940.91	49.69	43.04	-82.38	-1,415.55	3,068.29	2,239.39	2,175.69	63.70	35.156				
12,550.00	12,266.90	12,100.00	11,954.64	50.05	43.13	-82.30	-1,439.66	3,068.53	2,239.76	2,175.69	64.07	34.957				
12,600.00	12,290.03	12,137.80	11,971.44	50.42	43.26	-82.26	-1,473.52	3,068.86	2,239.92	2,175.45	64.47	34.741				
12,650.00	12,309.21	12,170.55	11,984.15	50.81	43.38	-82.27	-1,503.69	3,069.15	2,239.89	2,175.01	64.89	34.520				
12,700.00	12,324.30	12,200.00	11,994.10	51.20	43.49	-82.31	-1,531.40	3,069.43	2,239.66	2,174.35	65.31	34.293				
12,750.00	12,335.17	12,236.13	12,004.34	51.60	43.63	-82.42	-1,566.04	3,069.77	2,239.22	2,173.47	65.75	34.057				
12,800.00	12,341.76	12,269.02	12,011.75	52.01	43.76	-82.56	-1,598.08	3,070.08	2,238.60	2,172.40	66.20	33.817				
12,850.68	12,344.00	12,300.00	12,017.03	52.42	43.89	-82.73	-1,628.60	3,070.38	2,237.79	2,171.13	66.66	33.572				
12,900.00	12,344.00	12,335.28	12,021.03	52.83	44.03	-82.84	-1,663.65	3,070.72	2,237.09	2,169.98	67.11	33.334				
12,973.09	12,344.00	12,385.26	12,023.00	53.45	44.24	-82.89	-1,713.57	3,071.21	2,236.73	2,168.93	67.80	32.989				
13,000.00	12,344.00	12,412.17	12,023.00	53.68	44.36	-82.89	-1,740.48	3,071.48	2,236.73	2,168.67	68.06	32.864				
13,100.00	12,344.00	12,512.17	12,023.00	54.57	44.83	-82.89	-1,840.48	3,072.46	2,236.73	2,167.67	69.07	32.385				
13,200.00	12,344.00	12,612.17	12,023.00	55.50	45.36	-82.89	-1,940.47	3,073.44	2,236.74	2,166.60	70.13	31.892				
13,300.00	12,344.00	12,712.17	12,023.00	56.46	45.93	-82.89	-2,040.47	3,074.42	2,236.74	2,165.48	71.26	31.388				
13,400.00	12,344.00	12,812.17	12,023.00	57.45	46.56	-82.89	-2,140.46	3,075.40	2,236.74	2,164.29	72.45	30.875				
13,500.00	12,344.00	12,912.17	12,023.00	58.47	47.24	-82.89	-2,240.46	3,076.38	2,236.74	2,163.06	73.68	30.356				
13,600.00	12,344.00	13,012.17	12,023.00	59.52	47.96	-82.89	-2,340.45	3,077.36	2,236.74	2,161.77	74.97	29.834				
13,700.00	12,344.00	13,112.17	12,023.00	60.60	48.73	-82.89	-2,440.45	3,078.34	2,236.74	2,160.43	76.31	29.310				
13,800.00	12,344.00	13,212.17	12,023.00	61.70	49.55	-82.89	-2,540.44	3,079.32	2,236.75	2,159.05	77.70	28.788				
13,900.00	12,344.00	13,312.17	12,023.00	62.82	50.40	-82.89	-2,640.44	3,080.30	2,236.75	2,157.62	79.13	28.268				
14,000.00	12,344.00	13,412.17	12,023.00	63.97	51.29	-82.89	-2,740.43	3,081.28	2,236.75	2,156.15	80.60	27.753				
14,100.00	12,344.00	13,512.17	12,023.00	65.14	52.22	-82.89	-2,840.43	3,082.26	2,236.75	2,154.65	82.11	27.242				

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 Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,200.00	12,344.00	13,612.17	12,023.00	66.33	53.18	-82.89	-2,940.42	3,083.24	2,236.75	2,153.10	83.65	26.739		
14,300.00	12,344.00	13,712.17	12,023.00	67.54	54.18	-82.89	-3,040.42	3,084.22	2,236.75	2,151.52	85.23	26.242		
14,400.00	12,344.00	13,812.17	12,023.00	68.77	55.21	-82.89	-3,140.41	3,085.20	2,236.76	2,149.91	86.85	25.754		
14,500.00	12,344.00	13,912.17	12,023.00	70.02	56.27	-82.89	-3,240.41	3,086.18	2,236.76	2,148.26	88.50	25.275		
14,600.00	12,344.00	14,012.17	12,023.00	71.28	57.35	-82.89	-3,340.40	3,087.16	2,236.76	2,146.59	90.17	24.805		
14,700.00	12,344.00	14,112.17	12,023.00	72.55	58.47	-82.89	-3,440.40	3,088.14	2,236.76	2,144.88	91.88	24.345		
14,800.00	12,344.00	14,212.17	12,023.00	73.85	59.61	-82.89	-3,540.39	3,089.12	2,236.76	2,143.15	93.61	23.895		
14,900.00	12,344.00	14,312.17	12,023.00	75.15	60.77	-82.89	-3,640.39	3,090.10	2,236.76	2,141.40	95.36	23.455		
15,000.00	12,344.00	14,412.17	12,023.00	76.47	61.95	-82.89	-3,740.38	3,091.08	2,236.77	2,139.62	97.14	23.025		
15,100.00	12,344.00	14,512.17	12,023.00	77.81	63.15	-82.89	-3,840.38	3,092.07	2,236.77	2,137.82	98.95	22.606		
15,200.00	12,344.00	14,612.17	12,023.00	79.15	64.38	-82.89	-3,940.38	3,093.05	2,236.77	2,136.00	100.77	22.197		
15,300.00	12,344.00	14,712.17	12,023.00	80.51	65.62	-82.89	-4,040.37	3,094.03	2,236.77	2,134.16	102.61	21.798		
15,400.00	12,344.00	14,812.17	12,023.00	81.87	66.88	-82.89	-4,140.37	3,095.01	2,236.77	2,132.30	104.48	21.409		
15,500.00	12,344.00	14,912.17	12,023.00	83.25	68.16	-82.89	-4,240.36	3,095.99	2,236.78	2,130.42	106.36	21.031		
15,600.00	12,344.00	15,012.17	12,023.00	84.64	69.45	-82.89	-4,340.36	3,096.97	2,236.78	2,128.52	108.25	20.662		
15,700.00	12,344.00	15,112.17	12,023.00	86.03	70.76	-82.89	-4,440.35	3,097.95	2,236.78	2,126.61	110.17	20.303		
15,800.00	12,344.00	15,212.17	12,023.00	87.44	72.08	-82.89	-4,540.35	3,098.93	2,236.78	2,124.68	112.10	19.954		
15,900.00	12,344.00	15,312.17	12,023.00	88.85	73.42	-82.89	-4,640.34	3,099.91	2,236.78	2,122.74	114.04	19.614		
16,000.00	12,344.00	15,412.17	12,023.00	90.27	74.77	-82.89	-4,740.34	3,100.89	2,236.78	2,120.78	116.00	19.283		
16,100.00	12,344.00	15,512.17	12,023.00	91.70	76.13	-82.89	-4,840.33	3,101.87	2,236.79	2,118.82	117.97	18.961		
16,200.00	12,344.00	15,612.17	12,023.00	93.14	77.50	-82.89	-4,940.33	3,102.85	2,236.79	2,116.83	119.95	18.647		
16,300.00	12,344.00	15,712.17	12,023.00	94.58	78.88	-82.89	-5,040.32	3,103.83	2,236.79	2,114.84	121.95	18.342		
16,400.00	12,344.00	15,812.17	12,023.00	96.03	80.27	-82.89	-5,140.32	3,104.81	2,236.79	2,112.84	123.95	18.045		
16,500.00	12,344.00	15,912.17	12,023.00	97.49	81.68	-82.89	-5,240.31	3,105.79	2,236.79	2,110.82	125.97	17.756		
16,600.00	12,344.00	16,012.17	12,023.00	98.95	83.09	-82.89	-5,340.31	3,106.77	2,236.79	2,108.80	128.00	17.475		
16,700.00	12,344.00	16,112.17	12,023.00	100.42	84.51	-82.89	-5,440.30	3,107.75	2,236.80	2,106.76	130.03	17.202		
16,800.00	12,344.00	16,212.17	12,023.00	101.89	85.93	-82.89	-5,540.30	3,108.73	2,236.80	2,104.72	132.08	16.935		
16,900.00	12,344.00	16,312.17	12,023.00	103.37	87.37	-82.89	-5,640.29	3,109.71	2,236.80	2,102.66	134.14	16.676		
17,000.00	12,344.00	16,412.17	12,023.00	104.86	88.81	-82.89	-5,740.29	3,110.69	2,236.80	2,100.60	136.20	16.423		
17,100.00	12,344.00	16,512.17	12,023.00	106.35	90.26	-82.89	-5,840.28	3,111.67	2,236.80	2,098.53	138.27	16.177		
17,200.00	12,344.00	16,612.17	12,023.00	107.84	91.72	-82.89	-5,940.28	3,112.65	2,236.80	2,096.45	140.35	15.937		
17,300.00	12,344.00	16,712.17	12,023.00	109.34	93.19	-82.89	-6,040.27	3,113.63	2,236.81	2,094.37	142.44	15.703		
17,400.00	12,344.00	16,812.17	12,023.00	110.84	94.66	-82.89	-6,140.27	3,114.61	2,236.81	2,092.27	144.54	15.476		
17,500.00	12,344.00	16,912.17	12,023.00	112.35	96.13	-82.89	-6,240.26	3,115.60	2,236.81	2,090.17	146.64	15.254		
17,600.00	12,344.00	17,012.17	12,023.00	113.86	97.61	-82.89	-6,340.26	3,116.58	2,236.81	2,088.07	148.75	15.038		
17,700.00	12,344.00	17,112.17	12,023.00	115.38	99.10	-82.89	-6,440.26	3,117.56	2,236.81	2,085.95	150.86	14.827		
17,800.00	12,344.00	17,212.17	12,023.00	116.89	100.59	-82.89	-6,540.25	3,118.54	2,236.81	2,083.84	152.98	14.622		
17,900.00	12,344.00	17,312.17	12,023.00	118.42	102.09	-82.89	-6,640.25	3,119.52	2,236.82	2,081.71	155.10	14.421		
18,000.00	12,344.00	17,412.17	12,023.00	119.94	103.59	-82.89	-6,740.24	3,120.50	2,236.82	2,079.58	157.24	14.226		
18,100.00	12,344.00	17,512.17	12,023.00	121.47	105.10	-82.89	-6,840.24	3,121.48	2,236.82	2,077.45	159.37	14.035		
18,200.00	12,344.00	17,612.17	12,023.00	123.00	106.61	-82.89	-6,940.23	3,122.46	2,236.82	2,075.31	161.51	13.849		
18,300.00	12,344.00	17,712.17	12,023.00	124.54	108.12	-82.89	-7,040.23	3,123.44	2,236.82	2,073.16	163.66	13.668		
18,400.00	12,344.00	17,812.17	12,023.00	126.08	109.64	-82.89	-7,140.22	3,124.42	2,236.82	2,071.02	165.81	13.490		
18,500.00	12,344.00	17,912.17	12,023.00	127.62	111.16	-82.89	-7,240.22	3,125.40	2,236.83	2,068.86	167.96	13.317		
18,600.00	12,344.00	18,012.17	12,023.00	129.16	112.69	-82.89	-7,340.21	3,126.38	2,236.83	2,066.70	170.12	13.148		
18,700.00	12,344.00	18,112.17	12,023.00	130.71	114.22	-82.89	-7,440.21	3,127.36	2,236.83	2,064.54	172.29	12.983		
18,800.00	12,344.00	18,212.17	12,023.00	132.26	115.75	-82.89	-7,540.20	3,128.34	2,236.83	2,062.38	174.46	12.822		
18,900.00	12,344.00	18,312.17	12,023.00	133.81	117.29	-82.89	-7,640.20	3,129.32	2,236.83	2,060.21	176.63	12.664		
19,000.00	12,344.00	18,412.17	12,023.00	135.36	118.83	-82.89	-7,740.19	3,130.30	2,236.84	2,058.03	178.80	12.510		
19,100.00	12,344.00	18,512.17	12,023.00	136.92	120.37	-82.89	-7,840.19	3,131.28	2,236.84	2,055.85	180.98	12.359		
19,200.00	12,344.00	18,612.17	12,023.00	138.48	121.91	-82.89	-7,940.18	3,132.26	2,236.84	2,053.67	183.17	12.212		
19,300.00	12,344.00	18,712.17	12,023.00	140.04	123.46	-82.89	-8,040.18	3,133.24	2,236.84	2,051.49	185.35	12.068		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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		
19,400.00	12,344.00	18,812.17	12,023.00	141.60	125.01	-82.89	-8,140.17	3,134.22	2,236.84	2,049.30	187.54	11.927		
19,500.00	12,344.00	18,912.17	12,023.00	143.16	126.57	-82.89	-8,240.17	3,135.20	2,236.84	2,047.11	189.73	11.789		
19,600.00	12,344.00	19,012.17	12,023.00	144.73	128.12	-82.89	-8,340.16	3,136.18	2,236.85	2,044.92	191.93	11.655		
19,700.00	12,344.00	19,112.17	12,023.00	146.30	129.68	-82.89	-8,440.16	3,137.16	2,236.85	2,042.72	194.13	11.523		
19,800.00	12,344.00	19,212.17	12,023.00	147.87	131.24	-82.89	-8,540.15	3,138.15	2,236.85	2,040.52	196.33	11.393		
19,900.00	12,344.00	19,312.17	12,023.00	149.44	132.80	-82.89	-8,640.15	3,139.13	2,236.85	2,038.32	198.53	11.267		
20,000.00	12,344.00	19,412.17	12,023.00	151.01	134.37	-82.89	-8,740.14	3,140.11	2,236.85	2,036.12	200.74	11.143		
20,100.00	12,344.00	19,512.17	12,023.00	152.59	135.93	-82.89	-8,840.14	3,141.09	2,236.85	2,033.91	202.94	11.022		
20,200.00	12,344.00	19,612.17	12,023.00	154.17	137.50	-82.89	-8,940.13	3,142.07	2,236.86	2,031.70	205.16	10.903		
20,300.00	12,344.00	19,712.17	12,023.00	155.74	139.07	-82.89	-9,040.13	3,143.05	2,236.86	2,029.49	207.37	10.787		
20,400.00	12,344.00	19,812.17	12,023.00	157.32	140.64	-82.89	-9,140.13	3,144.03	2,236.86	2,027.27	209.58	10.673		
20,500.00	12,344.00	19,912.17	12,023.00	158.91	142.22	-82.89	-9,240.12	3,145.01	2,236.86	2,025.06	211.80	10.561		
20,600.00	12,344.00	20,012.17	12,023.00	160.49	143.79	-82.89	-9,340.12	3,145.99	2,236.86	2,022.84	214.02	10.452		
20,700.00	12,344.00	20,112.17	12,023.00	162.07	145.37	-82.89	-9,440.11	3,146.97	2,236.86	2,020.62	216.24	10.344		
20,800.00	12,344.00	20,212.17	12,023.00	163.66	146.95	-82.89	-9,540.11	3,147.95	2,236.87	2,018.40	218.47	10.239		
20,900.00	12,344.00	20,312.17	12,023.00	165.24	148.53	-82.89	-9,640.10	3,148.93	2,236.87	2,016.17	220.69	10.136		
21,000.00	12,344.00	20,412.17	12,023.00	166.83	150.11	-82.89	-9,740.10	3,149.91	2,236.87	2,013.95	222.92	10.034		
21,100.00	12,344.00	20,512.17	12,023.00	168.42	151.70	-82.89	-9,840.09	3,150.89	2,236.87	2,011.72	225.15	9.935		
21,200.00	12,344.00	20,612.17	12,023.00	170.01	153.28	-82.89	-9,940.09	3,151.87	2,236.87	2,009.49	227.38	9.837		
21,300.00	12,344.00	20,712.17	12,023.00	171.60	154.87	-82.89	-10,040.08	3,152.85	2,236.87	2,007.26	229.62	9.742		
21,400.00	12,344.00	20,812.17	12,023.00	173.20	156.46	-82.89	-10,140.08	3,153.83	2,236.88	2,005.02	231.85	9.648		
21,500.00	12,344.00	20,912.17	12,023.00	174.79	158.04	-82.89	-10,240.07	3,154.81	2,236.88	2,002.79	234.09	9.556		
21,600.00	12,344.00	21,012.17	12,023.00	176.38	159.64	-82.89	-10,340.07	3,155.79	2,236.88	2,000.55	236.33	9.465		
21,700.00	12,344.00	21,112.17	12,023.00	177.98	161.23	-82.89	-10,440.06	3,156.77	2,236.88	1,998.32	238.57	9.376		
21,800.00	12,344.00	21,212.17	12,023.00	179.58	162.82	-82.89	-10,540.06	3,157.75	2,236.88	1,996.08	240.81	9.289		
21,900.00	12,344.00	21,312.17	12,023.00	181.17	164.41	-82.89	-10,640.05	3,158.73	2,236.88	1,993.83	243.05	9.203		
22,000.00	12,344.00	21,412.17	12,023.00	182.77	166.01	-82.89	-10,740.05	3,159.71	2,236.89	1,991.59	245.29	9.119		
22,100.00	12,344.00	21,512.17	12,023.00	184.37	167.61	-82.89	-10,840.04	3,160.69	2,236.89	1,989.35	247.54	9.036		
22,200.00	12,344.00	21,612.17	12,023.00	185.97	169.20	-82.89	-10,940.04	3,161.68	2,236.89	1,987.10	249.79	8.955		
22,300.00	12,344.00	21,712.17	12,023.00	187.57	170.80	-82.89	-11,040.03	3,162.66	2,236.89	1,984.86	252.04	8.875		
22,400.00	12,344.00	21,812.17	12,023.00	189.18	172.40	-82.89	-11,140.03	3,163.64	2,236.89	1,982.61	254.28	8.797		
22,500.00	12,344.00	21,912.17	12,023.00	190.78	174.00	-82.89	-11,240.02	3,164.62	2,236.90	1,980.36	256.54	8.720		
22,600.00	12,344.00	22,012.17	12,023.00	192.38	175.58	-82.89	-11,340.02	3,165.60	2,236.90	1,978.12	258.77	8.644		
22,642.51	12,344.00	22,054.68	12,023.00	193.01	176.19	-82.89	-11,382.53	3,166.01	2,236.90	1,977.27	259.62	8.616 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 Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 801H - OH - Plan #2		Offset Site Error:		0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:		0.00 usft			
Reference		Offset		Semi Major Axis			Distance											
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	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	-128.57	-1,019.61	-1,278.39	1,635.20									
100.00	100.00	98.30	98.30	0.13	0.12	-128.57	-1,019.61	-1,278.39	1,635.20	1,635.03	0.18	9,294.464						
200.00	200.00	198.30	198.30	0.48	0.48	-128.57	-1,019.61	-1,278.39	1,635.20	1,634.52	0.68	2,404.375						
300.00	300.00	298.30	298.30	0.84	0.84	-128.57	-1,019.61	-1,278.39	1,635.20	1,634.01	1.19	1,377.541						
400.00	400.00	398.30	398.30	1.20	1.19	-128.57	-1,019.61	-1,278.39	1,635.20	1,633.51	1.69	965.292						
500.00	500.00	498.30	498.30	1.56	1.55	-128.57	-1,019.61	-1,278.39	1,635.20	1,633.00	2.20	742.953						
600.00	600.00	598.30	598.30	1.92	1.91	-128.57	-1,019.61	-1,278.39	1,635.20	1,632.49	2.71	603.862						
700.00	700.00	698.30	698.30	2.28	2.27	-128.57	-1,019.61	-1,278.39	1,635.20	1,631.99	3.21	508.639						
800.00	800.00	798.30	798.30	2.63	2.63	-128.57	-1,019.61	-1,278.39	1,635.20	1,631.48	3.72	439.356						
900.00	900.00	898.30	898.30	2.99	2.99	-128.57	-1,019.61	-1,278.39	1,635.20	1,630.97	4.23	386.685						
1,000.00	1,000.00	998.30	998.30	3.35	3.35	-128.57	-1,019.61	-1,278.39	1,635.20	1,630.47	4.74	345.291						
1,100.00	1,100.00	1,098.30	1,098.30	3.71	3.70	-128.57	-1,019.61	-1,278.39	1,635.20	1,629.96	5.24	311.902						
1,200.00	1,200.00	1,198.30	1,198.30	4.07	4.06	-128.57	-1,019.61	-1,278.39	1,635.20	1,629.45	5.75	284.401						
1,300.00	1,300.00	1,298.30	1,298.30	4.43	4.42	-128.57	-1,019.61	-1,278.39	1,635.20	1,628.95	6.26	261.357						
1,400.00	1,400.00	1,398.30	1,398.30	4.79	4.78	-128.57	-1,019.61	-1,278.39	1,635.20	1,628.44	6.76	241.767						
1,500.00	1,500.00	1,498.30	1,498.30	5.14	5.14	-128.57	-1,019.61	-1,278.39	1,635.20	1,627.93	7.27	224.909						
1,600.00	1,600.00	1,598.30	1,598.30	5.50	5.50	-128.57	-1,019.61	-1,278.39	1,635.20	1,627.42	7.78	210.249						
1,700.00	1,700.00	1,698.30	1,698.30	5.86	5.85	-128.57	-1,019.61	-1,278.39	1,635.20	1,626.92	8.28	197.383						
1,800.00	1,800.00	1,798.30	1,798.30	6.22	6.21	-128.57	-1,019.61	-1,278.39	1,635.20	1,626.41	8.79	186.001						
1,900.00	1,900.00	1,898.30	1,898.30	6.58	6.57	-128.57	-1,019.61	-1,278.39	1,635.20	1,625.90	9.30	175.860						
2,000.00	2,000.00	1,998.30	1,998.30	6.94	6.93	-128.57	-1,019.61	-1,278.39	1,635.20	1,625.40	9.81	166.768						
2,100.00	2,100.00	2,098.30	2,098.30	7.29	7.29	-128.57	-1,019.61	-1,278.39	1,635.20	1,624.89	10.31	158.569						
2,200.00	2,200.00	2,198.30	2,198.30	7.65	7.65	-128.57	-1,019.61	-1,278.39	1,635.20	1,624.38	10.82	151.139						
2,300.00	2,300.00	2,298.30	2,298.30	8.01	8.01	-128.57	-1,019.61	-1,278.39	1,635.20	1,623.88	11.33	144.374						
2,400.00	2,400.00	2,398.30	2,398.30	8.37	8.36	-128.57	-1,019.61	-1,278.39	1,635.20	1,623.37	11.83	138.189						
2,500.00	2,500.00	2,498.30	2,498.30	8.73	8.72	-128.57	-1,019.61	-1,278.39	1,635.20	1,622.86	12.34	132.512						
2,600.00	2,600.00	2,598.30	2,598.30	9.09	9.08	-128.57	-1,019.61	-1,278.39	1,635.20	1,622.36	12.85	127.283						
2,700.00	2,700.00	2,698.30	2,698.30	9.45	9.44	-128.57	-1,019.61	-1,278.39	1,635.20	1,621.85	13.35	122.451						
2,800.00	2,800.00	2,798.30	2,798.30	9.80	9.80	-128.57	-1,019.61	-1,278.39	1,635.20	1,621.34	13.86	117.972						
2,900.00	2,900.00	2,898.30	2,898.30	10.16	10.16	-128.57	-1,019.61	-1,278.39	1,635.20	1,620.83	14.37	113.810						
3,000.00	3,000.00	2,998.30	2,998.30	10.52	10.52	-128.57	-1,019.61	-1,278.39	1,635.20	1,620.33	14.87	109.931						
3,100.00	3,100.00	3,098.30	3,098.30	10.88	10.87	-128.57	-1,019.61	-1,278.39	1,635.20	1,619.82	15.38	106.308						
3,200.00	3,200.00	3,198.30	3,198.30	11.24	11.23	-128.57	-1,019.61	-1,278.39	1,635.20	1,619.31	15.89	102.916	CC					
3,300.00	3,299.99	3,298.29	3,298.29	11.58	11.59	90.56	-1,019.61	-1,278.39	1,635.21	1,618.83	16.38	99.805	ES					
3,400.00	3,399.91	3,370.88	3,370.87	11.91	11.84	90.66	-1,019.75	-1,279.03	1,636.08	1,619.29	16.79	97.431						
3,500.00	3,499.69	3,442.76	3,442.73	12.24	12.09	90.82	-1,020.19	-1,280.99	1,638.69	1,621.50	17.19	95.313						
3,600.00	3,599.27	3,514.27	3,514.16	12.57	12.33	91.03	-1,020.92	-1,284.25	1,643.08	1,625.49	17.59	93.420						
3,700.00	3,698.57	3,592.50	3,592.22	12.91	12.60	91.33	-1,022.03	-1,289.23	1,649.24	1,631.23	18.00	91.612						
3,800.00	3,797.54	3,690.78	3,690.26	13.25	12.93	91.82	-1,023.53	-1,295.93	1,656.06	1,637.58	18.48	89.618						
3,900.00	3,896.09	3,788.56	3,787.80	13.60	13.27	92.38	-1,025.02	-1,302.59	1,663.17	1,644.21	18.96	87.719						
4,000.00	3,994.16	3,885.79	3,884.80	13.96	13.61	93.01	-1,026.50	-1,309.21	1,670.66	1,651.21	19.45	85.911						
4,100.00	4,091.70	3,982.40	3,981.17	14.32	13.94	93.71	-1,027.97	-1,315.79	1,678.61	1,658.67	19.94	84.187						
4,200.00	4,188.62	4,078.31	4,076.85	14.70	14.28	94.47	-1,029.43	-1,322.32	1,687.13	1,666.69	20.44	82.543						
4,304.97	4,289.63	4,178.19	4,176.48	15.12	14.63	95.33	-1,030.95	-1,329.13	1,696.79	1,675.82	20.97	80.900						
4,400.00	4,380.70	4,268.20	4,266.27	15.51	14.94	96.26	-1,032.32	-1,335.26	1,706.16	1,684.70	21.47	79.481						
4,500.00	4,476.55	4,362.92	4,360.76	15.93	15.28	97.23	-1,033.76	-1,341.71	1,716.56	1,694.56	21.99	78.053						
4,600.00	4,572.39	4,457.65	4,455.26	16.36	15.61	98.19	-1,035.20	-1,348.17	1,727.48	1,704.96	22.53	76.692						
4,700.00	4,668.24	4,552.37	4,549.75	16.81	15.95	99.14	-1,036.64	-1,354.62	1,738.93	1,715.86	23.06	75.395						
4,800.00	4,764.08	4,647.09	4,644.24	17.26	16.28	100.08	-1,038.08	-1,361.07	1,750.89	1,727.28	23.61	74.161						
4,900.00	4,859.93	4,741.81	4,738.73	17.72	16.62	101.01	-1,039.52	-1,367.52	1,763.35	1,739.19	24.16	72.989						
5,000.00	4,955.77	4,836.54	4,833.22	18.18	16.96	101.92	-1,040.96	-1,373.98	1,776.30	1,751.58	24.71	71.876						
5,100.00	5,051.62	4,931.26	4,927.71	18.66	17.30	102.82	-1,042.41	-1,380.43	1,789.73	1,764.46	25.27	70.819						

