

Form 3160-3
(June 2015)FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☐ DRILL ☐ REENTER 1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other 1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone		5. Lease Serial No. 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. 8. Lease Name and Well No. [326125]
2. Name of Operator [373910]		9. API Well No. 30-025-49884
3a. Address	3b. Phone No. (include area code)	10. Field and Pool, or Exploratory [98117] XXXXXXXXXX
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		11. Sec., T. R. M. or Blk. and Survey or Area
14. Distance in miles and direction from nearest town or post office*		12. County or Parish 13. State
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
24. Attachments		

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

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

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

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

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

NGMP Rec 03/08/2022

SL

(Continued on page 2)



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

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

Additional Operator Remarks

Location of Well

0. SHL: TR N / 998 FSL / 1882 FWL / TWSP: 25S / RANGE: 35E / SECTION: 35 / LAT: 32.082309 / LONG: -103.340792 (TVD: 0 feet, MD: 0 feet)
PPP: NWNE / 0 FNL / 2250 FEL / TWSP: 26S / RANGE: 35E / SECTION: 11 / LAT: 32.065053 / LONG: -103.337039 (TVD: 12446 feet, MD: 17700 feet)
PPP: SWSE / 2652 FNL / 2270 FEL / TWSP: 26S / RANGE: 35E / SECTION: 2 / LAT: 32.072279 / LONG: -103.337075 (TVD: 12446 feet, MD: 15000 feet)
PPP: NWNE / 623 FNL / 2269 FEL / TWSP: 26S / RANGE: 35E / SECTION: 2 / LAT: 32.077855 / LONG: -103.337102 (TVD: 12446 feet, MD: 13024 feet)
BHL: SWSE / 150 FSL / 2232 FEL / TWSP: 26S / RANGE: 35E / SECTION: 11 / LAT: 32.050939 / LONG: -103.336969 (TVD: 12446 feet, MD: 22817 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 30-025-49884	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 804H
⁷ OGRID No. 373910	⁸ Operator Name FRANKLIN MOUNTAIN ENERGY LLC	⁹ Elevation 3136.0'

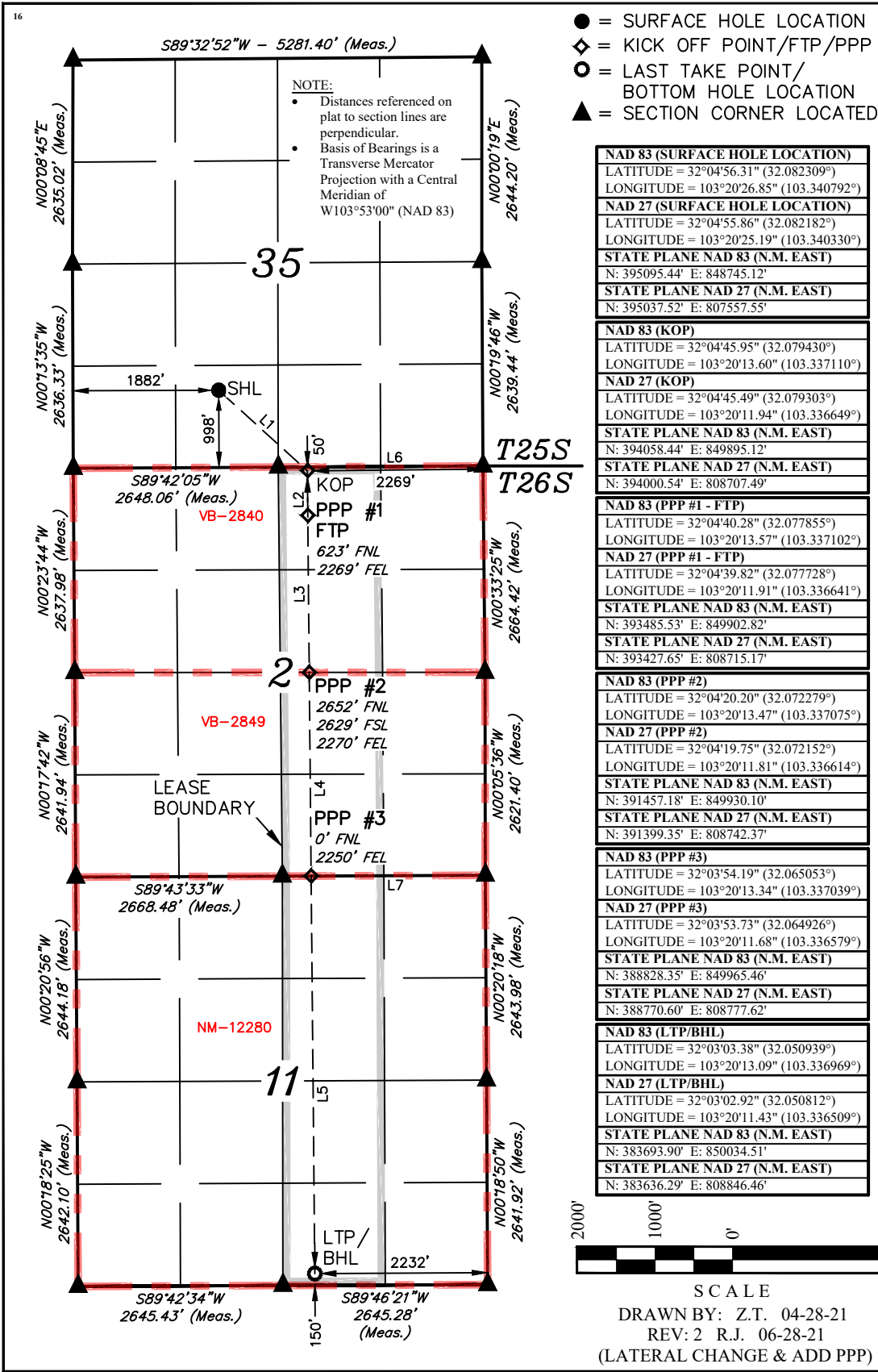
¹⁰ Surface Location

UL or lot no. N	Section 35	Township 25S	Range 35E	Lot Idn	Feet from the 998	North/South line SOUTH	Feet from the 1882	East/West line WEST	County LEA
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¹¹ Bottom Hole Location If Different From Surface

UL or lot no. O	Section 11	Township 26S	Range 35E	Lot Idn	Feet from the 150	North/South line SOUTH	Feet from the 2232	East/West line EAST	County LEA
¹² Dedicated Acres 320	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.						

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



- = 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°20'26.85" (103.340792°)
NAD 27 (SURFACE HOLE LOCATION)
LATITUDE = 32°04'55.86" (32.082182°)
LONGITUDE = 103°20'25.19" (103.340330°)
STATE PLANE NAD 83 (N.M. EAST)
N: 395095.44' E: 848745.12'
STATE PLANE NAD 27 (N.M. EAST)
N: 395037.52' E: 807557.55'
NAD 83 (KOP)
LATITUDE = 32°04'45.95" (32.079430°)
LONGITUDE = 103°20'13.60" (103.337110°)
NAD 27 (KOP)
LATITUDE = 32°04'45.49" (32.079303°)
LONGITUDE = 103°20'11.94" (103.336649°)
STATE PLANE NAD 83 (N.M. EAST)
N: 394058.44' E: 849895.12'
STATE PLANE NAD 27 (N.M. EAST)
N: 394000.54' E: 808707.49'
NAD 83 (PPP #1 - FTP)
LATITUDE = 32°04'40.28" (32.077855°)
LONGITUDE = 103°20'13.57" (103.337102°)
NAD 27 (PPP #1 - FTP)
LATITUDE = 32°04'39.82" (32.077728°)
LONGITUDE = 103°20'11.91" (103.336641°)
STATE PLANE NAD 83 (N.M. EAST)
N: 393485.53' E: 849902.82'
STATE PLANE NAD 27 (N.M. EAST)
N: 393427.65' E: 808715.17'
NAD 83 (PPP #2)
LATITUDE = 32°04'20.20" (32.072279°)
LONGITUDE = 103°20'13.47" (103.337075°)
NAD 27 (PPP #2)
LATITUDE = 32°04'19.75" (32.072152°)
LONGITUDE = 103°20'11.81" (103.336614°)
STATE PLANE NAD 83 (N.M. EAST)
N: 391457.18' E: 849930.10'
STATE PLANE NAD 27 (N.M. EAST)
N: 391399.35' E: 808742.37'
NAD 83 (PPP #3)
LATITUDE = 32°03'54.19" (32.065053°)
LONGITUDE = 103°20'13.34" (103.337039°)
NAD 27 (PPP #3)
LATITUDE = 32°03'53.73" (32.064926°)
LONGITUDE = 103°20'11.68" (103.336579°)
STATE PLANE NAD 83 (N.M. EAST)
N: 388828.35' E: 849965.46'
STATE PLANE NAD 27 (N.M. EAST)
N: 388770.60' E: 808777.62'
NAD 83 (LTP/BHL)
LATITUDE = 32°03'03.38" (32.050939°)
LONGITUDE = 103°20'13.09" (103.336969°)
NAD 27 (LTP/BHL)
LATITUDE = 32°03'02.92" (32.050812°)
LONGITUDE = 103°20'11.43" (103.336509°)
STATE PLANE NAD 83 (N.M. EAST)
N: 383693.90' E: 850034.51'
STATE PLANE NAD 27 (N.M. EAST)
N: 383636.29' E: 808846.46'

¹⁷ OPERATOR CERTIFICATION

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

Shelly Albrecht 7/7/2021

Signature Date

Shelly Albrecht

Printed Name

salbrecht@fmellc.com

E-mail Address

LINE TABLE		
LINE	DIRECTION	LENGTH
L1	S47°43'07"E	1548.73'
L2	S00°31'52"E	573.05'
L3	S00°31'54"E	2028.83'
L4	S00°31'54"E	2629.45'
L5	S00°31'54"E	5135.67'
L6	S89°39'43"W	2644.48'
L7	S89°45'53"W	2622.39'

