

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]
9. API Well No. **30-025-49883**

2. Name of Operator
[373910]

3a. Address 3b. Phone No. (include area code)

10. Field and Pool, or Exploratory [98117]
XXXXXXXXXXXXXXXXXXXX

4. Location of Well (Report location clearly and in accordance with any State requirements. *)
At surface
At proposed prod. zone

11. Sec., T. R. M. or Blk. and Survey or Area

14. Distance in miles and direction from nearest town or post office* 12. County or Parish 13. State

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 16. No of acres in lease 17. Spacing Unit dedicated to this well

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 19. Proposed Depth 20. BLM/BIA Bond No. in file

21. Elevations (Show whether DF, KDB, RT, GL, etc.) 22. Approximate date work will start* 23. Estimated duration

24. Attachments

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

- 1. Well plat certified by a registered surveyor. 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- 2. A Drilling Plan. 5. Operator certification.
- 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). 6. Such other site specific information and/or plans as may be requested by the BLM.

25. Signature Name (Printed/Typed) Date

Title

Approved by (Signature) Name (Printed/Typed) Date

Title Office

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

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

NGMP Rec 03/08/2022

SL

(Continued on page 2)



KZ
03/17/2022

*(Instructions on page 2)

INSTRUCTIONS

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

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

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

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

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

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

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

NOTICES

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

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

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

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

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

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

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

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

Additional Operator Remarks

Location of Well

0. SHL: TR N / 998 FSL / 1832 FWL / TWSP: 25S / RANGE: 35E / SECTION: 35 / LAT: 32.082309 / LONG: -103.340953 (TVD: 0 feet, MD: 0 feet)

PPP: NENW / 0 FNL / 2147 FWL / TWSP: 26S / RANGE: 35E / SECTION: 11 / LAT: 32.065054 / LONG: -103.339923 (TVD: 12620 feet, MD: 17700 feet)

PPP: SESW / 2648 FNL / 2143 FWL / TWSP: 26S / RANGE: 35E / SECTION: 2 / LAT: 32.07229 / LONG: -103.339937 (TVD: 12620 feet, MD: 15100 feet)

PPP: NENW / 624 FNL / 2143 FWL / TWSP: 26S / RANGE: 35E / SECTION: 2 / LAT: 32.077851 / LONG: -103.339948 (TVD: 12620 feet, MD: 13066 feet)

BHL: TR N / 150 FSL / 2152 FWL / TWSP: 26S / RANGE: 35E / SECTION: 11 / LAT: 32.05094 / LONG: -103.339895 (TVD: 12620 feet, MD: 22856 feet)

BLM Point of Contact

Name: TENILLE ORTIZ

Title: Legal Instruments Examiner

Phone: (575) 234-2224

Email: tortiz@blm.gov

CONFIDENTIAL

Review and Appeal Rights

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

CONFIDENTIAL

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

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

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

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-49883		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 803H	
⁷ OGRID No. 373910		⁸ Operator Name FRANKLIN MOUNTAIN ENERGY LLC		⁹ Elevation 3135.8'	

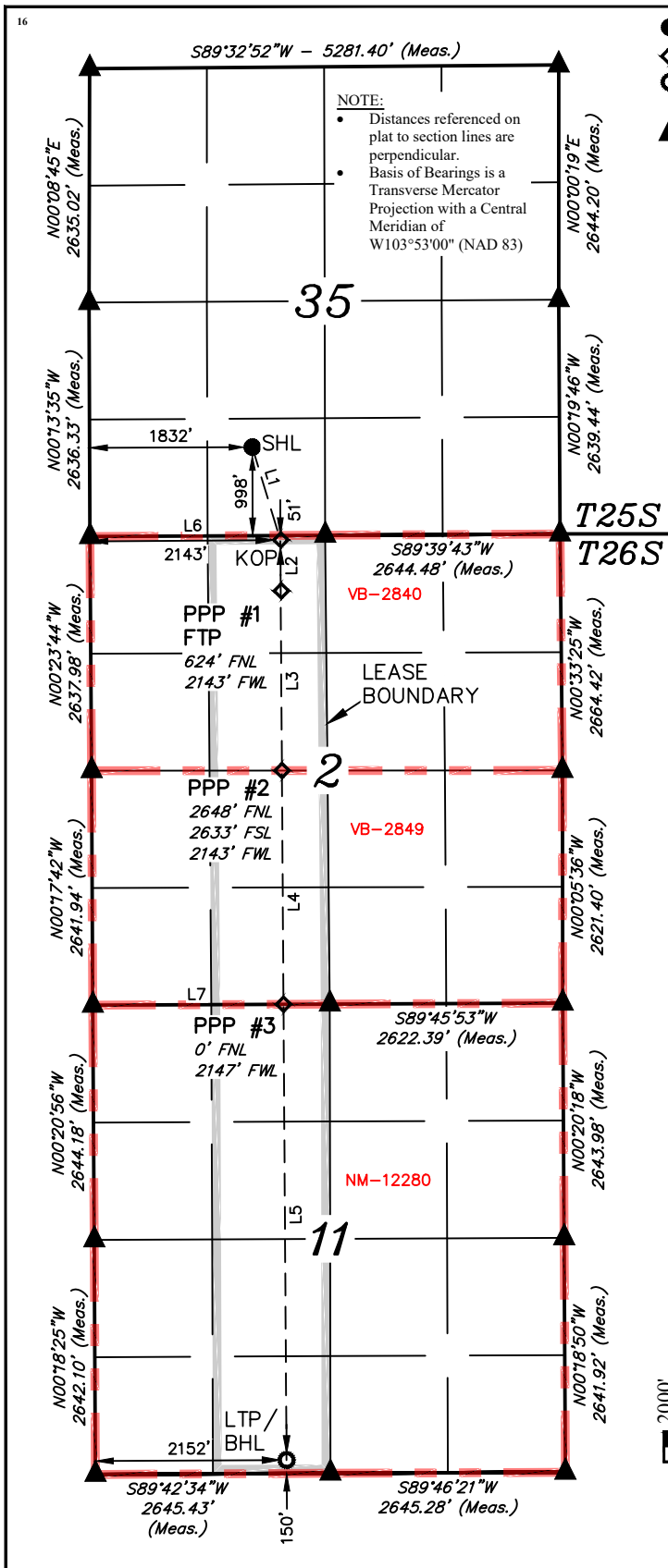
¹⁰ Surface Location

UL or lot no. N	Section 35	Township 25S	Range 35E	Lot Idn	Feet from the 998	North/South line SOUTH	Feet from the 1832	East/West line WEST	County LEA
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¹¹ Bottom Hole Location If Different From Surface

UL or lot no. N	Section 11	Township 26S	Range 35E	Lot Idn	Feet from the 150	North/South line SOUTH	Feet from the 2152	East/West line WEST	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.



- = SURFACE HOLE LOCATION
- ◇ = KICK OFF POINT/FTP/PPP
- = LAST TAKE POINT/
BOTTOM HOLE LOCATION
- ▲ = SECTION CORNER LOCATED

NAD 83 (SURFACE HOLE LOCATION) LATITUDE = 32°04'56.31" (32.082309°) LONGITUDE = 103°20'27.43" (103.340953°)
NAD 27 (SURFACE HOLE LOCATION) LATITUDE = 32°04'55.86" (32.082182°) LONGITUDE = 103°20'25.77" (103.340492°)
STATE PLANE NAD 83 (N.M. EAST) N: 395094.97' E: 848695.13'
STATE PLANE NAD 27 (N.M. EAST) N: 395037.05' E: 807507.56'
NAD 83 (KOP) LATITUDE = 32°04'45.93" (32.079426°) LONGITUDE = 103°20'23.82" (103.339951°)
NAD 27 (KOP) LATITUDE = 32°04'45.48" (32.079299°) LONGITUDE = 103°20'22.16" (103.339490°)
STATE PLANE NAD 83 (N.M. EAST) N: 394048.97' E: 849015.13'
STATE PLANE NAD 27 (N.M. EAST) N: 393991.08' E: 807827.51'
NAD 83 (PPP #1 - FTP) LATITUDE = 32°04'40.26" (32.077851°) LONGITUDE = 103°20'23.81" (103.339948°)
NAD 27 (PPP #1 - FTP) LATITUDE = 32°04'39.81" (32.077724°) LONGITUDE = 103°20'22.15" (103.339487°)
STATE PLANE NAD 83 (N.M. EAST) N: 393476.05' E: 849021.37'
STATE PLANE NAD 27 (N.M. EAST) N: 393418.18' E: 807833.73'
NAD 83 (PPP #2) LATITUDE = 32°04'20.24" (32.072290°) LONGITUDE = 103°20'23.77" (103.339937°)
NAD 27 (PPP #2) LATITUDE = 32°04'19.79" (32.072163°) LONGITUDE = 103°20'22.11" (103.339476°)
STATE PLANE NAD 83 (N.M. EAST) N: 391452.97' E: 849043.41'
STATE PLANE NAD 27 (N.M. EAST) N: 391395.15' E: 807855.68'
NAD 83 (PPP #3) LATITUDE = 32°03'54.19" (32.065054°) LONGITUDE = 103°20'23.72" (103.339923°)
NAD 27 (PPP #3) LATITUDE = 32°03'53.74" (32.064927°) LONGITUDE = 103°20'22.06" (103.339462°)
STATE PLANE NAD 83 (N.M. EAST) N: 388820.60' E: 849072.07'
STATE PLANE NAD 27 (N.M. EAST) N: 388762.86' E: 807884.24'
NAD 83 (LTP/BHL) LATITUDE = 32°03'03.38" (32.050940°) LONGITUDE = 103°20'23.62" (103.339895°)
NAD 27 (LTP/BHL) LATITUDE = 32°03'02.93" (32.050813°) LONGITUDE = 103°20'21.97" (103.339435°)
STATE PLANE NAD 83 (N.M. EAST) N: 383685.98' E: 849127.99'
STATE PLANE NAD 27 (N.M. EAST) N: 383628.38' E: 807939.95'

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 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.

Shelly Albrecht 7/7/2021
Signature Date

Shelly Albrecht

Printed Name

salbrecht@fmc.com

E-mail Address

LINE TABLE

LINE	DIRECTION	LENGTH
L1	S16°46'16"E	1094.01'
L2	S00°23'06"E	573.04'
L3	S00°23'06"E	2023.50'
L4	S00°23'06"E	2632.91'
L5	S00°23'06"E	5135.68'
L6	S89°42'05"W	2648.06'
L7	S89°43'33"W	2668.48'

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:

SCALE

DRAWN BY: Z.T. 04-28-21

REV: 2 R.J. 06-28-21

(LATERAL CHANGE & ADD PPP)

State of New Mexico
 Energy, Minerals and Natural Resources Department

Submit Electronically
 Via E-permitting

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

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

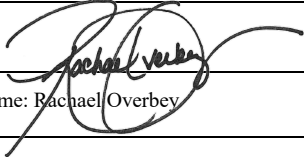
1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(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	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 30-025-49883	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	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 30-025-49883	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 803H

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	2,355'	805'			Carbonates
Salado	1,895'	1,265'			Salt, Carbonate & Clastics
Base Salt	-370'	3,530'			Shaley Carbonate & Shale
Lamar	-1,958'	5,118'			Carbonate & Clastics
Bell Canyon	-2,037'	5,197'			Sandstone - oil/gas/water
Cherry Canyon	-2,908'	6,068'			Sandstone - oil/gas/water
Brushy Canyon	-4,345'	7,505'			Sand/carb/shales - oil/gas/water
Bone Spring Lime	-5,668'	8,828'			Shale/Carbonates - oil/gas
Avalon	-5,705'	8,865'			Shale/Carbonates - oil/gas
Chert Zone	-5,885'	9,045'			Carbonate/Chert
First Bone Spring Sand	-6,933'	10,093'			Sandstone - oil/gas/water
Second Bone Spring Carbonates	-7,101'	10,261'			Shale/Carbonates - oil/gas
Second Bone Spring Sand	-7,443'	10,603'			Sandstone - oil/gas/water
Third Bone Spring Carbonates	-8,038'	11,198'			Shale/Carbonates - oil/gas
Third Bone Spring Sand	-8,671'	11,831'			Sandstone - oil/gas/water
Wolfcamp	-8,958'	12,118'			Overpressure shale/sand- Oil/Gas
Wolfcamp A	-9,022'	12,182'			Overpressure Shale - Oil/Gas
Wolfcamp B	-9,271'	12,431'			Overpressure Shale - Oil/Gas
HZ Target	-9,460'	12,620'			Overpressure Shale - Oil/Gas
Wolfcamp C	-9,524'	12,684'			Overpressure Shale - Oil/Gas

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

Upper Permian Sands	0- 400'	Fresh Water
Delaware Sands	5,197'	Oil
Bone Spring	10,093'	Oil
Wolfcamp	12,118'	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	12166	1.09	1.26	1.79	1.22
Long string 5 1/2"	23	P-110	14520	14520	729	Eagle 606 TVD	22856 12620	1.32	1.36	1.17	0.97 1.55



7 5/8" casing will be set at 12,166' MD/12,047' TVD at 0° Inc. Stress calculations on 5 1/2" casing performed assuming 22,856' depth. Actual max vertical depth is 12,620'.

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		Sacks	Type of cmt	Lead			Sacks	Type of cmt	Tail			Excess
		Size	Setting Depth			Yield ft ³ /sk	Water gal/sk	TOC ft			Yield ft ³ /sk	Water gal/sk	TOC	
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	12166	374	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	11166	50%
					Bridgemaker Gel, 5% Salt, 5pps LCM, 0.25pps Cello-Flake					0.25 pps Cello-Flake, 2% CaCl ₂				
Prod	6.75	5.5	22856	872	Tail, 14.5 ppg, Gas Migration Control	1.34	6.22	11166						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' – 12,166'	Brine	8.8-10.2	28-34	N/c
12,166' – 22,856' Lateral	Oil Base	11.0-12.5	58-68	3 - 6

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

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

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

7. Auxiliary well control and monitoring equipment:

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

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

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

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

8. Logging, testing and coring program:

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

Open-hole logs are not planned for this well.

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

The estimated bottom-hole temperature at 12,620' TVD (deepest point of the well) is 195F with an estimated maximum bottom-hole pressure (BHP) at the same point of 8,531 psig (based on 13 ppg MW). Hydrogen sulfate may be present in the area. All necessary precautions will be taken before drilling operations commence. See Hydrogen Sulfide Plan below:

10. Hydrogen Sulfide Plan:

- A. All personnel shall receive proper awareness H₂S training.
- B. Briefing Area: two perpendicular areas will be designated by signs and readily accessible.
- C. Required Emergency Equipment
 - a. Well Control Equipment
 - i. Flare line 150' from wellhead to be ignited by auto ignition sparking system.
 - ii. Choke manifold with a remotely operated hydraulic choke.
 - iii. Mud/gas separator
 - b. Protective equipment for essential personnel
 - i. Breathing Apparatus
 1. Rescue packs (SCBA) – 1 unit shall be placed at each briefing area, 2 shall be stored in a safety trailer on site.
 2. Work/Escape packs – 4 packs shall be stored on the rig floor with sufficient air hose not to restrict work activity



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

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

11. Anticipated starting date and duration of operations:

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

**12. Disposal/environmental concerns:**

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

13. Wellhead:

A multi-bowl wellhead system will be utilized.

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

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

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

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

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

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

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

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

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

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

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

Franklin Mountain Energy

Project: Lea County, NM (NAD83)
 Site: Tatanka Fed Com
 Well: Tatanka Fed Com 803H
 Wellbore: OH
 Design: Plan #1

3135.8' GE + 30' KB @ 3165.80usft



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



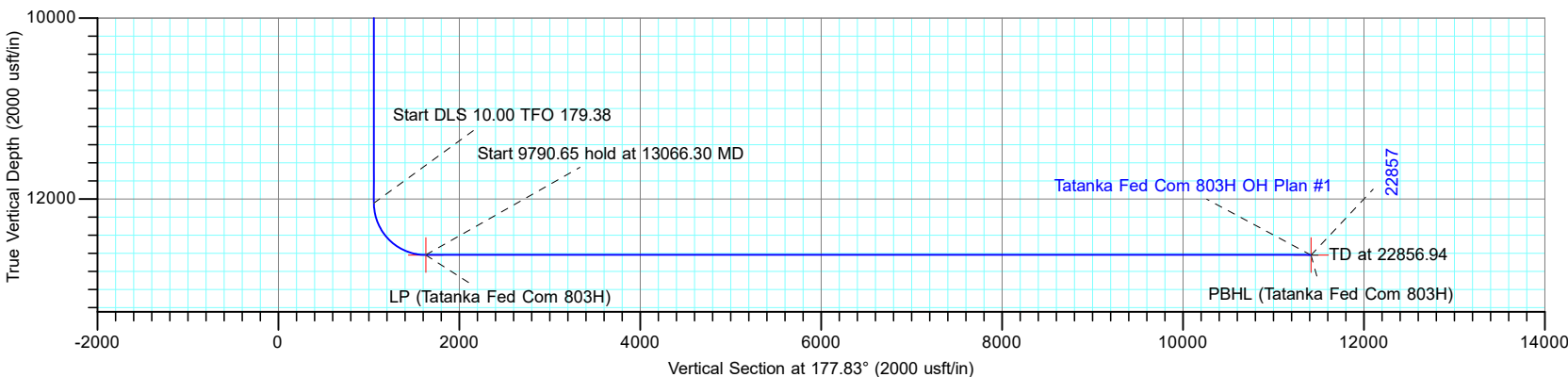
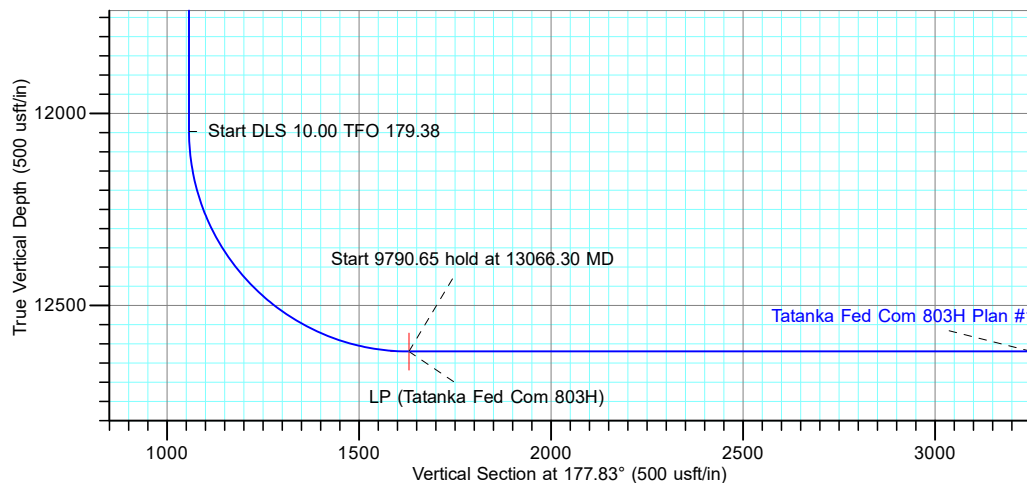
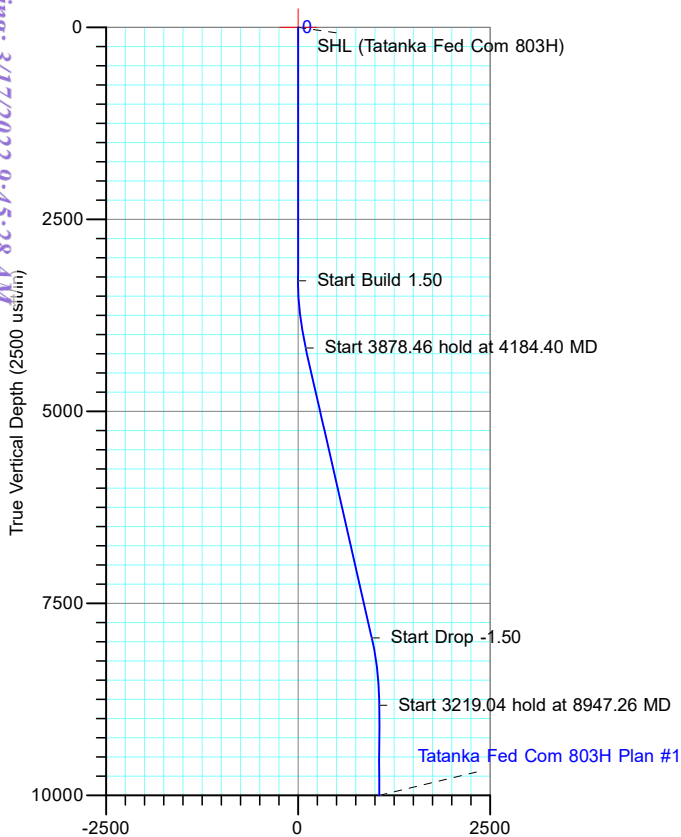
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SECTION DETAILS

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	
3300.00	0.00	0.00	3300.00	0.00	0.00	0.00	0.00	0.00	Start Build 1.50
4184.40	13.27	162.99	4176.52	-97.47	29.82	1.50	162.99	98.53	Start 3878.46 hold at 4184.40 MD
8062.86	13.27	162.99	7951.48	-948.53	290.18	0.00	0.00	958.85	Start Drop -1.50
8947.26	0.00	0.00	8828.00	-1046.00	320.00	1.50	180.00	1057.38	Start 3219.04 hold at 8947.26 MD
12166.30	0.00	0.00	12047.04	-1046.00	320.00	0.00	0.00	1057.38	Start DLS 10.00 TFO 179.38
13066.30	90.00	179.38	12620.00	-1618.92	326.24	10.00	179.38	1630.13	Start 9790.65 hold at 13066.30 MD
22856.94	90.00	179.38	12620.00	-11408.99	432.86	0.00	0.00	11417.20	TD at 22856.94

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
LP (Tatanka Fed Com 803H)	12620.00	-1618.92	326.24	32.077851	-103.339948
PBHL (Tatanka Fed Com 803H)	12620.00	-11408.99	432.86	32.050940	-103.339895
SHL (Tatanka Fed Com 803H)	0.00	0.00	0.00	32.082309	-103.340953



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

Plan: Plan #1 (Tatanka Fed Com 803H/OH)
 Tatanka Fed Com
 Created By: Dustin Ault Date: 12:11, June 25 2021
 Date: _____
 Approved: _____ Date: _____

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Franklin Mountain Energy

Project: Lea County, NM (NAD83)
 Site: Tatanka Fed Com
 Well: Tatanka Fed Com 803H
 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
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 Zone: New Mexico Eastern Zone

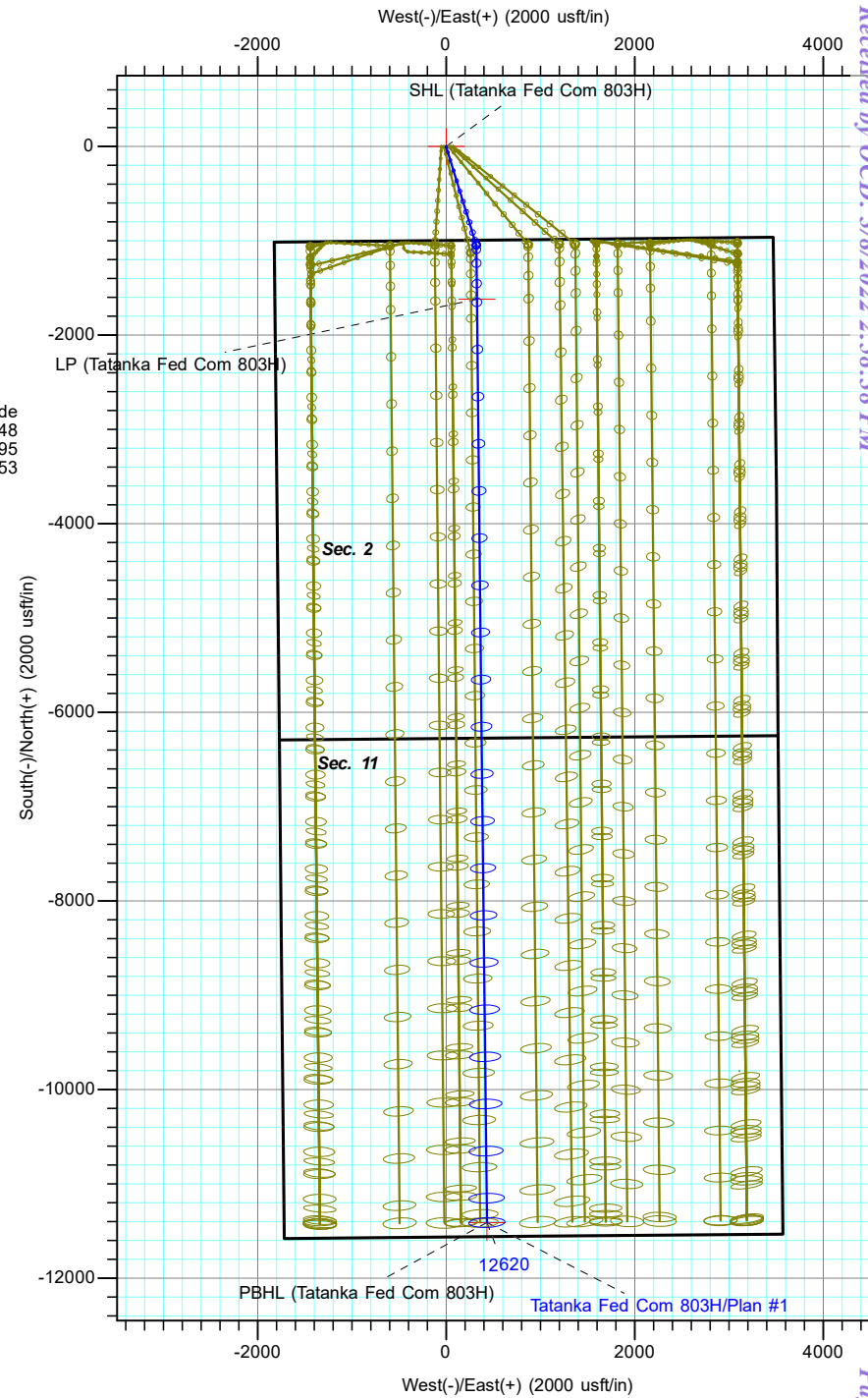
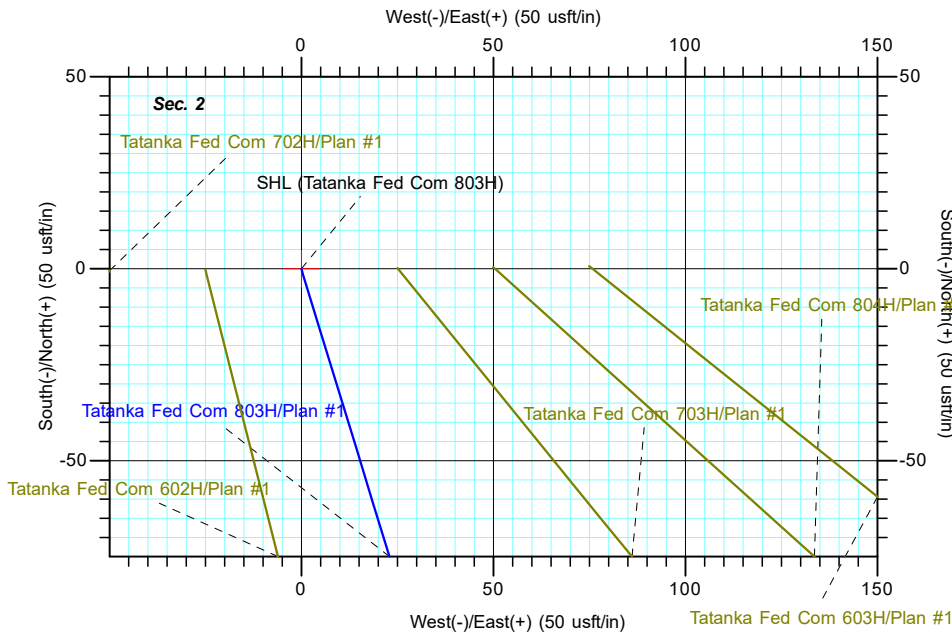


DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
LP (Tatanka Fed Com 803H)	12620.00	-1618.92	326.24	393476.05	849021.37	32.077851	-103.339948
PBHL (Tatanka Fed Com 803H)	12620.00	-11408.99	432.86	383685.98	849127.99	32.050940	-103.339895
SHL (Tatanka Fed Com 803H)	0.00	0.00	0.00	395094.97	848695.13	32.082309	-103.340953

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3300.00	0.00	0.00	3300.00	0.00	0.00	0.00	0.00	0.00	Start Build 1.50
4184.40	13.27	162.99	4176.52	-97.47	29.82	1.50	162.99	98.53	Start 3878.46 hold at 4184.40 MD
8062.86	13.27	162.99	7951.48	-948.53	290.18	0.00	0.00	958.85	Start Drop -1.50
8947.26	0.00	0.00	8828.00	-1046.00	320.00	1.50	180.00	1057.38	Start 3219.04 hold at 8947.26 MD
12166.30	0.00	0.00	12047.04	-1046.00	320.00	0.00	0.00	1057.38	Start DLS 10.00 TFO 179.38
13066.30	90.00	179.38	12620.00	-1618.92	326.24	10.00	179.38	1630.13	Start 9790.65 hold at 13066.30 MD
22856.94	90.00	179.38	12620.00	-11408.99	432.86	0.00	0.00	11417.20	TD at 22856.94



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

Plan: Plan #1 (Tatanka Fed Com 803H/OH)
 Tatanka Fed Com
 Created By: Dustin Ault Date: 12:12, June 25 2021
 Date: _____ Date: _____
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Franklin Mountain Energy

Lea County, NM (NAD83)

Tatanka Fed Com

Tatanka Fed Com 803H

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 803H
Company:	Franklin Mountain Energy	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Project:	Lea County, NM (NAD83)	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site:	Tatanka Fed Com	North Reference:	Grid
Well:	Tatanka Fed Com 803H	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 803H					
Well Position	+N/-S	1,019.61 usft	Northing:	395,094.97 usft	Latitude:	32.082309
	+E/-W	1,278.39 usft	Easting:	848,695.13 usft	Longitude:	-103.340953
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	3,135.80 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	6/25/2021	6.42	59.80	47,432.16862002

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	177.83

Plan Survey Tool Program	Date	6/25/2021		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	22,856.94 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	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,184.40	13.27	162.99	4,176.52	-97.47	29.82	1.50	1.50	0.00	162.99	
8,062.86	13.27	162.99	7,951.48	-948.53	290.18	0.00	0.00	0.00	0.00	
8,947.26	0.00	0.00	8,828.00	-1,046.00	320.00	1.50	-1.50	0.00	180.00	
12,166.30	0.00	0.00	12,047.04	-1,046.00	320.00	0.00	0.00	0.00	0.00	
13,066.30	90.00	179.38	12,620.00	-1,618.92	326.24	10.00	10.00	19.93	179.38	
22,856.94	90.00	179.38	12,620.00	-11,408.99	432.86	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 803H
Company:	Franklin Mountain Energy	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Project:	Lea County, NM (NAD83)	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site:	Tatanka Fed Com	North Reference:	Grid
Well:	Tatanka Fed Com 803H	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 803H)									
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
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 1.50									
3,400.00	1.50	162.99	3,399.99	-1.25	0.38	1.27	1.50	1.50	0.00
3,500.00	3.00	162.99	3,499.91	-5.01	1.53	5.06	1.50	1.50	0.00
3,600.00	4.50	162.99	3,599.69	-11.26	3.44	11.38	1.50	1.50	0.00
3,700.00	6.00	162.99	3,699.27	-20.01	6.12	20.23	1.50	1.50	0.00
3,800.00	7.50	162.99	3,798.57	-31.25	9.56	31.59	1.50	1.50	0.00
3,900.00	9.00	162.99	3,897.54	-44.97	13.76	45.46	1.50	1.50	0.00
4,000.00	10.50	162.99	3,996.09	-61.16	18.71	61.83	1.50	1.50	0.00
4,100.00	12.00	162.99	4,094.16	-79.82	24.42	80.69	1.50	1.50	0.00
4,184.40	13.27	162.99	4,176.52	-97.47	29.82	98.53	1.50	1.50	0.00
Start 3878.46 hold at 4184.40 MD									
4,200.00	13.27	162.99	4,191.70	-100.89	30.87	101.99	0.00	0.00	0.00
4,300.00	13.27	162.99	4,289.03	-122.84	37.58	124.17	0.00	0.00	0.00
4,400.00	13.27	162.99	4,386.37	-144.78	44.29	146.35	0.00	0.00	0.00
4,500.00	13.27	162.99	4,483.70	-166.72	51.00	168.54	0.00	0.00	0.00
4,600.00	13.27	162.99	4,581.03	-188.67	57.72	190.72	0.00	0.00	0.00
4,700.00	13.27	162.99	4,678.36	-210.61	64.43	212.90	0.00	0.00	0.00
4,800.00	13.27	162.99	4,775.69	-232.55	71.14	235.08	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 803H
Company:	Franklin Mountain Energy	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Project:	Lea County, NM (NAD83)	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site:	Tatanka Fed Com	North Reference:	Grid
Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,900.00	13.27	162.99	4,873.02	-254.50	77.86	257.26	0.00	0.00	0.00
5,000.00	13.27	162.99	4,970.36	-276.44	84.57	279.45	0.00	0.00	0.00
5,100.00	13.27	162.99	5,067.69	-298.38	91.28	301.63	0.00	0.00	0.00
5,200.00	13.27	162.99	5,165.02	-320.33	98.00	323.81	0.00	0.00	0.00
5,300.00	13.27	162.99	5,262.35	-342.27	104.71	345.99	0.00	0.00	0.00
5,400.00	13.27	162.99	5,359.68	-364.21	111.42	368.17	0.00	0.00	0.00
5,500.00	13.27	162.99	5,457.01	-386.16	118.14	390.36	0.00	0.00	0.00
5,600.00	13.27	162.99	5,554.34	-408.10	124.85	412.54	0.00	0.00	0.00
5,700.00	13.27	162.99	5,651.68	-430.04	131.56	434.72	0.00	0.00	0.00
5,800.00	13.27	162.99	5,749.01	-451.99	138.27	456.90	0.00	0.00	0.00
5,900.00	13.27	162.99	5,846.34	-473.93	144.99	479.08	0.00	0.00	0.00
6,000.00	13.27	162.99	5,943.67	-495.87	151.70	501.27	0.00	0.00	0.00
6,100.00	13.27	162.99	6,041.00	-517.82	158.41	523.45	0.00	0.00	0.00
6,200.00	13.27	162.99	6,138.33	-539.76	165.13	545.63	0.00	0.00	0.00
6,300.00	13.27	162.99	6,235.67	-561.70	171.84	567.81	0.00	0.00	0.00
6,400.00	13.27	162.99	6,333.00	-583.65	178.55	589.99	0.00	0.00	0.00
6,500.00	13.27	162.99	6,430.33	-605.59	185.27	612.18	0.00	0.00	0.00
6,600.00	13.27	162.99	6,527.66	-627.53	191.98	634.36	0.00	0.00	0.00
6,700.00	13.27	162.99	6,624.99	-649.47	198.69	656.54	0.00	0.00	0.00
6,800.00	13.27	162.99	6,722.32	-671.42	205.41	678.72	0.00	0.00	0.00
6,900.00	13.27	162.99	6,819.65	-693.36	212.12	700.91	0.00	0.00	0.00
7,000.00	13.27	162.99	6,916.99	-715.30	218.83	723.09	0.00	0.00	0.00
7,100.00	13.27	162.99	7,014.32	-737.25	225.54	745.27	0.00	0.00	0.00
7,200.00	13.27	162.99	7,111.65	-759.19	232.26	767.45	0.00	0.00	0.00
7,300.00	13.27	162.99	7,208.98	-781.13	238.97	789.63	0.00	0.00	0.00
7,400.00	13.27	162.99	7,306.31	-803.08	245.68	811.82	0.00	0.00	0.00
7,500.00	13.27	162.99	7,403.64	-825.02	252.40	834.00	0.00	0.00	0.00
7,600.00	13.27	162.99	7,500.98	-846.96	259.11	856.18	0.00	0.00	0.00
7,700.00	13.27	162.99	7,598.31	-868.91	265.82	878.36	0.00	0.00	0.00
7,800.00	13.27	162.99	7,695.64	-890.85	272.54	900.54	0.00	0.00	0.00
7,900.00	13.27	162.99	7,792.97	-912.79	279.25	922.73	0.00	0.00	0.00
8,000.00	13.27	162.99	7,890.30	-934.74	285.96	944.91	0.00	0.00	0.00
8,062.86	13.27	162.99	7,951.48	-948.53	290.18	958.85	0.00	0.00	0.00
Start Drop -1.50									
8,100.00	12.71	162.99	7,987.67	-956.51	292.62	966.92	1.50	-1.50	0.00
8,200.00	11.21	162.99	8,085.50	-976.33	298.69	986.95	1.50	-1.50	0.00
8,300.00	9.71	162.99	8,183.84	-993.69	304.00	1,004.50	1.50	-1.50	0.00
8,400.00	8.21	162.99	8,282.61	-1,008.58	308.55	1,019.55	1.50	-1.50	0.00
8,500.00	6.71	162.99	8,381.76	-1,020.99	312.35	1,032.10	1.50	-1.50	0.00
8,600.00	5.21	162.99	8,481.22	-1,030.92	315.39	1,042.13	1.50	-1.50	0.00
8,700.00	3.71	162.99	8,580.92	-1,038.35	317.66	1,049.65	1.50	-1.50	0.00
8,800.00	2.21	162.99	8,680.78	-1,043.29	319.17	1,054.64	1.50	-1.50	0.00
8,900.00	0.71	162.99	8,780.74	-1,045.72	319.91	1,057.10	1.50	-1.50	0.00
8,947.26	0.00	0.00	8,828.00	-1,046.00	320.00	1,057.38	1.50	-1.50	0.00
Start 3219.04 hold at 8947.26 MD									
9,000.00	0.00	0.00	8,880.74	-1,046.00	320.00	1,057.38	0.00	0.00	0.00
9,100.00	0.00	0.00	8,980.74	-1,046.00	320.00	1,057.38	0.00	0.00	0.00
9,200.00	0.00	0.00	9,080.74	-1,046.00	320.00	1,057.38	0.00	0.00	0.00
9,300.00	0.00	0.00	9,180.74	-1,046.00	320.00	1,057.38	0.00	0.00	0.00
9,400.00	0.00	0.00	9,280.74	-1,046.00	320.00	1,057.38	0.00	0.00	0.00
9,500.00	0.00	0.00	9,380.74	-1,046.00	320.00	1,057.38	0.00	0.00	0.00
9,600.00	0.00	0.00	9,480.74	-1,046.00	320.00	1,057.38	0.00	0.00	0.00
9,700.00	0.00	0.00	9,580.74	-1,046.00	320.00	1,057.38	0.00	0.00	0.00
9,800.00	0.00	0.00	9,680.74	-1,046.00	320.00	1,057.38	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 803H
Company:	Franklin Mountain Energy	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Project:	Lea County, NM (NAD83)	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site:	Tatanka Fed Com	North Reference:	Grid
Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,900.00	0.00	0.00	9,780.74	-1,046.00	320.00	1,057.38	0.00	0.00	0.00
10,000.00	0.00	0.00	9,880.74	-1,046.00	320.00	1,057.38	0.00	0.00	0.00
10,100.00	0.00	0.00	9,980.74	-1,046.00	320.00	1,057.38	0.00	0.00	0.00
10,200.00	0.00	0.00	10,080.74	-1,046.00	320.00	1,057.38	0.00	0.00	0.00
10,300.00	0.00	0.00	10,180.74	-1,046.00	320.00	1,057.38	0.00	0.00	0.00
10,400.00	0.00	0.00	10,280.74	-1,046.00	320.00	1,057.38	0.00	0.00	0.00
10,500.00	0.00	0.00	10,380.74	-1,046.00	320.00	1,057.38	0.00	0.00	0.00
10,600.00	0.00	0.00	10,480.74	-1,046.00	320.00	1,057.38	0.00	0.00	0.00
10,700.00	0.00	0.00	10,580.74	-1,046.00	320.00	1,057.38	0.00	0.00	0.00
10,800.00	0.00	0.00	10,680.74	-1,046.00	320.00	1,057.38	0.00	0.00	0.00
10,900.00	0.00	0.00	10,780.74	-1,046.00	320.00	1,057.38	0.00	0.00	0.00
11,000.00	0.00	0.00	10,880.74	-1,046.00	320.00	1,057.38	0.00	0.00	0.00
11,100.00	0.00	0.00	10,980.74	-1,046.00	320.00	1,057.38	0.00	0.00	0.00
11,200.00	0.00	0.00	11,080.74	-1,046.00	320.00	1,057.38	0.00	0.00	0.00
11,300.00	0.00	0.00	11,180.74	-1,046.00	320.00	1,057.38	0.00	0.00	0.00
11,400.00	0.00	0.00	11,280.74	-1,046.00	320.00	1,057.38	0.00	0.00	0.00
11,500.00	0.00	0.00	11,380.74	-1,046.00	320.00	1,057.38	0.00	0.00	0.00
11,600.00	0.00	0.00	11,480.74	-1,046.00	320.00	1,057.38	0.00	0.00	0.00
11,700.00	0.00	0.00	11,580.74	-1,046.00	320.00	1,057.38	0.00	0.00	0.00
11,800.00	0.00	0.00	11,680.74	-1,046.00	320.00	1,057.38	0.00	0.00	0.00
11,900.00	0.00	0.00	11,780.74	-1,046.00	320.00	1,057.38	0.00	0.00	0.00
12,000.00	0.00	0.00	11,880.74	-1,046.00	320.00	1,057.38	0.00	0.00	0.00
12,100.00	0.00	0.00	11,980.74	-1,046.00	320.00	1,057.38	0.00	0.00	0.00
12,166.30	0.00	0.00	12,047.04	-1,046.00	320.00	1,057.38	0.00	0.00	0.00
Start DLS 10.00 TFO 179.38									
12,200.00	3.37	179.38	12,080.72	-1,046.99	320.01	1,058.37	10.00	10.00	0.00
12,250.00	8.37	179.38	12,130.45	-1,052.10	320.07	1,063.48	10.00	10.00	0.00
12,300.00	13.37	179.38	12,179.53	-1,061.53	320.17	1,072.90	10.00	10.00	0.00
12,350.00	18.37	179.38	12,227.61	-1,075.20	320.32	1,086.57	10.00	10.00	0.00
12,400.00	23.37	179.38	12,274.32	-1,093.00	320.51	1,104.37	10.00	10.00	0.00
12,450.00	28.37	179.38	12,319.29	-1,114.81	320.75	1,126.17	10.00	10.00	0.00
12,500.00	33.37	179.38	12,362.19	-1,140.46	321.03	1,151.81	10.00	10.00	0.00
12,550.00	38.37	179.38	12,402.70	-1,169.74	321.35	1,181.08	10.00	10.00	0.00
12,600.00	43.37	179.38	12,440.50	-1,202.45	321.70	1,213.78	10.00	10.00	0.00
12,650.00	48.37	179.38	12,475.30	-1,238.32	322.09	1,249.64	10.00	10.00	0.00
12,700.00	53.37	179.38	12,506.84	-1,277.09	322.52	1,288.40	10.00	10.00	0.00
12,750.00	58.37	179.38	12,534.89	-1,318.47	322.97	1,329.76	10.00	10.00	0.00
12,800.00	63.37	179.38	12,559.22	-1,362.13	323.44	1,373.41	10.00	10.00	0.00
12,850.00	68.37	179.38	12,579.65	-1,407.74	323.94	1,419.01	10.00	10.00	0.00
12,900.00	73.37	179.38	12,596.03	-1,454.96	324.45	1,466.22	10.00	10.00	0.00
12,950.00	78.37	179.38	12,608.24	-1,503.43	324.98	1,514.67	10.00	10.00	0.00
13,000.00	83.37	179.38	12,616.17	-1,552.78	325.52	1,564.00	10.00	10.00	0.00
13,050.00	88.37	179.38	12,619.77	-1,602.63	326.06	1,613.84	10.00	10.00	0.00
13,066.29	90.00	179.38	12,620.00	-1,618.92	326.24	1,630.12	10.00	10.00	0.00
Start 9790.65 hold at 13066.30 MD - LP (Tatanka Fed Com 803H)									
13,100.00	90.00	179.38	12,620.00	-1,652.62	326.61	1,663.82	0.00	0.00	0.00
13,200.00	90.00	179.38	12,620.00	-1,752.62	327.70	1,763.78	0.00	0.00	0.00
13,300.00	90.00	179.38	12,620.00	-1,852.61	328.78	1,863.75	0.00	0.00	0.00
13,400.00	90.00	179.38	12,620.00	-1,952.61	329.87	1,963.71	0.00	0.00	0.00
13,500.00	90.00	179.38	12,620.00	-2,052.60	330.96	2,063.67	0.00	0.00	0.00
13,600.00	90.00	179.38	12,620.00	-2,152.60	332.05	2,163.64	0.00	0.00	0.00
13,700.00	90.00	179.38	12,620.00	-2,252.59	333.14	2,263.60	0.00	0.00	0.00
13,800.00	90.00	179.38	12,620.00	-2,352.58	334.23	2,363.56	0.00	0.00	0.00
13,900.00	90.00	179.38	12,620.00	-2,452.58	335.32	2,463.53	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 803H
Company:	Franklin Mountain Energy	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Project:	Lea County, NM (NAD83)	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site:	Tatanka Fed Com	North Reference:	Grid
Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,000.00	90.00	179.38	12,620.00	-2,552.57	336.41	2,563.49	0.00	0.00	0.00
14,100.00	90.00	179.38	12,620.00	-2,652.57	337.50	2,663.45	0.00	0.00	0.00
14,200.00	90.00	179.38	12,620.00	-2,752.56	338.59	2,763.42	0.00	0.00	0.00
14,300.00	90.00	179.38	12,620.00	-2,852.55	339.67	2,863.38	0.00	0.00	0.00
14,400.00	90.00	179.38	12,620.00	-2,952.55	340.76	2,963.34	0.00	0.00	0.00
14,500.00	90.00	179.38	12,620.00	-3,052.54	341.85	3,063.31	0.00	0.00	0.00
14,600.00	90.00	179.38	12,620.00	-3,152.54	342.94	3,163.27	0.00	0.00	0.00
14,700.00	90.00	179.38	12,620.00	-3,252.53	344.03	3,263.23	0.00	0.00	0.00
14,800.00	90.00	179.38	12,620.00	-3,352.52	345.12	3,363.20	0.00	0.00	0.00
14,900.00	90.00	179.38	12,620.00	-3,452.52	346.21	3,463.16	0.00	0.00	0.00
15,000.00	90.00	179.38	12,620.00	-3,552.51	347.30	3,563.13	0.00	0.00	0.00
15,100.00	90.00	179.38	12,620.00	-3,652.51	348.39	3,663.09	0.00	0.00	0.00
15,200.00	90.00	179.38	12,620.00	-3,752.50	349.48	3,763.05	0.00	0.00	0.00
15,300.00	90.00	179.38	12,620.00	-3,852.49	350.56	3,863.02	0.00	0.00	0.00
15,400.00	90.00	179.38	12,620.00	-3,952.49	351.65	3,962.98	0.00	0.00	0.00
15,500.00	90.00	179.38	12,620.00	-4,052.48	352.74	4,062.94	0.00	0.00	0.00
15,600.00	90.00	179.38	12,620.00	-4,152.48	353.83	4,162.91	0.00	0.00	0.00
15,700.00	90.00	179.38	12,620.00	-4,252.47	354.92	4,262.87	0.00	0.00	0.00
15,800.00	90.00	179.38	12,620.00	-4,352.46	356.01	4,362.83	0.00	0.00	0.00
15,900.00	90.00	179.38	12,620.00	-4,452.46	357.10	4,462.80	0.00	0.00	0.00
16,000.00	90.00	179.38	12,620.00	-4,552.45	358.19	4,562.76	0.00	0.00	0.00
16,100.00	90.00	179.38	12,620.00	-4,652.45	359.28	4,662.72	0.00	0.00	0.00
16,200.00	90.00	179.38	12,620.00	-4,752.44	360.37	4,762.69	0.00	0.00	0.00
16,300.00	90.00	179.38	12,620.00	-4,852.44	361.45	4,862.65	0.00	0.00	0.00
16,400.00	90.00	179.38	12,620.00	-4,952.43	362.54	4,962.61	0.00	0.00	0.00
16,500.00	90.00	179.38	12,620.00	-5,052.42	363.63	5,062.58	0.00	0.00	0.00
16,600.00	90.00	179.38	12,620.00	-5,152.42	364.72	5,162.54	0.00	0.00	0.00
16,700.00	90.00	179.38	12,620.00	-5,252.41	365.81	5,262.50	0.00	0.00	0.00
16,800.00	90.00	179.38	12,620.00	-5,352.41	366.90	5,362.47	0.00	0.00	0.00
16,900.00	90.00	179.38	12,620.00	-5,452.40	367.99	5,462.43	0.00	0.00	0.00
17,000.00	90.00	179.38	12,620.00	-5,552.39	369.08	5,562.39	0.00	0.00	0.00
17,100.00	90.00	179.38	12,620.00	-5,652.39	370.17	5,662.36	0.00	0.00	0.00
17,200.00	90.00	179.38	12,620.00	-5,752.38	371.26	5,762.32	0.00	0.00	0.00
17,300.00	90.00	179.38	12,620.00	-5,852.38	372.34	5,862.28	0.00	0.00	0.00
17,400.00	90.00	179.38	12,620.00	-5,952.37	373.43	5,962.25	0.00	0.00	0.00
17,500.00	90.00	179.38	12,620.00	-6,052.36	374.52	6,062.21	0.00	0.00	0.00
17,600.00	90.00	179.38	12,620.00	-6,152.36	375.61	6,162.18	0.00	0.00	0.00
17,700.00	90.00	179.38	12,620.00	-6,252.35	376.70	6,262.14	0.00	0.00	0.00
17,800.00	90.00	179.38	12,620.00	-6,352.35	377.79	6,362.10	0.00	0.00	0.00
17,900.00	90.00	179.38	12,620.00	-6,452.34	378.88	6,462.07	0.00	0.00	0.00
18,000.00	90.00	179.38	12,620.00	-6,552.33	379.97	6,562.03	0.00	0.00	0.00
18,100.00	90.00	179.38	12,620.00	-6,652.33	381.06	6,661.99	0.00	0.00	0.00
18,200.00	90.00	179.38	12,620.00	-6,752.32	382.15	6,761.96	0.00	0.00	0.00
18,300.00	90.00	179.38	12,620.00	-6,852.32	383.23	6,861.92	0.00	0.00	0.00
18,400.00	90.00	179.38	12,620.00	-6,952.31	384.32	6,961.88	0.00	0.00	0.00
18,500.00	90.00	179.38	12,620.00	-7,052.30	385.41	7,061.85	0.00	0.00	0.00
18,600.00	90.00	179.38	12,620.00	-7,152.30	386.50	7,161.81	0.00	0.00	0.00
18,700.00	90.00	179.38	12,620.00	-7,252.29	387.59	7,261.77	0.00	0.00	0.00
18,800.00	90.00	179.38	12,620.00	-7,352.29	388.68	7,361.74	0.00	0.00	0.00
18,900.00	90.00	179.38	12,620.00	-7,452.28	389.77	7,461.70	0.00	0.00	0.00
19,000.00	90.00	179.38	12,620.00	-7,552.28	390.86	7,561.66	0.00	0.00	0.00
19,100.00	90.00	179.38	12,620.00	-7,652.27	391.95	7,661.63	0.00	0.00	0.00
19,200.00	90.00	179.38	12,620.00	-7,752.26	393.04	7,761.59	0.00	0.00	0.00
19,300.00	90.00	179.38	12,620.00	-7,852.26	394.12	7,861.55	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 803H
Company:	Franklin Mountain Energy	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Project:	Lea County, NM (NAD83)	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site:	Tatanka Fed Com	North Reference:	Grid
Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
19,400.00	90.00	179.38	12,620.00	-7,952.25	395.21	7,961.52	0.00	0.00	0.00	
19,500.00	90.00	179.38	12,620.00	-8,052.25	396.30	8,061.48	0.00	0.00	0.00	
19,600.00	90.00	179.38	12,620.00	-8,152.24	397.39	8,161.44	0.00	0.00	0.00	
19,700.00	90.00	179.38	12,620.00	-8,252.23	398.48	8,261.41	0.00	0.00	0.00	
19,800.00	90.00	179.38	12,620.00	-8,352.23	399.57	8,361.37	0.00	0.00	0.00	
19,900.00	90.00	179.38	12,620.00	-8,452.22	400.66	8,461.34	0.00	0.00	0.00	
20,000.00	90.00	179.38	12,620.00	-8,552.22	401.75	8,561.30	0.00	0.00	0.00	
20,100.00	90.00	179.38	12,620.00	-8,652.21	402.84	8,661.26	0.00	0.00	0.00	
20,200.00	90.00	179.38	12,620.00	-8,752.20	403.93	8,761.23	0.00	0.00	0.00	
20,300.00	90.00	179.38	12,620.00	-8,852.20	405.01	8,861.19	0.00	0.00	0.00	
20,400.00	90.00	179.38	12,620.00	-8,952.19	406.10	8,961.15	0.00	0.00	0.00	
20,500.00	90.00	179.38	12,620.00	-9,052.19	407.19	9,061.12	0.00	0.00	0.00	
20,600.00	90.00	179.38	12,620.00	-9,152.18	408.28	9,161.08	0.00	0.00	0.00	
20,700.00	90.00	179.38	12,620.00	-9,252.17	409.37	9,261.04	0.00	0.00	0.00	
20,800.00	90.00	179.38	12,620.00	-9,352.17	410.46	9,361.01	0.00	0.00	0.00	
20,900.00	90.00	179.38	12,620.00	-9,452.16	411.55	9,460.97	0.00	0.00	0.00	
21,000.00	90.00	179.38	12,620.00	-9,552.16	412.64	9,560.93	0.00	0.00	0.00	
21,100.00	90.00	179.38	12,620.00	-9,652.15	413.73	9,660.90	0.00	0.00	0.00	
21,200.00	90.00	179.38	12,620.00	-9,752.14	414.82	9,760.86	0.00	0.00	0.00	
21,300.00	90.00	179.38	12,620.00	-9,852.14	415.90	9,860.82	0.00	0.00	0.00	
21,400.00	90.00	179.38	12,620.00	-9,952.13	416.99	9,960.79	0.00	0.00	0.00	
21,500.00	90.00	179.38	12,620.00	-10,052.13	418.08	10,060.75	0.00	0.00	0.00	
21,600.00	90.00	179.38	12,620.00	-10,152.12	419.17	10,160.71	0.00	0.00	0.00	
21,700.00	90.00	179.38	12,620.00	-10,252.12	420.26	10,260.68	0.00	0.00	0.00	
21,800.00	90.00	179.38	12,620.00	-10,352.11	421.35	10,360.64	0.00	0.00	0.00	
21,900.00	90.00	179.38	12,620.00	-10,452.10	422.44	10,460.60	0.00	0.00	0.00	
22,000.00	90.00	179.38	12,620.00	-10,552.10	423.53	10,560.57	0.00	0.00	0.00	
22,100.00	90.00	179.38	12,620.00	-10,652.09	424.62	10,660.53	0.00	0.00	0.00	
22,200.00	90.00	179.38	12,620.00	-10,752.09	425.71	10,760.49	0.00	0.00	0.00	
22,300.00	90.00	179.38	12,620.00	-10,852.08	426.79	10,860.46	0.00	0.00	0.00	
22,400.00	90.00	179.38	12,620.00	-10,952.07	427.88	10,960.42	0.00	0.00	0.00	
22,500.00	90.00	179.38	12,620.00	-11,052.07	428.97	11,060.39	0.00	0.00	0.00	
22,600.00	90.00	179.38	12,620.00	-11,152.06	430.06	11,160.35	0.00	0.00	0.00	
22,700.00	90.00	179.38	12,620.00	-11,252.06	431.15	11,260.31	0.00	0.00	0.00	
22,800.00	90.00	179.38	12,620.00	-11,352.05	432.24	11,360.28	0.00	0.00	0.00	
22,856.94	90.00	179.38	12,620.00	-11,408.99	432.86	11,417.20	0.00	0.00	0.00	
TD at 22856.94 - PBHL (Tatanka Fed Com 803H)										



Total Directional Services
Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Tatanka Fed Com 803H
Company:	Franklin Mountain Energy	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Project:	Lea County, NM (NAD83)	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site:	Tatanka Fed Com	North Reference:	Grid
Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
SHL (Tatanka Fed Com - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	395,094.97	848,695.13	32.082309	-103.340953
LP (Tatanka Fed Com 80 - plan hits target center - Point	0.00	0.00	12,620.00	-1,618.92	326.24	393,476.05	849,021.37	32.077851	-103.339948
PBHL (Tatanka Fed Com - plan hits target center - Point	0.00	0.00	12,620.00	-11,408.99	432.86	383,685.98	849,127.99	32.050940	-103.339895

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(usft)	(usft)	+N/-S	+E/-W		
		(usft)	(usft)		
3,300.00	3,300.00	0.00	0.00	Start Build 1.50	
4,184.40	4,176.52	-97.47	29.82	Start 3878.46 hold at 4184.40 MD	
8,062.86	7,951.48	-948.53	290.18	Start Drop -1.50	
8,947.26	8,828.00	-1,046.00	320.00	Start 3219.04 hold at 8947.26 MD	
12,166.30	12,047.04	-1,046.00	320.00	Start DLS 10.00 TFO 179.38	
13,066.30	12,620.00	-1,618.92	326.24	Start 9790.65 hold at 13066.30 MD	
22,856.94	12,620.00	-11,408.99	432.86	TD at 22856.94	



Franklin Mountain Energy

Lea County, NM (NAD83)

Tatanka Fed Com

Tatanka Fed Com 803H

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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

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

Survey Tool Program	Date	6/25/2021
From (usft)	To (usft)	Survey (Wellbore)
0.00	22,856.94	Plan #1 (OH)
		Tool Name
		OWSG (Rev2) MWD
		Description
		OWSG MWD - Standard

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Tatanka Fed Com						
Tatanka Fed Com 101H - OH - Plan #1	3,200.00	3,186.60	1,127.69	1,111.83	71.107	CC
Tatanka Fed Com 101H - OH - Plan #1	4,184.40	3,988.62	1,129.86	1,109.90	56.598	ES
Tatanka Fed Com 101H - OH - Plan #1	22,856.94	18,762.37	4,203.26	4,050.36	27.490	SF
Tatanka Fed Com 102H - OH - Plan #1	8,392.72	8,296.70	285.34	240.80	6.406	CC, ES
Tatanka Fed Com 102H - OH - Plan #1	8,400.00	8,300.00	285.36	240.81	6.406	SF
Tatanka Fed Com 103H - OH - Plan #1	8,494.98	8,308.58	1,296.17	1,251.93	29.293	CC
Tatanka Fed Com 103H - OH - Plan #1	8,500.00	8,312.22	1,296.18	1,251.91	29.279	ES
Tatanka Fed Com 103H - OH - Plan #1	8,700.00	8,450.00	1,304.18	1,259.19	28.984	SF
Tatanka Fed Com 104H - OH - Plan #1	2,000.00	1,982.60	1,903.77	1,894.01	194.947	CC, ES
Tatanka Fed Com 104H - OH - Plan #1	22,856.94	18,771.36	4,831.36	4,651.62	26.879	SF
Tatanka Fed Com 501H - OH - Plan #1	4,405.53	4,219.87	1,067.43	1,046.30	50.521	CC, ES
Tatanka Fed Com 501H - OH - Plan #1	22,856.94	20,841.66	2,551.11	2,352.78	12.863	SF
Tatanka Fed Com 502H - OH - Plan #1	8,201.67	8,097.82	255.46	212.00	5.878	CC, ES
Tatanka Fed Com 502H - OH - Plan #1	10,500.00	10,383.04	268.02	213.83	4.946	SF
Tatanka Fed Com 503H - OH - Plan #1	10,317.61	10,182.09	1,273.87	1,220.53	23.884	CC
Tatanka Fed Com 503H - OH - Plan #1	10,400.00	10,263.10	1,273.91	1,220.22	23.727	ES
Tatanka Fed Com 503H - OH - Plan #1	22,856.94	20,839.90	2,266.09	2,093.49	13.129	SF
Tatanka Fed Com 504H - OH - Plan #1	3,959.01	3,700.00	1,860.11	1,841.33	99.014	CC
Tatanka Fed Com 504H - OH - Plan #1	4,113.37	3,800.00	1,860.36	1,841.03	96.200	ES
Tatanka Fed Com 504H - OH - Plan #1	22,856.94	20,815.01	3,344.93	3,118.23	14.755	SF
Tatanka Fed Com 601H - OH - Plan #2	3,200.00	3,198.70	1,635.20	1,619.31	102.909	CC
Tatanka Fed Com 601H - OH - Plan #2	22,856.94	22,129.15	1,839.78	1,586.83	7.273	ES, SF
Tatanka Fed Com 602H - OH - Plan #1	3,420.89	3,420.57	24.42	7.47	1.441	Level 3, CC
Tatanka Fed Com 602H - OH - Plan #1	3,500.00	3,499.67	24.55	7.24	1.418	Level 3, ES
Tatanka Fed Com 602H - OH - Plan #1	3,600.00	3,599.58	25.07	7.30	1.411	Level 3, SF
Tatanka Fed Com 603H - OH - Plan #1	3,116.57	3,116.87	74.99	59.52	4.847	CC
Tatanka Fed Com 603H - OH - Plan #1	3,200.00	3,200.00	74.99	59.10	4.719	ES
Tatanka Fed Com 603H - OH - Plan #1	3,300.00	3,298.77	76.00	59.62	4.639	SF
Tatanka Fed Com 604H - OH - Plan #2	11,555.60	11,401.02	2,489.71	2,430.67	42.167	CC
Tatanka Fed Com 604H - OH - Plan #2	22,856.94	22,051.91	2,562.63	2,308.03	10.065	ES, SF
Tatanka Fed Com 702H - OH - Plan #1	3,300.00	3,299.50	49.99	33.59	3.049	CC
Tatanka Fed Com 702H - OH - Plan #1	3,400.00	3,399.49	50.38	33.49	2.982	ES
Tatanka Fed Com 702H - OH - Plan #1	3,500.00	3,499.41	51.71	34.35	2.978	SF
Tatanka Fed Com 703H - OH - Plan #1	3,116.60	3,116.80	25.00	9.53	1.616	CC
Tatanka Fed Com 703H - OH - Plan #1	3,200.00	3,200.00	25.00	9.11	1.573	ES, SF
Tatanka Fed Com 704H - OH - Plan #2	11,733.48	11,638.75	1,499.67	1,439.68	24.998	CC
Tatanka Fed Com 704H - OH - Plan #2	22,856.94	22,294.32	1,560.60	1,310.12	6.230	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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors 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 705H - OH - Plan #2	11,600.00	11,469.64	2,772.09	2,712.89	46.826	CC
Tatanka Fed Com 705H - OH - Plan #2	22,856.94	22,054.33	2,813.21	2,555.72	10.925	ES, SF
Tatanka Fed Com 801H - OH - Plan #2	3,300.00	3,298.50	1,615.59	1,599.19	98.534	CC
Tatanka Fed Com 801H - OH - Plan #2	22,856.94	22,865.07	1,775.91	1,514.51	6.794	ES, SF
Tatanka Fed Com 802H - OH - Plan #2	7,546.00	7,507.98	878.66	838.86	22.077	CC
Tatanka Fed Com 802H - OH - Plan #2	22,856.94	22,787.51	925.87	664.08	3.537	ES, SF
Tatanka Fed Com 804H - OH - Plan #1	3,216.60	3,216.80	49.99	34.01	3.129	CC
Tatanka Fed Com 804H - OH - Plan #1	3,300.00	3,300.00	49.99	33.59	3.048	ES
Tatanka Fed Com 804H - OH - Plan #1	3,400.00	3,399.24	50.58	33.70	2.997	SF
Tatanka Fed Com 805H - OH - Plan #2	22,856.94	22,640.62	1,833.96	1,572.41	7.012	CC, ES, SF
Tatanka Fed Com 806H - OH - Plan #2	22,856.94	22,519.89	2,765.48	2,504.17	10.583	CC, ES, SF

Offset Design													Offset Site Error:	0.00 usft
Tatanka Fed Com - Tatanka Fed Com 101H - OH - Plan #1													Offset Well Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.00	0.00	0.00	0.00	0.00	0.00	-155.01	-1,022.08	-476.48	1,127.77					
100.00	100.00	86.60	86.60	0.13	0.11	-155.01	-1,022.08	-476.48	1,127.69	1,127.52	0.17	6,794.415		
200.00	200.00	186.60	186.60	0.48	0.44	-155.01	-1,022.08	-476.48	1,127.69	1,127.04	0.65	1,731.415		
300.00	300.00	286.60	286.60	0.84	0.79	-155.01	-1,022.08	-476.48	1,127.69	1,126.53	1.16	973.927		
400.00	400.00	386.60	386.60	1.20	1.15	-155.01	-1,022.08	-476.48	1,127.69	1,126.02	1.66	677.420		
500.00	500.00	486.60	486.60	1.56	1.51	-155.01	-1,022.08	-476.48	1,127.69	1,125.52	2.17	519.300		
600.00	600.00	586.60	586.60	1.92	1.87	-155.01	-1,022.08	-476.48	1,127.69	1,125.01	2.68	421.021		
700.00	700.00	686.60	686.60	2.28	2.23	-155.01	-1,022.08	-476.48	1,127.69	1,124.50	3.19	354.020		
800.00	800.00	786.60	786.60	2.63	2.59	-155.01	-1,022.08	-476.48	1,127.69	1,124.00	3.69	305.415		
900.00	900.00	886.60	886.60	2.99	2.95	-155.01	-1,022.08	-476.48	1,127.69	1,123.49	4.20	268.545		
1,000.00	1,000.00	986.60	986.60	3.35	3.30	-155.01	-1,022.08	-476.48	1,127.69	1,122.98	4.71	239.618		
1,100.00	1,100.00	1,086.60	1,086.60	3.71	3.66	-155.01	-1,022.08	-476.48	1,127.69	1,122.48	5.21	216.317		
1,200.00	1,200.00	1,186.60	1,186.60	4.07	4.02	-155.01	-1,022.08	-476.48	1,127.69	1,121.97	5.72	197.146		
1,300.00	1,300.00	1,286.60	1,286.60	4.43	4.38	-155.01	-1,022.08	-476.48	1,127.69	1,121.46	6.23	181.096		
1,400.00	1,400.00	1,386.60	1,386.60	4.79	4.74	-155.01	-1,022.08	-476.48	1,127.69	1,120.95	6.73	167.463		
1,500.00	1,500.00	1,486.60	1,486.60	5.14	5.10	-155.01	-1,022.08	-476.48	1,127.69	1,120.45	7.24	155.738		
1,600.00	1,600.00	1,586.60	1,586.60	5.50	5.45	-155.01	-1,022.08	-476.48	1,127.69	1,119.94	7.75	145.548		
1,700.00	1,700.00	1,686.60	1,686.60	5.86	5.81	-155.01	-1,022.08	-476.48	1,127.69	1,119.43	8.25	136.610		
1,800.00	1,800.00	1,786.60	1,786.60	6.22	6.17	-155.01	-1,022.08	-476.48	1,127.69	1,118.93	8.76	128.705		
1,900.00	1,900.00	1,886.60	1,886.60	6.58	6.53	-155.01	-1,022.08	-476.48	1,127.69	1,118.42	9.27	121.666		
2,000.00	2,000.00	1,986.60	1,986.60	6.94	6.89	-155.01	-1,022.08	-476.48	1,127.69	1,117.91	9.78	115.357		
2,100.00	2,100.00	2,086.60	2,086.60	7.29	7.25	-155.01	-1,022.08	-476.48	1,127.69	1,117.41	10.28	109.669		
2,200.00	2,200.00	2,186.60	2,186.60	7.65	7.61	-155.01	-1,022.08	-476.48	1,127.69	1,116.90	10.79	104.516		
2,300.00	2,300.00	2,286.60	2,286.60	8.01	7.96	-155.01	-1,022.08	-476.48	1,127.69	1,116.39	11.30	99.826		
2,400.00	2,400.00	2,386.60	2,386.60	8.37	8.32	-155.01	-1,022.08	-476.48	1,127.69	1,115.88	11.80	95.539		
2,500.00	2,500.00	2,486.60	2,486.60	8.73	8.68	-155.01	-1,022.08	-476.48	1,127.69	1,115.38	12.31	91.604		
2,600.00	2,600.00	2,586.60	2,586.60	9.09	9.04	-155.01	-1,022.08	-476.48	1,127.69	1,114.87	12.82	87.981		
2,700.00	2,700.00	2,686.60	2,686.60	9.45	9.40	-155.01	-1,022.08	-476.48	1,127.69	1,114.36	13.32	84.634		
2,800.00	2,800.00	2,786.60	2,786.60	9.80	9.76	-155.01	-1,022.08	-476.48	1,127.69	1,113.86	13.83	81.532		
2,900.00	2,900.00	2,886.60	2,886.60	10.16	10.11	-155.01	-1,022.08	-476.48	1,127.69	1,113.35	14.34	78.649		
3,000.00	3,000.00	2,986.60	2,986.60	10.52	10.47	-155.01	-1,022.08	-476.48	1,127.69	1,112.84	14.85	75.963		
3,100.00	3,100.00	3,086.60	3,086.60	10.88	10.83	-155.01	-1,022.08	-476.48	1,127.69	1,112.34	15.35	73.455		

CC - Min centre to center distance or 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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 101H - OH - Plan #1													Offset Well Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD														
Reference				Offset		Semi Major Axis				Distance				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
3,200.00	3,200.00	3,186.60	3,186.60	11.24	11.19	-155.01	-1,022.08	-476.48	1,127.69	1,111.83	15.86	71.107	CC	
3,300.00	3,300.00	3,271.87	3,271.87	11.60	11.49	-154.98	-1,022.30	-477.12	1,128.25	1,111.93	16.32	69.126		
3,400.00	3,399.99	3,354.79	3,354.75	11.94	11.77	42.15	-1,023.10	-479.45	1,129.34	1,112.59	16.76	67.394		
3,500.00	3,499.91	3,437.52	3,437.37	12.26	12.05	42.40	-1,024.47	-483.46	1,130.02	1,112.85	17.18	65.791		
3,600.00	3,599.69	3,519.92	3,519.54	12.59	12.33	42.80	-1,026.42	-489.15	1,130.33	1,112.74	17.59	64.252		
3,700.00	3,699.27	3,600.00	3,599.27	12.92	12.60	43.32	-1,028.86	-496.27	1,130.35	1,112.35	18.00	62.800		
3,800.00	3,798.57	3,683.24	3,681.95	13.25	12.89	44.01	-1,031.98	-505.36	1,130.16	1,111.74	18.42	61.367		
3,900.00	3,897.54	3,763.93	3,761.88	13.58	13.17	44.80	-1,035.55	-515.79	1,129.87	1,111.05	18.82	60.024		
4,000.00	3,996.09	3,843.80	3,840.76	13.92	13.45	45.72	-1,039.63	-527.68	1,129.64	1,110.41	19.23	58.751		
4,057.47	4,052.51	3,889.30	3,885.56	14.13	13.62	46.30	-1,042.19	-535.16	1,129.58	1,110.13	19.46	58.051		
4,100.00	4,094.16	3,922.77	3,918.46	14.28	13.74	46.75	-1,044.18	-540.98	1,129.61	1,109.98	19.63	57.550		
4,184.40	4,176.52	3,988.62	3,983.03	14.58	13.98	47.70	-1,048.38	-553.22	1,129.86	1,109.90	19.96	56.598	ES	
4,200.00	4,191.70	4,000.00	3,994.16	14.64	14.02	47.88	-1,049.14	-555.44	1,129.97	1,109.95	20.02	56.439		
4,300.00	4,289.03	4,077.87	4,070.16	15.01	14.32	49.09	-1,054.64	-571.49	1,132.01	1,111.59	20.42	55.442		
4,400.00	4,386.37	4,154.32	4,144.42	15.39	14.61	50.31	-1,060.53	-588.67	1,136.43	1,115.62	20.81	54.617		
4,500.00	4,483.70	4,230.02	4,217.59	15.77	14.91	51.56	-1,066.83	-607.06	1,143.29	1,122.10	21.19	53.948		
4,600.00	4,581.03	4,300.00	4,284.86	16.17	15.19	52.74	-1,073.07	-625.28	1,152.66	1,131.12	21.54	53.509		
4,700.00	4,678.36	4,379.57	4,360.91	16.57	15.53	54.11	-1,080.65	-647.41	1,164.54	1,142.59	21.95	53.058		
4,800.00	4,775.69	4,471.81	4,448.79	16.98	15.93	55.68	-1,089.74	-673.93	1,178.22	1,155.78	22.44	52.504		
4,900.00	4,873.02	4,564.77	4,537.35	17.39	16.35	57.23	-1,098.90	-700.66	1,192.88	1,169.94	22.94	51.992		
5,000.00	4,970.36	4,657.73	4,625.91	17.81	16.77	58.75	-1,108.06	-727.39	1,208.49	1,185.04	23.45	51.530		
5,100.00	5,067.69	4,750.69	4,714.47	18.23	17.21	60.23	-1,117.22	-754.11	1,225.02	1,201.05	23.97	51.114		
5,200.00	5,165.02	4,843.65	4,803.03	18.66	17.65	61.68	-1,126.38	-780.84	1,242.41	1,217.93	24.49	50.741		
5,300.00	5,262.35	4,936.61	4,891.60	19.09	18.10	63.09	-1,135.54	-807.57	1,260.64	1,235.63	25.01	50.407		
5,400.00	5,359.68	5,029.57	4,980.16	19.53	18.55	64.46	-1,144.70	-834.29	1,279.68	1,254.14	25.54	50.111		
5,500.00	5,457.01	5,122.52	5,068.72	19.97	19.02	65.80	-1,153.85	-861.02	1,299.48	1,273.41	26.07	49.847		
5,600.00	5,554.34	5,215.48	5,157.28	20.42	19.49	67.10	-1,163.01	-887.75	1,320.02	1,293.41	26.61	49.615		
5,700.00	5,651.68	5,308.44	5,245.84	20.87	19.97	68.36	-1,172.17	-914.48	1,341.25	1,314.11	27.15	49.410		
5,800.00	5,749.01	5,401.40	5,334.41	21.32	20.45	69.59	-1,181.33	-941.20	1,363.15	1,335.46	27.69	49.231		
5,900.00	5,846.34	5,494.36	5,422.97	21.77	20.93	70.78	-1,190.49	-967.93	1,385.68	1,357.45	28.24	49.076		
6,000.00	5,943.67	5,587.32	5,511.53	22.23	21.42	71.94	-1,199.65	-994.66	1,408.82	1,380.04	28.79	48.941		
6,100.00	6,041.00	5,680.28	5,600.09	22.69	21.92	73.06	-1,208.81	-1,021.38	1,432.54	1,403.20	29.34	48.826		
6,200.00	6,138.33	5,773.24	5,688.65	23.15	22.42	74.14	-1,217.97	-1,048.11	1,456.79	1,426.90	29.90	48.729		
6,300.00	6,235.67	5,866.20	5,777.21	23.61	22.92	75.20	-1,227.12	-1,074.84	1,481.57	1,451.12	30.46	48.647		
6,400.00	6,333.00	5,959.16	5,865.78	24.08	23.43	76.22	-1,236.28	-1,101.56	1,506.85	1,475.83	31.02	48.580		
6,500.00	6,430.33	6,052.12	5,954.34	24.55	23.94	77.21	-1,245.44	-1,128.29	1,532.59	1,501.01	31.58	48.525		
6,600.00	6,527.66	6,145.08	6,042.90	25.02	24.46	78.17	-1,254.60	-1,155.02	1,558.78	1,526.63	32.15	48.482		
6,700.00	6,624.99	6,238.03	6,131.46	25.49	24.97	79.10	-1,263.76	-1,181.75	1,585.40	1,552.67	32.72	48.450		
6,800.00	6,722.32	6,330.99	6,220.02	25.96	25.49	80.00	-1,272.92	-1,208.47	1,612.41	1,579.12	33.30	48.427		
6,900.00	6,819.65	6,423.95	6,308.59	26.44	26.01	80.87	-1,282.08	-1,235.20	1,639.81	1,605.94	33.87	48.413		
7,000.00	6,916.99	6,516.91	6,397.15	26.91	26.54	81.72	-1,291.24	-1,261.93	1,667.58	1,633.13	34.45	48.406		
7,100.00	7,014.32	6,609.87	6,485.43	27.39	27.06	82.55	-1,300.40	-1,291.66	1,695.74	1,660.44	35.04	48.400		
7,200.00	7,111.65	6,702.83	6,573.75	27.87	27.54	83.33	-1,309.56	-1,321.39	1,724.31	1,687.75	35.64	48.400		
7,300.00	7,208.98	6,795.79	6,662.07	28.35	28.02	84.08	-1,318.72	-1,351.12	1,753.61	1,715.16	36.24	48.400		
7,400.00	7,306.31	6,888.75	6,750.39	28.84	28.50	84.80	-1,327.88	-1,380.85	1,783.31	1,742.57	36.84	48.400		
7,500.00	7,403.64	6,981.71	6,838.71	29.32	29.00	85.51	-1,337.04	-1,410.58	1,813.61	1,770.08	37.44	48.400		
7,600.00	7,500.98	7,074.67	6,927.07	29.80	29.48	86.19	-1,346.20	-1,440.31	1,844.31	1,797.59	38.04	48.400		
7,700.00	7,598.31	7,167.63	7,015.39	30.29	29.97	86.84	-1,355.36	-1,470.04	1,875.61	1,825.10	38.64	48.400		
7,800.00	7,695.64	7,260.59	7,103.71	30.78	30.46	87.47	-1,364.52	-1,500.77	1,907.31	1,852.61	39.24	48.400		
7,900.00	7,792.97	7,353.55	7,192.03	31.27	30.95	88.08	-1,373.68	-1,531.50	1,939.61	1,880.12	39.84	48.400		
8,000.00	7,890.30	7,446.51	7,280.35	31.75	31.44	88.67	-1,382.84	-1,562.23	1,972.31	1,907.63	40.44	48.400		
8,062.86	7,951.48	7,539.47	7,368.67	32.24	31.93	89.24	-1,392.00	-1,592.96	2,006.31	1,935.14	41.04	48.400		

CC - Min centre to center distance or 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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 101H - 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		
8,100.00	7,987.67	8,113.79	7,974.27	32.24	32.93	94.04	-1,352.08	-1,439.48	1,776.70	1,733.61	43.09	41.232		
8,200.00	8,085.50	8,211.61	8,072.10	32.71	33.22	94.72	-1,352.08	-1,439.48	1,778.32	1,734.65	43.67	40.726		
8,300.00	8,183.84	8,309.95	8,170.44	33.17	33.52	95.32	-1,352.08	-1,439.48	1,779.93	1,735.70	44.23	40.246		
8,400.00	8,282.61	8,391.59	8,252.06	33.60	33.77	95.73	-1,352.87	-1,439.47	1,781.69	1,736.94	44.75	39.815		
8,500.00	8,381.76	8,450.00	8,310.14	34.01	33.95	95.83	-1,358.89	-1,439.41	1,785.00	1,739.79	45.21	39.481		
8,600.00	8,481.22	8,518.18	8,376.73	34.40	34.17	95.68	-1,373.35	-1,439.27	1,790.08	1,744.41	45.67	39.199		
8,700.00	8,580.92	8,578.33	8,433.69	34.77	34.38	95.32	-1,392.60	-1,439.08	1,797.09	1,751.01	46.07	39.006		
8,800.00	8,680.78	8,634.19	8,484.51	35.12	34.58	94.82	-1,415.73	-1,438.84	1,806.31	1,759.89	46.43	38.905		
8,900.00	8,780.74	8,684.81	8,528.42	35.45	34.76	94.25	-1,440.87	-1,438.59	1,818.12	1,771.40	46.72	38.914		
8,947.26	8,828.00	8,700.00	8,541.15	35.59	34.81	-102.91	-1,449.16	-1,438.51	1,824.74	1,777.94	46.80	38.987		
9,000.00	8,880.74	8,729.92	8,565.55	35.75	34.92	-103.45	-1,466.47	-1,438.34	1,832.93	1,785.99	46.93	39.054		
9,100.00	8,980.74	8,770.21	8,596.92	36.04	35.07	-104.23	-1,491.73	-1,438.08	1,851.15	1,804.08	47.07	39.325		
9,200.00	9,080.74	8,800.00	8,618.93	36.34	35.19	-104.84	-1,511.80	-1,437.88	1,873.02	1,825.91	47.11	39.757		
9,300.00	9,180.74	8,850.00	8,653.44	36.64	35.38	-105.94	-1,547.96	-1,437.52	1,898.67	1,851.46	47.21	40.216		
9,400.00	9,280.74	8,866.63	8,664.20	36.93	35.44	-106.32	-1,560.64	-1,437.40	1,927.97	1,880.89	47.08	40.950		
9,500.00	9,380.74	8,900.00	8,684.66	37.23	35.58	-107.11	-1,586.99	-1,437.13	1,961.19	1,914.19	47.00	41.727		
9,600.00	9,480.74	8,900.00	8,684.66	37.53	35.58	-107.11	-1,586.99	-1,437.13	1,998.20	1,951.53	46.67	42.819		
9,700.00	9,580.74	8,950.00	8,712.36	37.84	35.78	-108.35	-1,628.60	-1,436.72	2,038.74	1,992.12	46.62	43.731		
9,800.00	9,680.74	8,950.00	8,712.36	38.14	35.78	-108.35	-1,628.60	-1,436.72	2,082.66	2,036.44	46.21	45.065		
9,900.00	9,780.74	8,970.18	8,722.49	38.44	35.86	-108.86	-1,646.04	-1,436.54	2,130.07	2,084.15	45.92	46.385		
10,000.00	9,880.74	9,000.00	8,736.33	38.75	35.99	-109.63	-1,672.46	-1,436.28	2,180.86	2,135.18	45.68	47.744		
10,100.00	9,980.74	9,000.00	8,736.33	39.05	35.99	-109.63	-1,672.46	-1,436.28	2,234.36	2,189.14	45.22	49.409		
10,200.00	10,080.74	9,000.00	8,736.33	39.36	35.99	-109.63	-1,672.46	-1,436.28	2,290.97	2,246.22	44.76	51.186		
10,300.00	10,180.74	9,022.70	8,745.93	39.66	36.09	-110.23	-1,693.03	-1,436.07	2,350.08	2,305.61	44.46	52.858		
10,400.00	10,280.74	9,050.00	8,756.38	39.97	36.22	-110.95	-1,718.24	-1,435.82	2,412.01	2,367.82	44.20	54.572		
10,500.00	10,380.74	9,050.00	8,756.38	40.28	36.22	-110.95	-1,718.24	-1,435.82	2,475.88	2,432.13	43.76	56.580		
10,600.00	10,480.74	9,050.00	8,756.38	40.59	36.22	-110.95	-1,718.24	-1,435.82	2,542.08	2,498.75	43.33	58.663		
10,700.00	10,580.74	9,050.00	8,756.38	40.90	36.22	-110.95	-1,718.24	-1,435.82	2,610.44	2,567.51	42.93	60.812		
10,800.00	10,680.74	9,050.00	8,756.38	41.21	36.22	-110.95	-1,718.24	-1,435.82	2,680.78	2,638.24	42.54	63.017		
10,900.00	10,780.74	9,074.57	8,764.76	41.52	36.33	-111.61	-1,741.34	-1,435.59	2,752.44	2,710.10	42.34	65.002		
11,000.00	10,880.74	9,100.00	8,772.37	41.84	36.45	-112.29	-1,765.60	-1,435.35	2,826.30	2,784.13	42.17	67.022		
11,100.00	10,980.74	9,100.00	8,772.37	42.15	36.45	-112.29	-1,765.60	-1,435.35	2,901.20	2,859.35	41.85	69.320		
11,200.00	11,080.74	9,100.00	8,772.37	42.46	36.45	-112.29	-1,765.60	-1,435.35	2,977.58	2,936.02	41.56	71.647		
11,300.00	11,180.74	9,100.00	8,772.37	42.78	36.45	-112.29	-1,765.60	-1,435.35	3,055.31	3,014.02	41.29	73.994		
11,400.00	11,280.74	9,100.00	8,772.37	43.09	36.45	-112.29	-1,765.60	-1,435.35	3,134.32	3,093.27	41.05	76.355		
11,500.00	11,380.74	9,100.00	8,772.37	43.41	36.45	-112.29	-1,765.60	-1,435.35	3,214.49	3,173.66	40.83	78.725		
11,600.00	11,480.74	9,100.00	8,772.37	43.73	36.45	-112.29	-1,765.60	-1,435.35	3,295.74	3,255.10	40.64	81.096		
11,700.00	11,580.74	9,100.00	8,772.37	44.04	36.45	-112.29	-1,765.60	-1,435.35	3,378.01	3,337.53	40.47	83.465		
11,800.00	11,680.74	9,121.17	8,777.89	44.36	36.56	-112.86	-1,786.04	-1,435.14	3,460.80	3,420.35	40.45	85.555		
11,900.00	11,780.74	9,124.98	8,778.80	44.68	36.58	-112.97	-1,789.73	-1,435.11	3,544.71	3,504.36	40.35	87.849		
12,000.00	11,880.74	9,128.59	8,779.64	45.00	36.59	-113.06	-1,793.25	-1,435.07	3,629.40	3,589.13	40.27	90.127		
12,100.00	11,980.74	9,150.00	8,784.17	45.32	36.70	-113.64	-1,814.16	-1,434.86	3,715.13	3,674.82	40.31	92.174		
12,166.30	12,047.04	9,150.00	8,784.17	45.53	36.70	-113.64	-1,814.16	-1,434.86	3,772.09	3,731.83	40.26	93.684		
12,200.00	12,080.72	9,150.00	8,784.17	45.65	36.70	61.94	-1,814.16	-1,434.86	3,800.95	3,760.70	40.24	94.446		
12,250.00	12,130.45	9,150.00	8,784.17	45.84	36.70	55.32	-1,814.16	-1,434.86	3,842.99	3,802.77	40.22	95.554		
12,300.00	12,179.53	9,150.00	8,784.17	46.05	36.70	49.69	-1,814.16	-1,434.86	3,883.84	3,843.65	40.19	96.627		
12,350.00	12,227.61	9,150.00	8,784.17	46.29	36.70	44.98	-1,814.16	-1,434.86	3,923.25	3,883.08	40.17	97.658		
12,400.00	12,274.32	9,150.00	8,784.17	46.55	36.70	41.07	-1,814.16	-1,434.86	3,960.95	3,920.80	40.16	98.641		
12,450.00	12,319.29	9,150.00	8,784.17	46.83	36.70	37.81	-1,814.16	-1,434.86	3,996.72	3,956.58	40.14	99.570		
12,500.00	12,362.19	9,150.00	8,784.17	47.13	36.70	35.11	-1,814.16	-1,434.86	4,030.33	3,990.20	40.13	100.440		
12,550.00	12,402.70	9,150.00	8,784.17	47.44	36.70	32.87	-1,814.16	-1,434.86	4,061.59	4,021.47	40.12	101.244		
12,600.00	12,440.50	9,150.00	8,784.17	47.78	36.70	31.02	-1,814.16	-1,434.86	4,090.31	4,050.20	40.11	101.976		

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



Total Directional Services
Anticollision Report



Company: Franklin Mountain Energy
Project: Lea County, NM (NAD83)
Reference Site: Tatanka Fed Com
Site Error: 0.00 usft
Reference Well: Tatanka Fed Com 803H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1
Local Co-ordinate Reference: Well Tatanka Fed Com 803H
TVD Reference: 3135.8' GE + 30' KB @ 3165.80usft
MD Reference: 3135.8' GE + 30' KB @ 3165.80usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.15 Single User Db
Offset TVD Reference: Offset Datum

Offset Design Table with columns: Measured Depth (usft), Vertical Depth (usft), Reference Depth (usft), Vertical Depth (usft), Reference (usft), Offset (usft), Highside Toolface (°), Offset Wellbore Centre (+N/-S (usft), +E/-W (usft)), Distance (Between Centres (usft), Between Ellipses (usft)), Minimum Separation (usft), Separation Factor, Warning. Includes data rows for various well depths and offsets.