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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		
5,200.00	5,147.46	5,025.98	5,022.21	19.14	17.64	103.71	-1,043.85	-1,386.88	1,803.63	1,777.80	25.83	69.818		
5,300.00	5,243.31	5,120.70	5,116.70	19.63	17.98	104.59	-1,045.29	-1,393.33	1,817.99	1,791.59	26.40	68.868		
5,400.00	5,339.15	5,215.43	5,211.19	20.12	18.32	105.46	-1,046.73	-1,399.79	1,832.80	1,805.83	26.97	67.969		
5,500.00	5,435.00	5,310.15	5,305.68	20.62	18.66	106.31	-1,048.17	-1,406.24	1,848.05	1,820.51	27.53	67.117		
5,600.00	5,530.84	5,404.87	5,400.17	21.12	19.00	107.15	-1,049.61	-1,412.69	1,863.72	1,835.61	28.11	66.310		
5,700.00	5,626.69	5,499.59	5,494.66	21.63	19.34	107.97	-1,051.06	-1,419.14	1,879.81	1,851.13	28.68	65.547		
5,800.00	5,722.53	5,594.32	5,589.16	22.14	19.68	108.78	-1,052.50	-1,425.60	1,896.30	1,867.05	29.25	64.825		
5,900.00	5,818.38	5,689.04	5,683.65	22.65	20.03	109.58	-1,053.94	-1,432.05	1,913.19	1,883.37	29.83	64.142		
6,000.00	5,914.22	5,783.76	5,778.14	23.17	20.37	110.37	-1,055.38	-1,438.50	1,930.47	1,900.06	30.40	63.496		
6,100.00	6,010.07	5,878.49	5,872.63	23.69	20.72	111.14	-1,056.82	-1,444.95	1,948.12	1,917.14	30.98	62.885		
6,200.00	6,105.91	5,973.21	5,967.12	24.22	21.06	111.90	-1,058.26	-1,451.41	1,966.13	1,934.57	31.56	62.308		
6,300.00	6,201.76	6,076.84	6,070.51	24.75	21.44	112.72	-1,059.83	-1,458.43	1,984.48	1,952.31	32.16	61.703		
6,400.00	6,297.60	6,275.93	6,269.42	25.28	22.15	114.24	-1,061.54	-1,466.06	2,000.29	1,967.24	33.05	60.515		
6,500.00	6,393.45	6,398.26	6,391.75	25.81	22.58	115.16	-1,061.61	-1,466.39	2,012.84	1,979.13	33.70	59.721		
6,600.00	6,489.29	6,494.11	6,487.59	26.35	22.91	115.86	-1,061.61	-1,466.39	2,025.55	1,991.27	34.28	59.080		
6,700.00	6,585.14	6,589.95	6,583.44	26.89	23.25	116.56	-1,061.61	-1,466.39	2,038.59	2,003.72	34.86	58.471		
6,800.00	6,680.98	6,685.80	6,679.28	27.43	23.59	117.25	-1,061.61	-1,466.39	2,051.93	2,016.49	35.44	57.892		
6,900.00	6,776.83	6,781.64	6,775.13	27.97	23.92	117.93	-1,061.61	-1,466.39	2,065.59	2,029.56	36.02	57.342		
7,000.00	6,872.67	6,877.49	6,870.97	28.52	24.26	118.60	-1,061.61	-1,466.39	2,079.54	2,042.94	36.60	56.818		
7,100.00	6,968.52	6,973.33	6,966.82	29.06	24.60	119.26	-1,061.61	-1,466.39	2,093.80	2,056.62	37.18	56.321		
7,200.00	7,064.36	7,069.18	7,062.66	29.61	24.93	119.92	-1,061.61	-1,466.39	2,108.34	2,070.59	37.75	55.847		
7,300.00	7,160.21	7,165.02	7,158.51	30.16	25.27	120.57	-1,061.61	-1,466.39	2,123.16	2,084.84	38.33	55.397		
7,400.00	7,256.05	7,260.87	7,254.35	30.72	25.61	121.21	-1,061.61	-1,466.39	2,138.27	2,099.37	38.90	54.970		
7,500.00	7,351.90	7,356.71	7,350.20	31.27	25.95	121.84	-1,061.61	-1,466.39	2,153.64	2,114.17	39.47	54.563		
7,600.00	7,447.74	7,452.56	7,446.04	31.82	26.28	122.46	-1,061.61	-1,466.39	2,169.28	2,129.24	40.04	54.176		
7,700.00	7,543.59	7,548.40	7,541.89	32.38	26.62	123.07	-1,061.61	-1,466.39	2,185.19	2,144.58	40.61	53.808		
7,800.00	7,639.43	7,644.25	7,637.73	32.94	26.96	123.67	-1,061.61	-1,466.39	2,201.34	2,160.16	41.18	53.459		
7,889.67	7,725.37	7,730.19	7,723.67	33.44	27.26	124.21	-1,061.61	-1,466.39	2,216.04	2,174.36	41.69	53.160		
7,900.00	7,735.28	7,740.09	7,733.58	33.50	27.30	124.29	-1,061.61	-1,466.39	2,217.74	2,176.00	41.74	53.126		
8,000.00	7,831.56	7,836.37	7,829.86	34.04	27.64	125.05	-1,061.61	-1,466.39	2,233.50	2,191.19	42.30	52.796		
8,100.00	7,928.52	7,933.33	7,926.82	34.56	27.98	125.72	-1,061.61	-1,466.39	2,247.96	2,205.11	42.85	52.455		
8,200.00	8,026.08	8,030.89	8,024.38	35.06	28.32	126.33	-1,061.61	-1,466.39	2,261.07	2,217.68	43.40	52.103		
8,300.00	8,124.18	8,129.00	8,122.48	35.53	28.67	126.86	-1,061.61	-1,466.39	2,272.76	2,228.84	43.93	51.739		
8,400.00	8,222.76	8,227.57	8,221.06	35.98	29.02	127.32	-1,061.61	-1,466.39	2,282.98	2,238.54	44.45	51.361		
8,500.00	8,321.74	8,326.55	8,320.04	36.40	29.37	127.70	-1,061.61	-1,466.39	2,291.69	2,246.73	44.96	50.970		
8,600.00	8,421.06	8,425.87	8,419.36	36.79	29.72	128.01	-1,061.61	-1,466.39	2,298.85	2,253.39	45.47	50.563		
8,700.00	8,520.65	8,525.46	8,518.95	37.16	30.07	128.25	-1,061.61	-1,466.39	2,304.43	2,258.47	45.96	50.141		
8,800.00	8,620.44	8,625.26	8,618.74	37.51	30.43	128.43	-1,061.61	-1,466.39	2,308.40	2,261.96	46.44	49.703		
8,900.00	8,720.37	8,725.18	8,718.67	37.83	30.78	128.53	-1,061.61	-1,466.39	2,310.76	2,263.84	46.92	49.249		
8,994.64	8,815.00	8,819.81	8,813.30	38.11	31.12	-90.54	-1,061.61	-1,466.39	2,311.49	2,264.13	47.36	48.810		
9,000.00	8,820.36	8,825.17	8,818.66	38.13	31.13	-90.54	-1,061.61	-1,466.39	2,311.49	2,264.11	47.38	48.785		
9,100.00	8,920.36	8,925.17	8,918.66	38.40	31.49	-90.54	-1,061.61	-1,466.39	2,311.49	2,263.66	47.83	48.323		
9,200.00	9,020.36	9,025.17	9,018.66	38.68	31.84	-90.54	-1,061.61	-1,466.39	2,311.49	2,263.20	48.29	47.869		
9,300.00	9,120.36	9,125.17	9,118.66	38.96	32.20	-90.54	-1,061.61	-1,466.39	2,311.49	2,262.75	48.74	47.422		
9,400.00	9,220.36	9,225.17	9,218.66	39.25	32.55	-90.54	-1,061.61	-1,466.39	2,311.49	2,262.29	49.20	46.983		
9,500.00	9,320.36	9,325.17	9,318.66	39.53	32.91	-90.54	-1,061.61	-1,466.39	2,311.49	2,261.84	49.66	46.550		
9,600.00	9,420.36	9,425.17	9,418.66	39.81	33.26	-90.54	-1,061.61	-1,466.39	2,311.49	2,261.38	50.11	46.125		
9,700.00	9,520.36	9,525.17	9,518.66	40.10	33.62	-90.54	-1,061.61	-1,466.39	2,311.49	2,260.92	50.57	45.706		
9,800.00	9,620.36	9,625.17	9,618.66	40.39	33.97	-90.54	-1,061.61	-1,466.39	2,311.49	2,260.46	51.03	45.295		
9,900.00	9,720.36	9,725.17	9,718.66	40.67	34.33	-90.54	-1,061.61	-1,466.39	2,311.49	2,260.00	51.49	44.889		
10,000.00	9,820.36	9,825.17	9,818.66	40.96	34.68	-90.54	-1,061.61	-1,466.39	2,311.49	2,259.54	51.95	44.490		
10,100.00	9,920.36	9,925.17	9,918.66	41.25	35.04	-90.54	-1,061.61	-1,466.39	2,311.49	2,259.07	52.42	44.098		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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		
10,200.00	10,020.36	10,025.17	10,018.66	41.55	35.39	-90.54	-1,061.61	-1,466.39	2,311.49	2,258.61	52.88	43.712		
10,300.00	10,120.36	10,125.17	10,118.66	41.84	35.75	-90.54	-1,061.61	-1,466.39	2,311.49	2,258.15	53.34	43.331		
10,400.00	10,220.36	10,225.17	10,218.66	42.13	36.10	-90.54	-1,061.61	-1,466.39	2,311.49	2,257.68	53.81	42.957		
10,500.00	10,320.36	10,325.17	10,318.66	42.43	36.46	-90.54	-1,061.61	-1,466.39	2,311.49	2,257.22	54.27	42.589		
10,600.00	10,420.36	10,425.17	10,418.66	42.72	36.81	-90.54	-1,061.61	-1,466.39	2,311.49	2,256.75	54.74	42.226		
10,700.00	10,520.36	10,525.17	10,518.66	43.02	37.17	-90.54	-1,061.61	-1,466.39	2,311.49	2,256.28	55.21	41.869		
10,800.00	10,620.36	10,625.17	10,618.66	43.31	37.52	-90.54	-1,061.61	-1,466.39	2,311.49	2,255.82	55.68	41.517		
10,900.00	10,720.36	10,725.17	10,718.66	43.61	37.88	-90.54	-1,061.61	-1,466.39	2,311.49	2,255.35	56.14	41.171		
11,000.00	10,820.36	10,825.17	10,818.66	43.91	38.23	-90.54	-1,061.61	-1,466.39	2,311.49	2,254.88	56.61	40.830		
11,100.00	10,920.36	10,925.17	10,918.66	44.21	38.59	-90.54	-1,061.61	-1,466.39	2,311.49	2,254.41	57.08	40.494		
11,200.00	11,020.36	11,025.17	11,018.66	44.51	38.95	-90.54	-1,061.61	-1,466.39	2,311.49	2,253.94	57.55	40.163		
11,300.00	11,120.36	11,125.17	11,118.66	44.81	39.30	-90.54	-1,061.61	-1,466.39	2,311.49	2,253.47	58.02	39.837		
11,400.00	11,220.36	11,225.17	11,218.66	45.12	39.66	-90.54	-1,061.61	-1,466.39	2,311.49	2,253.00	58.50	39.516		
11,500.00	11,320.36	11,325.17	11,318.66	45.42	40.01	-90.54	-1,061.61	-1,466.39	2,311.49	2,252.52	58.97	39.199		
11,600.00	11,420.36	11,425.17	11,418.66	45.72	40.37	-90.54	-1,061.61	-1,466.39	2,311.49	2,252.05	59.44	38.888		
11,700.00	11,520.36	11,525.17	11,518.66	46.03	40.72	-90.54	-1,061.61	-1,466.39	2,311.49	2,251.58	59.91	38.580		
11,800.00	11,620.36	11,625.17	11,618.66	46.33	41.08	-90.54	-1,061.61	-1,466.39	2,311.49	2,251.10	60.39	38.278		
11,900.00	11,720.36	11,725.17	11,718.66	46.64	41.44	-90.54	-1,061.61	-1,466.39	2,311.49	2,250.63	60.86	37.979		
11,950.68	11,771.04	11,775.85	11,769.34	46.80	41.62	-90.54	-1,061.61	-1,466.39	2,311.49	2,250.39	61.10	37.830		
11,950.73	11,771.09	11,775.90	11,769.39	46.80	41.62	-90.54	-1,061.61	-1,466.39	2,311.49	2,250.39	61.10	37.830		
12,000.00	11,820.30	11,825.11	11,818.60	46.96	41.79	90.08	-1,061.61	-1,466.39	2,311.49	2,250.15	61.34	37.682		
12,050.00	11,869.86	11,874.68	11,868.16	47.14	41.97	90.23	-1,061.61	-1,466.39	2,311.51	2,249.92	61.59	37.528		
12,100.00	11,918.67	11,923.49	11,916.97	47.35	42.14	90.49	-1,061.61	-1,466.39	2,311.58	2,249.72	61.86	37.370		
12,150.00	11,966.36	11,971.18	11,964.66	47.58	42.31	90.82	-1,061.61	-1,466.39	2,311.76	2,249.64	62.13	37.211		
12,200.00	12,012.56	12,017.38	12,010.86	47.83	42.48	91.22	-1,061.61	-1,466.39	2,312.13	2,249.73	62.40	37.054		
12,250.00	12,056.93	12,061.74	12,055.23	48.10	42.64	91.66	-1,061.61	-1,466.39	2,312.79	2,250.11	62.68	36.900		
12,300.00	12,099.12	12,103.93	12,097.42	48.39	42.79	92.12	-1,061.61	-1,466.39	2,313.84	2,250.88	62.96	36.754		
12,350.00	12,138.81	12,143.62	12,137.11	48.69	42.93	92.56	-1,061.61	-1,466.39	2,315.41	2,252.17	63.23	36.616		
12,400.00	12,175.70	12,183.42	12,176.90	49.01	43.07	93.00	-1,061.69	-1,466.39	2,317.61	2,254.09	63.52	36.487		
12,450.00	12,209.51	12,236.86	12,230.21	49.34	43.25	93.64	-1,065.10	-1,466.36	2,320.38	2,256.53	63.85	36.344		
12,500.00	12,239.99	12,296.14	12,288.69	49.69	43.44	94.31	-1,074.67	-1,466.26	2,323.62	2,259.43	64.20	36.196		
12,550.00	12,266.90	12,363.10	12,353.15	50.05	43.65	95.05	-1,092.68	-1,466.08	2,327.26	2,262.69	64.57	36.040		
12,600.00	12,290.03	12,440.23	12,424.19	50.42	43.89	95.87	-1,122.56	-1,465.79	2,331.19	2,266.21	64.98	35.874		
12,650.00	12,309.21	12,530.76	12,501.55	50.81	44.14	96.78	-1,169.39	-1,465.32	2,335.22	2,269.80	65.42	35.693		
12,700.00	12,324.30	12,638.43	12,582.56	51.20	44.44	97.76	-1,240.07	-1,464.62	2,339.07	2,273.16	65.91	35.487		
12,750.00	12,335.17	12,738.97	12,644.74	51.60	44.74	98.47	-1,318.88	-1,463.84	2,342.36	2,275.96	66.40	35.278		
12,800.00	12,341.76	12,887.35	12,709.62	52.01	45.21	99.33	-1,451.75	-1,462.53	2,344.59	2,277.53	67.06	34.964		
12,850.68	12,344.00	13,077.70	12,739.98	52.42	45.86	99.76	-1,638.68	-1,460.68	2,345.39	2,277.42	67.97	34.508		
12,868.97	12,344.00	13,093.11	12,740.00	52.57	45.91	99.76	-1,654.09	-1,460.53	2,345.39	2,277.28	68.11	34.434		
12,900.00	12,344.00	13,124.14	12,740.00	52.83	46.03	99.76	-1,685.12	-1,460.22	2,345.39	2,277.00	68.38	34.297		
13,000.00	12,344.00	13,224.14	12,740.00	53.68	46.43	99.76	-1,785.12	-1,459.23	2,345.38	2,276.08	69.30	33.844		
13,100.00	12,344.00	13,324.14	12,740.00	54.57	46.89	99.76	-1,885.11	-1,458.24	2,345.36	2,275.09	70.28	33.373		
13,200.00	12,344.00	13,424.14	12,740.00	55.50	47.40	99.76	-1,985.11	-1,457.25	2,345.35	2,274.04	71.32	32.886		
13,300.00	12,344.00	13,524.14	12,740.00	56.46	47.96	99.76	-2,085.10	-1,456.26	2,345.34	2,272.93	72.42	32.387		
13,400.00	12,344.00	13,624.14	12,740.00	57.45	48.57	99.76	-2,185.10	-1,455.27	2,345.33	2,271.76	73.57	31.879		
13,500.00	12,344.00	13,724.14	12,740.00	58.47	49.23	99.76	-2,285.09	-1,454.28	2,345.32	2,270.54	74.78	31.364		
13,600.00	12,344.00	13,824.14	12,740.00	59.52	49.93	99.76	-2,385.09	-1,453.29	2,345.31	2,269.27	76.04	30.845		
13,700.00	12,344.00	13,924.14	12,740.00	60.60	50.68	99.76	-2,485.08	-1,452.30	2,345.30	2,267.96	77.34	30.323		
13,800.00	12,344.00	14,024.14	12,740.00	61.70	51.47	99.76	-2,585.08	-1,451.31	2,345.29	2,266.59	78.70	29.801		
13,900.00	12,344.00	14,124.14	12,740.00	62.82	52.30	99.76	-2,685.07	-1,450.32	2,345.28	2,265.18	80.09	29.282		
14,000.00	12,344.00	14,224.14	12,740.00	63.97	53.17	99.76	-2,785.07	-1,449.33	2,345.27	2,263.73	81.53	28.765		
14,100.00	12,344.00	14,324.14	12,740.00	65.14	54.07	99.76	-2,885.06	-1,448.34	2,345.26	2,262.25	83.01	28.253		