¹⁸ SURVEYOR CERTIFICATION

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

JUNE 03, 2021

Date of Survey

Signature and Seal of Professional Surveyor:

Paul Buchele

23782

06-28-21

PROFESSIONAL SURVEYOR

Certificate Number:

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

Submit Electronically
Via E-permitting

NATURAL GAS MANAGEMENT PLAN

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

Section 1 – Plan Description

Effective May 25, 2021

I. Operator: Franklin Mountain Energy, LLC **OGRID:** 373910 **Date:** 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

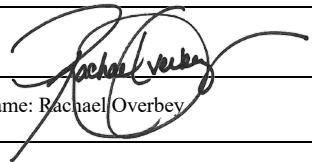
1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(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	N-35-25S-35E	998 FSL 1832 FWL	800 +/-	700 +/-	600 +/-
Tatanka Fed Com 804H	TBD 30-025-49884	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	6/15/2022	12/15/2022	1/30/2023	3/10/2023	3/13/2023
Tatanka Fed Com 804H	TBD 30-025-49884	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 804H

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

Formations	PROG SS	PROG TVD	Picked TVD	delta	Potential/Issues
Cenozoic Alluvium (surface)	3,130'	30'	30'	0	Sand/Gravels/unconsolidated
Rustler	2,369'	791'			Carbonates
Salado	1,887'	1,273'			Salt, Carbonate & Clastics
Base Salt	-381'	3,541'			Shaley Carbonate & Shale
Lamar	-1,946'	5,106'			Carbonate & Clastics
Bell Canyon	-2,027'	5,187'			Sandstone - oil/gas/water
Cherry Canyon	-2,895'	6,055'			Sandstone - oil/gas/water
Brushy Canyon	-4,331'	7,491'			Sand/carb/shales - oil/gas/water
Bone Spring Lime	-5,646'	8,806'			Shale/Carbonates - oil/gas
Avalon	-5,685'	8,845'			Shale/Carbonates - oil/gas
Chert Zone	-5,865'	9,025'			Carbonate/Chert
First Bone Spring Sand	-6,921'	10,081'			Sandstone - oil/gas/water
Second Bone Spring Carbonates	-7,091'	10,251'			Shale/Carbonates - oil/gas
Second Bone Spring Sand	-7,442'	10,602'			Sandstone - oil/gas/water
Third Bone Spring Carbonates	-8,023'	11,183'			Shale/Carbonates - oil/gas
Third Bone Spring Sand	-8,724'	11,884'			Sandstone - oil/gas/water
Wolfcamp	-9,007'	12,167'			Overpressure shale/sand- Oil/Gas
Wolfcamp A	-9,071'	12,231'			Overpressure Shale - Oil/Gas
Wolfcamp B	-9,287'	12,447'			Overpressure Shale - Oil/Gas
HZ Target	-9,286'	12,446'			Overpressure Shale - Oil/Gas
Wolfcamp C	-9,543'	12,703'			Overpressure Shale - Oil/Gas

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

Upper Permian Sands	0- 400'	Fresh Water
Delaware Sands	5,187'	Oil
Bone Spring	10,081'	Oil
Wolfcamp	12,167'	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	11950	1.11	1.28	1.82	1.24
Long string 5 1/2"	23	P-110	14520	14520	729	Eagle 606 TVD	22817 12446	1.32	1.36	1.17	0.97 1.57



7 5/8" casing will be set at 11,950' MD/11,698' TVD at 0° Inc. Stress calculations on 5 1/2" casing performed assuming 22,817' depth. Actual max vertical depth is 12,446'.

Cementing Program:

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

String Type	Hole Size	Casing Size	Setting Depth	Sacks	Type of cmt	Lead Yield ft3/sk	Water gal/sk	TOC ft	Sacks	Type of cmt	Tail Yield ft3/sk	Water gal/sk	TOC	Excess
Surf	17.5	13.375	1300	795	Extenda Cem, 12.8 ppg Class C, 3lb/sk Kol-Seal	1.747	9.06	0	334	Tail, 14.8 ppg, Class C,	1.349	6.51	1000	100%
Int1	12.25	9.625	5200	1523	0.125pps Poly-E-Flake Lead, 12.8 ppg, Class C 5% Salt,	1.79	9.74	0	154	1% CaCl ₂ , 0.125pps Celo-Flake Tail, 14.8 ppg, Class C,	1.33	6.37	4900	100%
Int2	8.75	7.625	11950	363	0.125 pps Poly-E-Flake, 3lb/sk Kol-Seal Lite Fill, 9.5 ppg, Class C 3lb/sk	2.13	5.97	4200	94	NeoCem 14.8 ppg, Class C	1.33	6.29	10950	50%
Prod	6.75	5.5	22817	885	Bridgemaker Gel, 5% Salt, 5pps LCM, 0.25pps Cello-Flake Tail, 14.5 ppg, Gas Migration Control	1.34	6.22	10950		0.25 pps Cello-Flake, 2% CaCl ₂				20%

5. Minimum Specifications for Pressure Control:

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

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

Before drilling out of the second intermediate casing, the ram-type BOP and accessory equipment will be tested to 10,000/250 psig and the annular preventer to 5,000/250 psig. The second intermediate casing will be tested to 2000 psi for 30 minutes prior to drillout.

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

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



6. Types and characteristics of the proposed mud system:

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

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 – 1,300'	Fresh - Gel	8.6-8.8	28-34	N/c
1,300' – 11,950'	Brine	8.8-10.2	28-34	N/c
11,950' – 22,817' Lateral	Oil Base	11.0-12.5	58-68	3 - 6

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

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

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

7. Auxiliary well control and monitoring equipment:

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

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

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

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

8. Logging, testing and coring program:

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

Open-hole logs are not planned for this well.

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

The estimated bottom-hole temperature at 12,446' TVD (deepest point of the well) is 195F with an estimated maximum bottom-hole pressure (BHP) at the same point of 8,529 psig (based on 13 ppg MW). Hydrogen sulfate may be present in the area. All necessary precautions will be taken before drilling operations commence. See Hydrogen Sulfide Plan below:

10. Hydrogen Sulfide Plan:

A. All personnel shall receive proper awareness H₂S training.

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

C. Required Emergency Equipment

a. Well Control Equipment

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

ii. Choke manifold with a remotely operated hydraulic choke.

iii. Mud/gas separator

b. Protective equipment for essential personnel

i. Breathing Apparatus

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

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



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

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

11. Anticipated starting date and duration of operations:

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

**12. Disposal/environmental concerns:**

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

13. Wellhead:

A multi-bowl wellhead system will be utilized.

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

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

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

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

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

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

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

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

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

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

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

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Franklin Mountain Energy

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

3136' GE + 30' KB @ 3166.00usft



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

Magnetic Field
Strength: 47432.2nT
Dip Angle: 59.80°
Date: 6/25/2021
Model: IGRF2020

PROJECT DETAILS: Lea County, NM (NAD83)