CC - Min centre to center distance or 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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 101H - OH - Plan #1													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
17,200.00	12,620.00	13,106.77	8,795.00	104.48	84.54	24.87	-5,770.04	-1,395.33	4,201.12	4,121.57	79.55	52.808		
17,300.00	12,620.00	13,206.77	8,795.00	105.98	86.05	24.87	-5,870.03	-1,394.33	4,201.16	4,120.38	80.78	52.008		
17,400.00	12,620.00	13,306.77	8,795.00	107.48	87.57	24.87	-5,970.03	-1,393.33	4,201.20	4,119.19	82.01	51.229		
17,500.00	12,620.00	13,406.77	8,795.00	108.99	89.09	24.87	-6,070.02	-1,392.33	4,201.24	4,117.99	83.24	50.469		
17,600.00	12,620.00	13,506.77	8,795.00	110.50	90.62	24.87	-6,170.02	-1,391.33	4,201.27	4,116.79	84.48	49.729		
17,700.00	12,620.00	13,606.77	8,795.00	112.01	92.15	24.87	-6,270.01	-1,390.33	4,201.31	4,115.58	85.73	49.008		
17,800.00	12,620.00	13,706.77	8,795.00	113.53	93.69	24.87	-6,370.01	-1,389.33	4,201.35	4,114.38	86.97	48.306		
17,900.00	12,620.00	13,806.77	8,795.00	115.06	95.22	24.88	-6,470.00	-1,388.33	4,201.39	4,113.16	88.22	47.622		
18,000.00	12,620.00	13,906.77	8,795.00	116.58	96.77	24.88	-6,570.00	-1,387.33	4,201.42	4,111.95	89.48	46.955		
18,100.00	12,620.00	14,006.77	8,795.00	118.11	98.31	24.88	-6,669.99	-1,386.33	4,201.46	4,110.72	90.74	46.304		
18,200.00	12,620.00	14,106.77	8,795.00	119.65	99.86	24.88	-6,769.99	-1,385.33	4,201.50	4,109.50	92.00	45.669		
18,300.00	12,620.00	14,206.77	8,795.00	121.18	101.42	24.88	-6,869.98	-1,384.34	4,201.54	4,108.27	93.26	45.050		
18,400.00	12,620.00	14,306.77	8,795.00	122.72	102.97	24.88	-6,969.98	-1,383.34	4,201.57	4,107.04	94.53	44.445		
18,500.00	12,620.00	14,406.77	8,795.00	124.26	104.53	24.88	-7,069.97	-1,382.34	4,201.61	4,105.81	95.81	43.855		
18,600.00	12,620.00	14,506.77	8,795.00	125.81	106.09	24.88	-7,169.97	-1,381.34	4,201.65	4,104.57	97.08	43.280		
18,700.00	12,620.00	14,606.77	8,795.00	127.35	107.66	24.88	-7,269.96	-1,380.34	4,201.69	4,103.33	98.36	42.720		
18,800.00	12,620.00	14,706.77	8,795.00	128.90	109.22	24.89	-7,369.96	-1,379.34	4,201.73	4,102.09	99.63	42.172		
18,900.00	12,620.00	14,806.77	8,795.00	130.46	110.79	24.89	-7,469.95	-1,378.34	4,201.76	4,100.85	100.91	41.637		
19,000.00	12,620.00	14,906.77	8,795.00	132.01	112.37	24.89	-7,569.95	-1,377.34	4,201.80	4,099.60	102.20	41.114		
19,100.00	12,620.00	15,006.77	8,795.00	133.57	113.94	24.89	-7,669.94	-1,376.34	4,201.84	4,098.35	103.48	40.604		
19,200.00	12,620.00	15,106.77	8,795.00	135.13	115.52	24.89	-7,769.94	-1,375.34	4,201.88	4,097.10	104.77	40.104		
19,300.00	12,620.00	15,206.77	8,795.00	136.69	117.09	24.89	-7,869.93	-1,374.34	4,201.91	4,095.85	106.06	39.617		
19,400.00	12,620.00	15,306.77	8,795.00	138.25	118.67	24.89	-7,969.93	-1,373.34	4,201.95	4,094.59	107.36	39.140		
19,500.00	12,620.00	15,406.77	8,795.00	139.82	120.26	24.89	-8,069.92	-1,372.34	4,201.99	4,093.34	108.65	38.673		
19,600.00	12,620.00	15,506.77	8,795.00	141.39	121.84	24.89	-8,169.92	-1,371.34	4,202.03	4,092.07	109.95	38.217		
19,700.00	12,620.00	15,606.77	8,795.00	142.96	123.43	24.90	-8,269.91	-1,370.34	4,202.07	4,090.81	111.25	37.770		
19,800.00	12,620.00	15,706.77	8,795.00	144.53	125.01	24.90	-8,369.91	-1,369.35	4,202.10	4,089.55	112.56	37.334		
19,900.00	12,620.00	15,806.77	8,795.00	146.10	126.60	24.90	-8,469.90	-1,368.35	4,202.14	4,088.28	113.86	36.906		
20,000.00	12,620.00	15,906.77	8,795.00	147.68	128.19	24.90	-8,569.90	-1,367.35	4,202.18	4,087.01	115.17	36.488		
20,100.00	12,620.00	16,006.77	8,795.00	149.25	129.79	24.90	-8,669.89	-1,366.35	4,202.22	4,085.74	116.47	36.079		
20,200.00	12,620.00	16,106.77	8,795.00	150.83	131.38	24.90	-8,769.89	-1,365.35	4,202.25	4,084.47	117.78	35.678		
20,300.00	12,620.00	16,206.77	8,795.00	152.41	132.97	24.90	-8,869.88	-1,364.35	4,202.29	4,083.20	119.09	35.286		
20,400.00	12,620.00	16,306.77	8,795.00	153.99	134.57	24.90	-8,969.88	-1,363.35	4,202.33	4,081.93	120.40	34.903		
20,500.00	12,620.00	16,406.77	8,795.00	155.58	136.17	24.90	-9,069.87	-1,362.35	4,202.37	4,080.66	121.71	34.527		
20,600.00	12,620.00	16,506.77	8,795.00	157.16	137.77	24.91	-9,169.87	-1,361.35	4,202.41	4,079.38	123.02	34.159		
20,700.00	12,620.00	16,606.77	8,795.00	158.75	139.37	24.91	-9,269.86	-1,360.35	4,202.44	4,078.10	124.34	33.798		
20,800.00	12,620.00	16,706.77	8,795.00	160.33	140.97	24.91	-9,369.86	-1,359.35	4,202.48	4,076.83	125.65	33.445		
20,900.00	12,620.00	16,806.77	8,795.00	161.92	142.57	24.91	-9,469.85	-1,358.35	4,202.52	4,075.55	126.97	33.098		
21,000.00	12,620.00	16,906.77	8,795.00	163.51	144.18	24.91	-9,569.85	-1,357.35	4,202.56	4,074.26	128.29	32.758		
21,100.00	12,620.00	17,006.77	8,795.00	165.10	145.78	24.91	-9,669.84	-1,356.35	4,202.59	4,072.98	129.61	32.425		
21,200.00	12,620.00	17,106.77	8,795.00	166.69	147.39	24.91	-9,769.84	-1,355.35	4,202.63	4,071.70	130.93	32.099		
21,300.00	12,620.00	17,206.77	8,795.00	168.29	148.99	24.91	-9,869.83	-1,354.36	4,202.67	4,070.42	132.25	31.779		
21,400.00	12,620.00	17,306.77	8,795.00	169.88	150.60	24.91	-9,969.83	-1,353.36	4,202.71	4,069.14	133.57	31.465		
21,500.00	12,620.00	17,406.77	8,795.00	171.48	152.21	24.92	-10,069.82	-1,352.36	4,202.74	4,067.85	134.89	31.156		
21,600.00	12,620.00	17,506.77	8,795.00	173.07	153.82	24.92	-10,169.82	-1,351.36	4,202.78	4,066.57	136.22	30.854		
21,700.00	12,620.00	17,606.77	8,795.00	174.67	155.43	24.92	-10,269.81	-1,350.36	4,202.82	4,065.28	137.54	30.557		
21,800.00	12,620.00	17,706.77	8,795.00	176.27	157.04	24.92	-10,369.81	-1,349.36	4,202.86	4,063.99	138.87	30.265		
21,900.00	12,620.00	17,806.77	8,795.00	177.87	158.65	24.92	-10,469.80	-1,348.36	4,202.90	4,062.70	140.19	29.979		
22,000.00	12,620.00	17,906.77	8,795.00	179.47	160.27	24.92	-10,569.80	-1,347.36	4,202.93	4,061.42	141.52	29.699		
22,100.00	12,620.00	18,006.77	8,795.00	181.07	161.88	24.92	-10,669.79	-1,346.36	4,202.97	4,060.13	142.84	29.424		
22,200.00	12,620.00	18,106.77	8,795.00	182.67	163.50	24.92	-10,769.79	-1,345.36	4,203.01	4,058.84	144.17	29.153		
22,300.00	12,620.00	18,206.77	8,795.00	184.27	165.11	24.92	-10,869.78	-1,344.36	4,203.05	4,057.55	145.50	28.887		

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



Total Directional Services Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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 101H - 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		
22,400.00	12,620.00	18,306.77	8,795.00	185.88	166.73	24.93	-10,969.78	-1,343.36	4,203.09	4,056.26	146.83	28.626		
22,500.00	12,620.00	18,406.77	8,795.00	187.48	168.34	24.93	-11,069.77	-1,342.36	4,203.12	4,054.97	148.16	28.370		
22,600.00	12,620.00	18,506.77	8,795.00	189.09	169.96	24.93	-11,169.77	-1,341.36	4,203.16	4,053.67	149.49	28.117		
22,700.00	12,620.00	18,606.77	8,795.00	190.69	171.58	24.93	-11,269.76	-1,340.36	4,203.20	4,052.38	150.82	27.870		
22,800.00	12,620.00	18,706.77	8,795.00	192.30	173.20	24.93	-11,369.76	-1,339.37	4,203.24	4,051.09	152.15	27.626		
22,856.94	12,620.00	18,762.37	8,795.00	193.22	174.10	24.93	-11,425.35	-1,338.81	4,203.26	4,050.36	152.90	27.490 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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 102H - 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		
0.00	0.00	0.00	0.00	0.00	0.00	-156.16	-1,021.85	-451.49	1,117.24					
100.00	100.00	85.90	85.90	0.13	0.11	-156.16	-1,021.85	-451.49	1,117.15	1,116.98	0.17	6,754.255		
200.00	200.00	185.90	185.90	0.48	0.43	-156.16	-1,021.85	-451.49	1,117.15	1,116.50	0.65	1,719.660		
300.00	300.00	285.90	285.90	0.84	0.79	-156.16	-1,021.85	-451.49	1,117.15	1,115.99	1.16	966.260		
400.00	400.00	385.90	385.90	1.20	1.15	-156.16	-1,021.85	-451.49	1,117.15	1,115.49	1.66	671.789		
500.00	500.00	485.90	485.90	1.56	1.51	-156.16	-1,021.85	-451.49	1,117.15	1,114.98	2.17	514.860		
600.00	600.00	585.90	585.90	1.92	1.87	-156.16	-1,021.85	-451.49	1,117.15	1,114.47	2.68	417.359		
700.00	700.00	685.90	685.90	2.28	2.23	-156.16	-1,021.85	-451.49	1,117.15	1,113.96	3.18	350.904		
800.00	800.00	785.90	785.90	2.63	2.58	-156.16	-1,021.85	-451.49	1,117.15	1,113.46	3.69	302.705		
900.00	900.00	885.90	885.90	2.99	2.94	-156.16	-1,021.85	-451.49	1,117.15	1,112.95	4.20	266.147		
1,000.00	1,000.00	985.90	985.90	3.35	3.30	-156.16	-1,021.85	-451.49	1,117.15	1,112.44	4.70	237.467		
1,100.00	1,100.00	1,085.90	1,085.90	3.71	3.66	-156.16	-1,021.85	-451.49	1,117.15	1,111.94	5.21	214.368		
1,200.00	1,200.00	1,185.90	1,185.90	4.07	4.02	-156.16	-1,021.85	-451.49	1,117.15	1,111.43	5.72	195.363		
1,300.00	1,300.00	1,285.90	1,285.90	4.43	4.38	-156.16	-1,021.85	-451.49	1,117.15	1,110.92	6.23	179.454		
1,400.00	1,400.00	1,385.90	1,385.90	4.79	4.74	-156.16	-1,021.85	-451.49	1,117.15	1,110.42	6.73	165.941		
1,500.00	1,500.00	1,485.90	1,485.90	5.14	5.09	-156.16	-1,021.85	-451.49	1,117.15	1,109.91	7.24	154.320		
1,600.00	1,600.00	1,585.90	1,585.90	5.50	5.45	-156.16	-1,021.85	-451.49	1,117.15	1,109.40	7.75	144.221		
1,700.00	1,700.00	1,685.90	1,685.90	5.86	5.81	-156.16	-1,021.85	-451.49	1,117.15	1,108.90	8.25	135.362		
1,800.00	1,800.00	1,785.90	1,785.90	6.22	6.17	-156.16	-1,021.85	-451.49	1,117.15	1,108.39	8.76	127.528		
1,900.00	1,900.00	1,885.90	1,885.90	6.58	6.53	-156.16	-1,021.85	-451.49	1,117.15	1,107.88	9.27	120.552		
2,000.00	2,000.00	1,985.90	1,985.90	6.94	6.89	-156.16	-1,021.85	-451.49	1,117.15	1,107.37	9.77	114.299		
2,100.00	2,100.00	2,085.90	2,085.90	7.29	7.24	-156.16	-1,021.85	-451.49	1,117.15	1,106.87	10.28	108.663		
2,200.00	2,200.00	2,185.90	2,185.90	7.65	7.60	-156.16	-1,021.85	-451.49	1,117.15	1,106.36	10.79	103.557		
2,300.00	2,300.00	2,285.90	2,285.90	8.01	7.96	-156.16	-1,021.85	-451.49	1,117.15	1,105.85	11.29	98.908		
2,400.00	2,400.00	2,385.90	2,385.90	8.37	8.32	-156.16	-1,021.85	-451.49	1,117.15	1,105.35	11.80	94.660		
2,500.00	2,500.00	2,485.90	2,485.90	8.73	8.68	-156.16	-1,021.85	-451.49	1,117.15	1,104.84	12.31	90.761		
2,600.00	2,600.00	2,585.90	2,585.90	9.09	9.04	-156.16	-1,021.85	-451.49	1,117.15	1,104.33	12.82	87.171		
2,700.00	2,700.00	2,685.90	2,685.90	9.45	9.40	-156.16	-1,021.85	-451.49	1,117.15	1,103.83	13.32	83.854		
2,800.00	2,800.00	2,785.90	2,785.90	9.80	9.75	-156.16	-1,021.85	-451.49	1,117.15	1,103.32	13.83	80.780		
2,900.00	2,900.00	2,885.90	2,885.90	10.16	10.11	-156.16	-1,021.85	-451.49	1,117.15	1,102.81	14.34	77.923		
3,000.00	3,000.00	2,985.90	2,985.90	10.52	10.47	-156.16	-1,021.85	-451.49	1,117.15	1,102.31	14.84	75.262		
3,100.00	3,100.00	3,085.90	3,085.90	10.88	10.83	-156.16	-1,021.85	-451.49	1,117.15	1,101.80	15.35	72.777		
3,200.00	3,200.00	3,185.90	3,185.90	11.24	11.19	-156.16	-1,021.85	-451.49	1,117.15	1,101.29	15.86	70.450		
3,300.00	3,300.00	3,267.76	3,267.76	11.60	11.47	-156.17	-1,022.45	-451.49	1,117.85	1,101.54	16.31	68.546		
3,400.00	3,399.99	3,346.62	3,346.59	11.94	11.73	40.81	-1,024.66	-451.49	1,119.42	1,102.70	16.73	66.926		
3,500.00	3,499.91	3,425.46	3,425.33	12.26	11.98	40.82	-1,028.50	-451.49	1,120.91	1,103.78	17.12	65.458		
3,600.00	3,599.69	3,500.00	3,499.69	12.59	12.23	40.86	-1,033.62	-451.49	1,122.31	1,104.80	17.50	64.114		
3,700.00	3,699.27	3,583.07	3,582.43	12.92	12.50	40.95	-1,041.04	-451.49	1,123.60	1,105.69	17.91	62.734		
3,800.00	3,798.57	3,661.85	3,660.72	13.25	12.76	41.06	-1,049.74	-451.49	1,124.81	1,106.51	18.30	61.467		
3,900.00	3,897.54	3,745.85	3,744.00	13.58	13.04	41.23	-1,060.75	-451.47	1,125.92	1,107.21	18.71	60.187		
4,000.00	3,996.09	3,881.35	3,878.39	13.92	13.49	41.56	-1,077.84	-449.25	1,123.99	1,104.68	19.32	58.192		
4,100.00	4,094.16	4,016.43	4,012.60	14.28	13.96	41.96	-1,091.90	-443.30	1,116.97	1,097.06	19.91	56.088		
4,184.40	4,176.52	4,129.70	4,125.19	14.58	14.35	42.34	-1,101.38	-435.45	1,107.11	1,086.70	20.41	54.237		
4,200.00	4,191.70	4,150.54	4,145.91	14.64	14.42	42.40	-1,102.89	-433.72	1,104.92	1,084.41	20.50	53.889		
4,300.00	4,289.03	4,283.49	4,277.96	15.01	14.89	42.69	-1,110.86	-420.61	1,089.10	1,068.02	21.08	51.665		
4,400.00	4,386.37	4,415.13	4,408.46	15.39	15.36	42.87	-1,115.86	-404.11	1,070.22	1,048.58	21.64	49.448		
4,500.00	4,483.70	4,540.96	4,532.82	15.77	15.81	42.96	-1,117.97	-385.09	1,048.36	1,026.17	22.19	47.250		
4,600.00	4,581.03	4,638.28	4,628.87	16.17	16.17	43.00	-1,118.79	-369.39	1,025.37	1,002.67	22.70	45.179		
4,700.00	4,678.36	4,735.60	4,724.91	16.57	16.52	43.03	-1,119.60	-353.69	1,002.38	979.17	23.21	43.190		
4,800.00	4,775.69	4,832.92	4,820.95	16.98	16.89	43.08	-1,120.41	-337.99	979.39	955.67	23.73	41.278		
4,900.00	4,873.02	4,930.24	4,916.99	17.39	17.25	43.12	-1,121.23	-322.29	956.41	932.16	24.25	39.440		
5,000.00	4,970.36	5,027.56	5,013.03	17.81	17.62	43.16	-1,122.04	-306.60	933.42	908.64	24.78	37.674		

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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Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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 102H - 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		
5,100.00	5,067.69	5,124.88	5,109.07	18.23	17.99	43.21	-1,122.85	-290.90	910.44	885.13	25.31	35.976		
5,200.00	5,165.02	5,222.20	5,205.12	18.66	18.36	43.26	-1,123.67	-275.20	887.45	861.61	25.84	34.342		
5,300.00	5,262.35	5,319.52	5,301.16	19.09	18.74	43.31	-1,124.48	-259.50	864.47	838.09	26.38	32.771		
5,400.00	5,359.68	5,416.84	5,397.20	19.53	19.12	43.37	-1,125.29	-243.80	841.48	814.56	26.92	31.258		
5,500.00	5,457.01	5,514.16	5,493.24	19.97	19.50	43.42	-1,126.11	-228.10	818.50	791.03	27.47	29.801		
5,600.00	5,554.34	5,611.48	5,589.28	20.42	19.88	43.48	-1,126.92	-212.40	795.52	767.50	28.01	28.398		
5,700.00	5,651.68	5,708.80	5,685.33	20.87	20.27	43.55	-1,127.73	-196.71	772.54	743.97	28.56	27.046		
5,800.00	5,749.01	5,806.12	5,781.37	21.32	20.66	43.62	-1,128.55	-181.01	749.56	720.44	29.12	25.743		
5,900.00	5,846.34	5,903.44	5,877.41	21.77	21.04	43.69	-1,129.36	-165.31	726.58	696.90	29.67	24.486		
6,000.00	5,943.67	6,000.76	5,973.45	22.23	21.43	43.77	-1,130.17	-149.61	703.60	673.37	30.23	23.274		
6,100.00	6,041.00	6,098.08	6,069.49	22.69	21.83	43.85	-1,130.99	-133.91	680.62	649.83	30.79	22.104		
6,200.00	6,138.33	6,195.40	6,165.53	23.15	22.22	43.94	-1,131.80	-118.21	657.65	626.29	31.35	20.974		
6,300.00	6,235.67	6,292.72	6,261.58	23.61	22.61	44.04	-1,132.61	-102.51	634.67	602.75	31.92	19.883		
6,400.00	6,333.00	6,390.04	6,357.62	24.08	23.01	44.14	-1,133.43	-86.82	611.70	579.21	32.49	18.829		
6,500.00	6,430.33	6,487.36	6,453.66	24.55	23.41	44.25	-1,134.24	-71.12	588.73	555.68	33.06	17.810		
6,600.00	6,527.66	6,584.68	6,549.70	25.02	23.81	44.37	-1,135.05	-55.42	565.76	532.14	33.63	16.825		
6,700.00	6,624.99	6,682.00	6,645.74	25.49	24.21	44.50	-1,135.86	-39.72	542.80	508.60	34.20	15.871		
6,800.00	6,722.32	6,779.31	6,741.78	25.96	24.61	44.64	-1,136.68	-24.02	519.84	485.06	34.78	14.948		
6,900.00	6,819.65	6,876.63	6,837.83	26.44	25.01	44.79	-1,137.49	-8.32	496.88	461.53	35.35	14.055		
7,000.00	6,916.99	6,973.67	6,933.59	26.91	25.41	44.96	-1,138.30	7.33	473.92	437.99	35.93	13.190		
7,100.00	7,014.32	7,066.51	7,025.40	27.39	25.79	45.29	-1,139.01	21.05	451.52	414.99	36.53	12.361		
7,200.00	7,111.65	7,159.61	7,117.78	27.87	26.16	45.93	-1,139.61	32.58	430.12	392.99	37.13	11.585		
7,300.00	7,208.98	7,252.84	7,210.55	28.35	26.52	46.93	-1,140.09	41.86	409.81	372.08	37.73	10.861		
7,400.00	7,306.31	7,346.12	7,303.55	28.84	26.87	48.33	-1,140.45	48.88	390.75	352.40	38.34	10.191		
7,500.00	7,403.64	7,439.31	7,396.63	29.32	27.20	50.17	-1,140.70	53.63	373.11	334.15	38.96	9.576		
7,600.00	7,500.98	7,532.32	7,489.60	29.80	27.53	52.48	-1,140.83	56.11	357.17	317.58	39.59	9.022		
7,700.00	7,598.31	7,626.93	7,584.21	30.29	27.85	55.32	-1,140.85	56.51	343.17	302.94	40.22	8.531		
7,800.00	7,695.64	7,724.26	7,681.54	30.78	28.18	58.54	-1,140.85	56.51	330.40	289.53	40.87	8.085		
7,900.00	7,792.97	7,821.59	7,778.87	31.27	28.50	61.98	-1,140.85	56.51	318.78	277.26	41.52	7.678		
8,000.00	7,890.30	7,918.92	7,876.20	31.75	28.83	65.66	-1,140.85	56.51	308.43	266.26	42.17	7.313		
8,062.86	7,951.48	7,980.11	7,937.38	32.06	29.04	68.10	-1,140.85	56.51	302.64	260.05	42.59	7.107		
8,100.00	7,987.67	8,016.30	7,973.57	32.24	29.16	69.50	-1,140.85	56.51	299.55	256.72	42.83	6.995		
8,200.00	8,085.00	8,114.12	8,071.40	32.71	29.49	73.13	-1,140.85	56.51	292.77	249.32	43.45	6.738		
8,300.00	8,183.84	8,212.46	8,169.74	33.17	29.82	76.46	-1,140.85	56.51	287.93	243.88	44.05	6.536		
8,392.72	8,275.41	8,296.70	8,253.96	33.57	30.11	78.86	-1,141.74	56.52	285.34	240.80	44.54	6.406 CC, ES		
8,400.00	8,282.61	8,300.00	8,257.25	33.60	30.12	78.92	-1,141.93	56.52	285.36	240.81	44.55	6.406 SF		
8,500.00	8,381.76	8,383.89	8,340.31	34.01	30.40	79.12	-1,153.19	56.63	289.16	244.28	44.88	6.443		
8,600.00	8,481.22	8,462.87	8,416.23	34.40	30.66	77.10	-1,174.76	56.84	300.21	255.27	44.94	6.680		
8,700.00	8,580.92	8,536.07	8,483.32	34.77	30.91	73.65	-1,203.89	57.13	319.76	275.19	44.58	7.173		
8,800.00	8,680.78	8,600.00	8,538.47	35.12	31.12	69.82	-1,236.15	57.45	349.47	305.84	43.63	8.010		
8,900.00	8,780.74	8,650.00	8,578.90	35.45	31.28	66.68	-1,265.55	57.74	390.27	348.27	41.99	9.293		
8,947.26	8,828.00	8,681.37	8,602.90	35.59	31.39	-132.45	-1,285.75	57.94	413.13	371.55	41.58	9.937		
9,000.00	8,880.74	8,700.00	8,616.61	35.75	31.45	-133.93	-1,298.35	58.07	441.37	400.91	40.47	10.907		
9,100.00	8,980.74	8,750.00	8,651.32	36.04	31.62	-137.78	-1,334.32	58.42	500.98	461.78	39.20	12.780		
9,200.00	9,080.74	8,782.53	8,672.16	36.34	31.73	-140.17	-1,359.29	58.67	567.51	529.95	37.56	15.109		
9,300.00	9,180.74	8,813.23	8,690.50	36.64	31.84	-142.31	-1,383.90	58.91	639.58	603.37	36.21	17.662		
9,400.00	9,280.74	8,850.00	8,710.69	36.93	31.98	-144.72	-1,414.63	59.21	716.23	680.85	35.37	20.248		
9,500.00	9,380.74	8,850.00	8,710.69	37.23	31.98	-144.72	-1,414.63	59.21	796.35	762.67	33.68	23.646		
9,600.00	9,480.74	8,883.53	8,727.35	37.53	32.11	-146.78	-1,443.72	59.50	878.97	845.74	33.23	26.449		
9,700.00	9,580.74	8,900.00	8,734.91	37.84	32.18	-147.73	-1,458.35	59.64	964.16	931.65	32.51	29.659		
9,800.00	9,680.74	8,917.52	8,742.47	38.14	32.25	-148.71	-1,474.15	59.80	1,051.24	1,019.26	31.98	32.874		
9,900.00	9,780.74	8,931.77	8,748.27	38.44	32.31	-149.48	-1,487.16	59.93	1,139.89	1,108.37	31.51	36.170		

CC - Min centre to center distance or 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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 102H - 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		
10,000.00	9,880.74	8,950.00	8,755.22	38.75	32.39	-150.43	-1,504.02	60.10	1,229.88	1,198.64	31.24	39.364		
10,100.00	9,980.74	8,950.00	8,755.22	39.05	32.39	-150.43	-1,504.02	60.10	1,320.94	1,290.20	30.74	42.972		
10,200.00	10,080.74	8,950.00	8,755.22	39.36	32.39	-150.43	-1,504.02	60.10	1,413.21	1,382.86	30.35	46.561		
10,300.00	10,180.74	8,975.92	8,764.16	39.66	32.51	-151.70	-1,528.34	60.34	1,505.67	1,475.23	30.44	49.463		
10,400.00	10,280.74	9,000.00	8,771.47	39.97	32.63	-152.82	-1,551.29	60.56	1,599.43	1,568.90	30.53	52.389		
10,500.00	10,380.74	9,000.00	8,771.47	40.28	32.63	-152.82	-1,551.29	60.56	1,693.28	1,662.95	30.33	55.822		
10,600.00	10,480.74	9,000.00	8,771.47	40.59	32.63	-152.82	-1,551.29	60.56	1,787.80	1,757.60	30.20	59.203		
10,700.00	10,580.74	9,000.00	8,771.47	40.90	32.63	-152.82	-1,551.29	60.56	1,882.89	1,852.77	30.11	62.526		
10,800.00	10,680.74	9,000.00	8,771.47	41.21	32.63	-152.82	-1,551.29	60.56	1,978.46	1,948.38	30.08	65.780		
10,900.00	10,780.74	9,000.00	8,771.47	41.52	32.63	-152.82	-1,551.29	60.56	2,074.45	2,044.37	30.07	68.977		
11,000.00	10,880.74	9,023.58	8,777.69	41.84	32.74	-153.85	-1,574.02	60.79	2,170.19	2,139.86	30.33	71.561		
11,100.00	10,980.74	9,028.52	8,778.88	42.15	32.76	-154.06	-1,578.83	60.83	2,266.58	2,236.16	30.42	74.511		
11,200.00	11,080.74	9,050.00	8,783.54	42.46	32.87	-154.94	-1,599.79	61.04	2,363.53	2,332.86	30.67	77.058		
11,300.00	11,180.74	9,050.00	8,783.54	42.78	32.87	-154.94	-1,599.79	61.04	2,460.27	2,429.51	30.76	79.983		
11,400.00	11,280.74	9,050.00	8,783.54	43.09	32.87	-154.94	-1,599.79	61.04	2,557.25	2,526.38	30.87	82.835		
11,500.00	11,380.74	9,050.00	8,783.54	43.41	32.87	-154.94	-1,599.79	61.04	2,654.46	2,623.45	31.00	85.617		
11,600.00	11,480.74	9,050.00	8,783.54	43.73	32.87	-154.94	-1,599.79	61.04	2,751.87	2,720.72	31.15	88.339		
11,700.00	11,580.74	9,050.00	8,783.54	44.04	32.87	-154.94	-1,599.79	61.04	2,849.45	2,818.14	31.32	90.992		
11,800.00	11,680.74	9,050.00	8,783.54	44.36	32.87	-154.94	-1,599.79	61.04	2,947.20	2,915.71	31.50	93.576		
11,900.00	11,780.74	9,050.00	8,783.54	44.68	32.87	-154.94	-1,599.79	61.04	3,045.10	3,013.41	31.69	96.094		
12,000.00	11,880.74	9,050.00	8,783.54	45.00	32.87	-154.94	-1,599.79	61.04	3,143.13	3,111.23	31.90	98.545		
12,100.00	11,980.74	9,050.00	8,783.54	45.32	32.87	-154.94	-1,599.79	61.04	3,241.28	3,209.16	32.11	100.930		
12,166.30	12,047.04	9,050.00	8,783.54	45.53	32.87	-154.94	-1,599.79	61.04	3,306.41	3,274.14	32.27	102.476		
12,200.00	12,080.72	9,050.00	8,783.54	45.65	32.87	19.65	-1,599.79	61.04	3,339.35	3,307.01	32.34	103.258		
12,250.00	12,130.45	9,050.00	8,783.54	45.84	32.87	14.51	-1,599.79	61.04	3,387.42	3,354.98	32.44	104.421		
12,300.00	12,179.53	9,050.00	8,783.54	46.05	32.87	11.50	-1,599.79	61.04	3,434.25	3,401.72	32.53	105.578		
12,350.00	12,227.61	9,074.23	8,787.86	46.29	33.00	9.42	-1,623.63	61.28	3,478.93	3,446.21	32.72	106.328		
12,400.00	12,274.32	9,077.73	8,788.40	46.55	33.01	8.09	-1,627.08	61.31	3,522.21	3,489.41	32.80	107.396		
12,450.00	12,319.29	9,100.00	8,791.34	46.83	33.13	7.07	-1,649.16	61.53	3,563.69	3,530.74	32.95	108.163		
12,500.00	12,362.19	9,100.00	8,791.34	47.13	33.13	6.36	-1,649.16	61.53	3,602.31	3,569.32	32.98	109.215		
12,550.00	12,402.70	9,100.00	8,791.34	47.44	33.13	5.81	-1,649.16	61.53	3,638.35	3,605.34	33.01	110.220		
12,600.00	12,440.50	9,100.00	8,791.34	47.78	33.13	5.37	-1,649.16	61.53	3,671.63	3,638.60	33.02	111.177		
12,650.00	12,475.30	9,100.00	8,791.34	48.13	33.13	5.03	-1,649.16	61.53	3,701.96	3,668.93	33.03	112.080		
12,700.00	12,506.84	9,100.00	8,791.34	48.50	33.13	4.75	-1,649.16	61.53	3,729.20	3,696.17	33.03	112.916		
12,750.00	12,534.89	9,100.00	8,791.34	48.88	33.13	4.53	-1,649.16	61.53	3,753.20	3,720.17	33.02	113.660		
12,800.00	12,559.22	9,100.00	8,791.34	49.28	33.13	4.35	-1,649.16	61.53	3,773.84	3,740.82	33.01	114.317		
12,850.00	12,579.65	9,124.80	8,793.60	49.68	33.26	4.21	-1,673.85	61.77	3,790.40	3,757.32	33.08	114.593		
12,900.00	12,596.03	9,150.00	8,794.81	50.10	33.40	4.10	-1,699.02	62.02	3,804.04	3,770.91	33.14	114.793		
12,950.00	12,608.24	9,150.00	8,794.81	50.52	33.40	4.03	-1,699.02	62.02	3,813.44	3,780.32	33.11	115.168		
13,000.00	12,616.17	9,150.00	8,794.81	50.94	33.40	3.99	-1,699.02	62.02	3,819.17	3,786.08	33.09	115.429		
13,050.00	12,619.77	9,150.00	8,794.81	51.36	33.40	3.98	-1,699.02	62.02	3,821.21	3,788.15	33.06	115.581		
13,066.30	12,620.00	9,150.00	8,794.81	51.50	33.40	3.98	-1,699.02	62.02	3,821.08	3,788.02	33.05	115.603		
13,100.00	12,620.00	9,157.11	8,794.95	51.79	33.44	3.98	-1,706.13	62.09	3,820.49	3,787.43	33.06	115.561		
13,158.23	12,620.00	9,164.76	8,795.00	52.30	33.48	3.98	-1,713.78	62.17	3,820.11	3,787.03	33.07	115.500		
13,200.00	12,620.00	9,206.22	8,795.00	52.67	33.72	3.98	-1,755.24	62.58	3,820.11	3,786.94	33.18	115.146		
13,300.00	12,620.00	9,306.22	8,795.00	53.58	34.35	3.98	-1,855.23	63.56	3,820.12	3,786.67	33.45	114.201		
13,400.00	12,620.00	9,406.22	8,795.00	54.53	35.04	3.98	-1,955.23	64.55	3,820.13	3,786.37	33.76	113.153		
13,500.00	12,620.00	9,506.22	8,795.00	55.51	35.79	3.98	-2,055.22	65.54	3,820.13	3,786.03	34.10	112.013		
13,600.00	12,620.00	9,606.22	8,795.00	56.53	36.60	3.99	-2,155.22	66.52	3,820.14	3,785.66	34.48	110.790		
13,700.00	12,620.00	9,706.22	8,795.00	57.57	37.47	3.99	-2,255.21	67.51	3,820.15	3,785.26	34.89	109.494		
13,800.00	12,620.00	9,806.22	8,795.00	58.64	38.39	3.99	-2,355.21	68.50	3,820.15	3,784.83	35.33	108.133		
13,900.00	12,620.00	9,906.22	8,795.00	59.74	39.36	3.99	-2,455.20	69.49	3,820.16	3,784.36	35.80	106.717		

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



Total Directional Services Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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 102H - 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		
14,000.00	12,620.00	10,006.22	8,795.00	60.86	40.37	3.99	-2,555.20	70.47	3,820.17	3,783.87	36.29	105.255		
14,100.00	12,620.00	10,106.22	8,795.00	62.01	41.42	3.99	-2,655.19	71.46	3,820.18	3,783.36	36.82	103.756		
14,200.00	12,620.00	10,206.22	8,795.00	63.18	42.51	4.00	-2,755.19	72.45	3,820.18	3,782.81	37.37	102.227		
14,300.00	12,620.00	10,306.22	8,795.00	64.37	43.63	4.00	-2,855.18	73.44	3,820.19	3,782.24	37.95	100.676		
14,400.00	12,620.00	10,406.22	8,795.00	65.58	44.79	4.00	-2,955.18	74.42	3,820.20	3,781.65	38.54	99.110		
14,500.00	12,620.00	10,506.22	8,795.00	66.80	45.98	4.00	-3,055.17	75.41	3,820.20	3,781.04	39.17	97.536		
14,600.00	12,620.00	10,606.22	8,795.00	68.05	47.19	4.00	-3,155.17	76.40	3,820.21	3,780.40	39.81	95.958		
14,700.00	12,620.00	10,706.22	8,795.00	69.31	48.43	4.00	-3,255.16	77.38	3,820.22	3,779.74	40.48	94.382		
14,800.00	12,620.00	10,806.22	8,795.00	70.59	49.70	4.00	-3,355.16	78.37	3,820.23	3,779.06	41.16	92.812		
14,900.00	12,620.00	10,906.22	8,795.00	71.89	50.99	4.01	-3,455.15	79.36	3,820.23	3,778.37	41.86	91.253		
15,000.00	12,620.00	11,006.22	8,795.00	73.20	52.29	4.01	-3,555.15	80.35	3,820.24	3,777.65	42.59	89.706		
15,100.00	12,620.00	11,106.22	8,795.00	74.52	53.62	4.01	-3,655.14	81.33	3,820.25	3,776.92	43.32	88.178		
15,200.00	12,620.00	11,206.22	8,795.00	75.85	54.96	4.01	-3,755.14	82.32	3,820.25	3,776.18	44.08	86.671		
15,300.00	12,620.00	11,306.22	8,795.00	77.20	56.32	4.01	-3,855.13	83.31	3,820.26	3,775.41	44.85	85.184		
15,400.00	12,620.00	11,406.22	8,795.00	78.56	57.70	4.01	-3,955.13	84.29	3,820.27	3,774.64	45.63	83.722		
15,500.00	12,620.00	11,506.22	8,795.00	79.93	59.09	4.01	-4,055.12	85.28	3,820.28	3,773.85	46.43	82.284		
15,600.00	12,620.00	11,606.22	8,795.00	81.31	60.49	4.02	-4,155.12	86.27	3,820.28	3,773.04	47.24	80.873		
15,700.00	12,620.00	11,706.22	8,795.00	82.70	61.91	4.02	-4,255.11	87.26	3,820.29	3,772.23	48.06	79.489		
15,800.00	12,620.00	11,806.22	8,795.00	84.10	63.33	4.02	-4,355.11	88.24	3,820.30	3,771.40	48.90	78.132		
15,900.00	12,620.00	11,906.22	8,795.00	85.51	64.77	4.02	-4,455.10	89.23	3,820.30	3,770.56	49.74	76.804		
16,000.00	12,620.00	12,006.22	8,795.00	86.93	66.22	4.02	-4,555.10	90.22	3,820.31	3,769.71	50.60	75.505		
16,100.00	12,620.00	12,106.22	8,795.00	88.36	67.67	4.02	-4,655.09	91.21	3,820.32	3,768.85	51.46	74.234		
16,200.00	12,620.00	12,206.22	8,795.00	89.79	69.14	4.03	-4,755.09	92.19	3,820.33	3,767.99	52.34	72.992		
16,300.00	12,620.00	12,306.22	8,795.00	91.23	70.61	4.03	-4,855.08	93.18	3,820.33	3,767.11	53.22	71.778		
16,400.00	12,620.00	12,406.22	8,795.00	92.68	72.09	4.03	-4,955.08	94.17	3,820.34	3,766.22	54.12	70.593		
16,500.00	12,620.00	12,506.22	8,795.00	94.13	73.58	4.03	-5,055.07	95.15	3,820.35	3,765.33	55.02	69.436		
16,600.00	12,620.00	12,606.22	8,795.00	95.59	75.08	4.03	-5,155.07	96.14	3,820.35	3,764.42	55.93	68.306		
16,700.00	12,620.00	12,706.22	8,795.00	97.06	76.58	4.03	-5,255.06	97.13	3,820.36	3,763.51	56.85	67.205		
16,800.00	12,620.00	12,806.22	8,795.00	98.53	78.08	4.03	-5,355.06	98.12	3,820.37	3,762.60	57.77	66.129		
16,900.00	12,620.00	12,906.22	8,795.00	100.01	79.60	4.04	-5,455.06	99.10	3,820.38	3,761.67	58.70	65.081		
17,000.00	12,620.00	13,006.22	8,795.00	101.50	81.12	4.04	-5,555.05	100.09	3,820.38	3,760.74	59.64	64.058		
17,100.00	12,620.00	13,106.22	8,795.00	102.98	82.64	4.04	-5,655.05	101.08	3,820.39	3,759.81	60.58	63.060		
17,200.00	12,620.00	13,206.22	8,795.00	104.48	84.17	4.04	-5,755.04	102.06	3,820.40	3,758.86	61.53	62.087		
17,300.00	12,620.00	13,306.22	8,795.00	105.98	85.70	4.04	-5,855.04	103.05	3,820.40	3,757.92	62.49	61.139		
17,400.00	12,620.00	13,406.22	8,795.00	107.48	87.24	4.04	-5,955.03	104.04	3,820.41	3,756.96	63.45	60.213		
17,500.00	12,620.00	13,506.22	8,795.00	108.99	88.78	4.05	-6,055.03	105.03	3,820.42	3,756.01	64.41	59.311		
17,600.00	12,620.00	13,606.22	8,795.00	110.50	90.33	4.05	-6,155.02	106.01	3,820.43	3,755.04	65.38	58.431		
17,700.00	12,620.00	13,706.22	8,795.00	112.01	91.88	4.05	-6,255.02	107.00	3,820.43	3,754.07	66.36	57.573		
17,800.00	12,620.00	13,806.22	8,795.00	113.53	93.43	4.05	-6,355.01	107.99	3,820.44	3,753.10	67.34	56.736		
17,900.00	12,620.00	13,906.22	8,795.00	115.06	94.98	4.05	-6,455.01	108.98	3,820.45	3,752.13	68.32	55.919		
18,000.00	12,620.00	14,006.22	8,795.00	116.58	96.54	4.05	-6,555.00	109.96	3,820.45	3,751.15	69.31	55.123		
18,100.00	12,620.00	14,106.22	8,795.00	118.11	98.11	4.05	-6,655.00	110.95	3,820.46	3,750.16	70.30	54.345		
18,200.00	12,620.00	14,206.22	8,795.00	119.65	99.67	4.06	-6,754.99	111.94	3,820.47	3,749.17	71.30	53.587		
18,300.00	12,620.00	14,306.22	8,795.00	121.18	101.24	4.06	-6,854.99	112.92	3,820.48	3,748.18	72.29	52.846		
18,400.00	12,620.00	14,406.22	8,795.00	122.72	102.81	4.06	-6,954.98	113.91	3,820.48	3,747.19	73.30	52.124		
18,500.00	12,620.00	14,506.22	8,795.00	124.26	104.38	4.06	-7,054.98	114.90	3,820.49	3,746.19	74.30	51.418		
18,600.00	12,620.00	14,606.22	8,795.00	125.81	105.96	4.06	-7,154.97	115.89	3,820.50	3,745.19	75.31	50.730		
18,700.00	12,620.00	14,706.22	8,795.00	127.35	107.53	4.06	-7,254.97	116.87	3,820.50	3,744.18	76.32	50.057		
18,800.00	12,620.00	14,806.22	8,795.00	128.90	109.11	4.07	-7,354.96	117.86	3,820.51	3,743.17	77.34	49.400		
18,900.00	12,620.00	14,906.22	8,795.00	130.46	110.70	4.07	-7,454.96	118.85	3,820.52	3,742.16	78.36	48.759		
19,000.00	12,620.00	15,006.22	8,795.00	132.01	112.28	4.07	-7,554.95	119.83	3,820.53	3,741.15	79.38	48.132		
19,100.00	12,620.00	15,106.22	8,795.00	133.57	113.87	4.07	-7,654.95	120.82	3,820.53	3,740.13	80.40	47.520		

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



Total Directional Services Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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 102H - OH - Plan #1													Offset Well Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD														
Reference				Offset		Semi Major Axis			Distance				Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,200.00	12,620.00	15,206.22	8,795.00	135.13	115.45	4.07	-7,754.94	121.81	3,820.54	3,739.12	81.42	46.921		
19,300.00	12,620.00	15,306.22	8,795.00	136.69	117.04	4.07	-7,854.94	122.80	3,820.55	3,738.10	82.45	46.336		
19,400.00	12,620.00	15,406.22	8,795.00	138.25	118.63	4.07	-7,954.93	123.78	3,820.56	3,737.07	83.48	45.765		
19,500.00	12,620.00	15,506.22	8,795.00	139.82	120.23	4.08	-8,054.93	124.77	3,820.56	3,736.05	84.52	45.206		
19,600.00	12,620.00	15,606.22	8,795.00	141.39	121.82	4.08	-8,154.92	125.76	3,820.57	3,735.02	85.55	44.659		
19,700.00	12,620.00	15,706.22	8,795.00	142.96	123.42	4.08	-8,254.92	126.75	3,820.58	3,733.99	86.59	44.124		
19,800.00	12,620.00	15,806.22	8,795.00	144.53	125.01	4.08	-8,354.91	127.73	3,820.58	3,732.96	87.63	43.601		
19,900.00	12,620.00	15,906.22	8,795.00	146.10	126.61	4.08	-8,454.91	128.72	3,820.59	3,731.92	88.67	43.090		
20,000.00	12,620.00	16,006.22	8,795.00	147.68	128.21	4.08	-8,554.90	129.71	3,820.60	3,730.89	89.71	42.589		
20,100.00	12,620.00	16,106.22	8,795.00	149.25	129.81	4.08	-8,654.90	130.69	3,820.61	3,729.85	90.75	42.099		
20,200.00	12,620.00	16,206.22	8,795.00	150.83	131.42	4.09	-8,754.89	131.68	3,820.61	3,728.81	91.80	41.619		
20,300.00	12,620.00	16,306.22	8,795.00	152.41	133.02	4.09	-8,854.89	132.67	3,820.62	3,727.77	92.85	41.149		
20,400.00	12,620.00	16,406.22	8,795.00	153.99	134.62	4.09	-8,954.88	133.66	3,820.63	3,726.73	93.90	40.690		
20,500.00	12,620.00	16,506.22	8,795.00	155.58	136.23	4.09	-9,054.88	134.64	3,820.63	3,725.69	94.95	40.239		
20,600.00	12,620.00	16,606.22	8,795.00	157.16	137.84	4.09	-9,154.87	135.63	3,820.64	3,724.64	96.00	39.798		
20,700.00	12,620.00	16,706.22	8,795.00	158.75	139.44	4.09	-9,254.87	136.62	3,820.65	3,723.59	97.05	39.366		
20,800.00	12,620.00	16,806.22	8,795.00	160.33	141.05	4.10	-9,354.86	137.61	3,820.66	3,722.55	98.11	38.943		
20,900.00	12,620.00	16,906.22	8,795.00	161.92	142.66	4.10	-9,454.86	138.59	3,820.66	3,721.50	99.17	38.528		
21,000.00	12,620.00	17,006.22	8,795.00	163.51	144.27	4.10	-9,554.85	139.58	3,820.67	3,720.45	100.23	38.121		
21,100.00	12,620.00	17,106.22	8,795.00	165.10	145.89	4.10	-9,654.85	140.57	3,820.68	3,719.39	101.28	37.722		
21,200.00	12,620.00	17,206.22	8,795.00	166.69	147.50	4.10	-9,754.84	141.55	3,820.69	3,718.34	102.35	37.331		
21,300.00	12,620.00	17,306.22	8,795.00	168.29	149.11	4.10	-9,854.84	142.54	3,820.69	3,717.29	103.41	36.948		
21,400.00	12,620.00	17,406.22	8,795.00	169.88	150.73	4.10	-9,954.83	143.53	3,820.70	3,716.23	104.47	36.572		
21,500.00	12,620.00	17,506.22	8,795.00	171.48	152.34	4.11	-10,054.83	144.52	3,820.71	3,715.17	105.53	36.203		
21,600.00	12,620.00	17,606.22	8,795.00	173.07	153.96	4.11	-10,154.82	145.50	3,820.71	3,714.11	106.60	35.841		
21,700.00	12,620.00	17,706.22	8,795.00	174.67	155.58	4.11	-10,254.82	146.49	3,820.72	3,713.06	107.67	35.487		
21,800.00	12,620.00	17,806.22	8,795.00	176.27	157.19	4.11	-10,354.81	147.48	3,820.73	3,711.99	108.73	35.138		
21,900.00	12,620.00	17,906.22	8,795.00	177.87	158.81	4.11	-10,454.81	148.46	3,820.74	3,710.93	109.80	34.796		
22,000.00	12,620.00	18,006.22	8,795.00	179.47	160.43	4.11	-10,554.80	149.45	3,820.74	3,709.87	110.87	34.461		
22,100.00	12,620.00	18,106.22	8,795.00	181.07	162.05	4.12	-10,654.80	150.44	3,820.75	3,708.81	111.94	34.131		
22,200.00	12,620.00	18,206.22	8,795.00	182.67	163.67	4.12	-10,754.79	151.43	3,820.76	3,707.74	113.01	33.808		
22,300.00	12,620.00	18,306.22	8,795.00	184.27	165.29	4.12	-10,854.79	152.41	3,820.77	3,706.68	114.09	33.490		
22,400.00	12,620.00	18,406.22	8,795.00	185.88	166.91	4.12	-10,954.78	153.40	3,820.77	3,705.61	115.16	33.178		
22,500.00	12,620.00	18,506.22	8,795.00	187.48	168.53	4.12	-11,054.78	154.39	3,820.78	3,704.55	116.23	32.871		
22,600.00	12,620.00	18,606.22	8,795.00	189.09	170.16	4.12	-11,154.77	155.38	3,820.79	3,703.48	117.31	32.570		
22,700.00	12,620.00	18,706.22	8,795.00	190.69	171.78	4.12	-11,254.77	156.36	3,820.80	3,702.41	118.38	32.274		
22,800.00	12,620.00	18,806.22	8,795.00	192.30	173.40	4.13	-11,354.76	157.35	3,820.80	3,701.34	119.46	31.984		
22,856.94	12,620.00	18,862.99	8,795.00	193.22	174.32	4.13	-11,411.53	157.91	3,820.81	3,700.73	120.07	31.820		

CC - Min centre to center distance or 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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	122.16	-1,002.17	1,593.79	1,882.76					
100.00	100.00	83.20	83.20	0.13	0.10	122.16	-1,002.17	1,593.79	1,882.69	1,882.52	0.16	N/A		
200.00	200.00	183.20	183.20	0.48	0.42	122.16	-1,002.17	1,593.79	1,882.69	1,882.04	0.64	2,926.987		
300.00	300.00	283.20	283.20	0.84	0.78	122.16	-1,002.17	1,593.79	1,882.69	1,881.54	1.15	1,637.760		
400.00	400.00	383.20	383.20	1.20	1.14	122.16	-1,002.17	1,593.79	1,882.69	1,881.03	1.66	1,136.707		
500.00	500.00	483.20	483.20	1.56	1.50	122.16	-1,002.17	1,593.79	1,882.69	1,880.52	2.16	870.369		
600.00	600.00	583.20	583.20	1.92	1.86	122.16	-1,002.17	1,593.79	1,882.69	1,880.02	2.67	705.135		
700.00	700.00	683.20	683.20	2.28	2.22	122.16	-1,002.17	1,593.79	1,882.69	1,879.51	3.18	592.624		
800.00	800.00	783.20	783.20	2.63	2.57	122.16	-1,002.17	1,593.79	1,882.69	1,879.00	3.68	511.074		
900.00	900.00	883.20	883.20	2.99	2.93	122.16	-1,002.17	1,593.79	1,882.69	1,878.50	4.19	449.253		
1,000.00	1,000.00	983.20	983.20	3.35	3.29	122.16	-1,002.17	1,593.79	1,882.69	1,877.99	4.70	400.773		
1,100.00	1,100.00	1,083.20	1,083.20	3.71	3.65	122.16	-1,002.17	1,593.79	1,882.69	1,877.48	5.20	361.737		
1,200.00	1,200.00	1,183.20	1,183.20	4.07	4.01	122.16	-1,002.17	1,593.79	1,882.69	1,876.98	5.71	329.630		
1,300.00	1,300.00	1,283.20	1,283.20	4.43	4.37	122.16	-1,002.17	1,593.79	1,882.69	1,876.47	6.22	302.758		
1,400.00	1,400.00	1,383.20	1,383.20	4.79	4.73	122.16	-1,002.17	1,593.79	1,882.69	1,875.96	6.73	279.937		
1,500.00	1,500.00	1,483.20	1,483.20	5.14	5.08	122.16	-1,002.17	1,593.79	1,882.69	1,875.45	7.23	260.315		
1,600.00	1,600.00	1,583.20	1,583.20	5.50	5.44	122.16	-1,002.17	1,593.79	1,882.69	1,874.95	7.74	243.263		
1,700.00	1,700.00	1,683.20	1,683.20	5.86	5.80	122.16	-1,002.17	1,593.79	1,882.69	1,874.44	8.25	228.308		
1,800.00	1,800.00	1,783.20	1,783.20	6.22	6.16	122.16	-1,002.17	1,593.79	1,882.69	1,873.93	8.75	215.086		
1,900.00	1,900.00	1,883.20	1,883.20	6.58	6.52	122.16	-1,002.17	1,593.79	1,882.69	1,873.43	9.26	203.311		
2,000.00	2,000.00	1,983.20	1,983.20	6.94	6.88	122.16	-1,002.17	1,593.79	1,882.69	1,872.92	9.77	192.758		
2,100.00	2,100.00	2,083.20	2,083.20	7.29	7.23	122.16	-1,002.17	1,593.79	1,882.69	1,872.41	10.27	183.247		
2,200.00	2,200.00	2,183.20	2,183.20	7.65	7.59	122.16	-1,002.17	1,593.79	1,882.69	1,871.91	10.78	174.630		
2,300.00	2,300.00	2,283.20	2,283.20	8.01	7.95	122.16	-1,002.17	1,593.79	1,882.69	1,871.40	11.29	166.787		
2,400.00	2,400.00	2,383.20	2,383.20	8.37	8.31	122.16	-1,002.17	1,593.79	1,882.69	1,870.89	11.79	159.619		
2,500.00	2,500.00	2,483.20	2,483.20	8.73	8.67	122.16	-1,002.17	1,593.79	1,882.69	1,870.39	12.30	153.041		
2,600.00	2,600.00	2,583.20	2,583.20	9.09	9.03	122.16	-1,002.17	1,593.79	1,882.69	1,869.88	12.81	146.984		
2,700.00	2,700.00	2,683.20	2,683.20	9.45	9.39	122.16	-1,002.17	1,593.79	1,882.69	1,869.37	13.32	141.388		
2,800.00	2,800.00	2,783.20	2,783.20	9.80	9.74	122.16	-1,002.17	1,593.79	1,882.69	1,868.86	13.82	136.202		
2,900.00	2,900.00	2,883.20	2,883.20	10.16	10.10	122.16	-1,002.17	1,593.79	1,882.69	1,868.36	14.33	131.384		
3,000.00	3,000.00	2,983.20	2,983.20	10.52	10.46	122.16	-1,002.17	1,593.79	1,882.69	1,867.85	14.84	126.895		
3,100.00	3,100.00	3,065.77	3,065.76	10.88	10.74	122.18	-1,002.74	1,593.79	1,883.07	1,867.78	15.29	123.154		
3,200.00	3,200.00	3,144.76	3,144.72	11.24	11.01	122.23	-1,004.91	1,593.81	1,884.56	1,868.83	15.73	119.832		
3,300.00	3,300.00	3,223.62	3,223.50	11.60	11.26	122.33	-1,008.71	1,593.83	1,887.16	1,871.00	16.16	116.799		
3,400.00	3,399.99	3,300.00	3,299.69	11.94	11.51	-40.52	-1,013.94	1,593.86	1,889.89	1,873.33	16.57	114.072		
3,500.00	3,499.91	3,381.04	3,380.41	12.26	11.77	-40.38	-1,021.16	1,593.91	1,891.77	1,874.79	16.98	111.430		
3,600.00	3,599.69	3,459.64	3,458.53	12.59	12.03	-40.25	-1,029.79	1,593.96	1,892.78	1,875.40	17.38	108.899		
3,700.00	3,699.27	3,539.56	3,537.77	12.92	12.30	-40.13	-1,040.21	1,594.03	1,892.93	1,875.14	17.79	106.409		
3,800.00	3,798.57	3,639.47	3,636.71	13.25	12.64	-40.02	-1,054.11	1,594.11	1,891.59	1,873.33	18.26	103.597		
3,900.00	3,897.54	3,739.38	3,735.65	13.58	12.98	-39.98	-1,068.00	1,594.20	1,888.24	1,869.51	18.73	100.795		
4,000.00	3,996.09	3,839.23	3,834.53	13.92	13.33	-40.01	-1,081.89	1,594.29	1,882.89	1,863.68	19.21	98.001		
4,100.00	4,094.16	3,938.96	3,933.28	14.28	13.68	-40.11	-1,095.76	1,594.38	1,875.55	1,855.85	19.70	95.217		
4,184.40	4,176.52	4,022.97	4,016.48	14.58	13.98	-40.25	-1,107.45	1,594.45	1,867.79	1,847.68	20.11	92.874		
4,200.00	4,191.70	4,038.48	4,031.84	14.64	14.04	-40.26	-1,109.61	1,594.46	1,866.23	1,846.04	20.19	92.442		
4,300.00	4,289.03	4,137.93	4,130.32	15.01	14.39	-40.37	-1,123.44	1,594.55	1,856.21	1,835.52	20.68	89.744		
4,400.00	4,386.37	4,269.04	4,260.40	15.39	14.87	-40.55	-1,139.82	1,594.65	1,845.44	1,824.16	21.28	86.734		
4,500.00	4,483.70	4,403.25	4,394.05	15.77	15.35	-40.86	-1,151.97	1,594.73	1,832.78	1,810.91	21.88	83.784		
4,600.00	4,581.03	4,536.05	4,526.64	16.17	15.81	-41.30	-1,159.37	1,594.77	1,818.30	1,795.84	22.46	80.951		
4,700.00	4,678.36	4,667.16	4,657.71	16.57	16.27	-41.87	-1,162.14	1,594.79	1,802.06	1,779.02	23.04	78.218		
4,800.00	4,775.69	4,768.34	4,758.89	16.98	16.62	-42.37	-1,162.17	1,594.79	1,784.85	1,761.30	23.55	75.782		
4,900.00	4,873.02	4,865.67	4,856.22	17.39	16.96	-42.87	-1,162.17	1,594.79	1,767.76	1,743.69	24.06	73.467		
5,000.00	4,970.36	4,963.00	4,953.56	17.81	17.30	-43.37	-1,162.17	1,594.79	1,750.80	1,726.22	24.57	71.244		

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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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	5,067.69	5,060.34	5,050.89	18.23	17.64	-43.89	-1,162.17	1,594.79	1,733.97	1,708.88	25.09	69.106		
5,200.00	5,165.02	5,157.67	5,148.22	18.66	17.98	-44.41	-1,162.17	1,594.79	1,717.29	1,691.68	25.61	67.051		
5,300.00	5,262.35	5,255.00	5,245.55	19.09	18.32	-44.94	-1,162.17	1,594.79	1,700.76	1,674.62	26.14	65.074		
5,400.00	5,359.68	5,352.33	5,342.88	19.53	18.67	-45.49	-1,162.17	1,594.79	1,684.37	1,657.71	26.66	63.173		
5,500.00	5,457.01	5,449.66	5,440.21	19.97	19.01	-46.04	-1,162.17	1,594.79	1,668.14	1,640.95	27.19	61.343		
5,600.00	5,554.34	5,546.99	5,537.54	20.42	19.35	-46.61	-1,162.17	1,594.79	1,652.07	1,624.35	27.73	59.581		
5,700.00	5,651.68	5,644.33	5,634.88	20.87	19.69	-47.18	-1,162.17	1,594.79	1,636.17	1,607.90	28.27	57.885		
5,800.00	5,749.01	5,741.66	5,732.21	21.32	20.04	-47.77	-1,162.17	1,594.79	1,620.43	1,591.62	28.81	56.251		
5,900.00	5,846.34	5,838.99	5,829.54	21.77	20.38	-48.37	-1,162.17	1,594.79	1,604.87	1,575.52	29.35	54.677		
6,000.00	5,943.67	5,936.32	5,926.87	22.23	20.72	-48.97	-1,162.17	1,594.79	1,589.48	1,559.58	29.90	53.161		
6,100.00	6,041.00	6,033.65	6,024.20	22.69	21.06	-49.60	-1,162.17	1,594.79	1,574.28	1,543.83	30.45	51.699		
6,200.00	6,138.33	6,130.98	6,121.53	23.15	21.41	-50.23	-1,162.17	1,594.79	1,559.27	1,528.27	31.01	50.290		
6,300.00	6,235.67	6,228.31	6,218.87	23.61	21.75	-50.87	-1,162.17	1,594.79	1,544.46	1,512.89	31.56	48.932		
6,400.00	6,333.00	6,325.65	6,316.20	24.08	22.09	-51.53	-1,162.17	1,594.79	1,529.84	1,497.72	32.12	47.622		
6,500.00	6,430.33	6,422.98	6,413.53	24.55	22.44	-52.19	-1,162.17	1,594.79	1,515.43	1,482.75	32.69	46.359		
6,600.00	6,527.66	6,520.31	6,510.86	25.02	22.78	-52.88	-1,162.17	1,594.79	1,501.24	1,467.98	33.26	45.140		
6,700.00	6,624.99	6,617.64	6,608.19	25.49	23.13	-53.57	-1,162.17	1,594.79	1,487.26	1,453.43	33.83	43.965		
6,800.00	6,722.32	6,714.97	6,705.52	25.96	23.47	-54.27	-1,162.17	1,594.79	1,473.51	1,439.11	34.40	42.831		
6,900.00	6,819.65	6,812.30	6,802.85	26.44	23.82	-54.99	-1,162.17	1,594.79	1,459.99	1,425.01	34.98	41.737		
7,000.00	6,916.99	6,909.64	6,900.19	26.91	24.16	-55.72	-1,162.17	1,594.79	1,446.70	1,411.14	35.56	40.682		
7,100.00	7,014.32	7,006.97	6,997.52	27.39	24.50	-56.47	-1,162.17	1,594.79	1,433.66	1,397.52	36.15	39.663		
7,200.00	7,111.65	7,104.30	7,094.85	27.87	24.85	-57.22	-1,162.17	1,594.79	1,420.88	1,384.14	36.73	38.681		
7,300.00	7,208.98	7,201.63	7,192.18	28.35	25.19	-57.99	-1,162.17	1,594.79	1,408.34	1,371.02	37.32	37.733		
7,400.00	7,306.31	7,298.96	7,289.51	28.84	25.54	-58.78	-1,162.17	1,594.79	1,396.08	1,358.16	37.92	36.819		
7,500.00	7,403.64	7,396.29	7,386.84	29.32	25.88	-59.57	-1,162.17	1,594.79	1,384.08	1,345.57	38.51	35.937		
7,600.00	7,500.98	7,493.62	7,484.18	29.80	26.23	-60.38	-1,162.17	1,594.79	1,372.37	1,333.26	39.11	35.087		
7,700.00	7,598.31	7,590.96	7,581.51	30.29	26.58	-61.20	-1,162.17	1,594.79	1,360.94	1,321.22	39.72	34.266		
7,800.00	7,695.64	7,688.29	7,678.84	30.78	26.92	-62.04	-1,162.17	1,594.79	1,349.80	1,309.48	40.32	33.476		
7,900.00	7,792.97	7,785.62	7,776.17	31.27	27.27	-62.89	-1,162.17	1,594.79	1,338.97	1,298.04	40.93	32.713		
8,000.00	7,890.30	7,882.95	7,873.50	31.75	27.61	-63.75	-1,162.17	1,594.79	1,328.44	1,286.90	41.54	31.979		
8,062.86	7,951.48	7,944.13	7,934.68	32.06	27.83	-64.30	-1,162.17	1,594.79	1,321.99	1,280.06	41.93	31.531		
8,100.00	7,987.67	7,980.32	7,970.87	32.24	27.96	-64.57	-1,162.17	1,594.79	1,318.31	1,276.15	42.15	31.274		
8,200.00	8,085.00	8,078.15	8,068.70	32.71	28.31	-65.25	-1,162.17	1,594.79	1,309.36	1,266.60	42.76	30.624		
8,300.00	8,183.84	8,162.23	8,152.74	33.17	28.60	-65.69	-1,163.92	1,594.81	1,302.07	1,258.75	43.31	30.062		
8,400.00	8,282.61	8,238.00	8,227.66	33.60	28.86	-65.63	-1,174.80	1,594.91	1,297.62	1,253.80	43.81	29.617		
8,494.98	8,376.77	8,308.58	8,295.61	33.99	29.12	-65.14	-1,193.74	1,595.10	1,296.17	1,251.93	44.25	29.293 CC		
8,500.00	8,381.76	8,312.22	8,299.05	34.01	29.13	-65.11	-1,194.94	1,595.11	1,296.18	1,251.91	44.27	29.279 ES		
8,600.00	8,481.22	8,381.90	8,363.16	34.40	29.39	-64.22	-1,222.10	1,595.37	1,298.14	1,253.48	44.67	29.063		
8,700.00	8,580.92	8,450.00	8,422.20	34.77	29.66	-63.01	-1,255.97	1,595.70	1,304.18	1,259.19	45.00	28.984 SF		
8,800.00	8,680.78	8,500.00	8,462.76	35.12	29.86	-61.98	-1,285.18	1,595.99	1,315.01	1,269.83	45.18	29.104		
8,900.00	8,780.74	8,550.00	8,500.63	35.45	30.07	-60.83	-1,317.80	1,596.30	1,331.36	1,286.09	45.28	29.405		
8,947.26	8,828.00	8,568.16	8,513.66	35.59	30.15	102.56	-1,330.45	1,596.43	1,341.16	1,295.90	45.26	29.634		
9,000.00	8,880.74	8,588.86	8,528.01	35.75	30.24	103.20	-1,345.37	1,596.57	1,353.55	1,308.34	45.21	29.940		
9,100.00	8,980.74	8,624.10	8,551.17	36.04	30.39	104.32	-1,371.92	1,596.83	1,380.90	1,335.87	45.03	30.666		
9,200.00	9,080.74	8,650.00	8,567.13	36.34	30.51	105.17	-1,392.31	1,597.03	1,413.35	1,368.64	44.71	31.612		
9,300.00	9,180.74	8,681.50	8,585.27	36.64	30.66	106.24	-1,418.05	1,597.28	1,450.77	1,406.41	44.36	32.706		
9,400.00	9,280.74	8,700.00	8,595.26	36.93	30.75	106.88	-1,433.63	1,597.43	1,493.06	1,449.20	43.86	34.044		
9,500.00	9,380.74	8,725.62	8,608.25	37.23	30.87	107.78	-1,455.71	1,597.64	1,539.90	1,496.53	43.37	35.506		
9,600.00	9,480.74	8,750.00	8,619.68	37.53	30.99	108.65	-1,477.24	1,597.85	1,591.11	1,548.26	42.86	37.128		
9,700.00	9,580.74	8,750.00	8,619.68	37.84	30.99	108.65	-1,477.24	1,597.85	1,646.36	1,604.22	42.14	39.069		
9,800.00	9,680.74	8,774.80	8,630.36	38.14	31.12	109.54	-1,499.61	1,598.07	1,705.14	1,663.52	41.63	40.962		
9,900.00	9,780.74	8,800.00	8,640.21	38.44	31.25	110.46	-1,522.81	1,598.30	1,767.53	1,726.40	41.13	42.972		