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 Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design		Tatanka Fed Com - Tatanka Fed Com 801H - OH - Plan #2											Offset Site Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis		Distance							Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,200.00	12,344.00	14,424.14	12,740.00	66.33	55.01	99.76	-2,985.06	-1,447.35	2,345.25	2,260.72	84.52	27.746		
14,300.00	12,344.00	14,524.14	12,740.00	67.54	55.98	99.76	-3,085.05	-1,446.36	2,345.23	2,259.16	86.07	27.247		
14,400.00	12,344.00	14,624.14	12,740.00	68.77	56.99	99.76	-3,185.05	-1,445.37	2,345.22	2,257.57	87.66	26.754		
14,500.00	12,344.00	14,724.14	12,740.00	70.02	58.02	99.76	-3,285.04	-1,444.38	2,345.21	2,255.94	89.27	26.270		
14,600.00	12,344.00	14,824.14	12,740.00	71.28	59.08	99.76	-3,385.04	-1,443.39	2,345.20	2,254.28	90.92	25.795		
14,700.00	12,344.00	14,924.14	12,740.00	72.55	60.17	99.76	-3,485.03	-1,442.40	2,345.19	2,252.60	92.59	25.329		
14,800.00	12,344.00	15,024.14	12,740.00	73.85	61.28	99.76	-3,585.03	-1,441.41	2,345.18	2,250.89	94.29	24.872		
14,900.00	12,344.00	15,124.14	12,740.00	75.15	62.42	99.76	-3,685.03	-1,440.42	2,345.17	2,249.15	96.02	24.425		
15,000.00	12,344.00	15,224.14	12,740.00	76.47	63.58	99.76	-3,785.02	-1,439.43	2,345.16	2,247.39	97.77	23.987		
15,100.00	12,344.00	15,324.14	12,740.00	77.81	64.76	99.76	-3,885.02	-1,438.44	2,345.15	2,245.61	99.54	23.560		
15,200.00	12,344.00	15,424.14	12,740.00	79.15	65.96	99.76	-3,985.01	-1,437.45	2,345.14	2,243.80	101.33	23.143		
15,300.00	12,344.00	15,524.14	12,740.00	80.51	67.18	99.76	-4,085.01	-1,436.47	2,345.13	2,241.98	103.15	22.736		
15,400.00	12,344.00	15,624.14	12,740.00	81.87	68.42	99.76	-4,185.00	-1,435.48	2,345.11	2,240.13	104.98	22.339		
15,500.00	12,344.00	15,724.14	12,740.00	83.25	69.68	99.76	-4,285.00	-1,434.49	2,345.10	2,238.27	106.83	21.951		
15,600.00	12,344.00	15,824.14	12,740.00	84.64	70.95	99.76	-4,384.99	-1,433.50	2,345.09	2,236.39	108.70	21.574		
15,700.00	12,344.00	15,924.14	12,740.00	86.03	72.23	99.76	-4,484.99	-1,432.51	2,345.08	2,234.50	110.59	21.206		
15,800.00	12,344.00	16,024.14	12,740.00	87.44	73.54	99.76	-4,584.98	-1,431.52	2,345.07	2,232.58	112.49	20.847		
15,900.00	12,344.00	16,124.14	12,740.00	88.85	74.85	99.76	-4,684.98	-1,430.53	2,345.06	2,230.66	114.40	20.498		
16,000.00	12,344.00	16,224.14	12,740.00	90.27	76.18	99.76	-4,784.97	-1,429.54	2,345.05	2,228.72	116.33	20.158		
16,100.00	12,344.00	16,324.14	12,740.00	91.70	77.52	99.76	-4,884.97	-1,428.55	2,345.04	2,226.76	118.28	19.827		
16,200.00	12,344.00	16,424.14	12,740.00	93.14	78.87	99.76	-4,984.96	-1,427.56	2,345.03	2,224.79	120.23	19.504		
16,300.00	12,344.00	16,524.14	12,740.00	94.58	80.24	99.76	-5,084.96	-1,426.57	2,345.02	2,222.81	122.20	19.189		
16,400.00	12,344.00	16,624.14	12,740.00	96.03	81.61	99.76	-5,184.95	-1,425.58	2,345.01	2,220.82	124.18	18.883		
16,500.00	12,344.00	16,724.14	12,740.00	97.49	83.00	99.76	-5,284.95	-1,424.59	2,345.00	2,218.82	126.18	18.585		
16,600.00	12,344.00	16,824.14	12,740.00	98.95	84.39	99.76	-5,384.94	-1,423.60	2,344.98	2,216.81	128.18	18.295		
16,700.00	12,344.00	16,924.14	12,740.00	100.42	85.79	99.76	-5,484.94	-1,422.61	2,344.97	2,214.78	130.19	18.012		
16,800.00	12,344.00	17,024.14	12,740.00	101.89	87.21	99.76	-5,584.93	-1,421.62	2,344.96	2,212.75	132.21	17.736		
16,900.00	12,344.00	17,124.14	12,740.00	103.37	88.63	99.76	-5,684.93	-1,420.63	2,344.95	2,210.71	134.25	17.468		
17,000.00	12,344.00	17,224.14	12,740.00	104.86	90.05	99.76	-5,784.92	-1,419.64	2,344.94	2,208.66	136.29	17.206		
17,100.00	12,344.00	17,324.14	12,740.00	106.35	91.49	99.76	-5,884.92	-1,418.65	2,344.93	2,206.60	138.33	16.951		
17,200.00	12,344.00	17,424.14	12,740.00	107.84	92.93	99.76	-5,984.91	-1,417.66	2,344.92	2,204.53	140.39	16.703		
17,300.00	12,344.00	17,524.14	12,740.00	109.34	94.38	99.76	-6,084.91	-1,416.67	2,344.91	2,202.45	142.46	16.461		
17,400.00	12,344.00	17,624.14	12,740.00	110.84	95.84	99.76	-6,184.90	-1,415.68	2,344.90	2,200.37	144.53	16.225		
17,500.00	12,344.00	17,724.14	12,740.00	112.35	97.30	99.76	-6,284.90	-1,414.69	2,344.89	2,198.28	146.61	15.994		
17,600.00	12,344.00	17,824.14	12,740.00	113.86	98.77	99.76	-6,384.89	-1,413.70	2,344.88	2,196.18	148.69	15.770		
17,700.00	12,344.00	17,924.14	12,740.00	115.38	100.24	99.76	-6,484.89	-1,412.71	2,344.86	2,194.08	150.78	15.551		
17,800.00	12,344.00	18,024.14	12,740.00	116.89	101.72	99.76	-6,584.88	-1,411.72	2,344.85	2,191.97	152.88	15.338		
17,900.00	12,344.00	18,124.14	12,740.00	118.42	103.21	99.76	-6,684.88	-1,410.73	2,344.84	2,189.86	154.99	15.129		
18,000.00	12,344.00	18,224.14	12,740.00	119.94	104.70	99.76	-6,784.87	-1,409.74	2,344.83	2,187.74	157.10	14.926		
18,100.00	12,344.00	18,324.14	12,740.00	121.47	106.19	99.77	-6,884.87	-1,408.75	2,344.82	2,185.61	159.21	14.728		
18,200.00	12,344.00	18,424.14	12,740.00	123.00	107.69	99.77	-6,984.86	-1,407.76	2,344.81	2,183.48	161.33	14.534		
18,300.00	12,344.00	18,524.14	12,740.00	124.54	109.20	99.77	-7,084.86	-1,406.77	2,344.80	2,181.34	163.46	14.345		
18,400.00	12,344.00	18,624.14	12,740.00	126.08	110.70	99.77	-7,184.85	-1,405.78	2,344.79	2,179.20	165.58	14.161		
18,500.00	12,344.00	18,724.14	12,740.00	127.62	112.22	99.77	-7,284.85	-1,404.79	2,344.78	2,177.06	167.72	13.980		
18,600.00	12,344.00	18,824.14	12,740.00	129.16	113.73	99.77	-7,384.84	-1,403.80	2,344.77	2,174.91	169.86	13.804		
18,700.00	12,344.00	18,924.14	12,740.00	130.71	115.25	99.77	-7,484.84	-1,402.81	2,344.76	2,172.76	172.00	13.632		
18,800.00	12,344.00	19,024.14	12,740.00	132.26	116.77	99.77	-7,584.83	-1,401.82	2,344.75	2,170.60	174.15	13.464		
18,900.00	12,344.00	19,124.14	12,740.00	133.81	118.30	99.77	-7,684.83	-1,400.84	2,344.73	2,168.44	176.30	13.300		
19,000.00	12,344.00	19,224.14	12,740.00	135.36	119.83	99.77	-7,784.82	-1,399.85	2,344.72	2,166.27	178.45	13.139		
19,100.00	12,344.00	19,324.14	12,740.00	136.92	121.36	99.77	-7,884.82	-1,398.86	2,344.71	2,164.10	180.61	12.982		
19,200.00	12,344.00	19,424.14	12,740.00	138.48	122.90	99.77	-7,984.81	-1,397.87	2,344.70	2,161.93	182.77	12.828		
19,300.00	12,344.00	19,524.14	12,740.00	140.04	124.44	99.77	-8,084.81	-1,396.88	2,344.69	2,159.75	184.94	12.678		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design												Tatanka Fed Com - Tatanka Fed Com 801H - OH - Plan #2		Offset Site Error:		0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD														Offset Well Error:		0.00 usft	
Reference		Offset		Semi Major Axis				Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning				
19,400.00	12,344.00	19,624.14	12,740.00	141.60	125.98	99.77	-8,184.80	-1,395.89	2,344.68	2,157.57	187.11	12.531					
19,500.00	12,344.00	19,724.14	12,740.00	143.16	127.52	99.77	-8,284.80	-1,394.90	2,344.67	2,155.39	189.28	12.387					
19,600.00	12,344.00	19,824.14	12,740.00	144.73	129.07	99.77	-8,384.79	-1,393.91	2,344.66	2,153.20	191.46	12.246					
19,700.00	12,344.00	19,924.14	12,740.00	146.30	130.62	99.77	-8,484.79	-1,392.92	2,344.65	2,151.01	193.63	12.109					
19,800.00	12,344.00	20,024.14	12,740.00	147.87	132.17	99.77	-8,584.79	-1,391.93	2,344.64	2,148.82	195.82	11.974					
19,900.00	12,344.00	20,124.14	12,740.00	149.44	133.73	99.77	-8,684.78	-1,390.94	2,344.63	2,146.63	198.00	11.842					
20,000.00	12,344.00	20,224.14	12,740.00	151.01	135.29	99.77	-8,784.78	-1,389.95	2,344.61	2,144.43	200.19	11.712					
20,100.00	12,344.00	20,324.14	12,740.00	152.59	136.84	99.77	-8,884.77	-1,388.96	2,344.60	2,142.23	202.38	11.585					
20,200.00	12,344.00	20,424.14	12,740.00	154.17	138.41	99.77	-8,984.77	-1,387.97	2,344.59	2,140.02	204.57	11.461					
20,300.00	12,344.00	20,524.14	12,740.00	155.74	139.97	99.77	-9,084.76	-1,386.98	2,344.58	2,137.82	206.76	11.339					
20,400.00	12,344.00	20,624.14	12,740.00	157.32	141.53	99.77	-9,184.76	-1,385.99	2,344.57	2,135.61	208.96	11.220					
20,500.00	12,344.00	20,724.14	12,740.00	158.91	143.10	99.77	-9,284.75	-1,385.00	2,344.56	2,133.40	211.16	11.103					
20,600.00	12,344.00	20,824.14	12,740.00	160.49	144.67	99.77	-9,384.75	-1,384.01	2,344.55	2,131.19	213.36	10.989					
20,700.00	12,344.00	20,924.14	12,740.00	162.07	146.24	99.77	-9,484.74	-1,383.02	2,344.54	2,128.97	215.56	10.876					
20,800.00	12,344.00	21,024.14	12,740.00	163.66	147.81	99.77	-9,584.74	-1,382.03	2,344.53	2,126.76	217.77	10.766					
20,900.00	12,344.00	21,124.14	12,740.00	165.24	149.39	99.77	-9,684.73	-1,381.04	2,344.52	2,124.54	219.98	10.658					
21,000.00	12,344.00	21,224.14	12,740.00	166.83	150.97	99.77	-9,784.73	-1,380.05	2,344.51	2,122.32	222.19	10.552					
21,100.00	12,344.00	21,324.14	12,740.00	168.42	152.54	99.77	-9,884.72	-1,379.06	2,344.50	2,120.09	224.40	10.448					
21,200.00	12,344.00	21,424.14	12,740.00	170.01	154.12	99.77	-9,984.72	-1,378.07	2,344.48	2,117.87	226.61	10.346					
21,300.00	12,344.00	21,524.14	12,740.00	171.60	155.70	99.77	-10,084.71	-1,377.08	2,344.47	2,115.64	228.83	10.246					
21,400.00	12,344.00	21,624.14	12,740.00	173.20	157.29	99.77	-10,184.71	-1,376.09	2,344.46	2,113.42	231.04	10.147					
21,500.00	12,344.00	21,724.14	12,740.00	174.79	158.87	99.77	-10,284.70	-1,375.10	2,344.45	2,111.19	233.26	10.051					
21,600.00	12,344.00	21,824.14	12,740.00	176.38	160.45	99.77	-10,384.70	-1,374.11	2,344.44	2,108.96	235.48	9.956					
21,700.00	12,344.00	21,924.14	12,740.00	177.98	162.04	99.77	-10,484.69	-1,373.12	2,344.43	2,106.73	237.70	9.863					
21,800.00	12,344.00	22,024.14	12,740.00	179.58	163.63	99.77	-10,584.69	-1,372.13	2,344.42	2,104.49	239.93	9.771					
21,900.00	12,344.00	22,124.14	12,740.00	181.17	165.22	99.77	-10,684.68	-1,371.14	2,344.41	2,102.26	242.15	9.682					
22,000.00	12,344.00	22,224.14	12,740.00	182.77	166.81	99.77	-10,784.68	-1,370.15	2,344.40	2,100.02	244.38	9.593					
22,100.00	12,344.00	22,324.14	12,740.00	184.37	168.40	99.77	-10,884.67	-1,369.16	2,344.39	2,097.78	246.60	9.507					
22,200.00	12,344.00	22,424.14	12,740.00	185.97	169.99	99.77	-10,984.67	-1,368.17	2,344.38	2,095.54	248.83	9.422					
22,300.00	12,344.00	22,524.14	12,740.00	187.57	171.58	99.77	-11,084.66	-1,367.18	2,344.36	2,093.30	251.06	9.338					
22,400.00	12,344.00	22,624.14	12,740.00	189.18	173.18	99.77	-11,184.66	-1,366.19	2,344.35	2,091.06	253.29	9.256					
22,500.00	12,344.00	22,724.14	12,740.00	190.78	174.77	99.77	-11,284.65	-1,365.20	2,344.34	2,088.82	255.52	9.175					
22,600.00	12,344.00	22,824.14	12,740.00	192.38	176.33	99.77	-11,384.65	-1,364.22	2,344.33	2,086.60	257.73	9.096					
22,639.55	12,344.00	22,863.69	12,740.00	192.96	176.89	99.77	-11,424.20	-1,363.82	2,344.33	2,085.81	258.51	9.068					
22,642.51	12,344.00	22,865.07	12,740.00	193.01	176.91	99.77	-11,425.58	-1,363.81	2,344.33	2,085.78	258.55	9.067 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 Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 802H - OH - Plan #2		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	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	-129.12	-1,019.37	-1,253.40	1,615.59							
100.00	100.00	98.30	98.30	0.13	0.12	-129.12	-1,019.37	-1,253.40	1,615.59	1,615.41	0.18	9,182.982				
200.00	200.00	198.30	198.30	0.48	0.48	-129.12	-1,019.37	-1,253.40	1,615.59	1,614.91	0.68	2,375.536				
300.00	300.00	298.30	298.30	0.84	0.84	-129.12	-1,019.37	-1,253.40	1,615.59	1,614.40	1.19	1,361.018				
400.00	400.00	398.30	398.30	1.20	1.19	-129.12	-1,019.37	-1,253.40	1,615.59	1,613.89	1.69	953.714				
500.00	500.00	498.30	498.30	1.56	1.55	-129.12	-1,019.37	-1,253.40	1,615.59	1,613.39	2.20	734.041				
600.00	600.00	598.30	598.30	1.92	1.91	-129.12	-1,019.37	-1,253.40	1,615.59	1,612.88	2.71	596.619				
700.00	700.00	698.30	698.30	2.28	2.27	-129.12	-1,019.37	-1,253.40	1,615.59	1,612.37	3.21	502.538				
800.00	800.00	798.30	798.30	2.63	2.63	-129.12	-1,019.37	-1,253.40	1,615.59	1,611.87	3.72	434.086				
900.00	900.00	898.30	898.30	2.99	2.99	-129.12	-1,019.37	-1,253.40	1,615.59	1,611.36	4.23	382.047				
1,000.00	1,000.00	998.30	998.30	3.35	3.35	-129.12	-1,019.37	-1,253.40	1,615.59	1,610.85	4.74	341.149				
1,100.00	1,100.00	1,098.30	1,098.30	3.71	3.70	-129.12	-1,019.37	-1,253.40	1,615.59	1,610.35	5.24	308.161				
1,200.00	1,200.00	1,198.30	1,198.30	4.07	4.06	-129.12	-1,019.37	-1,253.40	1,615.59	1,609.84	5.75	280.990				
1,300.00	1,300.00	1,298.30	1,298.30	4.43	4.42	-129.12	-1,019.37	-1,253.40	1,615.59	1,609.33	6.26	258.222				
1,400.00	1,400.00	1,398.30	1,398.30	4.79	4.78	-129.12	-1,019.37	-1,253.40	1,615.59	1,608.83	6.76	238.867				
1,500.00	1,500.00	1,498.30	1,498.30	5.14	5.14	-129.12	-1,019.37	-1,253.40	1,615.59	1,608.32	7.27	222.211				
1,600.00	1,600.00	1,598.30	1,598.30	5.50	5.50	-129.12	-1,019.37	-1,253.40	1,615.59	1,607.81	7.78	207.727				
1,700.00	1,700.00	1,698.30	1,698.30	5.86	5.85	-129.12	-1,019.37	-1,253.40	1,615.59	1,607.30	8.28	195.016				
1,800.00	1,800.00	1,798.30	1,798.30	6.22	6.21	-129.12	-1,019.37	-1,253.40	1,615.59	1,606.80	8.79	183.770				
1,900.00	1,900.00	1,898.30	1,898.30	6.58	6.57	-129.12	-1,019.37	-1,253.40	1,615.59	1,606.29	9.30	173.751				
2,000.00	2,000.00	1,998.30	1,998.30	6.94	6.93	-129.12	-1,019.37	-1,253.40	1,615.59	1,605.78	9.81	164.767				
2,100.00	2,100.00	2,098.30	2,098.30	7.29	7.29	-129.12	-1,019.37	-1,253.40	1,615.59	1,605.28	10.31	156.667				
2,200.00	2,200.00	2,198.30	2,198.30	7.65	7.65	-129.12	-1,019.37	-1,253.40	1,615.59	1,604.77	10.82	149.326				
2,300.00	2,300.00	2,298.30	2,298.30	8.01	8.01	-129.12	-1,019.37	-1,253.40	1,615.59	1,604.26	11.33	142.642				
2,400.00	2,400.00	2,398.30	2,398.30	8.37	8.36	-129.12	-1,019.37	-1,253.40	1,615.59	1,603.76	11.83	136.531				
2,500.00	2,500.00	2,498.30	2,498.30	8.73	8.72	-129.12	-1,019.37	-1,253.40	1,615.59	1,603.25	12.34	130.922				
2,600.00	2,600.00	2,598.30	2,598.30	9.09	9.08	-129.12	-1,019.37	-1,253.40	1,615.59	1,602.74	12.85	125.756				
2,700.00	2,700.00	2,698.30	2,698.30	9.45	9.44	-129.12	-1,019.37	-1,253.40	1,615.59	1,602.23	13.35	120.982				
2,800.00	2,800.00	2,798.30	2,798.30	9.80	9.80	-129.12	-1,019.37	-1,253.40	1,615.59	1,601.73	13.86	116.557				
2,900.00	2,900.00	2,898.30	2,898.30	10.16	10.16	-129.12	-1,019.37	-1,253.40	1,615.59	1,601.22	14.37	112.445				
3,000.00	3,000.00	2,998.30	2,998.30	10.52	10.52	-129.12	-1,019.37	-1,253.40	1,615.59	1,600.71	14.87	108.612				
3,100.00	3,100.00	3,098.30	3,098.30	10.88	10.87	-129.12	-1,019.37	-1,253.40	1,615.59	1,600.21	15.38	105.033				
3,200.00	3,200.00	3,198.30	3,198.30	11.24	11.23	-129.12	-1,019.37	-1,253.40	1,615.59	1,599.70	15.89	101.681				
3,300.00	3,299.99	3,343.12	3,343.09	11.58	11.73	90.00	-1,019.51	-1,250.72	1,614.22	1,597.74	16.48	97.947				
3,400.00	3,399.91	3,488.50	3,488.23	11.91	12.23	90.07	-1,019.95	-1,242.53	1,610.04	1,592.99	17.05	94.445				
3,500.00	3,499.69	3,633.42	3,632.49	12.24	12.74	90.18	-1,020.69	-1,228.87	1,603.04	1,585.44	17.61	91.050				
3,600.00	3,599.27	3,777.67	3,775.47	12.57	13.24	90.35	-1,021.71	-1,209.86	1,593.26	1,575.11	18.16	87.749				
3,700.00	3,698.57	3,901.90	3,898.00	12.91	13.69	90.56	-1,022.81	-1,189.43	1,580.99	1,562.31	18.68	84.652				
3,800.00	3,797.54	4,001.05	3,995.68	13.25	14.06	90.85	-1,023.72	-1,172.44	1,568.30	1,549.13	19.17	81.829				
3,900.00	3,896.09	4,100.09	4,093.25	13.60	14.43	91.25	-1,024.63	-1,155.47	1,555.66	1,536.00	19.66	79.124				
4,000.00	3,994.16	4,198.96	4,190.65	13.96	14.80	91.74	-1,025.54	-1,138.53	1,543.12	1,522.95	20.16	76.530				
4,100.00	4,091.70	4,297.58	4,287.82	14.32	15.17	92.34	-1,026.45	-1,121.63	1,530.71	1,510.03	20.67	74.041				
4,200.00	4,188.62	4,395.90	4,384.68	14.70	15.55	93.03	-1,027.35	-1,104.78	1,518.50	1,497.31	21.19	71.652				
4,304.97	4,289.63	4,498.71	4,485.95	15.12	15.95	93.86	-1,028.30	-1,087.17	1,506.00	1,484.25	21.75	69.248				
4,400.00	4,380.70	4,591.55	4,577.43	15.51	16.31	94.50	-1,029.15	-1,071.26	1,494.95	1,472.69	22.26	67.159				
4,500.00	4,476.55	4,689.26	4,673.69	15.93	16.70	95.19	-1,030.05	-1,054.52	1,483.53	1,460.72	22.81	65.047				
4,600.00	4,572.39	4,786.97	4,769.95	16.36	17.09	95.88	-1,030.95	-1,037.78	1,472.33	1,448.97	23.36	63.022				
4,700.00	4,668.24	4,884.68	4,866.21	16.81	17.48	96.59	-1,031.85	-1,021.04	1,461.35	1,437.43	23.92	61.083				
4,800.00	4,764.08	4,982.39	4,962.47	17.26	17.87	97.30	-1,032.75	-1,004.30	1,450.61	1,426.12	24.49	59.227				
4,900.00	4,859.93	5,080.10	5,058.73	17.72	18.27	98.03	-1,033.65	-987.56	1,440.10	1,415.03	25.07	57.451				
5,000.00	4,955.77	5,177.81	5,154.99	18.18	18.67	98.76	-1,034.55	-970.82	1,429.82	1,404.18	25.65	55.753				
5,100.00	5,051.62	5,275.52	5,251.25	18.66	19.06	99.51	-1,035.45	-954.07	1,419.80	1,393.57	26.23	54.130				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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		
5,200.00	5,147.46	5,373.23	5,347.51	19.14	19.47	100.26	-1,036.35	-937.33	1,410.02	1,383.20	26.82	52.579		
5,300.00	5,243.31	5,470.94	5,443.77	19.63	19.87	101.03	-1,037.25	-920.59	1,400.49	1,373.09	27.41	51.098		
5,400.00	5,339.15	5,568.65	5,540.03	20.12	20.27	101.80	-1,038.15	-903.85	1,391.23	1,363.23	28.00	49.683		
5,500.00	5,435.00	5,666.36	5,636.29	20.62	20.68	102.59	-1,039.04	-887.11	1,382.24	1,353.64	28.60	48.333		
5,600.00	5,530.84	5,764.07	5,732.55	21.12	21.09	103.38	-1,039.94	-870.37	1,373.51	1,344.31	29.20	47.044		
5,700.00	5,626.69	5,861.78	5,828.81	21.63	21.50	104.18	-1,040.84	-853.63	1,365.06	1,335.26	29.80	45.813		
5,800.00	5,722.53	5,959.48	5,925.07	22.14	21.91	105.00	-1,041.74	-836.89	1,356.89	1,326.49	30.40	44.638		
5,900.00	5,818.38	6,057.19	6,021.33	22.65	22.32	105.82	-1,042.64	-820.15	1,349.01	1,318.01	31.00	43.518		
6,000.00	5,914.22	6,154.90	6,117.59	23.17	22.73	106.65	-1,043.54	-803.40	1,341.42	1,309.81	31.60	42.448		
6,100.00	6,010.07	6,252.61	6,213.85	23.69	23.15	107.50	-1,044.44	-786.66	1,334.12	1,301.92	32.20	41.427		
6,200.00	6,105.91	6,350.32	6,310.11	24.22	23.56	108.34	-1,045.34	-769.92	1,327.13	1,294.32	32.81	40.453		
6,300.00	6,201.76	6,448.03	6,406.37	24.75	23.98	109.20	-1,046.24	-753.18	1,320.44	1,287.03	33.41	39.525		
6,400.00	6,297.60	6,545.74	6,502.63	25.28	24.40	110.07	-1,047.14	-736.44	1,314.06	1,280.05	34.01	38.639		
6,500.00	6,393.45	6,643.45	6,598.89	25.81	24.81	110.94	-1,048.04	-719.70	1,308.00	1,273.39	34.61	37.794		
6,600.00	6,489.29	6,741.16	6,695.15	26.35	25.23	111.83	-1,048.94	-702.96	1,302.26	1,267.05	35.21	36.988		
6,700.00	6,585.14	6,838.87	6,791.41	26.89	25.65	112.71	-1,049.83	-686.22	1,296.84	1,261.04	35.80	36.221		
6,800.00	6,680.98	6,926.03	6,877.30	27.43	26.03	113.52	-1,050.63	-671.42	1,291.93	1,255.53	36.40	35.497		
6,900.00	6,776.83	7,000.00	6,950.40	27.97	26.34	114.22	-1,051.24	-660.09	1,288.87	1,251.89	36.97	34.859		
6,991.87	6,864.88	7,068.00	7,017.77	28.47	26.61	114.88	-1,051.73	-650.92	1,287.95	1,250.46	37.49	34.354 CC		
7,000.00	6,872.67	7,073.99	7,023.72	28.52	26.64	114.94	-1,051.77	-650.17	1,287.96	1,250.42	37.54	34.313		
7,100.00	6,968.52	7,147.69	7,096.93	29.06	26.93	115.68	-1,052.23	-641.70	1,289.23	1,251.15	38.08	33.853		
7,200.00	7,064.36	7,221.13	7,170.03	29.61	27.21	116.43	-1,052.60	-634.66	1,292.70	1,254.08	38.61	33.478		
7,300.00	7,160.21	7,300.00	7,248.67	30.16	27.51	117.26	-1,052.93	-628.67	1,298.39	1,259.25	39.14	33.173		
7,400.00	7,256.05	7,367.03	7,315.58	30.72	27.75	117.97	-1,053.13	-624.85	1,306.27	1,266.65	39.62	32.968		
7,500.00	7,351.90	7,439.38	7,387.88	31.27	28.01	118.74	-1,053.28	-622.04	1,316.39	1,276.29	40.10	32.828		
7,600.00	7,447.74	7,511.27	7,459.75	31.82	28.25	119.51	-1,053.36	-620.61	1,328.73	1,288.18	40.56	32.762		
7,700.00	7,543.59	7,593.40	7,541.89	32.38	28.52	120.38	-1,053.37	-620.40	1,343.12	1,302.08	41.04	32.727		
7,800.00	7,639.43	7,689.25	7,637.73	32.94	28.84	121.39	-1,053.37	-620.40	1,358.22	1,316.65	41.57	32.669		
7,889.67	7,725.37	7,775.19	7,723.67	33.44	29.12	122.27	-1,053.37	-620.40	1,372.13	1,330.08	42.05	32.629		
7,900.00	7,735.28	7,785.10	7,733.58	33.50	29.15	122.40	-1,053.37	-620.40	1,373.74	1,331.64	42.11	32.625		
8,000.00	7,831.56	7,881.38	7,829.86	34.04	29.47	123.50	-1,053.37	-620.40	1,388.83	1,346.19	42.63	32.575		
8,100.00	7,928.52	7,978.33	7,926.82	34.56	29.79	124.49	-1,053.37	-620.40	1,402.81	1,359.65	43.15	32.506		
8,200.00	8,026.08	8,075.89	8,024.38	35.06	30.12	125.37	-1,053.37	-620.40	1,415.58	1,371.91	43.67	32.417		
8,300.00	8,124.18	8,174.00	8,122.48	35.53	30.44	126.14	-1,053.37	-620.40	1,427.04	1,382.86	44.17	32.305		
8,400.00	8,222.76	8,272.57	8,221.06	35.98	30.77	126.80	-1,053.37	-620.40	1,437.11	1,392.44	44.67	32.169		
8,500.00	8,321.74	8,371.56	8,320.04	36.40	31.10	127.35	-1,053.37	-620.40	1,445.74	1,400.57	45.17	32.008		
8,600.00	8,421.06	8,470.88	8,419.36	36.79	31.43	127.79	-1,053.37	-620.40	1,452.85	1,407.19	45.65	31.823		
8,700.00	8,520.65	8,570.47	8,518.95	37.16	31.77	128.14	-1,053.37	-620.40	1,458.41	1,412.27	46.13	31.612		
8,800.00	8,620.44	8,670.26	8,618.74	37.51	32.10	128.38	-1,053.37	-620.40	1,462.37	1,415.77	46.61	31.375		
8,900.00	8,720.37	8,770.18	8,718.67	37.83	32.44	128.53	-1,053.37	-620.40	1,464.73	1,417.65	47.08	31.114		
8,994.64	8,815.00	8,864.82	8,813.30	38.11	32.76	-90.52	-1,053.37	-620.40	1,465.46	1,417.95	47.51	30.846		
9,000.00	8,820.36	8,870.18	8,818.66	38.13	32.77	-90.52	-1,053.37	-620.40	1,465.46	1,417.93	47.53	30.830		
9,100.00	8,920.36	8,970.18	8,918.66	38.40	33.11	-90.52	-1,053.37	-620.40	1,465.46	1,417.48	47.98	30.542		
9,200.00	9,020.36	9,070.18	9,018.66	38.68	33.45	-90.52	-1,053.37	-620.40	1,465.46	1,417.03	48.43	30.258		
9,300.00	9,120.36	9,170.18	9,118.66	38.96	33.78	-90.52	-1,053.37	-620.40	1,465.46	1,416.58	48.88	29.978		
9,400.00	9,220.36	9,270.18	9,218.66	39.25	34.12	-90.52	-1,053.37	-620.40	1,465.46	1,416.12	49.34	29.703		
9,500.00	9,320.36	9,370.18	9,318.66	39.53	34.46	-90.52	-1,053.37	-620.40	1,465.46	1,415.67	49.79	29.433		
9,600.00	9,420.36	9,470.18	9,418.66	39.81	34.80	-90.52	-1,053.37	-620.40	1,465.46	1,415.22	50.24	29.166		
9,700.00	9,520.36	9,570.18	9,518.66	40.10	35.14	-90.52	-1,053.37	-620.40	1,465.46	1,414.76	50.70	28.904		
9,800.00	9,620.36	9,670.18	9,618.66	40.39	35.48	-90.52	-1,053.37	-620.40	1,465.46	1,414.30	51.16	28.646		
9,900.00	9,720.36	9,770.18	9,718.66	40.67	35.82	-90.52	-1,053.37	-620.40	1,465.46	1,413.85	51.61	28.392		
10,000.00	9,820.36	9,870.18	9,818.66	40.96	36.16	-90.52	-1,053.37	-620.40	1,465.46	1,413.39	52.07	28.142		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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	9,920.36	9,970.18	9,918.66	41.25	36.50	-90.52	-1,053.37	-620.40	1,465.46	1,412.93	52.53	27.896		
10,200.00	10,020.36	10,070.18	10,018.66	41.55	36.84	-90.52	-1,053.37	-620.40	1,465.46	1,412.47	52.99	27.654		
10,300.00	10,120.36	10,170.18	10,118.66	41.84	37.18	-90.52	-1,053.37	-620.40	1,465.46	1,412.01	53.45	27.415		
10,400.00	10,220.36	10,270.18	10,218.66	42.13	37.52	-90.52	-1,053.37	-620.40	1,465.46	1,411.55	53.92	27.181		
10,500.00	10,320.36	10,370.18	10,318.66	42.43	37.86	-90.52	-1,053.37	-620.40	1,465.46	1,411.08	54.38	26.949		
10,600.00	10,420.36	10,470.18	10,418.66	42.72	38.21	-90.52	-1,053.37	-620.40	1,465.46	1,410.62	54.84	26.722		
10,700.00	10,520.36	10,570.18	10,518.66	43.02	38.55	-90.52	-1,053.37	-620.40	1,465.46	1,410.15	55.31	26.497		
10,800.00	10,620.36	10,670.18	10,618.66	43.31	38.89	-90.52	-1,053.37	-620.40	1,465.46	1,409.69	55.77	26.276		
10,900.00	10,720.36	10,770.18	10,718.66	43.61	39.24	-90.52	-1,053.37	-620.40	1,465.46	1,409.22	56.24	26.059		
11,000.00	10,820.36	10,870.18	10,818.66	43.91	39.58	-90.52	-1,053.37	-620.40	1,465.46	1,408.76	56.70	25.844		
11,100.00	10,920.36	10,970.18	10,918.66	44.21	39.92	-90.52	-1,053.37	-620.40	1,465.46	1,408.29	57.17	25.633		
11,200.00	11,020.36	11,070.18	11,018.66	44.51	40.27	-90.52	-1,053.37	-620.40	1,465.46	1,407.82	57.64	25.425		
11,300.00	11,120.36	11,170.18	11,118.66	44.81	40.61	-90.52	-1,053.37	-620.40	1,465.46	1,407.35	58.11	25.220		
11,400.00	11,220.36	11,270.18	11,218.66	45.12	40.95	-90.52	-1,053.37	-620.40	1,465.46	1,406.89	58.58	25.018		
11,500.00	11,320.36	11,370.18	11,318.66	45.42	41.30	-90.52	-1,053.37	-620.40	1,465.46	1,406.42	59.05	24.819		
11,600.00	11,420.36	11,470.18	11,418.66	45.72	41.64	-90.52	-1,053.37	-620.40	1,465.46	1,405.95	59.52	24.623		
11,700.00	11,520.36	11,570.18	11,518.66	46.03	41.99	-90.52	-1,053.37	-620.40	1,465.46	1,405.47	59.99	24.430		
11,800.00	11,620.36	11,670.18	11,618.66	46.33	42.33	-90.52	-1,053.37	-620.40	1,465.46	1,405.00	60.46	24.239		
11,900.00	11,720.36	11,770.18	11,718.66	46.64	42.68	-90.52	-1,053.37	-620.40	1,465.46	1,404.53	60.93	24.051		
11,950.68	11,771.04	11,820.86	11,769.34	46.80	42.85	-90.52	-1,053.37	-620.40	1,465.46	1,404.29	61.17	23.957		
11,950.76	11,771.12	11,820.93	11,769.42	46.80	42.85	-90.52	-1,053.37	-620.40	1,465.46	1,404.29	61.17	23.957		
12,000.00	11,820.36	11,870.18	11,818.66	46.96	43.03	90.12	-1,053.37	-620.40	1,465.46	1,404.06	61.41	23.865		
12,050.00	11,869.86	11,919.68	11,868.16	47.14	43.20	90.37	-1,053.37	-620.40	1,465.49	1,403.84	61.65	23.771		
12,100.00	11,918.67	11,968.49	11,916.97	47.35	43.37	90.77	-1,053.37	-620.40	1,465.60	1,403.70	61.90	23.677		
12,150.00	11,966.36	12,016.18	11,964.66	47.58	43.53	91.30	-1,053.37	-620.40	1,465.89	1,403.73	62.15	23.585		
12,200.00	12,012.56	12,062.38	12,010.86	47.83	43.69	91.93	-1,053.37	-620.40	1,466.47	1,404.06	62.41	23.499		
12,250.00	12,056.93	12,108.49	12,056.98	48.10	43.85	92.65	-1,053.52	-620.40	1,467.50	1,404.83	62.66	23.419		
12,300.00	12,099.12	12,160.54	12,108.88	48.39	44.01	93.47	-1,057.05	-620.36	1,468.95	1,405.99	62.95	23.334		
12,350.00	12,138.81	12,215.45	12,163.06	48.69	44.19	94.30	-1,065.87	-620.28	1,470.76	1,407.50	63.27	23.246		
12,400.00	12,175.70	12,273.67	12,219.30	49.01	44.37	95.14	-1,080.83	-620.13	1,472.91	1,409.30	63.61	23.156		
12,450.00	12,209.51	12,335.64	12,277.16	49.34	44.56	95.97	-1,102.94	-619.91	1,475.32	1,411.35	63.97	23.063		
12,500.00	12,239.99	12,401.84	12,335.95	49.69	44.75	96.80	-1,133.30	-619.61	1,477.92	1,413.57	64.35	22.967		
12,550.00	12,266.90	12,472.74	12,394.56	50.05	44.94	97.61	-1,173.09	-619.22	1,480.61	1,415.86	64.75	22.868		
12,600.00	12,290.03	12,548.67	12,451.38	50.42	45.13	98.38	-1,223.38	-618.72	1,483.27	1,418.10	65.16	22.762		
12,650.00	12,309.21	12,629.81	12,504.17	50.81	45.32	99.10	-1,284.91	-618.11	1,485.74	1,420.14	65.61	22.645		
12,700.00	12,324.30	12,716.00	12,550.14	51.20	45.52	99.72	-1,357.71	-617.39	1,487.89	1,421.79	66.10	22.511		
12,750.00	12,335.17	12,806.63	12,586.13	51.60	45.75	100.21	-1,440.79	-616.57	1,489.55	1,422.91	66.64	22.353		
12,800.00	12,341.76	12,900.62	12,609.15	52.01	46.02	100.52	-1,531.80	-615.67	1,490.59	1,423.34	67.25	22.165		
12,850.68	12,344.00	12,997.69	12,616.99	52.42	46.33	100.62	-1,628.44	-614.72	1,490.93	1,422.99	67.94	21.946		
12,870.42	12,344.00	13,016.40	12,617.00	52.58	46.40	100.62	-1,647.15	-614.53	1,490.93	1,422.82	68.10	21.892		
12,900.00	12,344.00	13,045.99	12,617.00	52.83	46.50	100.62	-1,676.73	-614.24	1,490.93	1,422.56	68.37	21.808		
13,000.00	12,344.00	13,145.99	12,617.00	53.68	46.90	100.62	-1,776.72	-613.25	1,490.92	1,421.63	69.29	21.517		
13,100.00	12,344.00	13,245.99	12,617.00	54.57	47.35	100.62	-1,876.72	-612.26	1,490.91	1,420.63	70.28	21.214		
13,200.00	12,344.00	13,345.99	12,617.00	55.50	47.85	100.62	-1,976.71	-611.27	1,490.90	1,419.57	71.33	20.902		
13,300.00	12,344.00	13,445.99	12,617.00	56.46	48.41	100.62	-2,076.71	-610.29	1,490.89	1,418.45	72.43	20.583		
13,400.00	12,344.00	13,545.99	12,617.00	57.45	49.01	100.62	-2,176.70	-609.30	1,490.88	1,417.28	73.60	20.258		
13,500.00	12,344.00	13,645.99	12,617.00	58.47	49.66	100.62	-2,276.70	-608.31	1,490.87	1,416.06	74.81	19.929		
13,600.00	12,344.00	13,745.99	12,617.00	59.52	50.36	100.62	-2,376.69	-607.32	1,490.86	1,414.79	76.07	19.597		
13,700.00	12,344.00	13,845.99	12,617.00	60.60	51.10	100.62	-2,476.69	-606.33	1,490.85	1,413.46	77.39	19.265		
13,800.00	12,344.00	13,945.99	12,617.00	61.70	51.89	100.62	-2,576.68	-605.35	1,490.84	1,412.10	78.75	18.932		
13,900.00	12,344.00	14,045.99	12,617.00	62.82	52.71	100.62	-2,676.68	-604.36	1,490.83	1,410.68	80.15	18.601		
14,000.00	12,344.00	14,145.99	12,617.00	63.97	53.58	100.62	-2,776.67	-603.37	1,490.82	1,409.23	81.59	18.272		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 802H - OH - Plan #2		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD															Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
14,100.00	12,344.00	14,245.99	12,617.00	65.14	54.48	100.62	-2,876.67	-602.38	1,490.81	1,407.74	83.07	17.946				
14,200.00	12,344.00	14,345.99	12,617.00	66.33	55.41	100.62	-2,976.66	-601.39	1,490.80	1,406.22	84.59	17.624				
14,300.00	12,344.00	14,445.99	12,617.00	67.54	56.38	100.62	-3,076.66	-600.40	1,490.79	1,404.65	86.14	17.306				
14,400.00	12,344.00	14,545.99	12,617.00	68.77	57.38	100.62	-3,176.65	-599.42	1,490.79	1,403.06	87.73	16.993				
14,500.00	12,344.00	14,645.99	12,617.00	70.02	58.40	100.62	-3,276.65	-598.43	1,490.78	1,401.43	89.34	16.686				
14,600.00	12,344.00	14,745.99	12,617.00	71.28	59.46	100.62	-3,376.64	-597.44	1,490.77	1,399.78	90.99	16.384				
14,700.00	12,344.00	14,845.99	12,617.00	72.55	60.54	100.62	-3,476.64	-596.45	1,490.76	1,398.09	92.66	16.088				
14,800.00	12,344.00	14,945.99	12,617.00	73.85	61.65	100.62	-3,576.64	-595.46	1,490.75	1,396.38	94.36	15.798				
14,900.00	12,344.00	15,045.99	12,617.00	75.15	62.78	100.62	-3,676.63	-594.47	1,490.74	1,394.65	96.09	15.514				
15,000.00	12,344.00	15,145.99	12,617.00	76.47	63.94	100.62	-3,776.63	-593.49	1,490.73	1,392.89	97.84	15.236				
15,100.00	12,344.00	15,245.99	12,617.00	77.81	65.11	100.62	-3,876.62	-592.50	1,490.72	1,391.11	99.61	14.965				
15,200.00	12,344.00	15,345.99	12,617.00	79.15	66.31	100.62	-3,976.62	-591.51	1,490.71	1,389.31	101.40	14.701				
15,300.00	12,344.00	15,445.99	12,617.00	80.51	67.52	100.62	-4,076.61	-590.52	1,490.70	1,387.48	103.22	14.442				
15,400.00	12,344.00	15,545.99	12,617.00	81.87	68.76	100.62	-4,176.61	-589.53	1,490.69	1,385.64	105.05	14.190				
15,500.00	12,344.00	15,645.99	12,617.00	83.25	70.01	100.62	-4,276.60	-588.55	1,490.68	1,383.78	106.90	13.945				
15,600.00	12,344.00	15,745.99	12,617.00	84.64	71.28	100.62	-4,376.60	-587.56	1,490.67	1,381.91	108.77	13.705				
15,700.00	12,344.00	15,845.99	12,617.00	86.03	72.56	100.62	-4,476.59	-586.57	1,490.66	1,380.01	110.65	13.472				
15,800.00	12,344.00	15,945.99	12,617.00	87.44	73.86	100.62	-4,576.59	-585.58	1,490.65	1,378.10	112.55	13.244				
15,900.00	12,344.00	16,045.99	12,617.00	88.85	75.17	100.62	-4,676.58	-584.59	1,490.64	1,376.18	114.46	13.023				
16,000.00	12,344.00	16,145.99	12,617.00	90.27	76.49	100.62	-4,776.58	-583.60	1,490.64	1,374.24	116.39	12.807				
16,100.00	12,344.00	16,245.99	12,617.00	91.70	77.83	100.62	-4,876.57	-582.62	1,490.63	1,372.29	118.33	12.597				
16,200.00	12,344.00	16,345.99	12,617.00	93.14	79.18	100.62	-4,976.57	-581.63	1,490.62	1,370.33	120.29	12.392				
16,300.00	12,344.00	16,445.99	12,617.00	94.58	80.54	100.62	-5,076.56	-580.64	1,490.61	1,368.35	122.25	12.193				
16,400.00	12,344.00	16,545.99	12,617.00	96.03	81.91	100.62	-5,176.56	-579.65	1,490.60	1,366.37	124.23	11.998				
16,500.00	12,344.00	16,645.99	12,617.00	97.49	83.29	100.62	-5,276.55	-578.66	1,490.59	1,364.37	126.22	11.809				
16,600.00	12,344.00	16,745.99	12,617.00	98.95	84.68	100.62	-5,376.55	-577.67	1,490.58	1,362.36	128.22	11.625				
16,700.00	12,344.00	16,845.99	12,617.00	100.42	86.08	100.62	-5,476.54	-576.69	1,490.57	1,360.34	130.23	11.446				
16,800.00	12,344.00	16,945.99	12,617.00	101.89	87.49	100.62	-5,576.54	-575.70	1,490.56	1,358.31	132.25	11.271				
16,900.00	12,344.00	17,045.99	12,617.00	103.37	88.91	100.62	-5,676.53	-574.71	1,490.55	1,356.28	134.27	11.101				
17,000.00	12,344.00	17,145.99	12,617.00	104.86	90.33	100.62	-5,776.53	-573.72	1,490.54	1,354.23	136.31	10.935				
17,100.00	12,344.00	17,245.99	12,617.00	106.35	91.76	100.62	-5,876.52	-572.73	1,490.53	1,352.18	138.35	10.773				
17,200.00	12,344.00	17,345.99	12,617.00	107.84	93.20	100.62	-5,976.52	-571.75	1,490.52	1,350.12	140.40	10.616				
17,300.00	12,344.00	17,445.99	12,617.00	109.34	94.65	100.62	-6,076.51	-570.76	1,490.51	1,348.05	142.46	10.462				
17,400.00	12,344.00	17,545.99	12,617.00	110.84	96.10	100.62	-6,176.51	-569.77	1,490.50	1,345.97	144.53	10.313				
17,500.00	12,344.00	17,645.99	12,617.00	112.35	97.56	100.62	-6,276.50	-568.78	1,490.49	1,343.89	146.61	10.167				
17,600.00	12,344.00	17,745.99	12,617.00	113.86	99.03	100.62	-6,376.50	-567.79	1,490.49	1,341.80	148.69	10.024				
17,700.00	12,344.00	17,845.99	12,617.00	115.38	100.50	100.62	-6,476.49	-566.80	1,490.48	1,339.70	150.77	9.886				
17,800.00	12,344.00	17,945.99	12,617.00	116.89	101.98	100.62	-6,576.49	-565.82	1,490.47	1,337.60	152.86	9.750				
17,900.00	12,344.00	18,045.99	12,617.00	118.42	103.46	100.62	-6,676.48	-564.83	1,490.46	1,335.49	154.96	9.618				
18,000.00	12,344.00	18,145.99	12,617.00	119.94	104.95	100.62	-6,776.48	-563.84	1,490.45	1,333.38	157.07	9.489				
18,100.00	12,344.00	18,245.99	12,617.00	121.47	106.44	100.62	-6,876.47	-562.85	1,490.44	1,331.26	159.18	9.363				
18,200.00	12,344.00	18,345.99	12,617.00	123.00	107.93	100.62	-6,976.47	-561.86	1,490.43	1,329.14	161.29	9.241				
18,300.00	12,344.00	18,445.99	12,617.00	124.54	109.44	100.62	-7,076.46	-560.87	1,490.42	1,327.01	163.41	9.121				
18,400.00	12,344.00	18,545.99	12,617.00	126.08	110.94	100.62	-7,176.46	-559.89	1,490.41	1,324.88	165.53	9.004				
18,500.00	12,344.00	18,645.99	12,617.00	127.62	112.45	100.62	-7,276.45	-558.90	1,490.40	1,322.74	167.66	8.889				
18,600.00	12,344.00	18,745.99	12,617.00	129.16	113.96	100.62	-7,376.45	-557.91	1,490.39	1,320.60	169.79	8.778				
18,700.00	12,344.00	18,845.99	12,617.00	130.71	115.48	100.62	-7,476.44	-556.92	1,490.38	1,318.45	171.93	8.668				
18,800.00	12,344.00	18,945.99	12,617.00	132.26	117.00	100.62	-7,576.44	-555.93	1,490.37	1,316.30	174.07	8.562				
18,900.00	12,344.00	19,045.99	12,617.00	133.81	118.53	100.62	-7,676.44	-554.95	1,490.36	1,314.14	176.22	8.457				
19,000.00	12,344.00	19,145.99	12,617.00	135.36	120.06	100.62	-7,776.43	-553.96	1,490.35	1,311.99	178.37	8.356				
19,100.00	12,344.00	19,245.99	12,617.00	136.92	121.59	100.62	-7,876.43	-552.97	1,490.34	1,309.82	180.52	8.256				
19,200.00	12,344.00	19,345.99	12,617.00	138.48	123.12	100.62	-7,976.42	-551.98	1,490.34	1,307.66	182.68	8.158				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design												Tatanka Fed Com - Tatanka Fed Com 802H - OH - Plan #2		Offset Site Error:		0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD														Offset Well Error:		0.00 usft	
Reference		Offset		Semi Major Axis		Distance								Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor					
19,300.00	12,344.00	19,445.99	12,617.00	140.04	124.66	100.62	-8,076.42	-550.99	1,490.33	1,305.49	184.84	8.063					
19,400.00	12,344.00	19,545.99	12,617.00	141.60	126.20	100.62	-8,176.41	-550.00	1,490.32	1,303.32	187.00	7.970					
19,500.00	12,344.00	19,645.99	12,617.00	143.16	127.74	100.62	-8,276.41	-549.02	1,490.31	1,301.14	189.17	7.878					
19,600.00	12,344.00	19,745.99	12,617.00	144.73	129.29	100.62	-8,376.40	-548.03	1,490.30	1,298.96	191.34	7.789					
19,700.00	12,344.00	19,845.99	12,617.00	146.30	130.83	100.62	-8,476.40	-547.04	1,490.29	1,296.78	193.51	7.701					
19,800.00	12,344.00	19,945.99	12,617.00	147.87	132.38	100.62	-8,576.39	-546.05	1,490.28	1,294.60	195.68	7.616					
19,900.00	12,344.00	20,045.99	12,617.00	149.44	133.94	100.62	-8,676.39	-545.06	1,490.27	1,292.41	197.86	7.532					
20,000.00	12,344.00	20,145.99	12,617.00	151.01	135.49	100.62	-8,776.38	-544.07	1,490.26	1,290.22	200.04	7.450					
20,100.00	12,344.00	20,245.99	12,617.00	152.59	137.05	100.62	-8,876.38	-543.09	1,490.25	1,288.03	202.22	7.369					
20,200.00	12,344.00	20,345.99	12,617.00	154.17	138.61	100.62	-8,976.37	-542.10	1,490.24	1,285.84	204.40	7.291					
20,300.00	12,344.00	20,445.99	12,617.00	155.74	140.17	100.62	-9,076.37	-541.11	1,490.23	1,283.64	206.59	7.213					
20,400.00	12,344.00	20,545.99	12,617.00	157.32	141.74	100.62	-9,176.36	-540.12	1,490.22	1,281.44	208.78	7.138					
20,500.00	12,344.00	20,645.99	12,617.00	158.91	143.30	100.62	-9,276.36	-539.13	1,490.21	1,279.24	210.97	7.064					
20,600.00	12,344.00	20,745.99	12,617.00	160.49	144.87	100.62	-9,376.35	-538.15	1,490.20	1,277.04	213.17	6.991					
20,700.00	12,344.00	20,845.99	12,617.00	162.07	146.44	100.62	-9,476.35	-537.16	1,490.19	1,274.83	215.36	6.919					
20,800.00	12,344.00	20,945.99	12,617.00	163.66	148.01	100.62	-9,576.34	-536.17	1,490.19	1,272.62	217.56	6.850					
20,900.00	12,344.00	21,045.99	12,617.00	165.24	149.58	100.62	-9,676.34	-535.18	1,490.18	1,270.42	219.76	6.781					
21,000.00	12,344.00	21,145.99	12,617.00	166.83	151.16	100.62	-9,776.33	-534.19	1,490.17	1,268.20	221.96	6.714					
21,100.00	12,344.00	21,245.99	12,617.00	168.42	152.73	100.62	-9,876.33	-533.20	1,490.16	1,265.99	224.17	6.648					
21,200.00	12,344.00	21,345.99	12,617.00	170.01	154.31	100.62	-9,976.32	-532.22	1,490.15	1,263.77	226.37	6.583					
21,300.00	12,344.00	21,445.99	12,617.00	171.60	155.89	100.62	-10,076.32	-531.23	1,490.14	1,261.56	228.58	6.519					
21,400.00	12,344.00	21,545.99	12,617.00	173.20	157.47	100.62	-10,176.31	-530.24	1,490.13	1,259.34	230.79	6.457					
21,500.00	12,344.00	21,645.99	12,617.00	174.79	159.06	100.62	-10,276.31	-529.25	1,490.12	1,257.12	233.00	6.395					
21,600.00	12,344.00	21,745.99	12,617.00	176.38	160.64	100.62	-10,376.30	-528.26	1,490.11	1,254.90	235.21	6.335					
21,700.00	12,344.00	21,845.99	12,617.00	177.98	162.22	100.62	-10,476.30	-527.27	1,490.10	1,252.68	237.42	6.276					
21,800.00	12,344.00	21,945.99	12,617.00	179.58	163.81	100.62	-10,576.29	-526.29	1,490.09	1,250.45	239.64	6.218					
21,900.00	12,344.00	22,045.99	12,617.00	181.17	165.40	100.62	-10,676.29	-525.30	1,490.08	1,248.23	241.85	6.161					
22,000.00	12,344.00	22,145.99	12,617.00	182.77	166.99	100.62	-10,776.28	-524.31	1,490.07	1,246.00	244.07	6.105					
22,100.00	12,344.00	22,245.99	12,617.00	184.37	168.58	100.62	-10,876.28	-523.32	1,490.06	1,243.77	246.29	6.050					
22,200.00	12,344.00	22,345.99	12,617.00	185.97	170.17	100.62	-10,976.27	-522.33	1,490.05	1,241.54	248.51	5.996					
22,300.00	12,344.00	22,445.99	12,617.00	187.57	171.76	100.62	-11,076.27	-521.35	1,490.04	1,239.31	250.73	5.943					
22,400.00	12,344.00	22,545.99	12,617.00	189.18	173.36	100.62	-11,176.26	-520.36	1,490.04	1,237.08	252.96	5.891					
22,500.00	12,344.00	22,645.99	12,617.00	190.78	174.95	100.62	-11,276.26	-519.37	1,490.03	1,234.85	255.18	5.839					
22,600.00	12,344.00	22,745.99	12,617.00	192.38	176.47	100.62	-11,376.25	-518.38	1,490.02	1,232.67	257.35	5.790					
22,639.32	12,344.00	22,785.31	12,617.00	192.96	177.03	100.62	-11,415.57	-517.99	1,490.01	1,231.89	258.13	5.772					
22,642.51	12,344.00	22,787.51	12,617.00	193.01	177.07	100.62	-11,417.77	-517.97	1,490.01	1,231.84	258.17	5.771 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 Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-90.53	-0.23	-25.00	25.00					
100.00	100.00	99.80	99.80	0.13	0.13	-90.53	-0.23	-25.00	25.00	24.82	0.18	141.044		
200.00	200.00	199.80	199.80	0.48	0.48	-90.53	-0.23	-25.00	25.00	24.32	0.68	36.558		
300.00	300.00	299.80	299.80	0.84	0.84	-90.53	-0.23	-25.00	25.00	23.81	1.19	20.995		
400.00	400.00	399.80	399.80	1.20	1.20	-90.53	-0.23	-25.00	25.00	23.30	1.70	14.726		
500.00	500.00	499.80	499.80	1.56	1.56	-90.53	-0.23	-25.00	25.00	22.80	2.20	11.340		
600.00	600.00	599.80	599.80	1.92	1.92	-90.53	-0.23	-25.00	25.00	22.29	2.71	9.220		
700.00	700.00	699.80	699.80	2.28	2.28	-90.53	-0.23	-25.00	25.00	21.78	3.22	7.768		
800.00	800.00	799.80	799.80	2.63	2.63	-90.53	-0.23	-25.00	25.00	21.28	3.73	6.711		
900.00	900.00	899.80	899.80	2.99	2.99	-90.53	-0.23	-25.00	25.00	20.77	4.23	5.907		
1,000.00	1,000.00	999.80	999.80	3.35	3.35	-90.53	-0.23	-25.00	25.00	20.26	4.74	5.275		
1,100.00	1,100.00	1,099.80	1,099.80	3.71	3.71	-90.53	-0.23	-25.00	25.00	19.75	5.25	4.765		
1,200.00	1,200.00	1,199.80	1,199.80	4.07	4.07	-90.53	-0.23	-25.00	25.00	19.25	5.75	4.345		
1,300.00	1,300.00	1,299.80	1,299.80	4.43	4.43	-90.53	-0.23	-25.00	25.00	18.74	6.26	3.994		
1,400.00	1,400.00	1,399.80	1,399.80	4.79	4.78	-90.53	-0.23	-25.00	25.00	18.23	6.77	3.694		
1,500.00	1,500.00	1,499.80	1,499.80	5.14	5.14	-90.53	-0.23	-25.00	25.00	17.73	7.27	3.437		
1,600.00	1,600.00	1,599.80	1,599.80	5.50	5.50	-90.53	-0.23	-25.00	25.00	17.22	7.78	3.213		
1,700.00	1,700.00	1,699.80	1,699.80	5.86	5.86	-90.53	-0.23	-25.00	25.00	16.71	8.29	3.016		
1,800.00	1,800.00	1,799.80	1,799.80	6.22	6.22	-90.53	-0.23	-25.00	25.00	16.21	8.80	2.843		
1,900.00	1,900.00	1,899.80	1,899.80	6.58	6.58	-90.53	-0.23	-25.00	25.00	15.70	9.30	2.688		
2,000.00	2,000.00	1,999.80	1,999.80	6.94	6.94	-90.53	-0.23	-25.00	25.00	15.19	9.81	2.549		
2,100.00	2,100.00	2,099.80	2,099.80	7.29	7.29	-90.53	-0.23	-25.00	25.00	14.69	10.32	2.424		
2,200.00	2,200.00	2,199.80	2,199.80	7.65	7.65	-90.53	-0.23	-25.00	25.00	14.18	10.82	2.310		
2,300.00	2,300.00	2,299.80	2,299.80	8.01	8.01	-90.53	-0.23	-25.00	25.00	13.67	11.33	2.207		
2,400.00	2,400.00	2,399.80	2,399.80	8.37	8.37	-90.53	-0.23	-25.00	25.00	13.16	11.84	2.112		
2,500.00	2,500.00	2,499.80	2,499.80	8.73	8.73	-90.53	-0.23	-25.00	25.00	12.66	12.34	2.025		
2,600.00	2,600.00	2,599.80	2,599.80	9.09	9.09	-90.53	-0.23	-25.00	25.00	12.15	12.85	1.945		
2,700.00	2,700.00	2,699.80	2,699.80	9.45	9.45	-90.53	-0.23	-25.00	25.00	11.64	13.36	1.872		
2,800.00	2,800.00	2,799.80	2,799.80	9.80	9.80	-90.53	-0.23	-25.00	25.00	11.14	13.86	1.803		
2,900.00	2,900.00	2,899.80	2,899.80	10.16	10.16	-90.53	-0.23	-25.00	25.00	10.63	14.37	1.740		
3,000.00	3,000.00	2,999.80	2,999.80	10.52	10.52	-90.53	-0.23	-25.00	25.00	10.12	14.88	1.680		
3,100.00	3,100.00	3,099.80	3,099.80	10.88	10.88	-90.53	-0.23	-25.00	25.00	9.62	15.39	1.625		
3,200.00	3,200.00	3,199.80	3,199.80	11.24	11.24	-90.53	-0.23	-25.00	25.00	9.11	15.89	1.573 CC, ES, SF		
3,300.00	3,299.99	3,299.79	3,299.79	11.58	11.60	130.83	-0.23	-25.00	25.84	9.45	16.39	1.577		
3,400.00	3,399.91	3,400.00	3,399.99	11.91	11.94	134.36	-1.48	-24.62	28.04	11.18	16.86	1.663		
3,500.00	3,499.69	3,500.25	3,500.16	12.24	12.26	136.25	-5.25	-23.46	31.14	13.83	17.31	1.799		
3,600.00	3,599.27	3,600.54	3,600.23	12.57	12.59	136.79	-11.53	-21.54	35.07	17.30	17.77	1.974		
3,700.00	3,698.57	3,700.83	3,700.10	12.91	12.92	136.35	-20.32	-18.85	39.82	21.59	18.23	2.184		
3,800.00	3,797.54	3,801.13	3,799.69	13.25	13.25	135.25	-31.62	-15.40	45.38	26.68	18.69	2.427		
3,900.00	3,896.09	3,901.41	3,898.92	13.60	13.59	133.75	-45.41	-11.18	51.77	32.61	19.17	2.701		
4,000.00	3,994.16	4,001.65	3,997.71	13.96	13.93	132.05	-61.68	-6.20	59.04	39.39	19.65	3.005		
4,100.00	4,091.70	4,101.85	4,095.98	14.32	14.28	130.27	-80.42	-0.47	67.19	47.04	20.14	3.335		
4,200.00	4,188.62	4,201.89	4,193.55	14.70	14.64	128.53	-101.54	5.99	76.26	55.60	20.66	3.692		
4,304.97	4,289.63	4,306.28	4,295.15	15.12	15.03	127.95	-124.44	13.00	87.28	66.07	21.21	4.115		
4,400.00	4,380.70	4,400.69	4,387.04	15.51	15.39	128.23	-145.16	19.34	98.06	76.35	21.72	4.516		
4,500.00	4,476.55	4,500.05	4,483.74	15.93	15.77	128.48	-166.96	26.01	109.41	87.15	22.26	4.915		
4,600.00	4,572.39	4,599.40	4,580.44	16.36	16.17	128.67	-188.76	32.68	120.76	97.95	22.81	5.294		
4,700.00	4,668.24	4,698.75	4,677.15	16.81	16.56	128.83	-210.56	39.35	132.11	108.74	23.37	5.652		
4,800.00	4,764.08	4,798.10	4,773.85	17.26	16.97	128.97	-232.37	46.02	143.46	119.52	23.95	5.991		
4,900.00	4,859.93	4,897.46	4,870.55	17.72	17.38	129.09	-254.17	52.69	154.81	130.29	24.52	6.313		
5,000.00	4,955.77	4,996.81	4,967.25	18.18	17.80	129.19	-275.97	59.36	166.17	141.05	25.11	6.617		
5,100.00	5,051.62	5,096.16	5,063.95	18.66	18.22	129.28	-297.77	66.03	177.52	151.81	25.71	6.906		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka 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				
5,200.00	5,147.46	5,195.52	5,160.65	19.14	18.64	129.35	-319.57	72.70	188.87	162.57	26.31	7.180				
5,300.00	5,243.31	5,294.87	5,257.36	19.63	19.07	129.42	-341.37	79.36	200.23	173.31	26.91	7.440				
5,400.00	5,339.15	5,394.22	5,354.06	20.12	19.51	129.48	-363.17	86.03	211.58	184.06	27.53	7.687				
5,500.00	5,435.00	5,493.58	5,450.76	20.62	19.94	129.54	-384.98	92.70	222.94	194.79	28.14	7.922				
5,600.00	5,530.84	5,592.93	5,547.46	21.12	20.39	129.59	-406.78	99.37	234.29	205.52	28.77	8.145				
5,700.00	5,626.69	5,692.28	5,644.16	21.63	20.83	129.63	-428.58	106.04	245.65	216.25	29.39	8.357				
5,800.00	5,722.53	5,791.64	5,740.87	22.14	21.28	129.68	-450.38	112.71	257.00	226.98	30.02	8.560				
5,900.00	5,818.38	5,890.99	5,837.57	22.65	21.73	129.71	-472.18	119.38	268.36	237.69	30.66	8.752				
6,000.00	5,914.22	5,990.34	5,934.27	23.17	22.18	129.75	-493.98	126.05	279.71	248.41	31.30	8.936				
6,100.00	6,010.07	6,089.69	6,030.97	23.69	22.64	129.78	-515.78	132.72	291.07	259.12	31.94	9.112				
6,200.00	6,105.91	6,189.05	6,127.67	24.22	23.10	129.81	-537.59	139.39	302.42	269.83	32.59	9.279				
6,300.00	6,201.76	6,288.40	6,224.38	24.75	23.56	129.84	-559.39	146.06	313.78	280.54	33.24	9.440				
6,400.00	6,297.60	6,387.75	6,321.08	25.28	24.02	129.86	-581.19	152.73	325.13	291.24	33.89	9.593				
6,500.00	6,393.45	6,487.11	6,417.78	25.81	24.49	129.89	-602.99	159.40	336.49	301.94	34.55	9.739				
6,600.00	6,489.29	6,586.46	6,514.48	26.35	24.95	129.91	-624.79	166.07	347.84	312.64	35.21	9.880				
6,700.00	6,585.14	6,685.81	6,611.18	26.89	25.42	129.93	-646.59	172.74	359.20	323.33	35.87	10.014				
6,800.00	6,680.98	6,785.17	6,707.88	27.43	25.89	129.95	-668.39	179.41	370.55	334.02	36.53	10.143				
6,900.00	6,776.83	6,884.52	6,804.59	27.97	26.36	129.97	-690.19	186.08	381.91	344.71	37.20	10.267				
7,000.00	6,872.67	6,983.87	6,901.29	28.52	26.84	129.98	-712.00	192.75	393.27	355.40	37.87	10.386				
7,100.00	6,968.52	7,083.23	6,997.99	29.06	27.31	130.00	-733.80	199.42	404.62	366.09	38.54	10.500				
7,200.00	7,064.36	7,182.58	7,094.69	29.61	27.79	130.01	-755.60	206.09	415.98	376.77	39.21	10.610				
7,300.00	7,160.21	7,281.93	7,191.39	30.16	28.27	130.03	-777.40	212.76	427.33	387.45	39.88	10.715				
7,400.00	7,256.05	7,381.28	7,288.10	30.72	28.75	130.04	-799.20	219.43	438.69	398.13	40.56	10.817				
7,500.00	7,351.90	7,480.64	7,384.80	31.27	29.23	130.06	-821.00	226.10	450.05	408.81	41.23	10.914				
7,600.00	7,447.74	7,579.99	7,481.50	31.82	29.71	130.07	-842.80	232.77	461.40	419.49	41.91	11.009				
7,700.00	7,543.59	7,679.34	7,578.20	32.38	30.19	130.08	-864.61	239.44	472.76	430.16	42.59	11.099				
7,800.00	7,639.43	7,778.70	7,674.90	32.94	30.67	130.09	-886.41	246.11	484.11	440.84	43.27	11.187				
7,889.67	7,725.37	7,867.78	7,761.61	33.44	31.11	130.10	-905.96	252.09	494.30	450.41	43.89	11.263				
7,900.00	7,735.28	7,878.05	7,771.61	33.50	31.16	130.12	-908.21	252.78	495.46	451.50	43.96	11.271				
8,000.00	7,831.56	7,977.51	7,868.41	34.04	31.64	130.11	-930.03	259.45	505.80	461.16	44.65	11.329				
8,100.00	7,928.52	8,076.50	7,964.77	34.56	32.13	129.87	-951.73	266.09	514.49	469.14	45.34	11.346				
8,200.00	8,026.08	8,172.13	8,058.18	35.06	32.58	129.58	-971.28	272.07	522.02	476.00	46.01	11.345				
8,300.00	8,124.18	8,267.86	8,152.17	35.53	33.02	129.33	-988.60	277.37	528.67	482.02	46.65	11.333				
8,400.00	8,222.76	8,363.67	8,246.68	35.98	33.44	129.12	-1,003.68	281.98	534.43	487.17	47.26	11.308				
8,500.00	8,321.74	8,459.55	8,341.62	36.40	33.85	128.93	-1,016.50	285.90	539.30	491.46	47.84	11.273				
8,600.00	8,421.06	8,555.50	8,436.93	36.79	34.23	128.78	-1,027.04	289.13	543.27	494.89	48.39	11.227				
8,700.00	8,520.65	8,651.50	8,532.54	37.16	34.59	128.66	-1,035.29	291.65	546.33	497.43	48.91	11.171				
8,800.00	8,620.44	8,747.55	8,628.38	37.51	34.94	128.56	-1,041.24	293.47	548.48	499.09	49.40	11.104				
8,900.00	8,720.37	8,843.63	8,724.38	37.83	35.26	128.49	-1,044.89	294.59	549.72	499.86	49.85	11.027				
8,994.64	8,815.00	8,934.57	8,815.31	38.11	35.55	-90.65	-1,046.21	294.99	550.04	499.79	50.25	10.945				
9,000.00	8,820.36	8,939.72	8,820.46	38.13	35.57	-90.65	-1,046.22	295.00	550.04	499.76	50.28	10.940				
9,036.17	8,856.53	8,975.59	8,856.33	38.23	35.68	-90.65	-1,046.23	295.00	550.04	499.61	50.43	10.908				
9,100.00	8,920.36	9,039.42	8,920.16	38.40	35.86	-90.65	-1,046.23	295.00	550.04	499.34	50.69	10.851				
9,200.00	9,020.36	9,139.42	9,020.16	38.68	36.16	-90.65	-1,046.23	295.00	550.04	498.93	51.11	10.762				
9,300.00	9,120.36	9,239.42	9,120.16	38.96	36.46	-90.65	-1,046.23	295.00	550.04	498.51	51.53	10.675				
9,400.00	9,220.36	9,339.42	9,220.16	39.25	36.75	-90.65	-1,046.23	295.00	550.04	498.09	51.95	10.588				
9,500.00	9,320.36	9,439.42	9,320.16	39.53	37.05	-90.65	-1,046.23	295.00	550.04	497.67	52.37	10.503				
9,600.00	9,420.36	9,539.42	9,420.16	39.81	37.35	-90.65	-1,046.23	295.00	550.04	497.24	52.79	10.419				
9,700.00	9,520.36	9,639.42	9,520.16	40.10	37.65	-90.65	-1,046.23	295.00	550.04	496.82	53.22	10.335				
9,800.00	9,620.36	9,739.42	9,620.16	40.39	37.95	-90.65	-1,046.23	295.00	550.04	496.39	53.64	10.253				
9,900.00	9,720.36	9,839.42	9,720.16	40.67	38.26	-90.65	-1,046.23	295.00	550.04	495.96	54.07	10.172				
10,000.00	9,820.36	9,939.42	9,820.16	40.96	38.56	-90.65	-1,046.23	295.00	550.04	495.53	54.50	10.092				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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	9,920.36	10,039.42	9,920.16	41.25	38.87	-90.65	-1,046.23	295.00	550.04	495.10	54.93	10.013		
10,200.00	10,020.36	10,139.42	10,020.16	41.55	39.17	-90.65	-1,046.23	295.00	550.04	494.67	55.36	9.935		
10,300.00	10,120.36	10,239.42	10,120.16	41.84	39.48	-90.65	-1,046.23	295.00	550.04	494.24	55.80	9.858		
10,400.00	10,220.36	10,339.42	10,220.16	42.13	39.79	-90.65	-1,046.23	295.00	550.04	493.80	56.23	9.782		
10,500.00	10,320.36	10,439.42	10,320.16	42.43	40.09	-90.65	-1,046.23	295.00	550.04	493.37	56.67	9.706		
10,600.00	10,420.36	10,539.42	10,420.16	42.72	40.40	-90.65	-1,046.23	295.00	550.04	492.93	57.10	9.632		
10,700.00	10,520.36	10,639.42	10,520.16	43.02	40.71	-90.65	-1,046.23	295.00	550.04	492.49	57.54	9.559		
10,800.00	10,620.36	10,739.42	10,620.16	43.31	41.02	-90.65	-1,046.23	295.00	550.04	492.05	57.98	9.486		
10,900.00	10,720.36	10,839.42	10,720.16	43.61	41.33	-90.65	-1,046.23	295.00	550.04	491.61	58.42	9.415		
11,000.00	10,820.36	10,939.42	10,820.16	43.91	41.65	-90.65	-1,046.23	295.00	550.04	491.17	58.86	9.344		
11,100.00	10,920.36	11,039.42	10,920.16	44.21	41.96	-90.65	-1,046.23	295.00	550.04	490.73	59.30	9.275		
11,200.00	11,020.36	11,139.42	11,020.16	44.51	42.27	-90.65	-1,046.23	295.00	550.04	490.29	59.75	9.206		
11,300.00	11,120.36	11,239.42	11,120.16	44.81	42.59	-90.65	-1,046.23	295.00	550.04	489.84	60.19	9.138		
11,400.00	11,220.36	11,339.42	11,220.16	45.12	42.90	-90.65	-1,046.23	295.00	550.04	489.40	60.64	9.071		
11,500.00	11,320.36	11,439.42	11,320.16	45.42	43.22	-90.65	-1,046.23	295.00	550.04	488.95	61.08	9.005		
11,600.00	11,420.36	11,539.42	11,420.16	45.72	43.53	-90.65	-1,046.23	295.00	550.04	488.50	61.53	8.939		
11,700.00	11,520.36	11,639.42	11,520.16	46.03	43.85	-90.65	-1,046.23	295.00	550.04	488.06	61.98	8.875		
11,800.00	11,620.36	11,739.42	11,620.16	46.33	44.17	-90.65	-1,046.23	295.00	550.04	487.61	62.43	8.811		
11,900.00	11,720.36	11,839.42	11,720.16	46.64	44.49	-90.65	-1,046.23	295.00	550.04	487.16	62.88	8.748		
11,950.68	11,771.04	11,890.10	11,770.84	46.80	44.65	-90.65	-1,046.23	295.00	550.04	486.93	63.11	8.716		
11,981.82	11,802.17	11,921.22	11,801.97	46.90	44.75	90.00	-1,046.23	295.00	550.03	486.79	63.24	8.697		
12,000.00	11,820.30	11,939.35	11,820.10	46.96	44.81	90.13	-1,046.23	295.00	550.04	486.72	63.32	8.687		
12,050.00	11,869.86	11,988.92	11,869.66	47.14	44.96	90.79	-1,046.23	295.00	550.09	486.58	63.51	8.661		
12,100.00	11,918.67	12,037.73	11,918.47	47.35	45.12	91.86	-1,046.23	295.00	550.35	486.66	63.68	8.642		
12,150.00	11,966.36	12,085.42	11,966.16	47.58	45.27	93.27	-1,046.23	295.00	551.05	487.23	63.82	8.634		
12,200.00	12,012.56	12,131.62	12,012.36	47.83	45.42	94.95	-1,046.23	295.00	552.54	488.60	63.94	8.642		
12,250.00	12,056.93	12,177.47	12,058.21	48.10	45.57	96.86	-1,046.34	295.00	555.19	491.17	64.02	8.672		
12,300.00	12,099.12	12,229.29	12,109.90	48.39	45.76	99.03	-1,049.69	295.04	558.96	494.79	64.17	8.711		
12,350.00	12,138.81	12,283.96	12,163.88	48.69	45.98	101.19	-1,058.27	295.13	563.68	499.32	64.36	8.758		
12,400.00	12,175.70	12,341.93	12,219.93	49.01	46.25	103.33	-1,072.94	295.29	569.23	504.64	64.58	8.814		
12,450.00	12,209.51	12,403.65	12,277.66	49.34	46.57	105.45	-1,094.69	295.53	575.43	510.62	64.82	8.878		
12,500.00	12,239.99	12,469.61	12,336.38	49.69	46.94	107.52	-1,124.65	295.85	582.09	517.04	65.05	8.949		
12,550.00	12,266.90	12,540.28	12,395.03	50.05	47.38	109.51	-1,164.01	296.28	588.93	523.68	65.25	9.026		
12,600.00	12,290.03	12,616.05	12,452.01	50.42	47.89	111.39	-1,213.86	296.83	595.64	530.22	65.42	9.105		
12,650.00	12,309.21	12,697.09	12,505.10	50.81	48.48	113.10	-1,274.99	297.49	601.87	536.29	65.57	9.178		
12,700.00	12,324.30	12,783.28	12,551.51	51.20	49.15	114.57	-1,347.52	298.28	607.24	541.46	65.78	9.232		
12,750.00	12,335.17	12,874.06	12,588.05	51.60	49.88	115.70	-1,430.51	299.19	611.39	545.28	66.11	9.248		
12,800.00	12,341.76	12,968.33	12,611.64	52.01	50.67	116.43	-1,521.67	300.18	614.02	547.35	66.68	9.209		
12,850.68	12,344.00	13,065.83	12,620.00	52.42	51.50	116.69	-1,618.69	301.23	614.92	547.35	67.58	9.100		
12,900.00	12,344.00	13,115.38	12,620.00	52.83	51.92	116.69	-1,668.23	301.77	614.87	546.77	68.11	9.028		
13,000.00	12,344.00	13,215.38	12,620.00	53.68	52.81	116.70	-1,768.22	302.86	614.78	545.56	69.21	8.882		
13,100.00	12,344.00	13,315.37	12,620.00	54.57	53.73	116.70	-1,868.22	303.95	614.68	544.31	70.37	8.735		
13,200.00	12,344.00	13,415.37	12,620.00	55.50	54.68	116.71	-1,968.21	305.04	614.58	543.02	71.56	8.588		
13,300.00	12,344.00	13,515.37	12,620.00	56.46	55.67	116.71	-2,068.20	306.13	614.48	541.68	72.80	8.441		
13,400.00	12,344.00	13,615.37	12,620.00	57.45	56.69	116.72	-2,168.20	307.22	614.38	540.31	74.07	8.294		
13,500.00	12,344.00	13,715.37	12,620.00	58.47	57.74	116.72	-2,268.19	308.31	614.28	538.90	75.39	8.148		
13,600.00	12,344.00	13,815.37	12,620.00	59.52	58.81	116.72	-2,368.19	309.40	614.18	537.45	76.73	8.004		
13,700.00	12,344.00	13,915.37	12,620.00	60.60	59.91	116.73	-2,468.18	310.49	614.09	535.97	78.11	7.861		
13,800.00	12,344.00	14,015.37	12,620.00	61.70	61.04	116.73	-2,568.17	311.58	613.99	534.46	79.52	7.721		
13,900.00	12,344.00	14,115.37	12,620.00	62.82	62.19	116.74	-2,668.17	312.66	613.89	532.92	80.96	7.582		
14,000.00	12,344.00	14,215.37	12,620.00	63.97	63.36	116.74	-2,768.16	313.75	613.79	531.36	82.43	7.446		
14,100.00	12,344.00	14,315.37	12,620.00	65.14	64.55	116.75	-2,868.16	314.84	613.69	529.77	83.93	7.312		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design		Tatanka Fed Com - Tatanka Fed Com 803H - OH - Plan #1											Offset Site Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis		Distance							Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,200.00	12,344.00	14,415.37	12,620.00	66.33	65.76	116.75	-2,968.15	315.93	613.59	528.15	85.45	7.181		
14,300.00	12,344.00	14,515.37	12,620.00	67.54	67.00	116.76	-3,068.14	317.02	613.50	526.51	86.99	7.053		
14,400.00	12,344.00	14,615.37	12,620.00	68.77	68.24	116.76	-3,168.14	318.11	613.40	524.84	88.55	6.927		
14,500.00	12,344.00	14,715.37	12,620.00	70.02	69.51	116.77	-3,268.13	319.20	613.30	523.16	90.14	6.804		
14,600.00	12,344.00	14,815.37	12,620.00	71.28	70.79	116.77	-3,368.13	320.29	613.20	521.46	91.74	6.684		
14,700.00	12,344.00	14,915.37	12,620.00	72.55	72.09	116.78	-3,468.12	321.38	613.10	519.74	93.36	6.567		
14,800.00	12,344.00	15,015.37	12,620.00	73.85	73.40	116.78	-3,568.11	322.47	613.00	518.00	95.00	6.452		
14,900.00	12,344.00	15,115.37	12,620.00	75.15	74.72	116.78	-3,668.11	323.55	612.90	516.24	96.66	6.341		
15,000.00	12,344.00	15,215.37	12,620.00	76.47	76.06	116.79	-3,768.10	324.64	612.81	514.47	98.33	6.232		
15,100.00	12,344.00	15,315.37	12,620.00	77.81	77.41	116.79	-3,868.10	325.73	612.71	512.69	100.02	6.126		
15,200.00	12,344.00	15,415.37	12,620.00	79.15	78.77	116.80	-3,968.09	326.82	612.61	510.89	101.72	6.023		
15,300.00	12,344.00	15,515.37	12,620.00	80.51	80.14	116.80	-4,068.08	327.91	612.51	509.08	103.43	5.922		
15,400.00	12,344.00	15,615.37	12,620.00	81.87	81.53	116.81	-4,168.08	329.00	612.41	507.25	105.16	5.824		
15,500.00	12,344.00	15,715.37	12,620.00	83.25	82.92	116.81	-4,268.07	330.09	612.31	505.42	106.90	5.728		
15,600.00	12,344.00	15,815.37	12,620.00	84.64	84.32	116.82	-4,368.07	331.18	612.21	503.57	108.64	5.635		
15,700.00	12,344.00	15,915.37	12,620.00	86.03	85.73	116.82	-4,468.06	332.27	612.12	501.72	110.40	5.545		
15,800.00	12,344.00	16,015.37	12,620.00	87.44	87.15	116.83	-4,568.05	333.36	612.02	499.85	112.17	5.456		
15,900.00	12,344.00	16,115.37	12,620.00	88.85	88.58	116.83	-4,668.05	334.44	611.92	497.98	113.94	5.370		
16,000.00	12,344.00	16,215.37	12,620.00	90.27	90.01	116.84	-4,768.04	335.53	611.82	496.09	115.73	5.287		
16,100.00	12,344.00	16,315.37	12,620.00	91.70	91.45	116.84	-4,868.04	336.62	611.72	494.20	117.52	5.205		
16,200.00	12,344.00	16,415.37	12,620.00	93.14	92.90	116.85	-4,968.03	337.71	611.62	492.30	119.32	5.126		
16,300.00	12,344.00	16,515.37	12,620.00	94.58	94.36	116.85	-5,068.03	338.80	611.53	490.39	121.13	5.048		
16,400.00	12,344.00	16,615.37	12,620.00	96.03	95.82	116.85	-5,168.02	339.89	611.43	488.48	122.95	4.973		
16,500.00	12,344.00	16,715.37	12,620.00	97.49	97.29	116.86	-5,268.01	340.98	611.33	486.56	124.77	4.900		
16,600.00	12,344.00	16,815.37	12,620.00	98.95	98.76	116.86	-5,368.01	342.07	611.23	484.64	126.59	4.828		
16,700.00	12,344.00	16,915.37	12,620.00	100.42	100.24	116.87	-5,468.00	343.16	611.13	482.70	128.43	4.759		
16,800.00	12,344.00	17,015.37	12,620.00	101.89	101.72	116.87	-5,568.00	344.25	611.03	480.77	130.27	4.691		
16,900.00	12,344.00	17,115.37	12,620.00	103.37	103.21	116.88	-5,667.99	345.33	610.94	478.83	132.11	4.624		
17,000.00	12,344.00	17,215.37	12,620.00	104.86	104.71	116.88	-5,767.98	346.42	610.84	476.88	133.96	4.560		
17,100.00	12,344.00	17,315.37	12,620.00	106.35	106.21	116.89	-5,867.98	347.51	610.74	474.93	135.81	4.497		
17,200.00	12,344.00	17,415.37	12,620.00	107.84	107.71	116.89	-5,967.97	348.60	610.64	472.97	137.67	4.436		
17,300.00	12,344.00	17,515.37	12,620.00	109.34	109.22	116.90	-6,067.97	349.69	610.54	471.02	139.53	4.376		
17,400.00	12,344.00	17,615.37	12,620.00	110.84	110.73	116.90	-6,167.96	350.78	610.44	469.05	141.39	4.317		
17,500.00	12,344.00	17,715.37	12,620.00	112.35	112.25	116.91	-6,267.95	351.87	610.35	467.09	143.26	4.260		
17,600.00	12,344.00	17,815.37	12,620.00	113.86	113.77	116.91	-6,367.95	352.96	610.25	465.12	145.13	4.205		
17,700.00	12,344.00	17,915.37	12,620.00	115.38	115.29	116.92	-6,467.94	354.05	610.15	463.15	147.00	4.151		
17,800.00	12,344.00	18,015.37	12,620.00	116.89	116.82	116.92	-6,567.94	355.14	610.05	461.17	148.88	4.098		
17,900.00	12,344.00	18,115.37	12,620.00	118.42	118.35	116.92	-6,667.93	356.22	609.95	459.20	150.76	4.046		
18,000.00	12,344.00	18,215.37	12,620.00	119.94	119.88	116.93	-6,767.92	357.31	609.85	457.22	152.64	3.995		
18,100.00	12,344.00	18,315.37	12,620.00	121.47	121.42	116.93	-6,867.92	358.40	609.75	455.23	154.52	3.946		
18,200.00	12,344.00	18,415.37	12,620.00	123.00	122.96	116.94	-6,967.91	359.49	609.66	453.25	156.41	3.898		
18,300.00	12,344.00	18,515.37	12,620.00	124.54	124.50	116.94	-7,067.91	360.58	609.56	451.27	158.29	3.851		
18,400.00	12,344.00	18,615.37	12,620.00	126.08	126.05	116.95	-7,167.90	361.67	609.46	449.28	160.18	3.805		
18,500.00	12,344.00	18,715.37	12,620.00	127.62	127.59	116.95	-7,267.89	362.76	609.36	447.29	162.07	3.760		
18,600.00	12,344.00	18,815.37	12,620.00	129.16	129.14	116.96	-7,367.89	363.85	609.26	445.30	163.96	3.716		
18,700.00	12,344.00	18,915.37	12,620.00	130.71	130.70	116.96	-7,467.88	364.94	609.16	443.31	165.86	3.673		
18,800.00	12,344.00	19,015.37	12,620.00	132.26	132.25	116.97	-7,567.88	366.03	609.07	441.32	167.75	3.631		
18,900.00	12,344.00	19,115.37	12,620.00	133.81	133.81	116.97	-7,667.87	367.11	608.97	439.32	169.65	3.590		
19,000.00	12,344.00	19,215.37	12,620.00	135.36	135.37	116.98	-7,767.86	368.20	608.87	437.33	171.54	3.549		
19,100.00	12,344.00	19,315.37	12,620.00	136.92	136.93	116.98	-7,867.86	369.29	608.77	435.33	173.44	3.510		
19,200.00	12,344.00	19,415.37	12,620.00	138.48	138.50	116.99	-7,967.85	370.38	608.67	433.34	175.34	3.471		
19,300.00	12,344.00	19,515.37	12,620.00	140.04	140.06	116.99	-8,067.85	371.47	608.58	431.34	177.23	3.434		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 803H - OH - Plan #1		Offset Site Error:		0.00 usft
Survey Program: 0-OWSG (Rev2) MWD															Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis			Distance										
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning				
19,400.00	12,344.00	19,615.37	12,620.00	141.60	141.63	117.00	-8,167.84	372.56	608.48	429.34	179.13	3.397					
19,500.00	12,344.00	19,715.37	12,620.00	143.16	143.20	117.00	-8,267.83	373.65	608.38	427.35	181.03	3.361					
19,600.00	12,344.00	19,815.37	12,620.00	144.73	144.77	117.00	-8,367.83	374.74	608.28	425.35	182.93	3.325					
19,700.00	12,344.00	19,915.37	12,620.00	146.30	146.35	117.01	-8,467.82	375.83	608.18	423.35	184.83	3.291					
19,800.00	12,344.00	20,015.37	12,620.00	147.87	147.92	117.01	-8,567.82	376.92	608.08	421.36	186.73	3.257					
19,900.00	12,344.00	20,115.37	12,620.00	149.44	149.50	117.02	-8,667.81	378.00	607.99	419.36	188.63	3.223					
20,000.00	12,344.00	20,215.37	12,620.00	151.01	151.08	117.02	-8,767.80	379.09	607.89	417.36	190.53	3.191					
20,100.00	12,344.00	20,315.37	12,620.00	152.59	152.66	117.03	-8,867.80	380.18	607.79	415.37	192.42	3.159					
20,200.00	12,344.00	20,415.37	12,620.00	154.17	154.24	117.03	-8,967.79	381.27	607.69	413.37	194.32	3.127					
20,300.00	12,344.00	20,515.37	12,620.00	155.74	155.82	117.04	-9,067.79	382.36	607.59	411.37	196.22	3.096					
20,400.00	12,344.00	20,615.37	12,620.00	157.32	157.40	117.04	-9,167.78	383.45	607.49	409.38	198.12	3.066					
20,500.00	12,344.00	20,715.37	12,620.00	158.91	158.99	117.05	-9,267.77	384.54	607.40	407.38	200.01	3.037					
20,600.00	12,344.00	20,815.37	12,620.00	160.49	160.58	117.05	-9,367.77	385.63	607.30	405.39	201.91	3.008					
20,700.00	12,344.00	20,915.37	12,620.00	162.07	162.17	117.06	-9,467.76	386.72	607.20	403.39	203.81	2.979					
20,800.00	12,344.00	21,015.37	12,620.00	163.66	163.76	117.06	-9,567.76	387.81	607.10	401.40	205.70	2.951					
20,900.00	12,344.00	21,115.37	12,620.00	165.24	165.35	117.07	-9,667.75	388.89	607.00	399.41	207.60	2.924					
21,000.00	12,344.00	21,215.37	12,620.00	166.83	166.94	117.07	-9,767.74	389.98	606.90	397.42	209.49	2.897					
21,100.00	12,344.00	21,315.37	12,620.00	168.42	168.53	117.08	-9,867.74	391.07	606.81	395.43	211.38	2.871					
21,200.00	12,344.00	21,415.37	12,620.00	170.01	170.13	117.08	-9,967.73	392.16	606.71	393.44	213.27	2.845					
21,300.00	12,344.00	21,515.37	12,620.00	171.60	171.72	117.09	-10,067.73	393.25	606.61	391.45	215.16	2.819					
21,400.00	12,344.00	21,615.37	12,620.00	173.20	173.32	117.09	-10,167.72	394.34	606.51	389.46	217.05	2.794					
21,500.00	12,344.00	21,715.37	12,620.00	174.79	174.92	117.09	-10,267.71	395.43	606.41	387.47	218.94	2.770					
21,600.00	12,344.00	21,815.37	12,620.00	176.38	176.51	117.10	-10,367.71	396.52	606.32	385.49	220.83	2.746					
21,700.00	12,344.00	21,915.37	12,620.00	177.98	178.11	117.10	-10,467.70	397.61	606.22	383.51	222.71	2.722					
21,800.00	12,344.00	22,015.37	12,620.00	179.58	179.71	117.11	-10,567.70	398.70	606.12	381.52	224.60	2.699					
21,900.00	12,344.00	22,115.37	12,620.00	181.17	181.32	117.11	-10,667.69	399.78	606.02	379.54	226.48	2.676					
22,000.00	12,344.00	22,215.37	12,620.00	182.77	182.92	117.12	-10,767.68	400.87	605.92	377.56	228.36	2.653					
22,100.00	12,344.00	22,315.37	12,620.00	184.37	184.52	117.12	-10,867.68	401.96	605.82	375.58	230.24	2.631					
22,200.00	12,344.00	22,415.37	12,620.00	185.97	186.12	117.13	-10,967.67	403.05	605.73	373.61	232.12	2.610					
22,300.00	12,344.00	22,515.37	12,620.00	187.57	187.73	117.13	-11,067.67	404.14	605.63	371.63	233.99	2.588					
22,400.00	12,344.00	22,615.37	12,620.00	189.18	189.33	117.14	-11,167.66	405.23	605.53	369.66	235.87	2.567					
22,500.00	12,344.00	22,715.37	12,620.00	190.78	190.94	117.14	-11,267.65	406.32	605.43	367.69	237.74	2.547					
22,600.00	12,344.00	22,815.37	12,620.00	192.38	192.55	117.15	-11,367.65	407.41	605.33	365.72	239.61	2.526					
22,642.29	12,344.00	22,856.94	12,620.00	193.00	193.22	117.15	-11,409.22	407.86	605.29	364.95	240.34	2.518					
22,642.51	12,344.00	22,856.94	12,620.00	193.01	193.22	117.15	-11,409.22	407.86	605.29	364.96	240.34	2.519					