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



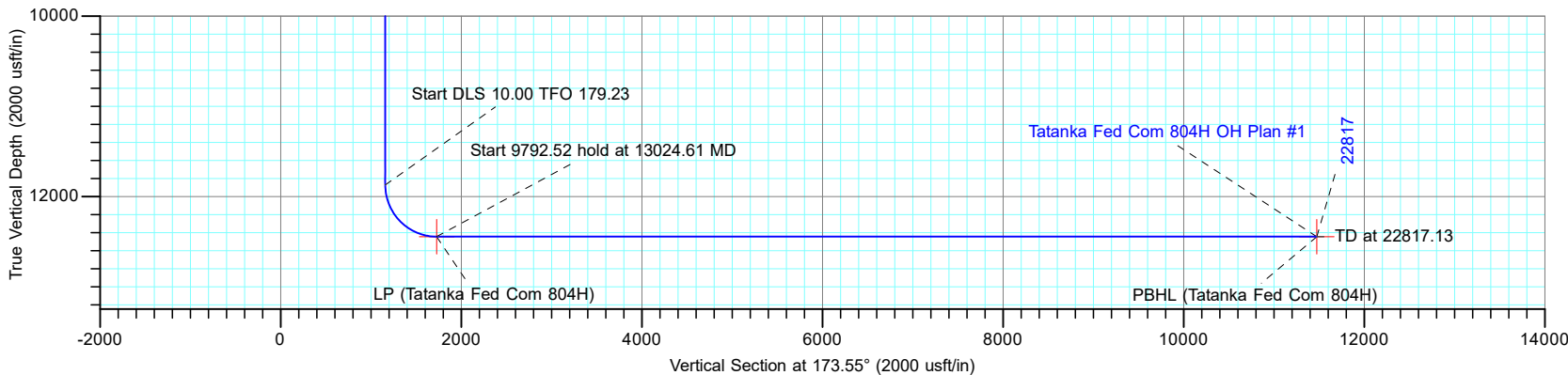
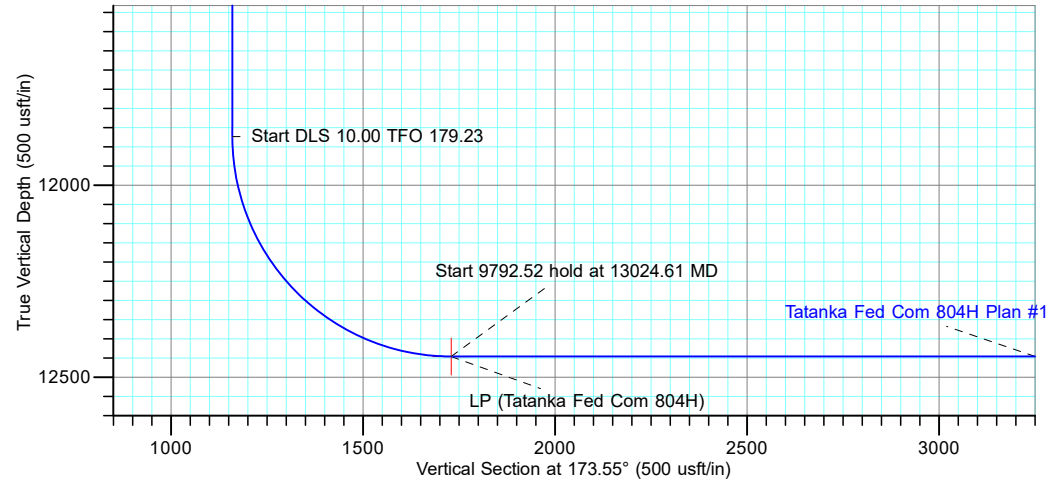
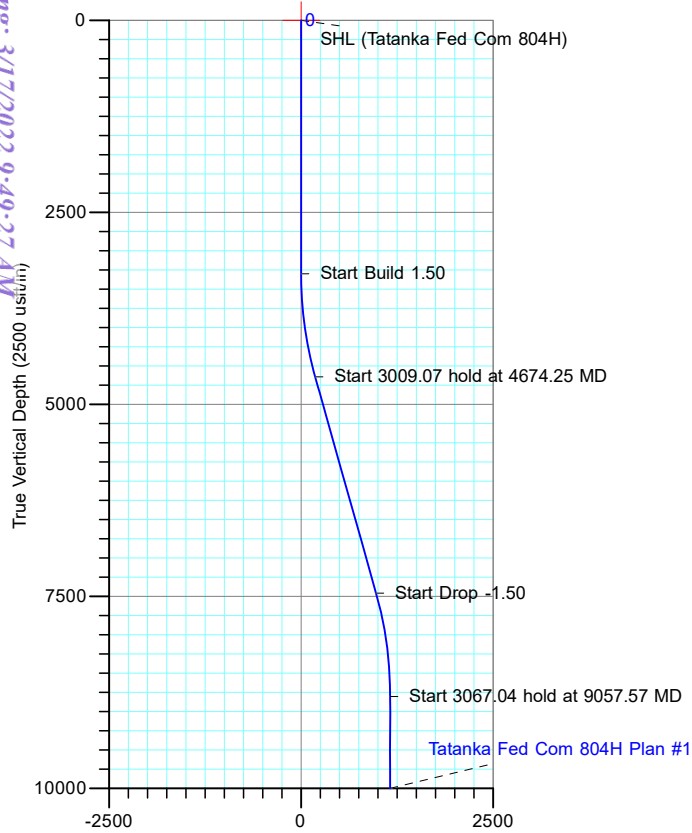
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SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3300.00	0.00	0.00	3300.00	0.00	0.00	0.00	0.00	0.00	Start Build 1.50
4674.25	20.61	132.04	4644.79	-163.77	181.62	1.50	132.04	183.15	Start 3009.07 hold at 4674.25 MD
7683.32	20.61	132.04	7461.21	-873.23	968.38	0.00	0.00	976.51	Start Drop -1.50
9057.57	0.00	0.00	8806.00	-1037.00	1150.00	1.50	180.00	1159.66	Start 3067.04 hold at 9057.57 MD
12124.61	0.00	0.00	11873.04	-1037.00	1150.00	0.00	0.00	1159.66	Start DLS 10.00 TFO 179.23
13024.61	90.00	179.23	12446.00	-1609.91	1157.70	10.00	179.23	1729.80	Start 9792.52 hold at 13024.61 MD
22817.13	90.00	179.23	12446.00	-11401.54	1289.39	0.00	0.00	11474.22	TD at 22817.13

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
LP (Tatanka Fed Com 804H)	12446.00	-1609.91	1157.70	32.077855	-103.337102
PBHL (Tatanka Fed Com 804H)	12446.00	-11401.54	1289.39	32.050939	-103.336969
SHL (Tatanka Fed Com 804H)	0.00	0.00	0.00	32.082309	-103.340792



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

Plan: Plan #1 (Tatanka Fed Com 804H/OH)
Tatanka Fed Com
Created By: Dustin Ault Date: 12/28, 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 804H
Wellbore: OH
Design: Plan #1



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

Magnetic Field
Strength: 47432.2nT
Dip Angle: 59.80°
Date: 6/25/2021
Model: IGRF2020

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

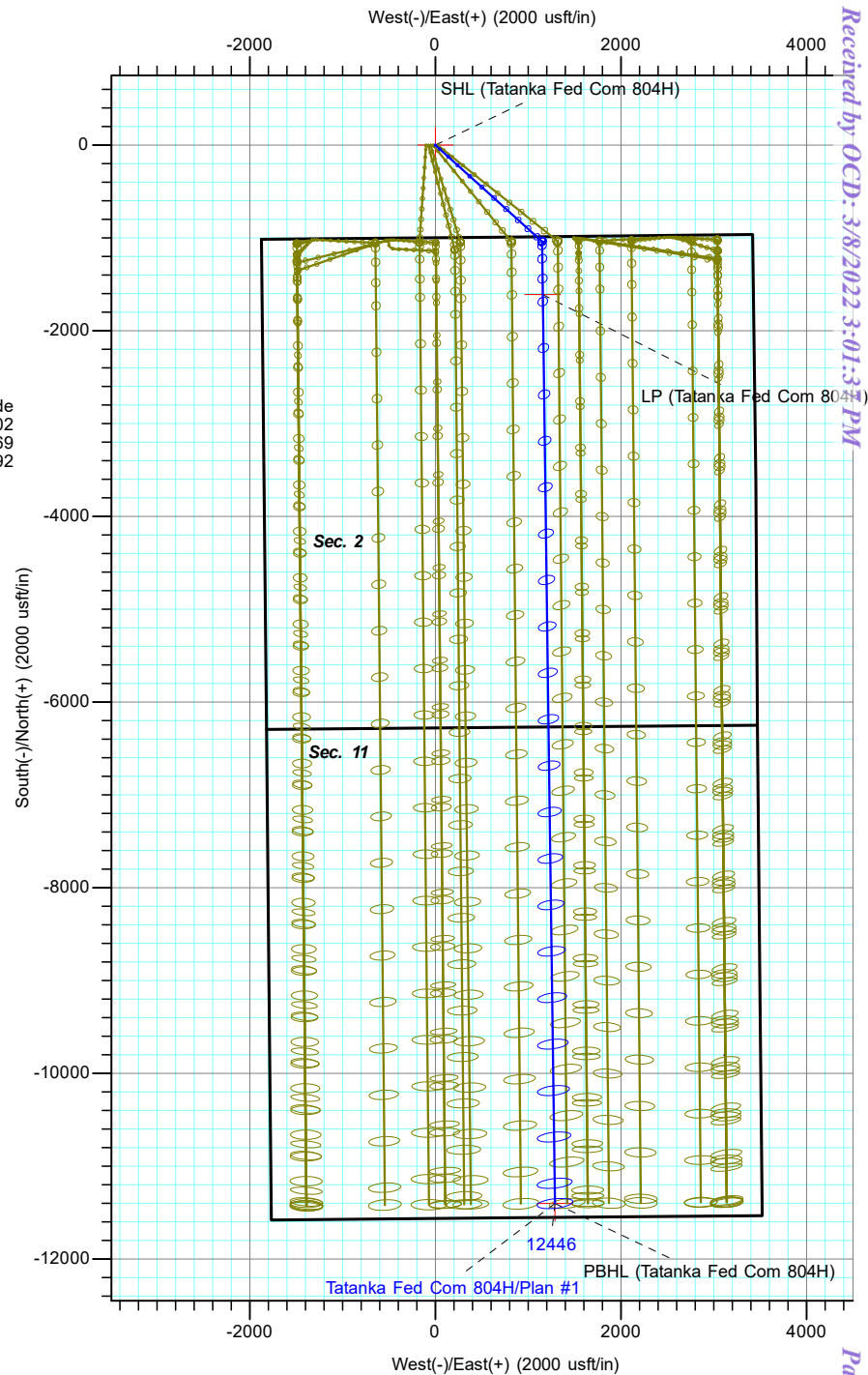
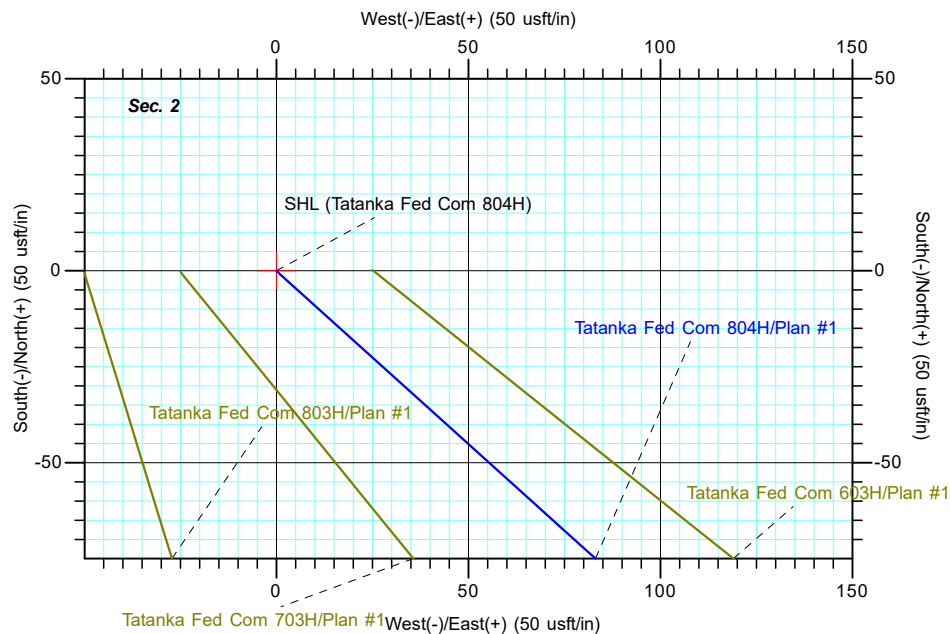


DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
LP (Tatanka Fed Com 804H)	12446.00	-1609.91	1157.70	393485.53	849902.82	32.077855	-103.337102
PBHL (Tatanka Fed Com 804H)	12446.00	-11401.54	1289.39	383693.90	850034.51	32.050939	-103.336969
SHL (Tatanka Fed Com 804H)	0.00	0.00	0.00	395095.44	848745.12	32.082309	-103.340792

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
4674.25	20.61	132.04	4644.79	-163.77	181.62	1.50	132.04	183.15	Start 3009.07 hold at 4674.25 MD
7683.32	20.61	132.04	7461.21	-873.23	968.38	0.00	0.00	976.51	Start Drop -1.50
9057.57	0.00	0.00	8806.00	-1037.00	1150.00	1.50	180.00	1159.66	Start 3067.04 hold at 9057.57 MD
12124.61	0.00	0.00	11873.04	-1037.00	1150.00	0.00	0.00	1159.66	Start DLS 10.00 TFO 179.23
13024.61	90.00	179.23	12446.00	-1609.91	1157.70	10.00	179.23	1729.80	Start 9792.52 hold at 13024.61 MD
22817.13	90.00	179.23	12446.00	-11401.54	1289.39	0.00	0.00	11474.22	TD at 22817.13



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671 Academy Ct, Windsor, CO 80550
Phone: (970) 460-9402

Plan: Plan #1 (Tatanka Fed Com 804H/OH)
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Created By: Dustin Ault
Date: 12/28, June 25 2021
Approved: _____
Date: _____

Received by OCD: 3/8/2022 3:01:34 PM

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Franklin Mountain Energy

Lea County, NM (NAD83)

Tatanka Fed Com

Tatanka Fed Com 804H

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 804H
Company:	Franklin Mountain Energy	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Project:	Lea County, NM (NAD83)	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site:	Tatanka Fed Com	North Reference:	Grid
Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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

Site	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 804H					
Well Position	+N/-S	1,020.08 usft	Northing:	395,095.44 usft	Latitude:	32.082309
	+E/-W	1,328.38 usft	Easting:	848,745.12 usft	Longitude:	-103.340792
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	3,136.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	6/25/2021	6.42	59.80	47,432.18335165