CC - Min centre to center distance or 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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 103H - 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		
10,000.00	9,880.74	8,800.00	8,640.21	38.75	31.25	110.46	-1,522.81	1,598.30	1,832.73	1,792.27	40.47	45.291		
10,100.00	9,980.74	8,800.00	8,640.21	39.05	31.25	110.46	-1,522.81	1,598.30	1,900.96	1,861.13	39.83	47.724		
10,200.00	10,080.74	8,820.18	8,647.36	39.36	31.36	111.19	-1,541.67	1,598.48	1,971.53	1,932.13	39.39	50.048		
10,300.00	10,180.74	8,829.08	8,650.30	39.66	31.41	111.52	-1,550.08	1,598.56	2,044.49	2,005.58	38.91	52.550		
10,400.00	10,280.74	8,850.00	8,656.69	39.97	31.52	112.28	-1,569.99	1,598.76	2,119.68	2,081.13	38.55	54.991		
10,500.00	10,380.74	8,850.00	8,656.69	40.28	31.52	112.28	-1,569.99	1,598.76	2,196.47	2,158.40	38.08	57.685		
10,600.00	10,480.74	8,850.00	8,656.69	40.59	31.52	112.28	-1,569.99	1,598.76	2,275.07	2,237.42	37.65	60.424		
10,700.00	10,580.74	8,850.00	8,656.69	40.90	31.52	112.28	-1,569.99	1,598.76	2,355.29	2,318.02	37.27	63.195		
10,800.00	10,680.74	8,850.00	8,656.69	41.21	31.52	112.28	-1,569.99	1,598.76	2,436.97	2,400.04	36.93	65.987		
10,900.00	10,780.74	8,850.00	8,656.69	41.52	31.52	112.28	-1,569.99	1,598.76	2,519.98	2,483.35	36.63	68.790		
11,000.00	10,880.74	8,874.68	8,663.29	41.84	31.66	113.18	-1,593.77	1,598.99	2,603.60	2,567.07	36.53	71.280		
11,100.00	10,980.74	8,879.48	8,664.46	42.15	31.69	113.36	-1,598.43	1,599.03	2,688.63	2,652.30	36.33	74.009		
11,200.00	11,080.74	8,900.00	8,668.99	42.46	31.80	114.11	-1,618.44	1,599.23	2,774.87	2,738.61	36.25	76.539		
11,300.00	11,180.74	8,900.00	8,668.99	42.78	31.80	114.11	-1,618.44	1,599.23	2,861.62	2,825.53	36.09	79.289		
11,400.00	11,280.74	8,900.00	8,668.99	43.09	31.80	114.11	-1,618.44	1,599.23	2,949.21	2,913.25	35.96	82.014		
11,500.00	11,380.74	8,900.00	8,668.99	43.41	31.80	114.11	-1,618.44	1,599.23	3,037.57	3,001.72	35.86	84.711		
11,600.00	11,480.74	8,900.00	8,668.99	43.73	31.80	114.11	-1,618.44	1,599.23	3,126.63	3,090.85	35.79	87.373		
11,700.00	11,580.74	8,900.00	8,668.99	44.04	31.80	114.11	-1,618.44	1,599.23	3,216.34	3,180.60	35.74	89.996		
11,800.00	11,680.74	8,900.00	8,668.99	44.36	31.80	114.11	-1,618.44	1,599.23	3,306.63	3,270.92	35.72	92.578		
11,900.00	11,780.74	8,900.00	8,668.99	44.68	31.80	114.11	-1,618.44	1,599.23	3,397.47	3,361.75	35.72	95.116		
12,000.00	11,880.74	8,900.00	8,668.99	45.00	31.80	114.11	-1,618.44	1,599.23	3,488.81	3,453.07	35.74	97.613		
12,100.00	11,980.74	8,900.00	8,668.99	45.32	31.80	114.11	-1,618.44	1,599.23	3,580.61	3,544.83	35.78	100.062		
12,166.30	12,047.04	8,900.00	8,668.99	45.53	31.80	114.11	-1,618.44	1,599.23	3,641.71	3,605.89	35.82	101.658		
12,200.00	12,080.72	8,900.00	8,668.99	45.65	31.80	-58.37	-1,618.44	1,599.23	3,672.67	3,636.82	35.84	102.461		
12,250.00	12,130.45	8,900.00	8,668.99	45.84	31.80	-49.81	-1,618.44	1,599.23	3,717.88	3,682.00	35.88	103.633		
12,300.00	12,179.53	8,900.00	8,668.99	46.05	31.80	-43.04	-1,618.44	1,599.23	3,761.96	3,726.06	35.91	104.774		
12,350.00	12,227.61	8,924.43	8,673.46	46.29	31.94	-37.38	-1,642.45	1,599.46	3,804.06	3,768.03	36.03	105.575		
12,400.00	12,274.32	8,927.85	8,674.00	46.55	31.96	-33.25	-1,645.83	1,599.49	3,844.87	3,808.80	36.07	106.591		
12,450.00	12,319.29	8,950.00	8,677.03	46.83	32.09	-29.81	-1,667.77	1,599.71	3,884.00	3,847.82	36.18	107.352		
12,500.00	12,362.19	8,950.00	8,677.03	47.13	32.09	-27.27	-1,667.77	1,599.71	3,920.46	3,884.26	36.20	108.294		
12,550.00	12,402.70	8,950.00	8,677.03	47.44	32.09	-25.21	-1,667.77	1,599.71	3,954.49	3,918.26	36.22	109.170		
12,600.00	12,440.50	8,950.00	8,677.03	47.78	32.09	-23.54	-1,667.77	1,599.71	3,985.89	3,949.65	36.24	109.973		
12,650.00	12,475.30	8,950.00	8,677.03	48.13	32.09	-22.19	-1,667.77	1,599.71	4,014.50	3,978.24	36.27	110.696		
12,700.00	12,506.84	8,950.00	8,677.03	48.50	32.09	-21.08	-1,667.77	1,599.71	4,040.16	4,003.88	36.29	111.334		
12,750.00	12,534.89	8,950.00	8,677.03	48.88	32.09	-20.19	-1,667.77	1,599.71	4,062.74	4,026.42	36.31	111.879		
12,800.00	12,559.22	8,950.00	8,677.03	49.28	32.09	-19.48	-1,667.77	1,599.71	4,082.10	4,045.76	36.34	112.327		
12,850.00	12,579.65	8,973.88	8,679.34	49.68	32.23	-18.89	-1,691.53	1,599.94	4,097.61	4,061.17	36.44	112.441		
12,900.00	12,596.03	9,000.00	8,680.73	50.10	32.38	-18.45	-1,717.62	1,600.19	4,110.33	4,073.78	36.55	112.462		
12,950.00	12,608.24	9,000.00	8,680.73	50.52	32.38	-18.18	-1,717.62	1,600.19	4,118.94	4,082.35	36.58	112.586		
13,000.00	12,616.17	9,000.00	8,680.73	50.94	32.38	-18.02	-1,717.62	1,600.19	4,124.03	4,087.41	36.63	112.593		
13,050.00	12,619.77	9,000.00	8,680.73	51.36	32.38	-17.97	-1,717.62	1,600.19	4,125.60	4,088.92	36.68	112.480		
13,066.30	12,620.00	9,000.00	8,680.73	51.50	32.38	-17.98	-1,717.62	1,600.19	4,125.34	4,088.64	36.70	112.416		
13,100.00	12,620.00	9,000.00	8,680.73	51.79	32.38	-17.98	-1,717.62	1,600.19	4,124.56	4,087.82	36.74	112.268		
13,200.00	12,620.00	9,022.63	8,681.00	52.67	32.52	-17.98	-1,740.25	1,600.41	4,123.54	4,086.60	36.94	111.628		
13,300.00	12,620.00	9,122.63	8,681.00	53.58	33.16	-17.98	-1,840.24	1,601.38	4,123.51	4,086.17	37.34	110.434		
13,400.00	12,620.00	9,222.63	8,681.00	54.53	33.87	-17.98	-1,940.24	1,602.35	4,123.47	4,085.70	37.78	109.157		
13,500.00	12,620.00	9,322.63	8,681.00	55.51	34.64	-17.97	-2,040.23	1,603.33	4,123.44	4,085.19	38.25	107.804		
13,600.00	12,620.00	9,422.63	8,681.00	56.53	35.47	-17.97	-2,140.23	1,604.30	4,123.40	4,084.64	38.76	106.384		
13,700.00	12,620.00	9,522.63	8,681.00	57.57	36.36	-17.97	-2,240.22	1,605.27	4,123.36	4,084.06	39.30	104.912		
13,800.00	12,620.00	9,622.63	8,681.00	58.64	37.30	-17.97	-2,340.22	1,606.24	4,123.33	4,083.45	39.88	103.398		
13,900.00	12,620.00	9,722.63	8,681.00	59.74	38.29	-17.97	-2,440.21	1,607.22	4,123.29	4,082.81	40.49	101.846		
14,000.00	12,620.00	9,822.63	8,681.00	60.86	39.32	-17.97	-2,540.21	1,608.19	4,123.26	4,082.13	41.12	100.266		

CC - Min centre to center distance or 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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	12,620.00	9,922.63	8,681.00	62.01	40.40	-17.96	-2,640.20	1,609.16	4,123.22	4,081.43	41.79	98.666		
14,200.00	12,620.00	10,022.63	8,681.00	63.18	41.51	-17.96	-2,740.20	1,610.13	4,123.18	4,080.70	42.48	97.053		
14,300.00	12,620.00	10,122.63	8,681.00	64.37	42.66	-17.96	-2,840.19	1,611.10	4,123.15	4,079.94	43.20	95.434		
14,400.00	12,620.00	10,222.63	8,681.00	65.58	43.84	-17.96	-2,940.19	1,612.08	4,123.11	4,079.16	43.95	93.814		
14,500.00	12,620.00	10,322.63	8,681.00	66.80	45.05	-17.96	-3,040.18	1,613.05	4,123.07	4,078.35	44.72	92.197		
14,600.00	12,620.00	10,422.63	8,681.00	68.05	46.28	-17.96	-3,140.18	1,614.02	4,123.04	4,077.53	45.51	90.591		
14,700.00	12,620.00	10,522.63	8,681.00	69.31	47.54	-17.96	-3,240.17	1,614.99	4,123.00	4,076.68	46.33	88.999		
14,800.00	12,620.00	10,622.63	8,681.00	70.59	48.83	-17.95	-3,340.17	1,615.97	4,122.97	4,075.81	47.16	87.429		
14,900.00	12,620.00	10,722.63	8,681.00	71.89	50.13	-17.95	-3,440.16	1,616.94	4,122.93	4,074.92	48.01	85.878		
15,000.00	12,620.00	10,822.63	8,681.00	73.20	51.46	-17.95	-3,540.16	1,617.91	4,122.89	4,074.02	48.88	84.348		
15,100.00	12,620.00	10,922.63	8,681.00	74.52	52.80	-17.95	-3,640.15	1,618.88	4,122.86	4,073.09	49.76	82.848		
15,200.00	12,620.00	11,022.63	8,681.00	75.85	54.17	-17.95	-3,740.15	1,619.85	4,122.82	4,072.16	50.66	81.374		
15,300.00	12,620.00	11,122.63	8,681.00	77.20	55.54	-17.95	-3,840.15	1,620.83	4,122.79	4,071.21	51.58	79.927		
15,400.00	12,620.00	11,222.63	8,681.00	78.56	56.94	-17.94	-3,940.14	1,621.80	4,122.75	4,070.24	52.51	78.508		
15,500.00	12,620.00	11,322.63	8,681.00	79.93	58.34	-17.94	-4,040.14	1,622.77	4,122.71	4,069.26	53.46	77.119		
15,600.00	12,620.00	11,422.63	8,681.00	81.31	59.76	-17.94	-4,140.13	1,623.74	4,122.68	4,068.26	54.42	75.759		
15,700.00	12,620.00	11,522.63	8,681.00	82.70	61.19	-17.94	-4,240.13	1,624.72	4,122.64	4,067.25	55.39	74.430		
15,800.00	12,620.00	11,622.63	8,681.00	84.10	62.63	-17.94	-4,340.12	1,625.69	4,122.61	4,066.23	56.37	73.131		
15,900.00	12,620.00	11,722.63	8,681.00	85.51	64.08	-17.94	-4,440.12	1,626.66	4,122.57	4,065.20	57.37	71.863		
16,000.00	12,620.00	11,822.63	8,681.00	86.93	65.54	-17.94	-4,540.11	1,627.63	4,122.54	4,064.17	58.37	70.628		
16,100.00	12,620.00	11,922.63	8,681.00	88.36	67.01	-17.93	-4,640.11	1,628.60	4,122.50	4,063.12	59.38	69.424		
16,200.00	12,620.00	12,022.63	8,681.00	89.79	68.49	-17.93	-4,740.10	1,629.58	4,122.46	4,062.06	60.40	68.249		
16,300.00	12,620.00	12,122.63	8,681.00	91.23	69.97	-17.93	-4,840.10	1,630.55	4,122.43	4,060.99	61.43	67.104		
16,400.00	12,620.00	12,222.63	8,681.00	92.68	71.46	-17.93	-4,940.09	1,631.52	4,122.39	4,059.92	62.47	65.987		
16,500.00	12,620.00	12,322.63	8,681.00	94.13	72.96	-17.93	-5,040.09	1,632.49	4,122.36	4,058.84	63.52	64.899		
16,600.00	12,620.00	12,422.63	8,681.00	95.59	74.47	-17.93	-5,140.08	1,633.47	4,122.32	4,057.74	64.57	63.838		
16,700.00	12,620.00	12,522.63	8,681.00	97.06	75.98	-17.92	-5,240.08	1,634.44	4,122.28	4,056.65	65.64	62.804		
16,800.00	12,620.00	12,622.63	8,681.00	98.53	77.50	-17.92	-5,340.07	1,635.41	4,122.25	4,055.54	66.71	61.797		
16,900.00	12,620.00	12,722.63	8,681.00	100.01	79.02	-17.92	-5,440.07	1,636.38	4,122.21	4,054.43	67.78	60.815		
17,000.00	12,620.00	12,822.63	8,681.00	101.50	80.55	-17.92	-5,540.06	1,637.35	4,122.18	4,053.31	68.86	59.859		
17,100.00	12,620.00	12,922.63	8,681.00	102.98	82.08	-17.92	-5,640.06	1,638.33	4,122.14	4,052.19	69.95	58.927		
17,200.00	12,620.00	13,022.63	8,681.00	104.48	83.62	-17.92	-5,740.05	1,639.30	4,122.10	4,051.06	71.05	58.019		
17,300.00	12,620.00	13,122.63	8,681.00	105.98	85.16	-17.92	-5,840.05	1,640.27	4,122.07	4,049.92	72.15	57.134		
17,400.00	12,620.00	13,222.63	8,681.00	107.48	86.71	-17.91	-5,940.04	1,641.24	4,122.03	4,048.78	73.25	56.271		
17,500.00	12,620.00	13,322.63	8,681.00	108.99	88.26	-17.91	-6,040.04	1,642.22	4,122.00	4,047.63	74.36	55.431		
17,600.00	12,620.00	13,422.63	8,681.00	110.50	89.81	-17.91	-6,140.03	1,643.19	4,121.96	4,046.48	75.48	54.612		
17,700.00	12,620.00	13,522.63	8,681.00	112.01	91.37	-17.91	-6,240.03	1,644.16	4,121.92	4,045.33	76.60	53.813		
17,800.00	12,620.00	13,622.63	8,681.00	113.53	92.93	-17.91	-6,340.03	1,645.13	4,121.89	4,044.17	77.72	53.037		
17,900.00	12,620.00	13,722.63	8,681.00	115.06	94.49	-17.91	-6,440.02	1,646.10	4,121.85	4,043.01	78.84	52.279		
18,000.00	12,620.00	13,822.63	8,681.00	116.58	96.06	-17.90	-6,540.02	1,647.08	4,121.82	4,041.84	79.97	51.541		
18,100.00	12,620.00	13,922.63	8,681.00	118.11	97.62	-17.90	-6,640.01	1,648.05	4,121.78	4,040.68	81.11	50.820		
18,200.00	12,620.00	14,022.63	8,681.00	119.65	99.20	-17.90	-6,740.01	1,649.02	4,121.74	4,039.50	82.24	50.117		
18,300.00	12,620.00	14,122.63	8,681.00	121.18	100.77	-17.90	-6,840.00	1,649.99	4,121.71	4,038.33	83.38	49.432		
18,400.00	12,620.00	14,222.63	8,681.00	122.72	102.35	-17.90	-6,940.00	1,650.97	4,121.67	4,037.15	84.53	48.762		
18,500.00	12,620.00	14,322.63	8,681.00	124.26	103.92	-17.90	-7,039.99	1,651.94	4,121.64	4,035.96	85.67	48.109		
18,600.00	12,620.00	14,422.63	8,681.00	125.81	105.51	-17.90	-7,139.99	1,652.91	4,121.60	4,034.78	86.82	47.471		
18,700.00	12,620.00	14,522.63	8,681.00	127.35	107.09	-17.89	-7,239.98	1,653.88	4,121.57	4,033.59	87.98	46.848		
18,800.00	12,620.00	14,622.63	8,681.00	128.90	108.67	-17.89	-7,339.98	1,654.85	4,121.53	4,032.40	89.13	46.241		
18,900.00	12,620.00	14,722.63	8,681.00	130.46	110.26	-17.89	-7,439.97	1,655.83	4,121.49	4,031.21	90.29	45.649		
19,000.00	12,620.00	14,822.63	8,681.00	132.01	111.85	-17.89	-7,539.97	1,656.80	4,121.46	4,030.01	91.45	45.070		
19,100.00	12,620.00	14,922.63	8,681.00	133.57	113.44	-17.89	-7,639.96	1,657.77	4,121.42	4,028.81	92.61	44.504		
19,200.00	12,620.00	15,022.63	8,681.00	135.13	115.03	-17.89	-7,739.96	1,658.74	4,121.39	4,027.61	93.77	43.951		

CC - Min centre to center distance or 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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				Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	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	12,620.00	15,122.63	8,681.00	136.69	116.63	-17.88	-7,839.95	1,659.72	4,121.35	4,026.41	94.94	43.411		
19,400.00	12,620.00	15,222.63	8,681.00	138.25	118.22	-17.88	-7,939.95	1,660.69	4,121.31	4,025.21	96.11	42.882		
19,500.00	12,620.00	15,322.63	8,681.00	139.82	119.82	-17.88	-8,039.94	1,661.66	4,121.28	4,024.00	97.28	42.366		
19,600.00	12,620.00	15,422.63	8,681.00	141.39	121.42	-17.88	-8,139.94	1,662.63	4,121.24	4,022.79	98.45	41.860		
19,700.00	12,620.00	15,522.63	8,681.00	142.96	123.02	-17.88	-8,239.93	1,663.60	4,121.21	4,021.58	99.63	41.366		
19,800.00	12,620.00	15,622.63	8,681.00	144.53	124.62	-17.88	-8,339.93	1,664.58	4,121.17	4,020.37	100.80	40.883		
19,900.00	12,620.00	15,722.63	8,681.00	146.10	126.22	-17.88	-8,439.92	1,665.55	4,121.13	4,019.15	101.98	40.411		
20,000.00	12,620.00	15,822.63	8,681.00	147.68	127.83	-17.87	-8,539.92	1,666.52	4,121.10	4,017.94	103.16	39.949		
20,100.00	12,620.00	15,922.63	8,681.00	149.25	129.43	-17.87	-8,639.92	1,667.49	4,121.06	4,016.72	104.34	39.497		
20,200.00	12,620.00	16,022.63	8,681.00	150.83	131.04	-17.87	-8,739.91	1,668.46	4,121.03	4,015.51	105.52	39.055		
20,300.00	12,620.00	16,122.63	8,681.00	152.41	132.65	-17.87	-8,839.91	1,669.44	4,120.99	4,014.29	106.70	38.621		
20,400.00	12,620.00	16,222.63	8,681.00	153.99	134.25	-17.87	-8,939.90	1,670.41	4,120.96	4,013.07	107.89	38.197		
20,500.00	12,620.00	16,322.63	8,681.00	155.58	135.86	-17.87	-9,039.90	1,671.38	4,120.92	4,011.85	109.07	37.781		
20,600.00	12,620.00	16,422.63	8,681.00	157.16	137.47	-17.86	-9,139.89	1,672.35	4,120.88	4,010.62	110.26	37.374		
20,700.00	12,620.00	16,522.63	8,681.00	158.75	139.08	-17.86	-9,239.89	1,673.33	4,120.85	4,009.40	111.45	36.975		
20,800.00	12,620.00	16,622.63	8,681.00	160.33	140.70	-17.86	-9,339.88	1,674.30	4,120.81	4,008.17	112.64	36.584		
20,900.00	12,620.00	16,722.63	8,681.00	161.92	142.31	-17.86	-9,439.88	1,675.27	4,120.78	4,006.94	113.83	36.201		
21,000.00	12,620.00	16,822.63	8,681.00	163.51	143.92	-17.86	-9,539.87	1,676.24	4,120.74	4,005.72	115.02	35.825		
21,100.00	12,620.00	16,922.63	8,681.00	165.10	145.54	-17.86	-9,639.87	1,677.21	4,120.70	4,004.49	116.22	35.457		
21,200.00	12,620.00	17,022.63	8,681.00	166.69	147.16	-17.85	-9,739.86	1,678.19	4,120.67	4,003.25	117.41	35.095		
21,300.00	12,620.00	17,122.63	8,681.00	168.29	148.77	-17.85	-9,839.86	1,679.16	4,120.63	4,002.02	118.61	34.741		
21,400.00	12,620.00	17,222.63	8,681.00	169.88	150.39	-17.85	-9,939.85	1,680.13	4,120.60	4,000.79	119.81	34.393		
21,500.00	12,620.00	17,322.63	8,681.00	171.48	152.01	-17.85	-10,039.85	1,681.10	4,120.56	3,999.55	121.01	34.052		
21,600.00	12,620.00	17,422.63	8,681.00	173.07	153.63	-17.85	-10,139.84	1,682.08	4,120.53	3,998.32	122.21	33.718		
21,700.00	12,620.00	17,522.63	8,681.00	174.67	155.25	-17.85	-10,239.84	1,683.05	4,120.49	3,997.08	123.41	33.389		
21,800.00	12,620.00	17,622.63	8,681.00	176.27	156.87	-17.85	-10,339.83	1,684.02	4,120.45	3,995.85	124.61	33.067		
21,900.00	12,620.00	17,722.63	8,681.00	177.87	158.49	-17.84	-10,439.83	1,684.99	4,120.42	3,994.61	125.81	32.752		
22,000.00	12,620.00	17,822.63	8,681.00	179.47	160.11	-17.84	-10,539.82	1,685.96	4,120.38	3,993.37	127.01	32.442		
22,100.00	12,620.00	17,922.63	8,681.00	181.07	161.73	-17.84	-10,639.82	1,686.94	4,120.35	3,992.14	128.21	32.137		
22,200.00	12,620.00	18,022.63	8,681.00	182.67	163.35	-17.84	-10,739.81	1,687.91	4,120.31	3,990.90	129.41	31.838		
22,300.00	12,620.00	18,122.63	8,681.00	184.27	164.98	-17.84	-10,839.81	1,688.88	4,120.28	3,989.66	130.62	31.545		
22,400.00	12,620.00	18,222.63	8,681.00	185.88	166.60	-17.84	-10,939.80	1,689.85	4,120.24	3,988.42	131.82	31.256		
22,500.00	12,620.00	18,322.63	8,681.00	187.48	168.22	-17.83	-11,039.80	1,690.83	4,120.20	3,987.18	133.03	30.973		
22,600.00	12,620.00	18,422.63	8,681.00	189.09	169.85	-17.83	-11,139.80	1,691.80	4,120.17	3,985.94	134.23	30.694		
22,700.00	12,620.00	18,522.63	8,681.00	190.69	171.47	-17.83	-11,239.79	1,692.77	4,120.13	3,984.69	135.44	30.421		
22,800.00	12,620.00	18,622.63	8,681.00	192.30	173.10	-17.83	-11,339.79	1,693.74	4,120.10	3,983.45	136.65	30.152		
22,856.94	12,620.00	18,679.57	8,681.00	193.22	174.03	-17.83	-11,396.73	1,694.30	4,120.08	3,982.74	137.33	30.000		

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



Total Directional Services
Anticollision Report



Company: Franklin Mountain Energy
Project: Lea County, NM (NAD83)
Reference Site: Tatanka Fed Com
Site Error: 0.00 usft
Reference Well: Tatanka Fed Com 803H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1
Local Co-ordinate Reference: Well Tatanka Fed Com 803H
TVD Reference: 3135.8' GE + 30' KB @ 3165.80usft
MD Reference: 3135.8' GE + 30' KB @ 3165.80usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.15 Single User Db
Offset TVD Reference: Offset Datum

Offset Design Table with columns: Reference, Measured Depth, Vertical Depth, Offset, Semi Major Axis (Reference, Offset), Highside Toolface, Offset Wellbore Centre (+N/-S, +E/-W), Distance (Between Centres, Between Ellipses), Minimum Separation, Separation Factor, Warning. Includes rows from 0.00 to 5,000.00 usft.

CC - Min centre to center distance or 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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	5,067.69	4,416.59	4,327.59	18.23	18.42	-50.06	-1,091.93	2,221.07	2,384.95	2,361.57	23.38	102.021			
5,200.00	5,165.02	4,512.21	4,418.53	18.66	18.97	-50.63	-1,096.30	2,250.30	2,401.27	2,377.35	23.92	100.374			
5,300.00	5,262.35	4,607.83	4,509.47	19.09	19.54	-51.20	-1,100.67	2,279.53	2,417.84	2,393.37	24.47	98.796			
5,400.00	5,359.68	4,703.45	4,600.41	19.53	20.10	-51.75	-1,105.03	2,308.76	2,434.64	2,409.62	25.03	97.282			
5,500.00	5,457.01	4,799.07	4,691.35	19.97	20.67	-52.30	-1,109.40	2,337.99	2,451.68	2,426.10	25.58	95.830			
5,600.00	5,554.34	4,894.69	4,782.28	20.42	21.24	-52.85	-1,113.77	2,367.22	2,468.95	2,442.81	26.14	94.436			
5,700.00	5,651.68	4,990.31	4,873.22	20.87	21.81	-53.38	-1,118.14	2,396.45	2,486.44	2,459.74	26.71	93.097			
5,800.00	5,749.01	5,085.93	4,964.16	21.32	22.38	-53.91	-1,122.50	2,425.68	2,504.16	2,476.88	27.28	91.811			
5,900.00	5,846.34	5,181.55	5,055.10	21.77	22.96	-54.43	-1,126.87	2,454.91	2,522.08	2,494.24	27.85	90.575			
6,000.00	5,943.67	5,277.17	5,146.04	22.23	23.54	-54.94	-1,131.24	2,484.14	2,540.22	2,511.81	28.42	89.386			
6,100.00	6,041.00	5,372.79	5,236.97	22.69	24.11	-55.45	-1,135.61	2,513.37	2,558.57	2,529.57	28.99	88.242			
6,200.00	6,138.33	5,468.41	5,327.91	23.15	24.69	-55.95	-1,139.98	2,542.60	2,577.12	2,547.54	29.57	87.141			
6,300.00	6,235.67	5,564.03	5,418.85	23.61	25.28	-56.45	-1,144.34	2,571.83	2,595.86	2,565.71	30.16	86.081			
6,400.00	6,333.00	5,659.65	5,509.79	24.08	25.86	-56.93	-1,148.71	2,601.06	2,614.80	2,584.06	30.74	85.060			
6,500.00	6,430.33	5,755.27	5,600.73	24.55	26.44	-57.41	-1,153.08	2,630.29	2,633.93	2,602.60	31.33	84.075			
6,600.00	6,527.66	5,850.89	5,691.66	25.02	27.03	-57.89	-1,157.45	2,659.52	2,653.24	2,621.32	31.92	83.125			
6,700.00	6,624.99	5,946.51	5,782.60	25.49	27.61	-58.35	-1,161.82	2,688.75	2,672.73	2,640.22	32.51	82.209			
6,800.00	6,722.32	6,042.13	5,873.54	25.96	28.20	-58.81	-1,166.18	2,717.98	2,692.40	2,659.30	33.11	81.326			
6,900.00	6,819.65	6,137.75	5,964.48	26.44	28.78	-59.27	-1,170.55	2,747.21	2,712.25	2,678.54	33.70	80.473			
7,000.00	6,916.99	6,233.37	6,055.42	26.91	29.37	-59.72	-1,174.92	2,776.44	2,732.26	2,697.96	34.30	79.649			
7,100.00	7,014.32	6,328.99	6,146.35	27.39	29.96	-60.16	-1,179.29	2,805.67	2,752.44	2,717.53	34.91	78.852			
7,200.00	7,111.65	6,424.61	6,237.29	27.87	30.55	-60.59	-1,183.66	2,834.90	2,772.78	2,737.27	35.51	78.082			
7,300.00	7,208.98	6,520.23	6,328.23	28.35	31.14	-61.02	-1,188.02	2,864.13	2,793.28	2,757.16	36.12	77.338			
7,400.00	7,306.31	6,615.85	6,419.17	28.84	31.73	-61.45	-1,192.39	2,893.36	2,813.94	2,777.21	36.73	76.617			
7,500.00	7,403.64	6,711.47	6,510.11	29.32	32.32	-61.86	-1,196.76	2,922.59	2,834.74	2,797.40	37.34	75.920			
7,600.00	7,500.98	6,807.09	6,601.04	29.80	32.91	-62.27	-1,201.13	2,951.82	2,855.70	2,817.74	37.95	75.244			
7,700.00	7,598.31	7,801.77	7,580.91	30.29	37.05	-66.44	-1,221.93	3,091.04	2,847.19	2,806.07	41.12	69.247			
7,800.00	7,695.64	7,899.10	7,678.24	30.78	37.29	-66.86	-1,221.93	3,091.04	2,837.88	2,796.20	41.69	68.076			
7,900.00	7,792.97	7,996.43	7,775.57	31.27	37.54	-67.27	-1,221.93	3,091.04	2,828.73	2,786.47	42.26	66.936			
8,000.00	7,890.30	8,093.76	7,872.90	31.75	37.79	-67.69	-1,221.93	3,091.04	2,819.74	2,776.90	42.84	65.825			
8,062.86	7,951.48	8,154.94	7,934.08	32.06	37.95	-67.96	-1,221.93	3,091.04	2,814.17	2,770.97	43.20	65.141			
8,100.00	7,987.67	8,191.14	7,970.27	32.24	38.05	-68.07	-1,221.93	3,091.04	2,810.98	2,767.56	43.42	64.746			
8,200.00	8,085.50	8,287.33	8,066.47	32.71	38.30	-68.34	-1,221.94	3,091.04	2,803.14	2,759.15	43.98	63.731			
8,300.00	8,183.84	8,350.00	8,128.99	33.17	38.46	-68.39	-1,225.74	3,091.08	2,796.98	2,752.47	44.51	62.846			
8,400.00	8,282.61	8,423.44	8,201.20	33.60	38.66	-68.29	-1,238.84	3,091.21	2,792.90	2,747.89	45.01	62.046			
8,500.00	8,381.76	8,490.00	8,264.73	34.01	38.85	-68.02	-1,258.60	3,091.40	2,790.97	2,745.48	45.49	61.351			
8,534.35	8,415.90	8,512.03	8,285.19	34.15	38.91	-67.89	-1,266.75	3,091.48	2,790.83	2,745.18	45.65	61.138			
8,600.00	8,481.22	8,550.00	8,319.67	34.40	39.02	-67.64	-1,282.62	3,091.64	2,791.36	2,745.42	45.94	60.764			
8,700.00	8,580.92	8,600.00	8,363.34	34.77	39.17	-67.26	-1,306.93	3,091.88	2,794.37	2,748.02	46.34	60.297			
8,800.00	8,680.78	8,650.00	8,404.73	35.12	39.31	-66.81	-1,334.96	3,092.15	2,800.25	2,753.53	46.72	59.942			
8,900.00	8,780.74	8,700.00	8,443.51	35.45	39.46	-66.32	-1,366.49	3,092.46	2,809.31	2,762.25	47.06	59.702			
8,947.26	8,828.00	8,723.16	8,460.51	35.59	39.53	96.91	-1,382.21	3,092.62	2,814.78	2,767.58	47.20	59.634			
9,000.00	8,880.74	8,750.00	8,479.40	35.75	39.61	97.30	-1,401.28	3,092.80	2,821.72	2,774.36	47.35	59.587			
9,100.00	8,980.74	8,776.26	8,497.00	36.04	39.69	97.70	-1,420.77	3,093.00	2,836.80	2,789.22	47.58	59.621			
9,200.00	9,080.74	8,800.00	8,512.12	36.34	39.77	98.07	-1,439.06	3,093.18	2,854.62	2,806.85	47.77	59.756			
9,300.00	9,180.74	8,831.92	8,531.24	36.64	39.87	98.58	-1,464.61	3,093.43	2,875.19	2,827.23	47.95	59.956			
9,400.00	9,280.74	8,850.00	8,541.43	36.93	39.93	98.88	-1,479.55	3,093.57	2,898.59	2,850.52	48.07	60.298			
9,500.00	9,380.74	8,875.58	8,555.02	37.23	40.01	99.32	-1,501.21	3,093.79	2,924.81	2,876.63	48.18	60.705			
9,600.00	9,480.74	8,900.00	8,567.09	37.53	40.09	99.75	-1,522.45	3,094.00	2,953.87	2,905.61	48.26	61.207			
9,700.00	9,580.74	8,900.00	8,567.09	37.84	40.09	99.75	-1,522.45	3,094.00	2,985.73	2,937.49	48.24	61.896			
9,800.00	9,680.74	8,925.17	8,578.57	38.14	40.17	100.19	-1,544.84	3,094.22	3,020.24	2,971.97	48.27	62.570			
9,900.00	9,780.74	8,950.00	8,588.91	38.44	40.26	100.64	-1,567.41	3,094.44	3,057.56	3,009.28	48.28	63.334			

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



Total Directional Services
Anticollision Report



Company: Franklin Mountain Energy
Project: Lea County, NM (NAD83)
Reference Site: Tatanka Fed Com
Site Error: 0.00 usft
Reference Well: Tatanka Fed Com 803H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1
Local Co-ordinate Reference: Well Tatanka Fed Com 803H
TVD Reference: 3135.8' GE + 30' KB @ 3165.80usft
MD Reference: 3135.8' GE + 30' KB @ 3165.80usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.15 Single User Db
Offset TVD Reference: Offset Datum

Offset Design Table with columns: Measured Depth (usft), Vertical Depth (usft), Reference, Offset, Highside Toolface (°), Offset Wellbore Centre (+N/-S, +E/-W), Distance (Centres, Ellipses), Minimum Separation, Separation Factor, Warning. Includes survey program details and site error information.

CC - Min centre to center distance or 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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 104H - 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		
14,100.00	12,620.00	10,014.42	8,636.00	62.01	46.90	-34.90	-2,625.34	3,104.85	4,836.62	4,781.40	55.22	87.585		
14,200.00	12,620.00	10,114.42	8,636.00	63.18	47.82	-34.90	-2,725.33	3,105.83	4,836.56	4,780.30	56.26	85.971		
14,300.00	12,620.00	10,214.42	8,636.00	64.37	48.78	-34.90	-2,825.33	3,106.82	4,836.50	4,779.18	57.32	84.376		
14,400.00	12,620.00	10,314.42	8,636.00	65.58	49.78	-34.90	-2,925.32	3,107.80	4,836.44	4,778.03	58.41	82.807		
14,500.00	12,620.00	10,414.42	8,636.00	66.80	50.81	-34.90	-3,025.32	3,108.78	4,836.38	4,776.87	59.51	81.265		
14,600.00	12,620.00	10,514.42	8,636.00	68.05	51.88	-34.90	-3,125.31	3,109.77	4,836.32	4,775.68	60.64	79.750		
14,700.00	12,620.00	10,614.42	8,636.00	69.31	52.98	-34.90	-3,225.31	3,110.75	4,836.26	4,774.46	61.80	78.262		
14,800.00	12,620.00	10,714.42	8,636.00	70.59	54.11	-34.90	-3,325.30	3,111.74	4,836.20	4,773.23	62.97	76.804		
14,900.00	12,620.00	10,814.42	8,636.00	71.89	55.27	-34.90	-3,425.30	3,112.72	4,836.14	4,771.98	64.16	75.376		
15,000.00	12,620.00	10,914.42	8,636.00	73.20	56.45	-34.89	-3,525.29	3,113.70	4,836.08	4,770.71	65.37	73.980		
15,100.00	12,620.00	11,014.42	8,636.00	74.52	57.66	-34.89	-3,625.29	3,114.69	4,836.02	4,769.43	66.59	72.620		
15,200.00	12,620.00	11,114.42	8,636.00	75.85	58.89	-34.89	-3,725.28	3,115.67	4,835.96	4,768.13	67.83	71.292		
15,300.00	12,620.00	11,214.42	8,636.00	77.20	60.14	-34.89	-3,825.28	3,116.66	4,835.90	4,766.81	69.09	69.997		
15,400.00	12,620.00	11,314.42	8,636.00	78.56	61.41	-34.89	-3,925.27	3,117.64	4,835.84	4,765.48	70.36	68.734		
15,500.00	12,620.00	11,414.42	8,636.00	79.93	62.70	-34.89	-4,025.27	3,118.62	4,835.78	4,764.14	71.64	67.503		
15,600.00	12,620.00	11,514.42	8,636.00	81.31	64.01	-34.89	-4,125.26	3,119.61	4,835.72	4,762.79	72.93	66.304		
15,700.00	12,620.00	11,614.42	8,636.00	82.70	65.33	-34.89	-4,225.26	3,120.59	4,835.66	4,761.42	74.24	65.137		
15,800.00	12,620.00	11,714.42	8,636.00	84.10	66.67	-34.89	-4,325.25	3,121.58	4,835.60	4,760.04	75.56	63.999		
15,900.00	12,620.00	11,814.42	8,636.00	85.51	68.02	-34.88	-4,425.25	3,122.56	4,835.54	4,758.65	76.89	62.892		
16,000.00	12,620.00	11,914.42	8,636.00	86.93	69.39	-34.88	-4,525.24	3,123.54	4,835.48	4,757.25	78.23	61.815		
16,100.00	12,620.00	12,014.42	8,636.00	88.36	70.77	-34.88	-4,625.24	3,124.53	4,835.42	4,755.85	79.57	60.767		
16,200.00	12,620.00	12,114.42	8,636.00	89.79	72.16	-34.88	-4,725.23	3,125.51	4,835.36	4,754.43	80.93	59.748		
16,300.00	12,620.00	12,214.42	8,636.00	91.23	73.56	-34.88	-4,825.23	3,126.49	4,835.30	4,753.00	82.29	58.757		
16,400.00	12,620.00	12,314.42	8,636.00	92.68	74.97	-34.88	-4,925.22	3,127.48	4,835.24	4,751.57	83.67	57.792		
16,500.00	12,620.00	12,414.42	8,636.00	94.13	76.39	-34.88	-5,025.22	3,128.46	4,835.18	4,750.13	85.05	56.853		
16,600.00	12,620.00	12,514.42	8,636.00	95.59	77.82	-34.88	-5,125.21	3,129.45	4,835.12	4,748.68	86.43	55.940		
16,700.00	12,620.00	12,614.42	8,636.00	97.06	79.26	-34.88	-5,225.21	3,130.43	4,835.06	4,747.23	87.83	55.050		
16,800.00	12,620.00	12,714.42	8,636.00	98.53	80.71	-34.88	-5,325.20	3,131.41	4,835.00	4,745.77	89.23	54.185		
16,900.00	12,620.00	12,814.42	8,636.00	100.01	82.16	-34.87	-5,425.20	3,132.40	4,834.94	4,744.30	90.64	53.342		
17,000.00	12,620.00	12,914.42	8,636.00	101.50	83.63	-34.87	-5,525.19	3,133.38	4,834.88	4,742.82	92.05	52.522		
17,100.00	12,620.00	13,014.42	8,636.00	102.98	85.10	-34.87	-5,625.19	3,134.37	4,834.82	4,741.34	93.47	51.724		
17,200.00	12,620.00	13,114.42	8,636.00	104.48	86.57	-34.87	-5,725.19	3,135.35	4,834.76	4,739.86	94.90	50.948		
17,300.00	12,620.00	13,214.42	8,636.00	105.98	88.06	-34.87	-5,825.18	3,136.33	4,834.70	4,738.37	96.33	50.191		
17,400.00	12,620.00	13,314.42	8,636.00	107.48	89.55	-34.87	-5,925.18	3,137.32	4,834.64	4,736.88	97.76	49.454		
17,500.00	12,620.00	13,414.42	8,636.00	108.99	91.04	-34.87	-6,025.17	3,138.30	4,834.58	4,735.38	99.20	48.736		
17,600.00	12,620.00	13,514.42	8,636.00	110.50	92.54	-34.87	-6,125.17	3,139.29	4,834.52	4,733.87	100.64	48.036		
17,700.00	12,620.00	13,614.42	8,636.00	112.01	94.05	-34.87	-6,225.16	3,140.27	4,834.46	4,732.36	102.09	47.353		
17,800.00	12,620.00	13,714.42	8,636.00	113.53	95.56	-34.87	-6,325.16	3,141.25	4,834.40	4,730.85	103.55	46.688		
17,900.00	12,620.00	13,814.42	8,636.00	115.06	97.07	-34.86	-6,425.15	3,142.24	4,834.34	4,729.33	105.00	46.040		
18,000.00	12,620.00	13,914.42	8,636.00	116.58	98.59	-34.86	-6,525.15	3,143.22	4,834.28	4,727.82	106.46	45.409		
18,100.00	12,620.00	14,014.42	8,636.00	118.11	100.11	-34.86	-6,625.14	3,144.21	4,834.22	4,726.29	107.92	44.793		
18,200.00	12,620.00	14,114.42	8,636.00	119.65	101.64	-34.86	-6,725.14	3,145.19	4,834.16	4,724.77	109.39	44.193		
18,300.00	12,620.00	14,214.42	8,636.00	121.18	103.17	-34.86	-6,825.13	3,146.17	4,834.10	4,723.24	110.86	43.607		
18,400.00	12,620.00	14,314.42	8,636.00	122.72	104.71	-34.86	-6,925.13	3,147.16	4,834.04	4,721.70	112.33	43.034		
18,500.00	12,620.00	14,414.42	8,636.00	124.26	106.25	-34.86	-7,025.12	3,148.14	4,833.98	4,720.17	113.81	42.475		
18,600.00	12,620.00	14,514.42	8,636.00	125.81	107.79	-34.86	-7,125.12	3,149.12	4,833.92	4,718.63	115.29	41.928		
18,700.00	12,620.00	14,614.42	8,636.00	127.35	109.33	-34.86	-7,225.11	3,150.11	4,833.86	4,717.08	116.77	41.396		
18,800.00	12,620.00	14,714.42	8,636.00	128.90	110.88	-34.86	-7,325.11	3,151.09	4,833.80	4,715.54	118.25	40.876		
18,900.00	12,620.00	14,814.42	8,636.00	130.46	112.43	-34.85	-7,425.10	3,152.08	4,833.74	4,714.00	119.74	40.369		
19,000.00	12,620.00	14,914.42	8,636.00	132.01	113.99	-34.85	-7,525.10	3,153.06	4,833.68	4,712.45	121.23	39.873		
19,100.00	12,620.00	15,014.42	8,636.00	133.57	115.54	-34.85	-7,625.09	3,154.04	4,833.62	4,710.90	122.72	39.388		
19,200.00	12,620.00	15,114.42	8,636.00	135.13	117.10	-34.85	-7,725.09	3,155.03	4,833.56	4,709.34	124.21	38.914		

CC - Min centre to center distance or 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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 104H - OH - Plan #1													Offset Well Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD														
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,300.00	12,620.00	15,214.42	8,636.00	136.69	118.67	-34.85	-7,825.08	3,156.01	4,833.50	4,707.79	125.71	38.451		
19,400.00	12,620.00	15,314.42	8,636.00	138.25	120.23	-34.85	-7,925.08	3,157.00	4,833.44	4,706.23	127.20	37.997		
19,500.00	12,620.00	15,414.42	8,636.00	139.82	121.80	-34.85	-8,025.07	3,157.98	4,833.38	4,704.67	128.70	37.554		
19,600.00	12,620.00	15,514.42	8,636.00	141.39	123.37	-34.85	-8,125.07	3,158.96	4,833.32	4,703.11	130.21	37.120		
19,700.00	12,620.00	15,614.42	8,636.00	142.96	124.94	-34.85	-8,225.06	3,159.95	4,833.26	4,701.54	131.71	36.696		
19,800.00	12,620.00	15,714.42	8,636.00	144.53	126.51	-34.85	-8,325.06	3,160.93	4,833.20	4,699.98	133.21	36.282		
19,900.00	12,620.00	15,814.42	8,636.00	146.10	128.09	-34.84	-8,425.05	3,161.92	4,833.14	4,698.42	134.72	35.876		
20,000.00	12,620.00	15,914.42	8,636.00	147.68	129.66	-34.84	-8,525.05	3,162.90	4,833.07	4,696.85	136.22	35.479		
20,100.00	12,620.00	16,014.42	8,636.00	149.25	131.24	-34.84	-8,625.04	3,163.88	4,833.01	4,695.28	137.73	35.089		
20,200.00	12,620.00	16,114.42	8,636.00	150.83	132.82	-34.84	-8,725.04	3,164.87	4,832.95	4,693.71	139.25	34.708		
20,300.00	12,620.00	16,214.42	8,636.00	152.41	134.40	-34.84	-8,825.03	3,165.85	4,832.89	4,692.14	140.76	34.334		
20,400.00	12,620.00	16,314.42	8,636.00	153.99	135.99	-34.84	-8,925.03	3,166.84	4,832.83	4,690.56	142.27	33.969		
20,500.00	12,620.00	16,414.42	8,636.00	155.58	137.57	-34.84	-9,025.02	3,167.82	4,832.77	4,688.99	143.79	33.611		
20,600.00	12,620.00	16,514.42	8,636.00	157.16	139.16	-34.84	-9,125.02	3,168.80	4,832.71	4,687.41	145.30	33.260		
20,700.00	12,620.00	16,614.42	8,636.00	158.75	140.75	-34.84	-9,225.01	3,169.79	4,832.65	4,685.84	146.82	32.916		
20,800.00	12,620.00	16,714.42	8,636.00	160.33	142.34	-34.83	-9,325.01	3,170.77	4,832.59	4,684.26	148.33	32.579		
20,900.00	12,620.00	16,814.42	8,636.00	161.92	143.93	-34.83	-9,425.00	3,171.75	4,832.53	4,682.68	149.85	32.248		
21,000.00	12,620.00	16,914.42	8,636.00	163.51	145.53	-34.83	-9,525.00	3,172.74	4,832.47	4,681.10	151.37	31.924		
21,100.00	12,620.00	17,014.42	8,636.00	165.10	147.12	-34.83	-9,624.99	3,173.72	4,832.41	4,679.52	152.89	31.606		
21,200.00	12,620.00	17,114.42	8,636.00	166.69	148.71	-34.83	-9,724.99	3,174.71	4,832.35	4,677.94	154.42	31.294		
21,300.00	12,620.00	17,214.42	8,636.00	168.29	150.31	-34.83	-9,824.98	3,175.69	4,832.29	4,676.35	155.94	30.988		
21,400.00	12,620.00	17,314.42	8,636.00	169.88	151.91	-34.83	-9,924.98	3,176.67	4,832.23	4,674.77	157.47	30.687		
21,500.00	12,620.00	17,414.42	8,636.00	171.48	153.51	-34.83	-10,024.97	3,177.66	4,832.17	4,673.18	158.99	30.393		
21,600.00	12,620.00	17,514.42	8,636.00	173.07	155.11	-34.83	-10,124.97	3,178.64	4,832.11	4,671.60	160.51	30.104		
21,700.00	12,620.00	17,614.42	8,636.00	174.67	156.71	-34.83	-10,224.96	3,179.63	4,832.05	4,670.02	162.04	29.820		
21,800.00	12,620.00	17,714.42	8,636.00	176.27	158.31	-34.82	-10,324.96	3,180.61	4,831.99	4,668.43	163.57	29.542		
21,900.00	12,620.00	17,814.42	8,636.00	177.87	159.91	-34.82	-10,424.96	3,181.59	4,831.93	4,666.84	165.09	29.268		
22,000.00	12,620.00	17,914.42	8,636.00	179.47	161.52	-34.82	-10,524.95	3,182.58	4,831.87	4,665.25	166.63	28.998		
22,100.00	12,620.00	18,014.42	8,636.00	181.07	163.12	-34.82	-10,624.95	3,183.56	4,831.81	4,663.66	168.15	28.734		
22,200.00	12,620.00	18,114.42	8,636.00	182.67	164.73	-34.82	-10,724.94	3,184.55	4,831.75	4,662.07	169.68	28.475		
22,300.00	12,620.00	18,214.42	8,636.00	184.27	166.34	-34.82	-10,824.94	3,185.53	4,831.69	4,660.48	171.21	28.221		
22,400.00	12,620.00	18,314.42	8,636.00	185.88	167.94	-34.82	-10,924.93	3,186.51	4,831.63	4,658.89	172.74	27.970		
22,500.00	12,620.00	18,414.42	8,636.00	187.48	169.55	-34.82	-11,024.93	3,187.50	4,831.57	4,657.30	174.27	27.724		
22,600.00	12,620.00	18,514.42	8,636.00	189.09	171.16	-34.82	-11,124.92	3,188.48	4,831.51	4,655.71	175.80	27.483		
22,700.00	12,620.00	18,614.42	8,636.00	190.69	172.77	-34.82	-11,224.92	3,189.47	4,831.45	4,654.12	177.34	27.245		
22,800.00	12,620.00	18,714.42	8,636.00	192.30	174.38	-34.81	-11,324.91	3,190.45	4,831.39	4,652.53	178.87	27.011		
22,856.94	12,620.00	18,771.36	8,636.00	193.22	175.30	-34.81	-11,381.85	3,191.01	4,831.36	4,651.62	179.74	26.879 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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 501H - 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		
0.00	0.00	0.00	0.00	0.00	0.00	-157.34	-1,021.61	-426.49	1,107.15					
100.00	100.00	85.50	85.50	0.13	0.11	-157.34	-1,021.61	-426.49	1,107.06	1,106.89	0.17	6,706.500		
200.00	200.00	185.50	185.50	0.48	0.43	-157.34	-1,021.61	-426.49	1,107.06	1,106.41	0.65	1,706.640		
300.00	300.00	285.50	285.50	0.84	0.79	-157.34	-1,021.61	-426.49	1,107.06	1,105.90	1.16	958.347		
400.00	400.00	385.50	385.50	1.20	1.15	-157.34	-1,021.61	-426.49	1,107.06	1,105.40	1.66	666.120		
500.00	500.00	485.50	485.50	1.56	1.51	-157.34	-1,021.61	-426.49	1,107.06	1,104.89	2.17	510.445		
600.00	600.00	585.50	585.50	1.92	1.87	-157.34	-1,021.61	-426.49	1,107.06	1,104.38	2.68	413.744		
700.00	700.00	685.50	685.50	2.28	2.22	-157.34	-1,021.61	-426.49	1,107.06	1,103.88	3.18	347.845		
800.00	800.00	785.50	785.50	2.63	2.58	-157.34	-1,021.61	-426.49	1,107.06	1,103.37	3.69	300.053		
900.00	900.00	885.50	885.50	2.99	2.94	-157.34	-1,021.61	-426.49	1,107.06	1,102.86	4.20	263.806		
1,000.00	1,000.00	985.50	985.50	3.35	3.30	-157.34	-1,021.61	-426.49	1,107.06	1,102.36	4.70	235.373		
1,100.00	1,100.00	1,085.50	1,085.50	3.71	3.66	-157.34	-1,021.61	-426.49	1,107.06	1,101.85	5.21	212.473		
1,200.00	1,200.00	1,185.50	1,185.50	4.07	4.02	-157.34	-1,021.61	-426.49	1,107.06	1,101.34	5.72	193.633		
1,300.00	1,300.00	1,285.50	1,285.50	4.43	4.38	-157.34	-1,021.61	-426.49	1,107.06	1,100.84	6.22	177.862		
1,400.00	1,400.00	1,385.50	1,385.50	4.79	4.73	-157.34	-1,021.61	-426.49	1,107.06	1,100.33	6.73	164.467		
1,500.00	1,500.00	1,485.50	1,485.50	5.14	5.09	-157.34	-1,021.61	-426.49	1,107.06	1,099.82	7.24	152.948		
1,600.00	1,600.00	1,585.50	1,585.50	5.50	5.45	-157.34	-1,021.61	-426.49	1,107.06	1,099.31	7.75	142.937		
1,700.00	1,700.00	1,685.50	1,685.50	5.86	5.81	-157.34	-1,021.61	-426.49	1,107.06	1,098.81	8.25	134.156		
1,800.00	1,800.00	1,785.50	1,785.50	6.22	6.17	-157.34	-1,021.61	-426.49	1,107.06	1,098.30	8.76	126.391		
1,900.00	1,900.00	1,885.50	1,885.50	6.58	6.53	-157.34	-1,021.61	-426.49	1,107.06	1,097.79	9.27	119.476		
2,000.00	2,000.00	1,985.50	1,985.50	6.94	6.88	-157.34	-1,021.61	-426.49	1,107.06	1,097.29	9.77	113.279		
2,100.00	2,100.00	2,085.50	2,085.50	7.29	7.24	-157.34	-1,021.61	-426.49	1,107.06	1,096.78	10.28	107.692		
2,200.00	2,200.00	2,185.50	2,185.50	7.65	7.60	-157.34	-1,021.61	-426.49	1,107.06	1,096.27	10.79	102.631		
2,300.00	2,300.00	2,285.50	2,285.50	8.01	7.96	-157.34	-1,021.61	-426.49	1,107.06	1,095.77	11.29	98.024		
2,400.00	2,400.00	2,385.50	2,385.50	8.37	8.32	-157.34	-1,021.61	-426.49	1,107.06	1,095.26	11.80	93.813		
2,500.00	2,500.00	2,485.50	2,485.50	8.73	8.68	-157.34	-1,021.61	-426.49	1,107.06	1,094.75	12.31	89.949		
2,600.00	2,600.00	2,585.50	2,585.50	9.09	9.04	-157.34	-1,021.61	-426.49	1,107.06	1,094.24	12.81	86.390		
2,700.00	2,700.00	2,685.50	2,685.50	9.45	9.39	-157.34	-1,021.61	-426.49	1,107.06	1,093.74	13.32	83.103		
2,800.00	2,800.00	2,785.50	2,785.50	9.80	9.75	-157.34	-1,021.61	-426.49	1,107.06	1,093.23	13.83	80.056		
2,900.00	2,900.00	2,885.50	2,885.50	10.16	10.11	-157.34	-1,021.61	-426.49	1,107.06	1,092.72	14.34	77.225		
3,000.00	3,000.00	2,985.50	2,985.50	10.52	10.47	-157.34	-1,021.61	-426.49	1,107.06	1,092.22	14.84	74.587		
3,100.00	3,100.00	3,085.50	3,085.50	10.88	10.83	-157.34	-1,021.61	-426.49	1,107.06	1,091.71	15.35	72.124		
3,200.00	3,200.00	3,185.50	3,185.50	11.24	11.19	-157.34	-1,021.61	-426.49	1,107.06	1,091.20	15.86	69.818		
3,300.00	3,300.00	3,285.50	3,285.50	11.60	11.54	-157.34	-1,021.61	-426.49	1,107.06	1,090.70	16.36	67.655		
3,400.00	3,399.99	3,385.49	3,385.49	11.94	11.90	39.72	-1,021.61	-426.49	1,106.05	1,089.19	16.86	65.612		
3,500.00	3,499.91	3,472.91	3,472.91	12.26	12.21	39.89	-1,021.77	-427.17	1,103.52	1,086.22	17.30	63.781		
3,600.00	3,599.69	3,558.01	3,557.96	12.59	12.50	40.21	-1,022.38	-429.67	1,100.31	1,082.58	17.73	62.046		
3,700.00	3,699.27	3,642.75	3,642.59	12.92	12.79	40.70	-1,023.42	-433.99	1,096.49	1,078.33	18.16	60.372		
3,800.00	3,798.57	3,726.99	3,726.59	13.25	13.07	41.34	-1,024.89	-440.09	1,092.15	1,073.57	18.59	58.753		
3,900.00	3,897.54	3,810.58	3,809.79	13.58	13.36	42.14	-1,026.77	-447.92	1,087.41	1,068.39	19.01	57.190		
4,000.00	3,996.09	3,900.00	3,898.57	13.92	13.67	43.17	-1,029.26	-458.26	1,082.41	1,062.95	19.46	55.623		
4,100.00	4,094.16	3,975.28	3,973.11	14.28	13.93	44.19	-1,031.74	-468.53	1,077.26	1,057.41	19.86	54.251		
4,184.40	4,176.52	4,043.59	4,040.54	14.58	14.18	45.22	-1,034.28	-479.08	1,073.00	1,052.79	20.21	53.092		
4,200.00	4,191.70	4,056.13	4,052.91	14.64	14.22	45.41	-1,034.77	-481.14	1,072.26	1,051.98	20.28	52.884		
4,300.00	4,289.03	4,136.16	4,131.62	15.01	14.51	46.68	-1,038.17	-495.24	1,068.72	1,048.03	20.69	51.649		
4,400.00	4,386.37	4,215.50	4,209.32	15.39	14.80	48.00	-1,041.92	-510.80	1,067.43	1,046.33	21.11	50.576		
4,405.53	4,391.75	4,219.87	4,213.58	15.41	14.82	48.08	-1,042.14	-511.70	1,067.43	1,046.30	21.13	50.521	CC, ES	
4,500.00	4,483.70	4,300.00	4,291.70	15.77	15.12	49.47	-1,046.32	-529.09	1,068.51	1,046.97	21.55	49.594		
4,600.00	4,581.03	4,371.85	4,361.40	16.17	15.40	50.77	-1,050.41	-546.04	1,072.01	1,050.09	21.92	48.905		
4,700.00	4,678.36	4,448.76	4,435.63	16.57	15.71	52.20	-1,055.11	-565.58	1,078.05	1,055.73	22.32	48.301		
4,800.00	4,775.69	4,524.75	4,508.57	16.98	16.02	53.64	-1,060.11	-586.32	1,086.71	1,063.99	22.71	47.848		
4,900.00	4,873.02	4,600.00	4,580.36	17.39	16.34	55.10	-1,065.39	-608.24	1,098.02	1,074.93	23.10	47.541		

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



Total Directional Services Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference				Offset		Semi Major Axis			Distance				Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,100.00	12,620.00	17,085.92	10,770.00	133.57	116.00	43.93	-7,669.79	-1,376.03	2,548.55	2,413.18	135.37	18.826		
19,200.00	12,620.00	17,185.92	10,770.00	135.13	117.55	43.93	-7,769.78	-1,375.04	2,548.62	2,411.59	137.02	18.600		
19,300.00	12,620.00	17,285.92	10,770.00	136.69	119.10	43.93	-7,869.78	-1,374.04	2,548.68	2,410.01	138.67	18.379		
19,400.00	12,620.00	17,385.92	10,770.00	138.25	120.66	43.93	-7,969.77	-1,373.05	2,548.75	2,408.43	140.33	18.163		
19,500.00	12,620.00	17,485.92	10,770.00	139.82	122.21	43.93	-8,069.77	-1,372.06	2,548.82	2,406.84	141.98	17.951		
19,600.00	12,620.00	17,585.92	10,770.00	141.39	123.77	43.94	-8,169.76	-1,371.07	2,548.89	2,405.25	143.64	17.745		
19,700.00	12,620.00	17,685.92	10,770.00	142.96	125.33	43.94	-8,269.76	-1,370.08	2,548.96	2,403.65	145.30	17.542		
19,800.00	12,620.00	17,785.92	10,770.00	144.53	126.90	43.94	-8,369.75	-1,369.09	2,549.02	2,402.06	146.96	17.345		
19,900.00	12,620.00	17,885.92	10,770.00	146.10	128.46	43.94	-8,469.75	-1,368.10	2,549.09	2,400.46	148.63	17.151		
20,000.00	12,620.00	17,985.92	10,770.00	147.68	130.03	43.94	-8,569.75	-1,367.11	2,549.16	2,398.87	150.30	16.961		
20,100.00	12,620.00	18,085.92	10,770.00	149.25	131.60	43.94	-8,669.74	-1,366.12	2,549.23	2,397.26	151.96	16.775		
20,200.00	12,620.00	18,185.92	10,770.00	150.83	133.17	43.95	-8,769.74	-1,365.13	2,549.30	2,395.66	153.63	16.593		
20,300.00	12,620.00	18,285.92	10,770.00	152.41	134.74	43.95	-8,869.73	-1,364.14	2,549.36	2,394.06	155.30	16.415		
20,400.00	12,620.00	18,385.92	10,770.00	153.99	136.32	43.95	-8,969.73	-1,363.14	2,549.43	2,392.46	156.98	16.241		
20,500.00	12,620.00	18,485.92	10,770.00	155.58	137.90	43.95	-9,069.72	-1,362.15	2,549.50	2,390.85	158.65	16.070		
20,600.00	12,620.00	18,585.92	10,770.00	157.16	139.48	43.95	-9,169.72	-1,361.16	2,549.57	2,389.24	160.33	15.902		
20,700.00	12,620.00	18,685.92	10,770.00	158.75	141.06	43.95	-9,269.71	-1,360.17	2,549.64	2,387.63	162.00	15.738		
20,800.00	12,620.00	18,785.92	10,770.00	160.33	142.64	43.95	-9,369.71	-1,359.18	2,549.71	2,386.03	163.68	15.577		
20,900.00	12,620.00	18,885.92	10,770.00	161.92	144.22	43.96	-9,469.70	-1,358.19	2,549.77	2,384.41	165.36	15.420		
21,000.00	12,620.00	18,985.92	10,770.00	163.51	145.81	43.96	-9,569.70	-1,357.20	2,549.84	2,382.80	167.04	15.265		
21,100.00	12,620.00	19,085.92	10,770.00	165.10	147.40	43.96	-9,669.69	-1,356.21	2,549.91	2,381.19	168.72	15.113		
21,200.00	12,620.00	19,185.92	10,770.00	166.69	148.98	43.96	-9,769.69	-1,355.22	2,549.98	2,379.57	170.40	14.964		
21,300.00	12,620.00	19,285.92	10,770.00	168.29	150.57	43.96	-9,869.68	-1,354.23	2,550.05	2,377.96	172.09	14.818		
21,400.00	12,620.00	19,385.92	10,770.00	169.88	152.16	43.96	-9,969.68	-1,353.24	2,550.11	2,376.34	173.77	14.675		
21,500.00	12,620.00	19,485.92	10,770.00	171.48	153.76	43.97	-10,069.67	-1,352.24	2,550.18	2,374.72	175.46	14.534		
21,600.00	12,620.00	19,585.92	10,770.00	173.07	155.35	43.97	-10,169.67	-1,351.25	2,550.25	2,373.11	177.14	14.397		
21,700.00	12,620.00	19,685.92	10,770.00	174.67	156.94	43.97	-10,269.66	-1,350.26	2,550.32	2,371.49	178.83	14.261		
21,800.00	12,620.00	19,785.92	10,770.00	176.27	158.54	43.97	-10,369.66	-1,349.27	2,550.39	2,369.87	180.52	14.128		
21,900.00	12,620.00	19,885.92	10,770.00	177.87	160.14	43.97	-10,469.65	-1,348.28	2,550.45	2,368.25	182.21	13.997		
22,000.00	12,620.00	19,985.92	10,770.00	179.47	161.74	43.97	-10,569.65	-1,347.29	2,550.52	2,366.62	183.90	13.869		
22,100.00	12,620.00	20,085.92	10,770.00	181.07	163.33	43.98	-10,669.64	-1,346.30	2,550.59	2,365.00	185.59	13.743		
22,200.00	12,620.00	20,185.92	10,770.00	182.67	164.93	43.98	-10,769.64	-1,345.31	2,550.66	2,363.38	187.28	13.620		
22,300.00	12,620.00	20,285.92	10,770.00	184.27	166.54	43.98	-10,869.63	-1,344.32	2,550.73	2,361.76	188.97	13.498		
22,400.00	12,620.00	20,385.92	10,770.00	185.88	168.14	43.98	-10,969.63	-1,343.33	2,550.79	2,360.13	190.66	13.379		
22,500.00	12,620.00	20,485.92	10,770.00	187.48	169.74	43.98	-11,069.62	-1,342.34	2,550.86	2,358.51	192.35	13.261		
22,600.00	12,620.00	20,585.92	10,770.00	189.09	171.34	43.98	-11,169.62	-1,341.34	2,550.93	2,356.88	194.05	13.146		
22,700.00	12,620.00	20,685.92	10,770.00	190.69	172.95	43.98	-11,269.61	-1,340.35	2,551.00	2,355.26	195.74	13.033		
22,800.00	12,620.00	20,785.92	10,770.00	192.30	174.56	43.99	-11,369.61	-1,339.36	2,551.07	2,353.63	197.44	12.921		
22,856.94	12,620.00	20,841.66	10,770.00	193.22	175.40	43.99	-11,425.35	-1,338.81	2,551.11	2,352.78	198.32	12.863 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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 502H - 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		
0.00	0.00	0.00	0.00	0.00	0.00	-158.54	-1,021.37	-401.50	1,097.55					
100.00	100.00	85.00	85.00	0.13	0.11	-158.54	-1,021.37	-401.50	1,097.45	1,097.29	0.16	6,664.724		
200.00	200.00	185.00	185.00	0.48	0.43	-158.54	-1,021.37	-401.50	1,097.45	1,096.80	0.65	1,694.943		
300.00	300.00	285.00	285.00	0.84	0.79	-158.54	-1,021.37	-401.50	1,097.45	1,096.30	1.15	951.039		
400.00	400.00	385.00	385.00	1.20	1.15	-158.54	-1,021.37	-401.50	1,097.45	1,095.79	1.66	660.831		
500.00	500.00	485.00	485.00	1.56	1.51	-158.54	-1,021.37	-401.50	1,097.45	1,095.28	2.17	506.305		
600.00	600.00	585.00	585.00	1.92	1.86	-158.54	-1,021.37	-401.50	1,097.45	1,094.78	2.67	410.345		
700.00	700.00	685.00	685.00	2.28	2.22	-158.54	-1,021.37	-401.50	1,097.45	1,094.27	3.18	344.962		
800.00	800.00	785.00	785.00	2.63	2.58	-158.54	-1,021.37	-401.50	1,097.45	1,093.76	3.69	297.550		
900.00	900.00	885.00	885.00	2.99	2.94	-158.54	-1,021.37	-401.50	1,097.45	1,093.26	4.20	261.595		
1,000.00	1,000.00	985.00	985.00	3.35	3.30	-158.54	-1,021.37	-401.50	1,097.45	1,092.75	4.70	233.393		
1,100.00	1,100.00	1,085.00	1,085.00	3.71	3.66	-158.54	-1,021.37	-401.50	1,097.45	1,092.24	5.21	210.679		
1,200.00	1,200.00	1,185.00	1,185.00	4.07	4.01	-158.54	-1,021.37	-401.50	1,097.45	1,091.74	5.72	191.995		
1,300.00	1,300.00	1,285.00	1,285.00	4.43	4.37	-158.54	-1,021.37	-401.50	1,097.45	1,091.23	6.22	176.354		
1,400.00	1,400.00	1,385.00	1,385.00	4.79	4.73	-158.54	-1,021.37	-401.50	1,097.45	1,090.72	6.73	163.070		
1,500.00	1,500.00	1,485.00	1,485.00	5.14	5.09	-158.54	-1,021.37	-401.50	1,097.45	1,090.21	7.24	151.647		
1,600.00	1,600.00	1,585.00	1,585.00	5.50	5.45	-158.54	-1,021.37	-401.50	1,097.45	1,089.71	7.74	141.719		
1,700.00	1,700.00	1,685.00	1,685.00	5.86	5.81	-158.54	-1,021.37	-401.50	1,097.45	1,089.20	8.25	133.012		
1,800.00	1,800.00	1,785.00	1,785.00	6.22	6.17	-158.54	-1,021.37	-401.50	1,097.45	1,088.69	8.76	125.312		
1,900.00	1,900.00	1,885.00	1,885.00	6.58	6.52	-158.54	-1,021.37	-401.50	1,097.45	1,088.19	9.26	118.455		
2,000.00	2,000.00	1,985.00	1,985.00	6.94	6.88	-158.54	-1,021.37	-401.50	1,097.45	1,087.68	9.77	112.310		
2,100.00	2,100.00	2,085.00	2,085.00	7.29	7.24	-158.54	-1,021.37	-401.50	1,097.45	1,087.17	10.28	106.771		
2,200.00	2,200.00	2,185.00	2,185.00	7.65	7.60	-158.54	-1,021.37	-401.50	1,097.45	1,086.67	10.79	101.752		
2,300.00	2,300.00	2,285.00	2,285.00	8.01	7.96	-158.54	-1,021.37	-401.50	1,097.45	1,086.16	11.29	97.184		
2,400.00	2,400.00	2,385.00	2,385.00	8.37	8.32	-158.54	-1,021.37	-401.50	1,097.45	1,085.65	11.80	93.009		
2,500.00	2,500.00	2,485.00	2,485.00	8.73	8.68	-158.54	-1,021.37	-401.50	1,097.45	1,085.14	12.31	89.177		
2,600.00	2,600.00	2,585.00	2,585.00	9.09	9.03	-158.54	-1,021.37	-401.50	1,097.45	1,084.64	12.81	85.649		
2,700.00	2,700.00	2,685.00	2,685.00	9.45	9.39	-158.54	-1,021.37	-401.50	1,097.45	1,084.13	13.32	82.389		
2,800.00	2,800.00	2,785.00	2,785.00	9.80	9.75	-158.54	-1,021.37	-401.50	1,097.45	1,083.62	13.83	79.369		
2,900.00	2,900.00	2,885.00	2,885.00	10.16	10.11	-158.54	-1,021.37	-401.50	1,097.45	1,083.12	14.33	76.562		
3,000.00	3,000.00	2,985.00	2,985.00	10.52	10.47	-158.54	-1,021.37	-401.50	1,097.45	1,082.61	14.84	73.946		
3,100.00	3,100.00	3,085.00	3,085.00	10.88	10.83	-158.54	-1,021.37	-401.50	1,097.45	1,082.10	15.35	71.504		
3,200.00	3,200.00	3,185.00	3,185.00	11.24	11.18	-158.54	-1,021.37	-401.50	1,097.45	1,081.60	15.86	69.218		
3,300.00	3,300.00	3,293.12	3,293.11	11.60	11.56	-158.60	-1,021.44	-400.37	1,097.14	1,080.76	16.38	66.997		
3,400.00	3,399.99	3,402.53	3,402.43	11.94	11.94	38.27	-1,021.72	-396.14	1,094.94	1,078.06	16.88	64.868		
3,500.00	3,499.91	3,511.64	3,511.30	12.26	12.31	38.09	-1,022.20	-388.82	1,089.85	1,072.47	17.37	62.738		
3,600.00	3,599.69	3,620.30	3,619.46	12.59	12.69	37.87	-1,022.89	-378.45	1,081.87	1,064.00	17.86	60.559		
3,700.00	3,699.27	3,721.69	3,720.16	12.92	13.04	37.67	-1,023.66	-366.76	1,071.28	1,052.93	18.35	58.392		
3,800.00	3,798.57	3,820.80	3,818.60	13.25	13.39	37.57	-1,024.41	-355.24	1,058.62	1,039.80	18.83	56.230		
3,900.00	3,897.54	3,919.68	3,916.81	13.58	13.75	37.57	-1,025.17	-343.76	1,043.93	1,024.62	19.31	54.062		
4,000.00	3,996.09	4,018.26	4,014.72	13.92	14.10	37.68	-1,025.92	-332.30	1,027.18	1,007.39	19.80	51.890		
4,100.00	4,094.16	4,116.48	4,112.27	14.28	14.45	37.90	-1,026.67	-320.90	1,008.40	988.12	20.28	49.715		
4,184.40	4,176.52	4,199.03	4,194.26	14.58	14.75	38.18	-1,027.30	-311.31	990.97	970.28	20.70	47.878		
4,200.00	4,191.70	4,214.26	4,209.39	14.64	14.81	38.21	-1,027.42	-309.54	987.62	966.85	20.77	47.539		
4,300.00	4,289.03	4,311.88	4,306.34	15.01	15.17	38.39	-1,028.17	-298.20	966.13	944.86	21.27	45.424		
4,400.00	4,386.37	4,409.50	4,403.29	15.39	15.53	38.58	-1,028.91	-286.86	944.65	922.89	21.77	43.396		
4,500.00	4,483.70	4,507.11	4,500.25	15.77	15.89	38.78	-1,029.66	-275.52	923.19	900.91	22.27	41.451		
4,600.00	4,581.03	4,604.73	4,597.20	16.17	16.25	38.98	-1,030.40	-264.18	901.73	878.95	22.78	39.586		
4,700.00	4,678.36	4,702.35	4,694.15	16.57	16.61	39.20	-1,031.15	-252.84	880.28	856.99	23.29	37.795		
4,800.00	4,775.69	4,799.97	4,791.11	16.98	16.97	39.43	-1,031.90	-241.50	858.85	835.04	23.81	36.077		
4,900.00	4,873.02	4,897.58	4,888.06	17.39	17.34	39.67	-1,032.64	-230.16	837.43	813.10	24.33	34.427		
5,000.00	4,970.36	4,995.20	4,985.01	17.81	17.71	39.92	-1,033.39	-218.82	816.03	791.18	24.85	32.841		

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



Total Directional Services
Anticollision Report



Table with 4 columns: Company, Project, Reference Site, Site Error, Reference Well, Well Error, Reference Wellbore, Reference Design, Local Co-ordinate Reference, TVD Reference, MD Reference, North Reference, Survey Calculation Method, Output errors are at, Database, Offset TVD Reference.

Offset Design table with columns: Reference, Measured Depth, Vertical Depth, Offset, Semi Major Axis (Reference, Offset), Highside Toolface, Offset Wellbore Centre (+N/-S, +E/-W), Distance (Between Centres, Between Ellipses), Minimum Separation, Separation Factor, Warning, Offset Site Error, Offset Well Error.