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 804H - OH - Plan #1		Offset Site Error:		0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:		0.00 usft			
Reference		Offset		Semi Major Axis			Distance											
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning					
0.00	0.00	0.00	0.00	0.00	0.00	89.45	0.24	24.99	24.99									
100.00	100.00	100.00	100.00	0.13	0.13	89.45	0.24	24.99	24.99	24.81	0.18	140.847						
200.00	200.00	200.00	200.00	0.48	0.48	89.45	0.24	24.99	24.99	24.31	0.68	36.516						
300.00	300.00	300.00	300.00	0.84	0.84	89.45	0.24	24.99	24.99	23.80	1.19	20.977						
400.00	400.00	400.00	400.00	1.20	1.20	89.45	0.24	24.99	24.99	23.29	1.70	14.715						
500.00	500.00	500.00	500.00	1.56	1.56	89.45	0.24	24.99	24.99	22.79	2.21	11.333						
600.00	600.00	600.00	600.00	1.92	1.92	89.45	0.24	24.99	24.99	22.28	2.71	9.214						
700.00	700.00	700.00	700.00	2.28	2.28	89.45	0.24	24.99	24.99	21.77	3.22	7.763						
800.00	800.00	800.00	800.00	2.63	2.63	89.45	0.24	24.99	24.99	21.27	3.73	6.707						
900.00	900.00	900.00	900.00	2.99	2.99	89.45	0.24	24.99	24.99	20.76	4.23	5.904						
1,000.00	1,000.00	1,000.00	1,000.00	3.35	3.35	89.45	0.24	24.99	24.99	20.25	4.74	5.272						
1,100.00	1,100.00	1,100.00	1,100.00	3.71	3.71	89.45	0.24	24.99	24.99	19.74	5.25	4.763						
1,200.00	1,200.00	1,200.00	1,200.00	4.07	4.07	89.45	0.24	24.99	24.99	19.24	5.75	4.343						
1,300.00	1,300.00	1,300.00	1,300.00	4.43	4.43	89.45	0.24	24.99	24.99	18.73	6.26	3.992						
1,400.00	1,400.00	1,400.00	1,400.00	4.79	4.79	89.45	0.24	24.99	24.99	18.22	6.77	3.693						
1,500.00	1,500.00	1,500.00	1,500.00	5.14	5.14	89.45	0.24	24.99	24.99	17.72	7.27	3.435						
1,600.00	1,600.00	1,600.00	1,600.00	5.50	5.50	89.45	0.24	24.99	24.99	17.21	7.78	3.212						
1,700.00	1,700.00	1,700.00	1,700.00	5.86	5.86	89.45	0.24	24.99	24.99	16.70	8.29	3.015						
1,800.00	1,800.00	1,800.00	1,800.00	6.22	6.22	89.45	0.24	24.99	24.99	16.20	8.80	2.841						
1,900.00	1,900.00	1,900.00	1,900.00	6.58	6.58	89.45	0.24	24.99	24.99	15.69	9.30	2.686						
2,000.00	2,000.00	2,000.00	2,000.00	6.94	6.94	89.45	0.24	24.99	24.99	15.18	9.81	2.548						
2,100.00	2,100.00	2,100.00	2,100.00	7.29	7.29	89.45	0.24	24.99	24.99	14.67	10.32	2.422						
2,200.00	2,200.00	2,200.00	2,200.00	7.65	7.65	89.45	0.24	24.99	24.99	14.17	10.82	2.309						
2,300.00	2,300.00	2,300.00	2,300.00	8.01	8.01	89.45	0.24	24.99	24.99	13.66	11.33	2.206						
2,400.00	2,400.00	2,400.00	2,400.00	8.37	8.37	89.45	0.24	24.99	24.99	13.15	11.84	2.111						
2,500.00	2,500.00	2,500.00	2,500.00	8.73	8.73	89.45	0.24	24.99	24.99	12.65	12.34	2.024						
2,600.00	2,600.00	2,600.00	2,600.00	9.09	9.09	89.45	0.24	24.99	24.99	12.14	12.85	1.945						
2,700.00	2,700.00	2,700.00	2,700.00	9.45	9.45	89.45	0.24	24.99	24.99	11.63	13.36	1.871						
2,800.00	2,800.00	2,800.00	2,800.00	9.80	9.80	89.45	0.24	24.99	24.99	11.13	13.87	1.802						
2,900.00	2,900.00	2,900.00	2,900.00	10.16	10.16	89.45	0.24	24.99	24.99	10.62	14.37	1.739						
3,000.00	3,000.00	3,000.00	3,000.00	10.52	10.52	89.45	0.24	24.99	24.99	10.11	14.88	1.680						
3,100.00	3,100.00	3,100.00	3,100.00	10.88	10.88	89.45	0.24	24.99	24.99	9.61	15.39	1.624						
3,200.00	3,200.00	3,200.00	3,200.00	11.24	11.24	89.45	0.24	24.99	24.99	9.10	15.89	1.572						
3,300.00	3,299.99	3,299.99	3,299.99	11.58	11.60	-53.89	0.24	24.99	24.20	7.81	16.39	1.476 Level 3						
3,400.00	3,399.91	3,399.54	3,399.53	11.91	11.94	-59.52	-0.63	25.95	22.91	6.06	16.86	1.359 Level 3						
3,500.00	3,499.69	3,499.16	3,499.07	12.24	12.27	-66.26	-3.24	28.84	22.23	4.92	17.31	1.284 Level 3						
3,548.78	3,548.30	3,547.77	3,547.60	12.40	12.43	-69.84	-5.14	30.96	22.14	4.61	17.53	1.263 Level 3, CC						
3,600.00	3,599.27	3,598.84	3,598.53	12.57	12.60	-73.72	-7.58	33.67	22.24	4.47	17.77	1.252 Level 3, ES, SF						
3,700.00	3,698.57	3,698.58	3,697.85	12.91	12.93	-81.29	-13.67	40.42	23.02	4.77	18.25	1.261 Level 3						
3,800.00	3,797.54	3,798.37	3,796.96	13.25	13.27	-88.35	-21.50	49.10	24.56	5.83	18.74	1.311 Level 3						
3,900.00	3,896.09	3,898.22	3,895.78	13.60	13.61	-94.50	-31.07	59.71	26.84	7.60	19.24	1.395 Level 3						
4,000.00	3,994.16	3,998.13	3,994.25	13.96	13.96	-99.56	-42.37	72.24	29.78	10.04	19.74	1.508						
4,100.00	4,091.70	4,098.09	4,092.29	14.32	14.32	-103.57	-55.39	86.68	33.30	13.05	20.25	1.644						
4,200.00	4,188.62	4,198.09	4,189.84	14.70	14.69	-106.66	-70.14	103.04	37.34	16.57	20.77	1.798						
4,304.97	4,289.63	4,303.12	4,291.63	15.12	15.09	-109.08	-87.46	122.25	42.08	20.76	21.32	1.974						
4,400.00	4,380.70	4,398.26	4,383.19	15.51	15.47	-109.40	-104.77	141.44	46.38	24.53	21.86	2.122						
4,500.00	4,476.55	4,498.36	4,478.80	15.93	15.89	-106.82	-124.62	163.45	50.47	28.01	22.46	2.247						
4,600.00	4,572.39	4,598.33	4,573.47	16.36	16.32	-101.89	-146.11	187.29	54.43	31.34	23.10	2.357						
4,700.00	4,668.24	4,698.03	4,667.05	16.81	16.77	-95.21	-169.14	212.83	58.83	35.10	23.73	2.479						
4,800.00	4,764.08	4,797.66	4,760.30	17.26	17.25	-88.85	-192.63	238.88	64.04	39.70	24.34	2.631						
4,900.00	4,859.93	4,897.29	4,853.55	17.72	17.73	-83.50	-216.12	264.93	69.91	44.99	24.92	2.805						
5,000.00	4,955.77	4,996.92	4,946.81	18.18	18.23	-79.01	-239.61	290.98	76.30	50.80	25.50	2.992						