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	173.55

Plan Survey Tool Program	Date	6/25/2021		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	22,817.13 Plan #1 (OH)	OWSG (Rev2) MWD	
			OWSG MWD - Standard	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,674.25	20.61	132.04	4,644.79	-163.77	181.62	1.50	1.50	0.00	132.04	
7,683.32	20.61	132.04	7,461.21	-873.23	968.38	0.00	0.00	0.00	0.00	
9,057.57	0.00	0.00	8,806.00	-1,037.00	1,150.00	1.50	-1.50	0.00	180.00	
12,124.61	0.00	0.00	11,873.04	-1,037.00	1,150.00	0.00	0.00	0.00	0.00	
13,024.61	90.00	179.23	12,446.00	-1,609.91	1,157.70	10.00	10.00	19.91	179.23	
22,817.13	90.00	179.23	12,446.00	-11,401.54	1,289.39	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 804H
Company:	Franklin Mountain Energy	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Project:	Lea County, NM (NAD83)	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site:	Tatanka Fed Com	North Reference:	Grid
Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SHL (Tatanka Fed Com 804H)									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
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	132.04	3,399.99	-0.88	0.97	0.98	1.50	1.50	0.00
3,500.00	3.00	132.04	3,499.91	-3.51	3.89	3.92	1.50	1.50	0.00
3,600.00	4.50	132.04	3,599.69	-7.89	8.74	8.82	1.50	1.50	0.00
3,700.00	6.00	132.04	3,699.27	-14.01	15.54	15.67	1.50	1.50	0.00
3,800.00	7.50	132.04	3,798.57	-21.88	24.27	24.47	1.50	1.50	0.00
3,900.00	9.00	132.04	3,897.54	-31.49	34.92	35.22	1.50	1.50	0.00
4,000.00	10.50	132.04	3,996.09	-42.83	47.50	47.90	1.50	1.50	0.00
4,100.00	12.00	132.04	4,094.16	-55.90	61.99	62.51	1.50	1.50	0.00
4,200.00	13.50	132.04	4,191.70	-70.68	78.38	79.04	1.50	1.50	0.00
4,300.00	15.00	132.04	4,288.62	-87.16	96.66	97.47	1.50	1.50	0.00
4,400.00	16.50	132.04	4,384.86	-105.34	116.82	117.80	1.50	1.50	0.00
4,500.00	18.00	132.04	4,480.36	-125.20	138.84	140.01	1.50	1.50	0.00
4,600.00	19.50	132.04	4,575.05	-146.72	162.71	164.08	1.50	1.50	0.00
4,674.25	20.61	132.04	4,644.79	-163.77	181.62	183.15	1.50	1.50	0.00
Start 3009.07 hold at 4674.25 MD									
4,700.00	20.61	132.04	4,668.90	-169.85	188.35	189.94	0.00	0.00	0.00
4,800.00	20.61	132.04	4,762.49	-193.42	214.50	216.30	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 804H
Company:	Franklin Mountain Energy	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Project:	Lea County, NM (NAD83)	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site:	Tatanka Fed Com	North Reference:	Grid
Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,900.00	20.61	132.04	4,856.09	-217.00	240.65	242.67	0.00	0.00	0.00
5,000.00	20.61	132.04	4,949.69	-240.58	266.79	269.03	0.00	0.00	0.00
5,100.00	20.61	132.04	5,043.29	-264.15	292.94	295.40	0.00	0.00	0.00
5,200.00	20.61	132.04	5,136.88	-287.73	319.08	321.77	0.00	0.00	0.00
5,300.00	20.61	132.04	5,230.48	-311.31	345.23	348.13	0.00	0.00	0.00
5,400.00	20.61	132.04	5,324.08	-334.89	371.38	374.50	0.00	0.00	0.00
5,500.00	20.61	132.04	5,417.68	-358.46	397.52	400.86	0.00	0.00	0.00
5,600.00	20.61	132.04	5,511.27	-382.04	423.67	427.23	0.00	0.00	0.00
5,700.00	20.61	132.04	5,604.87	-405.62	449.82	453.59	0.00	0.00	0.00
5,800.00	20.61	132.04	5,698.47	-429.19	475.96	479.96	0.00	0.00	0.00
5,900.00	20.61	132.04	5,792.07	-452.77	502.11	506.33	0.00	0.00	0.00
6,000.00	20.61	132.04	5,885.66	-476.35	528.25	532.69	0.00	0.00	0.00
6,100.00	20.61	132.04	5,979.26	-499.93	554.40	559.06	0.00	0.00	0.00
6,200.00	20.61	132.04	6,072.86	-523.50	580.55	585.42	0.00	0.00	0.00
6,300.00	20.61	132.04	6,166.46	-547.08	606.69	611.79	0.00	0.00	0.00
6,400.00	20.61	132.04	6,260.05	-570.66	632.84	638.16	0.00	0.00	0.00
6,500.00	20.61	132.04	6,353.65	-594.23	658.99	664.52	0.00	0.00	0.00
6,600.00	20.61	132.04	6,447.25	-617.81	685.13	690.89	0.00	0.00	0.00
6,700.00	20.61	132.04	6,540.85	-641.39	711.28	717.25	0.00	0.00	0.00
6,800.00	20.61	132.04	6,634.44	-664.96	737.42	743.62	0.00	0.00	0.00
6,900.00	20.61	132.04	6,728.04	-688.54	763.57	769.99	0.00	0.00	0.00
7,000.00	20.61	132.04	6,821.64	-712.12	789.72	796.35	0.00	0.00	0.00
7,100.00	20.61	132.04	6,915.24	-735.70	815.86	822.72	0.00	0.00	0.00
7,200.00	20.61	132.04	7,008.83	-759.27	842.01	849.08	0.00	0.00	0.00
7,300.00	20.61	132.04	7,102.43	-782.85	868.16	875.45	0.00	0.00	0.00
7,400.00	20.61	132.04	7,196.03	-806.43	894.30	901.81	0.00	0.00	0.00
7,500.00	20.61	132.04	7,289.63	-830.00	920.45	928.18	0.00	0.00	0.00
7,600.00	20.61	132.04	7,383.22	-853.58	946.59	954.55	0.00	0.00	0.00
7,683.32	20.61	132.04	7,461.21	-873.23	968.38	976.51	0.00	0.00	0.00
Start Drop -1.50									
7,700.00	20.36	132.04	7,476.83	-877.14	972.72	980.89	1.50	-1.50	0.00
7,800.00	18.86	132.04	7,571.03	-899.61	997.64	1,006.02	1.50	-1.50	0.00
7,900.00	17.36	132.04	7,666.07	-920.43	1,020.73	1,029.31	1.50	-1.50	0.00
8,000.00	15.86	132.04	7,761.89	-939.58	1,041.97	1,050.72	1.50	-1.50	0.00
8,100.00	14.36	132.04	7,858.43	-957.04	1,061.33	1,070.24	1.50	-1.50	0.00
8,200.00	12.86	132.04	7,955.62	-972.80	1,078.81	1,087.87	1.50	-1.50	0.00
8,300.00	11.36	132.04	8,053.39	-986.86	1,094.39	1,103.58	1.50	-1.50	0.00
8,400.00	9.86	132.04	8,151.68	-999.19	1,108.07	1,117.38	1.50	-1.50	0.00
8,500.00	8.36	132.04	8,250.41	-1,009.80	1,119.83	1,129.24	1.50	-1.50	0.00
8,600.00	6.86	132.04	8,349.53	-1,018.67	1,129.67	1,139.16	1.50	-1.50	0.00
8,700.00	5.36	132.04	8,448.96	-1,025.80	1,137.58	1,147.14	1.50	-1.50	0.00
8,800.00	3.86	132.04	8,548.63	-1,031.19	1,143.55	1,153.16	1.50	-1.50	0.00
8,900.00	2.36	132.04	8,648.48	-1,034.82	1,147.59	1,157.23	1.50	-1.50	0.00
9,000.00	0.86	132.04	8,748.44	-1,036.71	1,149.68	1,159.34	1.50	-1.50	0.00
9,057.57	0.00	0.00	8,806.00	-1,037.00	1,150.00	1,159.66	1.50	-1.50	0.00
Start 3067.04 hold at 9057.57 MD									
9,100.00	0.00	0.00	8,848.43	-1,037.00	1,150.00	1,159.66	0.00	0.00	0.00
9,200.00	0.00	0.00	8,948.43	-1,037.00	1,150.00	1,159.66	0.00	0.00	0.00
9,300.00	0.00	0.00	9,048.43	-1,037.00	1,150.00	1,159.66	0.00	0.00	0.00
9,400.00	0.00	0.00	9,148.43	-1,037.00	1,150.00	1,159.66	0.00	0.00	0.00
9,500.00	0.00	0.00	9,248.43	-1,037.00	1,150.00	1,159.66	0.00	0.00	0.00
9,600.00	0.00	0.00	9,348.43	-1,037.00	1,150.00	1,159.66	0.00	0.00	0.00
9,700.00	0.00	0.00	9,448.43	-1,037.00	1,150.00	1,159.66	0.00	0.00	0.00
9,800.00	0.00	0.00	9,548.43	-1,037.00	1,150.00	1,159.66	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 804H
Company:	Franklin Mountain Energy	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Project:	Lea County, NM (NAD83)	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site:	Tatanka Fed Com	North Reference:	Grid
Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,900.00	0.00	0.00	9,648.43	-1,037.00	1,150.00	1,159.66	0.00	0.00	0.00
10,000.00	0.00	0.00	9,748.43	-1,037.00	1,150.00	1,159.66	0.00	0.00	0.00
10,100.00	0.00	0.00	9,848.43	-1,037.00	1,150.00	1,159.66	0.00	0.00	0.00
10,200.00	0.00	0.00	9,948.43	-1,037.00	1,150.00	1,159.66	0.00	0.00	0.00
10,300.00	0.00	0.00	10,048.43	-1,037.00	1,150.00	1,159.66	0.00	0.00	0.00
10,400.00	0.00	0.00	10,148.43	-1,037.00	1,150.00	1,159.66	0.00	0.00	0.00
10,500.00	0.00	0.00	10,248.43	-1,037.00	1,150.00	1,159.66	0.00	0.00	0.00
10,600.00	0.00	0.00	10,348.43	-1,037.00	1,150.00	1,159.66	0.00	0.00	0.00
10,700.00	0.00	0.00	10,448.43	-1,037.00	1,150.00	1,159.66	0.00	0.00	0.00
10,800.00	0.00	0.00	10,548.43	-1,037.00	1,150.00	1,159.66	0.00	0.00	0.00
10,900.00	0.00	0.00	10,648.43	-1,037.00	1,150.00	1,159.66	0.00	0.00	0.00
11,000.00	0.00	0.00	10,748.43	-1,037.00	1,150.00	1,159.66	0.00	0.00	0.00
11,100.00	0.00	0.00	10,848.43	-1,037.00	1,150.00	1,159.66	0.00	0.00	0.00
11,200.00	0.00	0.00	10,948.43	-1,037.00	1,150.00	1,159.66	0.00	0.00	0.00
11,300.00	0.00	0.00	11,048.43	-1,037.00	1,150.00	1,159.66	0.00	0.00	0.00
11,400.00	0.00	0.00	11,148.43	-1,037.00	1,150.00	1,159.66	0.00	0.00	0.00
11,500.00	0.00	0.00	11,248.43	-1,037.00	1,150.00	1,159.66	0.00	0.00	0.00
11,600.00	0.00	0.00	11,348.43	-1,037.00	1,150.00	1,159.66	0.00	0.00	0.00
11,700.00	0.00	0.00	11,448.43	-1,037.00	1,150.00	1,159.66	0.00	0.00	0.00
11,800.00	0.00	0.00	11,548.43	-1,037.00	1,150.00	1,159.66	0.00	0.00	0.00
11,900.00	0.00	0.00	11,648.43	-1,037.00	1,150.00	1,159.66	0.00	0.00	0.00
12,000.00	0.00	0.00	11,748.43	-1,037.00	1,150.00	1,159.66	0.00	0.00	0.00
12,100.00	0.00	0.00	11,848.43	-1,037.00	1,150.00	1,159.66	0.00	0.00	0.00
12,124.61	0.00	0.00	11,873.04	-1,037.00	1,150.00	1,159.66	0.00	0.00	0.00
Start DLS 10.00 TFO 179.23									
12,150.00	2.54	179.23	11,898.42	-1,037.56	1,150.01	1,160.22	10.00	10.00	0.00
12,200.00	7.54	179.23	11,948.22	-1,041.95	1,150.07	1,164.59	10.00	10.00	0.00
12,250.00	12.54	179.23	11,997.43	-1,050.67	1,150.18	1,173.26	10.00	10.00	0.00
12,300.00	17.54	179.23	12,045.71	-1,063.63	1,150.36	1,186.17	10.00	10.00	0.00
12,350.00	22.54	179.23	12,092.66	-1,080.76	1,150.59	1,203.21	10.00	10.00	0.00
12,400.00	27.54	179.23	12,137.95	-1,101.91	1,150.87	1,224.26	10.00	10.00	0.00
12,450.00	32.54	179.23	12,181.22	-1,126.93	1,151.21	1,249.16	10.00	10.00	0.00
12,500.00	37.54	179.23	12,222.15	-1,155.63	1,151.60	1,277.72	10.00	10.00	0.00
12,550.00	42.54	179.23	12,260.41	-1,187.78	1,152.03	1,309.71	10.00	10.00	0.00