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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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 502H - OH - Plan #1													Offset Well Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD														
Reference				Offset		Semi Major Axis			Distance				Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,100.00	12,620.00	17,122.70	10,739.00	133.57	115.77	8.28	-7,654.98	120.41	1,885.65	1,801.96	83.70	22.530		
19,200.00	12,620.00	17,222.70	10,739.00	135.13	117.33	8.28	-7,754.97	121.41	1,885.67	1,800.94	84.73	22.255		
19,300.00	12,620.00	17,322.70	10,739.00	136.69	118.89	8.29	-7,854.97	122.41	1,885.68	1,799.92	85.77	21.987		
19,400.00	12,620.00	17,422.70	10,739.00	138.25	120.46	8.29	-7,954.96	123.41	1,885.69	1,798.89	86.80	21.724		
19,500.00	12,620.00	17,522.70	10,739.00	139.82	122.03	8.29	-8,054.96	124.41	1,885.71	1,797.86	87.85	21.466		
19,600.00	12,620.00	17,622.70	10,739.00	141.39	123.59	8.29	-8,154.95	125.40	1,885.72	1,796.83	88.89	21.214		
19,700.00	12,620.00	17,722.70	10,739.00	142.96	125.17	8.30	-8,254.95	126.40	1,885.73	1,795.80	89.94	20.968		
19,800.00	12,620.00	17,822.70	10,739.00	144.53	126.74	8.30	-8,354.94	127.40	1,885.75	1,794.76	90.98	20.726		
19,900.00	12,620.00	17,922.70	10,739.00	146.10	128.32	8.30	-8,454.94	128.40	1,885.76	1,793.73	92.03	20.490		
20,000.00	12,620.00	18,022.70	10,739.00	147.68	129.89	8.30	-8,554.93	129.40	1,885.77	1,792.69	93.08	20.259		
20,100.00	12,620.00	18,122.70	10,739.00	149.25	131.47	8.31	-8,654.93	130.39	1,885.79	1,791.65	94.14	20.032		
20,200.00	12,620.00	18,222.70	10,739.00	150.83	133.05	8.31	-8,754.92	131.39	1,885.80	1,790.60	95.19	19.810		
20,300.00	12,620.00	18,322.70	10,739.00	152.41	134.64	8.31	-8,854.92	132.39	1,885.81	1,789.56	96.25	19.592		
20,400.00	12,620.00	18,422.70	10,739.00	153.99	136.22	8.32	-8,954.91	133.39	1,885.83	1,788.51	97.31	19.379		
20,500.00	12,620.00	18,522.70	10,739.00	155.58	137.81	8.32	-9,054.91	134.39	1,885.84	1,787.46	98.37	19.170		
20,600.00	12,620.00	18,622.70	10,739.00	157.16	139.39	8.32	-9,154.90	135.39	1,885.85	1,786.41	99.44	18.965		
20,700.00	12,620.00	18,722.70	10,739.00	158.75	140.98	8.32	-9,254.90	136.38	1,885.86	1,785.36	100.50	18.764		
20,800.00	12,620.00	18,822.70	10,739.00	160.33	142.57	8.33	-9,354.89	137.38	1,885.88	1,784.31	101.57	18.567		
20,900.00	12,620.00	18,922.70	10,739.00	161.92	144.16	8.33	-9,454.89	138.38	1,885.89	1,783.25	102.64	18.374		
21,000.00	12,620.00	19,022.70	10,739.00	163.51	145.76	8.33	-9,554.88	139.38	1,885.90	1,782.20	103.71	18.185		
21,100.00	12,620.00	19,122.70	10,739.00	165.10	147.35	8.33	-9,654.88	140.38	1,885.92	1,781.14	104.78	17.999		
21,200.00	12,620.00	19,222.70	10,739.00	166.69	148.95	8.34	-9,754.87	141.37	1,885.93	1,780.08	105.85	17.817		
21,300.00	12,620.00	19,322.70	10,739.00	168.29	150.54	8.34	-9,854.87	142.37	1,885.94	1,779.02	106.92	17.638		
21,400.00	12,620.00	19,422.70	10,739.00	169.88	152.14	8.34	-9,954.86	143.37	1,885.96	1,777.96	108.00	17.463		
21,500.00	12,620.00	19,522.70	10,739.00	171.48	153.74	8.35	-10,054.86	144.37	1,885.97	1,776.90	109.07	17.291		
21,600.00	12,620.00	19,622.70	10,739.00	173.07	155.34	8.35	-10,154.85	145.37	1,885.98	1,775.83	110.15	17.122		
21,700.00	12,620.00	19,722.70	10,739.00	174.67	156.94	8.35	-10,254.85	146.36	1,886.00	1,774.77	111.23	16.956		
21,800.00	12,620.00	19,822.70	10,739.00	176.27	158.54	8.35	-10,354.84	147.36	1,886.01	1,773.70	112.31	16.793		
21,900.00	12,620.00	19,922.70	10,739.00	177.87	160.15	8.36	-10,454.84	148.36	1,886.02	1,772.63	113.39	16.633		
22,000.00	12,620.00	20,022.70	10,739.00	179.47	161.75	8.36	-10,554.83	149.36	1,886.04	1,771.56	114.47	16.476		
22,100.00	12,620.00	20,122.70	10,739.00	181.07	163.36	8.36	-10,654.83	150.36	1,886.05	1,770.49	115.56	16.322		
22,200.00	12,620.00	20,222.70	10,739.00	182.67	164.96	8.36	-10,754.82	151.36	1,886.06	1,769.42	116.64	16.170		
22,300.00	12,620.00	20,322.70	10,739.00	184.27	166.57	8.37	-10,854.82	152.35	1,886.08	1,768.35	117.72	16.021		
22,400.00	12,620.00	20,422.70	10,739.00	185.88	168.18	8.37	-10,954.81	153.35	1,886.09	1,767.28	118.81	15.875		
22,500.00	12,620.00	20,522.70	10,739.00	187.48	169.78	8.37	-11,054.81	154.35	1,886.10	1,766.20	119.90	15.731		
22,600.00	12,620.00	20,622.70	10,739.00	189.09	171.39	8.38	-11,154.80	155.35	1,886.12	1,765.13	120.99	15.589		
22,700.00	12,620.00	20,722.70	10,739.00	190.69	173.00	8.38	-11,254.80	156.35	1,886.13	1,764.05	122.08	15.450		
22,800.00	12,620.00	20,822.70	10,739.00	192.30	174.62	8.38	-11,354.79	157.34	1,886.14	1,762.98	123.17	15.314		
22,856.94	12,620.00	20,879.44	10,739.00	193.22	175.53	8.38	-11,411.53	157.91	1,886.15	1,762.36	123.78	15.237		

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



Total Directional Services
Anticollision Report



Company: Franklin Mountain Energy
Project: Lea County, NM (NAD83)
Reference Site: Tatanka Fed Com
Site Error: 0.00 usft
Reference Well: Tatanka Fed Com 803H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1
Local Co-ordinate Reference: Well Tatanka Fed Com 803H
TVD Reference: 3135.8' GE + 30' KB @ 3165.80usft
MD Reference: 3135.8' GE + 30' KB @ 3165.80usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.15 Single User Db
Offset TVD Reference: Offset Datum

Offset Design: Tatanka Fed Com - Tatanka Fed Com 503H - OH - Plan #1
Survey Program: 0-OWSG (Rev2) MWD
Table with columns: Reference, Measured Vertical Depth (usft), Offset, Semi Major Axis (Reference, Offset, Highside Toolface), Distance (Offset Wellbore Centre +N/-S, +E/-W), Between Centres, Between Ellipses, Minimum Separation, Separation Factor, Warning. Includes data rows from 10,100.00 to 14,000.00 depth.

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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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 503H - OH - Plan #1													Offset Well Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD														
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,300.00	12,620.00	17,282.96	10,720.00	136.69	118.58	-33.92	-7,839.98	1,659.81	2,268.46	2,147.45	121.01	18.746		
19,400.00	12,620.00	17,382.96	10,720.00	138.25	120.14	-33.91	-7,939.98	1,660.78	2,268.39	2,145.95	122.44	18.526		
19,500.00	12,620.00	17,482.96	10,720.00	139.82	121.71	-33.91	-8,039.98	1,661.75	2,268.33	2,144.45	123.88	18.311		
19,600.00	12,620.00	17,582.96	10,720.00	141.39	123.28	-33.91	-8,139.97	1,662.72	2,268.26	2,142.94	125.32	18.100		
19,700.00	12,620.00	17,682.96	10,720.00	142.96	124.86	-33.91	-8,239.97	1,663.69	2,268.19	2,141.44	126.75	17.894		
19,800.00	12,620.00	17,782.96	10,720.00	144.53	126.43	-33.90	-8,339.96	1,664.66	2,268.13	2,139.93	128.19	17.693		
19,900.00	12,620.00	17,882.96	10,720.00	146.10	128.01	-33.90	-8,439.96	1,665.63	2,268.06	2,138.42	129.64	17.495		
20,000.00	12,620.00	17,982.96	10,720.00	147.68	129.59	-33.90	-8,539.95	1,666.60	2,267.99	2,136.91	131.08	17.302		
20,100.00	12,620.00	18,082.96	10,720.00	149.25	131.17	-33.90	-8,639.95	1,667.56	2,267.93	2,135.40	132.52	17.113		
20,200.00	12,620.00	18,182.96	10,720.00	150.83	132.75	-33.89	-8,739.94	1,668.53	2,267.86	2,133.89	133.97	16.928		
20,300.00	12,620.00	18,282.96	10,720.00	152.41	134.34	-33.89	-8,839.94	1,669.50	2,267.79	2,132.38	135.42	16.747		
20,400.00	12,620.00	18,382.96	10,720.00	153.99	135.92	-33.89	-8,939.93	1,670.47	2,267.73	2,130.86	136.87	16.569		
20,500.00	12,620.00	18,482.96	10,720.00	155.58	137.51	-33.89	-9,039.93	1,671.44	2,267.66	2,129.34	138.32	16.395		
20,600.00	12,620.00	18,582.96	10,720.00	157.16	139.10	-33.88	-9,139.92	1,672.41	2,267.59	2,127.83	139.77	16.224		
20,700.00	12,620.00	18,682.96	10,720.00	158.75	140.69	-33.88	-9,239.92	1,673.38	2,267.53	2,126.31	141.22	16.057		
20,800.00	12,620.00	18,782.96	10,720.00	160.33	142.28	-33.88	-9,339.91	1,674.35	2,267.46	2,124.79	142.67	15.893		
20,900.00	12,620.00	18,882.96	10,720.00	161.92	143.87	-33.88	-9,439.91	1,675.32	2,267.39	2,123.27	144.12	15.732		
21,000.00	12,620.00	18,982.96	10,720.00	163.51	145.47	-33.87	-9,539.90	1,676.29	2,267.33	2,121.75	145.58	15.575		
21,100.00	12,620.00	19,082.96	10,720.00	165.10	147.07	-33.87	-9,639.90	1,677.26	2,267.26	2,120.23	147.03	15.420		
21,200.00	12,620.00	19,182.96	10,720.00	166.69	148.66	-33.87	-9,739.89	1,678.23	2,267.19	2,118.71	148.49	15.269		
21,300.00	12,620.00	19,282.96	10,720.00	168.29	150.26	-33.87	-9,839.89	1,679.20	2,267.13	2,117.18	149.94	15.120		
21,400.00	12,620.00	19,382.96	10,720.00	169.88	151.86	-33.86	-9,939.88	1,680.17	2,267.06	2,115.66	151.40	14.974		
21,500.00	12,620.00	19,482.96	10,720.00	171.48	153.46	-33.86	-10,039.88	1,681.14	2,267.00	2,114.14	152.86	14.831		
21,600.00	12,620.00	19,582.96	10,720.00	173.07	155.06	-33.86	-10,139.88	1,682.11	2,266.93	2,112.61	154.32	14.690		
21,700.00	12,620.00	19,682.96	10,720.00	174.67	156.66	-33.86	-10,239.87	1,683.08	2,266.86	2,111.09	155.77	14.552		
21,800.00	12,620.00	19,782.96	10,720.00	176.27	158.27	-33.85	-10,339.87	1,684.05	2,266.80	2,109.56	157.23	14.417		
21,900.00	12,620.00	19,882.96	10,720.00	177.87	159.87	-33.85	-10,439.86	1,685.02	2,266.73	2,108.04	158.69	14.284		
22,000.00	12,620.00	19,982.96	10,720.00	179.47	161.48	-33.85	-10,539.86	1,685.99	2,266.66	2,106.51	160.15	14.153		
22,100.00	12,620.00	20,082.96	10,720.00	181.07	163.08	-33.85	-10,639.85	1,686.96	2,266.60	2,104.98	161.61	14.025		
22,200.00	12,620.00	20,182.96	10,720.00	182.67	164.69	-33.84	-10,739.85	1,687.93	2,266.53	2,103.45	163.08	13.899		
22,300.00	12,620.00	20,282.96	10,720.00	184.27	166.30	-33.84	-10,839.84	1,688.90	2,266.46	2,101.93	164.54	13.775		
22,400.00	12,620.00	20,382.96	10,720.00	185.88	167.91	-33.84	-10,939.84	1,689.87	2,266.40	2,100.40	166.00	13.653		
22,500.00	12,620.00	20,482.96	10,720.00	187.48	169.52	-33.84	-11,039.83	1,690.84	2,266.33	2,098.87	167.46	13.534		
22,600.00	12,620.00	20,582.96	10,720.00	189.09	171.13	-33.83	-11,139.83	1,691.80	2,266.26	2,097.34	168.92	13.416		
22,700.00	12,620.00	20,682.96	10,720.00	190.69	172.74	-33.83	-11,239.82	1,692.77	2,266.20	2,095.81	170.38	13.301		
22,800.00	12,620.00	20,782.96	10,720.00	192.30	174.35	-33.83	-11,339.82	1,693.74	2,266.13	2,094.28	171.85	13.187		
22,856.94	12,620.00	20,839.90	10,720.00	193.22	175.20	-33.83	-11,396.76	1,694.30	2,266.09	2,093.49	172.61	13.129 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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	-1,002.41	1,568.80	1,861.79					
100.00	100.00	82.20	82.20	0.13	0.10	122.58	-1,002.41	1,568.80	1,861.71	1,861.55	0.16	N/A		
200.00	200.00	182.20	182.20	0.48	0.42	122.58	-1,002.41	1,568.80	1,861.71	1,861.07	0.64	2,905.011		
300.00	300.00	282.20	282.20	0.84	0.78	122.58	-1,002.41	1,568.80	1,861.71	1,860.56	1.15	1,622.950		
400.00	400.00	382.20	382.20	1.20	1.14	122.58	-1,002.41	1,568.80	1,861.71	1,860.05	1.65	1,125.718		
500.00	500.00	482.20	482.20	1.56	1.50	122.58	-1,002.41	1,568.80	1,861.71	1,859.55	2.16	861.660		
600.00	600.00	582.20	582.20	1.92	1.85	122.58	-1,002.41	1,568.80	1,861.71	1,859.04	2.67	697.930		
700.00	700.00	682.20	682.20	2.28	2.21	122.58	-1,002.41	1,568.80	1,861.71	1,858.53	3.17	586.482		
800.00	800.00	782.20	782.20	2.63	2.57	122.58	-1,002.41	1,568.80	1,861.71	1,858.03	3.68	505.723		
900.00	900.00	882.20	882.20	2.99	2.93	122.58	-1,002.41	1,568.80	1,861.71	1,857.52	4.19	444.513		
1,000.00	1,000.00	982.20	982.20	3.35	3.29	122.58	-1,002.41	1,568.80	1,861.71	1,857.01	4.70	396.519		
1,100.00	1,100.00	1,082.20	1,082.20	3.71	3.65	122.58	-1,002.41	1,568.80	1,861.71	1,856.51	5.20	357.879		
1,200.00	1,200.00	1,182.20	1,182.20	4.07	4.00	122.58	-1,002.41	1,568.80	1,861.71	1,856.00	5.71	326.101		
1,300.00	1,300.00	1,282.20	1,282.20	4.43	4.36	122.58	-1,002.41	1,568.80	1,861.71	1,855.49	6.22	299.505		
1,400.00	1,400.00	1,382.20	1,382.20	4.79	4.72	122.58	-1,002.41	1,568.80	1,861.71	1,854.99	6.72	276.921		
1,500.00	1,500.00	1,482.20	1,482.20	5.14	5.08	122.58	-1,002.41	1,568.80	1,861.71	1,854.48	7.23	257.504		
1,600.00	1,600.00	1,582.20	1,582.20	5.50	5.44	122.58	-1,002.41	1,568.80	1,861.71	1,853.97	7.74	240.631		
1,700.00	1,700.00	1,682.20	1,682.20	5.86	5.80	122.58	-1,002.41	1,568.80	1,861.71	1,853.47	8.24	225.833		
1,800.00	1,800.00	1,782.20	1,782.20	6.22	6.16	122.58	-1,002.41	1,568.80	1,861.71	1,852.96	8.75	212.750		
1,900.00	1,900.00	1,882.20	1,882.20	6.58	6.51	122.58	-1,002.41	1,568.80	1,861.71	1,852.45	9.26	201.100		
2,000.00	2,000.00	1,982.20	1,982.20	6.94	6.87	122.58	-1,002.41	1,568.80	1,861.71	1,851.94	9.76	190.660		
2,100.00	2,100.00	2,082.20	2,082.20	7.29	7.23	122.58	-1,002.41	1,568.80	1,861.71	1,851.44	10.27	181.250		
2,200.00	2,200.00	2,182.20	2,182.20	7.65	7.59	122.58	-1,002.41	1,568.80	1,861.71	1,850.93	10.78	172.725		
2,300.00	2,300.00	2,282.20	2,282.20	8.01	7.95	122.58	-1,002.41	1,568.80	1,861.71	1,850.42	11.29	164.966		
2,400.00	2,400.00	2,382.20	2,382.20	8.37	8.31	122.58	-1,002.41	1,568.80	1,861.71	1,849.92	11.79	157.874		
2,500.00	2,500.00	2,482.20	2,482.20	8.73	8.66	122.58	-1,002.41	1,568.80	1,861.71	1,849.41	12.30	151.367		
2,600.00	2,600.00	2,582.20	2,582.20	9.09	9.02	122.58	-1,002.41	1,568.80	1,861.71	1,848.90	12.81	145.375		
2,700.00	2,700.00	2,682.20	2,682.20	9.45	9.38	122.58	-1,002.41	1,568.80	1,861.71	1,848.40	13.31	139.839		
2,800.00	2,800.00	2,782.20	2,782.20	9.80	9.74	122.58	-1,002.41	1,568.80	1,861.71	1,847.89	13.82	134.709		
2,900.00	2,900.00	2,882.20	2,882.20	10.16	10.10	122.58	-1,002.41	1,568.80	1,861.71	1,847.38	14.33	129.943		
3,000.00	3,000.00	2,982.20	2,982.20	10.52	10.46	122.58	-1,002.41	1,568.80	1,861.71	1,846.87	14.83	125.502		
3,100.00	3,100.00	3,082.20	3,082.20	10.88	10.82	122.58	-1,002.41	1,568.80	1,861.71	1,846.37	15.34	121.355		
3,200.00	3,200.00	3,182.20	3,182.20	11.24	11.17	122.58	-1,002.41	1,568.80	1,861.71	1,845.86	15.85	117.473		
3,300.00	3,300.00	3,282.20	3,282.20	11.60	11.53	122.58	-1,002.41	1,568.80	1,861.71	1,845.35	16.35	113.832		
3,400.00	3,399.99	3,351.54	3,351.54	11.94	11.78	-40.44	-1,002.48	1,569.26	1,861.39	1,844.62	16.77	111.022		
3,500.00	3,499.91	3,400.00	3,399.98	12.26	11.94	-40.49	-1,002.68	1,570.52	1,861.14	1,844.03	17.10	108.821		
3,530.74	3,530.60	3,433.45	3,433.40	12.36	12.06	-40.55	-1,002.88	1,571.87	1,860.95	1,843.70	17.25	107.856		
3,600.00	3,599.69	3,476.76	3,476.65	12.59	12.21	-40.64	-1,003.24	1,574.19	1,860.74	1,843.23	17.51	106.283		
3,700.00	3,699.27	3,539.15	3,538.88	12.92	12.42	-40.81	-1,003.93	1,578.66	1,860.46	1,842.59	17.87	104.116		
3,800.00	3,798.57	3,600.00	3,599.45	13.25	12.63	-41.03	-1,004.80	1,584.31	1,860.25	1,842.03	18.22	102.087		
3,900.00	3,897.54	3,663.25	3,662.28	13.58	12.85	-41.30	-1,005.92	1,591.53	1,860.13	1,841.55	18.58	100.120		
3,959.01	3,955.75	3,700.00	3,698.70	13.78	12.97	-41.48	-1,006.66	1,596.35	1,860.11	1,841.33	18.79	99.014 CC		
4,000.00	3,996.09	3,724.84	3,723.29	13.92	13.06	-41.61	-1,007.20	1,599.88	1,860.13	1,841.21	18.93	98.279		
4,100.00	4,094.16	3,800.00	3,797.47	14.28	13.33	-42.05	-1,009.04	1,611.81	1,860.39	1,841.07	19.32	96.285		
4,113.37	4,107.24	3,800.00	3,797.47	14.32	13.33	-42.05	-1,009.04	1,611.81	1,860.36	1,841.03	19.34	96.200 ES		
4,184.40	4,176.52	3,837.42	3,834.27	14.58	13.46	-42.30	-1,010.07	1,618.47	1,860.63	1,841.07	19.56	95.125		
4,200.00	4,191.70	3,846.88	3,843.56	14.64	13.50	-42.36	-1,010.34	1,620.23	1,860.73	1,841.11	19.61	94.874		
4,300.00	4,289.03	3,900.00	3,895.62	15.01	13.69	-42.74	-1,011.95	1,630.67	1,862.67	1,842.75	19.92	93.500		
4,400.00	4,386.37	3,967.59	3,961.56	15.39	13.94	-43.22	-1,014.21	1,645.33	1,866.78	1,846.50	20.29	92.019		
4,500.00	4,483.70	4,027.47	4,019.68	15.77	14.17	-43.66	-1,016.41	1,659.60	1,873.14	1,852.52	20.62	90.845		
4,600.00	4,581.03	4,097.19	4,086.94	16.17	14.43	-44.19	-1,019.20	1,677.72	1,881.77	1,860.77	20.99	89.637		
4,700.00	4,678.36	4,176.91	4,163.60	16.57	14.75	-44.80	-1,022.54	1,699.36	1,891.88	1,870.46	21.41	88.344		

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



Total Directional Services
Anticollision Report



Company: Franklin Mountain Energy
Project: Lea County, NM (NAD83)
Reference Site: Tatanka Fed Com
Site Error: 0.00 usft
Reference Well: Tatanka Fed Com 803H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1
Local Co-ordinate Reference: Well Tatanka Fed Com 803H
TVD Reference: 3135.8' GE + 30' KB @ 3165.80usft
MD Reference: 3135.8' GE + 30' KB @ 3165.80usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.15 Single User Db
Offset TVD Reference: Offset Datum

Offset Design: Tatanka Fed Com - Tatanka Fed Com 504H - OH - Plan #1
Survey Program: 0-OWSG (Rev2) MWD
Offset Site Error: 0.00 usft
Offset Well Error: 0.00 usft
Table with columns: Measured Depth (usft), Vertical Depth (usft), Reference, Offset, Semi Major Axis (Reference, Offset), Highside Toolface (degrees), Offset Wellbore Centre (+N/-S, +E/-W), Distance (Between Centres, Between Ellipses), Minimum Separation, Separation Factor, Warning.

CC - Min centre to center distance or 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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 504H - OH - Plan #1													Offset Well Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD														
Reference				Offset		Semi Major Axis			Distance				Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,000.00	12,620.00	16,958.07	10,710.00	132.01	116.17	-55.59	-7,525.53	3,153.68	3,348.78	3,195.77	153.01	21.886		
19,100.00	12,620.00	17,058.07	10,710.00	133.57	117.70	-55.59	-7,625.52	3,154.64	3,348.68	3,193.80	154.88	21.621		
19,200.00	12,620.00	17,158.07	10,710.00	135.13	119.22	-55.59	-7,725.52	3,155.61	3,348.58	3,191.82	156.76	21.361		
19,300.00	12,620.00	17,258.07	10,710.00	136.69	120.76	-55.59	-7,825.51	3,156.58	3,348.48	3,189.84	158.64	21.107		
19,400.00	12,620.00	17,358.07	10,710.00	138.25	122.29	-55.59	-7,925.51	3,157.55	3,348.38	3,187.85	160.52	20.859		
19,500.00	12,620.00	17,458.07	10,710.00	139.82	123.83	-55.59	-8,025.50	3,158.52	3,348.28	3,185.87	162.41	20.616		
19,600.00	12,620.00	17,558.07	10,710.00	141.39	125.37	-55.59	-8,125.50	3,159.48	3,348.18	3,183.88	164.30	20.379		
19,700.00	12,620.00	17,658.07	10,710.00	142.96	126.92	-55.59	-8,225.49	3,160.45	3,348.08	3,181.89	166.19	20.146		
19,800.00	12,620.00	17,758.07	10,710.00	144.53	128.47	-55.59	-8,325.49	3,161.42	3,347.98	3,179.90	168.08	19.919		
19,900.00	12,620.00	17,858.07	10,710.00	146.10	130.02	-55.58	-8,425.49	3,162.39	3,347.88	3,177.90	169.98	19.696		
20,000.00	12,620.00	17,958.07	10,710.00	147.68	131.57	-55.58	-8,525.48	3,163.36	3,347.78	3,175.90	171.87	19.478		
20,100.00	12,620.00	18,058.07	10,710.00	149.25	133.12	-55.58	-8,625.48	3,164.33	3,347.68	3,173.90	173.78	19.264		
20,200.00	12,620.00	18,158.07	10,710.00	150.83	134.68	-55.58	-8,725.47	3,165.29	3,347.58	3,171.90	175.68	19.055		
20,300.00	12,620.00	18,258.07	10,710.00	152.41	136.24	-55.58	-8,825.47	3,166.26	3,347.48	3,169.90	177.58	18.850		
20,400.00	12,620.00	18,358.07	10,710.00	153.99	137.80	-55.58	-8,925.46	3,167.23	3,347.38	3,167.89	179.49	18.650		
20,500.00	12,620.00	18,458.07	10,710.00	155.58	139.36	-55.58	-9,025.46	3,168.20	3,347.28	3,165.89	181.39	18.453		
20,600.00	12,620.00	18,558.07	10,710.00	157.16	140.93	-55.58	-9,125.45	3,169.17	3,347.18	3,163.88	183.30	18.260		
20,700.00	12,620.00	18,658.07	10,710.00	158.75	142.50	-55.57	-9,225.45	3,170.13	3,347.08	3,161.87	185.21	18.071		
20,800.00	12,620.00	18,758.07	10,710.00	160.33	144.06	-55.57	-9,325.44	3,171.10	3,346.98	3,159.86	187.12	17.886		
20,900.00	12,620.00	18,858.07	10,710.00	161.92	145.64	-55.57	-9,425.44	3,172.07	3,346.88	3,157.84	189.04	17.705		
21,000.00	12,620.00	18,958.07	10,710.00	163.51	147.21	-55.57	-9,525.43	3,173.04	3,346.78	3,155.83	190.95	17.527		
21,100.00	12,620.00	19,058.07	10,710.00	165.10	148.78	-55.57	-9,625.43	3,174.01	3,346.68	3,153.82	192.87	17.352		
21,200.00	12,620.00	19,158.07	10,710.00	166.69	150.36	-55.57	-9,725.42	3,174.97	3,346.58	3,151.80	194.78	17.181		
21,300.00	12,620.00	19,258.07	10,710.00	168.29	151.94	-55.57	-9,825.42	3,175.94	3,346.48	3,149.78	196.70	17.013		
21,400.00	12,620.00	19,358.07	10,710.00	169.88	153.52	-55.57	-9,925.41	3,176.91	3,346.38	3,147.76	198.62	16.848		
21,500.00	12,620.00	19,458.07	10,710.00	171.48	155.10	-55.57	-10,025.41	3,177.88	3,346.28	3,145.74	200.54	16.686		
21,600.00	12,620.00	19,558.07	10,710.00	173.07	156.68	-55.56	-10,125.40	3,178.85	3,346.18	3,143.72	202.46	16.527		
21,700.00	12,620.00	19,658.07	10,710.00	174.67	158.26	-55.56	-10,225.40	3,179.81	3,346.08	3,141.69	204.39	16.371		
21,800.00	12,620.00	19,758.07	10,710.00	176.27	159.85	-55.56	-10,325.40	3,180.78	3,345.98	3,139.67	206.31	16.218		
21,900.00	12,620.00	19,858.07	10,710.00	177.87	161.44	-55.56	-10,425.39	3,181.75	3,345.88	3,137.65	208.24	16.068		
22,000.00	12,620.00	19,958.07	10,710.00	179.47	163.02	-55.56	-10,525.39	3,182.72	3,345.78	3,135.62	210.16	15.920		
22,100.00	12,620.00	20,058.07	10,710.00	181.07	164.61	-55.56	-10,625.38	3,183.69	3,345.68	3,133.59	212.09	15.775		
22,200.00	12,620.00	20,158.07	10,710.00	182.67	166.20	-55.56	-10,725.38	3,184.65	3,345.58	3,131.56	214.02	15.632		
22,300.00	12,620.00	20,258.07	10,710.00	184.27	167.79	-55.56	-10,825.37	3,185.62	3,345.48	3,129.54	215.95	15.492		
22,400.00	12,620.00	20,358.07	10,710.00	185.88	169.39	-55.55	-10,925.37	3,186.59	3,345.38	3,127.51	217.88	15.355		
22,500.00	12,620.00	20,458.07	10,710.00	187.48	170.98	-55.55	-11,025.36	3,187.56	3,345.28	3,125.48	219.80	15.219		
22,600.00	12,620.00	20,558.07	10,710.00	189.09	172.58	-55.55	-11,125.36	3,188.53	3,345.19	3,123.45	221.74	15.086		
22,700.00	12,620.00	20,658.07	10,710.00	190.69	174.17	-55.55	-11,225.35	3,189.49	3,345.09	3,121.42	223.67	14.956		
22,800.00	12,620.00	20,758.07	10,710.00	192.30	175.77	-55.55	-11,325.35	3,190.46	3,344.99	3,119.39	225.60	14.827		
22,856.94	12,620.00	20,815.01	10,710.00	193.22	176.68	-55.55	-11,382.29	3,191.01	3,344.93	3,118.23	226.70	14.755 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
Project: Lea County, NM (NAD83)
Reference Site: Tatanka Fed Com
Site Error: 0.00 usft
Reference Well: Tatanka Fed Com 803H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1
Local Co-ordinate Reference: Well Tatanka Fed Com 803H
TVD Reference: 3135.8' GE + 30' KB @ 3165.80usft
MD Reference: 3135.8' GE + 30' KB @ 3165.80usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.15 Single User Db
Offset TVD Reference: Offset Datum

Offset Design
Survey Program: 0-OWSG (Rev2) MWD
Tatanka Fed Com - Tatanka Fed Com 601H - OH - Plan #2
Table with columns: Reference, Measured Depth (usft), Vertical Depth (usft), Semi Major Axis Reference, Offset, Highside Toolface, Offset Wellbore Centre, Distance, Minimum Separation, Separation Factor, Warning

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



Total Directional Services
Anticollision Report



Company: Franklin Mountain Energy
Project: Lea County, NM (NAD83)
Reference Site: Tatanka Fed Com
Site Error: 0.00 usft
Reference Well: Tatanka Fed Com 803H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1
Local Co-ordinate Reference: Well Tatanka Fed Com 803H
TVD Reference: 3135.8' GE + 30' KB @ 3165.80usft
MD Reference: 3135.8' GE + 30' KB @ 3165.80usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.15 Single User Db
Offset TVD Reference: Offset Datum

Offset Design Table with columns: Reference, Offset, Semi Major Axis, Distance, Warning. Includes data rows for various depths and offsets.

CC - Min centre to center distance or 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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		
10,000.00	9,880.74	9,887.26	9,879.44	38.75	34.68	-94.40	-1,181.61	-1,441.39	1,766.60	1,714.82	51.79	34.113		
10,100.00	9,980.74	9,987.26	9,979.44	39.05	35.04	-94.40	-1,181.61	-1,441.39	1,766.60	1,714.35	52.25	33.810		
10,200.00	10,080.74	10,087.26	10,079.44	39.36	35.39	-94.40	-1,181.61	-1,441.39	1,766.60	1,713.89	52.71	33.513		
10,300.00	10,180.74	10,187.26	10,179.44	39.66	35.74	-94.40	-1,181.61	-1,441.39	1,766.60	1,713.42	53.18	33.219		
10,400.00	10,280.74	10,287.26	10,279.44	39.97	36.09	-94.40	-1,181.61	-1,441.39	1,766.60	1,712.96	53.65	32.931		
10,500.00	10,380.74	10,387.26	10,379.44	40.28	36.45	-94.40	-1,181.61	-1,441.39	1,766.60	1,712.49	54.11	32.647		
10,600.00	10,480.74	10,487.26	10,479.44	40.59	36.80	-94.40	-1,181.61	-1,441.39	1,766.60	1,712.02	54.58	32.367		
10,700.00	10,580.74	10,587.26	10,579.44	40.90	37.15	-94.40	-1,181.61	-1,441.39	1,766.60	1,711.55	55.05	32.092		
10,800.00	10,680.74	10,687.26	10,679.44	41.21	37.51	-94.40	-1,181.61	-1,441.39	1,766.60	1,711.09	55.52	31.821		
10,900.00	10,780.74	10,787.26	10,779.44	41.52	37.86	-94.40	-1,181.61	-1,441.39	1,766.60	1,710.62	55.99	31.554		
11,000.00	10,880.74	10,887.26	10,879.44	41.84	38.21	-94.40	-1,181.61	-1,441.39	1,766.60	1,710.15	56.46	31.292		
11,100.00	10,980.74	10,987.26	10,979.44	42.15	38.57	-94.40	-1,181.61	-1,441.39	1,766.60	1,709.68	56.93	31.033		
11,200.00	11,080.74	11,087.26	11,079.44	42.46	38.92	-94.40	-1,181.61	-1,441.39	1,766.60	1,709.20	57.40	30.778		
11,300.00	11,180.74	11,187.26	11,179.44	42.78	39.27	-94.40	-1,181.61	-1,441.39	1,766.60	1,708.73	57.87	30.527		
11,400.00	11,280.74	11,287.26	11,279.44	43.09	39.63	-94.40	-1,181.61	-1,441.39	1,766.60	1,708.26	58.34	30.280		
11,500.00	11,380.74	11,387.26	11,379.44	43.41	39.98	-94.40	-1,181.61	-1,441.39	1,766.60	1,707.79	58.82	30.036		
11,600.00	11,480.74	11,487.26	11,479.44	43.73	40.33	-94.40	-1,181.61	-1,441.39	1,766.60	1,707.31	59.29	29.796		
11,602.83	11,483.57	11,490.09	11,482.27	43.73	40.34	-94.40	-1,181.61	-1,441.39	1,766.60	1,707.30	59.30	29.790		
11,700.00	11,580.74	11,582.22	11,574.40	44.04	40.67	-94.42	-1,182.13	-1,441.38	1,766.64	1,706.89	59.75	29.567		
11,800.00	11,680.74	11,663.94	11,655.52	44.36	40.95	-94.72	-1,191.40	-1,441.29	1,767.45	1,707.27	60.18	29.372		
11,900.00	11,780.74	11,741.53	11,730.58	44.68	41.22	-95.35	-1,210.80	-1,441.10	1,769.47	1,708.88	60.59	29.204		
12,000.00	11,880.74	11,812.75	11,796.61	45.00	41.46	-96.20	-1,237.38	-1,440.83	1,773.14	1,712.16	60.98	29.079		
12,100.00	11,980.74	11,876.46	11,852.48	45.32	41.68	-97.18	-1,267.93	-1,440.53	1,779.00	1,717.68	61.32	29.012		
12,166.30	12,047.04	11,914.43	11,884.04	45.53	41.82	-97.86	-1,289.02	-1,440.31	1,784.35	1,722.84	61.51	29.008		
12,200.00	12,080.72	11,932.85	11,898.83	45.65	41.88	82.12	-1,300.00	-1,440.20	1,787.45	1,725.85	61.60	29.016		
12,250.00	12,130.45	11,960.05	11,920.00	45.84	41.98	81.18	-1,317.06	-1,440.03	1,792.18	1,730.43	61.74	29.026		
12,300.00	12,179.53	11,987.12	11,940.26	46.05	42.07	80.26	-1,335.02	-1,439.85	1,796.97	1,735.08	61.89	29.035		
12,350.00	12,227.61	12,014.09	11,959.56	46.29	42.17	79.39	-1,353.85	-1,439.67	1,801.76	1,739.72	62.04	29.040		
12,400.00	12,274.32	12,050.00	11,983.86	46.55	42.30	78.43	-1,380.28	-1,439.40	1,806.50	1,744.25	62.25	29.020		
12,450.00	12,319.29	12,067.75	11,995.25	46.83	42.37	77.77	-1,393.90	-1,439.26	1,811.00	1,748.62	62.37	29.036		
12,500.00	12,362.19	12,100.00	12,014.83	47.13	42.49	76.99	-1,419.52	-1,439.01	1,815.31	1,752.74	62.58	29.010		
12,550.00	12,402.70	12,121.14	12,026.87	47.44	42.57	76.39	-1,436.89	-1,438.83	1,819.31	1,756.57	62.73	29.001		
12,600.00	12,440.50	12,150.00	12,042.26	47.78	42.68	75.78	-1,461.30	-1,438.59	1,822.96	1,760.02	62.94	28.962		
12,650.00	12,475.30	12,174.33	12,054.27	48.13	42.78	75.28	-1,482.46	-1,438.38	1,826.21	1,763.07	63.14	28.922		
12,700.00	12,506.84	12,200.00	12,065.95	48.50	42.88	74.85	-1,505.31	-1,438.15	1,829.01	1,765.64	63.36	28.865		
12,750.00	12,534.89	12,227.39	12,077.27	48.88	42.99	74.48	-1,530.25	-1,437.90	1,831.32	1,767.71	63.61	28.789		
12,800.00	12,559.22	12,250.00	12,085.71	49.28	43.08	74.22	-1,551.22	-1,437.69	1,833.12	1,769.27	63.85	28.709		
12,850.00	12,579.65	12,280.36	12,095.72	49.68	43.21	74.02	-1,579.88	-1,437.40	1,834.36	1,770.21	64.15	28.593		
12,900.00	12,596.03	12,300.00	12,101.39	50.10	43.29	73.92	-1,598.68	-1,437.21	1,835.08	1,770.66	64.42	28.488		
12,950.00	12,608.24	12,333.29	12,109.51	50.52	43.43	73.90	-1,630.96	-1,436.89	1,835.18	1,770.41	64.77	28.333		
13,000.00	12,616.17	12,350.00	12,112.88	50.94	43.50	73.95	-1,647.32	-1,436.73	1,834.79	1,769.72	65.06	28.200		
13,050.00	12,619.77	12,386.23	12,118.53	51.36	43.66	74.12	-1,683.11	-1,436.37	1,833.73	1,768.27	65.47	28.010		
13,066.30	12,620.00	12,400.00	12,120.08	51.50	43.72	74.21	-1,696.78	-1,436.23	1,833.30	1,767.69	65.61	27.942		
13,100.00	12,620.00	12,412.77	12,121.23	51.79	43.78	74.24	-1,709.50	-1,436.10	1,832.45	1,766.61	65.84	27.832		
13,180.43	12,620.00	12,455.80	12,122.99	52.50	43.96	74.30	-1,752.48	-1,435.67	1,831.62	1,765.18	66.44	27.568		
13,200.00	12,620.00	12,473.59	12,123.00	52.67	44.04	74.30	-1,770.28	-1,435.50	1,831.63	1,765.02	66.61	27.497		
13,300.00	12,620.00	12,573.59	12,123.00	53.58	44.52	74.30	-1,870.27	-1,434.49	1,831.72	1,764.14	67.58	27.105		
13,400.00	12,620.00	12,673.59	12,123.00	54.53	45.05	74.30	-1,970.27	-1,433.49	1,831.80	1,763.20	68.60	26.701		
13,500.00	12,620.00	12,773.59	12,123.00	55.51	45.64	74.30	-2,070.26	-1,432.49	1,831.88	1,762.20	69.69	26.287		
13,600.00	12,620.00	12,873.59	12,123.00	56.53	46.27	74.30	-2,170.26	-1,431.49	1,831.97	1,761.14	70.83	25.866		
13,700.00	12,620.00	12,973.59	12,123.00	57.57	46.96	74.30	-2,270.25	-1,430.49	1,832.05	1,760.03	72.02	25.438		
13,800.00	12,620.00	13,073.59	12,123.00	58.64	47.69	74.30	-2,370.25	-1,429.49	1,832.14	1,758.88	73.26	25.008		

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



Total Directional Services Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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		
13,900.00	12,620.00	13,173.59	12,123.00	59.74	48.47	74.30	-2,470.24	-1,428.49	1,832.22	1,757.67	74.55	24.576		
14,000.00	12,620.00	13,273.59	12,123.00	60.86	49.29	74.30	-2,570.24	-1,427.48	1,832.31	1,756.42	75.89	24.145		
14,100.00	12,620.00	13,373.59	12,123.00	62.01	50.15	74.30	-2,670.23	-1,426.48	1,832.39	1,755.12	77.27	23.715		
14,200.00	12,620.00	13,473.59	12,123.00	63.18	51.05	74.31	-2,770.22	-1,425.48	1,832.47	1,753.79	78.69	23.287		
14,300.00	12,620.00	13,573.59	12,123.00	64.37	51.99	74.31	-2,870.22	-1,424.48	1,832.56	1,752.41	80.15	22.864		
14,400.00	12,620.00	13,673.59	12,123.00	65.58	52.96	74.31	-2,970.21	-1,423.48	1,832.64	1,751.00	81.65	22.446		
14,500.00	12,620.00	13,773.59	12,123.00	66.80	53.96	74.31	-3,070.21	-1,422.48	1,832.73	1,749.55	83.18	22.034		
14,600.00	12,620.00	13,873.59	12,123.00	68.05	55.00	74.31	-3,170.20	-1,421.48	1,832.81	1,748.07	84.74	21.629		
14,700.00	12,620.00	13,973.59	12,123.00	69.31	56.07	74.31	-3,270.20	-1,420.48	1,832.90	1,746.56	86.33	21.230		
14,800.00	12,620.00	14,073.59	12,123.00	70.59	57.16	74.31	-3,370.19	-1,419.47	1,832.98	1,745.02	87.96	20.839		
14,900.00	12,620.00	14,173.59	12,123.00	71.89	58.28	74.31	-3,470.19	-1,418.47	1,833.07	1,743.46	89.61	20.456		
15,000.00	12,620.00	14,273.59	12,123.00	73.20	59.42	74.31	-3,570.18	-1,417.47	1,833.15	1,741.86	91.29	20.081		
15,100.00	12,620.00	14,373.59	12,123.00	74.52	60.59	74.31	-3,670.18	-1,416.47	1,833.23	1,740.24	92.99	19.714		
15,200.00	12,620.00	14,473.59	12,123.00	75.85	61.78	74.31	-3,770.17	-1,415.47	1,833.32	1,738.60	94.72	19.356		
15,300.00	12,620.00	14,573.59	12,123.00	77.20	62.99	74.31	-3,870.17	-1,414.47	1,833.40	1,736.94	96.47	19.006		
15,400.00	12,620.00	14,673.59	12,123.00	78.56	64.22	74.31	-3,970.16	-1,413.47	1,833.49	1,735.25	98.23	18.665		
15,500.00	12,620.00	14,773.59	12,123.00	79.93	65.47	74.32	-4,070.16	-1,412.46	1,833.57	1,733.55	100.02	18.332		
15,600.00	12,620.00	14,873.59	12,123.00	81.31	66.74	74.32	-4,170.15	-1,411.46	1,833.66	1,731.83	101.83	18.007		
15,700.00	12,620.00	14,973.59	12,123.00	82.70	68.02	74.32	-4,270.15	-1,410.46	1,833.74	1,730.09	103.65	17.691		
15,800.00	12,620.00	15,073.59	12,123.00	84.10	69.32	74.32	-4,370.14	-1,409.46	1,833.83	1,728.33	105.50	17.383		
15,900.00	12,620.00	15,173.59	12,123.00	85.51	70.63	74.32	-4,470.14	-1,408.46	1,833.91	1,726.56	107.35	17.083		
16,000.00	12,620.00	15,273.59	12,123.00	86.93	71.96	74.32	-4,570.13	-1,407.46	1,833.99	1,724.77	109.23	16.790		
16,100.00	12,620.00	15,373.59	12,123.00	88.36	73.30	74.32	-4,670.13	-1,406.46	1,834.08	1,722.96	111.12	16.506		
16,200.00	12,620.00	15,473.59	12,123.00	89.79	74.65	74.32	-4,770.12	-1,405.45	1,834.16	1,721.14	113.02	16.229		
16,300.00	12,620.00	15,573.59	12,123.00	91.23	76.02	74.32	-4,870.12	-1,404.45	1,834.25	1,719.31	114.93	15.959		
16,400.00	12,620.00	15,673.59	12,123.00	92.68	77.40	74.32	-4,970.11	-1,403.45	1,834.33	1,717.47	116.86	15.697		
16,500.00	12,620.00	15,773.59	12,123.00	94.13	78.78	74.32	-5,070.11	-1,402.45	1,834.42	1,715.62	118.80	15.441		
16,600.00	12,620.00	15,873.59	12,123.00	95.59	80.18	74.32	-5,170.10	-1,401.45	1,834.50	1,713.75	120.75	15.193		
16,700.00	12,620.00	15,973.59	12,123.00	97.06	81.58	74.32	-5,270.10	-1,400.45	1,834.58	1,711.88	122.71	14.951		
16,800.00	12,620.00	16,073.59	12,123.00	98.53	83.00	74.32	-5,370.09	-1,399.45	1,834.67	1,709.99	124.68	14.715		
16,900.00	12,620.00	16,173.59	12,123.00	100.01	84.42	74.33	-5,470.09	-1,398.45	1,834.75	1,708.10	126.66	14.486		
17,000.00	12,620.00	16,273.59	12,123.00	101.50	85.86	74.33	-5,570.08	-1,397.44	1,834.84	1,706.19	128.65	14.263		
17,100.00	12,620.00	16,373.59	12,123.00	102.98	87.29	74.33	-5,670.08	-1,396.44	1,834.92	1,704.28	130.64	14.045		
17,200.00	12,620.00	16,473.59	12,123.00	104.48	88.74	74.33	-5,770.07	-1,395.44	1,835.01	1,702.36	132.65	13.833		
17,300.00	12,620.00	16,573.59	12,123.00	105.98	90.20	74.33	-5,870.07	-1,394.44	1,835.09	1,700.43	134.66	13.627		
17,400.00	12,620.00	16,673.59	12,123.00	107.48	91.66	74.33	-5,970.06	-1,393.44	1,835.18	1,698.49	136.69	13.426		
17,500.00	12,620.00	16,773.59	12,123.00	108.99	93.12	74.33	-6,070.06	-1,392.44	1,835.26	1,696.55	138.71	13.230		
17,600.00	12,620.00	16,873.59	12,123.00	110.50	94.60	74.33	-6,170.05	-1,391.44	1,835.34	1,694.59	140.75	13.040		
17,700.00	12,620.00	16,973.59	12,123.00	112.01	96.08	74.33	-6,270.05	-1,390.43	1,835.43	1,692.63	142.79	12.854		
17,800.00	12,620.00	17,073.59	12,123.00	113.53	97.56	74.33	-6,370.04	-1,389.43	1,835.51	1,690.67	144.84	12.672		
17,900.00	12,620.00	17,173.59	12,123.00	115.06	99.05	74.33	-6,470.04	-1,388.43	1,835.60	1,688.70	146.90	12.496		
18,000.00	12,620.00	17,273.59	12,123.00	116.58	100.54	74.33	-6,570.03	-1,387.43	1,835.68	1,686.72	148.96	12.323		
18,100.00	12,620.00	17,373.59	12,123.00	118.11	102.04	74.33	-6,670.03	-1,386.43	1,835.77	1,684.74	151.02	12.155		
18,200.00	12,620.00	17,473.59	12,123.00	119.65	103.55	74.34	-6,770.02	-1,385.43	1,835.85	1,682.76	153.10	11.992		
18,300.00	12,620.00	17,573.59	12,123.00	121.18	105.06	74.34	-6,870.02	-1,384.43	1,835.94	1,680.76	155.17	11.832		
18,400.00	12,620.00	17,673.59	12,123.00	122.72	106.57	74.34	-6,970.01	-1,383.43	1,836.02	1,678.76	157.26	11.675		
18,500.00	12,620.00	17,773.59	12,123.00	124.26	108.09	74.34	-7,070.01	-1,382.42	1,836.10	1,676.76	159.34	11.523		
18,600.00	12,620.00	17,873.59	12,123.00	125.81	109.61	74.34	-7,170.00	-1,381.42	1,836.19	1,674.76	161.43	11.374		
18,700.00	12,620.00	17,973.59	12,123.00	127.35	111.13	74.34	-7,270.00	-1,380.42	1,836.27	1,672.75	163.53	11.229		
18,800.00	12,620.00	18,073.59	12,123.00	128.90	112.66	74.34	-7,369.99	-1,379.42	1,836.36	1,670.73	165.63	11.087		
18,900.00	12,620.00	18,173.59	12,123.00	130.46	114.19	74.34	-7,469.99	-1,378.42	1,836.44	1,668.71	167.73	10.949		
19,000.00	12,620.00	18,273.59	12,123.00	132.01	115.73	74.34	-7,569.98	-1,377.42	1,836.53	1,666.69	169.84	10.813		

CC - Min centre to center distance or 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference				Offset		Semi Major Axis			Distance				Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,100.00	12,620.00	18,373.59	12,123.00	133.57	117.27	74.34	-7,669.98	-1,376.42	1,836.61	1,664.66	171.95	10.681		
19,200.00	12,620.00	18,473.59	12,123.00	135.13	118.81	74.34	-7,769.97	-1,375.41	1,836.70	1,662.63	174.06	10.552		
19,300.00	12,620.00	18,573.59	12,123.00	136.69	120.35	74.34	-7,869.97	-1,374.41	1,836.78	1,660.60	176.18	10.425		
19,400.00	12,620.00	18,673.59	12,123.00	138.25	121.90	74.34	-7,969.96	-1,373.41	1,836.86	1,658.56	178.30	10.302		
19,500.00	12,620.00	18,773.59	12,123.00	139.82	123.45	74.34	-8,069.96	-1,372.41	1,836.95	1,656.52	180.43	10.181		
19,600.00	12,620.00	18,873.59	12,123.00	141.39	125.00	74.35	-8,169.95	-1,371.41	1,837.03	1,654.48	182.56	10.063		
19,700.00	12,620.00	18,973.59	12,123.00	142.96	126.55	74.35	-8,269.95	-1,370.41	1,837.12	1,652.43	184.68	9.947		
19,800.00	12,620.00	19,073.59	12,123.00	144.53	128.11	74.35	-8,369.94	-1,369.41	1,837.20	1,650.38	186.82	9.834		
19,900.00	12,620.00	19,173.59	12,123.00	146.10	129.67	74.35	-8,469.94	-1,368.41	1,837.29	1,648.33	188.95	9.723		
20,000.00	12,620.00	19,273.59	12,123.00	147.68	131.23	74.35	-8,569.93	-1,367.40	1,837.37	1,646.28	191.09	9.615		
20,100.00	12,620.00	19,373.59	12,123.00	149.25	132.80	74.35	-8,669.93	-1,366.40	1,837.45	1,644.22	193.24	9.509		
20,200.00	12,620.00	19,473.59	12,123.00	150.83	134.36	74.35	-8,769.92	-1,365.40	1,837.54	1,642.16	195.38	9.405		
20,300.00	12,620.00	19,573.59	12,123.00	152.41	135.93	74.35	-8,869.92	-1,364.40	1,837.62	1,640.10	197.53	9.303		
20,400.00	12,620.00	19,673.59	12,123.00	153.99	137.50	74.35	-8,969.91	-1,363.40	1,837.71	1,638.03	199.67	9.204		
20,500.00	12,620.00	19,773.59	12,123.00	155.58	139.07	74.35	-9,069.91	-1,362.40	1,837.79	1,635.97	201.82	9.106		
20,600.00	12,620.00	19,873.59	12,123.00	157.16	140.65	74.35	-9,169.90	-1,361.40	1,837.88	1,633.90	203.98	9.010		
20,700.00	12,620.00	19,973.59	12,123.00	158.75	142.22	74.35	-9,269.90	-1,360.39	1,837.96	1,631.83	206.13	8.916		
20,800.00	12,620.00	20,073.59	12,123.00	160.33	143.80	74.35	-9,369.89	-1,359.39	1,838.05	1,629.76	208.29	8.824		
20,900.00	12,620.00	20,173.59	12,123.00	161.92	145.38	74.35	-9,469.89	-1,358.39	1,838.13	1,627.68	210.45	8.734		
21,000.00	12,620.00	20,273.59	12,123.00	163.51	146.96	74.36	-9,569.88	-1,357.39	1,838.21	1,625.61	212.61	8.646		
21,100.00	12,620.00	20,373.59	12,123.00	165.10	148.54	74.36	-9,669.88	-1,356.39	1,838.30	1,623.53	214.77	8.559		
21,200.00	12,620.00	20,473.59	12,123.00	166.69	150.12	74.36	-9,769.87	-1,355.39	1,838.38	1,621.45	216.93	8.474		
21,300.00	12,620.00	20,573.59	12,123.00	168.29	151.71	74.36	-9,869.87	-1,354.39	1,838.47	1,619.37	219.10	8.391		
21,400.00	12,620.00	20,673.59	12,123.00	169.88	153.30	74.36	-9,969.86	-1,353.39	1,838.55	1,617.28	221.27	8.309		
21,500.00	12,620.00	20,773.59	12,123.00	171.48	154.88	74.36	-10,069.86	-1,352.38	1,838.64	1,615.20	223.44	8.229		
21,600.00	12,620.00	20,873.59	12,123.00	173.07	156.47	74.36	-10,169.85	-1,351.38	1,838.72	1,613.11	225.61	8.150		
21,700.00	12,620.00	20,973.59	12,123.00	174.67	158.06	74.36	-10,269.85	-1,350.38	1,838.81	1,611.03	227.78	8.073		
21,800.00	12,620.00	21,073.59	12,123.00	176.27	159.65	74.36	-10,369.84	-1,349.38	1,838.89	1,608.94	229.95	7.997		
21,900.00	12,620.00	21,173.59	12,123.00	177.87	161.25	74.36	-10,469.84	-1,348.38	1,838.97	1,606.85	232.13	7.922		
22,000.00	12,620.00	21,273.59	12,123.00	179.47	162.84	74.36	-10,569.83	-1,347.38	1,839.06	1,604.75	234.31	7.849		
22,100.00	12,620.00	21,373.59	12,123.00	181.07	164.44	74.36	-10,669.83	-1,346.38	1,839.14	1,602.66	236.48	7.777		
22,200.00	12,620.00	21,473.59	12,123.00	182.67	166.03	74.36	-10,769.82	-1,345.37	1,839.23	1,600.57	238.66	7.706		
22,300.00	12,620.00	21,573.59	12,123.00	184.27	167.63	74.37	-10,869.82	-1,344.37	1,839.31	1,598.47	240.84	7.637		
22,400.00	12,620.00	21,673.59	12,123.00	185.88	169.23	74.37	-10,969.81	-1,343.37	1,839.40	1,596.37	243.02	7.569		
22,500.00	12,620.00	21,773.59	12,123.00	187.48	170.83	74.37	-11,069.81	-1,342.37	1,839.48	1,594.27	245.21	7.502		
22,600.00	12,620.00	21,873.59	12,123.00	189.09	172.43	74.37	-11,169.80	-1,341.37	1,839.57	1,592.18	247.39	7.436		
22,700.00	12,620.00	21,973.59	12,123.00	190.69	174.03	74.37	-11,269.80	-1,340.37	1,839.65	1,590.07	249.58	7.371		
22,800.00	12,620.00	22,073.59	12,123.00	192.30	175.63	74.37	-11,369.79	-1,339.37	1,839.73	1,587.97	251.76	7.307		
22,856.94	12,620.00	22,129.15	12,123.00	193.22	176.47	74.37	-11,425.35	-1,338.81	1,839.78	1,586.83	252.95	7.273 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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	-90.55	-0.24	-24.99	25.00					
100.00	100.00	99.50	99.50	0.13	0.12	-90.55	-0.24	-24.99	24.99	24.81	0.18	141.200		
200.00	200.00	199.50	199.50	0.48	0.48	-90.55	-0.24	-24.99	24.99	24.31	0.68	36.584		
300.00	300.00	299.50	299.50	0.84	0.84	-90.55	-0.24	-24.99	24.99	23.80	1.19	21.000		
400.00	400.00	399.50	399.50	1.20	1.20	-90.55	-0.24	-24.99	24.99	23.29	1.70	14.726		
500.00	500.00	499.50	499.50	1.56	1.56	-90.55	-0.24	-24.99	24.99	22.79	2.20	11.339		
600.00	600.00	599.50	599.50	1.92	1.92	-90.55	-0.24	-24.99	24.99	22.28	2.71	9.219		
700.00	700.00	699.50	699.50	2.28	2.27	-90.55	-0.24	-24.99	24.99	21.77	3.22	7.766		
800.00	800.00	799.50	799.50	2.63	2.63	-90.55	-0.24	-24.99	24.99	21.27	3.72	6.709		
900.00	900.00	899.50	899.50	2.99	2.99	-90.55	-0.24	-24.99	24.99	20.76	4.23	5.906		
1,000.00	1,000.00	999.50	999.50	3.35	3.35	-90.55	-0.24	-24.99	24.99	20.25	4.74	5.274		
1,100.00	1,100.00	1,099.50	1,099.50	3.71	3.71	-90.55	-0.24	-24.99	24.99	19.75	5.25	4.764		
1,200.00	1,200.00	1,199.50	1,199.50	4.07	4.07	-90.55	-0.24	-24.99	24.99	19.24	5.75	4.344		
1,300.00	1,300.00	1,299.50	1,299.50	4.43	4.43	-90.55	-0.24	-24.99	24.99	18.73	6.26	3.992		
1,400.00	1,400.00	1,399.50	1,399.50	4.79	4.78	-90.55	-0.24	-24.99	24.99	18.22	6.77	3.693		
1,500.00	1,500.00	1,499.50	1,499.50	5.14	5.14	-90.55	-0.24	-24.99	24.99	17.72	7.27	3.436		
1,600.00	1,600.00	1,599.50	1,599.50	5.50	5.50	-90.55	-0.24	-24.99	24.99	17.21	7.78	3.212		
1,700.00	1,700.00	1,699.50	1,699.50	5.86	5.86	-90.55	-0.24	-24.99	24.99	16.70	8.29	3.016		
1,800.00	1,800.00	1,799.50	1,799.50	6.22	6.22	-90.55	-0.24	-24.99	24.99	16.20	8.79	2.842		
1,900.00	1,900.00	1,899.50	1,899.50	6.58	6.58	-90.55	-0.24	-24.99	24.99	15.69	9.30	2.687		
2,000.00	2,000.00	1,999.50	1,999.50	6.94	6.93	-90.55	-0.24	-24.99	24.99	15.18	9.81	2.548		
2,100.00	2,100.00	2,099.50	2,099.50	7.29	7.29	-90.55	-0.24	-24.99	24.99	14.68	10.32	2.423		
2,200.00	2,200.00	2,199.50	2,199.50	7.65	7.65	-90.55	-0.24	-24.99	24.99	14.17	10.82	2.309		
2,300.00	2,300.00	2,299.50	2,299.50	8.01	8.01	-90.55	-0.24	-24.99	24.99	13.66	11.33	2.206		
2,400.00	2,400.00	2,399.50	2,399.50	8.37	8.37	-90.55	-0.24	-24.99	24.99	13.16	11.84	2.111		
2,500.00	2,500.00	2,499.50	2,499.50	8.73	8.73	-90.55	-0.24	-24.99	24.99	12.65	12.34	2.025		
2,600.00	2,600.00	2,599.50	2,599.50	9.09	9.09	-90.55	-0.24	-24.99	24.99	12.14	12.85	1.945		
2,700.00	2,700.00	2,699.50	2,699.50	9.45	9.44	-90.55	-0.24	-24.99	24.99	11.63	13.36	1.871		
2,800.00	2,800.00	2,799.50	2,799.50	9.80	9.80	-90.55	-0.24	-24.99	24.99	11.13	13.86	1.803		
2,900.00	2,900.00	2,899.50	2,899.50	10.16	10.16	-90.55	-0.24	-24.99	24.99	10.62	14.37	1.739		
3,000.00	3,000.00	2,999.50	2,999.50	10.52	10.52	-90.55	-0.24	-24.99	24.99	10.11	14.88	1.680		
3,100.00	3,100.00	3,099.50	3,099.50	10.88	10.88	-90.55	-0.24	-24.99	24.99	9.61	15.38	1.624		
3,200.00	3,200.00	3,199.50	3,199.50	11.24	11.24	-90.55	-0.24	-24.99	24.99	9.10	15.89	1.573		
3,300.00	3,300.00	3,299.63	3,299.62	11.60	11.58	-93.48	-1.50	-24.67	24.72	8.33	16.39	1.508		
3,400.00	3,399.99	3,399.68	3,399.59	11.94	11.90	97.48	-5.30	-23.71	24.43	7.58	16.85	1.449 Level 3		
3,420.89	3,420.87	3,420.57	3,420.45	12.00	11.97	96.20	-6.41	-23.43	24.42	7.47	16.95	1.441 Level 3, CC		
3,500.00	3,499.91	3,499.67	3,499.36	12.26	12.23	91.35	-11.63	-22.11	24.55	7.24	17.31	1.418 Level 3, ES		
3,600.00	3,599.69	3,599.58	3,598.85	12.59	12.55	85.38	-20.48	-19.87	25.07	7.30	17.77	1.411 Level 3, SF		
3,700.00	3,699.27	3,699.43	3,698.01	12.92	12.88	79.77	-31.85	-16.99	25.98	7.75	18.23	1.425 Level 3		
3,800.00	3,798.57	3,799.20	3,796.75	13.25	13.22	74.67	-45.71	-13.48	27.24	8.56	18.67	1.459 Level 3		
3,900.00	3,897.54	3,898.91	3,895.02	13.58	13.56	70.16	-62.05	-9.34	28.80	9.69	19.11	1.507		
4,000.00	3,996.09	3,998.55	3,992.75	13.92	13.91	66.24	-80.87	-4.58	30.64	11.10	19.54	1.568		
4,100.00	4,094.16	4,098.12	4,089.87	14.28	14.27	62.90	-102.13	0.80	32.71	12.75	19.97	1.638		
4,184.40	4,176.52	4,182.38	4,171.69	14.58	14.59	61.08	-121.64	5.74	34.39	14.03	20.36	1.689		
4,200.00	4,191.70	4,197.98	4,186.83	14.64	14.64	60.99	-125.26	6.65	34.63	14.19	20.44	1.694		
4,300.00	4,289.03	4,297.97	4,283.90	15.01	15.03	60.43	-148.53	12.54	36.17	15.21	20.96	1.726		
4,400.00	4,386.37	4,397.95	4,380.96	15.39	15.42	59.92	-171.79	18.43	37.71	16.23	21.49	1.755		
4,500.00	4,483.70	4,497.94	4,478.03	15.77	15.82	59.46	-195.05	24.32	39.26	17.24	22.02	1.783		
4,600.00	4,581.03	4,597.93	4,575.09	16.17	16.22	59.02	-218.31	30.20	40.81	18.24	22.56	1.808		
4,700.00	4,678.36	4,697.92	4,672.16	16.57	16.64	58.62	-241.57	36.09	42.36	19.24	23.11	1.833		
4,800.00	4,775.69	4,797.90	4,769.23	16.98	17.06	58.25	-264.83	41.98	43.91	20.24	23.67	1.855		
4,900.00	4,873.02	4,897.89	4,866.29	17.39	17.48	57.90	-288.09	47.87	45.46	21.23	24.23	1.876		

CC - Min centre to center distance or 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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 602H - OH - Plan #1													Offset Well Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD														
Reference				Offset		Semi Major Axis			Distance					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
5,000.00	4,970.36	4,997.88	4,963.36	17.81	17.92	57.57	-311.35	53.75	47.02	22.22	24.80	1.896		
5,100.00	5,067.69	5,097.87	5,060.42	18.23	18.35	57.27	-334.61	59.64	48.57	23.21	25.37	1.915		
5,200.00	5,165.02	5,197.85	5,157.49	18.66	18.79	56.98	-357.87	65.53	50.13	24.19	25.94	1.932		
5,300.00	5,262.35	5,297.84	5,254.56	19.09	19.24	56.72	-381.13	71.42	51.69	25.17	26.52	1.949		
5,400.00	5,359.68	5,397.83	5,351.62	19.53	19.69	56.46	-404.39	77.30	53.25	26.14	27.11	1.964		
5,500.00	5,457.01	5,497.82	5,448.69	19.97	20.14	56.23	-427.65	83.19	54.81	27.12	27.69	1.979		
5,600.00	5,554.34	5,597.80	5,545.75	20.42	20.60	56.00	-450.91	89.08	56.37	28.09	28.28	1.993		
5,700.00	5,651.68	5,697.79	5,642.82	20.87	21.06	55.79	-474.17	94.97	57.94	29.06	28.88	2.006		
5,800.00	5,749.01	5,797.78	5,739.89	21.32	21.53	55.59	-497.43	100.85	59.50	30.03	29.47	2.019		
5,900.00	5,846.34	5,897.77	5,836.95	21.77	21.99	55.40	-520.69	106.74	61.06	30.99	30.07	2.031		
6,000.00	5,943.67	5,997.75	5,934.02	22.23	22.46	55.21	-543.95	112.63	62.63	31.96	30.67	2.042		
6,100.00	6,041.00	6,097.74	6,031.08	22.69	22.93	55.04	-567.21	118.52	64.19	32.92	31.27	2.053		
6,200.00	6,138.33	6,197.73	6,128.15	23.15	23.41	54.88	-590.47	124.40	65.76	33.88	31.88	2.063		
6,300.00	6,235.67	6,297.72	6,225.22	23.61	23.89	54.72	-613.74	130.29	67.33	34.84	32.49	2.072		
6,400.00	6,333.00	6,397.70	6,322.28	24.08	24.37	54.57	-637.00	136.18	68.89	35.80	33.10	2.082		
6,500.00	6,430.33	6,497.69	6,419.35	24.55	24.85	54.43	-660.26	142.07	70.46	36.75	33.71	2.090		
6,600.00	6,527.66	6,597.68	6,516.41	25.02	25.33	54.29	-683.52	147.95	72.03	37.71	34.32	2.099		
6,700.00	6,624.99	6,697.67	6,613.48	25.49	25.81	54.16	-706.78	153.84	73.60	38.66	34.93	2.107		
6,800.00	6,722.32	6,797.65	6,710.55	25.96	26.30	54.03	-730.04	159.73	75.17	39.62	35.55	2.114		
6,900.00	6,819.65	6,897.64	6,807.61	26.44	26.79	53.91	-753.30	165.62	76.73	40.57	36.16	2.122		
7,000.00	6,916.99	6,997.63	6,904.68	26.91	27.28	53.80	-776.56	171.50	78.30	41.52	36.78	2.129		
7,100.00	7,014.32	7,097.62	7,001.74	27.39	27.77	53.69	-799.82	177.39	79.87	42.47	37.40	2.136		
7,200.00	7,111.65	7,197.60	7,098.81	27.87	28.26	53.58	-823.08	183.28	81.44	43.42	38.02	2.142		
7,300.00	7,208.98	7,297.59	7,195.88	28.35	28.76	53.48	-846.34	189.17	83.01	44.37	38.64	2.148		
7,400.00	7,306.31	7,397.58	7,292.94	28.84	29.25	53.38	-869.60	195.05	84.58	45.32	39.26	2.154		
7,500.00	7,403.64	7,497.57	7,390.01	29.32	29.75	53.28	-892.86	200.94	86.15	46.27	39.89	2.160		
7,600.00	7,500.98	7,597.56	7,487.07	29.80	30.25	53.19	-916.12	206.83	87.73	47.21	40.51	2.165		
7,700.00	7,598.31	7,697.54	7,584.14	30.29	30.74	53.10	-939.38	212.71	89.30	48.16	41.14	2.171		
7,800.00	7,695.64	7,797.53	7,681.21	30.78	31.24	53.02	-962.64	218.60	90.87	49.11	41.76	2.176		
7,900.00	7,792.97	7,897.52	7,778.27	31.27	31.75	52.93	-985.90	224.49	92.44	50.05	42.39	2.181		
8,000.00	7,890.30	7,997.51	7,875.34	31.75	32.25	52.85	-1,009.16	230.38	94.01	51.00	43.02	2.185		
8,062.86	7,951.48	8,060.76	7,936.76	32.06	32.56	52.84	-1,023.80	234.08	94.95	51.52	43.43	2.186		
8,100.00	7,987.67	8,098.50	7,973.50	32.24	32.75	52.93	-1,032.17	236.20	95.37	51.67	43.70	2.183		
8,200.00	8,085.50	8,200.12	8,072.83	32.71	33.24	53.14	-1,052.96	241.46	96.41	52.03	44.38	2.172		
8,300.00	8,183.84	8,301.76	8,172.71	33.17	33.70	53.33	-1,071.17	246.07	97.33	52.29	45.03	2.161		
8,400.00	8,282.61	8,403.40	8,273.07	33.60	34.15	53.48	-1,086.81	250.03	98.12	52.47	45.65	2.149		
8,500.00	8,381.76	8,505.06	8,373.83	34.01	34.57	53.60	-1,099.85	253.33	98.78	52.56	46.22	2.137		
8,600.00	8,481.22	8,606.72	8,474.91	34.40	34.96	53.69	-1,110.30	255.97	99.32	52.56	46.76	2.124		
8,700.00	8,580.92	8,708.39	8,576.26	34.77	35.34	53.75	-1,118.13	257.96	99.73	52.47	47.26	2.110		
8,800.00	8,680.78	8,810.06	8,677.79	35.12	35.69	53.79	-1,123.34	259.28	100.01	52.30	47.71	2.096		
8,900.00	8,780.74	8,911.74	8,779.43	35.45	36.02	53.80	-1,125.93	259.93	100.16	52.03	48.13	2.081		
8,947.26	8,828.00	8,959.79	8,827.48	35.59	36.17	-143.22	-1,126.24	260.01	100.19	51.87	48.31	2.074		
9,000.00	8,880.74	9,012.56	8,880.24	35.75	36.32	-143.22	-1,126.24	260.01	100.19	51.65	48.54	2.064		
9,100.00	8,980.74	9,112.56	8,980.24	36.04	36.61	-143.22	-1,126.24	260.01	100.19	51.21	48.98	2.046		
9,200.00	9,080.74	9,212.56	9,080.24	36.34	36.90	-143.22	-1,126.24	260.01	100.19	50.77	49.41	2.027		
9,300.00	9,180.74	9,312.56	9,180.24	36.64	37.19	-143.22	-1,126.24	260.01	100.19	50.33	49.85	2.010		
9,400.00	9,280.74	9,412.56	9,280.24	36.93	37.48	-143.22	-1,126.24	260.01	100.19	49.89	50.29	1.992		
9,500.00	9,380.74	9,512.56	9,380.24	37.23	37.78	-143.22	-1,126.24	260.01	100.19	49.45	50.73	1.975		
9,600.00	9,480.74	9,612.56	9,480.24	37.53	38.07	-143.22	-1,126.24	260.01	100.19	49.01	51.18	1.958		
9,700.00	9,580.74	9,712.56	9,580.24	37.84	38.37	-143.22	-1,126.24	260.01	100.19	48.57	51.62	1.941		
9,800.00	9,680.74	9,812.56	9,680.24	38.14	38.67	-143.22	-1,126.24	260.01	100.19	48.12	52.06	1.924		
9,900.00	9,780.74	9,912.56	9,780.24	38.44	38.97	-143.22	-1,126.24	260.01	100.19	47.68	52.51	1.908		

CC - Min centre to center distance or 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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 602H - 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		
10,000.00	9,880.74	10,012.56	9,880.24	38.75	39.27	-143.22	-1,126.24	260.01	100.19	47.23	52.96	1.892		
10,100.00	9,980.74	10,112.56	9,980.24	39.05	39.57	-143.22	-1,126.24	260.01	100.19	46.78	53.40	1.876		
10,200.00	10,080.74	10,212.56	10,080.24	39.36	39.87	-143.22	-1,126.24	260.01	100.19	46.33	53.85	1.860		
10,300.00	10,180.74	10,312.56	10,180.24	39.66	40.17	-143.22	-1,126.24	260.01	100.19	45.88	54.30	1.845		
10,400.00	10,280.74	10,412.56	10,280.24	39.97	40.47	-143.22	-1,126.24	260.01	100.19	45.43	54.75	1.830		
10,500.00	10,380.74	10,512.56	10,380.24	40.28	40.78	-143.22	-1,126.24	260.01	100.19	44.98	55.21	1.815		
10,600.00	10,480.74	10,612.56	10,480.24	40.59	41.08	-143.22	-1,126.24	260.01	100.19	44.53	55.66	1.800		
10,700.00	10,580.74	10,712.56	10,580.24	40.90	41.39	-143.22	-1,126.24	260.01	100.19	44.07	56.11	1.785		
10,800.00	10,680.74	10,812.56	10,680.24	41.21	41.69	-143.22	-1,126.24	260.01	100.19	43.62	56.57	1.771		
10,900.00	10,780.74	10,912.56	10,780.24	41.52	42.00	-143.22	-1,126.24	260.01	100.19	43.16	57.02	1.757		
11,000.00	10,880.74	11,012.56	10,880.24	41.84	42.31	-143.22	-1,126.24	260.01	100.19	42.71	57.48	1.743		
11,100.00	10,980.74	11,112.56	10,980.24	42.15	42.62	-143.22	-1,126.24	260.01	100.19	42.25	57.94	1.729		
11,200.00	11,080.74	11,212.56	11,080.24	42.46	42.93	-143.22	-1,126.24	260.01	100.19	41.79	58.39	1.716		
11,300.00	11,180.74	11,312.56	11,180.24	42.78	43.24	-143.22	-1,126.24	260.01	100.19	41.33	58.85	1.702		
11,400.00	11,280.74	11,412.56	11,280.24	43.09	43.55	-143.22	-1,126.24	260.01	100.19	40.87	59.31	1.689		
11,500.00	11,380.74	11,512.56	11,380.24	43.41	43.86	-143.22	-1,126.24	260.01	100.19	40.41	59.77	1.676		
11,507.81	11,388.55	11,520.36	11,388.05	43.43	43.89	-143.22	-1,126.24	260.01	100.19	40.38	59.81	1.675		
11,600.00	11,480.74	11,608.11	11,475.78	43.73	44.17	-143.52	-1,127.12	260.02	100.99	40.68	60.31	1.674		
11,700.00	11,580.74	11,694.24	11,561.10	44.04	44.52	-147.04	-1,138.32	260.13	111.69	51.58	60.11	1.858		
11,800.00	11,680.74	11,775.33	11,639.04	44.36	44.91	-152.47	-1,160.44	260.35	135.47	76.54	58.93	2.299		
11,900.00	11,780.74	11,850.00	11,707.40	44.68	45.33	-157.65	-1,190.35	260.64	172.24	114.87	57.37	3.002		
12,000.00	11,880.74	11,913.95	11,762.43	45.00	45.74	-161.54	-1,222.85	260.96	220.54	165.06	55.49	3.975		
12,100.00	11,980.74	11,970.43	11,807.77	45.32	46.12	-164.41	-1,256.50	261.29	278.39	224.60	53.80	5.175		
12,166.30	12,047.04	12,000.00	11,830.12	45.53	46.33	-165.72	-1,275.85	261.48	321.08	268.56	52.51	6.114		
12,200.00	12,080.72	12,019.49	11,844.30	45.65	46.48	13.46	-1,289.22	261.61	343.14	290.89	52.26	6.567		
12,250.00	12,130.45	12,050.00	11,865.55	45.84	46.70	11.73	-1,311.11	261.82	374.67	322.76	51.92	7.217		
12,300.00	12,179.53	12,067.18	11,876.99	46.05	46.84	10.66	-1,323.91	261.95	404.31	353.59	50.71	7.973		
12,350.00	12,227.61	12,100.00	11,897.77	46.29	47.09	9.55	-1,349.32	262.20	432.42	381.99	50.43	8.575		
12,400.00	12,274.32	12,115.12	11,906.85	46.55	47.22	8.88	-1,361.41	262.32	458.36	409.24	49.12	9.331		
12,450.00	12,319.29	12,150.00	11,926.54	46.83	47.50	8.13	-1,390.19	262.60	482.78	433.91	48.87	9.878		
12,500.00	12,362.19	12,163.26	11,933.56	47.13	47.61	7.69	-1,401.44	262.71	504.79	457.28	47.51	10.625		
12,550.00	12,402.70	12,187.39	11,945.66	47.44	47.82	7.25	-1,422.31	262.91	525.01	478.31	46.70	11.242		
12,600.00	12,440.50	12,200.00	11,951.63	47.78	47.92	6.94	-1,433.42	263.02	543.41	498.01	45.40	11.971		
12,650.00	12,475.30	12,235.73	11,967.21	48.13	48.23	6.59	-1,465.57	263.34	559.23	514.12	45.12	12.395		
12,700.00	12,506.84	12,250.00	11,972.86	48.50	48.35	6.38	-1,478.67	263.47	573.34	529.38	43.96	13.042		
12,750.00	12,534.89	12,284.16	11,985.06	48.88	48.66	6.16	-1,510.57	263.78	584.95	541.34	43.61	13.413		
12,800.00	12,559.22	12,300.00	11,990.07	49.28	48.80	6.02	-1,525.59	263.93	594.66	552.04	42.62	13.952		
12,850.00	12,579.65	12,332.64	11,999.07	49.68	49.09	5.89	-1,556.97	264.23	601.94	559.70	42.24	14.250		
12,900.00	12,596.03	12,350.00	12,003.12	50.10	49.25	5.82	-1,573.84	264.40	607.20	565.77	41.43	14.656		
12,950.00	12,608.24	12,381.16	12,009.11	50.52	49.53	5.78	-1,604.41	264.70	610.07	569.00	41.07	14.855		
13,000.00	12,616.17	12,400.00	12,011.92	50.94	49.70	5.77	-1,623.04	264.88	610.84	570.39	40.45	15.100		
13,050.00	12,619.77	12,429.69	12,015.10	51.36	49.97	5.79	-1,652.55	265.17	609.28	569.13	40.15	15.174		
13,066.30	12,620.00	12,450.00	12,016.39	51.50	50.16	5.82	-1,672.82	265.37	608.56	568.29	40.27	15.111		
13,100.00	12,620.00	12,450.00	12,016.39	51.79	50.16	5.82	-1,672.82	265.37	606.54	566.80	39.74	15.261		
13,145.88	12,620.00	12,476.36	12,017.00	52.19	50.40	5.83	-1,699.17	265.63	605.63	566.06	39.57	15.305		
13,200.00	12,620.00	12,530.41	12,017.00	52.67	50.90	5.83	-1,753.22	266.16	605.63	565.93	39.70	15.254		
13,300.00	12,620.00	12,630.41	12,017.00	53.58	51.85	5.84	-1,853.22	267.14	605.65	565.67	39.97	15.152		
13,400.00	12,620.00	12,730.41	12,017.00	54.53	52.83	5.85	-1,953.21	268.12	605.66	565.38	40.27	15.039		
13,500.00	12,620.00	12,830.41	12,017.00	55.51	53.84	5.86	-2,053.21	269.10	605.67	565.07	40.60	14.918		
13,600.00	12,620.00	12,930.41	12,017.00	56.53	54.89	5.87	-2,153.20	270.08	605.68	564.72	40.96	14.788		
13,700.00	12,620.00	13,030.41	12,017.00	57.57	55.96	5.88	-2,253.20	271.06	605.69	564.35	41.34	14.650		
13,800.00	12,620.00	13,130.41	12,017.00	58.64	57.07	5.89	-2,353.19	272.04	605.70	563.95	41.75	14.506		