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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	5,051.62	5,096.55	5,040.06	18.66	18.74	-75.23	-263.10	317.03	83.08	57.01	26.07	3.186		
5,200.00	5,147.46	5,196.18	5,133.31	19.14	19.27	-72.03	-286.59	343.08	90.17	63.51	26.65	3.383		
5,300.00	5,243.31	5,295.82	5,226.56	19.63	19.80	-69.30	-310.08	369.13	97.49	70.25	27.24	3.579		
5,400.00	5,339.15	5,395.45	5,319.82	20.12	20.35	-66.96	-333.57	395.18	105.01	77.18	27.83	3.773		
5,500.00	5,435.00	5,495.08	5,413.07	20.62	20.90	-64.93	-357.06	421.23	112.68	84.25	28.43	3.963		
5,600.00	5,530.84	5,594.71	5,506.32	21.12	21.46	-63.17	-380.55	447.28	120.47	91.43	29.04	4.149		
5,700.00	5,626.69	5,694.34	5,599.58	21.63	22.03	-61.61	-404.04	473.33	128.36	98.71	29.65	4.329		
5,800.00	5,722.53	5,793.97	5,692.83	22.14	22.60	-60.24	-427.53	499.38	136.33	106.07	30.26	4.505		
5,900.00	5,818.38	5,893.61	5,786.08	22.65	23.18	-59.02	-451.02	525.43	144.37	113.49	30.89	4.674		
6,000.00	5,914.22	5,993.24	5,879.33	23.17	23.77	-57.93	-474.51	551.48	152.47	120.96	31.51	4.839		
6,100.00	6,010.07	6,092.87	5,972.59	23.69	24.36	-56.95	-498.00	577.53	160.62	128.48	32.14	4.997		
6,200.00	6,105.91	6,192.50	6,065.84	24.22	24.96	-56.07	-521.49	603.58	168.81	136.04	32.78	5.150		
6,300.00	6,201.76	6,292.13	6,159.09	24.75	25.56	-55.27	-544.98	629.63	177.04	143.63	33.42	5.298		
6,400.00	6,297.60	6,391.76	6,252.34	25.28	26.17	-54.54	-568.47	655.68	185.30	151.24	34.06	5.441		
6,500.00	6,393.45	6,491.40	6,345.60	25.81	26.78	-53.87	-591.96	681.73	193.59	158.88	34.70	5.579		
6,600.00	6,489.29	6,591.03	6,438.85	26.35	27.40	-53.25	-615.46	707.78	201.90	166.55	35.35	5.712		
6,700.00	6,585.14	6,690.66	6,532.10	26.89	28.02	-52.69	-638.95	733.83	210.23	174.23	36.00	5.840		
6,800.00	6,680.98	6,790.29	6,625.36	27.43	28.64	-52.16	-662.44	759.88	218.58	181.93	36.65	5.964		
6,900.00	6,776.83	6,889.92	6,718.61	27.97	29.26	-51.68	-685.93	785.93	226.95	189.64	37.31	6.083		
7,000.00	6,872.67	6,989.55	6,811.86	28.52	29.89	-51.23	-709.42	811.98	235.33	197.36	37.97	6.199		
7,100.00	6,968.52	7,089.19	6,905.11	29.06	30.52	-50.81	-732.91	838.03	243.73	205.10	38.62	6.310		
7,200.00	7,064.36	7,188.82	6,998.37	29.61	31.16	-50.42	-756.40	864.08	252.13	212.85	39.29	6.418		
7,300.00	7,160.21	7,288.45	7,091.62	30.16	31.79	-50.06	-779.89	890.13	260.55	220.60	39.95	6.522		
7,400.00	7,256.05	7,388.08	7,184.87	30.72	32.43	-49.71	-803.38	916.18	268.98	228.37	40.62	6.623		
7,500.00	7,351.90	7,487.71	7,278.13	31.27	33.07	-49.39	-826.87	942.23	277.42	236.14	41.28	6.720		
7,600.00	7,447.74	7,587.34	7,371.38	31.82	33.72	-49.09	-850.36	968.28	285.86	243.91	41.95	6.814		
7,700.00	7,543.59	7,687.20	7,464.85	32.38	34.36	-48.80	-873.90	994.38	294.32	251.69	42.63	6.905		
7,800.00	7,639.43	7,793.25	7,564.64	32.94	35.03	-48.71	-897.91	1,021.01	301.64	258.20	43.44	6.944		
7,889.67	7,725.37	7,888.56	7,655.16	33.44	35.61	-48.93	-917.90	1,043.17	306.41	262.22	44.20	6.933		
7,900.00	7,735.28	7,899.55	7,665.64	33.50	35.68	-48.98	-920.10	1,045.62	306.86	262.58	44.29	6.929		
8,000.00	7,831.56	8,005.97	7,767.64	34.04	36.29	-49.41	-940.43	1,068.16	311.01	265.89	45.12	6.894		
8,100.00	7,928.52	8,112.47	7,870.51	34.56	36.87	-49.79	-958.86	1,088.60	314.76	268.86	45.90	6.857		
8,200.00	8,026.08	8,219.03	7,974.18	35.06	37.41	-50.13	-975.37	1,106.91	318.11	271.47	46.64	6.820		
8,300.00	8,124.18	8,325.64	8,078.55	35.53	37.93	-50.43	-989.94	1,123.07	321.05	273.72	47.34	6.782		
8,400.00	8,222.76	8,432.31	8,183.53	35.98	38.41	-50.69	-1,002.57	1,137.07	323.59	275.60	47.99	6.743		
8,500.00	8,321.74	8,539.02	8,289.05	36.40	38.87	-50.91	-1,013.23	1,148.89	325.71	277.12	48.59	6.703		
8,600.00	8,421.06	8,645.76	8,394.99	36.79	39.29	-51.09	-1,021.91	1,158.52	327.41	278.27	49.15	6.662		
8,700.00	8,520.65	8,752.53	8,501.29	37.16	39.68	-51.24	-1,028.61	1,165.95	328.69	279.04	49.66	6.619		
8,800.00	8,620.44	8,859.32	8,607.84	37.51	40.03	-51.35	-1,033.32	1,171.17	329.55	279.43	50.12	6.575		
8,900.00	8,720.37	8,966.11	8,714.55	37.83	40.36	-51.43	-1,036.03	1,174.18	329.98	279.44	50.54	6.529		
8,994.64	8,815.00	9,066.57	8,815.00	38.11	40.64	89.44	-1,036.76	1,174.99	330.01	279.11	50.90	6.484		
9,000.00	8,820.36	9,071.93	8,820.36	38.13	40.66	89.44	-1,036.76	1,174.99	330.01	279.09	50.92	6.481		
9,100.00	8,920.36	9,171.93	8,920.36	38.40	40.92	89.44	-1,036.76	1,174.99	330.01	278.68	51.33	6.429		
9,200.00	9,020.36	9,271.93	9,020.36	38.68	41.19	89.44	-1,036.76	1,174.99	330.01	278.26	51.74	6.378		
9,300.00	9,120.36	9,371.93	9,120.36	38.96	41.45	89.44	-1,036.76	1,174.99	330.01	277.85	52.16	6.327		
9,400.00	9,220.36	9,471.93	9,220.36	39.25	41.72	89.44	-1,036.76	1,174.99	330.01	277.43	52.57	6.277		
9,500.00	9,320.36	9,571.93	9,320.36	39.53	41.99	89.44	-1,036.76	1,174.99	330.01	277.02	52.99	6.228		
9,600.00	9,420.36	9,671.93	9,420.36	39.81	42.26	89.44	-1,036.76	1,174.99	330.01	276.60	53.41	6.179		
9,700.00	9,520.36	9,771.93	9,520.36	40.10	42.53	89.44	-1,036.76	1,174.99	330.01	276.18	53.83	6.130		
9,800.00	9,620.36	9,871.93	9,620.36	40.39	42.80	89.44	-1,036.76	1,174.99	330.01	275.75	54.25	6.083		
9,900.00	9,720.36	9,971.93	9,720.36	40.67	43.08	89.44	-1,036.76	1,174.99	330.01	275.33	54.68	6.036		
10,000.00	9,820.36	10,071.93	9,820.36	40.96	43.35	89.44	-1,036.76	1,174.99	330.01	274.90	55.10	5.989		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 804H - OH - Plan #1		Offset Site Error:		0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:		0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor					
10,100.00	9,920.36	10,171.93	9,920.36	41.25	43.63	89.44	-1,036.76	1,174.99	330.01	274.48	55.53	5.943					
10,200.00	10,020.36	10,271.93	10,020.36	41.55	43.91	89.44	-1,036.76	1,174.99	330.01	274.05	55.96	5.898					
10,300.00	10,120.36	10,371.93	10,120.36	41.84	44.19	89.44	-1,036.76	1,174.99	330.01	273.62	56.39	5.853					
10,400.00	10,220.36	10,471.93	10,220.36	42.13	44.47	89.44	-1,036.76	1,174.99	330.01	273.19	56.82	5.808					
10,500.00	10,320.36	10,571.93	10,320.36	42.43	44.75	89.44	-1,036.76	1,174.99	330.01	272.76	57.25	5.765					
10,600.00	10,420.36	10,671.93	10,420.36	42.72	45.03	89.44	-1,036.76	1,174.99	330.01	272.33	57.68	5.721					
10,700.00	10,520.36	10,771.93	10,520.36	43.02	45.31	89.44	-1,036.76	1,174.99	330.01	271.89	58.11	5.679					
10,800.00	10,620.36	10,871.93	10,620.36	43.31	45.60	89.44	-1,036.76	1,174.99	330.01	271.46	58.55	5.636					
10,900.00	10,720.36	10,971.93	10,720.36	43.61	45.88	89.44	-1,036.76	1,174.99	330.01	271.02	58.99	5.595					
11,000.00	10,820.36	11,071.93	10,820.36	43.91	46.17	89.44	-1,036.76	1,174.99	330.01	270.58	59.42	5.553					
11,100.00	10,920.36	11,171.93	10,920.36	44.21	46.46	89.44	-1,036.76	1,174.99	330.01	270.14	59.86	5.513					
11,200.00	11,020.36	11,271.93	11,020.36	44.51	46.75	89.44	-1,036.76	1,174.99	330.01	269.70	60.30	5.473					
11,300.00	11,120.36	11,371.93	11,120.36	44.81	47.03	89.44	-1,036.76	1,174.99	330.01	269.26	60.74	5.433					
11,400.00	11,220.36	11,471.93	11,220.36	45.12	47.33	89.44	-1,036.76	1,174.99	330.01	268.82	61.18	5.394					
11,500.00	11,320.36	11,571.93	11,320.36	45.42	47.62	89.44	-1,036.76	1,174.99	330.01	268.38	61.63	5.355					
11,600.00	11,420.36	11,671.93	11,420.36	45.72	47.91	89.44	-1,036.76	1,174.99	330.01	267.93	62.07	5.317					
11,700.00	11,520.36	11,771.93	11,520.36	46.03	48.20	89.44	-1,036.76	1,174.99	330.01	267.49	62.52	5.279					
11,800.00	11,620.36	11,871.93	11,620.36	46.33	48.50	89.44	-1,036.76	1,174.99	330.01	267.04	62.96	5.241					
11,900.00	11,720.36	11,971.93	11,720.36	46.64	48.79	89.44	-1,036.76	1,174.99	330.01	266.60	63.41	5.204					
11,950.68	11,771.04	12,022.61	11,771.04	46.80	48.94	89.44	-1,036.76	1,174.99	330.01	266.37	63.63	5.186					
11,950.91	11,771.27	12,022.84	11,771.27	46.80	48.94	89.44	-1,036.76	1,174.99	330.01	266.37	63.64	5.186					
12,000.00	11,820.30	12,071.86	11,820.30	46.96	49.09	-90.37	-1,036.76	1,174.99	330.01	266.10	63.92	5.163					
12,050.00	11,869.86	12,121.43	11,869.86	47.14	49.23	-91.47	-1,036.76	1,174.99	330.12	265.79	64.33	5.132					
12,100.00	11,918.67	12,171.63	11,920.01	47.35	49.39	-92.98	-1,038.69	1,175.02	330.48	265.67	64.81	5.099					
12,150.00	11,966.36	12,222.69	11,970.64	47.58	49.57	-94.48	-1,045.13	1,175.10	331.08	265.79	65.29	5.071					
12,200.00	12,012.56	12,274.59	12,021.32	47.83	49.78	-95.95	-1,056.28	1,175.25	331.93	266.15	65.77	5.047					
12,250.00	12,056.93	12,327.38	12,071.60	48.10	50.01	-97.38	-1,072.26	1,175.47	332.99	266.75	66.23	5.027					
12,300.00	12,099.12	12,381.05	12,121.00	48.39	50.26	-98.76	-1,093.19	1,175.75	334.23	267.57	66.66	5.014					
12,350.00	12,138.81	12,435.62	12,169.00	48.69	50.54	-100.07	-1,119.11	1,176.10	335.62	268.58	67.04	5.006					
12,400.00	12,175.70	12,491.09	12,215.04	49.01	50.84	-101.31	-1,150.01	1,176.51	337.12	269.76	67.36	5.005					
12,450.00	12,209.51	12,547.43	12,258.52	49.34	51.17	-102.45	-1,185.81	1,176.99	338.68	271.07	67.61	5.010					
12,500.00	12,239.99	12,604.62	12,298.84	49.69	51.52	-103.49	-1,226.32	1,177.54	340.24	272.45	67.79	5.019					
12,550.00	12,266.90	12,662.60	12,335.39	50.05	51.89	-104.41	-1,271.30	1,178.14	341.76	273.86	67.90	5.033					
12,600.00	12,290.03	12,721.31	12,367.58	50.42	52.28	-105.21	-1,320.36	1,178.80	343.18	275.22	67.96	5.050					
12,650.00	12,309.21	12,780.66	12,394.85	50.81	52.70	-105.87	-1,373.05	1,179.51	344.46	276.48	67.99	5.067					
12,700.00	12,324.30	12,840.56	12,416.69	51.20	53.13	-106.40	-1,428.79	1,180.26	345.56	277.56	68.00	5.082					
12,750.00	12,335.17	12,900.89	12,432.69	51.60	53.58	-106.77	-1,486.92	1,181.04	346.43	278.40	68.03	5.092					
12,800.00	12,341.76	12,961.52	12,442.53	52.01	54.04	-107.00	-1,546.71	1,181.85	347.05	278.95	68.11	5.096					
12,850.68	12,344.00	13,023.15	12,446.00	52.42	54.52	-107.07	-1,608.20	1,182.68	347.41	279.16	68.25	5.090					
12,900.00	12,344.00	13,072.72	12,446.00	52.83	54.91	-107.06	-1,657.78	1,183.34	347.58	278.82	68.77	5.054					
13,000.00	12,344.00	13,172.72	12,446.00	53.68	55.72	-107.05	-1,757.77	1,184.69	347.93	278.06	69.88	4.979					
13,100.00	12,344.00	13,272.72	12,446.00	54.57	56.57	-107.03	-1,857.76	1,186.03	348.28	277.25	71.03	4.903					
13,200.00	12,344.00	13,372.72	12,446.00	55.50	57.46	-107.01	-1,957.75	1,187.38	348.63	276.39	72.24	4.826					
13,300.00	12,344.00	13,472.72	12,446.00	56.46	58.38	-106.99	-2,057.74	1,188.72	348.98	275.49	73.50	4.748					
13,400.00	12,344.00	13,572.72	12,446.00	57.45	59.33	-106.98	-2,157.73	1,190.07	349.33	274.54	74.80	4.671					
13,500.00	12,344.00	13,672.72	12,446.00	58.47	60.31	-106.96	-2,257.72	1,191.41	349.69	273.55	76.14	4.593					
13,600.00	12,344.00	13,772.72	12,446.00	59.52	61.32	-106.94	-2,357.71	1,192.76	350.04	272.52	77.52	4.516					
13,700.00	12,344.00	13,872.72	12,446.00	60.60	62.35	-106.92	-2,457.70	1,194.10	350.39	271.45	78.93	4.439					
13,800.00	12,344.00	13,972.72	12,446.00	61.70	63.42	-106.91	-2,557.69	1,195.44	350.74	270.35	80.39	4.363					
13,900.00	12,344.00	14,072.72	12,446.00	62.82	64.51	-106.89	-2,657.68	1,196.79	351.09	269.21	81.88	4.288					
14,000.00	12,344.00	14,172.72	12,446.00	63.97	65.62	-106.87	-2,757.67	1,198.13	351.44	268.04	83.40	4.214					
14,100.00	12,344.00	14,272.72	12,446.00	65.14	66.75	-106.85	-2,857.66	1,199.48	351.79	266.84	84.94	4.141					

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 804H - OH - Plan #1		Offset Site Error:		0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:		0.00 usft			
Reference		Offset		Semi Major Axis			Distance							Warning				
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor						
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	+N/-S (usft)	+E/-W (usft)	(usft)	(usft)	(usft)							
14,200.00	12,344.00	14,372.71	12,446.00	66.33	67.91	-106.84	-2,957.65	1,200.82	352.14	265.61	86.52	4.070						
14,300.00	12,344.00	14,472.71	12,446.00	67.54	69.09	-106.82	-3,057.64	1,202.17	352.49	264.36	88.13	4.000						
14,400.00	12,344.00	14,572.71	12,446.00	68.77	70.28	-106.80	-3,157.63	1,203.51	352.84	263.08	89.76	3.931						
14,500.00	12,344.00	14,672.71	12,446.00	70.02	71.50	-106.79	-3,257.62	1,204.86	353.19	261.78	91.41	3.864						
14,600.00	12,344.00	14,772.71	12,446.00	71.28	72.73	-106.77	-3,357.61	1,206.20	353.54	260.45	93.09	3.798						
14,700.00	12,344.00	14,872.71	12,446.00	72.55	73.97	-106.75	-3,457.60	1,207.55	353.89	259.10	94.79	3.734						
14,800.00	12,344.00	14,972.71	12,446.00	73.85	75.24	-106.73	-3,557.59	1,208.89	354.24	257.74	96.50	3.671						
14,900.00	12,344.00	15,072.71	12,446.00	75.15	76.52	-106.72	-3,657.58	1,210.24	354.59	256.35	98.24	3.609						
15,000.00	12,344.00	15,172.71	12,446.00	76.47	77.81	-106.70	-3,757.57	1,211.58	354.94	254.95	100.00	3.550						
15,100.00	12,344.00	15,272.71	12,446.00	77.81	79.11	-106.68	-3,857.56	1,212.93	355.29	253.52	101.77	3.491						
15,200.00	12,344.00	15,372.71	12,446.00	79.15	80.43	-106.67	-3,957.55	1,214.27	355.64	252.09	103.56	3.434						
15,300.00	12,344.00	15,472.71	12,446.00	80.51	81.76	-106.65	-4,057.54	1,215.62	355.99	250.63	105.36	3.379						
15,400.00	12,344.00	15,572.71	12,446.00	81.87	83.11	-106.63	-4,157.54	1,216.96	356.34	249.17	107.18	3.325						
15,500.00	12,344.00	15,672.71	12,446.00	83.25	84.46	-106.62	-4,257.53	1,218.31	356.69	247.69	109.01	3.272						
15,600.00	12,344.00	15,772.71	12,446.00	84.64	85.82	-106.60	-4,357.52	1,219.65	357.05	246.20	110.85	3.221						
15,700.00	12,344.00	15,872.70	12,446.00	86.03	87.20	-106.58	-4,457.51	1,220.99	357.40	244.69	112.71	3.171						
15,800.00	12,344.00	15,972.70	12,446.00	87.44	88.58	-106.57	-4,557.50	1,222.34	357.75	243.17	114.57	3.122						
15,900.00	12,344.00	16,072.70	12,446.00	88.85	89.97	-106.55	-4,657.49	1,223.68	358.10	241.65	116.45	3.075						
16,000.00	12,344.00	16,172.70	12,446.00	90.27	91.37	-106.53	-4,757.48	1,225.03	358.45	240.11	118.34	3.029						
16,100.00	12,344.00	16,272.70	12,446.00	91.70	92.78	-106.52	-4,857.47	1,226.37	358.80	238.56	120.24	2.984						
16,200.00	12,344.00	16,372.70	12,446.00	93.14	94.20	-106.50	-4,957.46	1,227.72	359.15	237.01	122.14	2.940						
16,300.00	12,344.00	16,472.70	12,446.00	94.58	95.63	-106.48	-5,057.45	1,229.06	359.50	235.44	124.06	2.898						
16,400.00	12,344.00	16,572.70	12,446.00	96.03	97.06	-106.47	-5,157.44	1,230.41	359.85	233.87	125.98	2.856						
16,500.00	12,344.00	16,672.70	12,446.00	97.49	98.50	-106.45	-5,257.43	1,231.75	360.20	232.29	127.91	2.816						
16,600.00	12,344.00	16,772.70	12,446.00	98.95	99.94	-106.43	-5,357.42	1,233.10	360.56	230.70	129.85	2.777						
16,700.00	12,344.00	16,872.70	12,446.00	100.42	101.39	-106.42	-5,457.41	1,234.44	360.91	229.11	131.80	2.738						
16,800.00	12,344.00	16,972.70	12,446.00	101.89	102.85	-106.40	-5,557.40	1,235.79	361.26	227.51	133.75	2.701						
16,900.00	12,344.00	17,072.70	12,446.00	103.37	104.32	-106.38	-5,657.39	1,237.13	361.61	225.90	135.71	2.665						
17,000.00	12,344.00	17,172.70	12,446.00	104.86	105.79	-106.37	-5,757.38	1,238.48	361.96	224.29	137.67	2.629						
17,100.00	12,344.00	17,272.70	12,446.00	106.35	107.26	-106.35	-5,857.37	1,239.82	362.31	222.67	139.64	2.595						
17,200.00	12,344.00	17,372.69	12,446.00	107.84	108.74	-106.34	-5,957.36	1,241.17	362.66	221.05	141.61	2.561						
17,300.00	12,344.00	17,472.69	12,446.00	109.34	110.23	-106.32	-6,057.35	1,242.51	363.01	219.42	143.59	2.528						
17,400.00	12,344.00	17,572.69	12,446.00	110.84	111.72	-106.30	-6,157.34	1,243.86	363.37	217.79	145.58	2.496						
17,500.00	12,344.00	17,672.69	12,446.00	112.35	113.21	-106.29	-6,257.33	1,245.20	363.72	216.15	147.57	2.465						
17,600.00	12,344.00	17,772.69	12,446.00	113.86	114.71	-106.27	-6,357.32	1,246.54	364.07	214.51	149.56	2.434						
17,700.00	12,344.00	17,872.69	12,446.00	115.38	116.21	-106.25	-6,457.31	1,247.89	364.42	212.86	151.56	2.405						
17,800.00	12,344.00	17,972.69	12,446.00	116.89	117.72	-106.24	-6,557.30	1,249.23	364.77	211.22	153.56	2.376						
17,900.00	12,344.00	18,072.69	12,446.00	118.42	119.23	-106.22	-6,657.29	1,250.58	365.12	209.56	155.56	2.347						
18,000.00	12,344.00	18,172.69	12,446.00	119.94	120.74	-106.21	-6,757.28	1,251.92	365.47	207.91	157.57	2.320						
18,100.00	12,344.00	18,272.69	12,446.00	121.47	122.26	-106.19	-6,857.27	1,253.27	365.83	206.25	159.57	2.293						
18,200.00	12,344.00	18,372.69	12,446.00	123.00	123.78	-106.17	-6,957.26	1,254.61	366.18	204.59	161.59	2.266						
18,300.00	12,344.00	18,472.69	12,446.00	124.54	125.31	-106.16	-7,057.25	1,255.96	366.53	202.93	163.60	2.240						
18,400.00	12,344.00	18,572.69	12,446.00	126.08	126.83	-106.14	-7,157.24	1,257.30	366.88	201.26	165.62	2.215						
18,500.00	12,344.00	18,672.69	12,446.00	127.62	128.36	-106.13	-7,257.23	1,258.65	367.23	199.59	167.64	2.191						
18,600.00	12,344.00	18,772.69	12,446.00	129.16	129.90	-106.11	-7,357.22	1,259.99	367.58	197.92	169.66	2.167						
18,700.00	12,344.00	18,872.68	12,446.00	130.71	131.44	-106.09	-7,457.21	1,261.34	367.94	196.25	171.69	2.143						
18,800.00	12,344.00	18,972.68	12,446.00	132.26	132.97	-106.08	-7,557.21	1,262.68	368.29	194.58	173.71	2.120						
18,900.00	12,344.00	19,072.68	12,446.00	133.81	134.52	-106.06	-7,657.20	1,264.03	368.64	192.90	175.74	2.098						
19,000.00	12,344.00	19,172.68	12,446.00	135.36	136.06	-106.05	-7,757.19	1,265.37	368.99	191.22	177.77	2.076						
19,100.00	12,344.00	19,272.68	12,446.00	136.92	137.61	-106.03	-7,857.18	1,266.72	369.34	189.54	179.80	2.054						
19,200.00	12,344.00	19,372.68	12,446.00	138.48	139.16	-106.02	-7,957.17	1,268.06	369.69	187.86	181.83	2.033						
19,300.00	12,344.00	19,472.68	12,446.00	140.04	140.71	-106.00	-8,057.16	1,269.41	370.05	186.18	183.86	2.013						