12,600.00	47.54	179.23	12,295.73	-1,223.15	1,152.50	1,344.91	10.00	10.00	0.00
12,650.00	52.54	179.23	12,327.84	-1,261.45	1,153.02	1,383.03	10.00	10.00	0.00
12,700.00	57.54	179.23	12,356.48	-1,302.42	1,153.57	1,423.80	10.00	10.00	0.00
12,750.00	62.54	179.23	12,381.44	-1,345.72	1,154.15	1,466.89	10.00	10.00	0.00
12,800.00	67.54	179.23	12,402.53	-1,391.03	1,154.76	1,511.98	10.00	10.00	0.00
12,850.00	72.54	179.23	12,419.60	-1,438.00	1,155.39	1,558.73	10.00	10.00	0.00
12,900.00	77.54	179.23	12,432.50	-1,486.29	1,156.04	1,606.78	10.00	10.00	0.00
12,950.00	82.54	179.23	12,441.15	-1,535.52	1,156.70	1,655.77	10.00	10.00	0.00
13,000.00	87.54	179.23	12,445.47	-1,585.31	1,157.37	1,705.32	10.00	10.00	0.00
13,024.61	90.00	179.23	12,446.00	-1,609.91	1,157.70	1,729.81	10.00	10.00	0.00
Start 9792.52 hold at 13024.61 MD - LP (Tatanka Fed Com 804H)									
13,100.00	90.00	179.23	12,446.00	-1,685.29	1,158.72	1,804.83	0.00	0.00	0.00
13,200.00	90.00	179.23	12,446.00	-1,785.28	1,160.06	1,904.33	0.00	0.00	0.00
13,300.00	90.00	179.23	12,446.00	-1,885.27	1,161.41	2,003.84	0.00	0.00	0.00
13,400.00	90.00	179.23	12,446.00	-1,985.26	1,162.75	2,103.35	0.00	0.00	0.00
13,500.00	90.00	179.23	12,446.00	-2,085.26	1,164.10	2,202.86	0.00	0.00	0.00
13,600.00	90.00	179.23	12,446.00	-2,185.25	1,165.44	2,302.37	0.00	0.00	0.00
13,700.00	90.00	179.23	12,446.00	-2,285.24	1,166.79	2,401.88	0.00	0.00	0.00
13,800.00	90.00	179.23	12,446.00	-2,385.23	1,168.13	2,501.39	0.00	0.00	0.00
13,900.00	90.00	179.23	12,446.00	-2,485.22	1,169.48	2,600.90	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 804H
Company:	Franklin Mountain Energy	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Project:	Lea County, NM (NAD83)	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site:	Tatanka Fed Com	North Reference:	Grid
Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,000.00	90.00	179.23	12,446.00	-2,585.21	1,170.82	2,700.40	0.00	0.00	0.00
14,100.00	90.00	179.23	12,446.00	-2,685.20	1,172.17	2,799.91	0.00	0.00	0.00
14,200.00	90.00	179.23	12,446.00	-2,785.19	1,173.51	2,899.42	0.00	0.00	0.00
14,300.00	90.00	179.23	12,446.00	-2,885.18	1,174.86	2,998.93	0.00	0.00	0.00
14,400.00	90.00	179.23	12,446.00	-2,985.17	1,176.20	3,098.44	0.00	0.00	0.00
14,500.00	90.00	179.23	12,446.00	-3,085.17	1,177.55	3,197.95	0.00	0.00	0.00
14,600.00	90.00	179.23	12,446.00	-3,185.16	1,178.89	3,297.46	0.00	0.00	0.00
14,700.00	90.00	179.23	12,446.00	-3,285.15	1,180.23	3,396.97	0.00	0.00	0.00
14,800.00	90.00	179.23	12,446.00	-3,385.14	1,181.58	3,496.47	0.00	0.00	0.00
14,900.00	90.00	179.23	12,446.00	-3,485.13	1,182.92	3,595.98	0.00	0.00	0.00
15,000.00	90.00	179.23	12,446.00	-3,585.12	1,184.27	3,695.49	0.00	0.00	0.00
15,100.00	90.00	179.23	12,446.00	-3,685.11	1,185.61	3,795.00	0.00	0.00	0.00
15,200.00	90.00	179.23	12,446.00	-3,785.10	1,186.96	3,894.51	0.00	0.00	0.00
15,300.00	90.00	179.23	12,446.00	-3,885.09	1,188.30	3,994.02	0.00	0.00	0.00
15,400.00	90.00	179.23	12,446.00	-3,985.08	1,189.65	4,093.53	0.00	0.00	0.00
15,500.00	90.00	179.23	12,446.00	-4,085.08	1,190.99	4,193.04	0.00	0.00	0.00
15,600.00	90.00	179.23	12,446.00	-4,185.07	1,192.34	4,292.54	0.00	0.00	0.00
15,700.00	90.00	179.23	12,446.00	-4,285.06	1,193.68	4,392.05	0.00	0.00	0.00
15,800.00	90.00	179.23	12,446.00	-4,385.05	1,195.03	4,491.56	0.00	0.00	0.00
15,900.00	90.00	179.23	12,446.00	-4,485.04	1,196.37	4,591.07	0.00	0.00	0.00
16,000.00	90.00	179.23	12,446.00	-4,585.03	1,197.72	4,690.58	0.00	0.00	0.00
16,100.00	90.00	179.23	12,446.00	-4,685.02	1,199.06	4,790.09	0.00	0.00	0.00
16,200.00	90.00	179.23	12,446.00	-4,785.01	1,200.41	4,889.60	0.00	0.00	0.00
16,300.00	90.00	179.23	12,446.00	-4,885.00	1,201.75	4,989.11	0.00	0.00	0.00
16,400.00	90.00	179.23	12,446.00	-4,984.99	1,203.10	5,088.61	0.00	0.00	0.00
16,500.00	90.00	179.23	12,446.00	-5,084.98	1,204.44	5,188.12	0.00	0.00	0.00
16,600.00	90.00	179.23	12,446.00	-5,184.98	1,205.79	5,287.63	0.00	0.00	0.00
16,700.00	90.00	179.23	12,446.00	-5,284.97	1,207.13	5,387.14	0.00	0.00	0.00
16,800.00	90.00	179.23	12,446.00	-5,384.96	1,208.47	5,486.65	0.00	0.00	0.00
16,900.00	90.00	179.23	12,446.00	-5,484.95	1,209.82	5,586.16	0.00	0.00	0.00
17,000.00	90.00	179.23	12,446.00	-5,584.94	1,211.16	5,685.67	0.00	0.00	0.00
17,100.00	90.00	179.23	12,446.00	-5,684.93	1,212.51	5,785.18	0.00	0.00	0.00
17,200.00	90.00	179.23	12,446.00	-5,784.92	1,213.85	5,884.68	0.00	0.00	0.00
17,300.00	90.00	179.23	12,446.00	-5,884.91	1,215.20	5,984.19	0.00	0.00	0.00
17,400.00	90.00	179.23	12,446.00	-5,984.90	1,216.54	6,083.70	0.00	0.00	0.00
17,500.00	90.00	179.23	12,446.00	-6,084.89	1,217.89	6,183.21	0.00	0.00	0.00
17,600.00	90.00	179.23	12,446.00	-6,184.89	1,219.23	6,282.72	0.00	0.00	0.00
17,700.00	90.00	179.23	12,446.00	-6,284.88	1,220.58	6,382.23	0.00	0.00	0.00
17,800.00	90.00	179.23	12,446.00	-6,384.87	1,221.92	6,481.74	0.00	0.00	0.00
17,900.00	90.00	179.23	12,446.00	-6,484.86	1,223.27	6,581.25	0.00	0.00	0.00
18,000.00	90.00	179.23	12,446.00	-6,584.85	1,224.61	6,680.75	0.00	0.00	0.00
18,100.00	90.00	179.23	12,446.00	-6,684.84	1,225.96	6,780.26	0.00	0.00	0.00
18,200.00	90.00	179.23	12,446.00	-6,784.83	1,227.30	6,879.77	0.00	0.00	0.00
18,300.00	90.00	179.23	12,446.00	-6,884.82	1,228.65	6,979.28	0.00	0.00	0.00
18,400.00	90.00	179.23	12,446.00	-6,984.81	1,229.99	7,078.79	0.00	0.00	0.00
18,500.00	90.00	179.23	12,446.00	-7,084.80	1,231.34	7,178.30	0.00	0.00	0.00
18,600.00	90.00	179.23	12,446.00	-7,184.79	1,232.68	7,277.81	0.00	0.00	0.00
18,700.00	90.00	179.23	12,446.00	-7,284.79	1,234.02	7,377.32	0.00	0.00	0.00
18,800.00	90.00	179.23	12,446.00	-7,384.78	1,235.37	7,476.82	0.00	0.00	0.00
18,900.00	90.00	179.23	12,446.00	-7,484.77	1,236.71	7,576.33	0.00	0.00	0.00
19,000.00	90.00	179.23	12,446.00	-7,584.76	1,238.06	7,675.84	0.00	0.00	0.00
19,100.00	90.00	179.23	12,446.00	-7,684.75	1,239.40	7,775.35	0.00	0.00	0.00
19,200.00	90.00	179.23	12,446.00	-7,784.74	1,240.75	7,874.86	0.00	0.00	0.00
19,300.00	90.00	179.23	12,446.00	-7,884.73	1,242.09	7,974.37	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 804H
Company:	Franklin Mountain Energy	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Project:	Lea County, NM (NAD83)	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site:	Tatanka Fed Com	North Reference:	Grid
Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
19,400.00	90.00	179.23	12,446.00	-7,984.72	1,243.44	8,073.88	0.00	0.00	0.00
19,500.00	90.00	179.23	12,446.00	-8,084.71	1,244.78	8,173.39	0.00	0.00	0.00
19,600.00	90.00	179.23	12,446.00	-8,184.70	1,246.13	8,272.89	0.00	0.00	0.00
19,700.00	90.00	179.23	12,446.00	-8,284.70	1,247.47	8,372.40	0.00	0.00	0.00
19,800.00	90.00	179.23	12,446.00	-8,384.69	1,248.82	8,471.91	0.00	0.00	0.00
19,900.00	90.00	179.23	12,446.00	-8,484.68	1,250.16	8,571.42	0.00	0.00	0.00
20,000.00	90.00	179.23	12,446.00	-8,584.67	1,251.51	8,670.93	0.00	0.00	0.00
20,100.00	90.00	179.23	12,446.00	-8,684.66	1,252.85	8,770.44	0.00	0.00	0.00
20,200.00	90.00	179.23	12,446.00	-8,784.65	1,254.20	8,869.95	0.00	0.00	0.00
20,300.00	90.00	179.23	12,446.00	-8,884.64	1,255.54	8,969.46	0.00	0.00	0.00
20,400.00	90.00	179.23	12,446.00	-8,984.63	1,256.89	9,068.96	0.00	0.00	0.00
20,500.00	90.00	179.23	12,446.00	-9,084.62	1,258.23	9,168.47	0.00	0.00	0.00
20,600.00	90.00	179.23	12,446.00	-9,184.61	1,259.58	9,267.98	0.00	0.00	0.00
20,700.00	90.00	179.23	12,446.00	-9,284.61	1,260.92	9,367.49	0.00	0.00	0.00
20,800.00	90.00	179.23	12,446.00	-9,384.60	1,262.26	9,467.00	0.00	0.00	0.00
20,900.00	90.00	179.23	12,446.00	-9,484.59	1,263.61	9,566.51	0.00	0.00	0.00
21,000.00	90.00	179.23	12,446.00	-9,584.58	1,264.95	9,666.02	0.00	0.00	0.00
21,100.00	90.00	179.23	12,446.00	-9,684.57	1,266.30	9,765.53	0.00	0.00	0.00
21,200.00	90.00	179.23	12,446.00	-9,784.56	1,267.64	9,865.03	0.00	0.00	0.00
21,300.00	90.00	179.23	12,446.00	-9,884.55	1,268.99	9,964.54	0.00	0.00	0.00
21,400.00	90.00	179.23	12,446.00	-9,984.54	1,270.33	10,064.05	0.00	0.00	0.00
21,500.00	90.00	179.23	12,446.00	-10,084.53	1,271.68	10,163.56	0.00	0.00	0.00
21,600.00	90.00	179.23	12,446.00	-10,184.52	1,273.02	10,263.07	0.00	0.00	0.00
21,700.00	90.00	179.23	12,446.00	-10,284.51	1,274.37	10,362.58	0.00	0.00	0.00
21,800.00	90.00	179.23	12,446.00	-10,384.51	1,275.71	10,462.09	0.00	0.00	0.00
21,900.00	90.00	179.23	12,446.00	-10,484.50	1,277.06	10,561.60	0.00	0.00	0.00
22,000.00	90.00	179.23	12,446.00	-10,584.49	1,278.40	10,661.10	0.00	0.00	0.00
22,100.00	90.00	179.23	12,446.00	-10,684.48	1,279.75	10,760.61	0.00	0.00	0.00
22,200.00	90.00	179.23	12,446.00	-10,784.47	1,281.09	10,860.12	0.00	0.00	0.00
22,300.00	90.00	179.23	12,446.00	-10,884.46	1,282.44	10,959.63	0.00	0.00	0.00
22,400.00	90.00	179.23	12,446.00	-10,984.45	1,283.78	11,059.14	0.00	0.00	0.00
22,500.00	90.00	179.23	12,446.00	-11,084.44	1,285.13	11,158.65	0.00	0.00	0.00
22,600.00	90.00	179.23	12,446.00	-11,184.43	1,286.47	11,258.16	0.00	0.00	0.00
22,700.00	90.00	179.23	12,446.00	-11,284.42	1,287.81	11,357.67	0.00	0.00	0.00
22,800.00	90.00	179.23	12,446.00	-11,384.42	1,289.16	11,457.17	0.00	0.00	0.00
22,817.13	90.00	179.23	12,446.00	-11,401.54	1,289.39	11,474.22	0.00	0.00	0.00
TD at 22817.13 - PBHL (Tatanka Fed Com 804H)									