CC - Min centre to center distance or 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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 602H - 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		
13,900.00	12,620.00	13,230.41	12,017.00	59.74	58.20	5.90	-2,453.19	273.02	605.71	563.52	42.19	14.356		
14,000.00	12,620.00	13,330.41	12,017.00	60.86	59.35	5.91	-2,553.18	274.01	605.72	563.07	42.66	14.200		
14,100.00	12,620.00	13,430.41	12,017.00	62.01	60.53	5.92	-2,653.18	274.99	605.73	562.59	43.14	14.040		
14,200.00	12,620.00	13,530.41	12,017.00	63.18	61.72	5.93	-2,753.17	275.97	605.75	562.09	43.65	13.876		
14,300.00	12,620.00	13,630.41	12,017.00	64.37	62.94	5.94	-2,853.17	276.95	605.76	561.57	44.19	13.709		
14,400.00	12,620.00	13,730.41	12,017.00	65.58	64.18	5.95	-2,953.16	277.93	605.77	561.03	44.74	13.539		
14,500.00	12,620.00	13,830.41	12,017.00	66.80	65.44	5.96	-3,053.16	278.91	605.78	560.46	45.32	13.367		
14,600.00	12,620.00	13,930.41	12,017.00	68.05	66.71	5.97	-3,153.15	279.89	605.79	559.88	45.92	13.194		
14,700.00	12,620.00	14,030.41	12,017.00	69.31	68.00	5.98	-3,253.15	280.87	605.80	559.27	46.53	13.019		
14,800.00	12,620.00	14,130.41	12,017.00	70.59	69.30	5.99	-3,353.14	281.85	605.81	558.65	47.17	12.844		
14,900.00	12,620.00	14,230.41	12,017.00	71.89	70.62	6.01	-3,453.14	282.83	605.82	558.00	47.82	12.669		
15,000.00	12,620.00	14,330.41	12,017.00	73.20	71.96	6.02	-3,553.13	283.81	605.84	557.34	48.49	12.494		
15,100.00	12,620.00	14,430.41	12,017.00	74.52	73.30	6.03	-3,653.13	284.79	605.85	556.67	49.18	12.319		
15,200.00	12,620.00	14,530.41	12,017.00	75.85	74.66	6.04	-3,753.13	285.77	605.86	555.98	49.88	12.146		
15,300.00	12,620.00	14,630.41	12,017.00	77.20	76.03	6.05	-3,853.12	286.76	605.87	555.27	50.60	11.974		
15,400.00	12,620.00	14,730.41	12,017.00	78.56	77.41	6.06	-3,953.12	287.74	605.88	554.55	51.33	11.803		
15,500.00	12,620.00	14,830.41	12,017.00	79.93	78.80	6.07	-4,053.11	288.72	605.89	553.81	52.08	11.634		
15,600.00	12,620.00	14,930.41	12,017.00	81.31	80.20	6.08	-4,153.11	289.70	605.90	553.06	52.84	11.467		
15,700.00	12,620.00	15,030.41	12,017.00	82.70	81.61	6.09	-4,253.10	290.68	605.92	552.30	53.61	11.302		
15,800.00	12,620.00	15,130.41	12,017.00	84.10	83.03	6.10	-4,353.10	291.66	605.93	551.53	54.40	11.139		
15,900.00	12,620.00	15,230.41	12,017.00	85.51	84.46	6.11	-4,453.09	292.64	605.94	550.74	55.20	10.978		
16,000.00	12,620.00	15,330.41	12,017.00	86.93	85.90	6.12	-4,553.09	293.62	605.95	549.95	56.00	10.820		
16,100.00	12,620.00	15,430.41	12,017.00	88.36	87.34	6.13	-4,653.08	294.60	605.96	549.14	56.82	10.664		
16,200.00	12,620.00	15,530.41	12,017.00	89.79	88.79	6.14	-4,753.08	295.58	605.97	548.32	57.65	10.511		
16,300.00	12,620.00	15,630.41	12,017.00	91.23	90.25	6.15	-4,853.07	296.56	605.98	547.49	58.49	10.360		
16,400.00	12,620.00	15,730.41	12,017.00	92.68	91.71	6.16	-4,953.07	297.54	606.00	546.66	59.34	10.212		
16,500.00	12,620.00	15,830.41	12,017.00	94.13	93.18	6.17	-5,053.06	298.52	606.01	545.81	60.20	10.067		
16,600.00	12,620.00	15,930.41	12,017.00	95.59	94.66	6.18	-5,153.06	299.51	606.02	544.95	61.07	9.924		
16,700.00	12,620.00	16,030.41	12,017.00	97.06	96.14	6.19	-5,253.05	300.49	606.03	544.09	61.94	9.784		
16,800.00	12,620.00	16,130.41	12,017.00	98.53	97.63	6.20	-5,353.05	301.47	606.04	543.22	62.82	9.647		
16,900.00	12,620.00	16,230.41	12,017.00	100.01	99.12	6.21	-5,453.04	302.45	606.05	542.34	63.71	9.512		
17,000.00	12,620.00	16,330.41	12,017.00	101.50	100.62	6.22	-5,553.04	303.43	606.07	541.46	64.61	9.380		
17,100.00	12,620.00	16,430.41	12,017.00	102.98	102.12	6.23	-5,653.03	304.41	606.08	540.56	65.52	9.251		
17,200.00	12,620.00	16,530.41	12,017.00	104.48	103.63	6.24	-5,753.03	305.39	606.09	539.66	66.43	9.124		
17,300.00	12,620.00	16,630.41	12,017.00	105.98	105.14	6.25	-5,853.02	306.37	606.10	538.76	67.34	9.000		
17,400.00	12,620.00	16,730.41	12,017.00	107.48	106.66	6.26	-5,953.02	307.35	606.11	537.85	68.27	8.878		
17,500.00	12,620.00	16,830.41	12,017.00	108.99	108.18	6.27	-6,053.01	308.33	606.13	536.93	69.20	8.759		
17,600.00	12,620.00	16,930.41	12,017.00	110.50	109.70	6.28	-6,153.01	309.31	606.14	536.00	70.13	8.643		
17,700.00	12,620.00	17,030.41	12,017.00	112.01	111.23	6.29	-6,253.00	310.29	606.15	535.07	71.07	8.528		
17,800.00	12,620.00	17,130.41	12,017.00	113.53	112.76	6.30	-6,353.00	311.27	606.16	534.14	72.02	8.417		
17,900.00	12,620.00	17,230.41	12,017.00	115.06	114.29	6.31	-6,452.99	312.25	606.17	533.20	72.97	8.307		
18,000.00	12,620.00	17,330.41	12,017.00	116.58	115.83	6.32	-6,552.99	313.24	606.18	532.26	73.93	8.200		
18,100.00	12,620.00	17,430.41	12,017.00	118.11	117.37	6.33	-6,652.98	314.22	606.20	531.31	74.89	8.095		
18,200.00	12,620.00	17,530.41	12,017.00	119.65	118.91	6.34	-6,752.98	315.20	606.21	530.36	75.85	7.992		
18,300.00	12,620.00	17,630.41	12,017.00	121.18	120.46	6.35	-6,852.97	316.18	606.22	529.40	76.82	7.891		
18,400.00	12,620.00	17,730.41	12,017.00	122.72	122.01	6.36	-6,952.97	317.16	606.23	528.44	77.80	7.792		
18,500.00	12,620.00	17,830.41	12,017.00	124.26	123.56	6.37	-7,052.96	318.14	606.24	527.47	78.77	7.696		
18,600.00	12,620.00	17,930.41	12,017.00	125.81	125.11	6.38	-7,152.96	319.12	606.26	526.50	79.76	7.601		
18,700.00	12,620.00	18,030.41	12,017.00	127.35	126.67	6.39	-7,252.95	320.10	606.27	525.53	80.74	7.509		
18,800.00	12,620.00	18,130.41	12,017.00	128.90	128.23	6.40	-7,352.95	321.08	606.28	524.55	81.73	7.418		
18,900.00	12,620.00	18,230.41	12,017.00	130.46	129.79	6.41	-7,452.95	322.06	606.29	523.57	82.72	7.329		
19,000.00	12,620.00	18,330.41	12,017.00	132.01	131.35	6.42	-7,552.94	323.04	606.30	522.58	83.72	7.242		

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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference				Offset		Semi Major Axis			Distance				Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,100.00	12,620.00	18,430.41	12,017.00	133.57	132.92	6.43	-7,652.94	324.02	606.32	521.60	84.72	7.157		
19,200.00	12,620.00	18,530.41	12,017.00	135.13	134.48	6.44	-7,752.93	325.00	606.33	520.61	85.72	7.073		
19,300.00	12,620.00	18,630.41	12,017.00	136.69	136.05	6.45	-7,852.93	325.99	606.34	519.62	86.73	6.992		
19,400.00	12,620.00	18,730.41	12,017.00	138.25	137.63	6.46	-7,952.92	326.97	606.35	518.62	87.73	6.911		
19,500.00	12,620.00	18,830.41	12,017.00	139.82	139.20	6.47	-8,052.92	327.95	606.37	517.62	88.74	6.833		
19,600.00	12,620.00	18,930.41	12,017.00	141.39	140.77	6.48	-8,152.91	328.93	606.38	516.62	89.76	6.756		
19,700.00	12,620.00	19,030.41	12,017.00	142.96	142.35	6.49	-8,252.91	329.91	606.39	515.62	90.77	6.680		
19,800.00	12,620.00	19,130.41	12,017.00	144.53	143.93	6.50	-8,352.90	330.89	606.40	514.61	91.79	6.606		
19,900.00	12,620.00	19,230.41	12,017.00	146.10	145.51	6.51	-8,452.90	331.87	606.41	513.60	92.81	6.534		
20,000.00	12,620.00	19,330.41	12,017.00	147.68	147.09	6.52	-8,552.89	332.85	606.43	512.59	93.84	6.463		
20,100.00	12,620.00	19,430.41	12,017.00	149.25	148.67	6.53	-8,652.89	333.83	606.44	511.58	94.86	6.393		
20,200.00	12,620.00	19,530.41	12,017.00	150.83	150.26	6.54	-8,752.88	334.81	606.45	510.56	95.89	6.325		
20,300.00	12,620.00	19,630.41	12,017.00	152.41	151.84	6.55	-8,852.88	335.79	606.46	509.54	96.92	6.257		
20,400.00	12,620.00	19,730.41	12,017.00	153.99	153.43	6.56	-8,952.87	336.77	606.48	508.52	97.95	6.192		
20,500.00	12,620.00	19,830.41	12,017.00	155.58	155.02	6.57	-9,052.87	337.75	606.49	507.50	98.99	6.127		
20,600.00	12,620.00	19,930.41	12,017.00	157.16	156.61	6.58	-9,152.86	338.74	606.50	506.48	100.02	6.064		
20,700.00	12,620.00	20,030.41	12,017.00	158.75	158.20	6.59	-9,252.86	339.72	606.51	505.46	101.06	6.002		
20,800.00	12,620.00	20,130.41	12,017.00	160.33	159.80	6.61	-9,352.85	340.70	606.53	504.43	102.10	5.941		
20,900.00	12,620.00	20,230.41	12,017.00	161.92	161.39	6.62	-9,452.85	341.68	606.54	503.40	103.14	5.881		
21,000.00	12,620.00	20,330.41	12,017.00	163.51	162.98	6.63	-9,552.84	342.66	606.55	502.37	104.18	5.822		
21,100.00	12,620.00	20,430.41	12,017.00	165.10	164.58	6.64	-9,652.84	343.64	606.56	501.34	105.23	5.764		
21,200.00	12,620.00	20,530.41	12,017.00	166.69	166.18	6.65	-9,752.83	344.62	606.58	500.30	106.27	5.708		
21,300.00	12,620.00	20,630.41	12,017.00	168.29	167.78	6.66	-9,852.83	345.60	606.59	499.27	107.32	5.652		
21,400.00	12,620.00	20,730.41	12,017.00	169.88	169.37	6.67	-9,952.82	346.58	606.60	498.23	108.37	5.597		
21,500.00	12,620.00	20,830.41	12,017.00	171.48	170.97	6.68	-10,052.82	347.56	606.61	497.19	109.42	5.544		
21,600.00	12,620.00	20,930.41	12,017.00	173.07	172.58	6.69	-10,152.81	348.54	606.63	496.15	110.47	5.491		
21,700.00	12,620.00	21,030.41	12,017.00	174.67	174.18	6.70	-10,252.81	349.52	606.64	495.11	111.53	5.439		
21,800.00	12,620.00	21,130.41	12,017.00	176.27	175.78	6.71	-10,352.80	350.50	606.65	494.07	112.58	5.389		
21,900.00	12,620.00	21,230.41	12,017.00	177.87	177.38	6.72	-10,452.80	351.49	606.66	493.02	113.64	5.339		
22,000.00	12,620.00	21,330.41	12,017.00	179.47	178.99	6.73	-10,552.79	352.47	606.68	491.98	114.70	5.289		
22,100.00	12,620.00	21,430.41	12,017.00	181.07	180.60	6.74	-10,652.79	353.45	606.69	490.93	115.76	5.241		
22,200.00	12,620.00	21,530.41	12,017.00	182.67	182.20	6.75	-10,752.78	354.43	606.70	489.89	116.82	5.194		
22,300.00	12,620.00	21,630.41	12,017.00	184.27	183.81	6.76	-10,852.78	355.41	606.71	488.84	117.88	5.147		
22,400.00	12,620.00	21,730.41	12,017.00	185.88	185.42	6.77	-10,952.77	356.39	606.73	487.79	118.94	5.101		
22,500.00	12,620.00	21,830.41	12,017.00	187.48	187.03	6.78	-11,052.77	357.37	606.74	486.74	120.00	5.056		
22,600.00	12,620.00	21,930.41	12,017.00	189.09	188.64	6.79	-11,152.77	358.35	606.75	485.68	121.07	5.012		
22,700.00	12,620.00	22,030.41	12,017.00	190.69	190.25	6.80	-11,252.76	359.33	606.77	484.63	122.13	4.968		
22,800.00	12,620.00	22,130.41	12,017.00	192.30	191.86	6.81	-11,352.76	360.31	606.78	483.58	123.20	4.925		
22,856.94	12,620.00	22,187.30	12,017.00	193.22	192.77	6.81	-11,409.65	360.87	606.79	482.98	123.81	4.901		

CC - Min centre to center distance or 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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 603H - OH - Plan #1													Offset Well Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD														
Reference				Offset		Semi Major Axis			Distance					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.00	0.00	0.30	0.30	0.00	0.00	89.47	0.70	74.99	74.99					
100.00	100.00	100.30	100.30	0.13	0.13	89.47	0.70	74.99	74.99	74.82	0.18	420.846		
200.00	200.00	200.30	200.30	0.48	0.49	89.47	0.70	74.99	74.99	74.31	0.69	109.455		
300.00	300.00	300.30	300.30	0.84	0.84	89.47	0.70	74.99	74.99	73.80	1.19	62.908		
400.00	400.00	400.30	400.30	1.20	1.20	89.47	0.70	74.99	74.99	73.29	1.70	44.138		
500.00	500.00	500.30	500.30	1.56	1.56	89.47	0.70	74.99	74.99	72.79	2.21	33.995		
600.00	600.00	600.30	600.30	1.92	1.92	89.47	0.70	74.99	74.99	72.28	2.71	27.642		
700.00	700.00	700.30	700.30	2.28	2.28	89.47	0.70	74.99	74.99	71.77	3.22	23.290		
800.00	800.00	800.30	800.30	2.63	2.64	89.47	0.70	74.99	74.99	71.27	3.73	20.122		
900.00	900.00	900.30	900.30	2.99	2.99	89.47	0.70	74.99	74.99	70.76	4.23	17.713		
1,000.00	1,000.00	1,000.30	1,000.30	3.35	3.35	89.47	0.70	74.99	74.99	70.25	4.74	15.819		
1,100.00	1,100.00	1,100.30	1,100.30	3.71	3.71	89.47	0.70	74.99	74.99	69.75	5.25	14.291		
1,200.00	1,200.00	1,200.30	1,200.30	4.07	4.07	89.47	0.70	74.99	74.99	69.24	5.75	13.032		
1,300.00	1,300.00	1,300.30	1,300.30	4.43	4.43	89.47	0.70	74.99	74.99	68.73	6.26	11.977		
1,400.00	1,400.00	1,400.30	1,400.30	4.79	4.79	89.47	0.70	74.99	74.99	68.22	6.77	11.080		
1,500.00	1,500.00	1,500.30	1,500.30	5.14	5.15	89.47	0.70	74.99	74.99	67.72	7.28	10.308		
1,600.00	1,600.00	1,600.30	1,600.30	5.50	5.50	89.47	0.70	74.99	74.99	67.21	7.78	9.636		
1,700.00	1,700.00	1,700.30	1,700.30	5.86	5.86	89.47	0.70	74.99	74.99	66.70	8.29	9.047		
1,800.00	1,800.00	1,800.30	1,800.30	6.22	6.22	89.47	0.70	74.99	74.99	66.20	8.80	8.525		
1,900.00	1,900.00	1,900.30	1,900.30	6.58	6.58	89.47	0.70	74.99	74.99	65.69	9.30	8.061		
2,000.00	2,000.00	2,000.30	2,000.30	6.94	6.94	89.47	0.70	74.99	74.99	65.18	9.81	7.644		
2,100.00	2,100.00	2,100.30	2,100.30	7.29	7.30	89.47	0.70	74.99	74.99	64.68	10.32	7.269		
2,200.00	2,200.00	2,200.30	2,200.30	7.65	7.65	89.47	0.70	74.99	74.99	64.17	10.82	6.928		
2,300.00	2,300.00	2,300.30	2,300.30	8.01	8.01	89.47	0.70	74.99	74.99	63.66	11.33	6.618		
2,400.00	2,400.00	2,400.30	2,400.30	8.37	8.37	89.47	0.70	74.99	74.99	63.16	11.84	6.335		
2,500.00	2,500.00	2,500.30	2,500.30	8.73	8.73	89.47	0.70	74.99	74.99	62.65	12.35	6.075		
2,600.00	2,600.00	2,600.30	2,600.30	9.09	9.09	89.47	0.70	74.99	74.99	62.14	12.85	5.835		
2,700.00	2,700.00	2,700.30	2,700.30	9.45	9.45	89.47	0.70	74.99	74.99	61.63	13.36	5.614		
2,800.00	2,800.00	2,800.30	2,800.30	9.80	9.81	89.47	0.70	74.99	74.99	61.13	13.87	5.408		
2,900.00	2,900.00	2,900.30	2,900.30	10.16	10.16	89.47	0.70	74.99	74.99	60.62	14.37	5.218		
3,000.00	3,000.00	3,000.30	3,000.30	10.52	10.52	89.47	0.70	74.99	74.99	60.11	14.88	5.040		
3,100.00	3,100.00	3,100.30	3,100.30	10.88	10.88	89.47	0.70	74.99	74.99	59.61	15.39	4.874		
3,116.57	3,116.57	3,116.87	3,116.87	10.94	10.94	89.47	0.70	74.99	74.99	59.52	15.47	4.847 CC		
3,200.00	3,200.00	3,200.00	3,200.00	11.24	11.24	89.47	0.70	74.99	74.99	59.10	15.89	4.719 ES		
3,300.00	3,300.00	3,298.77	3,298.76	11.60	11.58	90.07	-0.10	75.99	76.00	59.62	16.38	4.639 SF		
3,400.00	3,399.99	3,397.17	3,397.08	11.94	11.90	-72.04	-2.48	78.96	78.65	61.81	16.84	4.670		
3,500.00	3,499.91	3,495.45	3,495.15	12.26	12.23	-71.84	-6.43	83.91	82.54	65.26	17.28	4.776		
3,600.00	3,599.69	3,593.59	3,592.89	12.59	12.56	-72.24	-11.96	90.81	87.66	69.94	17.72	4.947		
3,700.00	3,699.27	3,691.55	3,690.20	12.92	12.89	-73.10	-19.03	99.65	94.01	75.85	18.15	5.179		
3,800.00	3,798.57	3,789.31	3,786.98	13.25	13.23	-74.31	-27.64	110.42	101.62	83.04	18.58	5.468		
3,900.00	3,897.54	3,886.83	3,883.14	13.58	13.57	-75.75	-37.77	123.08	110.54	91.52	19.02	5.811		
4,000.00	3,996.09	3,984.08	3,978.59	13.92	13.92	-77.31	-49.40	137.61	120.80	101.33	19.47	6.205		
4,100.00	4,094.16	4,081.04	4,073.25	14.28	14.28	-78.91	-62.49	153.98	132.43	112.51	19.92	6.647		
4,184.40	4,176.52	4,162.62	4,152.46	14.58	14.59	-80.25	-74.67	169.21	143.32	123.01	20.32	7.055		
4,200.00	4,191.70	4,177.67	4,167.03	14.64	14.65	-80.51	-77.04	172.16	145.45	125.06	20.39	7.134		
4,300.00	4,289.03	4,273.96	4,259.87	15.01	15.03	-81.64	-93.00	192.11	160.12	139.26	20.86	7.674		
4,400.00	4,386.37	4,369.82	4,351.62	15.39	15.43	-81.98	-110.33	213.78	176.47	155.13	21.34	8.270		
4,500.00	4,483.70	4,465.56	4,442.54	15.77	15.84	-81.73	-129.06	237.19	194.43	172.61	21.82	8.911		
4,600.00	4,581.03	4,563.81	4,535.56	16.17	16.28	-81.33	-148.83	261.90	213.01	190.64	22.37	9.522		
4,700.00	4,678.36	4,662.06	4,628.57	16.57	16.73	-80.99	-168.59	286.61	231.60	208.67	22.93	10.100		
4,800.00	4,775.69	4,760.31	4,721.59	16.98	17.20	-80.70	-188.36	311.32	250.19	226.69	23.50	10.645		
4,900.00	4,873.02	4,858.56	4,814.60	17.39	17.67	-80.45	-208.13	336.02	268.79	244.71	24.08	11.161		

CC - Min centre to center distance or 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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 603H - 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		
5,000.00	4,970.36	4,956.81	4,907.62	17.81	18.16	-80.23	-227.89	360.73	287.39	262.72	24.67	11.648		
5,100.00	5,067.69	5,055.06	5,000.63	18.23	18.65	-80.04	-247.66	385.44	306.00	280.73	25.27	12.109		
5,200.00	5,165.02	5,153.31	5,093.65	18.66	19.15	-79.87	-267.42	410.14	324.61	298.73	25.87	12.546		
5,300.00	5,262.35	5,251.56	5,186.66	19.09	19.66	-79.72	-287.19	434.85	343.22	316.74	26.49	12.959		
5,400.00	5,359.68	5,349.80	5,279.68	19.53	20.18	-79.59	-306.95	459.56	361.84	334.73	27.10	13.350		
5,500.00	5,457.01	5,448.05	5,372.69	19.97	20.71	-79.46	-326.72	484.26	380.45	352.72	27.73	13.721		
5,600.00	5,554.34	5,546.30	5,465.71	20.42	21.24	-79.35	-346.48	508.97	399.07	370.71	28.36	14.073		
5,700.00	5,651.68	5,644.55	5,558.72	20.87	21.77	-79.25	-366.25	533.68	417.69	388.70	28.99	14.407		
5,800.00	5,749.01	5,742.80	5,651.74	21.32	22.32	-79.16	-386.02	558.38	436.31	406.68	29.63	14.725		
5,900.00	5,846.34	5,841.05	5,744.75	21.77	22.86	-79.08	-405.78	583.09	454.93	424.65	30.27	15.027		
6,000.00	5,943.67	5,939.30	5,837.76	22.23	23.42	-79.00	-425.55	607.80	473.55	442.63	30.92	15.314		
6,100.00	6,041.00	6,037.55	5,930.78	22.69	23.97	-78.93	-445.31	632.50	492.17	460.60	31.57	15.587		
6,200.00	6,138.33	6,135.80	6,023.79	23.15	24.53	-78.86	-465.08	657.21	510.80	478.57	32.23	15.848		
6,300.00	6,235.67	6,234.04	6,116.81	23.61	25.09	-78.80	-484.84	681.92	529.42	496.53	32.89	16.096		
6,400.00	6,333.00	6,332.29	6,209.82	24.08	25.66	-78.74	-504.61	706.63	548.04	514.49	33.55	16.334		
6,500.00	6,430.33	6,430.54	6,302.84	24.55	26.23	-78.69	-524.37	731.33	566.67	532.45	34.22	16.560		
6,600.00	6,527.66	6,528.79	6,395.85	25.02	26.81	-78.64	-544.14	756.04	585.29	550.41	34.89	16.776		
6,700.00	6,624.99	6,627.04	6,488.87	25.49	27.38	-78.59	-563.90	780.75	603.92	568.36	35.56	16.983		
6,800.00	6,722.32	6,725.29	6,581.88	25.96	27.96	-78.54	-583.67	805.45	622.55	586.31	36.23	17.181		
6,900.00	6,819.65	6,823.54	6,674.90	26.44	28.54	-78.50	-603.44	830.16	641.17	604.26	36.91	17.371		
7,000.00	6,916.99	6,921.79	6,767.91	26.91	29.13	-78.46	-623.20	854.87	659.80	622.21	37.59	17.553		
7,100.00	7,014.32	7,020.04	6,860.93	27.39	29.71	-78.43	-642.97	879.57	678.43	640.16	38.27	17.727		
7,200.00	7,111.65	7,118.28	6,953.94	27.87	30.30	-78.39	-662.73	904.28	697.05	658.10	38.95	17.894		
7,300.00	7,208.98	7,216.53	7,046.96	28.35	30.89	-78.36	-682.50	928.99	715.68	676.04	39.64	18.055		
7,400.00	7,306.31	7,314.78	7,139.97	28.84	31.49	-78.32	-702.26	953.69	734.31	693.98	40.33	18.209		
7,500.00	7,403.64	7,413.03	7,232.99	29.32	32.08	-78.29	-722.03	978.40	752.94	711.92	41.02	18.357		
7,600.00	7,500.98	7,511.28	7,326.00	29.80	32.67	-78.27	-741.79	1,003.11	771.57	729.86	41.71	18.500		
7,700.00	7,598.31	7,609.53	7,419.02	30.29	33.27	-78.24	-761.56	1,027.81	790.19	747.80	42.40	18.637		
7,800.00	7,695.64	7,707.78	7,512.03	30.78	33.87	-78.21	-781.32	1,052.52	808.82	765.73	43.09	18.769		
7,900.00	7,792.97	7,806.03	7,605.05	31.27	34.47	-78.19	-801.09	1,077.23	827.45	783.66	43.79	18.897		
8,000.00	7,890.30	7,904.28	7,698.06	31.75	35.07	-78.16	-820.86	1,101.93	846.08	801.60	44.49	19.019		
8,062.86	7,951.48	7,966.03	7,756.53	32.06	35.45	-78.15	-833.28	1,117.46	857.79	812.87	44.92	19.094		
8,100.00	7,987.67	8,002.52	7,791.07	32.24	35.68	-78.23	-840.62	1,126.64	864.75	819.57	45.18	19.140		
8,200.00	8,085.50	8,100.64	7,883.97	32.71	36.28	-78.35	-860.36	1,151.32	883.83	837.98	45.85	19.276		
8,300.00	8,183.84	8,198.57	7,976.67	33.17	36.88	-78.32	-880.06	1,175.94	903.46	856.97	46.49	19.433		
8,400.00	8,282.61	8,296.22	8,069.13	33.60	37.49	-78.14	-899.71	1,200.50	923.65	876.55	47.09	19.613		
8,500.00	8,381.76	8,393.54	8,161.26	34.01	38.09	-77.85	-919.29	1,224.97	944.45	896.78	47.67	19.814		
8,600.00	8,481.22	8,490.46	8,253.02	34.40	38.69	-77.43	-938.78	1,249.34	965.91	917.71	48.20	20.039		
8,700.00	8,580.92	8,586.91	8,344.33	34.77	39.29	-76.92	-958.19	1,273.60	988.11	939.41	48.70	20.289		
8,800.00	8,680.78	8,682.83	8,435.14	35.12	39.88	-76.31	-977.48	1,297.72	1,011.13	961.96	49.17	20.565		
8,900.00	8,780.74	8,778.15	8,525.38	35.45	40.47	-75.62	-996.66	1,321.69	1,035.05	985.45	49.60	20.868		
8,947.26	8,828.00	8,822.96	8,567.80	35.59	40.75	87.72	-1,005.67	1,332.96	1,046.69	996.90	49.79	21.022		
9,000.00	8,880.74	9,142.35	8,881.04	35.75	42.11	89.42	-1,035.30	1,369.99	1,050.04	998.94	51.11	20.546		
9,100.00	8,980.74	9,242.35	8,981.04	36.04	42.37	89.42	-1,035.30	1,369.99	1,050.04	998.53	51.52	20.382		
9,200.00	9,080.74	9,342.35	9,081.04	36.34	42.62	89.42	-1,035.30	1,369.99	1,050.04	998.11	51.93	20.220		
9,300.00	9,180.74	9,442.35	9,181.04	36.64	42.88	89.42	-1,035.30	1,369.99	1,050.04	997.70	52.35	20.059		
9,400.00	9,280.74	9,542.35	9,281.04	36.93	43.14	89.42	-1,035.30	1,369.99	1,050.04	997.28	52.76	19.901		
9,500.00	9,380.74	9,642.35	9,381.04	37.23	43.41	89.42	-1,035.30	1,369.99	1,050.04	996.86	53.18	19.744		
9,600.00	9,480.74	9,742.35	9,481.04	37.53	43.67	89.42	-1,035.30	1,369.99	1,050.04	996.44	53.60	19.590		
9,700.00	9,580.74	9,842.35	9,581.04	37.84	43.94	89.42	-1,035.30	1,369.99	1,050.04	996.02	54.02	19.437		
9,800.00	9,680.74	9,942.35	9,681.04	38.14	44.20	89.42	-1,035.30	1,369.99	1,050.04	995.60	54.44	19.286		
9,900.00	9,780.74	10,042.35	9,781.04	38.44	44.47	89.42	-1,035.30	1,369.99	1,050.04	995.18	54.87	19.137		

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



Total Directional Services Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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 603H - OH - Plan #1													Offset Well Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD														
Reference				Offset		Semi Major Axis			Distance					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
10,000.00	9,880.74	10,142.35	9,881.04	38.75	44.74	89.42	-1,035.30	1,369.99	1,050.04	994.75	55.29	18.990		
10,100.00	9,980.74	10,242.35	9,981.04	39.05	45.01	89.42	-1,035.30	1,369.99	1,050.04	994.32	55.72	18.845		
10,200.00	10,080.74	10,342.35	10,081.04	39.36	45.28	89.42	-1,035.30	1,369.99	1,050.04	993.90	56.15	18.701		
10,300.00	10,180.74	10,442.35	10,181.04	39.66	45.55	89.42	-1,035.30	1,369.99	1,050.04	993.47	56.58	18.559		
10,400.00	10,280.74	10,542.35	10,281.04	39.97	45.83	89.42	-1,035.30	1,369.99	1,050.04	993.04	57.01	18.419		
10,500.00	10,380.74	10,642.35	10,381.04	40.28	46.10	89.42	-1,035.30	1,369.99	1,050.04	992.60	57.44	18.281		
10,600.00	10,480.74	10,742.35	10,481.04	40.59	46.38	89.42	-1,035.30	1,369.99	1,050.04	992.17	57.87	18.144		
10,700.00	10,580.74	10,842.35	10,581.04	40.90	46.66	89.42	-1,035.30	1,369.99	1,050.04	991.74	58.31	18.009		
10,800.00	10,680.74	10,942.35	10,681.04	41.21	46.94	89.42	-1,035.30	1,369.99	1,050.04	991.30	58.74	17.875		
10,900.00	10,780.74	11,042.35	10,781.04	41.52	47.22	89.42	-1,035.30	1,369.99	1,050.04	990.86	59.18	17.743		
11,000.00	10,880.74	11,142.35	10,881.04	41.84	47.50	89.42	-1,035.30	1,369.99	1,050.04	990.43	59.62	17.613		
11,100.00	10,980.74	11,242.35	10,981.04	42.15	47.78	89.42	-1,035.30	1,369.99	1,050.04	989.99	60.06	17.484		
11,200.00	11,080.74	11,342.35	11,081.04	42.46	48.06	89.42	-1,035.30	1,369.99	1,050.04	989.55	60.50	17.357		
11,300.00	11,180.74	11,442.35	11,181.04	42.78	48.34	89.42	-1,035.30	1,369.99	1,050.04	989.11	60.94	17.232		
11,400.00	11,280.74	11,542.35	11,281.04	43.09	48.63	89.42	-1,035.30	1,369.99	1,050.04	988.67	61.38	17.108		
11,500.00	11,380.74	11,642.35	11,381.04	43.41	48.91	89.42	-1,035.30	1,369.99	1,050.04	988.22	61.82	16.985		
11,600.00	11,480.74	11,742.35	11,481.04	43.73	49.20	89.42	-1,035.30	1,369.99	1,050.04	987.78	62.27	16.864		
11,633.26	11,514.00	11,775.61	11,514.30	43.83	49.30	89.44	-1,035.73	1,369.99	1,050.04	987.63	62.41	16.824		
11,700.00	11,580.74	11,841.71	11,580.05	44.04	49.52	89.79	-1,042.10	1,370.06	1,050.06	987.37	62.69	16.749		
11,800.00	11,680.74	11,936.03	11,671.65	44.36	49.89	90.99	-1,064.18	1,370.27	1,050.47	987.38	63.09	16.651		
11,900.00	11,780.74	12,021.18	11,750.23	44.68	50.28	92.77	-1,096.77	1,370.59	1,052.27	988.82	63.45	16.584		
12,000.00	11,880.74	12,095.28	11,814.04	45.00	50.66	94.80	-1,134.34	1,370.96	1,056.79	993.03	63.76	16.573		
12,100.00	11,980.74	12,158.35	11,864.16	45.32	51.01	96.87	-1,172.58	1,371.33	1,065.36	1,001.37	63.99	16.648		
12,166.30	12,047.04	12,200.00	11,894.81	45.53	51.25	98.37	-1,200.75	1,371.61	1,073.82	1,009.74	64.08	16.758		
12,200.00	12,080.72	12,211.96	11,903.23	45.65	51.32	-80.07	-1,209.24	1,371.69	1,078.87	1,014.78	64.09	16.834		
12,250.00	12,130.45	12,237.67	11,920.71	45.84	51.48	-78.37	-1,228.09	1,371.88	1,086.92	1,022.79	64.13	16.949		
12,300.00	12,179.53	12,263.33	11,937.30	46.05	51.64	-76.69	-1,247.66	1,372.07	1,095.42	1,031.25	64.17	17.070		
12,350.00	12,227.61	12,288.94	11,952.97	46.29	51.80	-75.04	-1,267.92	1,372.26	1,104.23	1,040.01	64.22	17.194		
12,400.00	12,274.32	12,314.52	11,967.70	46.55	51.97	-73.45	-1,288.83	1,372.47	1,113.18	1,048.90	64.28	17.318		
12,450.00	12,319.29	12,350.00	11,986.56	46.83	52.20	-71.67	-1,318.88	1,372.76	1,122.18	1,057.79	64.39	17.429		
12,500.00	12,362.19	12,365.58	11,994.24	47.13	52.31	-70.47	-1,332.43	1,372.90	1,130.88	1,066.46	64.42	17.554		
12,550.00	12,402.70	12,400.00	12,009.90	47.44	52.55	-68.92	-1,363.07	1,373.20	1,139.43	1,074.87	64.56	17.650		
12,600.00	12,440.50	12,416.55	12,016.76	47.78	52.66	-67.85	-1,378.13	1,373.34	1,147.44	1,082.81	64.63	17.753		
12,650.00	12,475.30	12,450.00	12,029.29	48.13	52.90	-66.58	-1,409.14	1,373.65	1,155.05	1,090.24	64.81	17.823		
12,700.00	12,506.84	12,467.44	12,035.10	48.50	53.02	-65.69	-1,425.59	1,373.81	1,161.93	1,096.99	64.94	17.892		
12,750.00	12,534.89	12,500.00	12,044.60	48.88	53.26	-64.70	-1,456.72	1,374.11	1,168.20	1,103.02	65.18	17.924		
12,800.00	12,559.22	12,518.29	12,049.16	49.28	53.40	-64.01	-1,474.43	1,374.28	1,173.61	1,108.21	65.40	17.946		
12,850.00	12,579.65	12,550.00	12,055.70	49.68	53.63	-63.31	-1,505.45	1,374.59	1,178.24	1,112.54	65.70	17.933		
12,900.00	12,596.03	12,569.10	12,058.82	50.10	53.78	-62.85	-1,524.30	1,374.77	1,181.91	1,115.88	66.02	17.901		
12,950.00	12,608.24	12,600.00	12,062.52	50.52	54.01	-62.45	-1,554.97	1,375.07	1,184.69	1,118.27	66.42	17.837		
13,000.00	12,616.17	12,619.89	12,064.02	50.94	54.16	-62.23	-1,574.80	1,375.27	1,186.44	1,119.60	66.84	17.750		
13,050.00	12,619.77	12,653.34	12,065.00	51.36	54.42	-62.11	-1,608.23	1,375.59	1,187.29	1,119.96	67.33	17.634		
13,066.30	12,620.00	12,653.77	12,065.00	51.50	54.42	-62.11	-1,608.66	1,375.60	1,187.27	1,119.78	67.50	17.590		
13,100.00	12,620.00	12,687.48	12,065.00	51.79	54.68	-62.11	-1,642.36	1,375.93	1,187.24	1,119.38	67.86	17.496		
13,200.00	12,620.00	12,787.48	12,065.00	52.67	55.48	-62.11	-1,742.36	1,376.90	1,187.14	1,118.17	68.97	17.213		
13,300.00	12,620.00	12,887.48	12,065.00	53.58	56.32	-62.11	-1,842.35	1,377.88	1,187.04	1,116.92	70.12	16.929		
13,400.00	12,620.00	12,987.48	12,065.00	54.53	57.20	-62.11	-1,942.35	1,378.86	1,186.94	1,115.63	71.32	16.643		
13,500.00	12,620.00	13,087.48	12,065.00	55.51	58.11	-62.10	-2,042.34	1,379.84	1,186.85	1,114.29	72.55	16.358		
13,600.00	12,620.00	13,187.48	12,065.00	56.53	59.05	-62.10	-2,142.34	1,380.82	1,186.75	1,112.92	73.83	16.074		
13,700.00	12,620.00	13,287.48	12,065.00	57.57	60.02	-62.10	-2,242.33	1,381.79	1,186.65	1,111.50	75.15	15.791		
13,800.00	12,620.00	13,387.48	12,065.00	58.64	61.02	-62.10	-2,342.33	1,382.77	1,186.55	1,110.05	76.50	15.511		
13,900.00	12,620.00	13,487.48	12,065.00	59.74	62.05	-62.09	-2,442.32	1,383.75	1,186.45	1,108.57	77.88	15.234		

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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference				Offset		Semi Major Axis			Distance				Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,000.00	12,620.00	13,587.48	12,065.00	60.86	63.10	-62.09	-2,542.32	1,384.73	1,186.36	1,107.06	79.30	14.961		
14,100.00	12,620.00	13,687.48	12,065.00	62.01	64.18	-62.09	-2,642.31	1,385.71	1,186.26	1,105.51	80.74	14.692		
14,200.00	12,620.00	13,787.48	12,065.00	63.18	65.29	-62.09	-2,742.31	1,386.68	1,186.16	1,103.94	82.22	14.427		
14,300.00	12,620.00	13,887.48	12,065.00	64.37	66.42	-62.08	-2,842.31	1,387.66	1,186.06	1,102.34	83.72	14.168		
14,400.00	12,620.00	13,987.48	12,065.00	65.58	67.57	-62.08	-2,942.30	1,388.64	1,185.96	1,100.72	85.24	13.913		
14,500.00	12,620.00	14,087.48	12,065.00	66.80	68.74	-62.08	-3,042.30	1,389.62	1,185.86	1,099.07	86.79	13.664		
14,600.00	12,620.00	14,187.48	12,065.00	68.05	69.93	-62.08	-3,142.29	1,390.60	1,185.77	1,097.40	88.36	13.419		
14,700.00	12,620.00	14,287.48	12,065.00	69.31	71.13	-62.07	-3,242.29	1,391.57	1,185.67	1,095.71	89.96	13.180		
14,800.00	12,620.00	14,387.48	12,065.00	70.59	72.36	-62.07	-3,342.28	1,392.55	1,185.57	1,094.00	91.57	12.947		
14,900.00	12,620.00	14,487.48	12,065.00	71.89	73.60	-62.07	-3,442.28	1,393.53	1,185.47	1,092.27	93.20	12.719		
15,000.00	12,620.00	14,587.48	12,065.00	73.20	74.86	-62.07	-3,542.27	1,394.51	1,185.37	1,090.52	94.85	12.497		
15,100.00	12,620.00	14,687.48	12,065.00	74.52	76.13	-62.06	-3,642.27	1,395.48	1,185.28	1,088.76	96.52	12.280		
15,200.00	12,620.00	14,787.48	12,065.00	75.85	77.42	-62.06	-3,742.26	1,396.46	1,185.18	1,086.97	98.20	12.069		
15,300.00	12,620.00	14,887.48	12,065.00	77.20	78.72	-62.06	-3,842.26	1,397.44	1,185.08	1,085.18	99.90	11.862		
15,400.00	12,620.00	14,987.48	12,065.00	78.56	80.04	-62.06	-3,942.25	1,398.42	1,184.98	1,083.37	101.61	11.661		
15,500.00	12,620.00	15,087.48	12,065.00	79.93	81.37	-62.05	-4,042.25	1,399.40	1,184.88	1,081.54	103.34	11.466		
15,600.00	12,620.00	15,187.48	12,065.00	81.31	82.70	-62.05	-4,142.24	1,400.37	1,184.78	1,079.70	105.08	11.275		
15,700.00	12,620.00	15,287.48	12,065.00	82.70	84.05	-62.05	-4,242.24	1,401.35	1,184.69	1,077.85	106.84	11.089		
15,800.00	12,620.00	15,387.48	12,065.00	84.10	85.41	-62.05	-4,342.23	1,402.33	1,184.59	1,075.99	108.60	10.908		
15,900.00	12,620.00	15,487.48	12,065.00	85.51	86.79	-62.04	-4,442.23	1,403.31	1,184.49	1,074.12	110.37	10.732		
16,000.00	12,620.00	15,587.48	12,065.00	86.93	88.17	-62.04	-4,542.22	1,404.29	1,184.39	1,072.23	112.16	10.560		
16,100.00	12,620.00	15,687.48	12,065.00	88.36	89.56	-62.04	-4,642.22	1,405.26	1,184.29	1,070.34	113.95	10.393		
16,200.00	12,620.00	15,787.48	12,065.00	89.79	90.95	-62.04	-4,742.21	1,406.24	1,184.20	1,068.44	115.76	10.230		
16,300.00	12,620.00	15,887.47	12,065.00	91.23	92.36	-62.03	-4,842.21	1,407.22	1,184.10	1,066.52	117.58	10.071		
16,400.00	12,620.00	15,987.47	12,065.00	92.68	93.77	-62.03	-4,942.20	1,408.20	1,184.00	1,064.60	119.40	9.916		
16,500.00	12,620.00	16,087.47	12,065.00	94.13	95.20	-62.03	-5,042.20	1,409.17	1,183.90	1,062.67	121.23	9.766		
16,600.00	12,620.00	16,187.47	12,065.00	95.59	96.63	-62.03	-5,142.19	1,410.15	1,183.80	1,060.74	123.07	9.619		
16,700.00	12,620.00	16,287.47	12,065.00	97.06	98.06	-62.02	-5,242.19	1,411.13	1,183.70	1,058.79	124.91	9.476		
16,800.00	12,620.00	16,387.47	12,065.00	98.53	99.51	-62.02	-5,342.18	1,412.11	1,183.61	1,056.84	126.76	9.337		
16,900.00	12,620.00	16,487.47	12,065.00	100.01	100.96	-62.02	-5,442.18	1,413.09	1,183.51	1,054.88	128.62	9.201		
17,000.00	12,620.00	16,587.47	12,065.00	101.50	102.41	-62.02	-5,542.17	1,414.06	1,183.41	1,052.92	130.49	9.069		
17,100.00	12,620.00	16,687.47	12,065.00	102.98	103.87	-62.01	-5,642.17	1,415.04	1,183.31	1,050.95	132.36	8.940		
17,200.00	12,620.00	16,787.47	12,065.00	104.48	105.34	-62.01	-5,742.16	1,416.02	1,183.21	1,048.98	134.24	8.814		
17,300.00	12,620.00	16,887.47	12,065.00	105.98	106.82	-62.01	-5,842.16	1,417.00	1,183.12	1,047.00	136.12	8.692		
17,400.00	12,620.00	16,987.47	12,065.00	107.48	108.29	-62.01	-5,942.16	1,417.98	1,183.02	1,045.01	138.01	8.572		
17,500.00	12,620.00	17,087.47	12,065.00	108.99	109.78	-62.00	-6,042.15	1,418.95	1,182.92	1,043.02	139.90	8.455		
17,600.00	12,620.00	17,187.47	12,065.00	110.50	111.26	-62.00	-6,142.15	1,419.93	1,182.82	1,041.02	141.80	8.342		
17,700.00	12,620.00	17,287.47	12,065.00	112.01	112.76	-62.00	-6,242.14	1,420.91	1,182.72	1,039.02	143.70	8.231		
17,800.00	12,620.00	17,387.47	12,065.00	113.53	114.25	-61.99	-6,342.14	1,421.89	1,182.63	1,037.02	145.61	8.122		
17,900.00	12,620.00	17,487.47	12,065.00	115.06	115.75	-61.99	-6,442.13	1,422.87	1,182.53	1,035.01	147.52	8.016		
18,000.00	12,620.00	17,587.47	12,065.00	116.58	117.26	-61.99	-6,542.13	1,423.84	1,182.43	1,033.00	149.43	7.913		
18,100.00	12,620.00	17,687.47	12,065.00	118.11	118.77	-61.99	-6,642.12	1,424.82	1,182.33	1,030.98	151.35	7.812		
18,200.00	12,620.00	17,787.47	12,065.00	119.65	120.28	-61.98	-6,742.12	1,425.80	1,182.23	1,028.96	153.27	7.713		
18,300.00	12,620.00	17,887.47	12,065.00	121.18	121.80	-61.98	-6,842.11	1,426.78	1,182.13	1,026.94	155.19	7.617		
18,400.00	12,620.00	17,987.47	12,065.00	122.72	123.32	-61.98	-6,942.11	1,427.75	1,182.04	1,024.92	157.12	7.523		
18,500.00	12,620.00	18,087.47	12,065.00	124.26	124.84	-61.98	-7,042.10	1,428.73	1,181.94	1,022.89	159.05	7.431		
18,600.00	12,620.00	18,187.47	12,065.00	125.81	126.37	-61.97	-7,142.10	1,429.71	1,181.84	1,020.86	160.98	7.341		
18,700.00	12,620.00	18,287.47	12,065.00	127.35	127.90	-61.97	-7,242.09	1,430.69	1,181.74	1,018.82	162.92	7.253		
18,800.00	12,620.00	18,387.47	12,065.00	128.90	129.43	-61.97	-7,342.09	1,431.67	1,181.64	1,016.79	164.86	7.168		
18,900.00	12,620.00	18,487.47	12,065.00	130.46	130.96	-61.97	-7,442.08	1,432.64	1,181.55	1,014.75	166.80	7.084		
19,000.00	12,620.00	18,587.47	12,065.00	132.01	132.50	-61.96	-7,542.08	1,433.62	1,181.45	1,012.70	168.74	7.001		
19,100.00	12,620.00	18,687.47	12,065.00	133.57	134.04	-61.96	-7,642.07	1,434.60	1,181.35	1,010.66	170.69	6.921		

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



Total Directional Services Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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 603H - OH - Plan #1													Offset Well Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD														
Reference				Offset		Semi Major Axis			Distance				Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,200.00	12,620.00	18,787.47	12,065.00	135.13	135.59	-61.96	-7,742.07	1,435.58	1,181.25	1,008.62	172.64	6.842		
19,300.00	12,620.00	18,887.47	12,065.00	136.69	137.13	-61.96	-7,842.06	1,436.56	1,181.15	1,006.57	174.59	6.765		
19,400.00	12,620.00	18,987.47	12,065.00	138.25	138.68	-61.95	-7,942.06	1,437.53	1,181.06	1,004.52	176.54	6.690		
19,500.00	12,620.00	19,087.47	12,065.00	139.82	140.23	-61.95	-8,042.05	1,438.51	1,180.96	1,002.47	178.49	6.616		
19,600.00	12,620.00	19,187.47	12,065.00	141.39	141.78	-61.95	-8,142.05	1,439.49	1,180.86	1,000.41	180.45	6.544		
19,700.00	12,620.00	19,287.47	12,065.00	142.96	143.34	-61.95	-8,242.04	1,440.47	1,180.76	998.36	182.40	6.473		
19,800.00	12,620.00	19,387.47	12,065.00	144.53	144.90	-61.94	-8,342.04	1,441.45	1,180.66	996.30	184.36	6.404		
19,900.00	12,620.00	19,487.47	12,065.00	146.10	146.46	-61.94	-8,442.03	1,442.42	1,180.57	994.24	186.32	6.336		
20,000.00	12,620.00	19,587.47	12,065.00	147.68	148.02	-61.94	-8,542.03	1,443.40	1,180.47	992.18	188.28	6.270		
20,100.00	12,620.00	19,687.47	12,065.00	149.25	149.58	-61.94	-8,642.02	1,444.38	1,180.37	990.12	190.25	6.204		
20,200.00	12,620.00	19,787.47	12,065.00	150.83	151.15	-61.93	-8,742.02	1,445.36	1,180.27	988.06	192.21	6.141		
20,300.00	12,620.00	19,887.47	12,065.00	152.41	152.71	-61.93	-8,842.01	1,446.33	1,180.17	986.00	194.17	6.078		
20,400.00	12,620.00	19,987.47	12,065.00	153.99	154.28	-61.93	-8,942.01	1,447.31	1,180.08	983.93	196.14	6.016		
20,500.00	12,620.00	20,087.47	12,065.00	155.58	155.85	-61.93	-9,042.00	1,448.29	1,179.98	981.87	198.11	5.956		
20,600.00	12,620.00	20,187.47	12,065.00	157.16	157.43	-61.92	-9,142.00	1,449.27	1,179.88	979.80	200.08	5.897		
20,700.00	12,620.00	20,287.47	12,065.00	158.75	159.00	-61.92	-9,242.00	1,450.25	1,179.78	977.74	202.05	5.839		
20,800.00	12,620.00	20,387.47	12,065.00	160.33	160.57	-61.92	-9,341.99	1,451.22	1,179.68	975.67	204.02	5.782		
20,900.00	12,620.00	20,487.47	12,065.00	161.92	162.15	-61.92	-9,441.99	1,452.20	1,179.58	973.60	205.99	5.726		
21,000.00	12,620.00	20,587.47	12,065.00	163.51	163.73	-61.91	-9,541.98	1,453.18	1,179.49	971.53	207.96	5.672		
21,100.00	12,620.00	20,687.47	12,065.00	165.10	165.31	-61.91	-9,641.98	1,454.16	1,179.39	969.46	209.93	5.618		
21,200.00	12,620.00	20,787.47	12,065.00	166.69	166.89	-61.91	-9,741.97	1,455.14	1,179.29	967.39	211.90	5.565		
21,300.00	12,620.00	20,887.47	12,065.00	168.29	168.47	-61.91	-9,841.97	1,456.11	1,179.19	965.32	213.88	5.513		
21,400.00	12,620.00	20,987.47	12,065.00	169.88	170.06	-61.90	-9,941.96	1,457.09	1,179.09	963.24	215.85	5.463		
21,500.00	12,620.00	21,087.47	12,065.00	171.48	171.64	-61.90	-10,041.96	1,458.07	1,179.00	961.17	217.82	5.413		
21,600.00	12,620.00	21,187.47	12,065.00	173.07	173.23	-61.90	-10,141.95	1,459.05	1,178.90	959.10	219.80	5.364		
21,700.00	12,620.00	21,287.47	12,065.00	174.67	174.82	-61.90	-10,241.95	1,460.03	1,178.80	957.03	221.78	5.315		
21,800.00	12,620.00	21,387.47	12,065.00	176.27	176.41	-61.89	-10,341.94	1,461.00	1,178.70	954.95	223.75	5.268		
21,900.00	12,620.00	21,487.47	12,065.00	177.87	178.00	-61.89	-10,441.94	1,461.98	1,178.60	952.88	225.73	5.221		
22,000.00	12,620.00	21,587.47	12,065.00	179.47	179.59	-61.89	-10,541.93	1,462.96	1,178.51	950.80	227.70	5.176		
22,100.00	12,620.00	21,687.47	12,065.00	181.07	181.18	-61.89	-10,641.93	1,463.94	1,178.41	948.73	229.68	5.131		
22,200.00	12,620.00	21,787.47	12,065.00	182.67	182.77	-61.88	-10,741.92	1,464.91	1,178.31	946.65	231.66	5.086		
22,300.00	12,620.00	21,887.47	12,065.00	184.27	184.37	-61.88	-10,841.92	1,465.89	1,178.21	944.58	233.64	5.043		
22,400.00	12,620.00	21,987.47	12,065.00	185.88	185.96	-61.88	-10,941.91	1,466.87	1,178.11	942.50	235.61	5.000		
22,500.00	12,620.00	22,087.47	12,065.00	187.48	187.56	-61.88	-11,041.91	1,467.85	1,178.02	940.43	237.59	4.958		
22,600.00	12,620.00	22,187.47	12,065.00	189.09	189.15	-61.87	-11,141.90	1,468.83	1,177.92	938.35	239.57	4.917		
22,700.00	12,620.00	22,287.47	12,065.00	190.69	190.75	-61.87	-11,241.90	1,469.80	1,177.82	936.28	241.55	4.876		
22,800.00	12,620.00	22,387.47	12,065.00	192.30	192.35	-61.87	-11,341.89	1,470.78	1,177.72	934.20	243.52	4.836		
22,856.94	12,620.00	22,444.41	12,065.00	193.22	193.26	-61.87	-11,398.83	1,471.34	1,177.67	933.02	244.65	4.814		

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



Total Directional Services Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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	111.01	-992.14	2,583.58	2,767.87					
100.00	100.00	56.90	56.90	0.13	0.07	111.01	-992.14	2,583.58	2,767.53	2,767.39	0.14	N/A		
200.00	200.00	156.90	156.90	0.48	0.33	111.01	-992.14	2,583.58	2,767.53	2,766.95	0.59	4,727.387		
300.00	300.00	256.90	256.90	0.84	0.69	111.01	-992.14	2,583.58	2,767.53	2,766.44	1.09	2,544.628		
400.00	400.00	356.90	356.90	1.20	1.05	111.01	-992.14	2,583.58	2,767.53	2,765.94	1.59	1,737.523		
500.00	500.00	456.90	456.90	1.56	1.40	111.01	-992.14	2,583.58	2,767.53	2,765.43	2.10	1,318.593		
600.00	600.00	556.90	556.90	1.92	1.76	111.01	-992.14	2,583.58	2,767.53	2,764.93	2.61	1,062.288		
700.00	700.00	656.90	656.90	2.28	2.12	111.01	-992.14	2,583.58	2,767.53	2,764.42	3.11	889.356		
800.00	800.00	756.90	756.90	2.63	2.48	111.01	-992.14	2,583.58	2,767.53	2,763.91	3.62	764.823		
900.00	900.00	856.90	856.90	2.99	2.84	111.01	-992.14	2,583.58	2,767.53	2,763.41	4.13	670.872		
1,000.00	1,000.00	956.90	956.90	3.35	3.20	111.01	-992.14	2,583.58	2,767.53	2,762.90	4.63	597.471		
1,100.00	1,100.00	1,056.90	1,056.90	3.71	3.56	111.01	-992.14	2,583.58	2,767.53	2,762.39	5.14	538.545		
1,200.00	1,200.00	1,156.90	1,156.90	4.07	3.91	111.01	-992.14	2,583.58	2,767.53	2,761.89	5.65	490.197		
1,300.00	1,300.00	1,256.90	1,256.90	4.43	4.27	111.01	-992.14	2,583.58	2,767.53	2,761.38	6.15	449.813		
1,400.00	1,400.00	1,356.90	1,356.90	4.79	4.63	111.01	-992.14	2,583.58	2,767.53	2,760.87	6.66	415.576		
1,500.00	1,500.00	1,456.90	1,456.90	5.14	4.99	111.01	-992.14	2,583.58	2,767.53	2,760.36	7.17	386.182		
1,600.00	1,600.00	1,556.90	1,556.90	5.50	5.35	111.01	-992.14	2,583.58	2,767.53	2,759.86	7.67	360.671		
1,700.00	1,700.00	1,656.90	1,656.90	5.86	5.71	111.01	-992.14	2,583.58	2,767.53	2,759.35	8.18	338.321		
1,800.00	1,800.00	1,756.90	1,756.90	6.22	6.06	111.01	-992.14	2,583.58	2,767.53	2,758.84	8.69	318.579		
1,900.00	1,900.00	1,856.90	1,856.90	6.58	6.42	111.01	-992.14	2,583.58	2,767.53	2,758.34	9.19	301.014		
2,000.00	2,000.00	1,956.90	1,956.90	6.94	6.78	111.01	-992.14	2,583.58	2,767.53	2,757.83	9.70	285.284		
2,100.00	2,100.00	2,056.90	2,056.90	7.29	7.14	111.01	-992.14	2,583.58	2,767.53	2,757.32	10.21	271.117		
2,200.00	2,200.00	2,156.90	2,156.90	7.65	7.50	111.01	-992.14	2,583.58	2,767.53	2,756.82	10.71	258.290		
2,300.00	2,300.00	2,256.90	2,256.90	8.01	7.86	111.01	-992.14	2,583.58	2,767.53	2,756.31	11.22	246.622		
2,400.00	2,400.00	2,356.90	2,356.90	8.37	8.22	111.01	-992.14	2,583.58	2,767.53	2,755.80	11.73	235.963		
2,500.00	2,500.00	2,456.90	2,456.90	8.73	8.57	111.01	-992.14	2,583.58	2,767.53	2,755.30	12.24	226.187		
2,600.00	2,600.00	2,556.90	2,556.90	9.09	8.93	111.01	-992.14	2,583.58	2,767.53	2,754.79	12.74	217.188		
2,700.00	2,700.00	2,656.90	2,656.90	9.45	9.29	111.01	-992.14	2,583.58	2,767.53	2,754.28	13.25	208.879		
2,800.00	2,800.00	2,756.90	2,756.90	9.80	9.65	111.01	-992.14	2,583.58	2,767.53	2,753.77	13.76	201.181		
2,900.00	2,900.00	2,856.90	2,856.90	10.16	10.01	111.01	-992.14	2,583.58	2,767.53	2,753.27	14.26	194.031		
3,000.00	3,000.00	2,956.90	2,956.90	10.52	10.37	111.01	-992.14	2,583.58	2,767.53	2,752.76	14.77	187.371		
3,100.00	3,100.00	3,056.90	3,056.90	10.88	10.73	111.01	-992.14	2,583.58	2,767.53	2,752.25	15.28	181.154		
3,200.00	3,200.00	3,156.90	3,156.90	11.24	11.08	111.01	-992.14	2,583.58	2,767.53	2,751.75	15.78	175.336		
3,300.00	3,300.00	3,256.90	3,256.90	11.60	11.44	111.01	-992.14	2,583.58	2,767.53	2,751.24	16.29	169.880		
3,400.00	3,399.99	3,356.89	3,356.89	11.94	11.80	-52.01	-992.14	2,583.58	2,766.72	2,749.94	16.79	164.833		
3,500.00	3,499.91	3,433.36	3,433.36	12.26	12.07	-52.09	-992.16	2,583.72	2,764.55	2,747.35	17.20	160.685		
3,600.00	3,599.69	3,500.00	3,499.99	12.59	12.30	-52.19	-992.30	2,584.88	2,762.15	2,744.55	17.60	156.971		
3,700.00	3,699.27	3,550.53	3,550.49	12.92	12.48	-52.31	-992.50	2,586.52	2,759.60	2,741.66	17.94	153.803		
3,800.00	3,798.57	3,600.00	3,599.91	13.25	12.64	-52.45	-992.78	2,588.78	2,757.01	2,738.73	18.28	150.795		
3,900.00	3,897.54	3,667.31	3,667.09	13.58	12.87	-52.65	-993.29	2,592.86	2,754.30	2,735.63	18.67	147.518		
4,000.00	3,996.09	3,766.10	3,765.64	13.92	13.21	-53.01	-994.14	2,599.71	2,750.83	2,731.68	19.15	143.669		
4,100.00	4,094.16	3,864.49	3,863.79	14.28	13.55	-53.42	-994.98	2,606.52	2,745.88	2,726.25	19.63	139.902		
4,184.40	4,176.52	3,947.17	3,946.27	14.58	13.84	-53.81	-995.69	2,612.25	2,740.59	2,720.55	20.04	136.782		
4,200.00	4,191.70	3,962.42	3,961.48	14.64	13.89	-53.88	-995.82	2,613.31	2,739.52	2,719.40	20.11	136.212		
4,300.00	4,289.03	4,060.17	4,058.99	15.01	14.23	-54.29	-996.66	2,620.09	2,732.74	2,712.14	20.60	132.640		
4,400.00	4,386.37	4,157.92	4,156.50	15.39	14.57	-54.70	-997.50	2,626.86	2,726.11	2,705.01	21.10	129.206		
4,500.00	4,483.70	4,255.66	4,254.01	15.77	14.92	-55.12	-998.34	2,633.64	2,719.63	2,698.03	21.60	125.904		
4,600.00	4,581.03	4,353.41	4,351.52	16.17	15.26	-55.53	-999.18	2,640.41	2,713.30	2,691.19	22.11	122.730		
4,700.00	4,678.36	4,451.16	4,449.03	16.57	15.61	-55.95	-1,000.02	2,647.18	2,707.11	2,684.49	22.62	119.678		
4,800.00	4,775.69	4,548.91	4,546.54	16.98	15.95	-56.37	-1,000.86	2,653.96	2,701.08	2,677.95	23.14	116.743		
4,900.00	4,873.02	4,646.65	4,644.04	17.39	16.30	-56.79	-1,001.70	2,660.73	2,695.20	2,671.54	23.66	113.922		
5,000.00	4,970.36	4,744.40	4,741.55	17.81	16.65	-57.22	-1,002.54	2,667.51	2,689.47	2,665.29	24.18	111.208		

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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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 604H - 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		
5,100.00	5,067.69	4,842.15	4,839.06	18.23	16.99	-57.64	-1,003.38	2,674.28	2,683.90	2,659.19	24.71	108.597		
5,200.00	5,165.02	4,939.90	4,936.57	18.66	17.34	-58.07	-1,004.22	2,681.06	2,678.48	2,653.23	25.25	106.086		
5,300.00	5,262.35	5,037.64	5,034.08	19.09	17.69	-58.50	-1,005.06	2,687.83	2,673.22	2,647.43	25.79	103.669		
5,400.00	5,359.68	5,135.39	5,131.59	19.53	18.04	-58.93	-1,005.90	2,694.61	2,668.11	2,641.78	26.33	101.342		
5,500.00	5,457.01	5,233.14	5,229.10	19.97	18.39	-59.36	-1,006.73	2,701.38	2,663.16	2,636.29	26.87	99.102		
5,600.00	5,554.34	5,330.89	5,326.61	20.42	18.75	-59.80	-1,007.57	2,708.16	2,658.37	2,630.95	27.42	96.945		
5,700.00	5,651.68	5,428.63	5,424.12	20.87	19.10	-60.23	-1,008.41	2,714.93	2,653.74	2,625.77	27.97	94.867		
5,800.00	5,749.01	5,526.38	5,521.62	21.32	19.45	-60.67	-1,009.25	2,721.70	2,649.27	2,620.74	28.53	92.865		
5,900.00	5,846.34	5,624.13	5,619.13	21.77	19.81	-61.11	-1,010.09	2,728.48	2,644.96	2,615.87	29.09	90.935		
6,000.00	5,943.67	5,721.88	5,716.64	22.23	20.16	-61.54	-1,010.93	2,735.25	2,640.81	2,611.16	29.65	89.074		
6,100.00	6,041.00	5,819.62	5,814.15	22.69	20.51	-61.99	-1,011.77	2,742.03	2,636.82	2,606.61	30.21	87.280		
6,200.00	6,138.33	5,917.37	5,911.66	23.15	20.87	-62.43	-1,012.61	2,748.80	2,633.00	2,602.22	30.78	85.549		
6,300.00	6,235.67	6,015.12	6,009.17	23.61	21.22	-62.87	-1,013.45	2,755.58	2,629.34	2,597.99	31.35	83.879		
6,400.00	6,333.00	6,112.87	6,106.68	24.08	21.58	-63.31	-1,014.29	2,762.35	2,625.84	2,593.92	31.92	82.267		
6,500.00	6,430.33	6,210.61	6,204.19	24.55	21.94	-63.76	-1,015.13	2,769.13	2,622.51	2,590.02	32.49	80.710		
6,600.00	6,527.66	6,308.36	6,301.70	25.02	22.29	-64.21	-1,015.97	2,775.90	2,619.35	2,586.28	33.07	79.207		
6,700.00	6,624.99	6,406.11	6,399.20	25.49	22.65	-64.65	-1,016.81	2,782.68	2,616.35	2,582.70	33.65	77.755		
6,800.00	6,722.32	6,503.86	6,496.71	25.96	23.01	-65.10	-1,017.65	2,789.45	2,613.52	2,579.29	34.23	76.353		
6,900.00	6,819.65	6,601.60	6,594.22	26.44	23.36	-65.55	-1,018.49	2,796.22	2,610.85	2,576.04	34.81	74.997		
7,000.00	6,916.99	6,722.38	6,714.67	26.91	24.02	-66.38	-1,019.80	2,806.84	2,607.74	2,572.13	35.61	73.227		
7,100.00	7,014.32	6,819.66	6,811.22	27.39	24.71	-67.30	-1,020.14	2,809.58	2,599.47	2,563.06	36.41	71.388		
7,200.00	7,111.65	7,076.29	7,068.55	27.87	25.05	-67.76	-1,020.14	2,809.58	2,590.50	2,553.50	37.00	70.015		
7,300.00	7,208.98	7,173.62	7,165.88	28.35	25.39	-68.22	-1,020.14	2,809.58	2,581.70	2,544.11	37.59	68.686		
7,400.00	7,306.31	7,270.96	7,263.21	28.84	25.73	-68.68	-1,020.14	2,809.58	2,573.07	2,534.89	38.18	67.399		
7,500.00	7,403.64	7,368.29	7,360.54	29.32	26.08	-69.15	-1,020.14	2,809.58	2,564.62	2,525.85	38.77	66.152		
7,600.00	7,500.98	7,465.62	7,457.88	29.80	26.42	-69.62	-1,020.14	2,809.58	2,556.34	2,516.98	39.36	64.945		
7,700.00	7,598.31	7,562.95	7,555.21	30.29	26.76	-70.09	-1,020.14	2,809.58	2,548.25	2,508.29	39.96	63.775		
7,800.00	7,695.64	7,660.28	7,652.54	30.78	27.10	-70.56	-1,020.14	2,809.58	2,540.34	2,499.78	40.55	62.641		
7,900.00	7,792.97	7,757.61	7,749.87	31.27	27.44	-71.04	-1,020.14	2,809.58	2,532.61	2,491.46	41.15	61.543		
8,000.00	7,890.30	7,854.95	7,847.20	31.75	27.78	-71.52	-1,020.14	2,809.58	2,525.06	2,483.31	41.75	60.478		
8,062.86	7,951.48	7,916.13	7,908.38	32.06	28.00	-71.83	-1,020.14	2,809.58	2,520.42	2,478.29	42.13	59.825		
8,100.00	7,987.67	7,952.32	7,944.57	32.24	28.13	-71.96	-1,020.14	2,809.58	2,517.76	2,475.41	42.35	59.448		
8,200.00	8,085.50	8,050.14	8,042.40	32.71	28.47	-72.31	-1,020.14	2,809.58	2,511.28	2,468.33	42.94	58.480		
8,300.00	8,183.84	8,148.48	8,140.74	33.17	28.82	-72.62	-1,020.14	2,809.58	2,505.72	2,462.21	43.52	57.578		
8,400.00	8,282.61	8,247.26	8,239.51	33.60	29.16	-72.89	-1,020.14	2,809.58	2,501.06	2,456.97	44.08	56.738		
8,500.00	8,381.76	8,346.41	8,338.66	34.01	29.51	-73.12	-1,020.14	2,809.58	2,497.23	2,452.60	44.63	55.957		
8,600.00	8,481.22	8,445.87	8,438.12	34.40	29.86	-73.30	-1,020.14	2,809.58	2,494.22	2,449.06	45.16	55.233		
8,700.00	8,580.92	8,545.56	8,537.82	34.77	30.22	-73.44	-1,020.14	2,809.58	2,491.99	2,446.31	45.67	54.561		
8,800.00	8,680.78	8,645.42	8,637.68	35.12	30.57	-73.53	-1,020.14	2,809.58	2,490.52	2,444.35	46.17	53.940		
8,900.00	8,780.74	8,745.39	8,737.64	35.45	30.92	-73.58	-1,020.14	2,809.58	2,489.80	2,443.14	46.65	53.367		
8,947.26	8,828.00	8,792.64	8,784.90	35.59	31.09	89.40	-1,020.14	2,809.58	2,489.71	2,442.84	46.87	53.115		
9,000.00	8,880.74	8,845.39	8,837.64	35.75	31.27	89.40	-1,020.14	2,809.58	2,489.71	2,442.60	47.11	52.844		
9,100.00	8,980.74	8,945.39	8,937.64	36.04	31.63	89.40	-1,020.14	2,809.58	2,489.71	2,442.14	47.57	52.336		
9,200.00	9,080.74	9,045.39	9,037.64	36.34	31.98	89.40	-1,020.14	2,809.58	2,489.71	2,441.68	48.03	51.837		
9,300.00	9,180.74	9,145.39	9,137.64	36.64	32.33	89.40	-1,020.14	2,809.58	2,489.71	2,441.23	48.49	51.346		
9,400.00	9,280.74	9,245.39	9,237.64	36.93	32.69	89.40	-1,020.14	2,809.58	2,489.71	2,440.77	48.95	50.864		
9,500.00	9,380.74	9,345.39	9,337.64	37.23	33.04	89.40	-1,020.14	2,809.58	2,489.71	2,440.31	49.41	50.390		
9,600.00	9,480.74	9,445.39	9,437.64	37.53	33.39	89.40	-1,020.14	2,809.58	2,489.71	2,439.84	49.87	49.923		
9,700.00	9,580.74	9,545.39	9,537.64	37.84	33.75	89.40	-1,020.14	2,809.58	2,489.71	2,439.38	50.33	49.465		
9,800.00	9,680.74	9,645.39	9,637.64	38.14	34.10	89.40	-1,020.14	2,809.58	2,489.71	2,438.92	50.80	49.013		
9,900.00	9,780.74	9,745.39	9,737.64	38.44	34.46	89.40	-1,020.14	2,809.58	2,489.71	2,438.45	51.26	48.570		
10,000.00	9,880.74	9,845.39	9,837.64	38.75	34.81	89.40	-1,020.14	2,809.58	2,489.71	2,437.99	51.73	48.133		