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 Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design												Tatanka Fed Com - Tatanka Fed Com 804H - OH - Plan #1		Offset Site Error:		0.00 usft
Survey Program: 0-OWSG (Rev2) MWD														Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis		Distance								Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
19,400.00	12,344.00	19,572.68	12,446.00	141.60	142.27	-105.98	-8,157.15	1,270.75	370.40	184.50	185.90	1.993				
19,500.00	12,344.00	19,672.68	12,446.00	143.16	143.82	-105.97	-8,257.14	1,272.09	370.75	182.82	187.93	1.973				
19,600.00	12,344.00	19,772.68	12,446.00	144.73	145.38	-105.95	-8,357.13	1,273.44	371.10	181.14	189.97	1.954				
19,700.00	12,344.00	19,872.68	12,446.00	146.30	146.94	-105.94	-8,457.12	1,274.78	371.45	179.45	192.00	1.935				
19,800.00	12,344.00	19,972.68	12,446.00	147.87	148.50	-105.92	-8,557.11	1,276.13	371.81	177.77	194.04	1.916				
19,900.00	12,344.00	20,072.68	12,446.00	149.44	150.07	-105.91	-8,657.10	1,277.47	372.16	176.08	196.08	1.898				
20,000.00	12,344.00	20,172.68	12,446.00	151.01	151.63	-105.89	-8,757.09	1,278.82	372.51	174.40	198.11	1.880				
20,100.00	12,344.00	20,272.68	12,446.00	152.59	153.20	-105.88	-8,857.08	1,280.16	372.86	172.71	200.15	1.863				
20,200.00	12,344.00	20,372.67	12,446.00	154.17	154.77	-105.86	-8,957.07	1,281.51	373.21	171.03	202.19	1.846				
20,300.00	12,344.00	20,472.67	12,446.00	155.74	156.35	-105.85	-9,057.06	1,282.85	373.57	169.34	204.23	1.829				
20,400.00	12,344.00	20,572.67	12,446.00	157.32	157.92	-105.83	-9,157.05	1,284.20	373.92	167.66	206.26	1.813				
20,500.00	12,344.00	20,672.67	12,446.00	158.91	159.49	-105.81	-9,257.04	1,285.54	374.27	165.97	208.30	1.797				
20,600.00	12,344.00	20,772.67	12,446.00	160.49	161.07	-105.80	-9,357.03	1,286.89	374.62	164.29	210.34	1.781				
20,700.00	12,344.00	20,872.67	12,446.00	162.07	162.65	-105.78	-9,457.02	1,288.23	374.98	162.60	212.38	1.766				
20,800.00	12,344.00	20,972.67	12,446.00	163.66	164.23	-105.77	-9,557.01	1,289.58	375.33	160.92	214.41	1.750				
20,900.00	12,344.00	21,072.67	12,446.00	165.24	165.81	-105.75	-9,657.00	1,290.92	375.68	159.23	216.45	1.736				
21,000.00	12,344.00	21,172.67	12,446.00	166.83	167.39	-105.74	-9,756.99	1,292.27	376.03	157.55	218.48	1.721				
21,100.00	12,344.00	21,272.67	12,446.00	168.42	168.97	-105.72	-9,856.98	1,293.61	376.38	155.87	220.52	1.707				
21,200.00	12,344.00	21,372.67	12,446.00	170.01	170.56	-105.71	-9,956.97	1,294.96	376.74	154.18	222.55	1.693				
21,300.00	12,344.00	21,472.67	12,446.00	171.60	172.15	-105.69	-10,056.96	1,296.30	377.09	152.50	224.59	1.679				
21,400.00	12,344.00	21,572.67	12,446.00	173.20	173.73	-105.68	-10,156.95	1,297.65	377.44	150.82	226.62	1.666				
21,500.00	12,344.00	21,672.67	12,446.00	174.79	175.32	-105.66	-10,256.94	1,298.99	377.79	149.14	228.65	1.652				
21,600.00	12,344.00	21,772.67	12,446.00	176.38	176.91	-105.65	-10,356.93	1,300.33	378.15	147.47	230.68	1.639				
21,700.00	12,344.00	21,872.66	12,446.00	177.98	178.50	-105.63	-10,456.92	1,301.68	378.50	145.79	232.71	1.626				
21,800.00	12,344.00	21,972.66	12,446.00	179.58	180.09	-105.62	-10,556.91	1,303.02	378.85	144.11	234.74	1.614				
21,900.00	12,344.00	22,072.66	12,446.00	181.17	181.69	-105.60	-10,656.90	1,304.37	379.20	142.44	236.77	1.602				
22,000.00	12,344.00	22,172.66	12,446.00	182.77	183.28	-105.59	-10,756.89	1,305.71	379.56	140.77	238.79	1.589				
22,100.00	12,344.00	22,272.66	12,446.00	184.37	184.88	-105.57	-10,856.88	1,307.06	379.91	139.09	240.82	1.578				
22,200.00	12,344.00	22,372.66	12,446.00	185.97	186.47	-105.56	-10,956.87	1,308.40	380.26	137.42	242.84	1.566				
22,300.00	12,344.00	22,472.66	12,446.00	187.57	188.07	-105.54	-11,056.87	1,309.75	380.62	135.75	244.86	1.554				
22,400.00	12,344.00	22,572.66	12,446.00	189.18	189.67	-105.53	-11,156.86	1,311.09	380.97	134.09	246.88	1.543				
22,500.00	12,344.00	22,672.66	12,446.00	190.78	191.27	-105.52	-11,256.85	1,312.44	381.32	132.42	248.90	1.532				
22,600.00	12,344.00	22,772.66	12,446.00	192.38	192.87	-105.50	-11,356.84	1,313.78	381.67	130.76	250.92	1.521				
22,642.51	12,344.00	22,815.17	12,446.00	193.01	193.55	-105.49	-11,399.34	1,314.35	381.82	130.21	251.61	1.517				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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	111.39	-992.62	2,533.58	2,721.43					
100.00	100.00	57.00	57.00	0.13	0.07	111.39	-992.62	2,533.58	2,721.09	2,720.94	0.14	N/A		
200.00	200.00	157.00	157.00	0.48	0.33	111.39	-992.62	2,533.58	2,721.09	2,720.50	0.59	4,646.454		
300.00	300.00	257.00	257.00	0.84	0.69	111.39	-992.62	2,533.58	2,721.09	2,720.00	1.09	2,501.405		
400.00	400.00	357.00	357.00	1.20	1.05	111.39	-992.62	2,533.58	2,721.09	2,719.50	1.59	1,708.112		
500.00	500.00	457.00	457.00	1.56	1.41	111.39	-992.62	2,533.58	2,721.09	2,718.99	2.10	1,296.317		
600.00	600.00	557.00	557.00	1.92	1.76	111.39	-992.62	2,533.58	2,721.09	2,718.48	2.61	1,044.365		
700.00	700.00	657.00	657.00	2.28	2.12	111.39	-992.62	2,533.58	2,721.09	2,717.98	3.11	874.363		
800.00	800.00	757.00	757.00	2.63	2.48	111.39	-992.62	2,533.58	2,721.09	2,717.47	3.62	751.938		
900.00	900.00	857.00	857.00	2.99	2.84	111.39	-992.62	2,533.58	2,721.09	2,716.96	4.13	659.574		
1,000.00	1,000.00	957.00	957.00	3.35	3.20	111.39	-992.62	2,533.58	2,721.09	2,716.46	4.63	587.414		
1,100.00	1,100.00	1,057.00	1,057.00	3.71	3.56	111.39	-992.62	2,533.58	2,721.09	2,715.95	5.14	529.482		
1,200.00	1,200.00	1,157.00	1,157.00	4.07	3.91	111.39	-992.62	2,533.58	2,721.09	2,715.44	5.65	481.950		
1,300.00	1,300.00	1,257.00	1,257.00	4.43	4.27	111.39	-992.62	2,533.58	2,721.09	2,714.94	6.15	442.247		
1,400.00	1,400.00	1,357.00	1,357.00	4.79	4.63	111.39	-992.62	2,533.58	2,721.09	2,714.43	6.66	408.587		
1,500.00	1,500.00	1,457.00	1,457.00	5.14	4.99	111.39	-992.62	2,533.58	2,721.09	2,713.92	7.17	379.688		
1,600.00	1,600.00	1,557.00	1,557.00	5.50	5.35	111.39	-992.62	2,533.58	2,721.09	2,713.41	7.67	354.607		
1,700.00	1,700.00	1,657.00	1,657.00	5.86	5.71	111.39	-992.62	2,533.58	2,721.09	2,712.91	8.18	332.633		
1,800.00	1,800.00	1,757.00	1,757.00	6.22	6.07	111.39	-992.62	2,533.58	2,721.09	2,712.40	8.69	313.224		
1,900.00	1,900.00	1,857.00	1,857.00	6.58	6.42	111.39	-992.62	2,533.58	2,721.09	2,711.89	9.19	295.954		
2,000.00	2,000.00	1,957.00	1,957.00	6.94	6.78	111.39	-992.62	2,533.58	2,721.09	2,711.39	9.70	280.490		
2,100.00	2,100.00	2,057.00	2,057.00	7.29	7.14	111.39	-992.62	2,533.58	2,721.09	2,710.88	10.21	266.561		
2,200.00	2,200.00	2,157.00	2,157.00	7.65	7.50	111.39	-992.62	2,533.58	2,721.09	2,710.37	10.72	253.950		
2,300.00	2,300.00	2,257.00	2,257.00	8.01	7.86	111.39	-992.62	2,533.58	2,721.09	2,709.87	11.22	242.478		
2,400.00	2,400.00	2,357.00	2,357.00	8.37	8.22	111.39	-992.62	2,533.58	2,721.09	2,709.36	11.73	231.998		
2,500.00	2,500.00	2,457.00	2,457.00	8.73	8.57	111.39	-992.62	2,533.58	2,721.09	2,708.85	12.24	222.387		
2,600.00	2,600.00	2,557.00	2,557.00	9.09	8.93	111.39	-992.62	2,533.58	2,721.09	2,708.35	12.74	213.539		
2,700.00	2,700.00	2,657.00	2,657.00	9.45	9.29	111.39	-992.62	2,533.58	2,721.09	2,707.84	13.25	205.369		
2,800.00	2,800.00	2,757.00	2,757.00	9.80	9.65	111.39	-992.62	2,533.58	2,721.09	2,707.33	13.76	197.801		
2,900.00	2,900.00	2,857.00	2,857.00	10.16	10.01	111.39	-992.62	2,533.58	2,721.09	2,706.82	14.26	190.771		
3,000.00	3,000.00	2,957.00	2,957.00	10.52	10.37	111.39	-992.62	2,533.58	2,721.09	2,706.32	14.77	184.224		
3,100.00	3,100.00	3,057.00	3,057.00	10.88	10.73	111.39	-992.62	2,533.58	2,721.09	2,705.81	15.28	178.111		
3,200.00	3,200.00	3,157.00	3,157.00	11.24	11.08	111.39	-992.62	2,533.58	2,721.09	2,705.30	15.78	172.391		
3,300.00	3,299.99	3,256.99	3,256.99	11.58	11.44	-29.53	-992.62	2,533.58	2,719.95	2,703.67	16.28	167.077		
3,400.00	3,399.91	3,456.86	3,456.81	11.91	12.14	-29.62	-992.90	2,530.37	2,715.49	2,698.49	16.99	159.795		
3,500.00	3,499.69	3,708.66	3,707.89	12.24	13.00	-29.71	-994.52	2,511.84	2,702.99	2,685.21	17.79	151.978		
3,600.00	3,599.27	3,807.17	3,805.86	12.57	13.35	-29.84	-995.41	2,501.66	2,685.80	2,667.55	18.26	147.123		
3,700.00	3,698.57	3,905.26	3,903.42	12.91	13.69	-30.02	-996.29	2,491.53	2,666.38	2,647.66	18.73	142.389		
3,800.00	3,797.54	4,002.85	4,000.49	13.25	14.04	-30.24	-997.17	2,481.45	2,644.75	2,625.55	19.20	137.769		
3,900.00	3,896.09	4,099.89	4,097.00	13.60	14.38	-30.51	-998.05	2,471.42	2,620.91	2,601.24	19.67	133.258		
4,000.00	3,994.16	4,196.30	4,192.90	13.96	14.73	-30.84	-998.92	2,461.46	2,594.90	2,574.76	20.14	128.847		
4,100.00	4,091.70	4,292.02	4,288.10	14.32	15.07	-31.22	-999.78	2,451.57	2,566.74	2,546.12	20.61	124.531		
4,200.00	4,188.62	4,386.99	4,382.56	14.70	15.42	-31.65	-1,000.64	2,441.76	2,536.45	2,515.37	21.08	120.303		
4,304.97	4,289.63	4,485.80	4,480.83	15.12	15.77	-32.18	-1,001.53	2,431.55	2,502.42	2,480.84	21.58	115.956		
4,400.00	4,380.70	4,574.81	4,569.36	15.51	16.10	-32.41	-1,002.33	2,422.36	2,470.61	2,448.57	22.03	112.133		
4,500.00	4,476.55	4,668.48	4,662.52	15.93	16.44	-32.67	-1,003.18	2,412.68	2,437.17	2,414.65	22.51	108.259		
4,600.00	4,572.39	4,762.15	4,755.69	16.36	16.78	-32.93	-1,004.02	2,403.01	2,403.77	2,380.78	23.00	104.529		
4,700.00	4,668.24	4,855.82	4,848.85	16.81	17.13	-33.20	-1,004.87	2,393.33	2,370.43	2,346.94	23.48	100.935		
4,800.00	4,764.08	4,949.49	4,942.02	17.26	17.47	-33.48	-1,005.72	2,383.65	2,337.13	2,313.15	23.98	97.472		
4,900.00	4,859.93	5,043.15	5,035.18	17.72	17.82	-33.77	-1,006.56	2,373.97	2,303.88	2,279.41	24.47	94.135		
5,000.00	4,955.77	5,136.82	5,128.35	18.18	18.17	-34.06	-1,007.41	2,364.30	2,270.68	2,245.71	24.98	90.918		
5,100.00	5,051.62	5,230.49	5,221.51	18.66	18.52	-34.36	-1,008.25	2,354.62	2,237.55	2,212.07	25.48	87.817		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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		
5,200.00	5,147.46	5,324.16	5,314.68	19.14	18.87	-34.67	-1,009.10	2,344.94	2,204.46	2,178.48	25.99	84.825		
5,300.00	5,243.31	5,417.83	5,407.84	19.63	19.22	-34.99	-1,009.94	2,335.27	2,171.44	2,144.94	26.50	81.939		
5,400.00	5,339.15	5,511.50	5,501.00	20.12	19.57	-35.32	-1,010.79	2,325.59	2,138.49	2,111.47	27.02	79.154		
5,500.00	5,435.00	5,605.17	5,594.17	20.62	19.92	-35.66	-1,011.63	2,315.91	2,105.60	2,078.06	27.54	76.465		
5,600.00	5,530.84	5,698.84	5,687.33	21.12	20.27	-36.02	-1,012.48	2,306.23	2,072.78	2,044.72	28.06	73.869		
5,700.00	5,626.69	5,792.51	5,780.50	21.63	20.62	-36.38	-1,013.32	2,296.56	2,040.03	2,011.44	28.59	71.361		
5,800.00	5,722.53	5,886.18	5,873.66	22.14	20.98	-36.75	-1,014.17	2,286.88	2,007.36	1,978.24	29.12	68.939		
5,900.00	5,818.38	5,979.85	5,966.83	22.65	21.33	-37.14	-1,015.01	2,277.20	1,974.77	1,945.11	29.65	66.597		
6,000.00	5,914.22	6,073.52	6,059.99	23.17	21.69	-37.54	-1,015.86	2,267.53	1,942.26	1,912.07	30.19	64.333		
6,100.00	6,010.07	6,167.19	6,153.16	23.69	22.04	-37.95	-1,016.70	2,257.85	1,909.84	1,879.11	30.73	62.144		
6,200.00	6,105.91	6,260.86	6,246.32	24.22	22.40	-38.37	-1,017.55	2,248.17	1,877.52	1,846.24	31.28	60.027		
6,300.00	6,201.76	6,354.53	6,339.48	24.75	22.75	-38.82	-1,018.39	2,238.50	1,845.29	1,813.46	31.83	57.980		
6,400.00	6,297.60	6,448.20	6,432.65	25.28	23.11	-39.27	-1,019.24	2,228.82	1,813.17	1,780.79	32.38	55.998		
6,500.00	6,393.45	6,541.87	6,525.81	25.81	23.47	-39.74	-1,020.08	2,219.14	1,781.15	1,748.22	32.94	54.080		
6,600.00	6,489.29	6,635.54	6,618.98	26.35	23.82	-40.23	-1,020.93	2,209.46	1,749.25	1,715.76	33.50	52.222		
6,700.00	6,585.14	6,729.21	6,712.14	26.89	24.18	-40.74	-1,021.77	2,199.79	1,717.47	1,683.41	34.06	50.423		
6,800.00	6,680.98	6,822.88	6,805.31	27.43	24.54	-41.26	-1,022.62	2,190.11	1,685.82	1,651.19	34.63	48.680		
6,900.00	6,776.83	6,916.54	6,898.47	27.97	24.90	-41.81	-1,023.46	2,180.43	1,654.31	1,619.11	35.21	46.990		
7,000.00	6,872.67	7,010.21	6,991.64	28.52	25.26	-42.37	-1,024.31	2,170.76	1,622.94	1,587.16	35.78	45.353		
7,100.00	6,968.52	7,103.88	7,084.80	29.06	25.62	-42.96	-1,025.15	2,161.08	1,591.72	1,555.35	36.37	43.767		
7,200.00	7,064.36	7,176.45	7,157.01	29.61	25.89	-43.43	-1,025.78	2,153.95	1,561.17	1,524.21	36.96	42.245		
7,300.00	7,160.21	7,244.13	7,224.47	30.16	26.15	-43.90	-1,026.25	2,148.49	1,532.36	1,494.82	37.54	40.815		
7,400.00	7,256.05	7,300.00	7,280.22	30.72	26.35	-44.30	-1,026.57	2,144.88	1,505.46	1,467.33	38.13	39.487		
7,500.00	7,351.90	7,381.21	7,361.34	31.27	26.65	-44.91	-1,026.90	2,141.09	1,480.28	1,441.56	38.72	38.226		
7,600.00	7,447.74	7,450.53	7,430.64	31.82	26.89	-45.46	-1,027.07	2,139.21	1,457.10	1,417.79	39.31	37.063		
7,700.00	7,543.59	7,520.49	7,500.59	32.38	27.14	-46.03	-1,027.12	2,138.58	1,435.88	1,395.98	39.90	35.984		
7,800.00	7,639.43	7,616.33	7,596.43	32.94	27.47	-46.85	-1,027.12	2,138.58	1,415.79	1,375.25	40.54	34.927		
7,889.67	7,725.37	7,702.27	7,682.37	33.44	27.76	-47.59	-1,027.12	2,138.58	1,398.02	1,356.91	41.11	34.009		
7,900.00	7,735.28	7,712.18	7,692.28	33.50	27.79	-47.66	-1,027.12	2,138.58	1,396.00	1,354.82	41.17	33.905		
8,000.00	7,831.56	7,808.46	7,788.56	34.04	28.13	-48.26	-1,027.12	2,138.58	1,377.54	1,335.73	41.81	32.948		
8,100.00	7,928.52	7,905.42	7,885.52	34.56	28.46	-48.83	-1,027.12	2,138.58	1,361.05	1,318.61	42.44	32.073		
8,200.00	8,026.08	8,002.98	7,983.08	35.06	28.79	-49.35	-1,027.12	2,138.58	1,346.48	1,303.43	43.05	31.278		
8,300.00	8,124.18	8,101.08	8,081.18	35.53	29.13	-49.83	-1,027.12	2,138.58	1,333.79	1,290.14	43.65	30.557		
8,400.00	8,222.76	8,199.66	8,179.76	35.98	29.47	-50.25	-1,027.12	2,138.58	1,322.91	1,278.68	44.23	29.908		
8,500.00	8,321.74	8,298.64	8,278.74	36.40	29.81	-50.62	-1,027.12	2,138.58	1,313.80	1,269.00	44.80	29.327		
8,600.00	8,421.06	8,397.96	8,378.06	36.79	30.16	-50.93	-1,027.12	2,138.58	1,306.43	1,261.08	45.35	28.810		
8,700.00	8,520.65	8,497.55	8,477.65	37.16	30.50	-51.17	-1,027.12	2,138.58	1,300.75	1,254.87	45.88	28.354		
8,800.00	8,620.44	8,597.34	8,577.44	37.51	30.85	-51.34	-1,027.12	2,138.58	1,296.74	1,250.35	46.38	27.956		
8,900.00	8,720.37	8,697.27	8,677.37	37.83	31.19	-51.44	-1,027.12	2,138.58	1,294.37	1,247.50	46.87	27.614		
8,994.64	8,815.00	8,791.90	8,772.00	38.11	31.52	-51.44	-1,027.12	2,138.58	1,293.64	1,246.33	47.31	27.342		
9,000.00	8,820.36	8,797.26	8,777.36	38.13	31.54	-51.44	-1,027.12	2,138.58	1,293.64	1,246.31	47.34	27.328		
9,100.00	8,920.36	8,897.26	8,877.36	38.40	31.89	-51.44	-1,027.12	2,138.58	1,293.64	1,245.86	47.79	27.071		
9,200.00	9,020.36	8,997.26	8,977.36	38.68	32.23	-51.44	-1,027.12	2,138.58	1,293.64	1,245.40	48.24	26.817		
9,300.00	9,120.36	9,097.26	9,077.36	38.96	32.58	-51.44	-1,027.12	2,138.58	1,293.64	1,244.95	48.69	26.568		
9,400.00	9,220.36	9,197.26	9,177.36	39.25	32.93	-51.44	-1,027.12	2,138.58	1,293.64	1,244.50	49.15	26.322		
9,500.00	9,320.36	9,297.26	9,277.36	39.53	33.28	-51.44	-1,027.12	2,138.58	1,293.64	1,244.04	49.60	26.081		
9,600.00	9,420.36	9,397.26	9,377.36	39.81	33.63	-51.44	-1,027.12	2,138.58	1,293.64	1,243.59	50.06	25.843		
9,700.00	9,520.36	9,497.26	9,477.36	40.10	33.97	-51.44	-1,027.12	2,138.58	1,293.64	1,243.13	50.51	25.609		
9,800.00	9,620.36	9,597.26	9,577.36	40.39	34.32	-51.44	-1,027.12	2,138.58	1,293.64	1,242.67	50.97	25.379		
9,900.00	9,720.36	9,697.26	9,677.36	40.67	34.67	-51.44	-1,027.12	2,138.58	1,293.64	1,242.21	51.43	25.153		
10,000.00	9,820.36	9,797.26	9,777.36	40.96	35.02	-51.44	-1,027.12	2,138.58	1,293.64	1,241.75	51.89	24.930		
10,100.00	9,920.36	9,897.26	9,877.36	41.25	35.37	-51.44	-1,027.12	2,138.58	1,293.64	1,241.29	52.35	24.711		

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 Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design		Tatanka Fed Com - Tatanka Fed Com 805H - OH - Plan #2											Offset Site Error:		0.00 usft
Survey Program:		0-OWSG (Rev2) MWD											Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis		Distance								Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
10,200.00	10,020.36	9,997.26	9,977.36	41.55	35.72	89.43	-1,027.12	2,138.58	1,293.64	1,240.83	52.81	24.495			
10,300.00	10,120.36	10,097.26	10,077.36	41.84	36.07	89.43	-1,027.12	2,138.58	1,293.64	1,240.37	53.28	24.282			
10,400.00	10,220.36	10,197.26	10,177.36	42.13	36.42	89.43	-1,027.12	2,138.58	1,293.64	1,239.91	53.74	24.073			
10,500.00	10,320.36	10,297.26	10,277.36	42.43	36.77	89.43	-1,027.12	2,138.58	1,293.64	1,239.44	54.20	23.867			
10,600.00	10,420.36	10,397.26	10,377.36	42.72	37.12	89.43	-1,027.12	2,138.58	1,293.64	1,238.98	54.67	23.664			
10,700.00	10,520.36	10,497.26	10,477.36	43.02	37.47	89.43	-1,027.12	2,138.58	1,293.64	1,238.51	55.13	23.464			
10,800.00	10,620.36	10,597.26	10,577.36	43.31	37.82	89.43	-1,027.12	2,138.58	1,293.64	1,238.05	55.60	23.268			
10,900.00	10,720.36	10,697.26	10,677.36	43.61	38.17	89.43	-1,027.12	2,138.58	1,293.64	1,237.58	56.07	23.074			
11,000.00	10,820.36	10,797.26	10,777.36	43.91	38.52	89.43	-1,027.12	2,138.58	1,293.64	1,237.11	56.53	22.883			
11,100.00	10,920.36	10,897.26	10,877.36	44.21	38.87	89.43	-1,027.12	2,138.58	1,293.64	1,236.64	57.00	22.695			
11,200.00	11,020.36	10,997.26	10,977.36	44.51	39.22	89.43	-1,027.12	2,138.58	1,293.64	1,236.17	57.47	22.510			
11,300.00	11,120.36	11,097.26	11,077.36	44.81	39.57	89.43	-1,027.12	2,138.58	1,293.64	1,235.71	57.94	22.328			
11,400.00	11,220.36	11,197.26	11,177.36	45.12	39.92	89.43	-1,027.12	2,138.58	1,293.64	1,235.23	58.41	22.148			
11,500.00	11,320.36	11,297.26	11,277.36	45.42	40.27	89.43	-1,027.12	2,138.58	1,293.64	1,234.76	58.88	21.971			
11,600.00	11,420.36	11,397.26	11,377.36	45.72	40.63	89.43	-1,027.12	2,138.58	1,293.64	1,234.29	59.35	21.796			
11,700.00	11,520.36	11,497.26	11,477.36	46.03	40.98	89.43	-1,027.12	2,138.58	1,293.64	1,233.82	59.82	21.624			
11,800.00	11,620.36	11,597.26	11,577.36	46.33	41.33	89.43	-1,027.12	2,138.58	1,293.64	1,233.35	60.30	21.455			
11,900.00	11,720.36	11,697.26	11,677.36	46.64	41.68	89.43	-1,027.12	2,138.58	1,293.64	1,232.88	60.77	21.288			
11,950.68	11,771.04	11,747.94	11,728.04	46.80	41.86	89.43	-1,027.12	2,138.58	1,293.64	1,232.64	61.01	21.204	CC		
11,951.12	11,771.48	11,748.38	11,728.48	46.80	41.86	-90.01	-1,027.12	2,138.58	1,293.64	1,232.63	61.01	21.204			
12,000.00	11,820.30	11,797.20	11,777.30	46.96	42.03	-90.10	-1,027.12	2,138.58	1,293.65	1,232.39	61.26	21.119			
12,050.00	11,869.86	11,846.76	11,826.86	47.14	42.21	-90.38	-1,027.12	2,138.58	1,293.67	1,232.14	61.54	21.023			
12,100.00	11,918.67	11,895.57	11,875.67	47.35	42.38	-90.84	-1,027.12	2,138.58	1,293.79	1,231.95	61.84	20.921			
12,150.00	11,966.36	11,943.26	11,923.36	47.58	42.55	-91.44	-1,027.12	2,138.58	1,294.11	1,231.93	62.18	20.814			
12,200.00	12,012.56	11,993.56	11,973.61	47.83	42.71	-92.16	-1,028.86	2,138.60	1,294.69	1,232.16	62.53	20.706			
12,250.00	12,056.93	12,045.99	12,025.63	48.10	42.88	-92.88	-1,035.32	2,138.66	1,295.51	1,232.61	62.89	20.599			
12,300.00	12,099.12	12,100.38	12,078.72	48.39	43.06	-93.60	-1,047.02	2,138.78	1,296.54	1,233.27	63.27	20.494			
12,350.00	12,138.81	12,156.88	12,132.45	48.69	43.24	-94.31	-1,064.44	2,138.95	1,297.76	1,234.11	63.64	20.391			
12,400.00	12,175.70	12,215.66	12,186.23	49.01	43.41	-95.00	-1,088.09	2,139.18	1,299.13	1,235.11	64.02	20.293			
12,450.00	12,209.51	12,276.85	12,239.34	49.34	43.58	-95.67	-1,118.41	2,139.48	1,300.62	1,236.23	64.39	20.200			
12,500.00	12,239.99	12,340.55	12,290.86	49.69	43.75	-96.31	-1,155.81	2,139.84	1,302.16	1,237.42	64.74	20.112			
12,550.00	12,266.90	12,406.80	12,339.70	50.05	43.92	-96.91	-1,200.53	2,140.28	1,303.70	1,238.61	65.09	20.030			
12,600.00	12,290.03	12,475.58	12,384.59	50.42	44.09	-97.45	-1,252.57	2,140.79	1,305.17	1,239.75	65.42	19.951			
12,650.00	12,309.21	12,546.73	12,424.13	50.81	44.27	-97.92	-1,311.67	2,141.37	1,306.50	1,240.76	65.74	19.874			
12,700.00	12,324.30	12,620.01	12,456.87	51.20	44.48	-98.30	-1,377.17	2,142.01	1,307.61	1,241.55	66.06	19.795			
12,750.00	12,335.17	12,695.03	12,481.45	51.60	44.71	-98.59	-1,447.99	2,142.71	1,308.46	1,242.07	66.39	19.709			
12,800.00	12,341.76	12,771.29	12,496.74	52.01	44.96	-98.77	-1,522.64	2,143.44	1,308.99	1,242.26	66.74	19.614			
12,850.68	12,344.00	12,849.25	12,502.00	52.42	45.23	-98.83	-1,600.36	2,144.20	1,309.18	1,242.06	67.12	19.505			
12,855.43	12,344.00	12,856.56	12,501.95	52.46	45.26	-98.83	-1,607.67	2,144.27	1,309.17	1,242.01	67.16	19.494			
12,900.00	12,344.00	12,898.46	12,502.00	52.83	45.41	-98.83	-1,649.56	2,144.68	1,309.18	1,241.63	67.54	19.383			
13,000.00	12,344.00	12,998.46	12,502.00	53.68	45.82	-98.83	-1,749.56	2,145.66	1,309.18	1,240.72	68.45	19.125			
13,100.00	12,344.00	13,098.46	12,502.00	54.57	46.29	-98.83	-1,849.55	2,146.64	1,309.18	1,239.75	69.43	18.856			
13,200.00	12,344.00	13,198.46	12,502.00	55.50	46.80	-98.83	-1,949.55	2,147.62	1,309.18	1,238.71	70.47	18.578			
13,300.00	12,344.00	13,298.46	12,502.00	56.46	47.37	-98.83	-2,049.55	2,148.60	1,309.18	1,237.61	71.57	18.293			
13,400.00	12,344.00	13,398.46	12,502.00	57.45	47.98	-98.83	-2,149.54	2,149.58	1,309.18	1,236.46	72.73	18.002			
13,500.00	12,344.00	13,498.46	12,502.00	58.47	48.65	-98.83	-2,249.54	2,150.56	1,309.19	1,235.25	73.93	17.707			
13,600.00	12,344.00	13,598.46	12,502.00	59.52	49.36	-98.83	-2,349.53	2,151.54	1,309.19	1,233.99	75.20	17.410			
13,700.00	12,344.00	13,698.46	12,502.00	60.60	50.11	-98.83	-2,449.53	2,152.52	1,309.19	1,232.68	76.51	17.112			
13,800.00	12,344.00	13,798.46	12,502.00	61.70	50.91	-98.83	-2,549.52	2,153.51	1,309.19	1,231.33	77.86	16.814			
13,900.00	12,344.00	13,898.46	12,502.00	62.82	51.75	-98.83	-2,649.52	2,154.49	1,309.19	1,229.93	79.27	16.516			
14,000.00	12,344.00	13,998.46	12,502.00	63.97	52.62	-98.83	-2,749.51	2,155.47	1,309.19	1,228.48	80.71	16.221			
14,100.00	12,344.00	14,098.46	12,502.00	65.14	53.54	-98.83	-2,849.51	2,156.45	1,309.20	1,227.00	82.19	15.928			