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Tatanka Fed Com 804H
Company:	Franklin Mountain Energy	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Project:	Lea County, NM (NAD83)	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site:	Tatanka Fed Com	North Reference:	Grid
Well:	Tatanka Fed Com 804H	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	395,095.44	848,745.12	32.082309	-103.340792
LP (Tatanka Fed Com 804H - plan misses target center by 0.01usft at 13024.61usft MD (12446.00 TVD, -1609.91 N, 1157.70 E) - Point	0.00	0.00	12,446.00	-1,609.91	1,157.70	393,485.53	849,902.82	32.077855	-103.337103
PBHL (Tatanka Fed Com 804H - plan hits target center - Point	0.00	0.00	12,446.00	-11,401.54	1,289.39	383,693.90	850,034.51	32.050939	-103.336969

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	
3,300.00	3,300.00	0.00	0.00	Start Build 1.50
4,674.25	4,644.79	-163.77	181.62	Start 3009.07 hold at 4674.25 MD
7,683.32	7,461.21	-873.23	968.38	Start Drop -1.50
9,057.57	8,806.00	-1,037.00	1,150.00	Start 3067.04 hold at 9057.57 MD
12,124.61	11,873.04	-1,037.00	1,150.00	Start DLS 10.00 TFO 179.23
13,024.61	12,446.00	-1,609.91	1,157.70	Start 9792.52 hold at 13024.61 MD
22,817.13	12,446.00	-11,401.54	1,289.39	TD at 22817.13



Franklin Mountain Energy

Lea County, NM (NAD83)

Tatanka Fed Com

Tatanka Fed Com 804H

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

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

Survey Tool Program	Date	6/25/2021
From (usft)	To (usft)	Survey (Wellbore)
0.00	22,817.13	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	3,186.40	1,150.12	1,134.26	72.523	CC, ES
Tatanka Fed Com 101H - OH - Plan #1	22,817.13	18,762.37	4,517.08	4,337.79	25.196	SF
Tatanka Fed Com 102H - OH - Plan #1	7,021.88	6,995.13	943.77	905.33	24.553	CC, ES
Tatanka Fed Com 102H - OH - Plan #1	7,500.00	7,369.55	972.65	931.56	23.668	SF
Tatanka Fed Com 103H - OH - Plan #1	8,591.52	8,284.17	452.00	408.86	10.478	CC, ES
Tatanka Fed Com 103H - OH - Plan #1	8,600.00	8,290.44	452.03	408.87	10.473	SF
Tatanka Fed Com 104H - OH - Plan #1	2,000.00	1,982.40	1,861.70	1,851.94	190.649	CC, ES
Tatanka Fed Com 104H - OH - Plan #1	22,817.13	18,772.36	4,220.33	4,059.80	26.290	SF
Tatanka Fed Com 501H - OH - Plan #1	3,548.86	3,513.02	1,126.59	1,109.07	64.308	CC
Tatanka Fed Com 501H - OH - Plan #1	3,600.00	3,555.94	1,126.68	1,108.94	63.515	ES
Tatanka Fed Com 501H - OH - Plan #1	22,817.13	20,841.66	3,151.70	2,923.47	13.809	SF
Tatanka Fed Com 502H - OH - Plan #1	6,334.26	6,284.44	886.13	852.23	26.141	CC
Tatanka Fed Com 502H - OH - Plan #1	6,400.00	6,347.67	886.31	852.00	25.830	ES
Tatanka Fed Com 502H - OH - Plan #1	22,817.13	20,879.44	2,063.53	1,891.77	12.014	SF
Tatanka Fed Com 503H - OH - Plan #1	10,424.69	10,156.65	393.83	339.90	7.303	CC
Tatanka Fed Com 503H - OH - Plan #1	10,500.00	10,231.38	393.88	339.69	7.270	ES
Tatanka Fed Com 503H - OH - Plan #1	10,600.00	10,326.04	394.87	340.52	7.265	SF
Tatanka Fed Com 504H - OH - Plan #1	7,810.34	7,264.03	1,568.62	1,529.12	39.704	CC, ES
Tatanka Fed Com 504H - OH - Plan #1	22,817.13	20,815.87	2,525.95	2,316.24	12.045	SF
Tatanka Fed Com 601H - OH - Plan #2	3,200.00	3,198.50	1,674.86	1,658.97	105.408	CC, ES
Tatanka Fed Com 601H - OH - Plan #2	22,817.13	22,129.15	2,697.53	2,438.22	10.403	SF
Tatanka Fed Com 602H - OH - Plan #1	3,340.31	3,340.21	74.57	58.00	4.499	CC
Tatanka Fed Com 602H - OH - Plan #1	3,400.00	3,400.09	74.83	57.97	4.439	ES
Tatanka Fed Com 602H - OH - Plan #1	22,817.13	22,187.30	1,068.17	819.74	4.300	SF
Tatanka Fed Com 603H - OH - Plan #1	3,116.63	3,116.73	25.00	9.53	1.616	CC
Tatanka Fed Com 603H - OH - Plan #1	3,200.00	3,200.00	25.00	9.11	1.573	ES, SF
Tatanka Fed Com 604H - OH - Plan #2	11,673.63	11,386.51	1,609.67	1,550.02	26.985	CC
Tatanka Fed Com 604H - OH - Plan #2	22,817.13	22,052.86	1,642.76	1,390.39	6.509	ES, SF
Tatanka Fed Com 702H - OH - Plan #1	3,300.00	3,299.30	99.98	83.59	6.097	CC, ES
Tatanka Fed Com 702H - OH - Plan #1	22,817.13	22,375.46	1,391.51	1,125.86	5.238	SF
Tatanka Fed Com 703H - OH - Plan #1	3,547.77	3,548.78	22.14	4.61	1.263	Level 3, CC
Tatanka Fed Com 703H - OH - Plan #1	3,600.00	3,601.08	22.24	4.46	1.251	Level 3, ES, SF
Tatanka Fed Com 704H - OH - Plan #2	11,848.42	11,621.15	619.63	559.07	10.231	CC
Tatanka Fed Com 704H - OH - Plan #2	22,817.13	22,295.29	652.32	420.04	2.808	ES, SF
Tatanka Fed Com 705H - OH - Plan #2	22,817.13	22,055.30	1,890.12	1,632.81	7.346	CC, ES, SF
Tatanka Fed Com 801H - OH - Plan #2	3,300.00	3,298.30	1,654.96	1,638.56	100.939	CC, ES
Tatanka Fed Com 801H - OH - Plan #2	22,817.13	22,865.07	2,694.57	2,434.04	10.343	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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Tatanka Fed Com						
Tatanka Fed Com 802H - OH - Plan #2	5,916.11	6,070.67	1,488.83	1,457.55	47.592	CC
Tatanka Fed Com 802H - OH - Plan #2	6,100.00	6,248.87	1,489.52	1,457.10	45.942	ES
Tatanka Fed Com 802H - OH - Plan #2	22,817.13	22,787.51	1,840.54	1,579.62	7.054	SF
Tatanka Fed Com 803H - OH - Plan #1	3,300.00	3,299.80	49.99	33.59	3.048	CC, ES
Tatanka Fed Com 803H - OH - Plan #1	3,400.00	3,400.17	50.59	33.70	2.996	SF
Tatanka Fed Com 805H - OH - Plan #2	22,817.13	22,641.58	931.14	671.54	3.587	CC, ES, SF
Tatanka Fed Com 806H - OH - Plan #2	22,817.13	22,520.85	1,851.90	1,590.56	7.086	CC, ES, SF