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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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 604H - OH - Plan #2													Offset Well Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD														
Reference				Offset		Semi Major Axis			Distance					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
10,100.00	9,980.74	9,945.39	9,937.64	39.05	35.16	89.40	-1,020.14	2,809.58	2,489.71	2,437.52	52.19	47.703		
10,200.00	10,080.74	10,045.39	10,037.64	39.36	35.52	89.40	-1,020.14	2,809.58	2,489.71	2,437.06	52.66	47.281		
10,300.00	10,180.74	10,145.39	10,137.64	39.66	35.87	89.40	-1,020.14	2,809.58	2,489.71	2,436.59	53.13	46.865		
10,400.00	10,280.74	10,245.39	10,237.64	39.97	36.23	89.40	-1,020.14	2,809.58	2,489.71	2,436.12	53.59	46.456		
10,500.00	10,380.74	10,345.39	10,337.64	40.28	36.58	89.40	-1,020.14	2,809.58	2,489.71	2,435.65	54.06	46.053		
10,600.00	10,480.74	10,445.39	10,437.64	40.59	36.94	89.40	-1,020.14	2,809.58	2,489.71	2,435.18	54.53	45.657		
10,700.00	10,580.74	10,545.39	10,537.64	40.90	37.29	89.40	-1,020.14	2,809.58	2,489.71	2,434.71	55.00	45.266		
10,800.00	10,680.74	10,645.39	10,637.64	41.21	37.64	89.40	-1,020.14	2,809.58	2,489.71	2,434.24	55.47	44.882		
10,900.00	10,780.74	10,745.39	10,737.64	41.52	38.00	89.40	-1,020.14	2,809.58	2,489.71	2,433.77	55.94	44.504		
11,000.00	10,880.74	10,845.39	10,837.64	41.84	38.35	89.40	-1,020.14	2,809.58	2,489.71	2,433.30	56.42	44.132		
11,100.00	10,980.74	10,945.39	10,937.64	42.15	38.71	89.40	-1,020.14	2,809.58	2,489.71	2,432.83	56.89	43.765		
11,200.00	11,080.74	11,045.39	11,037.64	42.46	39.06	89.40	-1,020.14	2,809.58	2,489.71	2,432.35	57.36	43.404		
11,300.00	11,180.74	11,145.39	11,137.64	42.78	39.42	89.40	-1,020.14	2,809.58	2,489.71	2,431.88	57.83	43.049		
11,400.00	11,280.74	11,245.39	11,237.64	43.09	39.77	89.40	-1,020.14	2,809.58	2,489.71	2,431.41	58.31	42.699		
11,500.00	11,380.74	11,345.39	11,337.64	43.41	40.13	89.40	-1,020.14	2,809.58	2,489.71	2,430.93	58.78	42.354		
11,555.60	11,436.34	11,401.02	11,393.24	43.59	40.32	89.44	-1,021.62	2,809.59	2,489.71	2,430.67	59.04	42.167	CC	
11,600.00	11,480.74	11,444.98	11,436.92	43.73	40.47	89.55	-1,026.46	2,809.64	2,489.72	2,430.48	59.24	42.025		
11,700.00	11,580.74	11,539.71	11,529.02	44.04	40.77	90.05	-1,048.16	2,809.85	2,489.87	2,430.19	59.68	41.723		
11,800.00	11,680.74	11,625.33	11,608.18	44.36	41.03	90.80	-1,080.58	2,810.17	2,490.59	2,430.50	60.08	41.453		
11,900.00	11,780.74	11,700.00	11,672.61	44.68	41.25	91.66	-1,118.21	2,810.54	2,492.44	2,431.98	60.46	41.227		
12,000.00	11,880.74	11,763.34	11,723.05	45.00	41.43	92.54	-1,156.48	2,810.91	2,496.00	2,435.20	60.79	41.057		
12,100.00	11,980.74	11,816.78	11,762.10	45.32	41.58	93.38	-1,192.92	2,811.27	2,501.77	2,440.68	61.09	40.954		
12,166.30	12,047.04	11,850.00	11,784.60	45.53	41.67	93.93	-1,217.36	2,811.51	2,507.01	2,445.75	61.26	40.923		
12,200.00	12,080.72	11,862.14	11,792.46	45.65	41.71	-84.93	-1,226.61	2,811.60	2,510.06	2,448.72	61.34	40.920		
12,250.00	12,130.45	11,884.22	11,806.25	45.84	41.77	-84.10	-1,243.84	2,811.77	2,514.83	2,453.35	61.48	40.908		
12,300.00	12,179.53	11,900.00	11,815.70	46.05	41.82	-83.35	-1,256.48	2,811.89	2,519.84	2,458.23	61.61	40.902		
12,350.00	12,227.61	11,928.98	11,832.12	46.29	41.91	-82.41	-1,280.36	2,812.13	2,524.95	2,463.17	61.78	40.867		
12,400.00	12,274.32	11,950.00	11,843.27	46.55	41.97	-81.61	-1,298.17	2,812.30	2,530.14	2,468.19	61.95	40.841		
12,450.00	12,319.29	11,974.36	11,855.36	46.83	42.05	-80.79	-1,319.32	2,812.51	2,535.31	2,473.17	62.14	40.800		
12,500.00	12,362.19	12,000.00	11,867.11	47.13	42.13	-79.98	-1,342.11	2,812.73	2,540.38	2,478.04	62.35	40.747		
12,550.00	12,402.70	12,020.20	11,875.63	47.44	42.20	-79.28	-1,360.42	2,812.91	2,545.28	2,482.73	62.55	40.691		
12,600.00	12,440.50	12,050.00	11,887.02	47.78	42.30	-78.53	-1,387.95	2,813.18	2,549.97	2,487.18	62.79	40.608		
12,650.00	12,475.30	12,066.37	11,892.66	48.13	42.35	-77.96	-1,403.32	2,813.33	2,554.33	2,491.31	63.02	40.533		
12,700.00	12,506.84	12,100.00	11,902.86	48.50	42.47	-77.31	-1,435.36	2,813.65	2,558.39	2,495.09	63.30	40.415		
12,750.00	12,534.89	12,100.00	11,902.86	48.88	42.47	-76.95	-1,435.36	2,813.65	2,562.03	2,498.50	63.52	40.334		
12,800.00	12,559.22	12,136.07	11,911.69	49.28	42.59	-76.43	-1,470.32	2,813.99	2,565.12	2,501.28	63.85	40.177		
12,850.00	12,579.65	12,150.00	11,914.51	49.68	42.64	-76.09	-1,483.96	2,814.12	2,567.83	2,503.69	64.14	40.038		
12,900.00	12,596.03	12,182.73	11,919.82	50.10	42.76	-75.76	-1,516.25	2,814.44	2,569.94	2,505.46	64.48	39.853		
12,950.00	12,608.24	12,200.00	11,921.88	50.52	42.82	-75.55	-1,533.40	2,814.61	2,571.56	2,506.74	64.82	39.674		
13,000.00	12,616.17	12,229.47	11,924.20	50.94	42.93	-75.39	-1,562.77	2,814.89	2,572.57	2,507.38	65.19	39.463		
13,050.00	12,619.77	12,252.85	11,924.96	51.36	43.02	-75.33	-1,586.14	2,815.12	2,573.02	2,507.45	65.56	39.244		
13,066.30	12,620.00	12,261.27	11,925.00	51.50	43.05	-75.32	-1,594.55	2,815.20	2,573.04	2,507.35	65.69	39.169		
13,100.00	12,620.00	12,294.97	11,925.00	51.79	43.17	-75.32	-1,628.25	2,815.53	2,573.00	2,507.02	65.98	38.994		
13,200.00	12,620.00	12,394.97	11,925.00	52.67	43.59	-75.32	-1,728.25	2,816.51	2,572.89	2,505.99	66.90	38.458		
13,300.00	12,620.00	12,494.97	11,925.00	53.58	44.07	-75.32	-1,828.24	2,817.49	2,572.79	2,504.91	67.88	37.901		
13,400.00	12,620.00	12,594.97	11,925.00	54.53	44.60	-75.32	-1,928.24	2,818.47	2,572.68	2,503.76	68.92	37.327		
13,500.00	12,620.00	12,694.97	11,925.00	55.51	45.18	-75.32	-2,028.24	2,819.45	2,572.57	2,502.55	70.02	36.739		
13,600.00	12,620.00	12,794.97	11,925.00	56.53	45.82	-75.32	-2,128.23	2,820.43	2,572.47	2,501.29	71.18	36.140		
13,700.00	12,620.00	12,894.97	11,925.00	57.57	46.50	-75.32	-2,228.23	2,821.41	2,572.36	2,499.97	72.39	35.535		
13,800.00	12,620.00	12,994.97	11,925.00	58.64	47.24	-75.32	-2,328.22	2,822.39	2,572.26	2,498.61	73.65	34.926		
13,900.00	12,620.00	13,094.97	11,925.00	59.74	48.02	-75.32	-2,428.22	2,823.37	2,572.15	2,497.19	74.96	34.315		
14,000.00	12,620.00	13,194.97	11,925.00	60.86	48.84	-75.32	-2,528.21	2,824.35	2,572.04	2,495.73	76.31	33.706		

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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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	12,620.00	18,494.97	11,925.00	136.69	120.03	-75.28	-7,827.95	2,876.24	2,566.41	2,389.10	177.31	14.474		
19,400.00	12,620.00	18,594.97	11,925.00	138.25	121.58	-75.28	-7,927.95	2,877.22	2,566.30	2,386.86	179.44	14.301		
19,500.00	12,620.00	18,694.97	11,925.00	139.82	123.13	-75.28	-8,027.94	2,878.20	2,566.20	2,384.62	181.58	14.133		
19,600.00	12,620.00	18,794.97	11,925.00	141.39	124.69	-75.28	-8,127.94	2,879.18	2,566.09	2,382.37	183.72	13.967		
19,700.00	12,620.00	18,894.97	11,925.00	142.96	126.24	-75.28	-8,227.93	2,880.16	2,565.98	2,380.12	185.86	13.806		
19,800.00	12,620.00	18,994.97	11,925.00	144.53	127.80	-75.28	-8,327.93	2,881.13	2,565.88	2,377.87	188.01	13.648		
19,900.00	12,620.00	19,094.97	11,925.00	146.10	129.36	-75.28	-8,427.92	2,882.11	2,565.77	2,375.61	190.16	13.493		
20,000.00	12,620.00	19,194.97	11,925.00	147.68	130.93	-75.28	-8,527.92	2,883.09	2,565.67	2,373.36	192.31	13.341		
20,100.00	12,620.00	19,294.97	11,925.00	149.25	132.49	-75.28	-8,627.91	2,884.07	2,565.56	2,371.09	194.46	13.193		
20,200.00	12,620.00	19,394.97	11,925.00	150.83	134.06	-75.28	-8,727.91	2,885.05	2,565.45	2,368.83	196.62	13.048		
20,300.00	12,620.00	19,494.97	11,925.00	152.41	135.63	-75.28	-8,827.91	2,886.03	2,565.35	2,366.57	198.78	12.905		
20,400.00	12,620.00	19,594.97	11,925.00	153.99	137.20	-75.28	-8,927.90	2,887.01	2,565.24	2,364.30	200.94	12.766		
20,500.00	12,620.00	19,694.97	11,925.00	155.58	138.77	-75.28	-9,027.90	2,887.99	2,565.13	2,362.03	203.11	12.630		
20,600.00	12,620.00	19,794.97	11,925.00	157.16	140.35	-75.28	-9,127.89	2,888.97	2,565.03	2,359.76	205.27	12.496		
20,700.00	12,620.00	19,894.97	11,925.00	158.75	141.92	-75.28	-9,227.89	2,889.95	2,564.92	2,357.48	207.44	12.365		
20,800.00	12,620.00	19,994.97	11,925.00	160.33	143.50	-75.28	-9,327.88	2,890.93	2,564.81	2,355.21	209.61	12.236		
20,900.00	12,620.00	20,094.97	11,925.00	161.92	145.08	-75.27	-9,427.88	2,891.90	2,564.71	2,352.93	211.78	12.110		
21,000.00	12,620.00	20,194.97	11,925.00	163.51	146.66	-75.27	-9,527.87	2,892.88	2,564.60	2,350.65	213.95	11.987		
21,100.00	12,620.00	20,294.97	11,925.00	165.10	148.25	-75.27	-9,627.87	2,893.86	2,564.50	2,348.37	216.13	11.866		
21,200.00	12,620.00	20,394.97	11,925.00	166.69	149.83	-75.27	-9,727.86	2,894.84	2,564.39	2,346.08	218.31	11.747		
21,300.00	12,620.00	20,494.97	11,925.00	168.29	151.42	-75.27	-9,827.86	2,895.82	2,564.28	2,343.80	220.49	11.630		
21,400.00	12,620.00	20,594.97	11,925.00	169.88	153.00	-75.27	-9,927.85	2,896.80	2,564.18	2,341.51	222.67	11.516		
21,500.00	12,620.00	20,694.97	11,925.00	171.48	154.59	-75.27	-10,027.85	2,897.78	2,564.07	2,339.22	224.85	11.403		
21,600.00	12,620.00	20,794.97	11,925.00	173.07	156.18	-75.27	-10,127.84	2,898.76	2,563.96	2,336.93	227.03	11.293		
21,700.00	12,620.00	20,894.97	11,925.00	174.67	157.77	-75.27	-10,227.84	2,899.74	2,563.86	2,334.64	229.22	11.185		
21,800.00	12,620.00	20,994.97	11,925.00	176.27	159.37	-75.27	-10,327.83	2,900.72	2,563.75	2,332.35	231.41	11.079		
21,900.00	12,620.00	21,094.97	11,925.00	177.87	160.96	-75.27	-10,427.83	2,901.70	2,563.65	2,330.05	233.59	10.975		
22,000.00	12,620.00	21,194.97	11,925.00	179.47	162.55	-75.27	-10,527.82	2,902.67	2,563.54	2,327.76	235.78	10.872		
22,100.00	12,620.00	21,294.96	11,925.00	181.07	164.15	-75.27	-10,627.82	2,903.65	2,563.43	2,325.46	237.97	10.772		
22,200.00	12,620.00	21,394.96	11,925.00	182.67	165.75	-75.27	-10,727.81	2,904.63	2,563.33	2,323.16	240.17	10.673		
22,300.00	12,620.00	21,494.96	11,925.00	184.27	167.35	-75.27	-10,827.81	2,905.61	2,563.22	2,320.86	242.36	10.576		
22,400.00	12,620.00	21,594.96	11,925.00	185.88	168.94	-75.27	-10,927.80	2,906.59	2,563.11	2,318.56	244.56	10.481		
22,500.00	12,620.00	21,694.96	11,925.00	187.48	170.55	-75.26	-11,027.80	2,907.57	2,563.01	2,316.26	246.75	10.387		
22,600.00	12,620.00	21,794.96	11,925.00	189.09	172.15	-75.26	-11,127.79	2,908.55	2,562.90	2,313.95	248.95	10.295		
22,700.00	12,620.00	21,894.96	11,925.00	190.69	173.75	-75.26	-11,227.79	2,909.53	2,562.80	2,311.65	251.15	10.204		
22,800.00	12,620.00	21,994.96	11,925.00	192.30	175.35	-75.26	-11,327.78	2,910.51	2,562.69	2,309.34	253.35	10.115		
22,856.94	12,620.00	22,051.91	11,925.00	193.22	176.26	-75.26	-11,384.72	2,911.07	2,562.63	2,308.03	254.60	10.065 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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	49.99					
100.00	100.00	99.50	99.50	0.13	0.12	-90.54	-0.47	-49.99	49.99	49.82	0.18	282.455		
200.00	200.00	199.50	199.50	0.48	0.48	-90.54	-0.47	-49.99	49.99	49.31	0.68	73.182		
300.00	300.00	299.50	299.50	0.84	0.84	-90.54	-0.47	-49.99	49.99	48.80	1.19	42.007		
400.00	400.00	399.50	399.50	1.20	1.20	-90.54	-0.47	-49.99	49.99	48.30	1.70	29.459		
500.00	500.00	499.50	499.50	1.56	1.56	-90.54	-0.47	-49.99	49.99	47.79	2.20	22.683		
600.00	600.00	599.50	599.50	1.92	1.92	-90.54	-0.47	-49.99	49.99	47.28	2.71	18.441		
700.00	700.00	699.50	699.50	2.28	2.27	-90.54	-0.47	-49.99	49.99	46.77	3.22	15.536		
800.00	800.00	799.50	799.50	2.63	2.63	-90.54	-0.47	-49.99	49.99	46.27	3.72	13.421		
900.00	900.00	899.50	899.50	2.99	2.99	-90.54	-0.47	-49.99	49.99	45.76	4.23	11.813		
1,000.00	1,000.00	999.50	999.50	3.35	3.35	-90.54	-0.47	-49.99	49.99	45.25	4.74	10.550		
1,100.00	1,100.00	1,099.50	1,099.50	3.71	3.71	-90.54	-0.47	-49.99	49.99	44.75	5.25	9.530		
1,200.00	1,200.00	1,199.50	1,199.50	4.07	4.07	-90.54	-0.47	-49.99	49.99	44.24	5.75	8.690		
1,300.00	1,300.00	1,299.50	1,299.50	4.43	4.43	-90.54	-0.47	-49.99	49.99	43.73	6.26	7.986		
1,400.00	1,400.00	1,399.50	1,399.50	4.79	4.78	-90.54	-0.47	-49.99	49.99	43.23	6.77	7.388		
1,500.00	1,500.00	1,499.50	1,499.50	5.14	5.14	-90.54	-0.47	-49.99	49.99	42.72	7.27	6.873		
1,600.00	1,600.00	1,599.50	1,599.50	5.50	5.50	-90.54	-0.47	-49.99	49.99	42.21	7.78	6.425		
1,700.00	1,700.00	1,699.50	1,699.50	5.86	5.86	-90.54	-0.47	-49.99	49.99	41.70	8.29	6.032		
1,800.00	1,800.00	1,799.50	1,799.50	6.22	6.22	-90.54	-0.47	-49.99	49.99	41.20	8.79	5.685		
1,900.00	1,900.00	1,899.50	1,899.50	6.58	6.58	-90.54	-0.47	-49.99	49.99	40.69	9.30	5.375		
2,000.00	2,000.00	1,999.50	1,999.50	6.94	6.93	-90.54	-0.47	-49.99	49.99	40.18	9.81	5.097		
2,100.00	2,100.00	2,099.50	2,099.50	7.29	7.29	-90.54	-0.47	-49.99	49.99	39.68	10.32	4.846		
2,200.00	2,200.00	2,199.50	2,199.50	7.65	7.65	-90.54	-0.47	-49.99	49.99	39.17	10.82	4.619		
2,300.00	2,300.00	2,299.50	2,299.50	8.01	8.01	-90.54	-0.47	-49.99	49.99	38.66	11.33	4.413		
2,400.00	2,400.00	2,399.50	2,399.50	8.37	8.37	-90.54	-0.47	-49.99	49.99	38.16	11.84	4.224		
2,500.00	2,500.00	2,499.50	2,499.50	8.73	8.73	-90.54	-0.47	-49.99	49.99	37.65	12.34	4.050		
2,600.00	2,600.00	2,599.50	2,599.50	9.09	9.09	-90.54	-0.47	-49.99	49.99	37.14	12.85	3.890		
2,700.00	2,700.00	2,699.50	2,699.50	9.45	9.44	-90.54	-0.47	-49.99	49.99	36.64	13.36	3.743		
2,800.00	2,800.00	2,799.50	2,799.50	9.80	9.80	-90.54	-0.47	-49.99	49.99	36.13	13.86	3.606		
2,900.00	2,900.00	2,899.50	2,899.50	10.16	10.16	-90.54	-0.47	-49.99	49.99	35.62	14.37	3.479		
3,000.00	3,000.00	2,999.50	2,999.50	10.52	10.52	-90.54	-0.47	-49.99	49.99	35.11	14.88	3.360		
3,100.00	3,100.00	3,099.50	3,099.50	10.88	10.88	-90.54	-0.47	-49.99	49.99	34.61	15.38	3.249		
3,200.00	3,200.00	3,199.50	3,199.50	11.24	11.24	-90.54	-0.47	-49.99	49.99	34.10	15.89	3.146		
3,300.00	3,300.00	3,299.50	3,299.50	11.60	11.59	-90.54	-0.47	-49.99	49.99	33.59	16.40	3.049	CC	
3,400.00	3,399.99	3,399.49	3,399.49	11.94	11.95	107.89	-0.47	-49.99	50.38	33.49	16.89	2.982	ES	
3,500.00	3,499.91	3,499.41	3,499.40	12.26	12.29	110.58	-1.76	-50.08	51.71	34.35	17.36	2.978	SF	
3,600.00	3,599.69	3,599.39	3,599.30	12.59	12.62	112.90	-5.66	-50.34	54.07	36.25	17.82	3.035		
3,700.00	3,699.27	3,699.39	3,699.09	12.92	12.94	114.76	-12.17	-50.77	57.43	39.15	18.28	3.142		
3,800.00	3,798.57	3,799.42	3,798.69	13.25	13.27	116.17	-21.29	-51.38	61.75	43.01	18.74	3.295		
3,900.00	3,897.54	3,899.45	3,898.03	13.58	13.60	117.13	-33.00	-52.16	67.01	47.79	19.21	3.488		
4,000.00	3,996.09	3,999.48	3,997.02	13.92	13.93	117.71	-47.31	-53.12	73.17	53.48	19.69	3.717		
4,100.00	4,094.16	4,099.48	4,095.58	14.28	14.27	117.97	-64.20	-54.25	80.22	60.06	20.17	3.978		
4,184.40	4,176.52	4,183.86	4,178.37	14.58	14.56	117.99	-80.44	-55.33	86.87	66.28	20.59	4.220		
4,200.00	4,191.70	4,199.46	4,193.64	14.64	14.62	117.98	-83.64	-55.55	88.15	67.49	20.66	4.266		
4,300.00	4,289.03	4,299.32	4,291.07	15.01	14.98	117.11	-105.44	-57.00	96.20	75.03	21.17	4.543		
4,400.00	4,386.37	4,398.98	4,388.21	15.39	15.34	116.09	-127.71	-58.49	104.21	82.52	21.70	4.803		
4,500.00	4,483.70	4,498.64	4,485.34	15.77	15.72	115.22	-149.98	-59.98	112.26	90.03	22.23	5.050		
4,600.00	4,581.03	4,598.31	4,582.47	16.17	16.10	114.46	-172.24	-61.46	120.32	97.55	22.77	5.284		
4,700.00	4,678.36	4,697.97	4,679.60	16.57	16.48	113.80	-194.51	-62.95	128.41	105.08	23.33	5.505		
4,800.00	4,775.69	4,797.63	4,776.73	16.98	16.88	113.22	-216.77	-64.44	136.51	112.62	23.89	5.715		
4,900.00	4,873.02	4,897.29	4,873.86	17.39	17.28	112.70	-239.04	-65.93	144.62	120.16	24.46	5.913		
5,000.00	4,970.36	4,996.96	4,971.00	17.81	17.68	112.24	-261.31	-67.41	152.74	127.70	25.03	6.101		

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



Total Directional Services Anticollision Report



Company: Franklin Mountain Energy
Project: Lea County, NM (NAD83)
Reference Site: Tatanka Fed Com
Site Error: 0.00 usft
Reference Well: Tatanka Fed Com 803H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1
Local Co-ordinate Reference: Well Tatanka Fed Com 803H
TVD Reference: 3135.8' GE + 30' KB @ 3165.80usft
MD Reference: 3135.8' GE + 30' KB @ 3165.80usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.15 Single User Db
Offset TVD Reference: Offset Datum

Offset Design: Tatanka Fed Com - Tatanka Fed Com 702H - OH - Plan #1
Survey Program: 0-OWSG (Rev2) MWD
Table with columns: Reference, Offset, Semi Major Axis, Distance, Warning. Rows include Measured Depth, Vertical Depth, Reference, Offset, Highside Toolface, Offset Wellbore Centre (+N/-S, +E/-W), Between Centres, Between Ellipses, Minimum Separation, Separation Factor.

CC - Min centre to center distance or 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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		
19,300.00	12,620.00	18,818.29	12,144.00	136.69	136.11	43.28	-7,856.62	-53.69	653.19	515.88	137.31	4.757		
19,400.00	12,620.00	18,918.29	12,144.00	138.25	137.68	43.29	-7,956.61	-52.72	653.27	514.46	138.81	4.706		
19,500.00	12,620.00	19,018.29	12,144.00	139.82	139.25	43.30	-8,056.61	-51.75	653.35	513.04	140.31	4.657		
19,600.00	12,620.00	19,118.29	12,144.00	141.39	140.83	43.31	-8,156.60	-50.77	653.43	511.62	141.81	4.608		
19,700.00	12,620.00	19,218.29	12,144.00	142.96	142.40	43.31	-8,256.60	-49.80	653.51	510.20	143.31	4.560		
19,800.00	12,620.00	19,318.29	12,144.00	144.53	143.98	43.32	-8,356.59	-48.82	653.59	508.78	144.81	4.513		
19,900.00	12,620.00	19,418.29	12,144.00	146.10	145.56	43.33	-8,456.59	-47.85	653.67	507.36	146.31	4.468		
20,000.00	12,620.00	19,518.29	12,144.00	147.68	147.14	43.34	-8,556.58	-46.88	653.75	505.94	147.81	4.423		
20,100.00	12,620.00	19,618.29	12,144.00	149.25	148.72	43.34	-8,656.58	-45.90	653.82	504.52	149.31	4.379		
20,200.00	12,620.00	19,718.29	12,144.00	150.83	150.31	43.35	-8,756.57	-44.93	653.90	503.09	150.81	4.336		
20,300.00	12,620.00	19,818.29	12,144.00	152.41	151.89	43.36	-8,856.57	-43.96	653.98	501.67	152.31	4.294		
20,400.00	12,620.00	19,918.29	12,144.00	153.99	153.48	43.36	-8,956.57	-42.98	654.06	500.25	153.81	4.252		
20,500.00	12,620.00	20,018.29	12,144.00	155.58	155.07	43.37	-9,056.56	-42.01	654.14	498.83	155.31	4.212		
20,600.00	12,620.00	20,118.29	12,144.00	157.16	156.66	43.38	-9,156.56	-41.03	654.22	497.41	156.81	4.172		
20,700.00	12,620.00	20,218.29	12,144.00	158.75	158.25	43.39	-9,256.55	-40.06	654.30	495.99	158.31	4.133		
20,800.00	12,620.00	20,318.29	12,144.00	160.33	159.84	43.39	-9,356.55	-39.09	654.38	494.57	159.81	4.095		
20,900.00	12,620.00	20,418.29	12,144.00	161.92	161.44	43.40	-9,456.54	-38.11	654.46	493.15	161.31	4.057		
21,000.00	12,620.00	20,518.29	12,144.00	163.51	163.03	43.41	-9,556.54	-37.14	654.54	491.73	162.81	4.020		
21,100.00	12,620.00	20,618.29	12,144.00	165.10	164.63	43.42	-9,656.53	-36.17	654.62	490.31	164.31	3.984		
21,200.00	12,620.00	20,718.29	12,144.00	166.69	166.22	43.42	-9,756.53	-35.19	654.70	488.89	165.81	3.948		
21,300.00	12,620.00	20,818.29	12,144.00	168.29	167.82	43.43	-9,856.52	-34.22	654.78	487.47	167.31	3.914		
21,400.00	12,620.00	20,918.29	12,144.00	169.88	169.42	43.44	-9,956.52	-33.24	654.85	486.05	168.81	3.879		
21,500.00	12,620.00	21,018.29	12,144.00	171.48	171.02	43.45	-10,056.51	-32.27	654.93	484.63	170.30	3.846		
21,600.00	12,620.00	21,118.29	12,144.00	173.07	172.62	43.45	-10,156.51	-31.30	655.01	483.21	171.80	3.813		
21,700.00	12,620.00	21,218.29	12,144.00	174.67	174.22	43.46	-10,256.50	-30.32	655.09	481.80	173.30	3.780		
21,800.00	12,620.00	21,318.29	12,144.00	176.27	175.83	43.47	-10,356.50	-29.35	655.17	480.38	174.79	3.748		
21,900.00	12,620.00	21,418.29	12,144.00	177.87	177.43	43.47	-10,456.49	-28.38	655.25	478.96	176.29	3.717		
22,000.00	12,620.00	21,518.29	12,144.00	179.47	179.03	43.48	-10,556.49	-27.40	655.33	477.55	177.78	3.686		
22,100.00	12,620.00	21,618.29	12,144.00	181.07	180.64	43.49	-10,656.48	-26.43	655.41	476.14	179.27	3.656		
22,200.00	12,620.00	21,718.29	12,144.00	182.67	182.25	43.50	-10,756.48	-25.45	655.49	474.72	180.77	3.626		
22,300.00	12,620.00	21,818.29	12,144.00	184.27	183.85	43.50	-10,856.47	-24.48	655.57	473.31	182.26	3.597		
22,400.00	12,620.00	21,918.29	12,144.00	185.88	185.46	43.51	-10,956.47	-23.51	655.65	471.90	183.75	3.568		
22,500.00	12,620.00	22,018.29	12,144.00	187.48	187.07	43.52	-11,056.46	-22.53	655.73	470.49	185.24	3.540		
22,600.00	12,620.00	22,118.29	12,144.00	189.09	188.68	43.53	-11,156.46	-21.56	655.81	469.08	186.73	3.512		
22,700.00	12,620.00	22,218.29	12,144.00	190.69	190.29	43.53	-11,256.45	-20.59	655.89	467.67	188.22	3.485		
22,800.00	12,620.00	22,318.29	12,144.00	192.30	191.87	43.54	-11,356.45	-19.61	655.96	466.30	189.67	3.458		
22,856.94	12,620.00	22,375.23	12,144.00	193.22	192.68	43.54	-11,413.39	-19.06	656.01	465.62	190.39	3.446		

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



Total Directional Services
Anticollision Report



Company: Franklin Mountain Energy
Project: Lea County, NM (NAD83)
Reference Site: Tatanka Fed Com
Site Error: 0.00 usft
Reference Well: Tatanka Fed Com 803H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1
Local Co-ordinate Reference: Well Tatanka Fed Com 803H
TVD Reference: 3135.8' GE + 30' KB @ 3165.80usft
MD Reference: 3135.8' GE + 30' KB @ 3165.80usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.15 Single User Db
Offset TVD Reference: Offset Datum

Offset Design Table with columns: Reference, Offset, Semi Major Axis (Reference, Offset, Highside Toolface), Distance (Between Centres, Between Ellipses, Minimum Separation, Separation Factor), Warnings. Includes data rows from 0.00 to 4,900.00 usft depth.

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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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				Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,000.00	4,970.36	4,984.30	4,940.73	17.81	18.11	-72.18	-273.35	247.28	165.45	140.62	24.83	6.663		
5,100.00	5,067.69	5,083.66	5,035.95	18.23	18.58	-72.09	-295.35	265.16	176.81	151.38	25.43	6.953		
5,200.00	5,165.02	5,183.01	5,131.18	18.66	19.06	-72.02	-317.34	283.03	188.16	162.13	26.03	7.229		
5,300.00	5,262.35	5,282.36	5,226.40	19.09	19.54	-71.95	-339.34	300.90	199.52	172.88	26.64	7.490		
5,400.00	5,359.68	5,381.72	5,321.63	19.53	20.03	-71.88	-361.34	318.77	210.87	183.62	27.25	7.738		
5,500.00	5,457.01	5,481.07	5,416.85	19.97	20.52	-71.83	-383.33	336.65	222.22	194.35	27.87	7.973		
5,600.00	5,554.34	5,580.42	5,512.08	20.42	21.02	-71.78	-405.33	354.52	233.58	205.08	28.50	8.197		
5,700.00	5,651.68	5,679.78	5,607.30	20.87	21.52	-71.73	-427.33	372.39	244.93	215.81	29.12	8.410		
5,800.00	5,749.01	5,779.13	5,702.53	21.32	22.03	-71.69	-449.32	390.26	256.29	226.53	29.76	8.612		
5,900.00	5,846.34	5,878.48	5,797.75	21.77	22.54	-71.65	-471.32	408.13	267.64	237.25	30.39	8.806		
6,000.00	5,943.67	5,977.83	5,892.98	22.23	23.06	-71.62	-493.32	426.01	279.00	247.96	31.04	8.990		
6,100.00	6,041.00	6,077.19	5,988.20	22.69	23.57	-71.59	-515.31	443.88	290.35	258.67	31.68	9.165		
6,200.00	6,138.33	6,176.54	6,083.43	23.15	24.10	-71.56	-537.31	461.75	301.71	269.38	32.33	9.333		
6,300.00	6,235.67	6,275.89	6,178.65	23.61	24.62	-71.53	-559.31	479.62	313.06	280.08	32.98	9.493		
6,400.00	6,333.00	6,375.25	6,273.88	24.08	25.15	-71.51	-581.30	497.49	324.42	290.79	33.63	9.646		
6,500.00	6,430.33	6,474.60	6,369.10	24.55	25.68	-71.48	-603.30	515.37	335.78	301.48	34.29	9.792		
6,600.00	6,527.66	6,573.95	6,464.33	25.02	26.21	-71.46	-625.30	533.24	347.13	312.18	34.95	9.932		
6,700.00	6,624.99	6,673.31	6,559.55	25.49	26.74	-71.44	-647.29	551.11	358.49	322.87	35.61	10.066		
6,800.00	6,722.32	6,772.66	6,654.78	25.96	27.28	-71.42	-669.29	568.98	369.84	333.56	36.28	10.195		
6,900.00	6,819.65	6,872.01	6,750.00	26.44	27.82	-71.40	-691.28	586.86	381.20	344.25	36.94	10.318		
7,000.00	6,916.99	6,971.37	6,845.23	26.91	28.36	-71.38	-713.28	604.73	392.55	354.94	37.61	10.437		
7,100.00	7,014.32	7,070.72	6,940.45	27.39	28.90	-71.37	-735.28	622.60	403.91	365.63	38.28	10.550		
7,200.00	7,111.65	7,170.07	7,035.68	27.87	29.45	-71.35	-757.27	640.47	415.27	376.31	38.96	10.660		
7,300.00	7,208.98	7,269.42	7,130.90	28.35	30.00	-71.34	-779.27	658.34	426.62	386.99	39.63	10.765		
7,400.00	7,306.31	7,368.78	7,226.13	28.84	30.54	-71.32	-801.27	676.22	437.98	397.67	40.31	10.866		
7,500.00	7,403.64	7,468.13	7,321.35	29.32	31.09	-71.31	-823.26	694.09	449.33	408.35	40.99	10.963		
7,600.00	7,500.98	7,567.48	7,416.58	29.80	31.64	-71.30	-845.26	711.96	460.69	419.02	41.67	11.057		
7,700.00	7,598.31	7,666.84	7,511.80	30.29	32.20	-71.29	-867.26	729.83	472.04	429.70	42.35	11.147		
7,800.00	7,695.64	7,766.19	7,607.03	30.78	32.75	-71.27	-889.25	747.70	483.40	440.37	43.03	11.234		
7,900.00	7,792.97	7,865.54	7,702.25	31.27	33.30	-71.26	-911.25	765.58	494.76	451.04	43.71	11.318		
8,000.00	7,890.30	7,971.91	7,804.44	31.75	33.89	-71.33	-934.14	784.17	505.59	461.11	44.48	11.367		
8,062.86	7,951.48	8,040.32	7,870.58	32.06	34.25	-71.50	-947.73	795.21	511.50	466.53	44.97	11.373		
8,100.00	7,987.67	8,080.79	7,909.84	32.24	34.46	-71.67	-955.33	801.39	514.72	469.46	45.27	11.371		
8,200.00	8,085.50	8,189.89	8,016.19	32.71	35.01	-72.10	-974.22	816.74	522.70	476.68	46.02	11.358		
8,300.00	8,183.84	8,299.17	8,123.36	33.17	35.53	-72.47	-990.77	830.18	529.68	482.95	46.73	11.334		
8,400.00	8,282.61	8,408.60	8,231.26	33.60	36.01	-72.78	-1,004.95	841.71	535.65	488.25	47.40	11.300		
8,500.00	8,381.76	8,518.17	8,339.76	34.01	36.47	-73.05	-1,016.74	851.28	540.60	492.57	48.03	11.255		
8,600.00	8,481.22	8,627.84	8,448.77	34.40	36.90	-73.26	-1,026.11	858.90	544.52	495.90	48.62	11.200		
8,700.00	8,580.92	8,737.60	8,558.15	34.77	37.29	-73.43	-1,033.06	864.55	547.40	498.24	49.16	11.136		
8,800.00	8,680.78	8,847.40	8,667.80	35.12	37.66	-73.55	-1,037.57	868.21	549.23	499.57	49.66	11.061		
8,900.00	8,780.74	8,957.24	8,777.59	35.45	38.00	-73.62	-1,039.63	869.88	550.01	499.91	50.11	10.976		
8,947.26	8,828.00	9,007.84	8,828.20	35.59	38.15	89.35	-1,039.77	870.00	550.04	499.73	50.31	10.933		
9,000.00	8,880.74	9,060.58	8,880.94	35.75	38.29	89.35	-1,039.77	870.00	550.04	499.51	50.53	10.886		
9,100.00	8,980.74	9,160.58	8,980.94	36.04	38.57	89.35	-1,039.77	870.00	550.04	499.09	50.94	10.797		
9,200.00	9,080.74	9,260.58	9,080.94	36.34	38.85	89.35	-1,039.77	870.00	550.04	498.67	51.36	10.709		
9,300.00	9,180.74	9,360.58	9,180.94	36.64	39.14	89.35	-1,039.77	870.00	550.04	498.25	51.78	10.622		
9,400.00	9,280.74	9,460.58	9,280.94	36.93	39.42	89.35	-1,039.77	870.00	550.04	497.83	52.20	10.536		
9,500.00	9,380.74	9,560.58	9,380.94	37.23	39.70	89.35	-1,039.77	870.00	550.04	497.41	52.63	10.452		
9,600.00	9,480.74	9,660.58	9,480.94	37.53	39.99	89.35	-1,039.77	870.00	550.04	496.98	53.05	10.368		
9,700.00	9,580.74	9,760.58	9,580.94	37.84	40.27	89.35	-1,039.77	870.00	550.04	496.56	53.48	10.286		
9,800.00	9,680.74	9,860.58	9,680.94	38.14	40.56	89.35	-1,039.77	870.00	550.04	496.13	53.90	10.204		
9,900.00	9,780.74	9,960.58	9,780.94	38.44	40.85	89.35	-1,039.77	870.00	550.04	495.70	54.33	10.123		

CC - Min centre to center distance or 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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 703H - OH - Plan #1													Offset Well Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
10,000.00	9,880.74	10,060.58	9,880.94	38.75	41.14	89.35	-1,039.77	870.00	550.04	495.27	54.76	10.044		
10,100.00	9,980.74	10,160.58	9,980.94	39.05	41.43	89.35	-1,039.77	870.00	550.04	494.84	55.19	9.966		
10,200.00	10,080.74	10,260.58	10,080.94	39.36	41.72	89.35	-1,039.77	870.00	550.04	494.41	55.63	9.888		
10,300.00	10,180.74	10,360.58	10,180.94	39.66	42.02	89.35	-1,039.77	870.00	550.04	493.97	56.06	9.811		
10,400.00	10,280.74	10,460.58	10,280.94	39.97	42.31	89.35	-1,039.77	870.00	550.04	493.54	56.50	9.736		
10,500.00	10,380.74	10,560.58	10,380.94	40.28	42.60	89.35	-1,039.77	870.00	550.04	493.10	56.93	9.661		
10,600.00	10,480.74	10,660.58	10,480.94	40.59	42.90	89.35	-1,039.77	870.00	550.04	492.67	57.37	9.588		
10,700.00	10,580.74	10,760.58	10,580.94	40.90	43.20	89.35	-1,039.77	870.00	550.04	492.23	57.81	9.515		
10,800.00	10,680.74	10,860.58	10,680.94	41.21	43.49	89.35	-1,039.77	870.00	550.04	491.79	58.25	9.443		
10,900.00	10,780.74	10,960.58	10,780.94	41.52	43.79	89.35	-1,039.77	870.00	550.04	491.35	58.69	9.372		
11,000.00	10,880.74	11,060.58	10,880.94	41.84	44.09	89.35	-1,039.77	870.00	550.04	490.91	59.13	9.302		
11,100.00	10,980.74	11,160.58	10,980.94	42.15	44.39	89.35	-1,039.77	870.00	550.04	490.46	59.57	9.233		
11,200.00	11,080.74	11,260.58	11,080.94	42.46	44.69	89.35	-1,039.77	870.00	550.04	490.02	60.02	9.165		
11,300.00	11,180.74	11,360.58	11,180.94	42.78	45.00	89.35	-1,039.77	870.00	550.04	489.57	60.46	9.097		
11,400.00	11,280.74	11,460.58	11,280.94	43.09	45.30	89.35	-1,039.77	870.00	550.04	489.13	60.91	9.031		
11,500.00	11,380.74	11,560.58	11,380.94	43.41	45.60	89.35	-1,039.77	870.00	550.04	488.68	61.35	8.965		
11,600.00	11,480.74	11,660.58	11,480.94	43.73	45.91	89.35	-1,039.77	870.00	550.04	488.23	61.80	8.900		
11,700.00	11,580.74	11,760.58	11,580.94	44.04	46.21	89.35	-1,039.77	870.00	550.04	487.78	62.25	8.836		
11,800.00	11,680.74	11,860.58	11,680.94	44.36	46.52	89.35	-1,039.77	870.00	550.04	487.34	62.70	8.772		
11,900.00	11,780.74	11,960.58	11,780.94	44.68	46.83	89.36	-1,039.86	870.00	550.04	486.88	63.15	8.710		
11,921.19	11,801.93	11,981.79	11,802.13	44.75	46.90	89.44	-1,040.61	870.01	550.03	486.79	63.24	8.697		
12,000.00	11,880.74	12,059.42	11,879.13	45.00	47.18	90.42	-1,050.06	870.10	550.12	486.56	63.56	8.655		
12,100.00	11,980.74	12,152.16	11,968.39	45.32	47.59	93.00	-1,074.83	870.34	551.24	487.34	63.90	8.627		
12,166.30	12,047.04	12,208.38	12,020.14	45.53	47.88	95.27	-1,096.75	870.56	553.56	489.47	64.08	8.638		
12,200.00	12,080.72	12,235.52	12,044.29	45.65	48.02	-82.73	-1,109.12	870.68	555.37	491.21	64.16	8.656		
12,250.00	12,130.45	12,274.97	12,078.29	45.84	48.24	-80.73	-1,129.12	870.87	558.62	494.33	64.29	8.689		
12,300.00	12,179.53	12,313.58	12,110.15	46.05	48.47	-78.80	-1,150.90	871.09	562.44	498.02	64.42	8.731		
12,350.00	12,227.61	12,350.00	12,138.81	46.29	48.69	-77.00	-1,173.37	871.31	566.70	502.16	64.54	8.781		
12,400.00	12,274.32	12,388.64	12,167.58	46.55	48.93	-75.19	-1,199.15	871.56	571.28	506.62	64.66	8.835		
12,450.00	12,319.29	12,425.27	12,193.19	46.83	49.17	-73.53	-1,225.33	871.82	576.06	511.29	64.77	8.894		
12,500.00	12,362.19	12,461.40	12,216.76	47.13	49.42	-71.98	-1,252.70	872.08	580.92	516.06	64.87	8.956		
12,550.00	12,402.70	12,500.00	12,239.99	47.44	49.69	-70.47	-1,283.52	872.39	585.77	520.79	64.98	9.014		
12,600.00	12,440.50	12,532.40	12,257.85	47.78	49.92	-69.23	-1,310.56	872.65	590.48	525.42	65.06	9.077		
12,650.00	12,475.30	12,567.39	12,275.38	48.13	50.18	-68.04	-1,340.82	872.95	594.97	529.81	65.16	9.131		
12,700.00	12,506.84	12,600.00	12,290.03	48.50	50.42	-67.02	-1,369.95	873.23	599.17	533.90	65.27	9.180		
12,750.00	12,534.89	12,636.55	12,304.45	48.88	50.70	-66.05	-1,403.53	873.56	602.98	537.54	65.44	9.214		
12,800.00	12,559.22	12,670.81	12,315.99	49.28	50.97	-65.26	-1,435.78	873.88	606.35	540.72	65.63	9.239		
12,850.00	12,579.65	12,700.00	12,324.30	49.68	51.20	-64.65	-1,463.76	874.15	609.24	543.40	65.84	9.254		
12,900.00	12,596.03	12,738.86	12,333.12	50.10	51.51	-64.07	-1,501.59	874.52	611.54	545.38	66.16	9.244		
12,950.00	12,608.24	12,772.72	12,338.70	50.52	51.78	-63.68	-1,534.98	874.85	613.27	546.76	66.51	9.221		
13,000.00	12,616.17	12,800.00	12,341.76	50.94	52.01	-63.45	-1,562.09	875.11	614.45	547.54	66.91	9.183		
13,050.00	12,619.77	12,840.26	12,343.90	51.36	52.33	-63.32	-1,602.28	875.51	614.90	547.49	67.41	9.122		
13,066.30	12,620.00	12,851.53	12,344.00	51.50	52.43	-63.31	-1,613.55	875.62	614.92	547.34	67.58	9.099		
13,100.00	12,620.00	12,885.23	12,344.00	51.79	52.70	-63.31	-1,647.25	875.95	614.89	546.95	67.94	9.050		
13,200.00	12,620.00	12,985.23	12,344.00	52.67	53.55	-63.30	-1,747.24	876.92	614.79	545.75	69.04	8.905		
13,300.00	12,620.00	13,085.23	12,344.00	53.58	54.44	-63.30	-1,847.24	877.90	614.69	544.51	70.19	8.758		
13,400.00	12,620.00	13,185.23	12,344.00	54.53	55.36	-63.29	-1,947.23	878.88	614.59	543.22	71.37	8.611		
13,500.00	12,620.00	13,285.23	12,344.00	55.51	56.32	-63.29	-2,047.23	879.86	614.50	541.89	72.60	8.464		
13,600.00	12,620.00	13,385.23	12,344.00	56.53	57.30	-63.29	-2,147.22	880.84	614.40	540.52	73.87	8.317		
13,700.00	12,620.00	13,485.23	12,344.00	57.57	58.32	-63.28	-2,247.22	881.82	614.30	539.12	75.18	8.171		
13,800.00	12,620.00	13,585.23	12,344.00	58.64	59.37	-63.28	-2,347.21	882.80	614.20	537.68	76.52	8.026		
13,900.00	12,620.00	13,685.23	12,344.00	59.74	60.44	-63.27	-2,447.21	883.78	614.10	536.20	77.90	7.883		

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



Total Directional Services Anticollision Report



Company: Franklin Mountain Energy	Local Co-ordinate Reference: Well Tatanka Fed Com 803H
Project: Lea County, NM (NAD83)	TVD Reference: 3135.8' GE + 30' KB @ 3165.80usft
Reference Site: Tatanka Fed Com	MD Reference: 3135.8' GE + 30' KB @ 3165.80usft
Site Error: 0.00 usft	North Reference: Grid
Reference Well: Tatanka Fed Com 803H	Survey Calculation Method: Minimum Curvature
Well Error: 0.00 usft	Output errors are at: 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 703H - OH - Plan #1													Offset Well Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Warning	
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	
14,000.00	12,620.00	13,785.23	12,344.00	60.86	61.54	-63.27	-2,547.20	884.75	614.00	534.70	79.30	7.742		
14,100.00	12,620.00	13,885.23	12,344.00	62.01	62.66	-63.26	-2,647.20	885.73	613.90	533.16	80.74	7.604		
14,200.00	12,620.00	13,985.23	12,344.00	63.18	63.80	-63.26	-2,747.19	886.71	613.81	531.60	82.20	7.467		
14,300.00	12,620.00	14,085.23	12,344.00	64.37	64.97	-63.25	-2,847.19	887.69	613.71	530.01	83.69	7.333		
14,400.00	12,620.00	14,185.23	12,344.00	65.58	66.16	-63.25	-2,947.19	888.67	613.61	528.40	85.21	7.201		
14,500.00	12,620.00	14,285.23	12,344.00	66.80	67.36	-63.24	-3,047.18	889.65	613.51	526.76	86.75	7.072		
14,600.00	12,620.00	14,385.23	12,344.00	68.05	68.59	-63.24	-3,147.18	890.63	613.41	525.10	88.31	6.946		
14,700.00	12,620.00	14,485.23	12,344.00	69.31	69.83	-63.23	-3,247.17	891.60	613.31	523.42	89.89	6.823		
14,800.00	12,620.00	14,585.23	12,344.00	70.59	71.09	-63.23	-3,347.17	892.58	613.21	521.72	91.49	6.702		
14,900.00	12,620.00	14,685.23	12,344.00	71.89	72.37	-63.23	-3,447.16	893.56	613.12	520.00	93.11	6.585		
15,000.00	12,620.00	14,785.23	12,344.00	73.20	73.66	-63.22	-3,547.16	894.54	613.02	518.27	94.75	6.470		
15,100.00	12,620.00	14,885.23	12,344.00	74.52	74.96	-63.22	-3,647.15	895.52	612.92	516.52	96.40	6.358		
15,200.00	12,620.00	14,985.23	12,344.00	75.85	76.28	-63.21	-3,747.15	896.50	612.82	514.75	98.07	6.249		
15,300.00	12,620.00	15,085.23	12,344.00	77.20	77.61	-63.21	-3,847.14	897.48	612.72	512.97	99.76	6.142		
15,400.00	12,620.00	15,185.23	12,344.00	78.56	78.95	-63.20	-3,947.14	898.46	612.62	511.17	101.45	6.038		
15,500.00	12,620.00	15,285.23	12,344.00	79.93	80.30	-63.20	-4,047.13	899.43	612.53	509.36	103.16	5.937		
15,600.00	12,620.00	15,385.23	12,344.00	81.31	81.67	-63.19	-4,147.13	900.41	612.43	507.54	104.89	5.839		
15,700.00	12,620.00	15,485.23	12,344.00	82.70	83.04	-63.19	-4,247.12	901.39	612.33	505.70	106.62	5.743		
15,800.00	12,620.00	15,585.23	12,344.00	84.10	84.43	-63.18	-4,347.12	902.37	612.23	503.86	108.37	5.649		
15,900.00	12,620.00	15,685.23	12,344.00	85.51	85.82	-63.18	-4,447.11	903.35	612.13	502.01	110.12	5.559		
16,000.00	12,620.00	15,785.23	12,344.00	86.93	87.23	-63.17	-4,547.11	904.33	612.03	500.14	111.89	5.470		
16,100.00	12,620.00	15,885.23	12,344.00	88.36	88.64	-63.17	-4,647.10	905.31	611.93	498.27	113.67	5.384		
16,200.00	12,620.00	15,985.23	12,344.00	89.79	90.06	-63.16	-4,747.10	906.29	611.84	496.39	115.45	5.300		
16,300.00	12,620.00	16,085.23	12,344.00	91.23	91.49	-63.16	-4,847.09	907.26	611.74	494.50	117.24	5.218		
16,400.00	12,620.00	16,185.23	12,344.00	92.68	92.92	-63.16	-4,947.09	908.24	611.64	492.60	119.04	5.138		
16,500.00	12,620.00	16,285.23	12,344.00	94.13	94.37	-63.15	-5,047.08	909.22	611.54	490.69	120.85	5.060		
16,600.00	12,620.00	16,385.23	12,344.00	95.59	95.82	-63.15	-5,147.08	910.20	611.44	488.78	122.66	4.985		
16,700.00	12,620.00	16,485.23	12,344.00	97.06	97.27	-63.14	-5,247.07	911.18	611.34	486.86	124.48	4.911		
16,800.00	12,620.00	16,585.23	12,344.00	98.53	98.73	-63.14	-5,347.07	912.16	611.25	484.94	126.31	4.839		
16,900.00	12,620.00	16,685.23	12,344.00	100.01	100.20	-63.13	-5,447.06	913.14	611.15	483.01	128.14	4.769		
17,000.00	12,620.00	16,785.23	12,344.00	101.50	101.67	-63.13	-5,547.06	914.11	611.05	481.07	129.98	4.701		
17,100.00	12,620.00	16,885.23	12,344.00	102.98	103.15	-63.12	-5,647.05	915.09	610.95	479.13	131.82	4.635		
17,200.00	12,620.00	16,985.23	12,344.00	104.48	104.64	-63.12	-5,747.05	916.07	610.85	477.18	133.67	4.570		
17,300.00	12,620.00	17,085.23	12,344.00	105.98	106.13	-63.11	-5,847.04	917.05	610.75	475.23	135.52	4.507		
17,400.00	12,620.00	17,185.23	12,344.00	107.48	107.62	-63.11	-5,947.04	918.03	610.66	473.28	137.37	4.445		
17,500.00	12,620.00	17,285.23	12,344.00	108.99	109.12	-63.10	-6,047.03	919.01	610.56	471.32	139.23	4.385		
17,600.00	12,620.00	17,385.23	12,344.00	110.50	110.62	-63.10	-6,147.03	919.99	610.46	469.36	141.10	4.327		
17,700.00	12,620.00	17,485.23	12,344.00	112.01	112.13	-63.09	-6,247.03	920.97	610.36	467.40	142.96	4.269		
17,800.00	12,620.00	17,585.23	12,344.00	113.53	113.64	-63.09	-6,347.02	921.94	610.26	465.43	144.83	4.214		
17,900.00	12,620.00	17,685.23	12,344.00	115.06	115.15	-63.09	-6,447.02	922.92	610.16	463.46	146.71	4.159		
18,000.00	12,620.00	17,785.23	12,344.00	116.58	116.67	-63.08	-6,547.01	923.90	610.06	461.48	148.58	4.106		
18,100.00	12,620.00	17,885.23	12,344.00	118.11	118.19	-63.08	-6,647.01	924.88	609.97	459.51	150.46	4.054		
18,200.00	12,620.00	17,985.23	12,344.00	119.65	119.72	-63.07	-6,747.00	925.86	609.87	457.53	152.34	4.003		
18,300.00	12,620.00	18,085.23	12,344.00	121.18	121.25	-63.07	-6,847.00	926.84	609.77	455.55	154.22	3.954		
18,400.00	12,620.00	18,185.23	12,344.00	122.72	122.78	-63.06	-6,946.99	927.82	609.67	453.56	156.11	3.905		
18,500.00	12,620.00	18,285.23	12,344.00	124.26	124.31	-63.06	-7,046.99	928.80	609.57	451.58	158.00	3.858		
18,600.00	12,620.00	18,385.23	12,344.00	125.81	125.85	-63.05	-7,146.98	929.77	609.47	449.59	159.88	3.812		
18,700.00	12,620.00	18,485.23	12,344.00	127.35	127.39	-63.05	-7,246.98	930.75	609.38	447.60	161.77	3.767		
18,800.00	12,620.00	18,585.23	12,344.00	128.90	128.93	-63.04	-7,346.97	931.73	609.28	445.61	163.67	3.723		
18,900.00	12,620.00	18,685.23	12,344.00	130.46	130.48	-63.04	-7,446.97	932.71	609.18	443.62	165.56	3.680		
19,000.00	12,620.00	18,785.23	12,344.00	132.01	132.03	-63.03	-7,546.96	933.69	609.08	441.63	167.45	3.637		
19,100.00	12,620.00	18,885.23	12,344.00	133.57	133.58	-63.03	-7,646.96	934.67	608.98	439.63	169.35	3.596		

CC - Min centre to center distance or 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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 703H - OH - Plan #1													Offset Well Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD														
Reference				Offset		Semi Major Axis			Distance				Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,200.00	12,620.00	18,985.23	12,344.00	135.13	135.13	-63.02	-7,746.95	935.65	608.88	437.64	171.24	3.556		
19,300.00	12,620.00	19,085.23	12,344.00	136.69	136.69	-63.02	-7,846.95	936.62	608.79	435.65	173.14	3.516		
19,400.00	12,620.00	19,185.23	12,344.00	138.25	138.25	-63.01	-7,946.94	937.60	608.69	433.65	175.04	3.477		
19,500.00	12,620.00	19,285.23	12,344.00	139.82	139.81	-63.01	-8,046.94	938.58	608.59	431.65	176.94	3.440		
19,600.00	12,620.00	19,385.23	12,344.00	141.39	141.37	-63.01	-8,146.93	939.56	608.49	429.66	178.83	3.403		
19,700.00	12,620.00	19,485.23	12,344.00	142.96	142.93	-63.00	-8,246.93	940.54	608.39	427.66	180.73	3.366		
19,800.00	12,620.00	19,585.23	12,344.00	144.53	144.50	-63.00	-8,346.92	941.52	608.30	425.66	182.63	3.331		
19,900.00	12,620.00	19,685.23	12,344.00	146.10	146.07	-62.99	-8,446.92	942.50	608.20	423.67	184.53	3.296		
20,000.00	12,620.00	19,785.23	12,344.00	147.68	147.64	-62.99	-8,546.91	943.48	608.10	421.67	186.43	3.262		
20,100.00	12,620.00	19,885.23	12,344.00	149.25	149.21	-62.98	-8,646.91	944.45	608.00	419.67	188.33	3.228		
20,200.00	12,620.00	19,985.23	12,344.00	150.83	150.78	-62.98	-8,746.90	945.43	607.90	417.68	190.23	3.196		
20,300.00	12,620.00	20,085.23	12,344.00	152.41	152.36	-62.97	-8,846.90	946.41	607.80	415.68	192.13	3.164		
20,400.00	12,620.00	20,185.23	12,344.00	153.99	153.93	-62.97	-8,946.89	947.39	607.71	413.68	194.02	3.132		
20,500.00	12,620.00	20,285.23	12,344.00	155.58	155.51	-62.96	-9,046.89	948.37	607.61	411.69	195.92	3.101		
20,600.00	12,620.00	20,385.23	12,344.00	157.16	157.09	-62.96	-9,146.88	949.35	607.51	409.69	197.82	3.071		
20,700.00	12,620.00	20,485.23	12,344.00	158.75	158.67	-62.95	-9,246.88	950.33	607.41	407.69	199.72	3.041		
20,800.00	12,620.00	20,585.23	12,344.00	160.33	160.25	-62.95	-9,346.87	951.31	607.31	405.70	201.61	3.012		
20,900.00	12,620.00	20,685.23	12,344.00	161.92	161.84	-62.94	-9,446.87	952.28	607.21	403.71	203.51	2.984		
21,000.00	12,620.00	20,785.23	12,344.00	163.51	163.42	-62.94	-9,546.87	953.26	607.12	401.71	205.40	2.956		
21,100.00	12,620.00	20,885.23	12,344.00	165.10	165.01	-62.93	-9,646.86	954.24	607.02	399.72	207.30	2.928		
21,200.00	12,620.00	20,985.23	12,344.00	166.69	166.60	-62.93	-9,746.86	955.22	606.92	397.73	209.19	2.901		
21,300.00	12,620.00	21,085.23	12,344.00	168.29	168.19	-62.92	-9,846.85	956.20	606.82	395.74	211.08	2.875		
21,400.00	12,620.00	21,185.23	12,344.00	169.88	169.78	-62.92	-9,946.85	957.18	606.72	393.75	212.97	2.849		
21,500.00	12,620.00	21,285.23	12,344.00	171.48	171.37	-62.92	-10,046.84	958.16	606.62	391.76	214.86	2.823		
21,600.00	12,620.00	21,385.23	12,344.00	173.07	172.96	-62.91	-10,146.84	959.13	606.53	389.77	216.75	2.798		
21,700.00	12,620.00	21,485.23	12,344.00	174.67	174.55	-62.91	-10,246.83	960.11	606.43	387.79	218.64	2.774		
21,800.00	12,620.00	21,585.23	12,344.00	176.27	176.15	-62.90	-10,346.83	961.09	606.33	385.80	220.53	2.749		
21,900.00	12,620.00	21,685.23	12,344.00	177.87	177.74	-62.90	-10,446.82	962.07	606.23	383.82	222.41	2.726		
22,000.00	12,620.00	21,785.23	12,344.00	179.47	179.34	-62.89	-10,546.82	963.05	606.13	381.84	224.30	2.702		
22,100.00	12,620.00	21,885.23	12,344.00	181.07	180.94	-62.89	-10,646.81	964.03	606.04	379.85	226.18	2.679		
22,200.00	12,620.00	21,985.23	12,344.00	182.67	182.54	-62.88	-10,746.81	965.01	605.94	377.88	228.06	2.657		
22,300.00	12,620.00	22,085.23	12,344.00	184.27	184.14	-62.88	-10,846.80	965.99	605.84	375.90	229.94	2.635		
22,400.00	12,620.00	22,185.23	12,344.00	185.88	185.74	-62.87	-10,946.80	966.96	605.74	373.92	231.82	2.613		
22,500.00	12,620.00	22,285.23	12,344.00	187.48	187.34	-62.87	-11,046.79	967.94	605.64	371.95	233.70	2.592		
22,600.00	12,620.00	22,385.23	12,344.00	189.09	188.94	-62.86	-11,146.79	968.92	605.54	369.97	235.57	2.571		
22,700.00	12,620.00	22,485.23	12,344.00	190.69	190.54	-62.86	-11,246.78	969.90	605.45	368.00	237.45	2.550		
22,800.00	12,620.00	22,585.23	12,344.00	192.30	192.15	-62.85	-11,346.78	970.88	605.35	366.03	239.32	2.529		
22,856.94	12,620.00	22,642.17	12,344.00	193.22	193.00	-62.85	-11,403.72	971.44	605.29	364.95	240.34	2.518		

CC - Min centre to center distance or 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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	111.40	-992.65	2,533.59	2,721.43					
100.00	100.00	58.00	58.00	0.13	0.07	111.40	-992.65	2,533.59	2,721.11	2,720.96	0.15	N/A		
200.00	200.00	158.00	158.00	0.48	0.33	111.40	-992.65	2,533.59	2,721.11	2,720.52	0.59	4,630.468		
300.00	300.00	258.00	258.00	0.84	0.69	111.40	-992.65	2,533.59	2,721.11	2,720.02	1.09	2,496.211		
400.00	400.00	358.00	358.00	1.20	1.05	111.40	-992.65	2,533.59	2,721.11	2,719.51	1.60	1,705.601		
500.00	500.00	458.00	458.00	1.56	1.41	111.40	-992.65	2,533.59	2,721.11	2,719.01	2.10	1,294.845		
600.00	600.00	558.00	558.00	1.92	1.77	111.40	-992.65	2,533.59	2,721.11	2,718.50	2.61	1,043.400		
700.00	700.00	658.00	658.00	2.28	2.13	111.40	-992.65	2,533.59	2,721.11	2,717.99	3.11	873.683		
800.00	800.00	758.00	758.00	2.63	2.48	111.40	-992.65	2,533.59	2,721.11	2,717.49	3.62	751.433		
900.00	900.00	858.00	858.00	2.99	2.84	111.40	-992.65	2,533.59	2,721.11	2,716.98	4.13	659.185		
1,000.00	1,000.00	958.00	958.00	3.35	3.20	111.40	-992.65	2,533.59	2,721.11	2,716.47	4.63	587.104		
1,100.00	1,100.00	1,058.00	1,058.00	3.71	3.56	111.40	-992.65	2,533.59	2,721.11	2,715.97	5.14	529.231		
1,200.00	1,200.00	1,158.00	1,158.00	4.07	3.92	111.40	-992.65	2,533.59	2,721.11	2,715.46	5.65	481.741		
1,300.00	1,300.00	1,258.00	1,258.00	4.43	4.28	111.40	-992.65	2,533.59	2,721.11	2,714.95	6.16	442.072		
1,400.00	1,400.00	1,358.00	1,358.00	4.79	4.64	111.40	-992.65	2,533.59	2,721.11	2,714.45	6.66	408.437		
1,500.00	1,500.00	1,458.00	1,458.00	5.14	4.99	111.40	-992.65	2,533.59	2,721.11	2,713.94	7.17	379.559		
1,600.00	1,600.00	1,558.00	1,558.00	5.50	5.35	111.40	-992.65	2,533.59	2,721.11	2,713.43	7.68	354.494		
1,700.00	1,700.00	1,658.00	1,658.00	5.86	5.71	111.40	-992.65	2,533.59	2,721.11	2,712.93	8.18	332.534		
1,800.00	1,800.00	1,758.00	1,758.00	6.22	6.07	111.40	-992.65	2,533.59	2,721.11	2,712.42	8.69	313.136		
1,900.00	1,900.00	1,858.00	1,858.00	6.58	6.43	111.40	-992.65	2,533.59	2,721.11	2,711.91	9.20	295.876		
2,000.00	2,000.00	1,958.00	1,958.00	6.94	6.79	111.40	-992.65	2,533.59	2,721.11	2,711.41	9.70	280.419		
2,100.00	2,100.00	2,058.00	2,058.00	7.29	7.14	111.40	-992.65	2,533.59	2,721.11	2,710.90	10.21	266.497		
2,200.00	2,200.00	2,158.00	2,158.00	7.65	7.50	111.40	-992.65	2,533.59	2,721.11	2,710.39	10.72	253.892		
2,300.00	2,300.00	2,258.00	2,258.00	8.01	7.86	111.40	-992.65	2,533.59	2,721.11	2,709.88	11.22	242.426		
2,400.00	2,400.00	2,358.00	2,358.00	8.37	8.22	111.40	-992.65	2,533.59	2,721.11	2,709.38	11.73	231.950		
2,500.00	2,500.00	2,458.00	2,458.00	8.73	8.58	111.40	-992.65	2,533.59	2,721.11	2,708.87	12.24	222.343		
2,600.00	2,600.00	2,558.00	2,558.00	9.09	8.94	111.40	-992.65	2,533.59	2,721.11	2,708.36	12.75	213.499		
2,700.00	2,700.00	2,658.00	2,658.00	9.45	9.30	111.40	-992.65	2,533.59	2,721.11	2,707.86	13.25	205.332		
2,800.00	2,800.00	2,758.00	2,758.00	9.80	9.65	111.40	-992.65	2,533.59	2,721.11	2,707.35	13.76	197.767		
2,900.00	2,900.00	2,858.00	2,858.00	10.16	10.01	111.40	-992.65	2,533.59	2,721.11	2,706.84	14.27	190.739		
3,000.00	3,000.00	2,958.00	2,958.00	10.52	10.37	111.40	-992.65	2,533.59	2,721.11	2,706.34	14.77	184.194		
3,100.00	3,100.00	3,058.00	3,058.00	10.88	10.73	111.40	-992.65	2,533.59	2,721.11	2,705.83	15.28	178.083		
3,200.00	3,200.00	3,158.00	3,158.00	11.24	11.09	111.40	-992.65	2,533.59	2,721.11	2,705.32	15.79	172.364		
3,300.00	3,300.00	3,258.00	3,258.00	11.60	11.45	111.43	-992.84	2,530.03	2,719.97	2,704.81	16.30	167.043		
3,400.00	3,399.99	3,358.00	3,358.00	11.96	11.81	111.43	-992.84	2,530.03	2,719.97	2,704.30	16.81	162.000		
3,500.00	3,499.91	3,458.00	3,458.00	12.32	12.17	111.43	-992.84	2,530.03	2,719.97	2,703.79	17.32	157.000		
3,600.00	3,599.83	3,558.00	3,558.00	12.68	12.53	111.43	-992.84	2,530.03	2,719.97	2,703.28	17.83	152.000		
3,700.00	3,699.75	3,658.00	3,658.00	13.04	12.89	111.43	-992.84	2,530.03	2,719.97	2,702.77	18.34	147.000		
3,800.00	3,799.67	3,758.00	3,758.00	13.40	13.25	111.43	-992.84	2,530.03	2,719.97	2,702.26	18.85	142.000		
3,900.00	3,899.59	3,858.00	3,858.00	13.76	13.61	111.43	-992.84	2,530.03	2,719.97	2,701.75	19.36	137.000		
4,000.00	3,999.51	3,958.00	3,958.00	14.12	13.97	111.43	-992.84	2,530.03	2,719.97	2,701.24	19.87	132.000		
4,100.00	4,099.43	4,058.00	4,058.00	14.48	14.33	111.43	-992.84	2,530.03	2,719.97	2,700.73	20.38	127.000		
4,200.00	4,199.35	4,158.00	4,158.00	14.84	14.69	111.43	-992.84	2,530.03	2,719.97	2,700.22	20.89	122.000		
4,300.00	4,299.27	4,258.00	4,258.00	15.20	15.05	111.43	-992.84	2,530.03	2,719.97	2,700.71	21.40	117.000		
4,400.00	4,399.19	4,358.00	4,358.00	15.56	15.41	111.43	-992.84	2,530.03	2,719.97	2,700.20	21.91	112.000		
4,500.00	4,499.11	4,458.00	4,458.00	15.92	15.77	111.43	-992.84	2,530.03	2,719.97	2,700.69	22.42	107.000		
4,600.00	4,599.03	4,558.00	4,558.00	16.28	16.13	111.43	-992.84	2,530.03	2,719.97	2,700.18	22.93	102.000		
4,700.00	4,698.95	4,658.00	4,658.00	16.64	16.49	111.43	-992.84	2,530.03	2,719.97	2,700.67	23.44	97.000		
4,800.00	4,798.87	4,758.00	4,758.00	17.00	16.85	111.43	-992.84	2,530.03	2,719.97	2,700.16	23.95	92.000		
4,900.00	4,898.79	4,858.00	4,858.00	17.36	17.21	111.43	-992.84	2,530.03	2,719.97	2,700.65	24.46	87.000		
5,000.00	4,998.71	4,958.00	4,958.00	17.72	17.57	111.43	-992.84	2,530.03	2,719.97	2,700.14	24.97	82.000		

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



Total Directional Services
Anticollision Report



Company: Franklin Mountain Energy
Project: Lea County, NM (NAD83)
Reference Site: Tatanka Fed Com
Site Error: 0.00 usft
Reference Well: Tatanka Fed Com 803H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1
Local Co-ordinate Reference: Well Tatanka Fed Com 803H
TVD Reference: 3135.8' GE + 30' KB @ 3165.80usft
MD Reference: 3135.8' GE + 30' KB @ 3165.80usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.15 Single User Db
Offset TVD Reference: Offset Datum

Offset Design Table with columns: Reference, Measured Depth, Vertical Depth, Semi Major Axis (Reference, Offset, Highside Toolface), Distance (Offset Wellbore Centre, Between Centres, Between Ellipses, Minimum Separation, Separation Factor), Warning. Includes survey program details: 0-OWSG (Rev2) MWD.

CC - Min centre to center distance or 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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	12,620.00	18,737.38	12,109.00	136.69	120.65	-72.55	-7,837.62	1,886.36	1,564.27	1,389.73	174.54	8.962		
19,400.00	12,620.00	18,837.38	12,109.00	138.25	122.19	-72.55	-7,937.62	1,887.34	1,564.17	1,387.53	176.64	8.855		
19,500.00	12,620.00	18,937.38	12,109.00	139.82	123.73	-72.55	-8,037.61	1,888.32	1,564.07	1,385.32	178.74	8.750		
19,600.00	12,620.00	19,037.38	12,109.00	141.39	125.28	-72.55	-8,137.61	1,889.31	1,563.96	1,383.12	180.85	8.648		
19,700.00	12,620.00	19,137.38	12,109.00	142.96	126.83	-72.55	-8,237.60	1,890.29	1,563.86	1,380.91	182.96	8.548		
19,800.00	12,620.00	19,237.38	12,109.00	144.53	128.38	-72.55	-8,337.60	1,891.27	1,563.76	1,378.69	185.06	8.450		
19,900.00	12,620.00	19,337.38	12,109.00	146.10	129.93	-72.55	-8,437.59	1,892.25	1,563.65	1,376.48	187.18	8.354		
20,000.00	12,620.00	19,437.38	12,109.00	147.68	131.49	-72.54	-8,537.59	1,893.23	1,563.55	1,374.26	189.29	8.260		
20,100.00	12,620.00	19,537.38	12,109.00	149.25	133.05	-72.54	-8,637.58	1,894.21	1,563.45	1,372.04	191.41	8.168		
20,200.00	12,620.00	19,637.38	12,109.00	150.83	134.61	-72.54	-8,737.58	1,895.19	1,563.34	1,369.81	193.53	8.078		
20,300.00	12,620.00	19,737.38	12,109.00	152.41	136.17	-72.54	-8,837.57	1,896.17	1,563.24	1,367.59	195.65	7.990		
20,400.00	12,620.00	19,837.38	12,109.00	153.99	137.74	-72.54	-8,937.57	1,897.15	1,563.14	1,365.36	197.78	7.903		
20,500.00	12,620.00	19,937.38	12,109.00	155.58	139.31	-72.54	-9,037.56	1,898.13	1,563.04	1,363.13	199.91	7.819		
20,600.00	12,620.00	20,037.38	12,109.00	157.16	140.87	-72.54	-9,137.56	1,899.11	1,562.93	1,360.90	202.03	7.736		
20,700.00	12,620.00	20,137.38	12,109.00	158.75	142.45	-72.54	-9,237.55	1,900.09	1,562.83	1,358.66	204.17	7.655		
20,800.00	12,620.00	20,237.38	12,109.00	160.33	144.02	-72.54	-9,337.55	1,901.08	1,562.73	1,356.43	206.30	7.575		
20,900.00	12,620.00	20,337.38	12,109.00	161.92	145.59	-72.53	-9,437.54	1,902.06	1,562.62	1,354.19	208.43	7.497		
21,000.00	12,620.00	20,437.38	12,109.00	163.51	147.17	-72.53	-9,537.54	1,903.04	1,562.52	1,351.95	210.57	7.420		
21,100.00	12,620.00	20,537.38	12,109.00	165.10	148.75	-72.53	-9,637.53	1,904.02	1,562.42	1,349.71	212.71	7.345		
21,200.00	12,620.00	20,637.38	12,109.00	166.69	150.33	-72.53	-9,737.53	1,905.00	1,562.31	1,347.47	214.85	7.272		
21,300.00	12,620.00	20,737.38	12,109.00	168.29	151.91	-72.53	-9,837.52	1,905.98	1,562.21	1,345.22	216.99	7.200		
21,400.00	12,620.00	20,837.38	12,109.00	169.88	153.49	-72.53	-9,937.52	1,906.96	1,562.11	1,342.98	219.13	7.129		
21,500.00	12,620.00	20,937.38	12,109.00	171.48	155.07	-72.53	-10,037.51	1,907.94	1,562.00	1,340.73	221.27	7.059		
21,600.00	12,620.00	21,037.38	12,109.00	173.07	156.66	-72.53	-10,137.51	1,908.92	1,561.90	1,338.48	223.42	6.991		
21,700.00	12,620.00	21,137.38	12,109.00	174.67	158.24	-72.52	-10,237.50	1,909.90	1,561.80	1,336.23	225.57	6.924		
21,800.00	12,620.00	21,237.38	12,109.00	176.27	159.83	-72.52	-10,337.50	1,910.88	1,561.69	1,333.98	227.71	6.858		
21,900.00	12,620.00	21,337.38	12,109.00	177.87	161.42	-72.52	-10,437.49	1,911.86	1,561.59	1,331.73	229.86	6.794		
22,000.00	12,620.00	21,437.38	12,109.00	179.47	163.01	-72.52	-10,537.49	1,912.85	1,561.49	1,329.47	232.01	6.730		
22,100.00	12,620.00	21,537.38	12,109.00	181.07	164.60	-72.52	-10,637.48	1,913.83	1,561.38	1,327.22	234.17	6.668		
22,200.00	12,620.00	21,637.38	12,109.00	182.67	166.20	-72.52	-10,737.48	1,914.81	1,561.28	1,324.96	236.32	6.607		
22,300.00	12,620.00	21,737.38	12,109.00	184.27	167.79	-72.52	-10,837.47	1,915.79	1,561.18	1,322.70	238.47	6.547		
22,400.00	12,620.00	21,837.38	12,109.00	185.88	169.38	-72.52	-10,937.47	1,916.77	1,561.07	1,320.45	240.63	6.488		
22,500.00	12,620.00	21,937.38	12,109.00	187.48	170.98	-72.52	-11,037.46	1,917.75	1,560.97	1,318.19	242.78	6.430		
22,600.00	12,620.00	22,037.38	12,109.00	189.09	172.58	-72.51	-11,137.46	1,918.73	1,560.87	1,315.93	244.94	6.372		
22,700.00	12,620.00	22,137.38	12,109.00	190.69	174.18	-72.51	-11,237.45	1,919.71	1,560.76	1,313.67	247.10	6.316		
22,800.00	12,620.00	22,237.38	12,109.00	192.30	175.77	-72.51	-11,337.45	1,920.69	1,560.66	1,311.40	249.26	6.261		
22,856.94	12,620.00	22,294.32	12,109.00	193.22	176.69	-72.51	-11,394.39	1,921.25	1,560.60	1,310.12	250.49	6.230 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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 +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	-991.89	2,608.57	2,791.13							
100.00	100.00	56.20	56.20	0.13	0.07	110.82	-991.89	2,608.57	2,790.79	2,790.64	0.14	N/A				
200.00	200.00	156.20	156.20	0.48	0.33	110.82	-991.89	2,608.57	2,790.79	2,790.20	0.58	4,778.605				
300.00	300.00	256.20	256.20	0.84	0.69	110.82	-991.89	2,608.57	2,790.79	2,789.70	1.09	2,569.756				
400.00	400.00	356.20	356.20	1.20	1.04	110.82	-991.89	2,608.57	2,790.79	2,789.19	1.59	1,753.936				
500.00	500.00	456.20	456.20	1.56	1.40	110.82	-991.89	2,608.57	2,790.79	2,788.69	2.10	1,330.737				
600.00	600.00	556.20	556.20	1.92	1.76	110.82	-991.89	2,608.57	2,790.79	2,788.18	2.60	1,071.913				
700.00	700.00	656.20	656.20	2.28	2.12	110.82	-991.89	2,608.57	2,790.79	2,787.68	3.11	897.322				
800.00	800.00	756.20	756.20	2.63	2.48	110.82	-991.89	2,608.57	2,790.79	2,787.17	3.62	771.617				
900.00	900.00	856.20	856.20	2.99	2.84	110.82	-991.89	2,608.57	2,790.79	2,786.66	4.12	676.792				
1,000.00	1,000.00	956.20	956.20	3.35	3.19	110.82	-991.89	2,608.57	2,790.79	2,786.16	4.63	602.717				
1,100.00	1,100.00	1,056.20	1,056.20	3.71	3.55	110.82	-991.89	2,608.57	2,790.79	2,785.65	5.14	543.254				
1,200.00	1,200.00	1,156.20	1,156.20	4.07	3.91	110.82	-991.89	2,608.57	2,790.79	2,785.14	5.64	494.468				
1,300.00	1,300.00	1,256.20	1,256.20	4.43	4.27	110.82	-991.89	2,608.57	2,790.79	2,784.63	6.15	453.722				
1,400.00	1,400.00	1,356.20	1,356.20	4.79	4.63	110.82	-991.89	2,608.57	2,790.79	2,784.13	6.66	419.178				
1,500.00	1,500.00	1,456.20	1,456.20	5.14	4.99	110.82	-991.89	2,608.57	2,790.79	2,783.62	7.16	389.522				
1,600.00	1,600.00	1,556.20	1,556.20	5.50	5.35	110.82	-991.89	2,608.57	2,790.79	2,783.11	7.67	363.784				
1,700.00	1,700.00	1,656.20	1,656.20	5.86	5.70	110.82	-991.89	2,608.57	2,790.79	2,782.61	8.18	341.236				
1,800.00	1,800.00	1,756.20	1,756.20	6.22	6.06	110.82	-991.89	2,608.57	2,790.79	2,782.10	8.69	321.321				
1,900.00	1,900.00	1,856.20	1,856.20	6.58	6.42	110.82	-991.89	2,608.57	2,790.79	2,781.59	9.19	303.601				
2,000.00	2,000.00	1,956.20	1,956.20	6.94	6.78	110.82	-991.89	2,608.57	2,790.79	2,781.09	9.70	287.734				
2,100.00	2,100.00	2,056.20	2,056.20	7.29	7.14	110.82	-991.89	2,608.57	2,790.79	2,780.58	10.21	273.442				
2,200.00	2,200.00	2,156.20	2,156.20	7.65	7.50	110.82	-991.89	2,608.57	2,790.79	2,780.07	10.71	260.503				
2,300.00	2,300.00	2,256.20	2,256.20	8.01	7.85	110.82	-991.89	2,608.57	2,790.79	2,779.57	11.22	248.734				
2,400.00	2,400.00	2,356.20	2,356.20	8.37	8.21	110.82	-991.89	2,608.57	2,790.79	2,779.06	11.73	237.981				
2,500.00	2,500.00	2,456.20	2,456.20	8.73	8.57	110.82	-991.89	2,608.57	2,790.79	2,778.55	12.23	228.120				
2,600.00	2,600.00	2,556.20	2,556.20	9.09	8.93	110.82	-991.89	2,608.57	2,790.79	2,778.04	12.74	219.044				
2,700.00	2,700.00	2,656.20	2,656.20	9.45	9.29	110.82	-991.89	2,608.57	2,790.79	2,777.54	13.25	210.662				
2,800.00	2,800.00	2,756.20	2,756.20	9.80	9.65	110.82	-991.89	2,608.57	2,790.79	2,777.03	13.75	202.898				
2,900.00	2,900.00	2,856.20	2,856.20	10.16	10.01	110.82	-991.89	2,608.57	2,790.79	2,776.52	14.26	195.685				
3,000.00	3,000.00	2,956.20	2,956.20	10.52	10.36	110.82	-991.89	2,608.57	2,790.79	2,776.02	14.77	188.968				
3,100.00	3,100.00	3,056.20	3,056.20	10.88	10.72	110.82	-991.89	2,608.57	2,790.79	2,775.51	15.28	182.697				
3,200.00	3,200.00	3,156.20	3,156.20	11.24	11.08	110.82	-991.89	2,608.57	2,790.79	2,775.00	15.78	176.829				
3,300.00	3,300.00	3,256.20	3,256.20	11.60	11.44	110.82	-991.89	2,608.57	2,790.79	2,774.50	16.29	171.326				
3,400.00	3,399.99	3,332.50	3,332.50	11.94	11.71	-52.19	-991.93	2,608.70	2,790.22	2,773.50	16.72	166.874				
3,500.00	3,499.91	3,400.00	3,399.99	12.26	11.94	-52.25	-992.27	2,609.82	2,789.45	2,772.34	17.11	163.004				
3,600.00	3,599.69	3,448.08	3,448.05	12.59	12.11	-52.31	-992.72	2,611.32	2,788.53	2,771.08	17.45	159.797				
3,700.00	3,699.27	3,500.00	3,499.91	12.92	12.28	-52.40	-993.41	2,613.58	2,787.57	2,769.77	17.80	156.648				
3,800.00	3,798.57	3,563.36	3,563.15	13.25	12.50	-52.54	-994.52	2,617.26	2,786.52	2,768.35	18.17	153.368				
3,900.00	3,897.54	3,600.00	3,599.69	13.58	12.62	-52.64	-995.30	2,619.84	2,785.56	2,767.09	18.47	150.822				
4,000.00	3,996.09	3,678.10	3,677.48	13.92	12.89	-52.87	-997.31	2,626.47	2,784.29	2,765.40	18.88	147.434				
4,100.00	4,094.16	3,735.20	3,734.26	14.28	13.08	-53.08	-999.07	2,632.27	2,783.14	2,763.89	19.24	144.623				
4,184.40	4,176.52	3,800.00	3,798.57	14.58	13.31	-53.33	-1,001.36	2,639.85	2,782.25	2,762.65	19.60	141.965				
4,200.00	4,191.70	3,800.00	3,798.57	14.64	13.31	-53.33	-1,001.36	2,639.85	2,782.02	2,762.39	19.63	141.734				
4,300.00	4,289.03	3,870.27	3,868.20	15.01	13.55	-53.61	-1,004.11	2,648.92	2,781.71	2,761.67	20.03	138.851				
4,347.11	4,334.89	3,916.52	3,914.02	15.19	13.72	-53.79	-1,005.93	2,654.92	2,781.69	2,761.42	20.27	137.253				
4,400.00	4,386.37	3,968.44	3,965.46	15.39	13.90	-54.00	-1,007.97	2,661.66	2,781.71	2,761.18	20.53	135.502				
4,500.00	4,483.70	4,066.61	4,062.72	15.77	14.25	-54.38	-1,011.83	2,674.40	2,781.84	2,760.81	21.03	132.278				
4,600.00	4,581.03	4,164.77	4,159.98	16.17	14.61	-54.77	-1,015.69	2,687.14	2,782.11	2,760.57	21.54	129.177				
4,700.00	4,678.36	4,262.94	4,257.24	16.57	14.96	-55.15	-1,019.55	2,699.88	2,782.50	2,760.46	22.05	126.193				
4,800.00	4,775.69	4,361.10	4,354.50	16.98	15.32	-55.54	-1,023.41	2,712.62	2,783.03	2,760.46	22.57	123.322				
4,900.00	4,873.02	4,459.27	4,451.76	17.39	15.68	-55.92	-1,027.27	2,725.36	2,783.69	2,760.60	23.09	120.561				

CC - Min centre to center distance or 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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	12,620.00	18,497.39	12,023.00	136.69	120.14	-78.67	-7,825.18	3,156.14	2,817.00	2,637.68	179.32	15.709		
19,400.00	12,620.00	18,597.39	12,023.00	138.25	121.69	-78.67	-7,925.17	3,157.12	2,816.89	2,635.41	181.48	15.522		
19,500.00	12,620.00	18,697.39	12,023.00	139.82	123.23	-78.67	-8,025.17	3,158.10	2,816.78	2,633.14	183.64	15.338		
19,600.00	12,620.00	18,797.39	12,023.00	141.39	124.78	-78.67	-8,125.16	3,159.08	2,816.68	2,630.87	185.81	15.159		
19,700.00	12,620.00	18,897.39	12,023.00	142.96	126.34	-78.67	-8,225.16	3,160.06	2,816.57	2,628.60	187.98	14.984		
19,800.00	12,620.00	18,997.39	12,023.00	144.53	127.89	-78.67	-8,325.15	3,161.04	2,816.47	2,626.32	190.15	14.812		
19,900.00	12,620.00	19,097.39	12,023.00	146.10	129.45	-78.67	-8,425.15	3,162.02	2,816.36	2,624.04	192.32	14.644		
20,000.00	12,620.00	19,197.39	12,023.00	147.68	131.01	-78.67	-8,525.14	3,163.00	2,816.25	2,621.75	194.50	14.480		
20,100.00	12,620.00	19,297.39	12,023.00	149.25	132.57	-78.67	-8,625.14	3,163.98	2,816.15	2,619.47	196.68	14.318		
20,200.00	12,620.00	19,397.39	12,023.00	150.83	134.13	-78.67	-8,725.13	3,164.96	2,816.04	2,617.18	198.86	14.161		
20,300.00	12,620.00	19,497.39	12,023.00	152.41	135.70	-78.67	-8,825.13	3,165.94	2,815.93	2,614.89	201.05	14.006		
20,400.00	12,620.00	19,597.39	12,023.00	153.99	137.27	-78.67	-8,925.12	3,166.92	2,815.83	2,612.59	203.23	13.855		
20,500.00	12,620.00	19,697.39	12,023.00	155.58	138.84	-78.67	-9,025.12	3,167.90	2,815.72	2,610.30	205.42	13.707		
20,600.00	12,620.00	19,797.39	12,023.00	157.16	140.41	-78.67	-9,125.11	3,168.88	2,815.61	2,608.00	207.62	13.562		
20,700.00	12,620.00	19,897.39	12,023.00	158.75	141.98	-78.67	-9,225.11	3,169.86	2,815.51	2,605.70	209.81	13.419		
20,800.00	12,620.00	19,997.39	12,023.00	160.33	143.56	-78.67	-9,325.10	3,170.84	2,815.40	2,603.39	212.01	13.280		
20,900.00	12,620.00	20,097.39	12,023.00	161.92	145.14	-78.67	-9,425.10	3,171.82	2,815.29	2,601.09	214.21	13.143		
21,000.00	12,620.00	20,197.39	12,023.00	163.51	146.72	-78.67	-9,525.09	3,172.80	2,815.19	2,598.78	216.41	13.009		
21,100.00	12,620.00	20,297.39	12,023.00	165.10	148.30	-78.67	-9,625.09	3,173.78	2,815.08	2,596.47	218.61	12.877		
21,200.00	12,620.00	20,397.39	12,023.00	166.69	149.88	-78.67	-9,725.08	3,174.77	2,814.97	2,594.16	220.81	12.748		
21,300.00	12,620.00	20,497.39	12,023.00	168.29	151.46	-78.67	-9,825.08	3,175.75	2,814.87	2,591.85	223.02	12.622		
21,400.00	12,620.00	20,597.39	12,023.00	169.88	153.05	-78.67	-9,925.07	3,176.73	2,814.76	2,589.53	225.23	12.497		
21,500.00	12,620.00	20,697.39	12,023.00	171.48	154.63	-78.67	-10,025.07	3,177.71	2,814.66	2,587.22	227.44	12.375		
21,600.00	12,620.00	20,797.39	12,023.00	173.07	156.22	-78.66	-10,125.06	3,178.69	2,814.55	2,584.90	229.65	12.256		
21,700.00	12,620.00	20,897.39	12,023.00	174.67	157.81	-78.66	-10,225.06	3,179.67	2,814.44	2,582.58	231.86	12.138		
21,800.00	12,620.00	20,997.39	12,023.00	176.27	159.40	-78.66	-10,325.05	3,180.65	2,814.34	2,580.26	234.07	12.023		
21,900.00	12,620.00	21,097.39	12,023.00	177.87	160.99	-78.66	-10,425.05	3,181.63	2,814.23	2,577.94	236.29	11.910		
22,000.00	12,620.00	21,197.39	12,023.00	179.47	162.58	-78.66	-10,525.05	3,182.61	2,814.12	2,575.62	238.51	11.799		
22,100.00	12,620.00	21,297.39	12,023.00	181.07	164.18	-78.66	-10,625.04	3,183.59	2,814.02	2,573.29	240.73	11.690		
22,200.00	12,620.00	21,397.39	12,023.00	182.67	165.77	-78.66	-10,725.04	3,184.57	2,813.91	2,570.96	242.95	11.582		
22,300.00	12,620.00	21,497.39	12,023.00	184.27	167.37	-78.66	-10,825.03	3,185.55	2,813.80	2,568.64	245.17	11.477		
22,400.00	12,620.00	21,597.39	12,023.00	185.88	168.97	-78.66	-10,925.03	3,186.53	2,813.70	2,566.31	247.39	11.374		
22,500.00	12,620.00	21,697.39	12,023.00	187.48	170.56	-78.66	-11,025.02	3,187.51	2,813.59	2,563.98	249.61	11.272		
22,600.00	12,620.00	21,797.39	12,023.00	189.09	172.16	-78.66	-11,125.02	3,188.49	2,813.48	2,561.65	251.84	11.172		
22,700.00	12,620.00	21,897.39	12,023.00	190.69	173.76	-78.66	-11,225.01	3,189.47	2,813.38	2,559.32	254.06	11.074		
22,800.00	12,620.00	21,997.39	12,023.00	192.30	175.36	-78.66	-11,325.01	3,190.45	2,813.27	2,556.98	256.29	10.977		
22,856.94	12,620.00	22,054.33	12,023.00	193.22	176.19	-78.66	-11,381.95	3,191.01	2,813.21	2,555.72	257.49	10.925 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
Project: Lea County, NM (NAD83)
Reference Site: Tatanka Fed Com
Site Error: 0.00 usft
Reference Well: Tatanka Fed Com 803H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1
Local Co-ordinate Reference: Well Tatanka Fed Com 803H
TVD Reference: 3135.8' GE + 30' KB @ 3165.80usft
MD Reference: 3135.8' GE + 30' KB @ 3165.80usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.15 Single User Db
Offset TVD Reference: Offset Datum

Offset Design Table with columns: Reference, Measured Depth, Vertical Depth, Semi Major Axis (Reference, Offset, Highside Toolface), Distance (Between Centres, Between Ellipses, Minimum Separation, Separation Factor), and Warning. Includes rows for various depths from 0.00 to 4,900.00 usft.