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 Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,200.00	12,344.00	14,198.46	12,502.00	66.33	54.48	-98.83	-2,949.50	2,157.43	1,309.20	1,225.48	83.71	15.639		
14,300.00	12,344.00	14,298.46	12,502.00	67.54	55.46	-98.83	-3,049.50	2,158.41	1,309.20	1,223.93	85.27	15.354		
14,400.00	12,344.00	14,398.46	12,502.00	68.77	56.47	-98.83	-3,149.49	2,159.39	1,309.20	1,222.34	86.86	15.073		
14,500.00	12,344.00	14,498.46	12,502.00	70.02	57.51	-98.83	-3,249.49	2,160.37	1,309.20	1,220.72	88.48	14.796		
14,600.00	12,344.00	14,598.46	12,502.00	71.28	58.58	-98.83	-3,349.48	2,161.35	1,309.20	1,219.07	90.13	14.525		
14,700.00	12,344.00	14,698.46	12,502.00	72.55	59.68	-98.83	-3,449.48	2,162.33	1,309.20	1,217.39	91.81	14.260		
14,800.00	12,344.00	14,798.46	12,502.00	73.85	60.80	-98.83	-3,549.47	2,163.31	1,309.21	1,215.69	93.52	13.999		
14,900.00	12,344.00	14,898.46	12,502.00	75.15	61.94	-98.83	-3,649.47	2,164.29	1,309.21	1,213.96	95.25	13.745		
15,000.00	12,344.00	14,998.46	12,502.00	76.47	63.11	-98.83	-3,749.46	2,165.27	1,309.21	1,212.20	97.01	13.496		
15,100.00	12,344.00	15,098.46	12,502.00	77.81	64.29	-98.83	-3,849.46	2,166.25	1,309.21	1,210.43	98.79	13.253		
15,200.00	12,344.00	15,198.46	12,502.00	79.15	65.50	-98.83	-3,949.45	2,167.23	1,309.21	1,208.63	100.59	13.016		
15,300.00	12,344.00	15,298.46	12,502.00	80.51	66.73	-98.83	-4,049.45	2,168.21	1,309.21	1,206.81	102.41	12.784		
15,400.00	12,344.00	15,398.46	12,502.00	81.87	67.97	-98.83	-4,149.44	2,169.19	1,309.22	1,204.97	104.25	12.559		
15,500.00	12,344.00	15,498.46	12,502.00	83.25	69.23	-98.83	-4,249.44	2,170.17	1,309.22	1,203.11	106.11	12.339		
15,600.00	12,344.00	15,598.46	12,502.00	84.64	70.51	-98.83	-4,349.43	2,171.15	1,309.22	1,201.24	107.98	12.124		
15,700.00	12,344.00	15,698.46	12,502.00	86.03	71.81	-98.83	-4,449.43	2,172.13	1,309.22	1,199.34	109.88	11.915		
15,800.00	12,344.00	15,798.46	12,502.00	87.44	73.11	-98.83	-4,549.43	2,173.11	1,309.22	1,197.44	111.79	11.712		
15,900.00	12,344.00	15,898.46	12,502.00	88.85	74.43	-98.83	-4,649.42	2,174.09	1,309.22	1,195.51	113.71	11.514		
16,000.00	12,344.00	15,998.46	12,502.00	90.27	75.77	-98.83	-4,749.42	2,175.07	1,309.23	1,193.58	115.65	11.321		
16,100.00	12,344.00	16,098.46	12,502.00	91.70	77.11	-98.83	-4,849.41	2,176.05	1,309.23	1,191.63	117.60	11.133		
16,200.00	12,344.00	16,198.46	12,502.00	93.14	78.47	-98.83	-4,949.41	2,177.03	1,309.23	1,189.67	119.56	10.950		
16,300.00	12,344.00	16,298.46	12,502.00	94.58	79.84	-98.83	-5,049.40	2,178.01	1,309.23	1,187.69	121.54	10.772		
16,400.00	12,344.00	16,398.46	12,502.00	96.03	81.22	-98.83	-5,149.40	2,178.99	1,309.23	1,185.71	123.52	10.599		
16,500.00	12,344.00	16,498.46	12,502.00	97.49	82.61	-98.83	-5,249.39	2,179.97	1,309.23	1,183.71	125.52	10.430		
16,600.00	12,344.00	16,598.46	12,502.00	98.95	84.01	-98.83	-5,349.39	2,180.95	1,309.24	1,181.70	127.53	10.266		
16,700.00	12,344.00	16,698.46	12,502.00	100.42	85.42	-98.83	-5,449.38	2,181.93	1,309.24	1,179.68	129.55	10.106		
16,800.00	12,344.00	16,798.46	12,502.00	101.89	86.83	-98.83	-5,549.38	2,182.91	1,309.24	1,177.66	131.58	9.950		
16,900.00	12,344.00	16,898.46	12,502.00	103.37	88.26	-98.83	-5,649.37	2,183.89	1,309.24	1,175.62	133.62	9.798		
17,000.00	12,344.00	16,998.46	12,502.00	104.86	89.69	-98.83	-5,749.37	2,184.87	1,309.24	1,173.58	135.66	9.651		
17,100.00	12,344.00	17,098.46	12,502.00	106.35	91.13	-98.83	-5,849.36	2,185.86	1,309.24	1,171.53	137.72	9.507		
17,200.00	12,344.00	17,198.46	12,502.00	107.84	92.58	-98.83	-5,949.36	2,186.84	1,309.24	1,169.47	139.78	9.366		
17,300.00	12,344.00	17,298.46	12,502.00	109.34	94.03	-98.83	-6,049.35	2,187.82	1,309.25	1,167.40	141.85	9.230		
17,400.00	12,344.00	17,398.46	12,502.00	110.84	95.49	-98.83	-6,149.35	2,188.80	1,309.25	1,165.32	143.93	9.097		
17,500.00	12,344.00	17,498.46	12,502.00	112.35	96.96	-98.83	-6,249.34	2,189.78	1,309.25	1,163.24	146.01	8.967		
17,600.00	12,344.00	17,598.46	12,502.00	113.86	98.43	-98.83	-6,349.34	2,190.76	1,309.25	1,161.15	148.10	8.840		
17,700.00	12,344.00	17,698.46	12,502.00	115.38	99.91	-98.83	-6,449.33	2,191.74	1,309.25	1,159.05	150.20	8.717		
17,800.00	12,344.00	17,798.46	12,502.00	116.89	101.39	-98.83	-6,549.33	2,192.72	1,309.25	1,156.95	152.30	8.596		
17,900.00	12,344.00	17,898.46	12,502.00	118.42	102.88	-98.83	-6,649.32	2,193.70	1,309.26	1,154.84	154.41	8.479		
18,000.00	12,344.00	17,998.46	12,502.00	119.94	104.37	-98.83	-6,749.32	2,194.68	1,309.26	1,152.73	156.53	8.364		
18,100.00	12,344.00	18,098.46	12,502.00	121.47	105.87	-98.83	-6,849.31	2,195.66	1,309.26	1,150.61	158.65	8.253		
18,200.00	12,344.00	18,198.46	12,502.00	123.00	107.37	-98.83	-6,949.31	2,196.64	1,309.26	1,148.49	160.77	8.144		
18,300.00	12,344.00	18,298.46	12,502.00	124.54	108.88	-98.83	-7,049.31	2,197.62	1,309.26	1,146.36	162.90	8.037		
18,400.00	12,344.00	18,398.46	12,502.00	126.08	110.39	-98.83	-7,149.30	2,198.60	1,309.26	1,144.23	165.04	7.933		
18,500.00	12,344.00	18,498.46	12,502.00	127.62	111.90	-98.83	-7,249.30	2,199.58	1,309.27	1,142.09	167.18	7.832		
18,600.00	12,344.00	18,598.46	12,502.00	129.16	113.42	-98.83	-7,349.29	2,200.56	1,309.27	1,139.95	169.32	7.733		
18,700.00	12,344.00	18,698.46	12,502.00	130.71	114.95	-98.83	-7,449.29	2,201.54	1,309.27	1,137.80	171.47	7.636		
18,800.00	12,344.00	18,798.46	12,502.00	132.26	116.47	-98.83	-7,549.28	2,202.52	1,309.27	1,135.65	173.62	7.541		
18,900.00	12,344.00	18,898.46	12,502.00	133.81	118.00	-98.83	-7,649.28	2,203.50	1,309.27	1,133.50	175.77	7.449		
19,000.00	12,344.00	18,998.46	12,502.00	135.36	119.53	-98.83	-7,749.27	2,204.48	1,309.27	1,131.34	177.93	7.358		
19,100.00	12,344.00	19,098.46	12,502.00	136.92	121.07	-98.83	-7,849.27	2,205.46	1,309.27	1,129.18	180.10	7.270		
19,200.00	12,344.00	19,198.46	12,502.00	138.48	122.61	-98.83	-7,949.26	2,206.44	1,309.28	1,127.01	182.26	7.183		
19,300.00	12,344.00	19,298.46	12,502.00	140.04	124.15	-98.83	-8,049.26	2,207.42	1,309.28	1,124.84	184.43	7.099		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 805H - OH - Plan #2		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD															Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
19,400.00	12,344.00	19,398.46	12,502.00	141.60	125.69	-98.83	-8,149.25	2,208.40	1,309.28	1,122.67	186.61	7.016				
19,500.00	12,344.00	19,498.46	12,502.00	143.16	127.24	-98.83	-8,249.25	2,209.38	1,309.28	1,120.50	188.78	6.935				
19,600.00	12,344.00	19,598.46	12,502.00	144.73	128.79	-98.83	-8,349.24	2,210.36	1,309.28	1,118.32	190.96	6.856				
19,700.00	12,344.00	19,698.46	12,502.00	146.30	130.34	-98.83	-8,449.24	2,211.34	1,309.28	1,116.14	193.15	6.779				
19,800.00	12,344.00	19,798.46	12,502.00	147.87	131.90	-98.83	-8,549.23	2,212.32	1,309.29	1,113.96	195.33	6.703				
19,900.00	12,344.00	19,898.46	12,502.00	149.44	133.45	-98.83	-8,649.23	2,213.30	1,309.29	1,111.77	197.52	6.629				
20,000.00	12,344.00	19,998.46	12,502.00	151.01	135.01	-98.83	-8,749.22	2,214.28	1,309.29	1,109.58	199.71	6.556				
20,100.00	12,344.00	20,098.46	12,502.00	152.59	136.57	-98.83	-8,849.22	2,215.26	1,309.29	1,107.39	201.90	6.485				
20,200.00	12,344.00	20,198.46	12,502.00	154.17	138.14	-98.83	-8,949.21	2,216.24	1,309.29	1,105.19	204.10	6.415				
20,300.00	12,344.00	20,298.46	12,502.00	155.74	139.70	-98.83	-9,049.21	2,217.23	1,309.29	1,103.00	206.30	6.347				
20,400.00	12,344.00	20,398.46	12,502.00	157.32	141.27	-98.83	-9,149.20	2,218.21	1,309.30	1,100.80	208.50	6.280				
20,500.00	12,344.00	20,498.46	12,502.00	158.91	142.84	-98.83	-9,249.20	2,219.19	1,309.30	1,098.60	210.70	6.214				
20,600.00	12,344.00	20,598.46	12,502.00	160.49	144.41	-98.83	-9,349.19	2,220.17	1,309.30	1,096.40	212.90	6.150				
20,700.00	12,344.00	20,698.46	12,502.00	162.07	145.98	-98.83	-9,449.19	2,221.15	1,309.30	1,094.19	215.11	6.087				
20,800.00	12,344.00	20,798.46	12,502.00	163.66	147.56	-98.83	-9,549.19	2,222.13	1,309.30	1,091.99	217.32	6.025				
20,900.00	12,344.00	20,898.46	12,502.00	165.24	149.13	-98.83	-9,649.18	2,223.11	1,309.30	1,089.78	219.53	5.964				
21,000.00	12,344.00	20,998.46	12,502.00	166.83	150.71	-98.83	-9,749.18	2,224.09	1,309.31	1,087.57	221.74	5.905				
21,100.00	12,344.00	21,098.46	12,502.00	168.42	152.29	-98.83	-9,849.17	2,225.07	1,309.31	1,085.35	223.95	5.846				
21,200.00	12,344.00	21,198.46	12,502.00	170.01	153.87	-98.83	-9,949.17	2,226.05	1,309.31	1,083.14	226.17	5.789				
21,300.00	12,344.00	21,298.46	12,502.00	171.60	155.45	-98.83	-10,049.16	2,227.03	1,309.31	1,080.92	228.39	5.733				
21,400.00	12,344.00	21,398.46	12,502.00	173.20	157.04	-98.83	-10,149.16	2,228.01	1,309.31	1,078.70	230.61	5.678				
21,500.00	12,344.00	21,498.46	12,502.00	174.79	158.62	-98.83	-10,249.15	2,228.99	1,309.31	1,076.49	232.83	5.624				
21,600.00	12,344.00	21,598.46	12,502.00	176.38	160.21	-98.83	-10,349.15	2,229.97	1,309.31	1,074.26	235.05	5.570				
21,700.00	12,344.00	21,698.46	12,502.00	177.98	161.80	-98.83	-10,449.14	2,230.95	1,309.32	1,072.04	237.27	5.518				
21,800.00	12,344.00	21,798.46	12,502.00	179.58	163.39	-98.83	-10,549.14	2,231.93	1,309.32	1,069.82	239.50	5.467				
21,900.00	12,344.00	21,898.46	12,502.00	181.17	164.98	-98.83	-10,649.13	2,232.91	1,309.32	1,067.59	241.73	5.417				
22,000.00	12,344.00	21,998.46	12,502.00	182.77	166.57	-98.83	-10,749.13	2,233.89	1,309.32	1,065.37	243.95	5.367				
22,100.00	12,344.00	22,098.46	12,502.00	184.37	168.16	-98.83	-10,849.12	2,234.87	1,309.32	1,063.14	246.18	5.318				
22,200.00	12,344.00	22,198.46	12,502.00	185.97	169.75	-98.83	-10,949.12	2,235.85	1,309.32	1,060.91	248.41	5.271				
22,300.00	12,344.00	22,298.46	12,502.00	187.57	171.35	-98.83	-11,049.11	2,236.83	1,309.33	1,058.68	250.65	5.224				
22,400.00	12,344.00	22,398.46	12,502.00	189.18	172.94	-98.83	-11,149.11	2,237.81	1,309.33	1,056.45	252.88	5.178				
22,500.00	12,344.00	22,498.46	12,502.00	190.78	174.54	-98.83	-11,249.10	2,238.79	1,309.33	1,054.21	255.11	5.132				
22,600.00	12,344.00	22,598.46	12,502.00	192.38	176.14	-98.83	-11,349.10	2,239.77	1,309.33	1,051.98	257.35	5.088				
22,642.51	12,344.00	22,640.97	12,502.00	193.01	176.75	-98.83	-11,391.61	2,240.19	1,309.33	1,051.14	258.19	5.071 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 Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 806H - OH - Plan #2		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance						Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
0.00	0.00	0.00	0.00	0.00	0.00	110.82	-991.87	2,608.57	2,791.15							
100.00	100.00	54.20	54.20	0.13	0.07	110.82	-991.87	2,608.57	2,790.78	2,790.64	0.14	N/A				
200.00	200.00	154.20	154.20	0.48	0.32	110.82	-991.87	2,608.57	2,790.78	2,790.20	0.58	4,811.406				
300.00	300.00	254.20	254.20	0.84	0.68	110.82	-991.87	2,608.57	2,790.78	2,789.70	1.08	2,580.466				
400.00	400.00	354.20	354.20	1.20	1.04	110.82	-991.87	2,608.57	2,790.78	2,789.19	1.59	1,759.122				
500.00	500.00	454.20	454.20	1.56	1.40	110.82	-991.87	2,608.57	2,790.78	2,788.69	2.09	1,333.778				
600.00	600.00	554.20	554.20	1.92	1.75	110.82	-991.87	2,608.57	2,790.78	2,788.18	2.60	1,073.908				
700.00	700.00	654.20	654.20	2.28	2.11	110.82	-991.87	2,608.57	2,790.78	2,787.67	3.11	898.731				
800.00	800.00	754.20	754.20	2.63	2.47	110.82	-991.87	2,608.57	2,790.78	2,787.17	3.61	772.663				
900.00	900.00	854.20	854.20	2.99	2.83	110.82	-991.87	2,608.57	2,790.78	2,786.66	4.12	677.600				
1,000.00	1,000.00	954.20	954.20	3.35	3.19	110.82	-991.87	2,608.57	2,790.78	2,786.15	4.63	603.360				
1,100.00	1,100.00	1,054.20	1,054.20	3.71	3.55	110.82	-991.87	2,608.57	2,790.78	2,785.65	5.13	543.777				
1,200.00	1,200.00	1,154.20	1,154.20	4.07	3.90	110.82	-991.87	2,608.57	2,790.78	2,785.14	5.64	494.903				
1,300.00	1,300.00	1,254.20	1,254.20	4.43	4.26	110.82	-991.87	2,608.57	2,790.78	2,784.63	6.15	454.088				
1,400.00	1,400.00	1,354.20	1,354.20	4.79	4.62	110.82	-991.87	2,608.57	2,790.78	2,784.13	6.65	419.491				
1,500.00	1,500.00	1,454.20	1,454.20	5.14	4.98	110.82	-991.87	2,608.57	2,790.78	2,783.62	7.16	389.792				
1,600.00	1,600.00	1,554.20	1,554.20	5.50	5.34	110.82	-991.87	2,608.57	2,790.78	2,783.11	7.67	364.020				
1,700.00	1,700.00	1,654.20	1,654.20	5.86	5.70	110.82	-991.87	2,608.57	2,790.78	2,782.60	8.17	341.444				
1,800.00	1,800.00	1,754.20	1,754.20	6.22	6.06	110.82	-991.87	2,608.57	2,790.78	2,782.10	8.68	321.505				
1,900.00	1,900.00	1,854.20	1,854.20	6.58	6.41	110.82	-991.87	2,608.57	2,790.78	2,781.59	9.19	303.766				
2,000.00	2,000.00	1,954.20	1,954.20	6.94	6.77	110.82	-991.87	2,608.57	2,790.78	2,781.08	9.69	287.882				
2,100.00	2,100.00	2,054.20	2,054.20	7.29	7.13	110.82	-991.87	2,608.57	2,790.78	2,780.58	10.20	273.576				
2,200.00	2,200.00	2,154.20	2,154.20	7.65	7.49	110.82	-991.87	2,608.57	2,790.78	2,780.07	10.71	260.625				
2,300.00	2,300.00	2,254.20	2,254.20	8.01	7.85	110.82	-991.87	2,608.57	2,790.78	2,779.56	11.21	248.844				
2,400.00	2,400.00	2,354.20	2,354.20	8.37	8.21	110.82	-991.87	2,608.57	2,790.78	2,779.06	11.72	238.083				
2,500.00	2,500.00	2,454.20	2,454.20	8.73	8.56	110.82	-991.87	2,608.57	2,790.78	2,778.55	12.23	228.213				
2,600.00	2,600.00	2,554.20	2,554.20	9.09	8.92	110.82	-991.87	2,608.57	2,790.78	2,778.04	12.74	219.129				
2,700.00	2,700.00	2,654.20	2,654.20	9.45	9.28	110.82	-991.87	2,608.57	2,790.78	2,777.54	13.24	210.741				
2,800.00	2,800.00	2,754.20	2,754.20	9.80	9.64	110.82	-991.87	2,608.57	2,790.78	2,777.03	13.75	202.971				
2,900.00	2,900.00	2,854.20	2,854.20	10.16	10.00	110.82	-991.87	2,608.57	2,790.78	2,776.52	14.26	195.754				
3,000.00	3,000.00	2,954.20	2,954.20	10.52	10.36	110.82	-991.87	2,608.57	2,790.78	2,776.01	14.76	189.032				
3,100.00	3,100.00	3,054.20	3,054.20	10.88	10.72	110.82	-991.87	2,608.57	2,790.78	2,775.51	15.27	182.757				
3,200.00	3,200.00	3,154.20	3,154.20	11.24	11.07	110.82	-991.87	2,608.57	2,790.78	2,775.00	15.78	176.885				
3,300.00	3,299.99	3,231.94	3,231.94	11.58	11.35	-30.10	-991.88	2,608.70	2,789.86	2,773.65	16.21	172.064				
3,400.00	3,399.91	3,300.00	3,299.99	11.91	11.59	-30.15	-991.94	2,609.88	2,788.02	2,771.41	16.61	167.837				
3,500.00	3,499.69	3,349.75	3,349.72	12.24	11.76	-30.22	-992.04	2,611.50	2,785.35	2,768.39	16.96	164.252				
3,600.00	3,599.27	3,400.00	3,399.91	12.57	11.93	-30.31	-992.17	2,613.80	2,781.93	2,764.63	17.30	160.783				
3,700.00	3,698.57	3,467.34	3,467.13	12.91	12.16	-30.44	-992.40	2,617.91	2,777.70	2,760.01	17.69	157.016				
3,800.00	3,797.54	3,526.01	3,525.61	13.25	12.36	-30.60	-992.66	2,622.45	2,772.72	2,754.66	18.05	153.572				
3,900.00	3,896.09	3,600.00	3,599.27	13.60	12.62	-30.82	-993.06	2,629.46	2,767.06	2,748.60	18.46	149.883				
4,000.00	3,994.16	3,651.25	3,650.20	13.96	12.80	-31.01	-993.39	2,635.15	2,760.54	2,741.74	18.80	146.802				
4,100.00	4,091.70	3,735.82	3,734.19	14.32	13.09	-31.34	-993.95	2,645.10	2,752.80	2,733.55	19.25	143.038				
4,200.00	4,188.62	3,834.02	3,831.70	14.70	13.44	-31.75	-994.61	2,656.66	2,742.95	2,723.22	19.73	139.023				
4,304.97	4,289.63	3,936.60	3,933.56	15.12	13.81	-32.23	-995.30	2,668.73	2,730.35	2,710.10	20.24	134.876				
4,400.00	4,380.70	4,029.19	4,025.51	15.51	14.14	-32.59	-995.92	2,679.62	2,717.95	2,697.24	20.71	131.223				
4,500.00	4,476.55	4,126.64	4,122.27	15.93	14.49	-32.98	-996.58	2,691.09	2,705.03	2,683.81	21.21	127.527				
4,600.00	4,572.39	4,224.08	4,219.04	16.36	14.85	-33.37	-997.23	2,702.56	2,692.23	2,670.51	21.72	123.975				
4,700.00	4,668.24	4,321.52	4,315.80	16.81	15.21	-33.76	-997.88	2,714.02	2,679.56	2,657.33	22.23	120.561				
4,800.00	4,764.08	4,418.96	4,412.56	17.26	15.56	-34.15	-998.54	2,725.49	2,667.01	2,644.27	22.74	117.279				
4,900.00	4,859.93	4,516.40	4,509.33	17.72	15.92	-34.55	-999.19	2,736.95	2,654.60	2,631.34	23.26	114.124				
5,000.00	4,955.77	4,613.85	4,606.09	18.18	16.29	-34.96	-999.84	2,748.42	2,642.32	2,618.54	23.79	111.090				
5,100.00	5,051.62	4,711.29	4,702.85	18.66	16.65	-35.36	-1,000.50	2,759.89	2,630.18	2,605.86	24.32	108.171				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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		
5,200.00	5,147.46	4,808.73	4,799.61	19.14	17.01	-35.77	-1,001.15	2,771.35	2,618.17	2,593.32	24.85	105.363		
5,300.00	5,243.31	4,906.17	4,896.38	19.63	17.38	-36.19	-1,001.81	2,782.82	2,606.30	2,580.91	25.39	102.660		
5,400.00	5,339.15	5,003.61	4,993.14	20.12	17.75	-36.60	-1,002.46	2,794.28	2,594.57	2,568.64	25.93	100.058		
5,500.00	5,435.00	5,101.06	5,089.90	20.62	18.11	-37.02	-1,003.11	2,805.75	2,582.99	2,556.51	26.48	97.552		
5,600.00	5,530.84	5,198.50	5,186.67	21.12	18.48	-37.45	-1,003.77	2,817.22	2,571.55	2,544.52	27.03	95.138		
5,700.00	5,626.69	5,295.94	5,283.43	21.63	18.85	-37.88	-1,004.42	2,828.68	2,560.25	2,532.66	27.59	92.813		
5,800.00	5,722.53	5,393.38	5,380.19	22.14	19.23	-38.31	-1,005.07	2,840.15	2,549.10	2,520.96	28.14	90.571		
5,900.00	5,818.38	5,490.83	5,476.95	22.65	19.60	-38.74	-1,005.73	2,851.61	2,538.10	2,509.39	28.71	88.409		
6,000.00	5,914.22	5,588.27	5,573.72	23.17	19.97	-39.18	-1,006.38	2,863.08	2,527.26	2,497.98	29.28	86.324		
6,100.00	6,010.07	5,685.71	5,670.48	23.69	20.35	-39.63	-1,007.04	2,874.55	2,516.57	2,486.72	29.85	84.313		
6,200.00	6,105.91	5,783.15	5,767.24	24.22	20.72	-40.07	-1,007.69	2,886.01	2,506.03	2,475.61	30.42	82.372		
6,300.00	6,201.76	5,880.59	5,864.01	24.75	21.10	-40.52	-1,008.34	2,897.48	2,495.65	2,464.65	31.00	80.498		
6,400.00	6,297.60	5,978.04	5,960.77	25.28	21.47	-40.98	-1,009.00	2,908.94	2,485.43	2,453.85	31.59	78.688		
6,500.00	6,393.45	6,075.48	6,057.53	25.81	21.85	-41.43	-1,009.65	2,920.41	2,475.38	2,443.20	32.17	76.940		
6,600.00	6,489.29	6,172.92	6,154.30	26.35	22.23	-41.89	-1,010.30	2,931.88	2,465.48	2,432.72	32.76	75.251		
6,700.00	6,585.14	6,270.36	6,251.06	26.89	22.60	-42.36	-1,010.96	2,943.34	2,455.76	2,422.40	33.36	73.618		
6,800.00	6,680.98	6,367.80	6,347.82	27.43	22.98	-42.83	-1,011.61	2,954.81	2,446.20	2,412.24	33.96	72.040		
6,900.00	6,776.83	6,465.25	6,444.58	27.97	23.36	-43.30	-1,012.27	2,966.27	2,436.81	2,402.25	34.56	70.514		
7,000.00	6,872.67	6,562.69	6,541.35	28.52	23.74	-43.77	-1,012.92	2,977.74	2,427.59	2,392.43	35.16	69.037		
7,100.00	6,968.52	6,660.13	6,638.11	29.06	24.12	-44.25	-1,013.57	2,989.21	2,418.55	2,382.77	35.77	67.609		
7,200.00	7,064.36	6,757.57	6,734.87	29.61	24.50	-44.73	-1,014.23	3,000.67	2,409.68	2,373.29	36.39	66.227		
7,300.00	7,160.21	6,855.02	6,831.64	30.16	24.88	-45.21	-1,014.88	3,012.14	2,400.99	2,363.99	37.00	64.889		
7,400.00	7,256.05	6,952.46	6,928.40	30.72	25.26	-45.70	-1,015.53	3,023.60	2,392.48	2,354.86	37.62	63.593		
7,500.00	7,351.90	7,049.90	7,025.16	31.27	25.64	-46.19	-1,016.19	3,035.07	2,384.15	2,345.90	38.25	62.338		
7,600.00	7,447.74	7,266.68	7,240.92	31.82	26.47	-47.30	-1,017.37	3,055.79	2,374.18	2,335.00	39.18	60.598		
7,700.00	7,543.59	7,520.17	7,494.21	32.38	27.38	-48.62	-1,017.87	3,064.57	2,358.11	2,318.03	40.08	58.831		
7,800.00	7,639.43	7,619.59	7,593.63	32.94	27.71	-49.15	-1,017.87	3,064.57	2,338.91	2,298.20	40.71	57.455		
7,889.67	7,725.37	7,705.53	7,679.57	33.44	28.01	-49.62	-1,017.87	3,064.57	2,321.85	2,280.59	41.27	56.262		
7,900.00	7,735.28	7,715.44	7,689.48	33.50	28.04	-49.65	-1,017.87	3,064.57	2,319.91	2,278.57	41.33	56.127		
8,000.00	7,831.56	7,811.72	7,785.76	34.04	28.37	-49.94	-1,017.87	3,064.57	2,302.09	2,260.13	41.95	54.873		
8,100.00	7,928.52	7,908.67	7,882.72	34.56	28.70	-50.21	-1,017.87	3,064.57	2,286.09	2,243.53	42.56	53.712		
8,200.00	8,026.08	8,006.24	7,980.28	35.06	29.03	-50.47	-1,017.87	3,064.57	2,271.89	2,228.73	43.16	52.641		
8,300.00	8,124.18	8,104.34	8,078.38	35.53	29.37	-50.70	-1,017.87	3,064.57	2,259.45	2,215.71	43.74	51.655		
8,400.00	8,222.76	8,202.92	8,176.96	35.98	29.71	-50.90	-1,017.87	3,064.57	2,248.74	2,204.43	44.31	50.751		
8,500.00	8,321.74	8,301.90	8,275.94	36.40	30.05	-51.07	-1,017.87	3,064.57	2,239.74	2,194.88	44.86	49.925		
8,600.00	8,421.06	8,401.22	8,375.26	36.79	30.39	-51.22	-1,017.87	3,064.57	2,232.42	2,187.03	45.40	49.175		
8,700.00	8,520.65	8,500.81	8,474.85	37.16	30.73	-51.33	-1,017.87	3,064.57	2,226.77	2,180.86	45.92	48.495		
8,800.00	8,620.44	8,600.60	8,574.64	37.51	31.07	-51.41	-1,017.87	3,064.57	2,222.77	2,176.35	46.42	47.885		
8,900.00	8,720.37	8,700.53	8,674.57	37.83	31.42	-51.46	-1,017.87	3,064.57	2,220.41	2,173.51	46.90	47.340		
8,994.64	8,815.00	8,795.16	8,769.20	38.11	31.74	-51.46	-1,017.87	3,064.57	2,219.68	2,172.34	47.34	46.886		
9,000.00	8,820.36	8,800.52	8,774.56	38.13	31.76	-51.46	-1,017.87	3,064.57	2,219.68	2,172.31	47.37	46.862		
9,100.00	8,920.36	8,900.52	8,874.56	38.40	32.10	-51.46	-1,017.87	3,064.57	2,219.68	2,171.86	47.82	46.421		
9,200.00	9,020.36	9,000.52	8,974.56	38.68	32.45	-51.46	-1,017.87	3,064.57	2,219.68	2,171.41	48.27	45.987		
9,300.00	9,120.36	9,100.52	9,074.56	38.96	32.79	-51.46	-1,017.87	3,064.57	2,219.68	2,170.96	48.72	45.560		
9,400.00	9,220.36	9,200.52	9,174.56	39.25	33.14	-51.46	-1,017.87	3,064.57	2,219.68	2,170.51	49.17	45.140		
9,500.00	9,320.36	9,300.52	9,274.56	39.53	33.49	-51.46	-1,017.87	3,064.57	2,219.68	2,170.05	49.63	44.726		
9,600.00	9,420.36	9,400.52	9,374.56	39.81	33.83	-51.46	-1,017.87	3,064.57	2,219.68	2,169.60	50.08	44.319		
9,700.00	9,520.36	9,500.52	9,474.56	40.10	34.18	-51.46	-1,017.87	3,064.57	2,219.68	2,169.14	50.54	43.919		
9,800.00	9,620.36	9,600.52	9,574.56	40.39	34.53	-51.46	-1,017.87	3,064.57	2,219.68	2,168.68	51.00	43.525		
9,900.00	9,720.36	9,700.52	9,674.56	40.67	34.87	-51.46	-1,017.87	3,064.57	2,219.68	2,168.22	51.46	43.137		
10,000.00	9,820.36	9,800.52	9,774.56	40.96	35.22	-51.46	-1,017.87	3,064.57	2,219.68	2,167.76	51.92	42.755		
10,100.00	9,920.36	9,900.52	9,874.56	41.25	35.57	-51.46	-1,017.87	3,064.57	2,219.68	2,167.30	52.38	42.379		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 806H - OH - Plan #2		Offset Site Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance						Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
10,200.00	10,020.36	10,000.52	9,974.56	41.55	35.91	89.43	-1,017.87	3,064.57	2,219.68	2,166.84	52.84	42.010				
10,300.00	10,120.36	10,100.52	10,074.56	41.84	36.26	89.43	-1,017.87	3,064.57	2,219.68	2,166.38	53.30	41.646				
10,400.00	10,220.36	10,200.52	10,174.56	42.13	36.61	89.43	-1,017.87	3,064.57	2,219.68	2,165.92	53.76	41.287				
10,500.00	10,320.36	10,300.52	10,274.56	42.43	36.96	89.43	-1,017.87	3,064.57	2,219.68	2,165.46	54.23	40.935				
10,600.00	10,420.36	10,400.52	10,374.56	42.72	37.31	89.43	-1,017.87	3,064.57	2,219.68	2,164.99	54.69	40.587				
10,700.00	10,520.36	10,500.52	10,474.56	43.02	37.66	89.43	-1,017.87	3,064.57	2,219.68	2,164.53	55.15	40.245				
10,800.00	10,620.36	10,600.52	10,574.56	43.31	38.00	89.43	-1,017.87	3,064.57	2,219.68	2,164.06	55.62	39.908				
10,900.00	10,720.36	10,700.52	10,674.56	43.61	38.35	89.43	-1,017.87	3,064.57	2,219.68	2,163.59	56.09	39.576				
11,000.00	10,820.36	10,800.52	10,774.56	43.91	38.70	89.43	-1,017.87	3,064.57	2,219.68	2,163.13	56.55	39.249				
11,100.00	10,920.36	10,900.52	10,874.56	44.21	39.05	89.43	-1,017.87	3,064.57	2,219.68	2,162.66	57.02	38.927				
11,200.00	11,020.36	11,000.52	10,974.56	44.51	39.40	89.43	-1,017.87	3,064.57	2,219.68	2,162.19	57.49	38.610				
11,300.00	11,120.36	11,100.52	11,074.56	44.81	39.75	89.43	-1,017.87	3,064.57	2,219.68	2,161.72	57.96	38.298				
11,400.00	11,220.36	11,200.52	11,174.56	45.12	40.10	89.43	-1,017.87	3,064.57	2,219.68	2,161.25	58.43	37.990				
11,500.00	11,320.36	11,300.52	11,274.56	45.42	40.45	89.43	-1,017.87	3,064.57	2,219.68	2,160.78	58.90	37.686				
11,600.00	11,420.36	11,400.52	11,374.56	45.72	40.80	89.43	-1,017.87	3,064.57	2,219.68	2,160.31	59.37	37.387				
11,700.00	11,520.36	11,500.52	11,474.56	46.03	41.15	89.43	-1,017.87	3,064.57	2,219.68	2,159.84	59.84	37.093				
11,800.00	11,620.36	11,600.52	11,574.56	46.33	41.50	89.43	-1,017.87	3,064.57	2,219.68	2,159.37	60.31	36.802				
11,900.00	11,720.36	11,700.52	11,674.56	46.64	41.85	89.43	-1,017.87	3,064.57	2,219.68	2,158.89	60.79	36.516				
11,950.68	11,771.04	11,751.20	11,725.24	46.80	42.03	89.43	-1,017.87	3,064.57	2,219.68	2,158.65	61.03	36.373 CC				
11,950.68	11,771.04	11,751.20	11,725.24	46.80	42.03	89.43	-1,017.87	3,064.57	2,219.68	2,158.65	61.03	36.373				
12,000.00	11,820.30	11,800.46	11,774.50	46.96	42.20	-90.06	-1,017.87	3,064.57	2,219.68	2,158.41	61.27	36.227				
12,050.00	11,869.86	11,850.36	11,824.40	47.14	42.37	-90.22	-1,018.31	3,064.57	2,219.70	2,158.15	61.54	36.068				
12,100.00	11,918.67	11,900.97	11,874.81	47.35	42.54	-90.39	-1,022.51	3,064.62	2,219.73	2,157.91	61.82	35.904				
12,150.00	11,966.36	11,952.19	11,925.26	47.58	42.71	-90.56	-1,031.28	3,064.70	2,219.79	2,157.66	62.12	35.732				
12,200.00	12,012.56	12,004.04	11,975.32	47.83	42.87	-90.72	-1,044.70	3,064.83	2,219.86	2,157.43	62.44	35.554				
12,250.00	12,056.93	12,056.52	12,024.55	48.10	43.03	-90.89	-1,062.84	3,065.01	2,219.95	2,157.19	62.76	35.372				
12,300.00	12,099.12	12,109.65	12,072.48	48.39	43.19	-91.04	-1,085.71	3,065.23	2,220.05	2,156.95	63.10	35.184				
12,350.00	12,138.81	12,163.40	12,118.61	48.69	43.34	-91.19	-1,113.26	3,065.50	2,220.16	2,156.72	63.45	34.993				
12,400.00	12,175.70	12,217.76	12,162.43	49.01	43.48	-91.33	-1,145.40	3,065.82	2,220.28	2,156.48	63.81	34.797				
12,450.00	12,209.51	12,272.72	12,203.43	49.34	43.62	-91.46	-1,181.96	3,066.18	2,220.40	2,156.23	64.18	34.599				
12,500.00	12,239.99	12,328.23	12,241.10	49.69	43.76	-91.57	-1,222.70	3,066.57	2,220.52	2,155.97	64.55	34.398				
12,550.00	12,266.90	12,384.25	12,274.94	50.05	43.90	-91.68	-1,267.32	3,067.01	2,220.64	2,155.70	64.94	34.193				
12,600.00	12,290.03	12,440.74	12,304.48	50.42	44.05	-91.77	-1,315.44	3,067.48	2,220.74	2,155.40	65.34	33.987				
12,650.00	12,309.21	12,497.62	12,329.30	50.81	44.21	-91.85	-1,366.59	3,067.98	2,220.83	2,155.09	65.75	33.778				
12,700.00	12,324.30	12,554.84	12,349.03	51.20	44.38	-91.90	-1,420.27	3,068.51	2,220.91	2,154.75	66.16	33.568				
12,750.00	12,335.17	12,612.31	12,363.36	51.60	44.56	-91.95	-1,475.90	3,069.05	2,220.96	2,154.38	66.58	33.357				
12,800.00	12,341.76	12,669.95	12,372.06	52.01	44.75	-91.97	-1,532.86	3,069.61	2,221.00	2,153.99	67.01	33.146				
12,850.68	12,344.00	12,728.47	12,375.00	52.42	44.96	-91.98	-1,591.27	3,070.18	2,221.01	2,153.57	67.44	32.934				
12,851.68	12,344.00	12,729.62	12,375.00	52.43	44.96	-91.98	-1,592.42	3,070.19	2,221.01	2,153.56	67.45	32.930				
12,900.00	12,344.00	12,777.72	12,375.00	52.83	45.14	-91.98	-1,640.52	3,070.66	2,221.01	2,153.14	67.87	32.724				
13,000.00	12,344.00	12,877.72	12,375.00	53.68	45.55	-91.98	-1,740.52	3,071.64	2,221.01	2,152.21	68.80	32.282				
13,100.00	12,344.00	12,977.72	12,375.00	54.57	46.02	-91.98	-1,840.51	3,072.62	2,221.01	2,151.22	69.79	31.823				
13,200.00	12,344.00	13,077.72	12,375.00	55.50	46.54	-91.98	-1,940.51	3,073.60	2,221.01	2,150.16	70.85	31.349				
13,300.00	12,344.00	13,177.72	12,375.00	56.46	47.11	-91.98	-2,040.50	3,074.58	2,221.01	2,149.04	71.96	30.862				
13,400.00	12,344.00	13,277.72	12,375.00	57.45	47.73	-91.98	-2,140.50	3,075.56	2,221.01	2,147.87	73.14	30.367				
13,500.00	12,344.00	13,377.72	12,375.00	58.47	48.40	-91.98	-2,240.49	3,076.54	2,221.01	2,146.64	74.37	29.865				
13,600.00	12,344.00	13,477.72	12,375.00	59.52	49.11	-91.98	-2,340.49	3,077.52	2,221.01	2,145.36	75.65	29.360				
13,700.00	12,344.00	13,577.72	12,375.00	60.60	49.87	-91.98	-2,440.48	3,078.49	2,221.01	2,144.03	76.98	28.852				
13,800.00	12,344.00	13,677.72	12,375.00	61.70	50.67	-91.98	-2,540.48	3,079.47	2,221.01	2,142.65	78.36	28.345				
13,900.00	12,344.00	13,777.72	12,375.00	62.82	51.51	-91.98	-2,640.47	3,080.45	2,221.01	2,141.23	79.78	27.840				
14,000.00	12,344.00	13,877.72	12,375.00	63.97	52.39	-91.98	-2,740.47	3,081.43	2,221.01	2,139.77	81.24	27.338				
14,100.00	12,344.00	13,977.72	12,375.00	65.14	53.31	-91.98	-2,840.46	3,082.41	2,221.01	2,138.26	82.75	26.841				