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



Total Directional Services
Anticollision Report



Company: Franklin Mountain Energy
Project: Lea County, NM (NAD83)
Reference Site: Tatanka Fed Com
Site Error: 0.00 usft
Reference Well: Tatanka Fed Com 803H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1
Local Co-ordinate Reference: Well Tatanka Fed Com 803H
TVD Reference: 3135.8' GE + 30' KB @ 3165.80usft
MD Reference: 3135.8' GE + 30' KB @ 3165.80usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.15 Single User Db
Offset TVD Reference: Offset Datum

Offset Design: Tatanka Fed Com - Tatanka Fed Com 801H - OH - Plan #2
Survey Program: 0-OWSG (Rev2) MWD
Reference: Offset
Semi Major Axis: Reference, Offset
Distance: Between Centres, Between Ellipses, Minimum Separation, Separation Factor
Warning:
Measured Depth (usft), Vertical Depth (usft), Measured Depth (usft), Vertical Depth (usft), Reference (usft), Offset (usft), Highside Toolface (degrees), Offset Wellbore Centre (+N/-S (usft), +E/-W (usft)), Between Centres (usft), Between Ellipses (usft), Minimum Separation (usft), Separation Factor, Warning

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
Project: Lea County, NM (NAD83)
Reference Site: Tatanka Fed Com
Site Error: 0.00 usft
Reference Well: Tatanka Fed Com 803H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1
Local Co-ordinate Reference: Well Tatanka Fed Com 803H
TVD Reference: 3135.8' GE + 30' KB @ 3165.80usft
MD Reference: 3135.8' GE + 30' KB @ 3165.80usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.15 Single User Db
Offset TVD Reference: Offset Datum

Offset Design: Tatanka Fed Com - Tatanka Fed Com 801H - OH - Plan #2
Survey Program: 0-OWSG (Rev2) MWD
Offset Site Error: 0.00 usft
Offset Well Error: 0.00 usft
Warning
Measured Depth (usft), Vertical Depth (usft), Reference 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), Between Ellipses (usft), Minimum Separation (usft), Separation Factor

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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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 801H - 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		
19,300.00	12,620.00	19,309.31	12,740.00	136.69	121.13	93.93	-7,869.76	-1,374.00	1,772.38	1,590.17	182.22	9.727		
19,400.00	12,620.00	19,409.31	12,740.00	138.25	122.67	93.93	-7,969.75	-1,373.01	1,772.48	1,588.08	184.40	9.612		
19,500.00	12,620.00	19,509.31	12,740.00	139.82	124.21	93.93	-8,069.75	-1,372.02	1,772.58	1,585.99	186.59	9.500		
19,600.00	12,620.00	19,609.31	12,740.00	141.39	125.75	93.93	-8,169.74	-1,371.03	1,772.68	1,583.90	188.78	9.390		
19,700.00	12,620.00	19,709.31	12,740.00	142.96	127.29	93.93	-8,269.74	-1,370.04	1,772.78	1,581.80	190.98	9.283		
19,800.00	12,620.00	19,809.31	12,740.00	144.53	128.84	93.93	-8,369.73	-1,369.05	1,772.88	1,579.70	193.18	9.177		
19,900.00	12,620.00	19,909.31	12,740.00	146.10	130.39	93.93	-8,469.73	-1,368.06	1,772.98	1,577.60	195.38	9.075		
20,000.00	12,620.00	20,009.31	12,740.00	147.68	131.94	93.93	-8,569.72	-1,367.07	1,773.08	1,575.49	197.58	8.974		
20,100.00	12,620.00	20,109.31	12,740.00	149.25	133.50	93.93	-8,669.72	-1,366.08	1,773.18	1,573.39	199.79	8.875		
20,200.00	12,620.00	20,209.31	12,740.00	150.83	135.05	93.93	-8,769.71	-1,365.09	1,773.27	1,571.27	202.00	8.779		
20,300.00	12,620.00	20,309.31	12,740.00	152.41	136.61	93.93	-8,869.71	-1,364.11	1,773.37	1,569.16	204.21	8.684		
20,400.00	12,620.00	20,409.31	12,740.00	153.99	138.17	93.93	-8,969.70	-1,363.12	1,773.47	1,567.04	206.43	8.591		
20,500.00	12,620.00	20,509.31	12,740.00	155.58	139.74	93.93	-9,069.70	-1,362.13	1,773.57	1,564.93	208.65	8.500		
20,600.00	12,620.00	20,609.31	12,740.00	157.16	141.30	93.93	-9,169.69	-1,361.14	1,773.67	1,562.80	210.87	8.411		
20,700.00	12,620.00	20,709.31	12,740.00	158.75	142.87	93.93	-9,269.69	-1,360.15	1,773.77	1,560.68	213.09	8.324		
20,800.00	12,620.00	20,809.31	12,740.00	160.33	144.44	93.93	-9,369.68	-1,359.16	1,773.87	1,558.55	215.31	8.239		
20,900.00	12,620.00	20,909.31	12,740.00	161.92	146.01	93.93	-9,469.68	-1,358.17	1,773.97	1,556.43	217.54	8.155		
21,000.00	12,620.00	21,009.31	12,740.00	163.51	147.58	93.93	-9,569.67	-1,357.18	1,774.07	1,554.30	219.77	8.072		
21,100.00	12,620.00	21,109.31	12,740.00	165.10	149.16	93.93	-9,669.67	-1,356.19	1,774.17	1,552.16	222.00	7.992		
21,200.00	12,620.00	21,209.31	12,740.00	166.69	150.73	93.93	-9,769.66	-1,355.20	1,774.27	1,550.03	224.24	7.913		
21,300.00	12,620.00	21,309.31	12,740.00	168.29	152.31	93.93	-9,869.66	-1,354.21	1,774.36	1,547.89	226.47	7.835		
21,400.00	12,620.00	21,409.31	12,740.00	169.88	153.89	93.93	-9,969.65	-1,353.22	1,774.46	1,545.75	228.71	7.759		
21,500.00	12,620.00	21,509.31	12,740.00	171.48	155.47	93.93	-10,069.65	-1,352.23	1,774.56	1,543.61	230.95	7.684		
21,600.00	12,620.00	21,609.31	12,740.00	173.07	157.05	93.93	-10,169.64	-1,351.24	1,774.66	1,541.47	233.19	7.610		
21,700.00	12,620.00	21,709.31	12,740.00	174.67	158.63	93.93	-10,269.64	-1,350.25	1,774.76	1,539.33	235.43	7.538		
21,800.00	12,620.00	21,809.31	12,740.00	176.27	160.22	93.93	-10,369.63	-1,349.26	1,774.86	1,537.18	237.68	7.468		
21,900.00	12,620.00	21,909.31	12,740.00	177.87	161.80	93.93	-10,469.63	-1,348.27	1,774.96	1,535.04	239.92	7.398		
22,000.00	12,620.00	22,009.31	12,740.00	179.47	163.39	93.92	-10,569.62	-1,347.28	1,775.06	1,532.89	242.17	7.330		
22,100.00	12,620.00	22,109.31	12,740.00	181.07	164.98	93.92	-10,669.62	-1,346.29	1,775.16	1,530.74	244.42	7.263		
22,200.00	12,620.00	22,209.31	12,740.00	182.67	166.57	93.92	-10,769.61	-1,345.30	1,775.26	1,528.59	246.67	7.197		
22,300.00	12,620.00	22,309.31	12,740.00	184.27	168.16	93.92	-10,869.61	-1,344.31	1,775.35	1,526.43	248.92	7.132		
22,400.00	12,620.00	22,409.31	12,740.00	185.88	169.75	93.92	-10,969.60	-1,343.32	1,775.45	1,524.28	251.17	7.069		
22,500.00	12,620.00	22,509.31	12,740.00	187.48	171.35	93.92	-11,069.60	-1,342.33	1,775.55	1,522.12	253.43	7.006		
22,600.00	12,620.00	22,609.31	12,740.00	189.09	172.94	93.92	-11,169.59	-1,341.34	1,775.65	1,519.97	255.69	6.945		
22,700.00	12,620.00	22,709.31	12,740.00	190.69	174.54	93.92	-11,269.59	-1,340.35	1,775.75	1,517.81	257.94	6.884		
22,800.00	12,620.00	22,809.31	12,740.00	192.30	176.12	93.92	-11,369.58	-1,339.36	1,775.85	1,515.66	260.19	6.825		
22,856.94	12,620.00	22,865.07	12,740.00	193.22	176.91	93.92	-11,425.35	-1,338.81	1,775.91	1,514.51	261.40	6.794	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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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	-129.68	-1,019.14	-1,228.40	1,596.13					
100.00	100.00	98.50	98.50	0.13	0.12	-129.68	-1,019.14	-1,228.40	1,596.12	1,595.95	0.18	9,063.280		
200.00	200.00	198.50	198.50	0.48	0.48	-129.68	-1,019.14	-1,228.40	1,596.12	1,595.44	0.68	2,345.178		
300.00	300.00	298.50	298.50	0.84	0.84	-129.68	-1,019.14	-1,228.40	1,596.12	1,594.94	1.19	1,344.049		
400.00	400.00	398.50	398.50	1.20	1.20	-129.68	-1,019.14	-1,228.40	1,596.12	1,594.43	1.69	941.943		
500.00	500.00	498.50	498.50	1.56	1.55	-129.68	-1,019.14	-1,228.40	1,596.12	1,593.92	2.20	725.031		
600.00	600.00	598.50	598.50	1.92	1.91	-129.68	-1,019.14	-1,228.40	1,596.12	1,593.42	2.71	589.321		
700.00	700.00	698.50	698.50	2.28	2.27	-129.68	-1,019.14	-1,228.40	1,596.12	1,592.91	3.22	496.405		
800.00	800.00	798.50	798.50	2.63	2.63	-129.68	-1,019.14	-1,228.40	1,596.12	1,592.40	3.72	428.798		
900.00	900.00	898.50	898.50	2.99	2.99	-129.68	-1,019.14	-1,228.40	1,596.12	1,591.90	4.23	377.399		
1,000.00	1,000.00	998.50	998.50	3.35	3.35	-129.68	-1,019.14	-1,228.40	1,596.12	1,591.39	4.74	337.003		
1,100.00	1,100.00	1,098.50	1,098.50	3.71	3.70	-129.68	-1,019.14	-1,228.40	1,596.12	1,590.88	5.24	304.419		
1,200.00	1,200.00	1,198.50	1,198.50	4.07	4.06	-129.68	-1,019.14	-1,228.40	1,596.12	1,590.37	5.75	277.580		
1,300.00	1,300.00	1,298.50	1,298.50	4.43	4.42	-129.68	-1,019.14	-1,228.40	1,596.12	1,589.87	6.26	255.090		
1,400.00	1,400.00	1,398.50	1,398.50	4.79	4.78	-129.68	-1,019.14	-1,228.40	1,596.12	1,589.36	6.76	235.972		
1,500.00	1,500.00	1,498.50	1,498.50	5.14	5.14	-129.68	-1,019.14	-1,228.40	1,596.12	1,588.85	7.27	219.519		
1,600.00	1,600.00	1,598.50	1,598.50	5.50	5.50	-129.68	-1,019.14	-1,228.40	1,596.12	1,588.35	7.78	205.211		
1,700.00	1,700.00	1,698.50	1,698.50	5.86	5.86	-129.68	-1,019.14	-1,228.40	1,596.12	1,587.84	8.28	192.654		
1,800.00	1,800.00	1,798.50	1,798.50	6.22	6.21	-129.68	-1,019.14	-1,228.40	1,596.12	1,587.33	8.79	181.545		
1,900.00	1,900.00	1,898.50	1,898.50	6.58	6.57	-129.68	-1,019.14	-1,228.40	1,596.12	1,586.83	9.30	171.648		
2,000.00	2,000.00	1,998.50	1,998.50	6.94	6.93	-129.68	-1,019.14	-1,228.40	1,596.12	1,586.32	9.81	162.774		
2,100.00	2,100.00	2,098.50	2,098.50	7.29	7.29	-129.68	-1,019.14	-1,228.40	1,596.12	1,585.81	10.31	154.772		
2,200.00	2,200.00	2,198.50	2,198.50	7.65	7.65	-129.68	-1,019.14	-1,228.40	1,596.12	1,585.30	10.82	147.520		
2,300.00	2,300.00	2,298.50	2,298.50	8.01	8.01	-129.68	-1,019.14	-1,228.40	1,596.12	1,584.80	11.33	140.918		
2,400.00	2,400.00	2,398.50	2,398.50	8.37	8.36	-129.68	-1,019.14	-1,228.40	1,596.12	1,584.29	11.83	134.881		
2,500.00	2,500.00	2,498.50	2,498.50	8.73	8.72	-129.68	-1,019.14	-1,228.40	1,596.12	1,583.78	12.34	129.340		
2,600.00	2,600.00	2,598.50	2,598.50	9.09	9.08	-129.68	-1,019.14	-1,228.40	1,596.12	1,583.28	12.85	124.236		
2,700.00	2,700.00	2,698.50	2,698.50	9.45	9.44	-129.68	-1,019.14	-1,228.40	1,596.12	1,582.77	13.35	119.520		
2,800.00	2,800.00	2,798.50	2,798.50	9.80	9.80	-129.68	-1,019.14	-1,228.40	1,596.12	1,582.26	13.86	115.149		
2,900.00	2,900.00	2,898.50	2,898.50	10.16	10.16	-129.68	-1,019.14	-1,228.40	1,596.12	1,581.76	14.37	111.086		
3,000.00	3,000.00	2,998.50	2,998.50	10.52	10.52	-129.68	-1,019.14	-1,228.40	1,596.12	1,581.25	14.88	107.300		
3,100.00	3,100.00	3,098.50	3,098.50	10.88	10.87	-129.68	-1,019.14	-1,228.40	1,596.12	1,580.74	15.38	103.764		
3,200.00	3,200.00	3,198.50	3,198.50	11.24	11.23	-129.68	-1,019.14	-1,228.40	1,596.12	1,580.24	15.89	100.453		
3,300.00	3,300.00	3,342.03	3,342.00	11.60	11.73	-129.75	-1,019.28	-1,225.76	1,594.78	1,578.29	16.49	96.714		
3,400.00	3,399.99	3,485.86	3,485.59	11.94	12.22	67.19	-1,019.71	-1,217.72	1,590.17	1,573.11	17.06	93.198		
3,500.00	3,499.91	3,628.97	3,628.07	12.26	12.72	67.17	-1,020.43	-1,204.37	1,581.80	1,564.19	17.61	89.805		
3,600.00	3,599.69	3,771.03	3,768.90	12.59	13.22	67.18	-1,021.43	-1,185.86	1,569.72	1,551.56	18.16	86.455		
3,700.00	3,699.27	3,895.97	3,892.16	12.92	13.67	67.27	-1,022.52	-1,165.44	1,554.15	1,535.48	18.67	83.241		
3,800.00	3,798.57	3,994.49	3,989.22	13.25	14.03	67.47	-1,023.43	-1,148.56	1,537.07	1,517.92	19.15	80.259		
3,900.00	3,897.54	4,092.83	4,086.10	13.58	14.40	67.79	-1,024.33	-1,131.71	1,519.01	1,499.37	19.64	77.358		
4,000.00	3,996.09	4,190.92	4,182.74	13.92	14.77	68.21	-1,025.24	-1,114.90	1,499.97	1,479.85	20.13	74.531		
4,100.00	4,094.16	4,288.69	4,279.06	14.28	15.14	68.75	-1,026.14	-1,098.15	1,480.01	1,459.39	20.62	71.776		
4,184.40	4,176.52	4,370.91	4,360.06	14.58	15.46	69.29	-1,026.89	-1,084.07	1,462.47	1,441.42	21.04	69.503		
4,200.00	4,191.70	4,386.08	4,375.00	14.64	15.51	69.35	-1,027.03	-1,081.47	1,459.17	1,438.05	21.12	69.089		
4,300.00	4,289.03	4,483.32	4,470.80	15.01	15.89	69.75	-1,027.93	-1,064.81	1,438.06	1,416.44	21.63	66.496		
4,400.00	4,386.37	4,580.56	4,566.60	15.39	16.27	70.17	-1,028.82	-1,048.15	1,417.03	1,394.89	22.14	64.005		
4,500.00	4,483.70	4,677.80	4,662.40	15.77	16.65	70.59	-1,029.72	-1,031.48	1,396.07	1,373.41	22.66	61.614		
4,600.00	4,581.03	4,775.05	4,758.20	16.17	17.04	71.03	-1,030.61	-1,014.82	1,375.19	1,352.00	23.18	59.318		
4,700.00	4,678.36	4,872.29	4,853.99	16.57	17.43	71.48	-1,031.51	-998.16	1,354.38	1,330.67	23.71	57.114		
4,800.00	4,775.69	4,969.53	4,949.79	16.98	17.82	71.94	-1,032.40	-981.50	1,333.66	1,309.41	24.25	54.999		
4,900.00	4,873.02	5,066.77	5,045.59	17.39	18.21	72.42	-1,033.30	-964.84	1,313.03	1,288.24	24.79	52.969		
5,000.00	4,970.36	5,164.01	5,141.39	17.81	18.61	72.92	-1,034.19	-948.18	1,292.49	1,267.16	25.33	51.020		

CC - Min centre to center distance or 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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 802H - 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		
5,100.00	5,067.69	5,261.25	5,237.19	18.23	19.01	73.43	-1,035.09	-931.52	1,272.05	1,246.16	25.88	49.149		
5,200.00	5,165.02	5,358.49	5,332.98	18.66	19.41	73.95	-1,035.98	-914.86	1,251.70	1,225.27	26.43	47.353		
5,300.00	5,262.35	5,455.73	5,428.78	19.09	19.81	74.50	-1,036.88	-898.20	1,231.46	1,204.48	26.99	45.628		
5,400.00	5,359.68	5,552.97	5,524.58	19.53	20.21	75.06	-1,037.77	-881.54	1,211.34	1,183.79	27.55	43.972		
5,500.00	5,457.01	5,650.21	5,620.38	19.97	20.61	75.64	-1,038.67	-864.88	1,191.33	1,163.22	28.11	42.382		
5,600.00	5,554.34	5,747.45	5,716.18	20.42	21.02	76.24	-1,039.56	-848.22	1,171.44	1,142.77	28.67	40.853		
5,700.00	5,651.68	5,844.69	5,811.97	20.87	21.43	76.86	-1,040.46	-831.56	1,151.68	1,122.44	29.24	39.385		
5,800.00	5,749.01	5,941.93	5,907.77	21.32	21.84	77.50	-1,041.35	-814.89	1,132.06	1,102.25	29.81	37.974		
5,900.00	5,846.34	6,039.17	6,003.57	21.77	22.24	78.16	-1,042.25	-798.23	1,112.59	1,082.20	30.38	36.617		
6,000.00	5,943.67	6,136.41	6,099.37	22.23	22.66	78.84	-1,043.14	-781.57	1,093.26	1,062.30	30.96	35.314		
6,100.00	6,041.00	6,233.65	6,195.17	22.69	23.07	79.55	-1,044.04	-764.91	1,074.09	1,042.56	31.54	34.060		
6,200.00	6,138.33	6,330.89	6,290.97	23.15	23.48	80.29	-1,044.93	-748.25	1,055.09	1,022.98	32.11	32.855		
6,300.00	6,235.67	6,428.13	6,386.76	23.61	23.89	81.05	-1,045.82	-731.59	1,036.27	1,003.57	32.69	31.697		
6,400.00	6,333.00	6,525.37	6,482.56	24.08	24.31	81.84	-1,046.72	-714.93	1,017.63	984.36	33.27	30.583		
6,500.00	6,430.33	6,622.61	6,578.36	24.55	24.72	82.66	-1,047.61	-698.27	999.19	965.33	33.86	29.513		
6,600.00	6,527.66	6,719.85	6,674.16	25.02	25.14	83.51	-1,048.51	-681.61	980.96	946.52	34.44	28.483		
6,700.00	6,624.99	6,817.09	6,769.96	25.49	25.56	84.38	-1,049.40	-664.95	962.95	927.92	35.02	27.494		
6,800.00	6,722.32	6,914.44	6,861.93	25.96	25.96	85.26	-1,050.26	-648.99	945.21	909.60	35.61	26.541		
6,900.00	6,819.65	6,990.24	6,940.74	26.44	26.30	86.06	-1,050.93	-636.50	929.00	892.79	36.21	25.653		
7,000.00	6,916.99	7,070.26	7,020.01	26.91	26.62	86.94	-1,051.52	-625.63	914.92	878.12	36.81	24.858		
7,100.00	7,014.32	7,150.43	7,099.65	27.39	26.94	87.87	-1,052.01	-616.41	903.05	865.66	37.39	24.155		
7,200.00	7,111.65	7,230.68	7,179.54	27.87	27.25	88.87	-1,052.42	-608.85	893.45	855.50	37.95	23.541		
7,300.00	7,208.98	7,310.94	7,259.58	28.35	27.55	89.93	-1,052.73	-602.96	886.19	847.68	38.51	23.014		
7,400.00	7,306.31	7,400.00	7,348.52	28.84	27.87	91.16	-1,052.98	-598.40	881.38	842.32	39.06	22.563		
7,500.00	7,403.64	7,471.22	7,419.70	29.32	28.11	92.18	-1,053.09	-596.24	878.93	839.36	39.57	22.215		
7,546.00	7,448.41	7,507.98	7,456.47	29.54	28.24	92.72	-1,053.13	-595.65	878.66	838.86	39.80	22.077 CC		
7,600.00	7,500.98	7,551.52	7,500.00	29.80	28.39	93.36	-1,053.14	-595.40	879.03	838.96	40.07	21.937		
7,700.00	7,598.31	7,648.32	7,596.81	30.29	28.70	94.80	-1,053.14	-595.40	880.71	840.08	40.63	21.679		
7,800.00	7,695.64	7,745.65	7,694.14	30.78	29.02	96.25	-1,053.14	-595.40	882.98	841.80	41.18	21.441		
7,900.00	7,792.97	7,842.99	7,791.47	31.27	29.35	97.69	-1,053.14	-595.40	885.84	844.10	41.74	21.224		
8,000.00	7,890.30	7,940.32	7,888.80	31.75	29.67	99.11	-1,053.14	-595.40	889.28	846.99	42.29	21.027		
8,062.86	7,951.48	8,001.50	7,949.98	32.06	29.87	100.00	-1,053.14	-595.40	891.74	849.10	42.64	20.914		
8,100.00	7,987.67	8,037.69	7,986.17	32.24	29.99	100.54	-1,053.14	-595.40	893.27	850.42	42.84	20.849		
8,200.00	8,085.50	8,135.52	8,084.00	32.71	30.32	101.88	-1,053.14	-595.40	897.38	853.99	43.39	20.683		
8,300.00	8,183.84	8,233.85	8,182.34	33.17	30.64	103.05	-1,053.14	-595.40	901.36	857.44	43.92	20.523		
8,400.00	8,282.61	8,332.63	8,281.11	33.60	30.97	104.05	-1,053.14	-595.40	905.05	860.61	44.44	20.365		
8,500.00	8,381.76	8,431.78	8,380.26	34.01	31.30	104.88	-1,053.14	-595.40	908.32	863.37	44.95	20.206		
8,600.00	8,481.22	8,531.24	8,479.72	34.40	31.64	105.55	-1,053.14	-595.40	911.06	865.60	45.45	20.044		
8,700.00	8,580.92	8,630.93	8,579.42	34.77	31.97	106.05	-1,053.14	-595.40	913.18	867.23	45.95	19.875		
8,800.00	8,680.78	8,730.80	8,679.28	35.12	32.31	106.38	-1,053.14	-595.40	914.62	868.20	46.43	19.700		
8,900.00	8,780.74	8,830.76	8,779.24	35.45	32.64	106.54	-1,053.14	-595.40	915.34	868.44	46.90	19.517		
8,947.26	8,828.00	8,878.02	8,826.50	35.59	32.80	-90.45	-1,053.14	-595.40	915.43	868.31	47.12	19.429		
9,000.00	8,880.74	8,930.76	8,879.24	35.75	32.98	-90.45	-1,053.14	-595.40	915.43	868.07	47.36	19.331		
9,100.00	8,980.74	9,030.76	8,979.24	36.04	33.31	-90.45	-1,053.14	-595.40	915.43	867.62	47.81	19.147		
9,200.00	9,080.74	9,130.76	9,079.24	36.34	33.65	-90.45	-1,053.14	-595.40	915.43	867.16	48.27	18.967		
9,300.00	9,180.74	9,230.76	9,179.24	36.64	33.99	-90.45	-1,053.14	-595.40	915.43	866.71	48.72	18.789		
9,400.00	9,280.74	9,330.76	9,279.24	36.93	34.33	-90.45	-1,053.14	-595.40	915.43	866.25	49.18	18.615		
9,500.00	9,380.74	9,430.76	9,379.24	37.23	34.67	-90.45	-1,053.14	-595.40	915.43	865.79	49.64	18.443		
9,600.00	9,480.74	9,530.76	9,479.24	37.53	35.01	-90.45	-1,053.14	-595.40	915.43	865.33	50.09	18.274		
9,700.00	9,580.74	9,630.76	9,579.24	37.84	35.34	-90.45	-1,053.14	-595.40	915.43	864.87	50.55	18.108		
9,800.00	9,680.74	9,730.76	9,679.24	38.14	35.68	-90.45	-1,053.14	-595.40	915.43	864.41	51.02	17.944		
9,900.00	9,780.74	9,830.76	9,779.24	38.44	36.02	-90.45	-1,053.14	-595.40	915.43	863.95	51.48	17.783		

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



Total Directional Services
Anticollision Report



Company: Franklin Mountain Energy
Project: Lea County, NM (NAD83)
Reference Site: Tatanka Fed Com
Site Error: 0.00 usft
Reference Well: Tatanka Fed Com 803H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1
Local Co-ordinate Reference: Well Tatanka Fed Com 803H
TVD Reference: 3135.8' GE + 30' KB @ 3165.80usft
MD Reference: 3135.8' GE + 30' KB @ 3165.80usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.15 Single User Db
Offset TVD Reference: Offset Datum

Offset Design
Survey Program: 0-OWSG (Rev2) MWD
Tatanka Fed Com - Tatanka Fed Com 802H - OH - Plan #2
Offset Site Error: 0.00 usft
Offset Well Error: 0.00 usft
Table with columns: Reference, Offset, Semi Major Axis, Distance, Warning. Includes Measured Depth, Vertical Depth, Reference, Offset, Highside Toolface, Offset Wellbore Centre, Between Centres, Between Ellipses, Minimum Separation, Separation Factor, and Warning.

CC - Min centre to center distance or 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference				Offset		Semi Major Axis			Distance				Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,200.00	12,620.00	19,131.16	12,617.00	135.13	119.83	89.91	-7,761.38	-529.10	922.19	741.92	180.26	5.116		
19,300.00	12,620.00	19,231.16	12,617.00	136.69	121.36	89.91	-7,861.37	-528.12	922.29	739.84	182.45	5.055		
19,400.00	12,620.00	19,331.16	12,617.00	138.25	122.89	89.91	-7,961.37	-527.13	922.39	737.75	184.64	4.996		
19,500.00	12,620.00	19,431.16	12,617.00	139.82	124.43	89.91	-8,061.36	-526.14	922.49	735.65	186.83	4.938		
19,600.00	12,620.00	19,531.16	12,617.00	141.39	125.97	89.91	-8,161.36	-525.15	922.59	733.56	189.03	4.881		
19,700.00	12,620.00	19,631.16	12,617.00	142.96	127.51	89.91	-8,261.35	-524.16	922.69	731.46	191.23	4.825		
19,800.00	12,620.00	19,731.16	12,617.00	144.53	129.06	89.91	-8,361.35	-523.17	922.79	729.35	193.44	4.771		
19,900.00	12,620.00	19,831.16	12,617.00	146.10	130.60	89.91	-8,461.34	-522.19	922.89	727.25	195.64	4.717		
20,000.00	12,620.00	19,931.16	12,617.00	147.68	132.15	89.91	-8,561.34	-521.20	922.99	725.14	197.85	4.665		
20,100.00	12,620.00	20,031.16	12,617.00	149.25	133.71	89.91	-8,661.33	-520.21	923.09	723.03	200.06	4.614		
20,200.00	12,620.00	20,131.16	12,617.00	150.83	135.26	89.91	-8,761.33	-519.22	923.19	720.91	202.28	4.564		
20,300.00	12,620.00	20,231.16	12,617.00	152.41	136.82	89.91	-8,861.32	-518.23	923.29	718.80	204.50	4.515		
20,400.00	12,620.00	20,331.16	12,617.00	153.99	138.38	89.91	-8,961.32	-517.24	923.39	716.68	206.72	4.467		
20,500.00	12,620.00	20,431.16	12,617.00	155.58	139.94	89.91	-9,061.31	-516.26	923.50	714.55	208.94	4.420		
20,600.00	12,620.00	20,531.16	12,617.00	157.16	141.50	89.91	-9,161.31	-515.27	923.60	712.43	211.17	4.374		
20,700.00	12,620.00	20,631.16	12,617.00	158.75	143.07	89.91	-9,261.30	-514.28	923.70	710.30	213.40	4.329		
20,800.00	12,620.00	20,731.16	12,617.00	160.33	144.64	89.91	-9,361.30	-513.29	923.80	708.17	215.63	4.284		
20,900.00	12,620.00	20,831.16	12,617.00	161.92	146.21	89.91	-9,461.29	-512.30	923.90	706.04	217.86	4.241		
21,000.00	12,620.00	20,931.16	12,617.00	163.51	147.78	89.91	-9,561.29	-511.32	924.00	703.91	220.09	4.198		
21,100.00	12,620.00	21,031.16	12,617.00	165.10	149.35	89.91	-9,661.28	-510.33	924.10	701.77	222.33	4.156		
21,200.00	12,620.00	21,131.16	12,617.00	166.69	150.92	89.91	-9,761.28	-509.34	924.20	699.63	224.57	4.115		
21,300.00	12,620.00	21,231.16	12,617.00	168.29	152.50	89.91	-9,861.27	-508.35	924.30	697.49	226.81	4.075		
21,400.00	12,620.00	21,331.16	12,617.00	169.88	154.08	89.91	-9,961.27	-507.36	924.40	695.35	229.05	4.036		
21,500.00	12,620.00	21,431.16	12,617.00	171.48	155.66	89.91	-10,061.26	-506.37	924.50	693.21	231.30	3.997		
21,600.00	12,620.00	21,531.16	12,617.00	173.07	157.24	89.91	-10,161.26	-505.39	924.60	691.06	233.54	3.959		
21,700.00	12,620.00	21,631.16	12,617.00	174.67	158.82	89.91	-10,261.25	-504.40	924.70	688.91	235.79	3.922		
21,800.00	12,620.00	21,731.16	12,617.00	176.27	160.40	89.91	-10,361.25	-503.41	924.81	686.77	238.04	3.885		
21,900.00	12,620.00	21,831.16	12,617.00	177.87	161.99	89.91	-10,461.24	-502.42	924.91	684.61	240.29	3.849		
22,000.00	12,620.00	21,931.16	12,617.00	179.47	163.58	89.91	-10,561.24	-501.43	925.01	682.46	242.54	3.814		
22,100.00	12,620.00	22,031.16	12,617.00	181.07	165.16	89.91	-10,661.23	-500.44	925.11	680.31	244.80	3.779		
22,200.00	12,620.00	22,131.16	12,617.00	182.67	166.75	89.91	-10,761.23	-499.46	925.21	678.15	247.05	3.745		
22,300.00	12,620.00	22,231.16	12,617.00	184.27	168.34	89.91	-10,861.22	-498.47	925.31	676.00	249.31	3.711		
22,400.00	12,620.00	22,331.16	12,617.00	185.88	169.93	89.91	-10,961.22	-497.48	925.41	673.84	251.57	3.679		
22,500.00	12,620.00	22,431.16	12,617.00	187.48	171.53	89.91	-11,061.21	-496.49	925.51	671.68	253.83	3.646		
22,600.00	12,620.00	22,531.16	12,617.00	189.09	173.12	89.91	-11,161.21	-495.50	925.61	669.52	256.09	3.614		
22,700.00	12,620.00	22,631.16	12,617.00	190.69	174.71	89.91	-11,261.20	-494.52	925.71	667.36	258.36	3.583		
22,800.00	12,620.00	22,731.16	12,617.00	192.30	176.26	89.91	-11,361.20	-493.53	925.81	665.23	260.58	3.553		
22,856.94	12,620.00	22,787.51	12,617.00	193.22	177.07	89.91	-11,417.54	-492.97	925.87	664.08	261.79	3.537 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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	0.20	0.20	0.00	0.00	89.46	0.47	49.99	49.99	49.81	0.18	280.946		
100.00	100.00	100.20	100.20	0.13	0.13	89.46	0.47	49.99	49.99	49.31	0.68	72.992		
200.00	200.00	200.20	200.20	0.48	0.48	89.46	0.47	49.99	49.99	48.80	1.19	41.945		
300.00	300.00	300.20	300.20	0.84	0.84	89.46	0.47	49.99	49.99	48.29	1.70	29.428		
400.00	400.00	400.20	400.20	1.20	1.20	89.46	0.47	49.99	49.99	47.79	2.21	22.664		
500.00	500.00	500.20	500.20	1.56	1.56	89.46	0.47	49.99	49.99	47.28	2.71	18.429		
600.00	600.00	600.20	600.20	1.92	1.92	89.46	0.47	49.99	49.99	46.77	3.22	15.527		
700.00	700.00	700.20	700.20	2.28	2.28	89.46	0.47	49.99	49.99	46.27	3.73	13.415		
800.00	800.00	800.20	800.20	2.63	2.64	89.46	0.47	49.99	49.99	45.76	4.23	11.808		
900.00	900.00	900.20	900.20	2.99	2.99	89.46	0.47	49.99	49.99	45.25	4.74	10.546		
1,000.00	1,000.00	1,000.20	1,000.20	3.35	3.35	89.46	0.47	49.99	49.99	44.74	5.25	9.527		
1,100.00	1,100.00	1,100.20	1,100.20	3.71	3.71	89.46	0.47	49.99	49.99	44.24	5.75	8.688		
1,200.00	1,200.00	1,200.20	1,200.20	4.07	4.07	89.46	0.47	49.99	49.99	43.73	6.26	7.984		
1,300.00	1,300.00	1,300.20	1,300.20	4.43	4.43	89.46	0.47	49.99	49.99	43.22	6.77	7.386		
1,400.00	1,400.00	1,400.20	1,400.20	4.79	4.79	89.46	0.47	49.99	49.99	42.72	7.28	6.871		
1,500.00	1,500.00	1,500.20	1,500.20	5.14	5.14	89.46	0.47	49.99	49.99	42.21	7.78	6.424		
1,600.00	1,600.00	1,600.20	1,600.20	5.50	5.50	89.46	0.47	49.99	49.99	41.70	8.29	6.031		
1,700.00	1,700.00	1,700.20	1,700.20	5.86	5.86	89.46	0.47	49.99	49.99	41.20	8.80	5.683		
1,800.00	1,800.00	1,800.20	1,800.20	6.22	6.22	89.46	0.47	49.99	49.99	40.69	9.30	5.374		
1,900.00	1,900.00	1,900.20	1,900.20	6.58	6.58	89.46	0.47	49.99	49.99	40.18	9.81	5.096		
2,000.00	2,000.00	2,000.20	2,000.20	6.94	6.94	89.46	0.47	49.99	49.99	39.68	10.32	4.846		
2,100.00	2,100.00	2,100.20	2,100.20	7.29	7.30	89.46	0.47	49.99	49.99	39.17	10.82	4.619		
2,200.00	2,200.00	2,200.20	2,200.20	7.65	7.65	89.46	0.47	49.99	49.99	38.66	11.33	4.412		
2,300.00	2,300.00	2,300.20	2,300.20	8.01	8.01	89.46	0.47	49.99	49.99	38.15	11.84	4.223		
2,400.00	2,400.00	2,400.20	2,400.20	8.37	8.37	89.46	0.47	49.99	49.99	37.65	12.34	4.050		
2,500.00	2,500.00	2,500.20	2,500.20	8.73	8.73	89.46	0.47	49.99	49.99	37.14	12.85	3.890		
2,600.00	2,600.00	2,600.20	2,600.20	9.09	9.09	89.46	0.47	49.99	49.99	36.63	13.36	3.742		
2,700.00	2,700.00	2,700.20	2,700.20	9.45	9.45	89.46	0.47	49.99	49.99	36.13	13.87	3.605		
2,800.00	2,800.00	2,800.20	2,800.20	9.80	9.80	89.46	0.47	49.99	49.99	35.62	14.37	3.478		
2,900.00	2,900.00	2,900.20	2,900.20	10.16	10.16	89.46	0.47	49.99	49.99	35.11	14.88	3.360		
3,000.00	3,000.00	3,000.20	3,000.20	10.52	10.52	89.46	0.47	49.99	49.99	34.61	15.39	3.249		
3,100.00	3,100.00	3,100.20	3,100.20	10.88	10.88	89.46	0.47	49.99	49.99	34.10	15.89	3.145		
3,200.00	3,200.00	3,200.20	3,200.20	11.24	11.24	89.46	0.47	49.99	49.99	34.01	15.98	3.129	CC	
3,216.60	3,216.60	3,216.80	3,216.80	11.30	11.30	89.46	0.47	49.99	49.99	33.59	16.40	3.048	ES	
3,300.00	3,300.00	3,300.00	3,300.00	11.60	11.60	89.46	0.47	49.99	49.99	33.70	16.88	2.997	SF	
3,400.00	3,399.99	3,399.24	3,399.23	11.94	11.94	-73.94	-0.39	50.95	50.58	33.03	17.33	3.022		
3,500.00	3,499.91	3,498.25	3,498.16	12.26	12.26	-75.13	-2.97	53.81	52.35	35.03	17.77	3.115		
3,600.00	3,599.69	3,597.21	3,596.91	12.59	12.59	-76.93	-7.27	58.57	55.35	37.58	18.22	3.273		
3,700.00	3,699.27	3,696.08	3,695.37	12.92	12.92	-79.15	-13.27	65.23	59.63	41.41	18.67	3.495		
3,800.00	3,798.57	3,794.84	3,793.46	13.25	13.26	-81.55	-20.97	73.76	65.24	46.57	19.12	3.776		
3,900.00	3,897.54	3,893.47	3,891.08	13.58	13.60	-83.97	-30.34	84.16	72.21	53.09	19.59	4.114		
4,000.00	3,996.09	3,991.92	3,988.15	13.92	13.94	-86.26	-41.38	96.40	80.58	60.99	20.07	4.502		
4,100.00	4,094.16	4,090.19	4,084.57	14.28	14.29	-88.36	-54.07	110.47	90.36	70.29	20.48	4.867		
4,184.40	4,176.52	4,172.97	4,165.39	14.58	14.60	-89.94	-66.04	123.75	99.70	79.21	20.56	4.938		
4,200.00	4,191.70	4,188.25	4,180.27	14.64	14.65	-90.23	-68.38	126.34	101.53	80.97	21.06	5.415		
4,300.00	4,289.03	4,286.10	4,275.18	15.01	15.03	-91.19	-84.30	143.99	114.05	92.99	21.56	5.929		
4,400.00	4,386.37	4,383.65	4,369.17	15.39	15.41	-90.96	-101.78	163.38	127.80	106.25	22.05	6.476		
4,500.00	4,483.70	4,480.79	4,462.07	15.77	15.81	-89.90	-120.78	184.45	142.81	120.76	22.54	7.062		
4,600.00	4,581.03	4,577.38	4,553.71	16.17	16.23	-88.28	-141.24	207.14	159.17	136.63	23.04	7.683		
4,700.00	4,678.36	4,674.25	4,644.79	16.57	16.66	-86.27	-163.30	231.61	176.99	153.96	23.55	8.310		
4,800.00	4,775.69	4,771.33	4,735.65	16.98	17.12	-84.33	-186.19	256.99	195.72	172.17	24.11	8.904		
4,900.00	4,873.02	4,869.35	4,827.41	17.39	17.60	-82.71	-209.30	282.62	214.64	190.53				

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



Total Directional Services
Anticollision Report



Company: Franklin Mountain Energy
Project: Lea County, NM (NAD83)
Reference Site: Tatanka Fed Com
Site Error: 0.00 usft
Reference Well: Tatanka Fed Com 803H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1
Local Co-ordinate Reference: Well Tatanka Fed Com 803H
TVD Reference: 3135.8' GE + 30' KB @ 3165.80usft
MD Reference: 3135.8' GE + 30' KB @ 3165.80usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.15 Single User Db
Offset TVD Reference: Offset Datum

Offset Design
Survey Program: 0-OWSG (Rev2) MWD
Reference: Tatanka Fed Com - Tatanka Fed Com 804H - OH - Plan #1
Warning: 0.00 usft
Table with columns: Measured Depth, Vertical Depth, Reference, Offset, Highside Toolface, Offset Wellbore Centre, Distance (Between Centres, Ellipses, Minimum Separation, Separation Factor)

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



Total Directional Services
Anticollision Report



Summary table with 4 columns: Field Name (Company, Project, Reference Site, Site Error, Reference Well, Well Error, Reference Wellbore, Reference Design), Value (Franklin Mountain Energy, Lea County, NM (NAD83), Tatanka Fed Com, 0.00 usft, Tatanka Fed Com 803H, 0.00 usft, OH, Plan #1), Field Name (Local Co-ordinate Reference, TVD Reference, MD Reference, North Reference, Survey Calculation Method, Output errors are at, Database, Offset TVD Reference), Value (Well Tatanka Fed Com 803H, 3135.8' GE + 30' KB @ 3165.80usft, 3135.8' GE + 30' KB @ 3165.80usft, Grid, Minimum Curvature, 2.00 sigma, EDM 5000.15 Single User Db, Offset Datum)

Main data table with columns: Offset Design (Survey Program: 0-OWSG (Rev2) MWD), Reference (Measured Depth, Vertical Depth), Offset (Measured Depth, Vertical Depth), Semi Major Axis (Reference, Offset, Highside Toolface), Distance (Offset Wellbore Centre, Between Centres, Between Ellipses, Minimum Separation, Separation Factor), Warning. Contains 100 rows of well data.

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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
13,900.00	12,620.00	13,855.94	12,446.00	59.74	62.18	-78.85	-2,440.69	1,218.87	900.64	817.07	83.57	10.777		
14,000.00	12,620.00	13,955.94	12,446.00	60.86	63.24	-78.85	-2,540.69	1,220.22	900.89	815.77	85.12	10.583		
14,100.00	12,620.00	14,055.94	12,446.00	62.01	64.32	-78.85	-2,640.68	1,221.56	901.14	814.44	86.71	10.393		
14,200.00	12,620.00	14,155.94	12,446.00	63.18	65.43	-78.86	-2,740.67	1,222.91	901.40	813.07	88.33	10.205		
14,300.00	12,620.00	14,255.94	12,446.00	64.37	66.56	-78.86	-2,840.66	1,224.25	901.65	811.67	89.98	10.021		
14,400.00	12,620.00	14,355.94	12,446.00	65.58	67.71	-78.86	-2,940.65	1,225.60	901.90	810.25	91.65	9.840		
14,500.00	12,620.00	14,455.94	12,446.00	66.80	68.89	-78.87	-3,040.64	1,226.94	902.15	808.79	93.35	9.664		
14,600.00	12,620.00	14,555.94	12,446.00	68.05	70.08	-78.87	-3,140.63	1,228.29	902.40	807.32	95.08	9.491		
14,700.00	12,620.00	14,655.94	12,446.00	69.31	71.29	-78.87	-3,240.62	1,229.63	902.65	805.82	96.83	9.322		
14,800.00	12,620.00	14,755.94	12,446.00	70.59	72.52	-78.88	-3,340.61	1,230.98	902.90	804.30	98.60	9.157		
14,900.00	12,620.00	14,855.94	12,446.00	71.89	73.76	-78.88	-3,440.60	1,232.32	903.15	802.75	100.40	8.996		
15,000.00	12,620.00	14,955.94	12,446.00	73.20	75.02	-78.88	-3,540.59	1,233.67	903.40	801.19	102.21	8.838		
15,100.00	12,620.00	15,055.94	12,446.00	74.52	76.30	-78.89	-3,640.58	1,235.01	903.65	799.61	104.05	8.685		
15,200.00	12,620.00	15,155.94	12,446.00	75.85	77.59	-78.89	-3,740.57	1,236.36	903.91	798.01	105.90	8.536		
15,300.00	12,620.00	15,255.94	12,446.00	77.20	78.89	-78.89	-3,840.56	1,237.70	904.16	796.39	107.77	8.390		
15,400.00	12,620.00	15,355.94	12,446.00	78.56	80.21	-78.89	-3,940.55	1,239.05	904.41	794.76	109.65	8.248		
15,500.00	12,620.00	15,455.94	12,446.00	79.93	81.54	-78.90	-4,040.54	1,240.39	904.66	793.11	111.55	8.110		
15,600.00	12,620.00	15,555.94	12,446.00	81.31	82.88	-78.90	-4,140.54	1,241.73	904.91	791.44	113.47	7.975		
15,700.00	12,620.00	15,655.94	12,446.00	82.70	84.23	-78.90	-4,240.53	1,243.08	905.16	789.76	115.40	7.844		
15,800.00	12,620.00	15,755.94	12,446.00	84.10	85.59	-78.91	-4,340.52	1,244.42	905.41	788.07	117.34	7.716		
15,900.00	12,620.00	15,855.93	12,446.00	85.51	86.97	-78.91	-4,440.51	1,245.77	905.66	786.37	119.29	7.592		
16,000.00	12,620.00	15,955.93	12,446.00	86.93	88.35	-78.91	-4,540.50	1,247.11	905.91	784.65	121.26	7.471		
16,100.00	12,620.00	16,055.93	12,446.00	88.36	89.74	-78.92	-4,640.49	1,248.46	906.16	782.93	123.24	7.353		
16,200.00	12,620.00	16,155.93	12,446.00	89.79	91.14	-78.92	-4,740.48	1,249.80	906.42	781.19	125.22	7.238		
16,300.00	12,620.00	16,255.93	12,446.00	91.23	92.55	-78.92	-4,840.47	1,251.15	906.67	779.44	127.22	7.127		
16,400.00	12,620.00	16,355.93	12,446.00	92.68	93.96	-78.93	-4,940.46	1,252.49	906.92	777.68	129.23	7.018		
16,500.00	12,620.00	16,455.93	12,446.00	94.13	95.39	-78.93	-5,040.45	1,253.84	907.17	775.92	131.25	6.912		
16,600.00	12,620.00	16,555.93	12,446.00	95.59	96.82	-78.93	-5,140.44	1,255.18	907.42	774.14	133.28	6.809		
16,700.00	12,620.00	16,655.93	12,446.00	97.06	98.26	-78.94	-5,240.43	1,256.53	907.67	772.36	135.31	6.708		
16,800.00	12,620.00	16,755.93	12,446.00	98.53	99.70	-78.94	-5,340.42	1,257.87	907.92	770.57	137.36	6.610		
16,900.00	12,620.00	16,855.93	12,446.00	100.01	101.15	-78.94	-5,440.41	1,259.22	908.17	768.76	139.41	6.515		
17,000.00	12,620.00	16,955.93	12,446.00	101.50	102.61	-78.94	-5,540.40	1,260.56	908.42	766.96	141.47	6.421		
17,100.00	12,620.00	17,055.93	12,446.00	102.98	104.07	-78.95	-5,640.39	1,261.91	908.67	765.14	143.53	6.331		
17,200.00	12,620.00	17,155.93	12,446.00	104.48	105.54	-78.95	-5,740.39	1,263.25	908.93	763.32	145.60	6.242		
17,300.00	12,620.00	17,255.93	12,446.00	105.98	107.01	-78.95	-5,840.38	1,264.60	909.18	761.49	147.68	6.156		
17,400.00	12,620.00	17,355.93	12,446.00	107.48	108.49	-78.96	-5,940.37	1,265.94	909.43	759.66	149.77	6.072		
17,500.00	12,620.00	17,455.93	12,446.00	108.99	109.98	-78.96	-6,040.36	1,267.29	909.68	757.82	151.86	5.990		
17,600.00	12,620.00	17,555.93	12,446.00	110.50	111.47	-78.96	-6,140.35	1,268.63	909.93	755.97	153.96	5.910		
17,700.00	12,620.00	17,655.93	12,446.00	112.01	112.96	-78.97	-6,240.34	1,269.97	910.18	754.12	156.06	5.832		
17,800.00	12,620.00	17,755.93	12,446.00	113.53	114.46	-78.97	-6,340.33	1,271.32	910.43	752.26	158.17	5.756		
17,900.00	12,620.00	17,855.93	12,446.00	115.06	115.96	-78.97	-6,440.32	1,272.66	910.68	750.40	160.28	5.682		
18,000.00	12,620.00	17,955.93	12,446.00	116.58	117.46	-78.98	-6,540.31	1,274.01	910.93	748.54	162.40	5.609		
18,100.00	12,620.00	18,055.93	12,446.00	118.11	118.97	-78.98	-6,640.30	1,275.35	911.18	746.67	164.52	5.538		
18,200.00	12,620.00	18,155.93	12,446.00	119.65	120.49	-78.98	-6,740.29	1,276.70	911.44	744.79	166.65	5.469		
18,300.00	12,620.00	18,255.93	12,446.00	121.18	122.01	-78.98	-6,840.28	1,278.04	911.69	742.91	168.78	5.402		
18,400.00	12,620.00	18,355.93	12,446.00	122.72	123.53	-78.99	-6,940.27	1,279.39	911.94	741.03	170.91	5.336		
18,500.00	12,620.00	18,455.93	12,446.00	124.26	125.05	-78.99	-7,040.26	1,280.73	912.19	739.14	173.05	5.271		
18,600.00	12,620.00	18,555.93	12,446.00	125.81	126.58	-78.99	-7,140.25	1,282.08	912.44	737.25	175.19	5.208		
18,700.00	12,620.00	18,655.93	12,446.00	127.35	128.11	-79.00	-7,240.25	1,283.42	912.69	735.35	177.34	5.147		
18,800.00	12,620.00	18,755.93	12,446.00	128.90	129.64	-79.00	-7,340.24	1,284.77	912.94	733.45	179.49	5.086		
18,900.00	12,620.00	18,855.92	12,446.00	130.46	131.18	-79.00	-7,440.23	1,286.11	913.19	731.55	181.64	5.027		
19,000.00	12,620.00	18,955.92	12,446.00	132.01	132.72	-79.01	-7,540.22	1,287.46	913.44	729.65	183.80	4.970		

CC - Min centre to center distance or 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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				Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,100.00	12,620.00	19,055.92	12,446.00	133.57	134.26	-79.01	-7,640.21	1,288.80	913.70	727.74	185.96	4.913		
19,200.00	12,620.00	19,155.92	12,446.00	135.13	135.80	-79.01	-7,740.20	1,290.15	913.95	725.83	188.12	4.858		
19,300.00	12,620.00	19,255.92	12,446.00	136.69	137.35	-79.02	-7,840.19	1,291.49	914.20	723.91	190.29	4.804		
19,400.00	12,620.00	19,355.92	12,446.00	138.25	138.90	-79.02	-7,940.18	1,292.84	914.45	721.99	192.45	4.752		
19,500.00	12,620.00	19,455.92	12,446.00	139.82	140.45	-79.02	-8,040.17	1,294.18	914.70	720.07	194.63	4.700		
19,600.00	12,620.00	19,555.92	12,446.00	141.39	142.00	-79.02	-8,140.16	1,295.52	914.95	718.15	196.80	4.649		
19,700.00	12,620.00	19,655.92	12,446.00	142.96	143.56	-79.03	-8,240.15	1,296.87	915.20	716.23	198.98	4.600		
19,800.00	12,620.00	19,755.92	12,446.00	144.53	145.12	-79.03	-8,340.14	1,298.21	915.45	714.30	201.15	4.551		
19,900.00	12,620.00	19,855.92	12,446.00	146.10	146.68	-79.03	-8,440.13	1,299.56	915.70	712.37	203.33	4.503		
20,000.00	12,620.00	19,955.92	12,446.00	147.68	148.24	-79.04	-8,540.12	1,300.90	915.96	710.44	205.52	4.457		
20,100.00	12,620.00	20,055.92	12,446.00	149.25	149.81	-79.04	-8,640.11	1,302.25	916.21	708.50	207.70	4.411		
20,200.00	12,620.00	20,155.92	12,446.00	150.83	151.37	-79.04	-8,740.10	1,303.59	916.46	706.57	209.89	4.366		
20,300.00	12,620.00	20,255.92	12,446.00	152.41	152.94	-79.05	-8,840.10	1,304.94	916.71	704.63	212.08	4.322		
20,400.00	12,620.00	20,355.92	12,446.00	153.99	154.51	-79.05	-8,940.09	1,306.28	916.96	702.69	214.27	4.279		
20,500.00	12,620.00	20,455.92	12,446.00	155.58	156.08	-79.05	-9,040.08	1,307.63	917.21	700.74	216.47	4.237		
20,600.00	12,620.00	20,555.92	12,446.00	157.16	157.65	-79.05	-9,140.07	1,308.97	917.46	698.80	218.66	4.196		
20,700.00	12,620.00	20,655.92	12,446.00	158.75	159.23	-79.06	-9,240.06	1,310.32	917.71	696.85	220.86	4.155		
20,800.00	12,620.00	20,755.92	12,446.00	160.33	160.81	-79.06	-9,340.05	1,311.66	917.96	694.91	223.06	4.115		
20,900.00	12,620.00	20,855.92	12,446.00	161.92	162.38	-79.06	-9,440.04	1,313.01	918.22	692.96	225.26	4.076		
21,000.00	12,620.00	20,955.92	12,446.00	163.51	163.96	-79.07	-9,540.03	1,314.35	918.47	691.01	227.46	4.038		
21,100.00	12,620.00	21,055.92	12,446.00	165.10	165.54	-79.07	-9,640.02	1,315.70	918.72	689.05	229.66	4.000		
21,200.00	12,620.00	21,155.92	12,446.00	166.69	167.13	-79.07	-9,740.01	1,317.04	918.97	687.10	231.87	3.963		
21,300.00	12,620.00	21,255.92	12,446.00	168.29	168.71	-79.08	-9,840.00	1,318.39	919.22	685.14	234.07	3.927		
21,400.00	12,620.00	21,355.92	12,446.00	169.88	170.29	-79.08	-9,939.99	1,319.73	919.47	683.19	236.28	3.891		
21,500.00	12,620.00	21,455.92	12,446.00	171.48	171.88	-79.08	-10,039.98	1,321.08	919.72	681.23	238.49	3.856		
21,600.00	12,620.00	21,555.92	12,446.00	173.07	173.47	-79.08	-10,139.97	1,322.42	919.97	679.27	240.70	3.822		
21,700.00	12,620.00	21,655.92	12,446.00	174.67	175.06	-79.09	-10,239.96	1,323.76	920.22	677.31	242.92	3.788		
21,800.00	12,620.00	21,755.92	12,446.00	176.27	176.65	-79.09	-10,339.95	1,325.11	920.48	675.35	245.13	3.755		
21,900.00	12,620.00	21,855.92	12,446.00	177.87	178.24	-79.09	-10,439.95	1,326.45	920.73	673.38	247.34	3.722		
22,000.00	12,620.00	21,955.91	12,446.00	179.47	179.83	-79.10	-10,539.94	1,327.80	920.98	671.42	249.56	3.690		
22,100.00	12,620.00	22,055.91	12,446.00	181.07	181.42	-79.10	-10,639.93	1,329.14	921.23	669.45	251.78	3.659		
22,200.00	12,620.00	22,155.91	12,446.00	182.67	183.01	-79.10	-10,739.92	1,330.49	921.48	667.49	253.99	3.628		
22,300.00	12,620.00	22,255.91	12,446.00	184.27	184.61	-79.11	-10,839.91	1,331.83	921.73	665.52	256.21	3.598		
22,400.00	12,620.00	22,355.91	12,446.00	185.88	186.21	-79.11	-10,939.90	1,333.18	921.98	663.55	258.43	3.568		
22,500.00	12,620.00	22,455.91	12,446.00	187.48	187.80	-79.11	-11,039.89	1,334.52	922.23	661.58	260.65	3.538		
22,600.00	12,620.00	22,555.91	12,446.00	189.09	189.40	-79.11	-11,139.88	1,335.87	922.48	659.61	262.88	3.509		
22,700.00	12,620.00	22,655.91	12,446.00	190.69	191.00	-79.12	-11,239.87	1,337.21	922.74	657.64	265.10	3.481		
22,800.00	12,620.00	22,755.91	12,446.00	192.30	192.60	-79.12	-11,339.86	1,338.56	922.99	655.66	267.32	3.453		
22,856.94	12,620.00	22,812.86	12,446.00	193.22	193.51	-79.12	-11,396.80	1,339.32	923.13	654.54	268.59	3.437		

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



Total Directional Services
Anticollision Report



Table with 4 columns: Company, Project, Reference Site, Site Error, Reference Well, Well Error, Reference Wellbore, Reference Design, Local Co-ordinate Reference, TVD Reference, MD Reference, North Reference, Survey Calculation Method, Output errors are at, Database, Offset TVD Reference.

Offset Design table with columns: Survey Program, Reference, Offset, Semi Major Axis, Highside, Offset Wellbore Centre, Distance, Minimum Separation, Separation Factor, Warning. Includes data rows from 5,100.00 to 10,000.00.

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



Total Directional Services
Anticollision Report



Company: Franklin Mountain Energy
Project: Lea County, NM (NAD83)
Reference Site: Tatanka Fed Com
Site Error: 0.00 usft
Reference Well: Tatanka Fed Com 803H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1
Local Co-ordinate Reference: Well Tatanka Fed Com 803H
TVD Reference: 3135.8' GE + 30' KB @ 3165.80usft
MD Reference: 3135.8' GE + 30' KB @ 3165.80usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.15 Single User Db
Offset TVD Reference: Offset Datum

Offset Design: Tatanka Fed Com - Tatanka Fed Com 805H - OH - Plan #2
Survey Program: 0-OWSG (Rev2) MWD
Reference: Measured Vertical Measured Vertical Reference Offset Highside Offset Wellbore Centre Between Between Minimum Separation Warning
Depth Depth Depth Depth (usft) (usft) (usft) (usft) (usft) (usft) (") +N/-S +E/-W Centres Ellipses Separation Factor
10,100.00 9,980.74 9,957.84 9,937.94 39.05 35.58 89.41 -1,026.89 2,163.58 1,843.68 1,791.46 52.22 35.306
10,200.00 10,080.74 10,057.84 10,037.94 39.36 35.93 89.41 -1,026.89 2,163.58 1,843.68 1,790.99 52.68 34.995
10,300.00 10,180.74 10,157.84 10,137.94 39.66 36.28 89.41 -1,026.89 2,163.58 1,843.68 1,790.53 53.15 34.688
10,400.00 10,280.74 10,257.84 10,237.94 39.97 36.63 89.41 -1,026.89 2,163.58 1,843.68 1,790.06 53.62 34.386
10,500.00 10,380.74 10,357.84 10,337.94 40.28 36.98 89.41 -1,026.89 2,163.58 1,843.68 1,789.59 54.08 34.089
10,600.00 10,480.74 10,457.84 10,437.94 40.59 37.33 89.41 -1,026.89 2,163.58 1,843.68 1,789.13 54.55 33.796
10,700.00 10,580.74 10,557.84 10,537.94 40.90 37.68 89.41 -1,026.89 2,163.58 1,843.68 1,788.66 55.02 33.508
10,800.00 10,680.74 10,657.84 10,637.94 41.21 38.03 89.41 -1,026.89 2,163.58 1,843.68 1,788.19 55.49 33.225
10,900.00 10,780.74 10,757.84 10,737.94 41.52 38.38 89.41 -1,026.89 2,163.58 1,843.68 1,787.72 55.96 32.946
11,000.00 10,880.74 10,857.84 10,837.94 41.84 38.73 89.41 -1,026.89 2,163.58 1,843.68 1,787.25 56.43 32.671
11,100.00 10,980.74 10,957.84 10,937.94 42.15 39.08 89.41 -1,026.89 2,163.58 1,843.68 1,786.78 56.90 32.400
11,200.00 11,080.74 11,057.84 11,037.94 42.46 39.43 89.41 -1,026.89 2,163.58 1,843.68 1,786.30 57.38 32.134
11,300.00 11,180.74 11,157.84 11,137.94 42.78 39.78 89.41 -1,026.89 2,163.58 1,843.68 1,785.83 57.85 31.871
11,400.00 11,280.74 11,257.84 11,237.94 43.09 40.14 89.41 -1,026.89 2,163.58 1,843.68 1,785.36 58.32 31.612
11,500.00 11,380.74 11,357.84 11,337.94 43.41 40.49 89.41 -1,026.89 2,163.58 1,843.68 1,784.88 58.80 31.358
11,600.00 11,480.74 11,457.84 11,437.94 43.73 40.84 89.41 -1,026.89 2,163.58 1,843.68 1,784.41 59.27 31.107
11,700.00 11,580.74 11,557.84 11,537.94 44.04 41.19 89.41 -1,026.89 2,163.58 1,843.68 1,783.93 59.74 30.860
11,800.00 11,680.74 11,657.84 11,637.94 44.36 41.54 89.41 -1,026.89 2,163.58 1,843.68 1,783.46 60.22 30.616
11,900.00 11,780.74 11,757.84 11,737.94 44.68 41.89 89.41 -1,026.89 2,163.58 1,843.68 1,782.98 60.70 30.376
12,000.00 11,880.74 11,857.84 11,837.94 45.00 42.25 89.41 -1,026.89 2,163.58 1,843.68 1,782.51 61.17 30.139
12,100.00 11,980.74 11,957.84 11,937.94 45.32 42.60 89.41 -1,026.96 2,163.58 1,843.68 1,782.03 61.65 29.907
12,125.55 12,006.30 11,983.42 11,963.50 45.40 42.68 89.44 -1,027.93 2,163.59 1,843.68 1,781.91 61.76 29.850
12,166.30 12,047.04 12,023.85 12,003.73 45.53 42.81 89.56 -1,031.78 2,163.63 1,843.68 1,781.73 61.95 29.761
12,200.00 12,080.72 12,056.91 12,036.38 45.65 42.92 -89.68 -1,037.03 2,163.68 1,843.70 1,781.59 62.10 29.687
12,250.00 12,130.45 12,105.53 12,083.69 45.84 43.08 -89.49 -1,048.15 2,163.79 1,843.73 1,781.38 62.35 29.572
12,300.00 12,179.53 12,153.64 12,129.41 46.05 43.23 -89.29 -1,063.07 2,163.93 1,843.78 1,781.17 62.61 29.450
12,350.00 12,227.61 12,201.27 12,173.30 46.29 43.37 -89.11 -1,081.56 2,164.12 1,843.84 1,780.96 62.88 29.323
12,400.00 12,274.32 12,248.46 12,215.10 46.55 43.50 -88.93 -1,103.41 2,164.33 1,843.92 1,780.75 63.17 29.191
12,450.00 12,319.29 12,295.23 12,254.63 46.83 43.63 -88.76 -1,128.39 2,164.58 1,844.01 1,780.54 63.47 29.053
12,500.00 12,362.19 12,341.62 12,291.69 47.13 43.75 -88.60 -1,156.26 2,164.85 1,844.10 1,780.31 63.79 28.911
12,550.00 12,402.70 12,387.66 12,326.13 47.44 43.87 -88.44 -1,186.80 2,165.15 1,844.19 1,780.07 64.11 28.764
12,600.00 12,440.50 12,433.37 12,357.78 47.78 43.98 -88.30 -1,219.76 2,165.47 1,844.28 1,779.82 64.46 28.613
12,650.00 12,475.30 12,478.79 12,386.54 48.13 44.10 -88.18 -1,254.90 2,165.82 1,844.37 1,779.56 64.81 28.458
12,700.00 12,506.84 12,523.96 12,412.28 48.50 44.21 -88.06 -1,292.00 2,166.18 1,844.45 1,779.27 65.18 28.298
12,750.00 12,534.89 12,568.89 12,434.91 48.88 44.33 -87.96 -1,330.80 2,166.56 1,844.52 1,778.96 65.56 28.136
12,800.00 12,559.22 12,613.63 12,454.35 49.28 44.46 -87.87 -1,371.08 2,166.95 1,844.58 1,778.63 65.95 27.970
12,850.00 12,579.65 12,658.21 12,470.54 49.68 44.59 -87.80 -1,412.60 2,167.36 1,844.62 1,778.27 66.35 27.802
12,900.00 12,596.03 12,700.00 12,482.75 50.10 44.72 -87.74 -1,452.56 2,167.75 1,844.65 1,777.90 66.75 27.635
12,950.00 12,608.24 12,746.98 12,492.95 50.52 44.88 -87.70 -1,498.40 2,168.20 1,844.65 1,777.48 67.17 27.462
13,000.00 12,616.17 12,791.24 12,499.09 50.94 45.03 -87.67 -1,542.22 2,168.63 1,844.64 1,777.05 67.59 27.291
13,050.00 12,619.77 12,835.45 12,501.84 51.36 45.18 -87.66 -1,586.33 2,169.06 1,844.61 1,776.59 68.01 27.121
13,066.30 12,620.00 12,849.98 12,502.00 51.50 45.23 -87.66 -1,600.86 2,169.21 1,844.59 1,776.44 68.15 27.066
13,100.00 12,620.00 12,883.68 12,502.00 51.79 45.36 -87.66 -1,634.56 2,169.54 1,844.55 1,776.11 68.45 26.949
13,200.00 12,620.00 12,983.68 12,502.00 52.67 45.76 -87.66 -1,734.55 2,170.52 1,844.44 1,775.07 69.37 26.588
13,300.00 12,620.00 13,083.68 12,502.00 53.58 46.22 -87.66 -1,834.55 2,171.50 1,844.34 1,773.97 70.36 26.212
13,400.00 12,620.00 13,183.68 12,502.00 54.53 46.72 -87.66 -1,934.54 2,172.48 1,844.23 1,772.81 71.41 25.825
13,500.00 12,620.00 13,283.68 12,502.00 55.51 47.28 -87.66 -2,034.54 2,173.46 1,844.12 1,771.59 72.52 25.428
13,600.00 12,620.00 13,383.68 12,502.00 56.53 47.89 -87.66 -2,134.53 2,174.44 1,844.01 1,770.32 73.69 25.023
13,700.00 12,620.00 13,483.68 12,502.00 57.57 48.55 -87.66 -2,234.53 2,175.42 1,843.90 1,768.99 74.92 24.613
13,800.00 12,620.00 13,583.68 12,502.00 58.64 49.25 -87.66 -2,334.52 2,176.40 1,843.79 1,767.60 76.19 24.200
13,900.00 12,620.00 13,683.68 12,502.00 59.74 50.00 -87.66 -2,434.52 2,177.38 1,843.68 1,766.17 77.52 23.785
14,000.00 12,620.00 13,783.68 12,502.00 60.86 50.79 -87.66 -2,534.51 2,178.36 1,843.58 1,764.69 78.89 23.370

CC - Min centre to center distance or 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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		
14,100.00	12,620.00	13,883.68	12,502.00	62.01	51.62	-87.66	-2,634.51	2,179.34	1,843.47	1,763.16	80.30	22.957		
14,200.00	12,620.00	13,983.68	12,502.00	63.18	52.49	-87.66	-2,734.50	2,180.32	1,843.36	1,761.60	81.76	22.546		
14,300.00	12,620.00	14,083.68	12,502.00	64.37	53.40	-87.66	-2,834.50	2,181.30	1,843.25	1,759.99	83.26	22.139		
14,400.00	12,620.00	14,183.68	12,502.00	65.58	54.34	-87.66	-2,934.49	2,182.28	1,843.14	1,758.35	84.79	21.737		
14,500.00	12,620.00	14,283.68	12,502.00	66.80	55.32	-87.66	-3,034.49	2,183.26	1,843.03	1,756.67	86.37	21.340		
14,600.00	12,620.00	14,383.68	12,502.00	68.05	56.32	-87.66	-3,134.48	2,184.24	1,842.92	1,754.95	87.97	20.949		
14,700.00	12,620.00	14,483.68	12,502.00	69.31	57.36	-87.66	-3,234.48	2,185.22	1,842.82	1,753.21	89.61	20.565		
14,800.00	12,620.00	14,583.68	12,502.00	70.59	58.42	-87.66	-3,334.47	2,186.20	1,842.71	1,751.43	91.28	20.188		
14,900.00	12,620.00	14,683.68	12,502.00	71.89	59.51	-87.66	-3,434.47	2,187.18	1,842.60	1,749.63	92.97	19.819		
15,000.00	12,620.00	14,783.68	12,502.00	73.20	60.63	-87.66	-3,534.47	2,188.16	1,842.49	1,747.79	94.70	19.457		
15,100.00	12,620.00	14,883.68	12,502.00	74.52	61.77	-87.66	-3,634.46	2,189.14	1,842.38	1,745.94	96.44	19.103		
15,200.00	12,620.00	14,983.68	12,502.00	75.85	62.93	-87.66	-3,734.46	2,190.12	1,842.27	1,744.05	98.22	18.757		
15,300.00	12,620.00	15,083.68	12,502.00	77.20	64.12	-87.66	-3,834.45	2,191.10	1,842.16	1,742.15	100.01	18.419		
15,400.00	12,620.00	15,183.68	12,502.00	78.56	65.32	-87.66	-3,934.45	2,192.08	1,842.05	1,740.22	101.83	18.089		
15,500.00	12,620.00	15,283.68	12,502.00	79.93	66.55	-87.66	-4,034.44	2,193.06	1,841.95	1,738.27	103.67	17.767		
15,600.00	12,620.00	15,383.68	12,502.00	81.31	67.79	-87.66	-4,134.44	2,194.05	1,841.84	1,736.31	105.53	17.453		
15,700.00	12,620.00	15,483.68	12,502.00	82.70	69.05	-87.66	-4,234.43	2,195.03	1,841.73	1,734.32	107.41	17.147		
15,800.00	12,620.00	15,583.68	12,502.00	84.10	70.32	-87.66	-4,334.43	2,196.01	1,841.62	1,732.32	109.30	16.849		
15,900.00	12,620.00	15,683.68	12,502.00	85.51	71.61	-87.66	-4,434.42	2,196.99	1,841.51	1,730.30	111.21	16.558		
16,000.00	12,620.00	15,783.68	12,502.00	86.93	72.92	-87.66	-4,534.42	2,197.97	1,841.40	1,728.26	113.14	16.275		
16,100.00	12,620.00	15,883.68	12,502.00	88.36	74.24	-87.66	-4,634.41	2,198.95	1,841.29	1,726.21	115.08	16.000		
16,200.00	12,620.00	15,983.68	12,502.00	89.79	75.57	-87.66	-4,734.41	2,199.93	1,841.19	1,724.15	117.04	15.731		
16,300.00	12,620.00	16,083.68	12,502.00	91.23	76.92	-87.66	-4,834.40	2,200.91	1,841.08	1,722.07	119.01	15.470		
16,400.00	12,620.00	16,183.68	12,502.00	92.68	78.27	-87.66	-4,934.40	2,201.89	1,840.97	1,719.97	120.99	15.215		
16,500.00	12,620.00	16,283.68	12,502.00	94.13	79.64	-87.66	-5,034.39	2,202.87	1,840.86	1,717.87	122.99	14.968		
16,600.00	12,620.00	16,383.68	12,502.00	95.59	81.02	-87.66	-5,134.39	2,203.85	1,840.75	1,715.75	125.00	14.726		
16,700.00	12,620.00	16,483.68	12,502.00	97.06	82.40	-87.66	-5,234.38	2,204.83	1,840.64	1,713.63	127.01	14.492		
16,800.00	12,620.00	16,583.68	12,502.00	98.53	83.80	-87.66	-5,334.38	2,205.81	1,840.53	1,711.49	129.04	14.263		
16,900.00	12,620.00	16,683.68	12,502.00	100.01	85.21	-87.66	-5,434.37	2,206.79	1,840.43	1,709.34	131.08	14.040		
17,000.00	12,620.00	16,783.68	12,502.00	101.50	86.62	-87.66	-5,534.37	2,207.77	1,840.32	1,707.19	133.13	13.823		
17,100.00	12,620.00	16,883.68	12,502.00	102.98	88.05	-87.66	-5,634.36	2,208.75	1,840.21	1,705.02	135.19	13.612		
17,200.00	12,620.00	16,983.68	12,502.00	104.48	89.48	-87.66	-5,734.36	2,209.73	1,840.10	1,702.84	137.26	13.406		
17,300.00	12,620.00	17,083.68	12,502.00	105.98	90.92	-87.66	-5,834.35	2,210.71	1,839.99	1,700.66	139.33	13.206		
17,400.00	12,620.00	17,183.68	12,502.00	107.48	92.36	-87.66	-5,934.35	2,211.69	1,839.88	1,698.47	141.42	13.011		
17,500.00	12,620.00	17,283.68	12,502.00	108.99	93.82	-87.66	-6,034.34	2,212.67	1,839.77	1,696.27	143.51	12.820		
17,600.00	12,620.00	17,383.68	12,502.00	110.50	95.28	-87.66	-6,134.34	2,213.65	1,839.67	1,694.06	145.60	12.635		
17,700.00	12,620.00	17,483.68	12,502.00	112.01	96.74	-87.66	-6,234.33	2,214.63	1,839.56	1,691.85	147.71	12.454		
17,800.00	12,620.00	17,583.68	12,502.00	113.53	98.21	-87.66	-6,334.33	2,215.61	1,839.45	1,689.63	149.82	12.278		
17,900.00	12,620.00	17,683.68	12,502.00	115.06	99.69	-87.66	-6,434.32	2,216.59	1,839.34	1,687.40	151.94	12.106		
18,000.00	12,620.00	17,783.68	12,502.00	116.58	101.17	-87.66	-6,534.32	2,217.57	1,839.23	1,685.16	154.07	11.938		
18,100.00	12,620.00	17,883.68	12,502.00	118.11	102.66	-87.66	-6,634.31	2,218.55	1,839.12	1,682.93	156.20	11.774		
18,200.00	12,620.00	17,983.68	12,502.00	119.65	104.15	-87.66	-6,734.31	2,219.53	1,839.01	1,680.68	158.33	11.615		
18,300.00	12,620.00	18,083.68	12,502.00	121.18	105.65	-87.66	-6,834.30	2,220.51	1,838.91	1,678.43	160.48	11.459		
18,400.00	12,620.00	18,183.68	12,502.00	122.72	107.15	-87.66	-6,934.30	2,221.49	1,838.80	1,676.17	162.62	11.307		
18,500.00	12,620.00	18,283.68	12,502.00	124.26	108.66	-87.66	-7,034.29	2,222.47	1,838.69	1,673.91	164.78	11.159		
18,600.00	12,620.00	18,383.68	12,502.00	125.81	110.17	-87.66	-7,134.29	2,223.45	1,838.58	1,671.65	166.93	11.014		
18,700.00	12,620.00	18,483.68	12,502.00	127.35	111.68	-87.66	-7,234.29	2,224.43	1,838.47	1,669.38	169.10	10.872		
18,800.00	12,620.00	18,583.68	12,502.00	128.90	113.20	-87.66	-7,334.28	2,225.41	1,838.36	1,667.10	171.26	10.734		
18,900.00	12,620.00	18,683.68	12,502.00	130.46	114.72	-87.66	-7,434.28	2,226.40	1,838.25	1,664.82	173.43	10.599		
19,000.00	12,620.00	18,783.68	12,502.00	132.01	116.25	-87.66	-7,534.27	2,227.38	1,838.14	1,662.54	175.61	10.467		
19,100.00	12,620.00	18,883.68	12,502.00	133.57	117.77	-87.66	-7,634.27	2,228.36	1,838.04	1,660.25	177.79	10.338		
19,200.00	12,620.00	18,983.68	12,502.00	135.13	119.31	-87.66	-7,734.26	2,229.34	1,837.93	1,657.96	179.97	10.212		

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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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
Tatanka Fed Com - Tatanka Fed Com 805H - OH - Plan #2														
Reference				Offset			Semi Major Axis		Distance				Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	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	12,620.00	19,083.68	12,502.00	136.69	120.84	-87.65	-7,834.26	2,230.32	1,837.82	1,655.66	182.16	10.089		
19,400.00	12,620.00	19,183.68	12,502.00	138.25	122.38	-87.65	-7,934.25	2,231.30	1,837.71	1,653.36	184.35	9.969		
19,500.00	12,620.00	19,283.68	12,502.00	139.82	123.92	-87.65	-8,034.25	2,232.28	1,837.60	1,651.06	186.54	9.851		
19,600.00	12,620.00	19,383.68	12,502.00	141.39	125.46	-87.65	-8,134.24	2,233.26	1,837.49	1,648.75	188.74	9.736		
19,700.00	12,620.00	19,483.68	12,502.00	142.96	127.01	-87.65	-8,234.24	2,234.24	1,837.38	1,646.45	190.94	9.623		
19,800.00	12,620.00	19,583.68	12,502.00	144.53	128.56	-87.65	-8,334.23	2,235.22	1,837.28	1,644.13	193.14	9.513		
19,900.00	12,620.00	19,683.68	12,502.00	146.10	130.11	-87.65	-8,434.23	2,236.20	1,837.17	1,641.82	195.35	9.405		
20,000.00	12,620.00	19,783.68	12,502.00	147.68	131.67	-87.65	-8,534.22	2,237.18	1,837.06	1,639.50	197.56	9.299		
20,100.00	12,620.00	19,883.68	12,502.00	149.25	133.22	-87.65	-8,634.22	2,238.16	1,836.95	1,637.18	199.77	9.195		
20,200.00	12,620.00	19,983.68	12,502.00	150.83	134.78	-87.65	-8,734.21	2,239.14	1,836.84	1,634.86	201.99	9.094		
20,300.00	12,620.00	20,083.68	12,502.00	152.41	136.34	-87.65	-8,834.21	2,240.12	1,836.73	1,632.53	204.20	8.995		
20,400.00	12,620.00	20,183.68	12,502.00	153.99	137.91	-87.65	-8,934.20	2,241.10	1,836.62	1,630.20	206.42	8.897		
20,500.00	12,620.00	20,283.68	12,502.00	155.58	139.47	-87.65	-9,034.20	2,242.08	1,836.52	1,627.87	208.65	8.802		
20,600.00	12,620.00	20,383.68	12,502.00	157.16	141.04	-87.65	-9,134.19	2,243.06	1,836.41	1,625.53	210.87	8.709		
20,700.00	12,620.00	20,483.68	12,502.00	158.75	142.61	-87.65	-9,234.19	2,244.04	1,836.30	1,623.20	213.10	8.617		
20,800.00	12,620.00	20,583.68	12,502.00	160.33	144.18	-87.65	-9,334.18	2,245.02	1,836.19	1,620.86	215.33	8.527		
20,900.00	12,620.00	20,683.68	12,502.00	161.92	145.75	-87.65	-9,434.18	2,246.00	1,836.08	1,618.52	217.56	8.439		
21,000.00	12,620.00	20,783.68	12,502.00	163.51	147.32	-87.65	-9,534.17	2,246.98	1,835.97	1,616.18	219.80	8.353		
21,100.00	12,620.00	20,883.68	12,502.00	165.10	148.90	-87.65	-9,634.17	2,247.96	1,835.86	1,613.83	222.03	8.268		
21,200.00	12,620.00	20,983.68	12,502.00	166.69	150.48	-87.65	-9,734.16	2,248.94	1,835.76	1,611.49	224.27	8.185		
21,300.00	12,620.00	21,083.67	12,502.00	168.29	152.06	-87.65	-9,834.16	2,249.92	1,835.65	1,609.14	226.51	8.104		
21,400.00	12,620.00	21,183.67	12,502.00	169.88	153.64	-87.65	-9,934.15	2,250.90	1,835.54	1,606.79	228.75	8.024		
21,500.00	12,620.00	21,283.67	12,502.00	171.48	155.22	-87.65	-10,034.15	2,251.88	1,835.43	1,604.43	231.00	7.946		
21,600.00	12,620.00	21,383.67	12,502.00	173.07	156.80	-87.65	-10,134.14	2,252.86	1,835.32	1,602.08	233.24	7.869		
21,700.00	12,620.00	21,483.67	12,502.00	174.67	158.39	-87.65	-10,234.14	2,253.84	1,835.21	1,599.72	235.49	7.793		
21,800.00	12,620.00	21,583.67	12,502.00	176.27	159.97	-87.65	-10,334.13	2,254.82	1,835.10	1,597.37	237.74	7.719		
21,900.00	12,620.00	21,683.67	12,502.00	177.87	161.56	-87.65	-10,434.13	2,255.80	1,835.00	1,595.01	239.99	7.646		
22,000.00	12,620.00	21,783.67	12,502.00	179.47	163.15	-87.65	-10,534.12	2,256.78	1,834.89	1,592.65	242.24	7.575		
22,100.00	12,620.00	21,883.67	12,502.00	181.07	164.74	-87.65	-10,634.12	2,257.77	1,834.78	1,590.28	244.49	7.504		
22,200.00	12,620.00	21,983.67	12,502.00	182.67	166.33	-87.65	-10,734.12	2,258.75	1,834.67	1,587.92	246.75	7.435		
22,300.00	12,620.00	22,083.67	12,502.00	184.27	167.92	-87.65	-10,834.11	2,259.73	1,834.56	1,585.56	249.01	7.368		
22,400.00	12,620.00	22,183.67	12,502.00	185.88	169.52	-87.65	-10,934.11	2,260.71	1,834.45	1,583.19	251.26	7.301		
22,500.00	12,620.00	22,283.67	12,502.00	187.48	171.11	-87.65	-11,034.10	2,261.69	1,834.34	1,580.82	253.52	7.235		
22,600.00	12,620.00	22,383.67	12,502.00	189.09	172.71	-87.65	-11,134.10	2,262.67	1,834.24	1,578.45	255.78	7.171		
22,700.00	12,620.00	22,483.67	12,502.00	190.69	174.31	-87.65	-11,234.09	2,263.65	1,834.13	1,576.08	258.05	7.108		
22,800.00	12,620.00	22,583.67	12,502.00	192.30	175.90	-87.65	-11,334.09	2,264.63	1,834.02	1,573.71	260.31	7.046		
22,856.94	12,620.00	22,640.62	12,502.00	193.22	176.75	-87.65	-11,391.03	2,265.19	1,833.96	1,572.41	261.55	7.012	CC, 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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	110.63	-991.64	2,633.57	2,814.45					
100.00	100.00	54.40	54.40	0.13	0.07	110.63	-991.64	2,633.57	2,814.08	2,813.94	0.14	N/A		
200.00	200.00	154.40	154.40	0.48	0.32	110.63	-991.64	2,633.57	2,814.08	2,813.50	0.58	4,848.271		
300.00	300.00	254.40	254.40	0.84	0.68	110.63	-991.64	2,633.57	2,814.08	2,813.00	1.08	2,600.930		
400.00	400.00	354.40	354.40	1.20	1.04	110.63	-991.64	2,633.57	2,814.08	2,812.49	1.59	1,773.285		
500.00	500.00	454.40	454.40	1.56	1.40	110.63	-991.64	2,633.57	2,814.08	2,811.99	2.09	1,344.607		
600.00	600.00	554.40	554.40	1.92	1.75	110.63	-991.64	2,633.57	2,814.08	2,811.48	2.60	1,082.673		
700.00	700.00	654.40	654.40	2.28	2.11	110.63	-991.64	2,633.57	2,814.08	2,810.97	3.11	906.092		
800.00	800.00	754.40	754.40	2.63	2.47	110.63	-991.64	2,633.57	2,814.08	2,810.47	3.61	779.008		
900.00	900.00	854.40	854.40	2.99	2.83	110.63	-991.64	2,633.57	2,814.08	2,809.96	4.12	683.176		
1,000.00	1,000.00	954.40	954.40	3.35	3.19	110.63	-991.64	2,633.57	2,814.08	2,809.45	4.63	608.332		
1,100.00	1,100.00	1,054.40	1,054.40	3.71	3.55	110.63	-991.64	2,633.57	2,814.08	2,808.95	5.13	548.264		
1,200.00	1,200.00	1,154.40	1,154.40	4.07	3.91	110.63	-991.64	2,633.57	2,814.08	2,808.44	5.64	498.991		
1,300.00	1,300.00	1,254.40	1,254.40	4.43	4.26	110.63	-991.64	2,633.57	2,814.08	2,807.93	6.15	457.842		
1,400.00	1,400.00	1,354.40	1,354.40	4.79	4.62	110.63	-991.64	2,633.57	2,814.08	2,807.43	6.65	422.962		
1,500.00	1,500.00	1,454.40	1,454.40	5.14	4.98	110.63	-991.64	2,633.57	2,814.08	2,806.92	7.16	393.019		
1,600.00	1,600.00	1,554.40	1,554.40	5.50	5.34	110.63	-991.64	2,633.57	2,814.08	2,806.41	7.67	367.035		
1,700.00	1,700.00	1,654.40	1,654.40	5.86	5.70	110.63	-991.64	2,633.57	2,814.08	2,805.91	8.17	344.274		
1,800.00	1,800.00	1,754.40	1,754.40	6.22	6.06	110.63	-991.64	2,633.57	2,814.08	2,805.40	8.68	324.171		
1,900.00	1,900.00	1,854.40	1,854.40	6.58	6.41	110.63	-991.64	2,633.57	2,814.08	2,804.89	9.19	306.285		
2,000.00	2,000.00	1,954.40	1,954.40	6.94	6.77	110.63	-991.64	2,633.57	2,814.08	2,804.38	9.69	290.270		
2,100.00	2,100.00	2,054.40	2,054.40	7.29	7.13	110.63	-991.64	2,633.57	2,814.08	2,803.88	10.20	275.847		
2,200.00	2,200.00	2,154.40	2,154.40	7.65	7.49	110.63	-991.64	2,633.57	2,814.08	2,803.37	10.71	262.788		
2,300.00	2,300.00	2,254.40	2,254.40	8.01	7.85	110.63	-991.64	2,633.57	2,814.08	2,802.86	11.22	250.911		
2,400.00	2,400.00	2,354.40	2,354.40	8.37	8.21	110.63	-991.64	2,633.57	2,814.08	2,802.36	11.72	240.060		
2,500.00	2,500.00	2,454.40	2,454.40	8.73	8.57	110.63	-991.64	2,633.57	2,814.08	2,801.85	12.23	230.109		
2,600.00	2,600.00	2,554.40	2,554.40	9.09	8.92	110.63	-991.64	2,633.57	2,814.08	2,801.34	12.74	220.950		
2,700.00	2,700.00	2,654.40	2,654.40	9.45	9.28	110.63	-991.64	2,633.57	2,814.08	2,800.84	13.24	212.493		
2,800.00	2,800.00	2,754.40	2,754.40	9.80	9.64	110.63	-991.64	2,633.57	2,814.08	2,800.33	13.75	204.658		
2,900.00	2,900.00	2,854.40	2,854.40	10.16	10.00	110.63	-991.64	2,633.57	2,814.08	2,799.82	14.26	197.381		
3,000.00	3,000.00	2,954.40	2,954.40	10.52	10.36	110.63	-991.64	2,633.57	2,814.08	2,799.32	14.76	190.604		
3,100.00	3,100.00	3,054.40	3,054.40	10.88	10.72	110.63	-991.64	2,633.57	2,814.08	2,798.81	15.27	184.277		
3,200.00	3,200.00	3,154.40	3,154.40	11.24	11.07	110.63	-991.64	2,633.57	2,814.08	2,798.30	15.78	178.356		
3,206.90	3,206.90	3,161.30	3,161.30	11.26	11.10	110.63	-991.64	2,633.57	2,814.08	2,798.27	15.81	177.961		
3,300.00	3,300.00	3,231.94	3,231.94	11.60	11.35	110.63	-991.65	2,633.70	2,814.30	2,798.07	16.23	173.446		
3,400.00	3,399.99	3,300.00	3,299.99	11.94	11.59	-52.37	-991.71	2,634.88	2,815.05	2,798.42	16.63	169.246		
3,500.00	3,499.91	3,349.28	3,349.25	12.26	11.76	-52.41	-991.81	2,636.48	2,815.63	2,798.66	16.97	165.874		
3,600.00	3,599.69	3,400.00	3,399.91	12.59	11.93	-52.47	-991.94	2,638.80	2,816.13	2,798.81	17.32	162.623		
3,700.00	3,699.27	3,466.24	3,466.02	12.92	12.16	-52.58	-992.17	2,642.83	2,816.48	2,798.78	17.70	159.135		
3,800.00	3,798.57	3,524.46	3,524.07	13.25	12.36	-52.72	-992.42	2,647.32	2,816.74	2,798.68	18.06	155.976		
3,900.00	3,897.54	3,600.00	3,599.27	13.58	12.62	-52.94	-992.83	2,654.46	2,817.02	2,798.55	18.47	152.539		
3,923.56	3,920.79	3,600.00	3,599.27	13.66	12.62	-52.94	-992.83	2,654.46	2,816.96	2,798.45	18.51	152.152		
4,000.00	3,996.09	3,640.20	3,639.23	13.92	12.76	-53.08	-993.08	2,658.87	2,817.05	2,798.27	18.78	150.024		
4,100.00	4,094.16	3,730.56	3,728.96	14.28	13.08	-53.43	-993.69	2,669.48	2,816.68	2,797.44	19.23	146.437		
4,184.40	4,176.52	3,813.10	3,810.92	14.58	13.37	-53.80	-994.24	2,679.19	2,815.28	2,795.63	19.64	143.313		
4,200.00	4,191.70	3,828.32	3,826.04	14.64	13.42	-53.86	-994.34	2,680.99	2,814.93	2,795.21	19.72	142.742		
4,300.00	4,289.03	3,925.91	3,922.95	15.01	13.77	-54.29	-995.00	2,692.47	2,812.80	2,792.58	20.21	139.163		
4,400.00	4,386.37	4,023.50	4,019.86	15.39	14.12	-54.73	-995.65	2,703.95	2,810.83	2,790.12	20.71	135.723		
4,500.00	4,483.70	4,121.09	4,116.77	15.77	14.47	-55.16	-996.31	2,715.44	2,809.03	2,787.82	21.21	132.416		
4,600.00	4,581.03	4,218.68	4,213.68	16.17	14.83	-55.59	-996.96	2,726.92	2,807.40	2,785.68	21.72	129.238		
4,700.00	4,678.36	4,316.27	4,310.59	16.57	15.19	-56.03	-997.62	2,738.40	2,805.94	2,783.70	22.24	126.183		
4,800.00	4,775.69	4,413.86	4,407.50	16.98	15.54	-56.46	-998.27	2,749.89	2,804.65	2,781.89	22.76	123.247		

CC - Min centre to center distance or 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	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:	
Survey Program:												0-OWSG (Rev2) MWD		0.00 usft	
Reference		Offset		Semi Major Axis			Distance					Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	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		
4,900.00	4,873.02	4,511.45	4,504.41	17.39	15.91	-56.90	-998.93	2,761.37	2,803.53	2,780.25	23.28	120.425			
5,000.00	4,970.36	4,609.04	4,601.32	17.81	16.27	-57.33	-999.58	2,772.85	2,802.57	2,778.76	23.81	117.713			
5,100.00	5,067.69	4,706.63	4,698.23	18.23	16.63	-57.77	-1,000.24	2,784.34	2,801.79	2,777.45	24.34	115.105			
5,200.00	5,165.02	4,804.22	4,795.14	18.66	17.00	-58.20	-1,000.89	2,795.82	2,801.18	2,776.30	24.88	112.597			
5,300.00	5,262.35	4,901.81	4,892.05	19.09	17.36	-58.64	-1,001.55	2,807.30	2,800.73	2,775.31	25.42	110.184			
5,400.00	5,359.68	4,999.40	4,988.96	19.53	17.73	-59.07	-1,002.20	2,818.79	2,800.46	2,774.49	25.96	107.864			
5,500.00	5,457.01	5,096.99	5,085.87	19.97	18.10	-59.51	-1,002.86	2,830.27	2,800.35	2,773.84	26.51	105.631			
5,511.23	5,467.94	5,107.95	5,096.75	20.02	18.14	-59.56	-1,002.93	2,831.56	2,800.35	2,773.78	26.57	105.385			
5,600.00	5,554.34	5,194.58	5,182.78	20.42	18.47	-59.94	-1,003.51	2,841.76	2,800.42	2,773.36	27.06	103.481			
5,700.00	5,651.68	5,292.18	5,279.69	20.87	18.84	-60.38	-1,004.16	2,853.24	2,800.66	2,773.04	27.62	101.412			
5,800.00	5,749.01	5,389.77	5,376.60	21.32	19.21	-60.82	-1,004.82	2,864.72	2,801.06	2,772.89	28.17	99.419			
5,900.00	5,846.34	5,487.36	5,473.51	21.77	19.58	-61.25	-1,005.47	2,876.21	2,801.64	2,772.90	28.74	97.499			
6,000.00	5,943.67	5,584.95	5,570.42	22.23	19.96	-61.69	-1,006.13	2,887.69	2,802.38	2,773.08	29.30	95.648			
6,100.00	6,041.00	5,682.54	5,667.33	22.69	20.33	-62.12	-1,006.78	2,899.17	2,803.30	2,773.43	29.87	93.865			
6,200.00	6,138.33	5,780.13	5,764.24	23.15	20.71	-62.56	-1,007.44	2,910.66	2,804.38	2,773.95	30.43	92.145			
6,300.00	6,235.67	5,877.72	5,861.15	23.61	21.08	-62.99	-1,008.09	2,922.14	2,805.64	2,774.63	31.01	90.487			
6,400.00	6,333.00	5,975.31	5,958.06	24.08	21.46	-63.42	-1,008.75	2,933.62	2,807.06	2,775.48	31.58	88.886			
6,500.00	6,430.33	6,072.90	6,054.97	24.55	21.84	-63.86	-1,009.40	2,945.11	2,808.65	2,776.49	32.16	87.342			
6,600.00	6,527.66	6,170.49	6,151.88	25.02	22.22	-64.29	-1,010.06	2,956.59	2,810.41	2,777.68	32.74	85.851			
6,700.00	6,624.99	6,268.08	6,248.79	25.49	22.59	-64.72	-1,010.71	2,968.07	2,812.34	2,779.02	33.32	84.412			
6,800.00	6,722.32	6,365.67	6,345.70	25.96	22.97	-65.15	-1,011.37	2,979.56	2,814.44	2,780.54	33.90	83.021			
6,900.00	6,819.65	6,463.26	6,442.61	26.44	23.35	-65.59	-1,012.02	2,991.04	2,816.70	2,782.22	34.49	81.677			
7,000.00	6,916.99	6,560.85	6,539.52	26.91	23.73	-66.02	-1,012.68	3,002.52	2,819.13	2,784.06	35.07	80.379			
7,100.00	7,014.32	6,658.44	6,636.43	27.39	24.11	-66.45	-1,013.33	3,014.01	2,821.73	2,786.07	35.66	79.123			
7,200.00	7,111.65	6,756.03	6,733.34	27.87	24.49	-66.88	-1,013.99	3,025.49	2,824.49	2,788.24	36.25	77.905			
7,300.00	7,208.98	6,853.62	6,830.25	28.35	24.88	-67.30	-1,014.64	3,036.97	2,827.42	2,790.58	36.85	76.739			
7,400.00	7,306.31	6,951.21	6,927.16	28.84	25.26	-67.73	-1,015.30	3,048.46	2,830.52	2,793.08	37.44	75.599			
7,500.00	7,403.64	7,048.80	7,024.07	29.32	25.64	-68.16	-1,015.95	3,059.94	2,833.78	2,795.74	38.04	74.499			
7,600.00	7,500.98	7,352.87	7,326.97	29.80	26.79	-69.48	-1,017.42	3,085.66	2,834.59	2,795.39	39.20	72.304			
7,700.00	7,598.31	7,578.67	7,552.71	30.29	27.57	-70.47	-1,017.64	3,089.57	2,827.66	2,787.60	40.07	70.576			
7,800.00	7,695.64	7,676.00	7,650.04	30.78	27.91	-70.90	-1,017.64	3,089.57	2,819.89	2,779.23	40.66	69.356			
7,900.00	7,792.97	7,773.33	7,747.37	31.27	28.24	-71.33	-1,017.64	3,089.57	2,812.28	2,771.02	41.25	68.172			
8,000.00	7,890.30	7,870.66	7,844.70	31.75	28.57	-71.76	-1,017.64	3,089.57	2,804.83	2,762.98	41.85	67.023			
8,062.86	7,951.48	7,931.84	7,905.88	32.06	28.78	-72.04	-1,017.64	3,089.57	2,800.24	2,758.02	42.22	66.318			
8,100.00	7,987.67	7,968.03	7,942.07	32.24	28.90	-72.16	-1,017.64	3,089.57	2,797.61	2,755.17	42.45	65.911			
8,200.00	8,085.50	8,065.86	8,039.90	32.71	29.24	-72.46	-1,017.64	3,089.57	2,791.19	2,748.16	43.03	64.863			
8,300.00	8,183.84	8,164.20	8,138.24	33.17	29.57	-72.73	-1,017.64	3,089.57	2,785.68	2,742.07	43.61	63.884			
8,400.00	8,282.61	8,262.97	8,237.01	33.60	29.91	-72.97	-1,017.64	3,089.57	2,781.03	2,736.87	44.16	62.971			
8,500.00	8,381.76	8,362.12	8,336.16	34.01	30.25	-73.17	-1,017.64	3,089.57	2,777.22	2,732.52	44.71	62.120			
8,600.00	8,481.22	8,461.58	8,435.62	34.40	30.59	-73.33	-1,017.64	3,089.57	2,774.22	2,728.98	45.24	61.328			
8,700.00	8,580.92	8,561.27	8,535.32	34.77	30.94	-73.45	-1,017.64	3,089.57	2,771.99	2,726.24	45.75	60.593			
8,800.00	8,680.78	8,661.14	8,635.18	35.12	31.28	-73.53	-1,017.64	3,089.57	2,770.52	2,724.28	46.24	59.911			
8,900.00	8,780.74	8,761.10	8,735.14	35.45	31.62	-73.57	-1,017.64	3,089.57	2,769.80	2,723.07	46.72	59.280			
8,947.26	8,828.00	8,808.36	8,782.40	35.59	31.79	-73.61	-1,017.64	3,089.57	2,769.72	2,722.77	46.94	59.002			
9,000.00	8,880.74	8,861.10	8,835.14	35.75	31.97	-73.63	-1,017.64	3,089.57	2,769.72	2,722.53	47.18	58.702			
9,100.00	8,980.74	8,961.10	8,935.14	36.04	32.31	-73.63	-1,017.64	3,089.57	2,769.72	2,722.08	47.64	58.142			
9,200.00	9,080.74	9,061.10	9,035.14	36.34	32.66	-73.63	-1,017.64	3,089.57	2,769.72	2,721.62	48.09	57.591			
9,300.00	9,180.74	9,161.10	9,135.14	36.64	33.00	-73.63	-1,017.64	3,089.57	2,769.72	2,721.17	48.55	57.049			
9,400.00	9,280.74	9,261.10	9,235.14	36.93	33.35	-73.63	-1,017.64	3,089.57	2,769.72	2,720.71	49.01	56.515			
9,500.00	9,380.74	9,361.10	9,335.14	37.23	33.70	-73.63	-1,017.64	3,089.57	2,769.72	2,720.25	49.47	55.991			
9,600.00	9,480.74	9,461.10	9,435.14	37.53	34.04	-73.63	-1,017.64	3,089.57	2,769.72	2,719.79	49.93	55.476			
9,700.00	9,580.74	9,561.10	9,535.14	37.84	34.39	-73.63	-1,017.64	3,089.57	2,769.72	2,719.33	50.39	54.968			

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



Total Directional Services Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD														Offset Well Error:		0.00 usft
Reference				Offset			Semi Major Axis		Distance					Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
9,800.00	9,680.74	9,661.10	9,635.14	38.14	34.74	89.41	-1,017.64	3,089.57	2,769.72	2,718.87	50.85	54.469				
9,900.00	9,780.74	9,761.10	9,735.14	38.44	35.08	89.41	-1,017.64	3,089.57	2,769.72	2,718.40	51.31	53.978				
10,000.00	9,880.74	9,861.10	9,835.14	38.75	35.43	89.41	-1,017.64	3,089.57	2,769.72	2,717.94	51.77	53.495				
10,100.00	9,980.74	9,961.10	9,935.14	39.05	35.78	89.41	-1,017.64	3,089.57	2,769.72	2,717.48	52.24	53.020				
10,200.00	10,080.74	10,061.10	10,035.14	39.36	36.13	89.41	-1,017.64	3,089.57	2,769.72	2,717.01	52.70	52.552				
10,300.00	10,180.74	10,161.10	10,135.14	39.66	36.47	89.41	-1,017.64	3,089.57	2,769.72	2,716.55	53.17	52.092				
10,400.00	10,280.74	10,261.10	10,235.14	39.97	36.82	89.41	-1,017.64	3,089.57	2,769.72	2,716.08	53.64	51.639				
10,500.00	10,380.74	10,361.10	10,335.14	40.28	37.17	89.41	-1,017.64	3,089.57	2,769.72	2,715.61	54.10	51.193				
10,600.00	10,480.74	10,461.10	10,435.14	40.59	37.52	89.41	-1,017.64	3,089.57	2,769.72	2,715.14	54.57	50.755				
10,700.00	10,580.74	10,561.10	10,535.14	40.90	37.87	89.41	-1,017.64	3,089.57	2,769.72	2,714.68	55.04	50.322				
10,800.00	10,680.74	10,661.10	10,635.14	41.21	38.22	89.41	-1,017.64	3,089.57	2,769.72	2,714.21	55.51	49.897				
10,900.00	10,780.74	10,761.10	10,735.14	41.52	38.56	89.41	-1,017.64	3,089.57	2,769.72	2,713.74	55.98	49.478				
11,000.00	10,880.74	10,861.10	10,835.14	41.84	38.91	89.41	-1,017.64	3,089.57	2,769.72	2,713.27	56.45	49.066				
11,100.00	10,980.74	10,961.10	10,935.14	42.15	39.26	89.41	-1,017.64	3,089.57	2,769.72	2,712.80	56.92	48.660				
11,200.00	11,080.74	11,061.10	11,035.14	42.46	39.61	89.41	-1,017.64	3,089.57	2,769.72	2,712.32	57.39	48.260				
11,300.00	11,180.74	11,161.10	11,135.14	42.78	39.96	89.41	-1,017.64	3,089.57	2,769.72	2,711.85	57.86	47.866				
11,400.00	11,280.74	11,261.10	11,235.14	43.09	40.31	89.41	-1,017.64	3,089.57	2,769.72	2,711.38	58.34	47.478				
11,500.00	11,380.74	11,361.10	11,335.14	43.41	40.66	89.41	-1,017.64	3,089.57	2,769.72	2,710.90	58.81	47.096				
11,600.00	11,480.74	11,461.10	11,435.14	43.73	41.01	89.41	-1,017.64	3,089.57	2,769.72	2,710.43	59.28	46.719				
11,700.00	11,580.74	11,561.10	11,535.14	44.04	41.36	89.41	-1,017.64	3,089.57	2,769.72	2,709.96	59.76	46.348				
11,800.00	11,680.74	11,661.10	11,635.14	44.36	41.71	89.41	-1,017.64	3,089.57	2,769.72	2,709.48	60.23	45.982				
11,900.00	11,780.74	11,761.10	11,735.14	44.68	42.06	89.41	-1,017.64	3,089.57	2,769.72	2,709.01	60.71	45.622				
12,000.00	11,880.74	11,861.10	11,835.14	45.00	42.41	89.43	-1,018.60	3,089.58	2,769.71	2,708.53	61.18	45.270				
12,004.77	11,885.51	11,865.90	11,839.91	45.01	42.43	89.44	-1,018.89	3,089.58	2,769.71	2,708.51	61.20	45.254				
12,100.00	11,980.74	11,959.06	11,931.96	45.32	42.73	89.72	-1,032.56	3,089.72	2,769.75	2,708.12	61.63	44.941				
12,166.30	12,047.04	12,020.28	11,990.73	45.53	42.92	90.07	-1,049.60	3,089.88	2,769.91	2,707.99	61.92	44.737				
12,200.00	12,080.72	12,050.64	12,018.53	45.65	43.01	-89.09	-1,060.11	3,089.99	2,770.06	2,707.99	62.06	44.634				
12,250.00	12,130.45	12,093.65	12,058.28	45.84	43.14	-88.77	-1,078.13	3,090.16	2,770.35	2,708.05	62.29	44.474				
12,300.00	12,179.53	12,136.26	12,095.64	46.05	43.26	-88.46	-1,098.58	3,090.36	2,770.71	2,708.17	62.54	44.305				
12,350.00	12,227.61	12,178.07	12,130.74	46.29	43.38	-88.17	-1,121.30	3,090.58	2,771.12	2,708.33	62.80	44.128				
12,400.00	12,274.32	12,219.17	12,163.53	46.55	43.49	-87.89	-1,146.06	3,090.83	2,771.59	2,708.52	63.07	43.942				
12,450.00	12,319.29	12,259.64	12,193.99	46.83	43.59	-87.62	-1,172.68	3,091.09	2,772.09	2,708.73	63.36	43.749				
12,500.00	12,362.19	12,300.00	12,224.44	47.13	43.69	-87.36	-1,201.30	3,091.37	2,772.61	2,708.94	63.67	43.549				
12,550.00	12,402.70	12,338.95	12,247.91	47.44	43.79	-87.12	-1,230.75	3,091.66	2,773.13	2,709.15	63.98	43.342				
12,600.00	12,440.50	12,377.92	12,271.33	47.78	43.89	-86.90	-1,261.88	3,091.96	2,773.65	2,709.33	64.31	43.127				
12,650.00	12,475.30	12,416.50	12,292.39	48.13	43.99	-86.70	-1,294.21	3,092.28	2,774.15	2,709.49	64.66	42.905				
12,700.00	12,506.84	12,450.00	12,308.87	48.50	44.08	-86.53	-1,323.36	3,092.56	2,774.62	2,709.61	65.01	42.683				
12,750.00	12,534.89	12,492.72	12,327.37	48.88	44.19	-86.35	-1,361.86	3,092.94	2,775.04	2,709.66	65.38	42.443				
12,800.00	12,559.22	12,530.44	12,341.28	49.28	44.30	-86.22	-1,396.92	3,093.28	2,775.41	2,709.65	65.76	42.203				
12,850.00	12,579.65	12,567.97	12,352.79	49.68	44.42	-86.10	-1,432.62	3,093.63	2,775.73	2,709.57	66.15	41.959				
12,900.00	12,596.03	12,600.00	12,360.76	50.10	44.52	-86.02	-1,463.64	3,093.94	2,775.98	2,709.44	66.54	41.716				
12,950.00	12,608.24	12,642.58	12,368.64	50.52	44.66	-85.94	-1,505.47	3,094.34	2,776.15	2,709.19	66.96	41.459				
13,000.00	12,616.17	12,679.73	12,372.97	50.94	44.79	-85.90	-1,542.36	3,094.71	2,776.25	2,708.87	67.37	41.207				
13,050.00	12,619.77	12,716.84	12,374.89	51.36	44.92	-85.88	-1,579.41	3,095.07	2,776.26	2,708.48	67.79	40.954				
13,066.30	12,620.00	12,729.25	12,375.00	51.50	44.96	-85.88	-1,591.82	3,095.19	2,776.25	2,708.33	67.93	40.872				
13,100.00	12,620.00	12,762.95	12,375.00	51.79	45.09	-85.88	-1,625.52	3,095.52	2,776.22	2,707.99	68.23	40.692				
13,200.00	12,620.00	12,862.95	12,375.00	52.67	45.49	-85.88	-1,725.52	3,096.50	2,776.11	2,706.95	69.16	40.143				
13,300.00	12,620.00	12,962.95	12,375.00	53.58	45.95	-85.88	-1,825.51	3,097.48	2,776.00	2,705.85	70.15	39.572				
13,400.00	12,620.00	13,062.95	12,375.00	54.53	46.46	-85.88	-1,925.51	3,098.46	2,775.89	2,704.68	71.21	38.983				
13,500.00	12,620.00	13,162.95	12,375.00	55.51	47.02	-85.88	-2,025.50	3,099.43	2,775.78	2,703.45	72.32	38.380				
13,600.00	12,620.00	13,262.95	12,375.00	56.53	47.64	-85.88	-2,125.50	3,100.41	2,775.67	2,702.17	73.50	37.765				
13,700.00	12,620.00	13,362.95	12,375.00	57.57	48.30	-85.88	-2,225.50	3,101.39	2,775.56	2,700.83	74.73	37.143				

CC - Min centre to center distance or 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 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:		0.00 usft
Reference				Offset		Semi Major Axis		Distance					Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
13,800.00	12,620.00	13,462.95	12,375.00	58.64	49.00	-85.88	-2,325.49	3,102.37	2,775.45	2,699.44	76.01	36.516			
13,900.00	12,620.00	13,562.95	12,375.00	59.74	49.76	-85.88	-2,425.49	3,103.35	2,775.34	2,698.00	77.33	35.888			
14,000.00	12,620.00	13,662.95	12,375.00	60.86	50.55	-85.88	-2,525.48	3,104.33	2,775.23	2,696.52	78.71	35.259			
14,100.00	12,620.00	13,762.95	12,375.00	62.01	51.39	-85.88	-2,625.48	3,105.31	2,775.12	2,694.99	80.13	34.633			
14,200.00	12,620.00	13,862.95	12,375.00	63.18	52.26	-85.88	-2,725.47	3,106.29	2,775.01	2,693.41	81.59	34.011			
14,300.00	12,620.00	13,962.95	12,375.00	64.37	53.17	-85.88	-2,825.47	3,107.26	2,774.90	2,691.80	83.09	33.395			
14,400.00	12,620.00	14,062.95	12,375.00	65.58	54.12	-85.88	-2,925.46	3,108.24	2,774.79	2,690.15	84.63	32.787			
14,500.00	12,620.00	14,162.95	12,375.00	66.80	55.10	-85.88	-3,025.46	3,109.22	2,774.68	2,688.47	86.21	32.187			
14,600.00	12,620.00	14,262.95	12,375.00	68.05	56.11	-85.88	-3,125.45	3,110.20	2,774.57	2,686.75	87.81	31.596			
14,700.00	12,620.00	14,362.95	12,375.00	69.31	57.15	-85.88	-3,225.45	3,111.18	2,774.46	2,685.00	89.45	31.016			
14,800.00	12,620.00	14,462.95	12,375.00	70.59	58.21	-85.88	-3,325.44	3,112.16	2,774.35	2,683.22	91.12	30.446			
14,900.00	12,620.00	14,562.95	12,375.00	71.89	59.31	-85.88	-3,425.44	3,113.14	2,774.24	2,681.42	92.82	29.888			
15,000.00	12,620.00	14,662.95	12,375.00	73.20	60.43	-85.88	-3,525.43	3,114.12	2,774.13	2,679.58	94.55	29.342			
15,100.00	12,620.00	14,762.95	12,375.00	74.52	61.58	-85.88	-3,625.43	3,115.09	2,774.02	2,677.72	96.30	28.807			
15,200.00	12,620.00	14,862.95	12,375.00	75.85	62.74	-85.88	-3,725.42	3,116.07	2,773.91	2,675.84	98.07	28.285			
15,300.00	12,620.00	14,962.95	12,375.00	77.20	63.93	-85.88	-3,825.42	3,117.05	2,773.80	2,673.93	99.87	27.775			
15,400.00	12,620.00	15,062.95	12,375.00	78.56	65.14	-85.88	-3,925.41	3,118.03	2,773.69	2,672.00	101.69	27.277			
15,500.00	12,620.00	15,162.95	12,375.00	79.93	66.37	-85.88	-4,025.41	3,119.01	2,773.58	2,670.05	103.53	26.791			
15,600.00	12,620.00	15,262.95	12,375.00	81.31	67.61	-85.88	-4,125.40	3,119.99	2,773.47	2,668.08	105.39	26.317			
15,700.00	12,620.00	15,362.95	12,375.00	82.70	68.87	-85.88	-4,225.40	3,120.97	2,773.36	2,666.09	107.26	25.856			
15,800.00	12,620.00	15,462.95	12,375.00	84.10	70.15	-85.88	-4,325.39	3,121.94	2,773.25	2,664.09	109.16	25.406			
15,900.00	12,620.00	15,562.95	12,375.00	85.51	71.45	-85.88	-4,425.39	3,122.92	2,773.14	2,662.07	111.07	24.968			
16,000.00	12,620.00	15,662.95	12,375.00	86.93	72.76	-85.88	-4,525.38	3,123.90	2,773.03	2,660.03	113.00	24.541			
16,100.00	12,620.00	15,762.95	12,375.00	88.36	74.08	-85.88	-4,625.38	3,124.88	2,772.92	2,657.98	114.94	24.125			
16,200.00	12,620.00	15,862.95	12,375.00	89.79	75.41	-85.88	-4,725.37	3,125.86	2,772.81	2,655.91	116.90	23.720			
16,300.00	12,620.00	15,962.95	12,375.00	91.23	76.76	-85.88	-4,825.37	3,126.84	2,772.70	2,653.83	118.87	23.326			
16,400.00	12,620.00	16,062.95	12,375.00	92.68	78.12	-85.88	-4,925.36	3,127.82	2,772.59	2,651.74	120.85	22.943			
16,500.00	12,620.00	16,162.95	12,375.00	94.13	79.49	-85.88	-5,025.36	3,128.80	2,772.48	2,649.63	122.84	22.569			
16,600.00	12,620.00	16,262.95	12,375.00	95.59	80.87	-85.88	-5,125.35	3,129.77	2,772.37	2,647.51	124.85	22.205			
16,700.00	12,620.00	16,362.95	12,375.00	97.06	82.26	-85.88	-5,225.35	3,130.75	2,772.26	2,645.39	126.87	21.851			
16,800.00	12,620.00	16,462.95	12,375.00	98.53	83.66	-85.88	-5,325.34	3,131.73	2,772.15	2,643.25	128.90	21.507			
16,900.00	12,620.00	16,562.95	12,375.00	100.01	85.07	-85.87	-5,425.34	3,132.71	2,772.04	2,641.10	130.94	21.171			
17,000.00	12,620.00	16,662.95	12,375.00	101.50	86.49	-85.87	-5,525.34	3,133.69	2,771.93	2,638.94	132.98	20.844			
17,100.00	12,620.00	16,762.95	12,375.00	102.98	87.92	-85.87	-5,625.33	3,134.67	2,771.82	2,636.77	135.04	20.526			
17,200.00	12,620.00	16,862.95	12,375.00	104.48	89.35	-85.87	-5,725.33	3,135.65	2,771.70	2,634.60	137.11	20.216			
17,300.00	12,620.00	16,962.95	12,375.00	105.98	90.79	-85.87	-5,825.32	3,136.63	2,771.59	2,632.41	139.18	19.914			
17,400.00	12,620.00	17,062.95	12,375.00	107.48	92.24	-85.87	-5,925.32	3,137.60	2,771.48	2,630.22	141.26	19.619			
17,500.00	12,620.00	17,162.95	12,375.00	108.99	93.69	-85.87	-6,025.31	3,138.58	2,771.37	2,628.02	143.35	19.333			
17,600.00	12,620.00	17,262.95	12,375.00	110.50	95.16	-85.87	-6,125.31	3,139.56	2,771.26	2,625.81	145.45	19.053			
17,700.00	12,620.00	17,362.95	12,375.00	112.01	96.62	-85.87	-6,225.30	3,140.54	2,771.15	2,623.60	147.55	18.781			
17,800.00	12,620.00	17,462.95	12,375.00	113.53	98.10	-85.87	-6,325.30	3,141.52	2,771.04	2,621.38	149.67	18.515			
17,900.00	12,620.00	17,562.95	12,375.00	115.06	99.58	-85.87	-6,425.29	3,142.50	2,770.93	2,619.15	151.78	18.256			
18,000.00	12,620.00	17,662.95	12,375.00	116.58	101.06	-85.87	-6,525.29	3,143.48	2,770.82	2,616.92	153.91	18.003			
18,100.00	12,620.00	17,762.95	12,375.00	118.11	102.55	-85.87	-6,625.28	3,144.45	2,770.71	2,614.68	156.04	17.757			
18,200.00	12,620.00	17,862.95	12,375.00	119.65	104.04	-85.87	-6,725.28	3,145.43	2,770.60	2,612.43	158.17	17.516			
18,300.00	12,620.00	17,962.95	12,375.00	121.18	105.54	-85.87	-6,825.27	3,146.41	2,770.49	2,610.18	160.31	17.282			
18,400.00	12,620.00	18,062.95	12,375.00	122.72	107.05	-85.87	-6,925.27	3,147.39	2,770.38	2,607.93	162.46	17.053			
18,500.00	12,620.00	18,162.95	12,375.00	124.26	108.55	-85.87	-7,025.26	3,148.37	2,770.27	2,605.67	164.61	16.829			
18,600.00	12,620.00	18,262.95	12,375.00	125.81	110.07	-85.87	-7,125.26	3,149.35	2,770.16	2,603.40	166.76	16.611			
18,700.00	12,620.00	18,362.95	12,375.00	127.35	111.58	-85.87	-7,225.25	3,150.33	2,770.05	2,601.13	168.93	16.398			
18,800.00	12,620.00	18,462.95	12,375.00	128.90	113.10	-85.87	-7,325.25	3,151.31	2,769.94	2,598.85	171.09	16.190			
18,900.00	12,620.00	18,562.95	12,375.00	130.46	114.62	-85.87	-7,425.24	3,152.28	2,769.83	2,596.58	173.26	15.987			

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



Total Directional Services Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference				Offset		Semi Major Axis			Distance				Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,000.00	12,620.00	18,662.95	12,375.00	132.01	116.15	-85.87	-7,525.24	3,153.26	2,769.72	2,594.29	175.43	15.788		
19,100.00	12,620.00	18,762.95	12,375.00	133.57	117.68	-85.87	-7,625.23	3,154.24	2,769.61	2,592.00	177.61	15.594		
19,200.00	12,620.00	18,862.95	12,375.00	135.13	119.21	-85.87	-7,725.23	3,155.22	2,769.50	2,589.71	179.79	15.404		
19,300.00	12,620.00	18,962.95	12,375.00	136.69	120.75	-85.87	-7,825.22	3,156.20	2,769.39	2,587.42	181.98	15.218		
19,400.00	12,620.00	19,062.95	12,375.00	138.25	122.29	-85.87	-7,925.22	3,157.18	2,769.28	2,585.12	184.16	15.037		
19,500.00	12,620.00	19,162.95	12,375.00	139.82	123.83	-85.87	-8,025.21	3,158.16	2,769.17	2,582.82	186.36	14.860		
19,600.00	12,620.00	19,262.95	12,375.00	141.39	125.38	-85.87	-8,125.21	3,159.14	2,769.06	2,580.51	188.55	14.686		
19,700.00	12,620.00	19,362.95	12,375.00	142.96	126.93	-85.87	-8,225.20	3,160.11	2,768.95	2,578.20	190.75	14.516		
19,800.00	12,620.00	19,462.95	12,375.00	144.53	128.48	-85.87	-8,325.20	3,161.09	2,768.84	2,575.89	192.95	14.350		
19,900.00	12,620.00	19,562.95	12,375.00	146.10	130.03	-85.87	-8,425.19	3,162.07	2,768.73	2,573.58	195.16	14.187		
20,000.00	12,620.00	19,662.95	12,375.00	147.68	131.58	-85.87	-8,525.19	3,163.05	2,768.62	2,571.26	197.36	14.028		
20,100.00	12,620.00	19,762.95	12,375.00	149.25	133.14	-85.87	-8,625.18	3,164.03	2,768.51	2,568.94	199.57	13.872		
20,200.00	12,620.00	19,862.95	12,375.00	150.83	134.70	-85.87	-8,725.18	3,165.01	2,768.40	2,566.62	201.79	13.719		
20,300.00	12,620.00	19,962.95	12,375.00	152.41	136.26	-85.87	-8,825.18	3,165.99	2,768.29	2,564.29	204.00	13.570		
20,400.00	12,620.00	20,062.95	12,375.00	153.99	137.83	-85.87	-8,925.17	3,166.96	2,768.18	2,561.96	206.22	13.423		
20,500.00	12,620.00	20,162.95	12,375.00	155.58	139.39	-85.87	-9,025.17	3,167.94	2,768.07	2,559.63	208.44	13.280		
20,600.00	12,620.00	20,262.95	12,375.00	157.16	140.96	-85.87	-9,125.16	3,168.92	2,767.96	2,557.30	210.66	13.139		
20,700.00	12,620.00	20,362.95	12,375.00	158.75	142.53	-85.87	-9,225.16	3,169.90	2,767.85	2,554.96	212.89	13.001		
20,800.00	12,620.00	20,462.95	12,375.00	160.33	144.10	-85.87	-9,325.15	3,170.88	2,767.74	2,552.63	215.12	12.866		
20,900.00	12,620.00	20,562.95	12,375.00	161.92	145.68	-85.87	-9,425.15	3,171.86	2,767.63	2,550.29	217.35	12.734		
21,000.00	12,620.00	20,662.95	12,375.00	163.51	147.25	-85.87	-9,525.14	3,172.84	2,767.52	2,547.95	219.58	12.604		
21,100.00	12,620.00	20,762.95	12,375.00	165.10	148.83	-85.87	-9,625.14	3,173.82	2,767.41	2,545.60	221.81	12.476		
21,200.00	12,620.00	20,862.95	12,375.00	166.69	150.41	-85.87	-9,725.13	3,174.79	2,767.30	2,543.26	224.05	12.351		
21,300.00	12,620.00	20,962.95	12,375.00	168.29	151.99	-85.87	-9,825.13	3,175.77	2,767.19	2,540.91	226.28	12.229		
21,400.00	12,620.00	21,062.95	12,375.00	169.88	153.57	-85.87	-9,925.12	3,176.75	2,767.08	2,538.56	228.52	12.108		
21,500.00	12,620.00	21,162.95	12,375.00	171.48	155.15	-85.87	-10,025.12	3,177.73	2,766.97	2,536.21	230.77	11.990		
21,600.00	12,620.00	21,262.95	12,375.00	173.07	156.74	-85.87	-10,125.11	3,178.71	2,766.86	2,533.86	233.01	11.875		
21,700.00	12,620.00	21,362.95	12,375.00	174.67	158.32	-85.87	-10,225.11	3,179.69	2,766.75	2,531.50	235.25	11.761		
21,800.00	12,620.00	21,462.95	12,375.00	176.27	159.91	-85.87	-10,325.10	3,180.67	2,766.64	2,529.15	237.50	11.649		
21,900.00	12,620.00	21,562.95	12,375.00	177.87	161.50	-85.87	-10,425.10	3,181.65	2,766.53	2,526.79	239.75	11.539		
22,000.00	12,620.00	21,662.95	12,375.00	179.47	163.09	-85.87	-10,525.09	3,182.62	2,766.42	2,524.43	242.00	11.432		
22,100.00	12,620.00	21,762.95	12,375.00	181.07	164.68	-85.87	-10,625.09	3,183.60	2,766.31	2,522.07	244.25	11.326		
22,200.00	12,620.00	21,862.95	12,375.00	182.67	166.27	-85.87	-10,725.08	3,184.58	2,766.20	2,519.70	246.50	11.222		
22,300.00	12,620.00	21,962.95	12,375.00	184.27	167.86	-85.87	-10,825.08	3,185.56	2,766.09	2,517.34	248.75	11.120		
22,400.00	12,620.00	22,062.95	12,375.00	185.88	169.46	-85.87	-10,925.07	3,186.54	2,765.98	2,514.98	251.01	11.019		
22,500.00	12,620.00	22,162.95	12,375.00	187.48	171.05	-85.87	-11,025.07	3,187.52	2,765.87	2,512.61	253.27	10.921		
22,600.00	12,620.00	22,262.95	12,375.00	189.09	172.65	-85.87	-11,125.06	3,188.50	2,765.76	2,510.24	255.52	10.824		
22,700.00	12,620.00	22,362.95	12,375.00	190.69	174.25	-85.87	-11,225.06	3,189.47	2,765.65	2,507.87	257.78	10.729		
22,800.00	12,620.00	22,462.95	12,375.00	192.30	175.85	-85.87	-11,325.05	3,190.45	2,765.54	2,505.50	260.04	10.635		
22,856.94	12,620.00	22,519.89	12,375.00	193.22	176.73	-85.87	-11,381.99	3,191.01	2,765.48	2,504.17	261.31	10.583	CC, ES, SF	

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



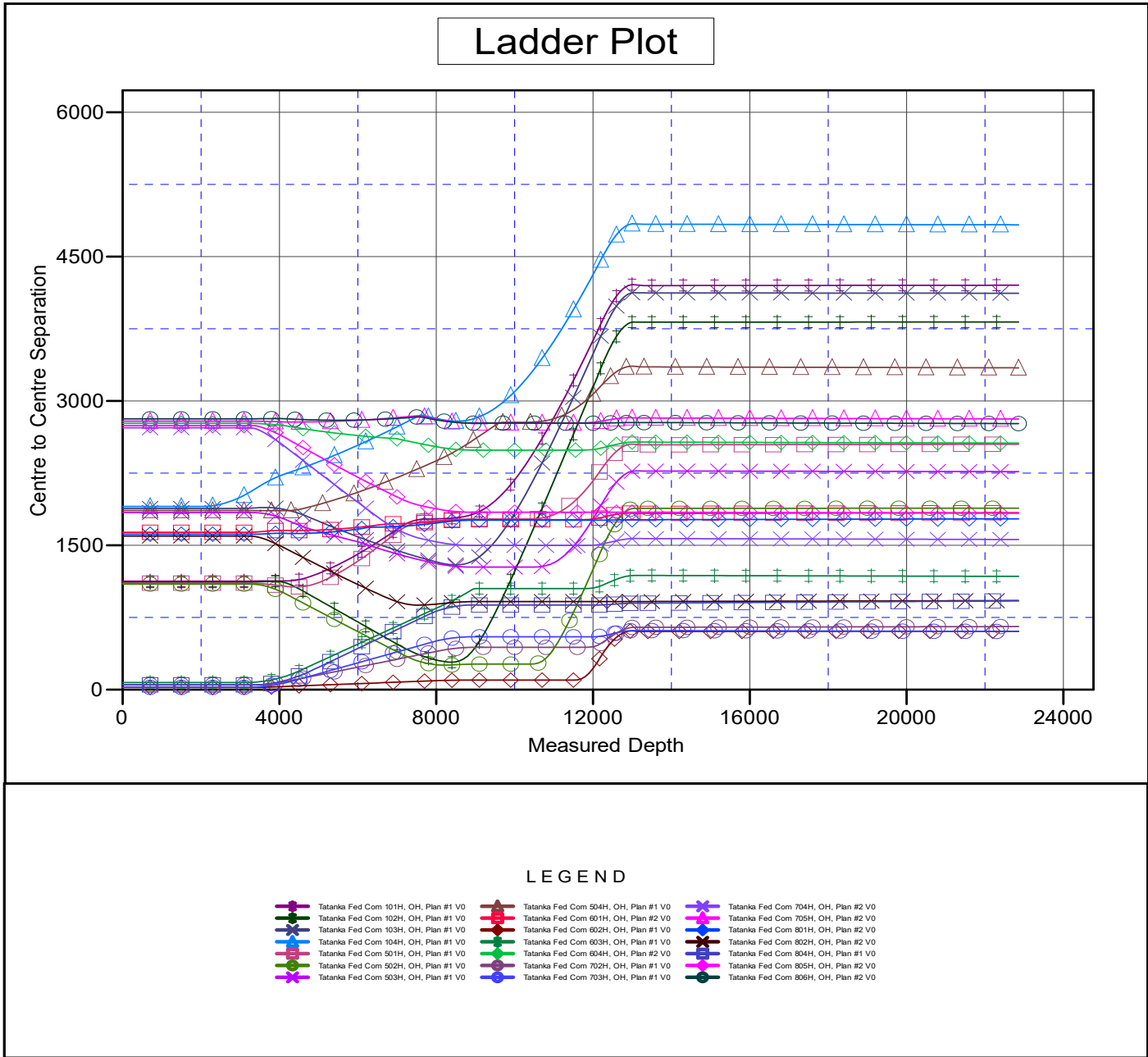
Total Directional Services Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 803H
Project:	Lea County, NM (NAD83)	TVD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Reference Site:	Tatanka Fed Com	MD Reference:	3135.8' GE + 30' KB @ 3165.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 803H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors 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 3135.8' GE + 30' KB @ 3165.80usft
 Offset Depths are relative to Offset Datum
 Central Meridian is -104.333334

Coordinates are relative to: Tatanka Fed Com 803H
 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



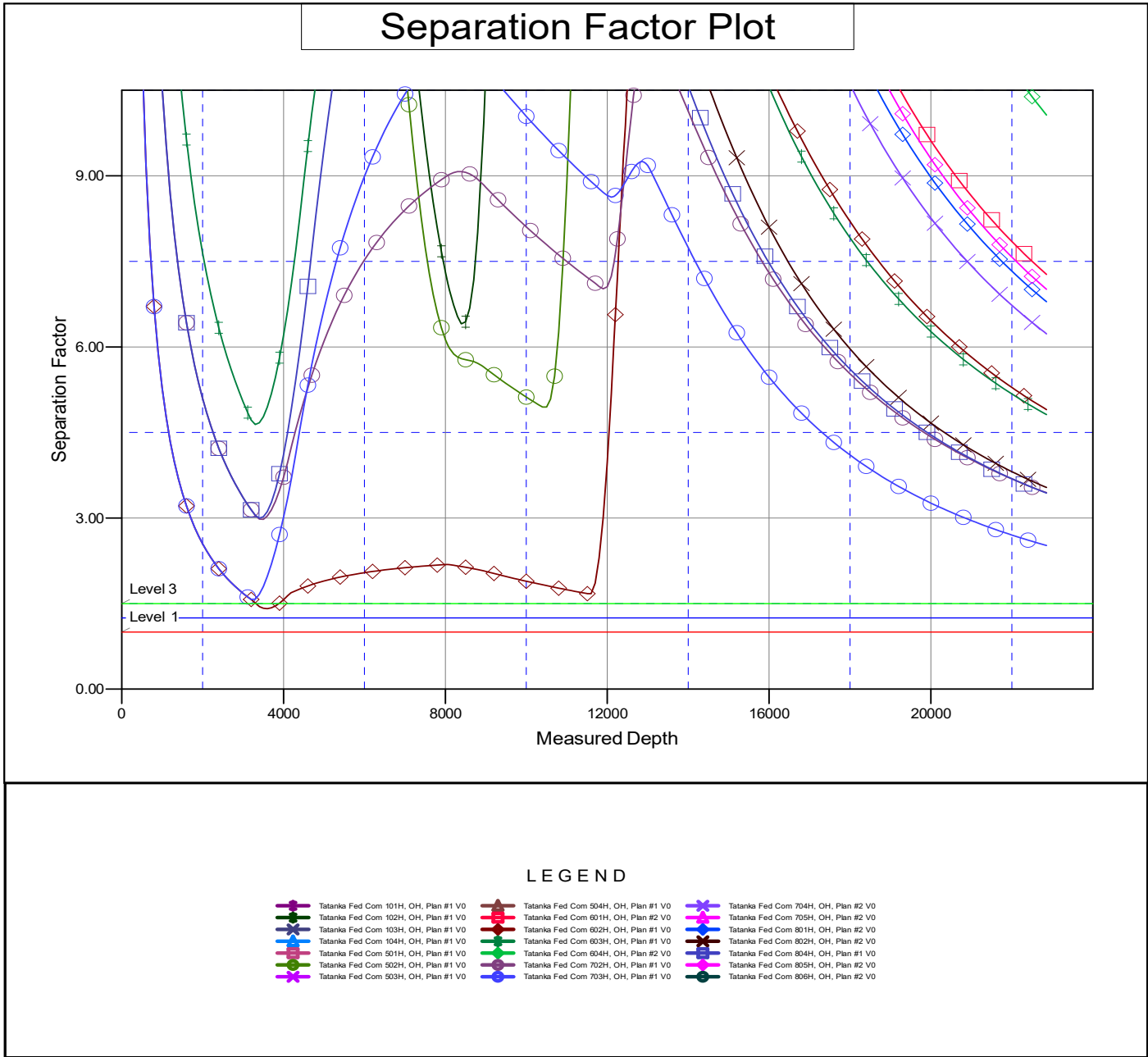
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**PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL**

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 | |

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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.

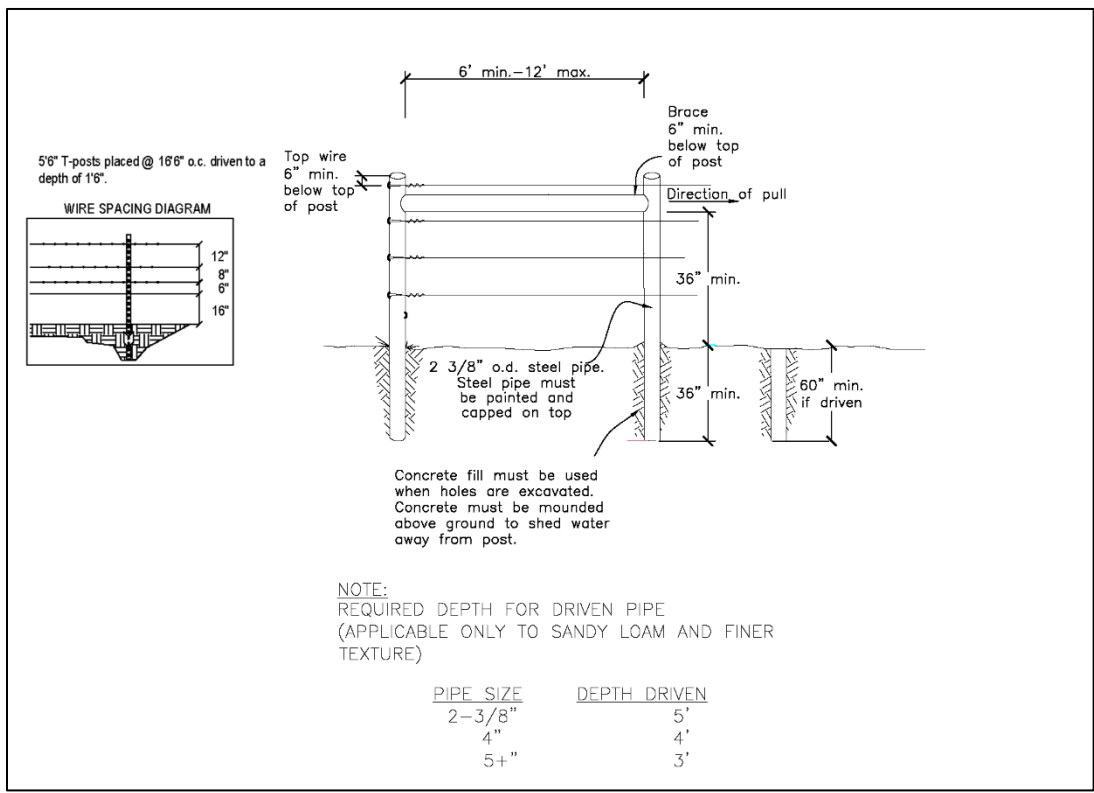
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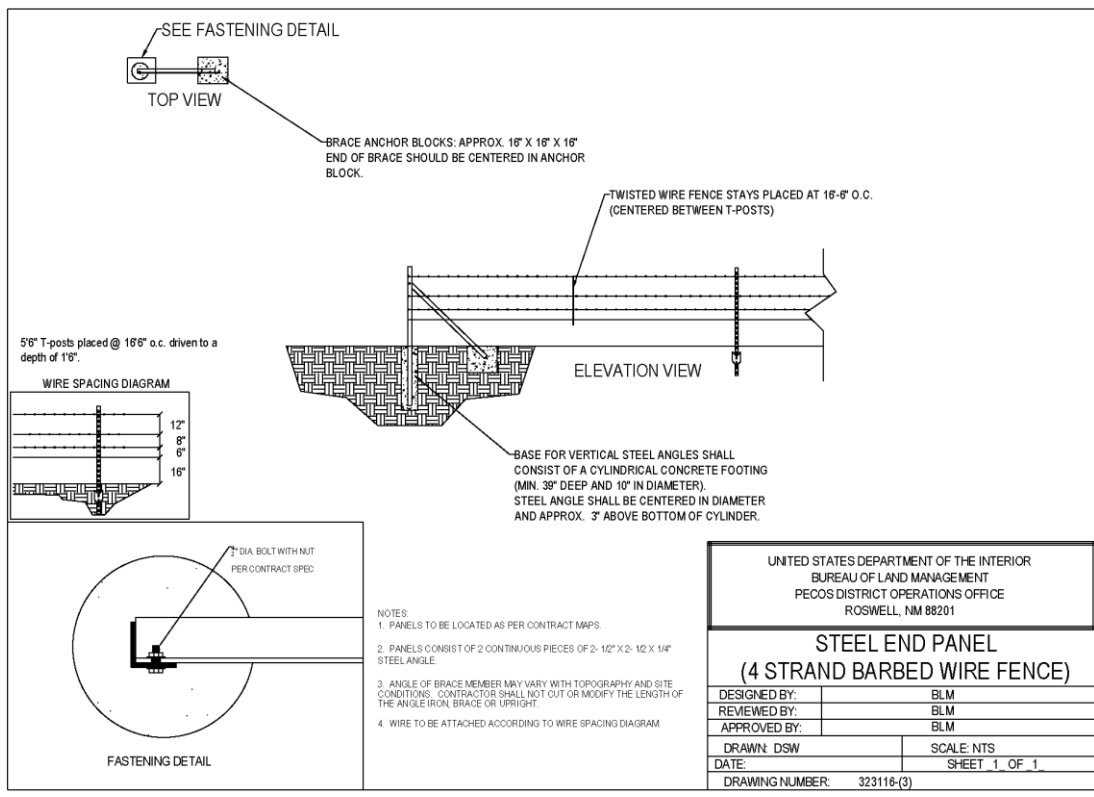
Cattleguards

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.

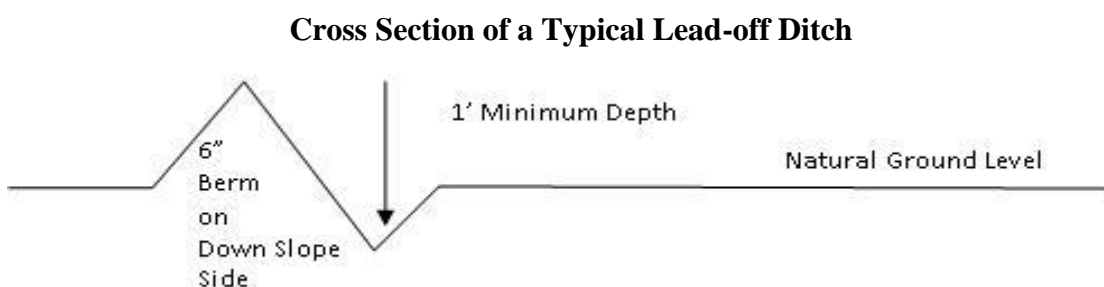
Turnouts

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 outsliping and insliping, lead-off ditches, culvert installation, and low water crossings).

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



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

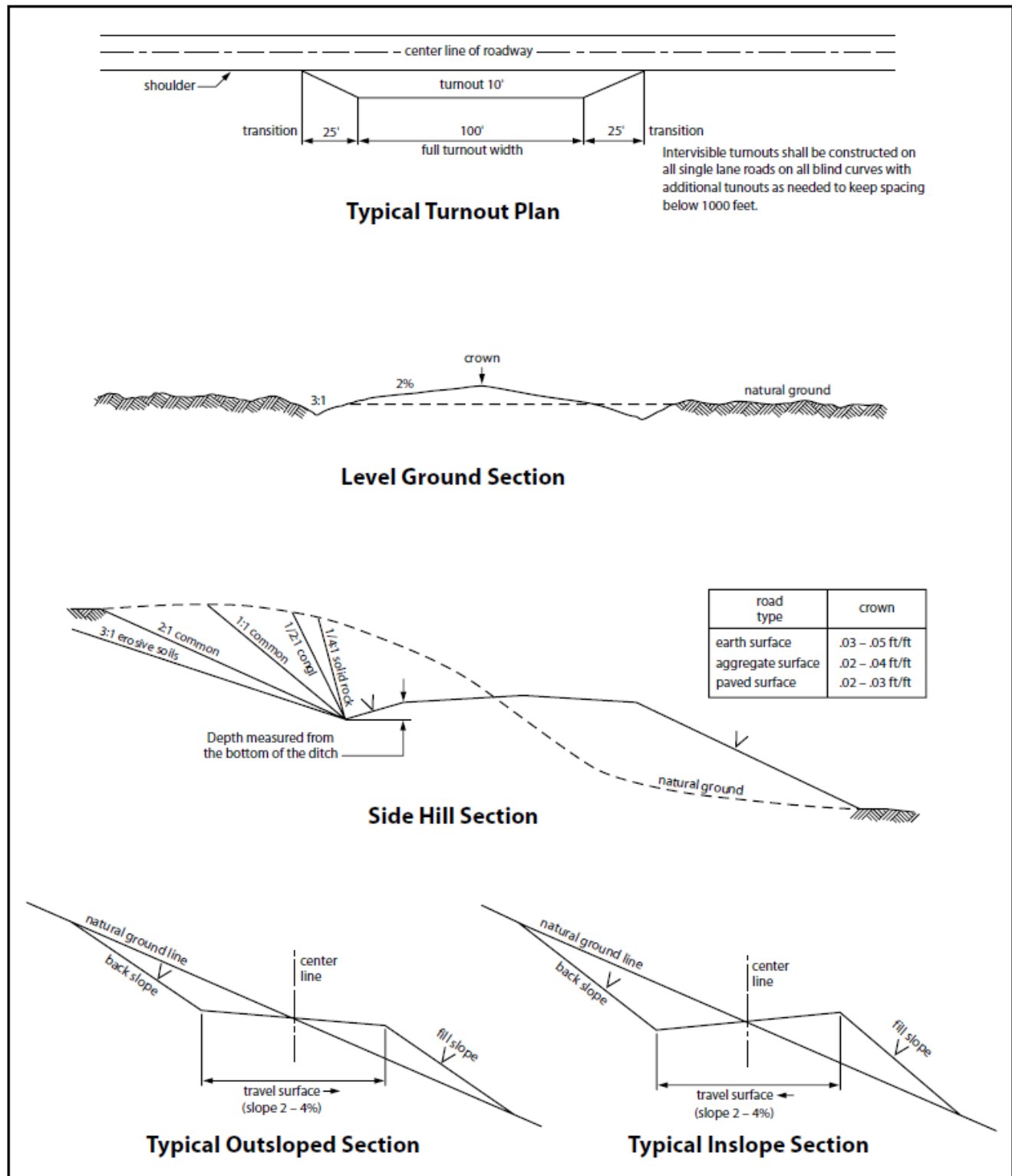


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

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 values 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 (Sporobolus cryptandrus)	1.0
Sand love grass (Eragrostis trichodes)	1.0
Plains bristlegrass (Setaria macrostachya)	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	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Potash	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Secretary	<input type="checkbox"/> R-111-P
Cave/Karst Potential	<input checked="" type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High
Cave/Karst Potential	<input type="checkbox"/> Critical		
Variance	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Flex Hose	<input type="checkbox"/> Other
Wellhead	<input type="checkbox"/> Conventional	<input type="checkbox"/> Multibowl	<input checked="" type="checkbox"/> Both
Other	<input checked="" type="checkbox"/> 4 String Area	<input type="checkbox"/> Capitan Reef	<input type="checkbox"/> WIPP
Other	<input checked="" type="checkbox"/> Fluid Filled	<input type="checkbox"/> Cement Squeeze	<input type="checkbox"/> Pilot Hole
Special Requirements	<input type="checkbox"/> Water Disposal	<input checked="" type="checkbox"/> COM	<input type="checkbox"/> 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 88324

CONDITIONS

Operator: Franklin Mountain Energy LLC 44 Cook Street Denver, CO 80206	OGRID: 373910
	Action Number: 88324
	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	3/17/2022
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	3/17/2022
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	3/17/2022
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing	3/17/2022