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 Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,200.00	12,344.00	14,077.72	12,375.00	66.33	54.26	-91.98	-2,940.46	3,083.39	2,221.01	2,136.72	84.29	26.350		
14,300.00	12,344.00	14,177.72	12,375.00	67.54	55.24	-91.98	-3,040.46	3,084.37	2,221.01	2,135.14	85.87	25.866		
14,400.00	12,344.00	14,277.72	12,375.00	68.77	56.26	-91.98	-3,140.45	3,085.34	2,221.01	2,133.53	87.48	25.390		
14,500.00	12,344.00	14,377.72	12,375.00	70.02	57.30	-91.98	-3,240.45	3,086.32	2,221.01	2,131.89	89.12	24.922		
14,600.00	12,344.00	14,477.72	12,375.00	71.28	58.37	-91.98	-3,340.44	3,087.30	2,221.01	2,130.21	90.79	24.462		
14,700.00	12,344.00	14,577.72	12,375.00	72.55	59.47	-91.98	-3,440.44	3,088.28	2,221.01	2,128.51	92.50	24.012		
14,800.00	12,344.00	14,677.72	12,375.00	73.85	60.60	-91.98	-3,540.43	3,089.26	2,221.01	2,126.78	94.23	23.571		
14,900.00	12,344.00	14,777.72	12,375.00	75.15	61.75	-91.98	-3,640.43	3,090.24	2,221.01	2,125.03	95.98	23.140		
15,000.00	12,344.00	14,877.72	12,375.00	76.47	62.92	-91.98	-3,740.42	3,091.22	2,221.01	2,123.25	97.76	22.719		
15,100.00	12,344.00	14,977.72	12,375.00	77.81	64.11	-91.98	-3,840.42	3,092.20	2,221.01	2,121.45	99.56	22.308		
15,200.00	12,344.00	15,077.72	12,375.00	79.15	65.32	-91.98	-3,940.41	3,093.17	2,221.01	2,119.62	101.39	21.906		
15,300.00	12,344.00	15,177.72	12,375.00	80.51	66.55	-91.98	-4,040.41	3,094.15	2,221.01	2,117.78	103.23	21.515		
15,400.00	12,344.00	15,277.72	12,375.00	81.87	67.80	-91.98	-4,140.40	3,095.13	2,221.01	2,115.91	105.09	21.133		
15,500.00	12,344.00	15,377.72	12,375.00	83.25	69.06	-91.98	-4,240.40	3,096.11	2,221.01	2,114.03	106.98	20.761		
15,600.00	12,344.00	15,477.72	12,375.00	84.64	70.34	-91.98	-4,340.39	3,097.09	2,221.01	2,112.13	108.88	20.399		
15,700.00	12,344.00	15,577.72	12,375.00	86.03	71.64	-91.98	-4,440.39	3,098.07	2,221.01	2,110.21	110.79	20.046		
15,800.00	12,344.00	15,677.72	12,375.00	87.44	72.95	-91.98	-4,540.38	3,099.05	2,221.01	2,108.28	112.73	19.703		
15,900.00	12,344.00	15,777.72	12,375.00	88.85	74.27	-91.98	-4,640.38	3,100.03	2,221.01	2,106.33	114.67	19.368		
16,000.00	12,344.00	15,877.72	12,375.00	90.27	75.61	-91.98	-4,740.37	3,101.00	2,221.01	2,104.37	116.64	19.042		
16,100.00	12,344.00	15,977.72	12,375.00	91.70	76.96	-91.98	-4,840.37	3,101.98	2,221.01	2,102.40	118.61	18.725		
16,200.00	12,344.00	16,077.72	12,375.00	93.14	78.32	-91.98	-4,940.36	3,102.96	2,221.01	2,100.41	120.60	18.417		
16,300.00	12,344.00	16,177.72	12,375.00	94.58	79.69	-91.98	-5,040.36	3,103.94	2,221.01	2,098.41	122.60	18.116		
16,400.00	12,344.00	16,277.72	12,375.00	96.03	81.08	-91.98	-5,140.35	3,104.92	2,221.01	2,096.40	124.61	17.824		
16,500.00	12,344.00	16,377.72	12,375.00	97.49	82.47	-91.98	-5,240.35	3,105.90	2,221.01	2,094.38	126.63	17.539		
16,600.00	12,344.00	16,477.72	12,375.00	98.95	83.87	-91.98	-5,340.35	3,106.88	2,221.01	2,092.34	128.66	17.262		
16,700.00	12,344.00	16,577.72	12,375.00	100.42	85.28	-91.98	-5,440.34	3,107.85	2,221.01	2,090.30	130.71	16.992		
16,800.00	12,344.00	16,677.72	12,375.00	101.89	86.70	-91.98	-5,540.34	3,108.83	2,221.01	2,088.25	132.76	16.729		
16,900.00	12,344.00	16,777.72	12,375.00	103.37	88.13	-91.98	-5,640.33	3,109.81	2,221.01	2,086.19	134.82	16.474		
17,000.00	12,344.00	16,877.72	12,375.00	104.86	89.56	-91.98	-5,740.33	3,110.79	2,221.01	2,084.12	136.89	16.224		
17,100.00	12,344.00	16,977.72	12,375.00	106.35	91.00	-91.98	-5,840.32	3,111.77	2,221.01	2,082.04	138.97	15.982		
17,200.00	12,344.00	17,077.72	12,375.00	107.84	92.45	-91.98	-5,940.32	3,112.75	2,221.01	2,079.95	141.06	15.745		
17,300.00	12,344.00	17,177.72	12,375.00	109.34	93.91	-91.98	-6,040.31	3,113.73	2,221.01	2,077.86	143.15	15.515		
17,400.00	12,344.00	17,277.72	12,375.00	110.84	95.37	-91.98	-6,140.31	3,114.71	2,221.01	2,075.75	145.26	15.290		
17,500.00	12,344.00	17,377.72	12,375.00	112.35	96.84	-91.98	-6,240.30	3,115.68	2,221.01	2,073.64	147.36	15.072		
17,600.00	12,344.00	17,477.72	12,375.00	113.86	98.31	-91.98	-6,340.30	3,116.66	2,221.01	2,071.53	149.48	14.858		
17,700.00	12,344.00	17,577.72	12,375.00	115.38	99.79	-91.98	-6,440.29	3,117.64	2,221.01	2,069.41	151.60	14.650		
17,800.00	12,344.00	17,677.72	12,375.00	116.89	101.28	-91.98	-6,540.29	3,118.62	2,221.01	2,067.28	153.73	14.447		
17,900.00	12,344.00	17,777.72	12,375.00	118.42	102.77	-91.98	-6,640.28	3,119.60	2,221.01	2,065.14	155.86	14.250		
18,000.00	12,344.00	17,877.72	12,375.00	119.94	104.26	-91.98	-6,740.28	3,120.58	2,221.01	2,063.01	158.00	14.057		
18,100.00	12,344.00	17,977.72	12,375.00	121.47	105.76	-91.98	-6,840.27	3,121.56	2,221.01	2,060.86	160.15	13.868		
18,200.00	12,344.00	18,077.72	12,375.00	123.00	107.27	-91.98	-6,940.27	3,122.54	2,221.01	2,058.71	162.30	13.685		
18,300.00	12,344.00	18,177.72	12,375.00	124.54	108.78	-91.98	-7,040.26	3,123.51	2,221.01	2,056.55	164.45	13.505		
18,400.00	12,344.00	18,277.72	12,375.00	126.08	110.29	-91.98	-7,140.26	3,124.49	2,221.01	2,054.39	166.61	13.330		
18,500.00	12,344.00	18,377.72	12,375.00	127.62	111.81	-91.98	-7,240.25	3,125.47	2,221.01	2,052.23	168.78	13.159		
18,600.00	12,344.00	18,477.72	12,375.00	129.16	113.33	-91.98	-7,340.25	3,126.45	2,221.01	2,050.06	170.95	12.992		
18,700.00	12,344.00	18,577.72	12,375.00	130.71	114.85	-91.98	-7,440.24	3,127.43	2,221.01	2,047.89	173.12	12.829		
18,800.00	12,344.00	18,677.72	12,375.00	132.26	116.38	-91.98	-7,540.24	3,128.41	2,221.01	2,045.71	175.30	12.670		
18,900.00	12,344.00	18,777.72	12,375.00	133.81	117.91	-91.98	-7,640.24	3,129.39	2,221.01	2,043.53	177.48	12.514		
19,000.00	12,344.00	18,877.72	12,375.00	135.36	119.44	-91.98	-7,740.23	3,130.37	2,221.01	2,041.34	179.67	12.362		
19,100.00	12,344.00	18,977.72	12,375.00	136.92	120.98	-91.98	-7,840.23	3,131.34	2,221.01	2,039.15	181.86	12.213		
19,200.00	12,344.00	19,077.72	12,375.00	138.48	122.52	-91.98	-7,940.22	3,132.32	2,221.01	2,036.96	184.05	12.068		
19,300.00	12,344.00	19,177.72	12,375.00	140.04	124.06	-91.98	-8,040.22	3,133.30	2,221.01	2,034.76	186.24	11.925		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design												Tatanka Fed Com - Tatanka Fed Com 806H - OH - Plan #2		Offset Site Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD												Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
19,400.00	12,344.00	19,277.72	12,375.00	141.60	125.61	-91.98	-8,140.21	3,134.28	2,221.01	2,032.56	188.44	11.786			
19,500.00	12,344.00	19,377.72	12,375.00	143.16	127.15	-91.98	-8,240.21	3,135.26	2,221.01	2,030.36	190.65	11.650			
19,600.00	12,344.00	19,477.72	12,375.00	144.73	128.71	-91.98	-8,340.20	3,136.24	2,221.01	2,028.16	192.85	11.517			
19,700.00	12,344.00	19,577.72	12,375.00	146.30	130.26	-91.98	-8,440.20	3,137.22	2,221.01	2,025.95	195.06	11.386			
19,800.00	12,344.00	19,677.72	12,375.00	147.87	131.81	-91.98	-8,540.19	3,138.19	2,221.01	2,023.74	197.27	11.259			
19,900.00	12,344.00	19,777.72	12,375.00	149.44	133.37	-91.98	-8,640.19	3,139.17	2,221.01	2,021.52	199.49	11.134			
20,000.00	12,344.00	19,877.72	12,375.00	151.01	134.93	-91.98	-8,740.18	3,140.15	2,221.01	2,019.30	201.70	11.011			
20,100.00	12,344.00	19,977.72	12,375.00	152.59	136.49	-91.98	-8,840.18	3,141.13	2,221.01	2,017.08	203.92	10.891			
20,200.00	12,344.00	20,077.72	12,375.00	154.17	138.06	-91.98	-8,940.17	3,142.11	2,221.01	2,014.86	206.15	10.774			
20,300.00	12,344.00	20,177.72	12,375.00	155.74	139.63	-91.98	-9,040.17	3,143.09	2,221.01	2,012.64	208.37	10.659			
20,400.00	12,344.00	20,277.72	12,375.00	157.32	141.19	-91.98	-9,140.16	3,144.07	2,221.01	2,010.41	210.60	10.546			
20,500.00	12,344.00	20,377.72	12,375.00	158.91	142.76	-91.98	-9,240.16	3,145.05	2,221.01	2,008.18	212.83	10.436			
20,600.00	12,344.00	20,477.72	12,375.00	160.49	144.34	-91.98	-9,340.15	3,146.02	2,221.01	2,005.95	215.06	10.327			
20,700.00	12,344.00	20,577.72	12,375.00	162.07	145.91	-91.98	-9,440.15	3,147.00	2,221.01	2,003.71	217.29	10.221			
20,800.00	12,344.00	20,677.72	12,375.00	163.66	147.49	-91.98	-9,540.14	3,147.98	2,221.01	2,001.48	219.53	10.117			
20,900.00	12,344.00	20,777.72	12,375.00	165.24	149.06	-91.98	-9,640.14	3,148.96	2,221.01	1,999.24	221.77	10.015			
21,000.00	12,344.00	20,877.72	12,375.00	166.83	150.64	-91.98	-9,740.13	3,149.94	2,221.01	1,997.00	224.01	9.915			
21,100.00	12,344.00	20,977.72	12,375.00	168.42	152.22	-91.98	-9,840.13	3,150.92	2,221.01	1,994.76	226.25	9.817			
21,200.00	12,344.00	21,077.72	12,375.00	170.01	153.80	-91.98	-9,940.12	3,151.90	2,221.01	1,992.52	228.49	9.720			
21,300.00	12,344.00	21,177.72	12,375.00	171.60	155.39	-91.98	-10,040.12	3,152.88	2,221.01	1,990.27	230.74	9.626			
21,400.00	12,344.00	21,277.72	12,375.00	173.20	156.97	-91.98	-10,140.12	3,153.85	2,221.01	1,988.02	232.99	9.533			
21,500.00	12,344.00	21,377.72	12,375.00	174.79	158.56	-91.98	-10,240.11	3,154.83	2,221.01	1,985.77	235.23	9.442			
21,600.00	12,344.00	21,477.72	12,375.00	176.38	160.14	-91.98	-10,340.11	3,155.81	2,221.01	1,983.52	237.49	9.352			
21,700.00	12,344.00	21,577.72	12,375.00	177.98	161.73	-91.98	-10,440.10	3,156.79	2,221.01	1,981.27	239.74	9.264			
21,800.00	12,344.00	21,677.72	12,375.00	179.58	163.32	-91.98	-10,540.10	3,157.77	2,221.01	1,979.02	241.99	9.178			
21,900.00	12,344.00	21,777.72	12,375.00	181.17	164.91	-91.98	-10,640.09	3,158.75	2,221.01	1,976.76	244.25	9.093			
22,000.00	12,344.00	21,877.72	12,375.00	182.77	166.51	-91.98	-10,740.09	3,159.73	2,221.01	1,974.51	246.50	9.010			
22,100.00	12,344.00	21,977.72	12,375.00	184.37	168.10	-91.98	-10,840.08	3,160.70	2,221.01	1,972.25	248.76	8.928			
22,200.00	12,344.00	22,077.72	12,375.00	185.97	169.69	-91.98	-10,940.08	3,161.68	2,221.01	1,969.99	251.02	8.848			
22,300.00	12,344.00	22,177.72	12,375.00	187.57	171.29	-91.98	-11,040.07	3,162.66	2,221.01	1,967.73	253.28	8.769			
22,400.00	12,344.00	22,277.72	12,375.00	189.18	172.89	-91.98	-11,140.07	3,163.64	2,221.01	1,965.47	255.54	8.691			
22,500.00	12,344.00	22,377.72	12,375.00	190.78	174.48	-91.98	-11,240.06	3,164.62	2,221.01	1,963.20	257.81	8.615			
22,600.00	12,344.00	22,477.72	12,375.00	192.38	176.08	-91.98	-11,340.06	3,165.60	2,221.01	1,960.94	260.07	8.540			
22,642.51	12,344.00	22,520.23	12,375.00	193.01	176.73	-91.98	-11,382.57	3,166.01	2,221.01	1,960.06	260.95	8.511 ES, SF			

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



Total Directional Services

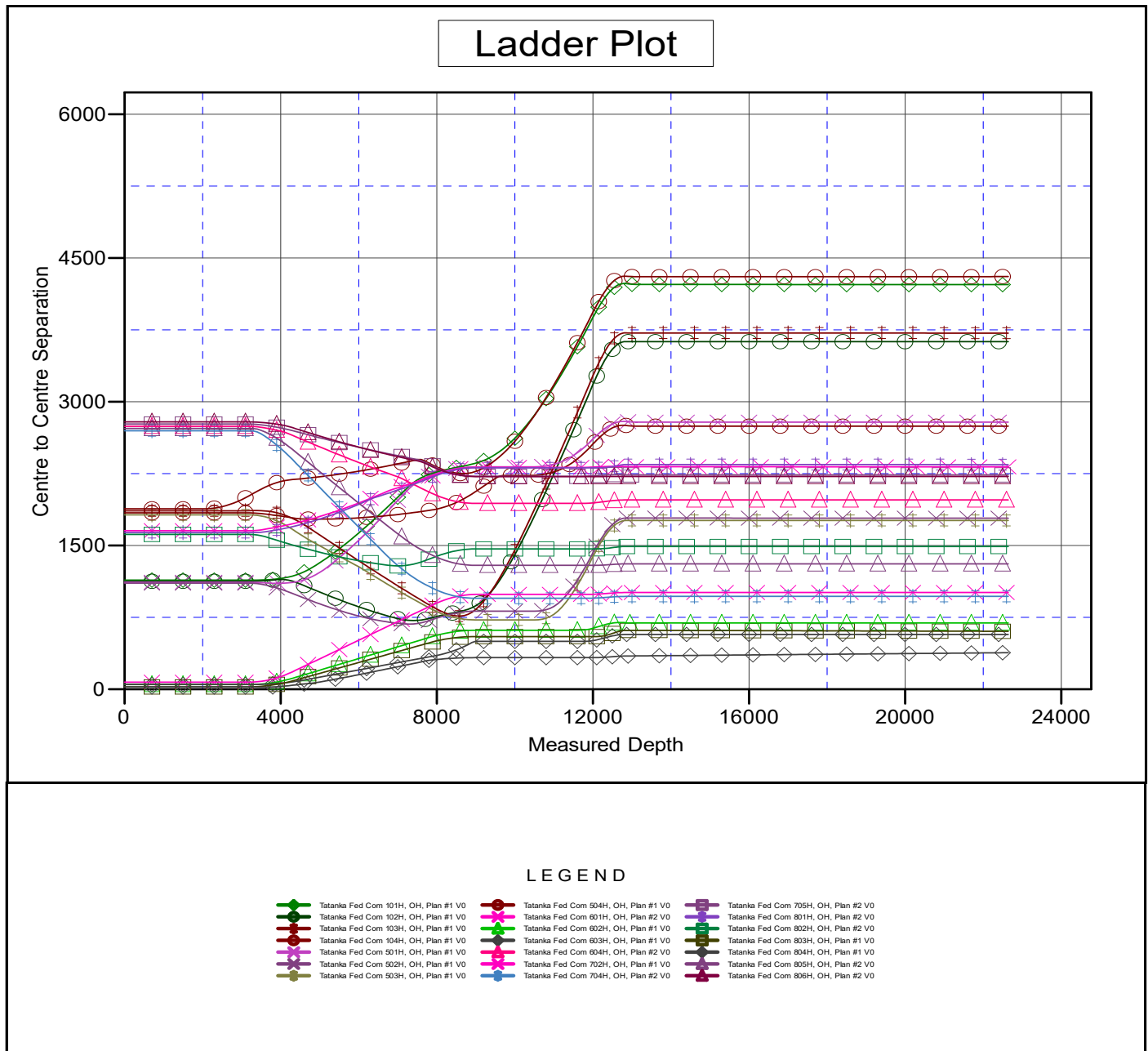
Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 703H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 703H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors 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 3136' GE + 30' KB @ 3166.00usft
 Offset Depths are relative to Offset Datum
 Central Meridian is -104.333334

Coordinates are relative to: Tatanka Fed Com 703H
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.53°



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



Total Directional Services

Anticollision Report

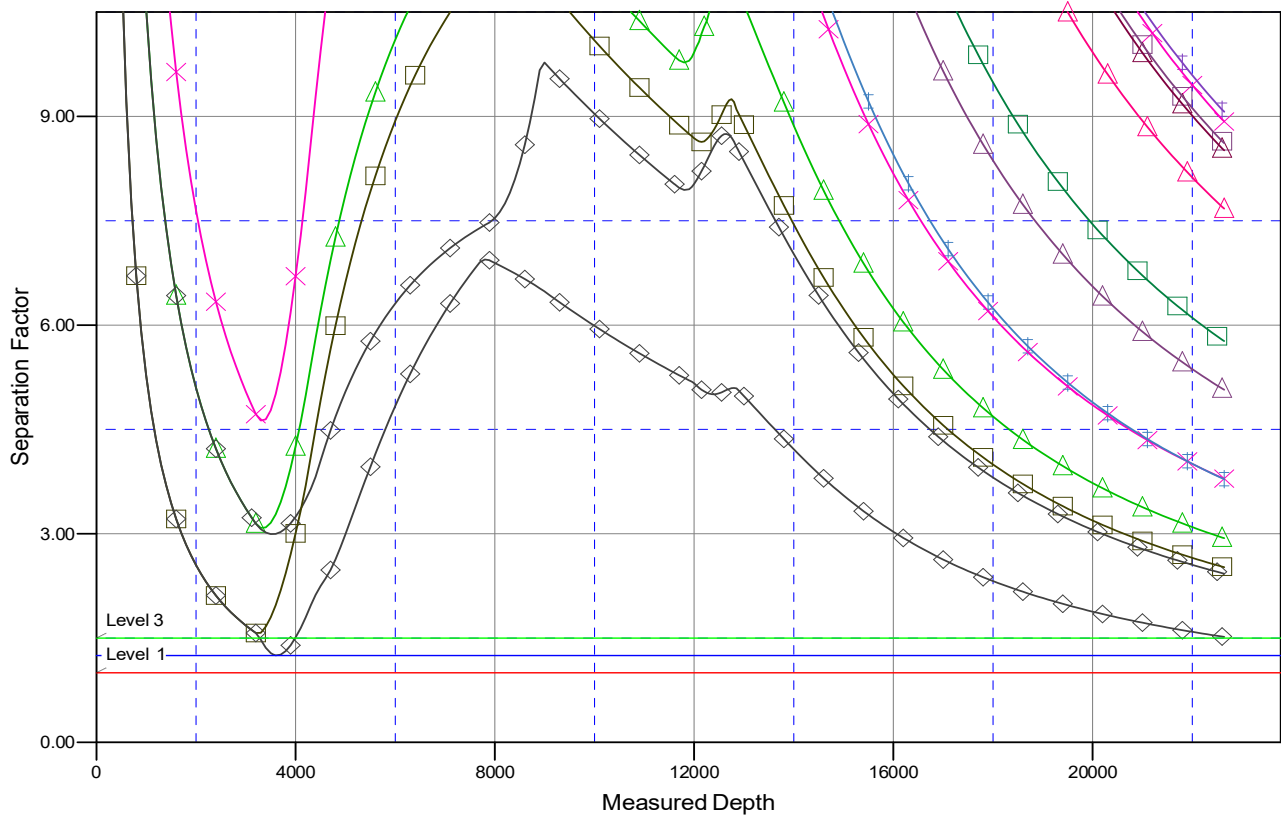


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Reference Depths are relative to 3136' GE + 30' KB @ 3166.00usft
 Offset Depths are relative to Offset Datum
 Central Meridian is -104.333334

Coordinates are relative to: Tatanka Fed Com 703H
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.53°

Separation Factor Plot



LEGEND

Tatanka Fed Com 101H, OH, Plan #1 V0	Tatanka Fed Com 504H, OH, Plan #1 V0	Tatanka Fed Com 705H, OH, Plan #2 V0
Tatanka Fed Com 102H, OH, Plan #1 V0	Tatanka Fed Com 601H, OH, Plan #2 V0	Tatanka Fed Com 801H, OH, Plan #2 V0
Tatanka Fed Com 103H, OH, Plan #1 V0	Tatanka Fed Com 602H, OH, Plan #1 V0	Tatanka Fed Com 802H, OH, Plan #2 V0
Tatanka Fed Com 104H, OH, Plan #1 V0	Tatanka Fed Com 603H, OH, Plan #1 V0	Tatanka Fed Com 803H, OH, Plan #1 V0
Tatanka Fed Com 501H, OH, Plan #1 V0	Tatanka Fed Com 604H, OH, Plan #2 V0	Tatanka Fed Com 804H, OH, Plan #1 V0
Tatanka Fed Com 502H, OH, Plan #1 V0	Tatanka Fed Com 702H, OH, Plan #1 V0	Tatanka Fed Com 805H, OH, Plan #2 V0
Tatanka Fed Com 503H, OH, Plan #1 V0	Tatanka Fed Com 704H, OH, Plan #2 V0	Tatanka Fed Com 806H, OH, Plan #2 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.:	NMNM12280
COUNTY:	Lea County

Wells:

Tatanka Fed Com 601H	Tatanka Fed Com 804H	Tatanka Fed Com 503H
Tatanka Fed Com 801H	Tatanka Fed Com 703H	Tatanka Fed Com 806H
Tatanka Fed Com 802H	Tatanka Fed Com 803H	Tatanka Fed Com 705H
Tatanka Fed Com 502H	Tatanka Fed Com 602H	Tatanka Fed Com 604H
Tatanka Fed Com 501H	Tatanka Fed Com 702H	Tatanka Fed Com 805H
Tatanka Fed Com 102H	Tatanka Fed Com 104H	Tatanka Fed Com 704H
Tatanka Fed Com 101H	Tatanka Fed Com 103H	
Tatanka Fed Com 603H	Tatanka Fed Com 504H	

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
 - Range
 - 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.

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.

TANK BATTERY:

Tank battery locations will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank or 24 hour production, whichever is greater. Automatic shut off, check valves, or similar systems will be installed for tanks to minimize the effects of catastrophic line failures used in production or drilling.

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.

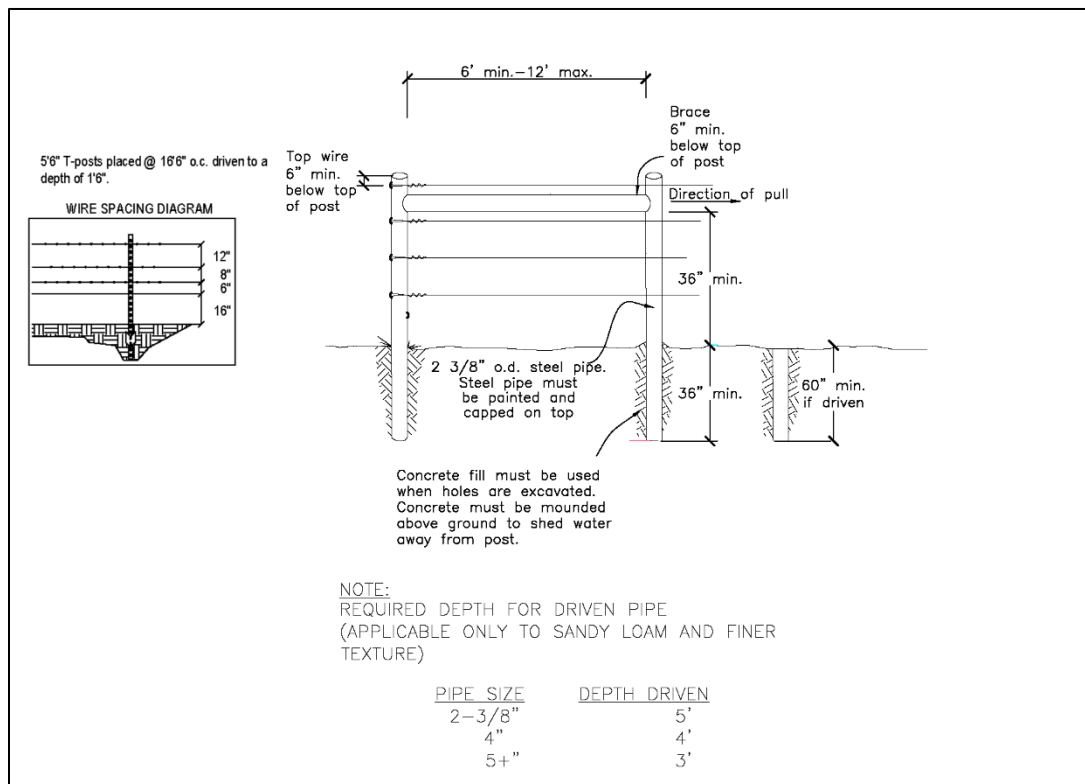
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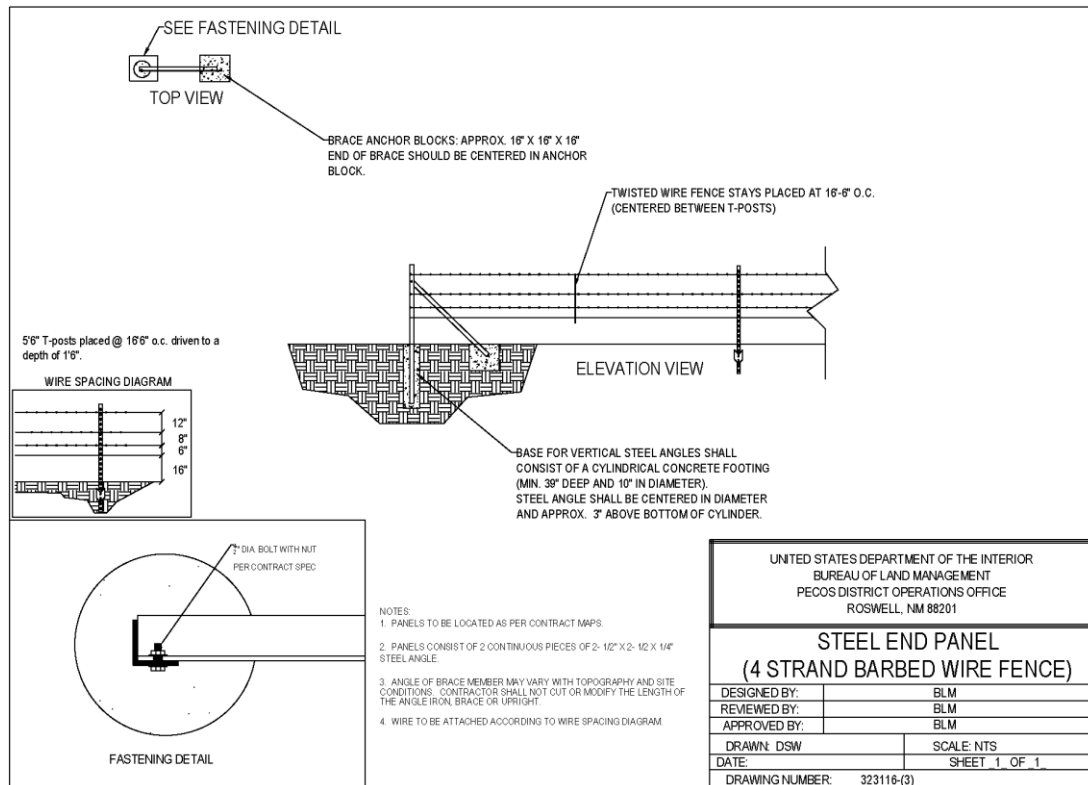
Cattleguards

Where a permanent cattleguard is approved, an appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s). Any existing cattleguard(s) on the access road 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 cattleguard(s) that are in place and are utilized during lease operations. A gate shall be constructed on one side of the cattleguard and fastened securely to H-braces.

Fence Requirement

Where entry granted across a fence line, the fence must be H-braced or angle iron braced and tied off on both sides of the passageway prior to cutting. Once the work is completed, the fence will be restored to its prior condition, or better. The operator shall consult the private surface landowner or the grazing allotment holder prior to cutting any fence(s).





Livestock Watering Requirement

Structures that provide water to livestock, such as windmills, pipelines, drinking troughs, and earthen reservoirs, will be avoided by moving the proposed action.

Any damage to structures that provide water to livestock throughout the life of the well, caused by operations from the well site, must be immediately corrected by the operator. The operator must notify the BLM office (575-234-5972) and the private surface landowner or the grazing allotment holder if any damage occurs to structures that provide water to livestock.

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, Carlsbad Canyon 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) Carlsbad Canyon, 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

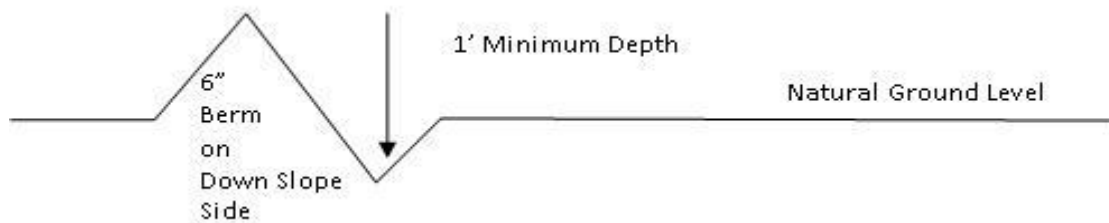
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, 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

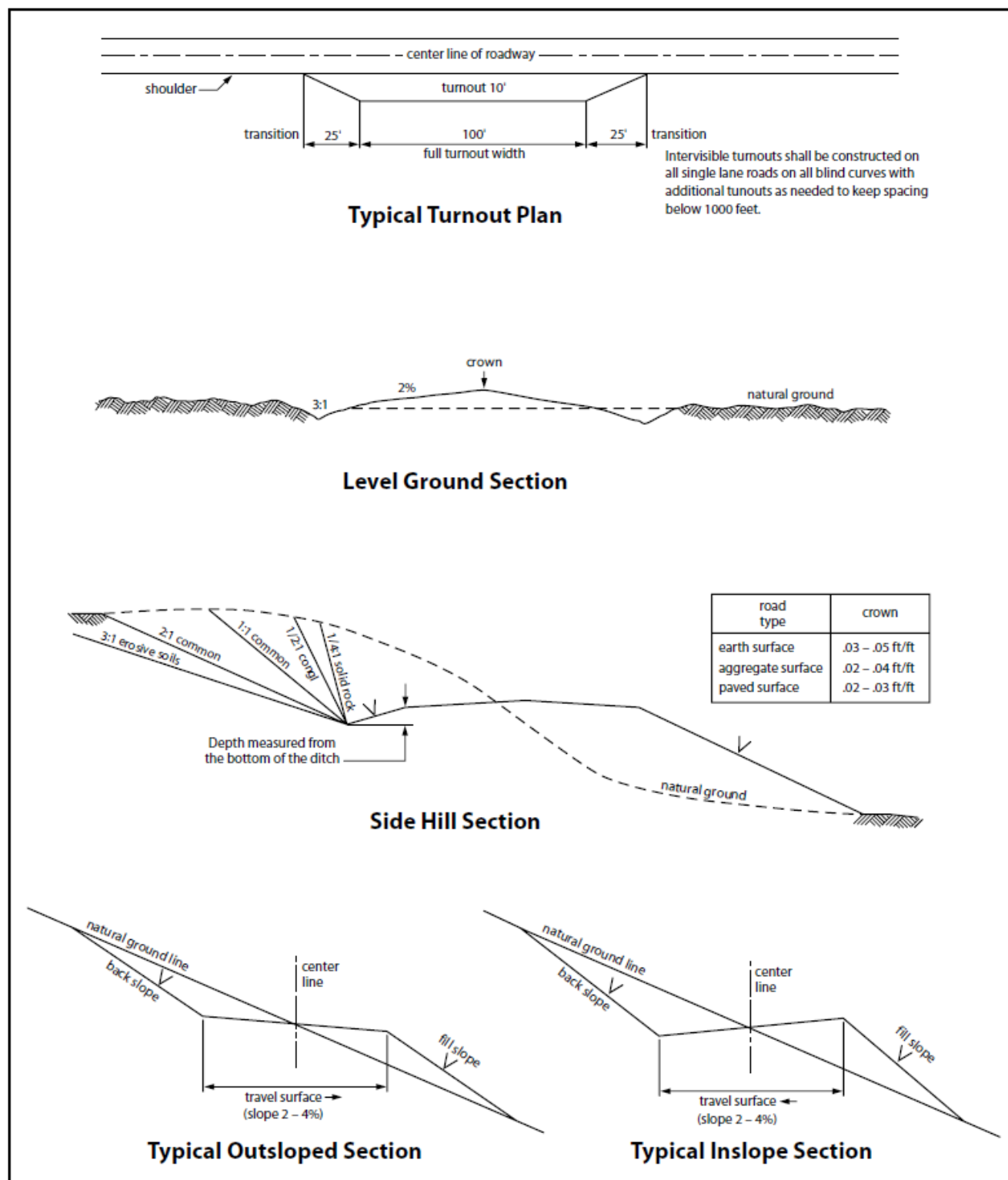


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

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. 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.

STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

A copy of the Grant and attachments, including stipulations, survey plat(s) and/or map(s), shall be on location during construction. BLM personnel may request to review 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. 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. Holder shall comply with all applicable Federal laws and regulations existing or hereafter

enacted or promulgated. In any event, Holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC § 2601 *et seq.* (1982) with regard 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 in particular, 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. 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 activity of 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 provision applies without regard to whether a release is caused by Holder, its agent, or unrelated third parties.

4. Holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. Holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

- a. Activities of Holder including, but not limited to: construction, operation, maintenance, and termination of the facility;
- b. Activities of other parties including, but not limited to:
 - (1) Land clearing
 - (2) Earth-disturbing and earth-moving work
 - (3) Blasting
 - (4) Vandalism and sabotage;

c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars (\$1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, 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, salt water, 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/she 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 Holder. Such action by the Authorized Officer shall not relieve Holder of any responsibility as provided herein.

6. All construction and maintenance activity shall be confined to the authorized right-of-way width of 30 feet. If the pipeline route follows an existing road or buried pipeline right-of-way, the

surface pipeline shall be installed no farther than 10 feet from the edge of the road or buried pipeline right-of-way. If existing surface pipelines prevent this distance, the proposed surface pipeline shall be installed immediately adjacent to the outer surface pipeline. All construction and maintenance activity shall be confined to existing roads or right-of-ways.

7. No blading or clearing of any vegetation shall be allowed unless approved in writing by the Authorized Officer.

8. Holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky or dune areas, the pipeline shall be "snaked" around hummocks and dunes rather than suspended across these features.

9. The pipeline shall be buried with a minimum of 6 inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

10. 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.

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. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.

13. 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. Signs will be maintained in a legible condition for the life of the pipeline.

14. 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. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. 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 16 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.

16. 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."

17. 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.

18. 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, powerline 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.

19. Surface pipelines shall be less than or equal to 4 inches and a working pressure below 125 psi.

C. ELECTRIC LINES

- Smaller powerlines will be routed around sinkholes and other karst features to avoid or lessen the possibility of encountering near surface voids and to minimize changes to runoff or possible leaks and spills from entering karst systems. Larger powerlines will adjust their pole spacing to avoid cave and karst features.
- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, cave passages, or voids are penetrated during construction.
- No further construction will be done until clearance has been issued by the Authorized Officer.
- Special restoration stipulations or realignment may be required.

STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES

A copy of the grant and attachments, including stipulations, 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. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.

5. Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006 . The holder shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

Raptor deterrence will consist of but not limited to the following: triangle perch discouragers shall be placed on each side of the cross arms and a nonconductive perching deterrence shall be placed on all vertical poles that extend past the cross arms.

6. 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 the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

7. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.

8. Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply with those abandonment procedures as prescribed by the Authorized Officer.

9. All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this grant, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.

10. 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 11 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.

11. 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."

12. 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.

13. Special Stipulations:

For reclamation remove poles, lines, transformer, etc. and dispose of properly.
Fill in any holes from the poles removed.

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.:	NMNM12280
LOCATION:	Section 35, T.25 S., R.35 E., NMPM
COUNTY:	Lea County, New Mexico

WELL NAME & NO.:	Tatanka Fed Com 702H
SURFACE HOLE FOOTAGE:	998'/S & 1782'/W
BOTTOM HOLE FOOTAGE:	150'/S & 1700'/W

WELL NAME & NO.:	Tatanka Fed Com 703H
SURFACE HOLE FOOTAGE:	998'/S & 1857'/W
BOTTOM HOLE FOOTAGE:	150'/S & 2600'/E

WELL NAME & NO.:	Tatanka Fed Com 803H
SURFACE HOLE FOOTAGE:	998'/S & 1832'/W
BOTTOM HOLE FOOTAGE:	150'/S & 2152'/W

WELL NAME & NO.:	Tatanka Fed Com 804H
SURFACE HOLE FOOTAGE:	998'/S & 1882'/W
BOTTOM HOLE FOOTAGE:	150'/S & 2232'/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
Other	☒ 4 String Area	☐ Capitan Reef	☐ WIPP
Other	☒ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☒ COM	☐ Unit

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Strawn** formation. As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **1150 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.
Cement excess is less than 25%, more cement might be required.

C. PRESSURE CONTROL

1.

Option 1:

- a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M) psi**.
- b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **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:

1. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the 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.**
 - 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. 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.
- e. 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 88322

CONDITIONS

Operator: Franklin Mountain Energy LLC 44 Cook Street Denver, CO 80206	OGRID: 373910
	Action Number: 88322
	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	3/16/2022
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	3/16/2022
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	3/16/2022
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing	3/16/2022
pkautz	Will require a administrative order for non-standard location prior to placing the well on production	3/16/2022