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													
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	-152.76	-1,022.55	-526.47	1,150.20				
100.00	100.00	86.40	86.40	0.13	0.11	-152.76	-1,022.55	-526.47	1,150.12	1,149.96	0.17	6,936.438	
200.00	200.00	186.40	186.40	0.48	0.44	-152.76	-1,022.55	-526.47	1,150.12	1,149.47	0.65	1,767.159	
300.00	300.00	286.40	286.40	0.84	0.79	-152.76	-1,022.55	-526.47	1,150.12	1,148.96	1.16	993.723	
400.00	400.00	386.40	386.40	1.20	1.15	-152.76	-1,022.55	-526.47	1,150.12	1,148.46	1.66	691.102	
500.00	500.00	486.40	486.40	1.56	1.51	-152.76	-1,022.55	-526.47	1,150.12	1,147.95	2.17	529.752	
600.00	600.00	586.40	586.40	1.92	1.87	-152.76	-1,022.55	-526.47	1,150.12	1,147.44	2.68	429.477	
700.00	700.00	686.40	686.40	2.28	2.23	-152.76	-1,022.55	-526.47	1,150.12	1,146.94	3.18	361.119	
800.00	800.00	786.40	786.40	2.63	2.59	-152.76	-1,022.55	-526.47	1,150.12	1,146.43	3.69	311.533	
900.00	900.00	886.40	886.40	2.99	2.94	-152.76	-1,022.55	-526.47	1,150.12	1,145.92	4.20	273.920	
1,000.00	1,000.00	986.40	986.40	3.35	3.30	-152.76	-1,022.55	-526.47	1,150.12	1,145.42	4.71	244.411	
1,100.00	1,100.00	1,086.40	1,086.40	3.71	3.66	-152.76	-1,022.55	-526.47	1,150.12	1,144.91	5.21	220.641	
1,200.00	1,200.00	1,186.40	1,186.40	4.07	4.02	-152.76	-1,022.55	-526.47	1,150.12	1,144.40	5.72	201.085	
1,300.00	1,300.00	1,286.40	1,286.40	4.43	4.38	-152.76	-1,022.55	-526.47	1,150.12	1,143.89	6.23	184.713	
1,400.00	1,400.00	1,386.40	1,386.40	4.79	4.74	-152.76	-1,022.55	-526.47	1,150.12	1,143.39	6.73	170.807	
1,500.00	1,500.00	1,486.40	1,486.40	5.14	5.10	-152.76	-1,022.55	-526.47	1,150.12	1,142.88	7.24	158.847	
1,600.00	1,600.00	1,586.40	1,586.40	5.50	5.45	-152.76	-1,022.55	-526.47	1,150.12	1,142.37	7.75	148.453	
1,700.00	1,700.00	1,686.40	1,686.40	5.86	5.81	-152.76	-1,022.55	-526.47	1,150.12	1,141.87	8.25	139.336	
1,800.00	1,800.00	1,786.40	1,786.40	6.22	6.17	-152.76	-1,022.55	-526.47	1,150.12	1,141.36	8.76	131.273	
1,900.00	1,900.00	1,886.40	1,886.40	6.58	6.53	-152.76	-1,022.55	-526.47	1,150.12	1,140.85	9.27	124.093	
2,000.00	2,000.00	1,986.40	1,986.40	6.94	6.89	-152.76	-1,022.55	-526.47	1,150.12	1,140.35	9.78	117.657	
2,100.00	2,100.00	2,086.40	2,086.40	7.29	7.25	-152.76	-1,022.55	-526.47	1,150.12	1,139.84	10.28	111.856	
2,200.00	2,200.00	2,186.40	2,186.40	7.65	7.60	-152.76	-1,022.55	-526.47	1,150.12	1,139.33	10.79	106.601	
2,300.00	2,300.00	2,286.40	2,286.40	8.01	7.96	-152.76	-1,022.55	-526.47	1,150.12	1,138.83	11.30	101.816	
2,400.00	2,400.00	2,386.40	2,386.40	8.37	8.32	-152.76	-1,022.55	-526.47	1,150.12	1,138.32	11.80	97.443	
2,500.00	2,500.00	2,486.40	2,486.40	8.73	8.68	-152.76	-1,022.55	-526.47	1,150.12	1,137.81	12.31	93.430	
2,600.00	2,600.00	2,586.40	2,586.40	9.09	9.04	-152.76	-1,022.55	-526.47	1,150.12	1,137.30	12.82	89.735	
2,700.00	2,700.00	2,686.40	2,686.40	9.45	9.40	-152.76	-1,022.55	-526.47	1,150.12	1,136.80	13.32	86.321	
2,800.00	2,800.00	2,786.40	2,786.40	9.80	9.76	-152.76	-1,022.55	-526.47	1,150.12	1,136.29	13.83	83.157	
2,900.00	2,900.00	2,886.40	2,886.40	10.16	10.11	-152.76	-1,022.55	-526.47	1,150.12	1,135.78	14.34	80.216	
3,000.00	3,000.00	2,986.40	2,986.40	10.52	10.47	-152.76	-1,022.55	-526.47	1,150.12	1,135.28	14.84	77.477	
3,100.00	3,100.00	3,086.40	3,086.40	10.88	10.83	-152.76	-1,022.55	-526.47	1,150.12	1,134.77	15.35	74.918	
3,200.00	3,200.00	3,186.40	3,186.40	11.24	11.19	-152.76	-1,022.55	-526.47	1,150.12	1,134.26	15.86	72.523	CC, ES
3,300.00	3,300.00	3,270.98	3,270.97	11.60	11.48	-152.74	-1,022.76	-527.09	1,150.70	1,134.38	16.32	70.511	
3,400.00	3,399.99	3,353.03	3,352.99	11.94	11.76	75.33	-1,023.54	-529.37	1,152.49	1,135.73	16.75	68.785	
3,500.00	3,499.91	3,434.80	3,434.65	12.27	12.04	75.59	-1,024.89	-533.29	1,155.19	1,138.01	17.17	67.261	

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 101H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD															Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
3,600.00	3,599.69	3,516.09	3,515.73	12.60	12.31	75.99	-1,026.79	-538.84	1,158.86	1,141.27	17.59	65.876				
3,700.00	3,699.27	3,600.00	3,599.27	12.94	12.60	76.55	-1,029.33	-546.26	1,163.60	1,145.58	18.02	64.585				
3,800.00	3,798.57	3,676.48	3,675.25	13.28	12.87	77.18	-1,032.17	-554.55	1,169.51	1,151.09	18.42	63.505				
3,900.00	3,897.54	3,755.22	3,753.26	13.62	13.14	77.95	-1,035.61	-564.58	1,176.74	1,157.92	18.82	62.516				
4,000.00	3,996.09	3,832.76	3,829.87	13.97	13.42	78.82	-1,039.50	-575.94	1,185.46	1,166.23	19.23	61.658				
4,100.00	4,094.16	3,900.00	3,896.09	14.33	13.66	79.63	-1,043.28	-586.98	1,195.88	1,176.29	19.59	61.056				
4,200.00	4,191.70	3,983.64	3,978.16	14.70	13.96	80.78	-1,048.52	-602.25	1,208.06	1,188.03	20.02	60.335				
4,300.00	4,288.62	4,056.71	4,049.54	15.08	14.24	81.83	-1,053.56	-616.98	1,222.31	1,201.90	20.41	59.873				
4,400.00	4,384.86	4,128.03	4,118.93	15.48	14.51	82.92	-1,058.92	-632.59	1,238.79	1,217.99	20.80	59.544				
4,500.00	4,480.36	4,200.00	4,188.62	15.89	14.79	84.06	-1,064.74	-649.60	1,257.67	1,236.47	21.21	59.309				
4,600.00	4,575.05	4,265.03	4,251.29	16.33	15.05	85.10	-1,070.37	-666.02	1,279.11	1,257.53	21.58	59.277				
4,674.25	4,644.79	4,313.87	4,298.15	16.66	15.25	85.89	-1,074.83	-679.02	1,296.78	1,274.92	21.86	59.310				
4,700.00	4,668.90	4,330.58	4,314.14	16.78	15.32	86.26	-1,076.39	-683.60	1,303.27	1,281.31	21.96	59.338				
4,800.00	4,762.49	4,399.55	4,379.95	17.26	15.62	87.77	-1,083.09	-703.15	1,330.30	1,307.93	22.38	59.450				
4,900.00	4,856.09	4,483.53	4,459.95	17.75	15.98	89.56	-1,091.37	-727.29	1,359.32	1,336.43	22.89	59.379				
5,000.00	4,949.69	4,567.50	4,539.96	18.25	16.36	91.30	-1,099.64	-751.44	1,389.86	1,366.44	23.42	59.357				
5,100.00	5,043.29	4,651.48	4,619.96	18.76	16.74	92.97	-1,107.91	-775.58	1,421.81	1,397.86	23.94	59.379				
5,200.00	5,136.88	4,735.46	4,699.96	19.29	17.13	94.58	-1,116.19	-799.72	1,455.09	1,430.61	24.48	59.440				
5,300.00	5,230.48	4,819.43	4,779.96	19.82	17.53	96.14	-1,124.46	-823.87	1,489.60	1,464.58	25.02	59.538				
5,400.00	5,324.08	4,903.41	4,859.97	20.37	17.94	97.64	-1,132.74	-848.01	1,525.27	1,499.70	25.56	59.667				
5,500.00	5,417.68	4,987.38	4,939.97	20.93	18.35	99.08	-1,141.01	-872.16	1,562.00	1,535.89	26.11	59.823				
5,600.00	5,511.27	5,071.36	5,019.97	21.49	18.76	100.46	-1,149.28	-896.30	1,599.74	1,573.08	26.66	60.004				
5,700.00	5,604.87	5,155.33	5,099.98	22.06	19.18	101.79	-1,157.56	-920.44	1,638.41	1,611.20	27.21	60.207				
5,800.00	5,698.47	5,239.31	5,179.98	22.64	19.61	103.07	-1,165.83	-944.59	1,677.95	1,650.18	27.77	60.428				
5,900.00	5,792.07	5,323.28	5,259.98	23.22	20.04	104.30	-1,174.10	-968.73	1,718.29	1,689.96	28.32	60.665				
6,000.00	5,885.66	5,407.26	5,339.99	23.81	20.48	105.48	-1,182.38	-992.88	1,759.38	1,730.50	28.88	60.915				
6,100.00	5,979.26	5,491.23	5,419.99	24.41	20.92	106.62	-1,190.65	-1,017.02	1,801.17	1,771.73	29.44	61.176				
6,200.00	6,072.86	5,575.21	5,499.99	25.01	21.36	107.71	-1,198.93	-1,041.16	1,843.62	1,813.61	30.00	61.446				
6,300.00	6,166.46	5,659.19	5,579.99	25.61	21.81	108.76	-1,207.20	-1,065.31	1,886.67	1,856.10	30.57	61.724				
6,400.00	6,260.05	5,743.16	5,660.00	26.22	22.26	109.77	-1,215.47	-1,089.45	1,930.29	1,899.16	31.13	62.008				
6,500.00	6,353.65	5,827.14	5,740.00	26.84	22.71	110.73	-1,223.75	-1,113.60	1,974.44	1,942.74	31.69	62.296				
6,600.00	6,447.25	5,911.11	5,820.00	27.45	23.17	111.66	-1,232.02	-1,137.74	2,019.08	1,986.82	32.26	62.588				
6,700.00	6,540.85	5,995.09	5,900.01	28.07	23.63	112.56	-1,240.29	-1,161.88	2,064.18	2,031.36	32.83	62.881				
6,800.00	6,634.44	6,079.06	5,980.01	28.70	24.09	113.42	-1,248.57	-1,186.03	2,109.72	2,076.33	33.39	63.176				
6,900.00	6,728.04	6,163.04	6,060.01	29.33	24.55	114.24	-1,256.84	-1,210.17	2,155.67	2,121.70	33.96	63.470				
7,000.00	6,821.64	6,247.01	6,140.02	29.96	25.02	115.04	-1,265.11	-1,234.32	2,201.99	2,167.46	34.53	63.765				
7,100.00	6,915.24	6,330.99	6,220.02	30.59	25.49	115.81	-1,273.39	-1,258.46	2,248.67	2,213.57	35.10	64.058				
7,200.00	7,008.83	6,414.96	6,300.02	31.23	25.96	116.55	-1,281.66	-1,282.61	2,295.69	2,260.02	35.67	64.350				
7,300.00	7,102.43	6,498.94	6,380.03	31.87	26.44	117.26	-1,289.94	-1,306.75	2,343.02	2,306.78	36.25	64.640				
7,400.00	7,196.03	6,583.68	6,527.94	32.51	27.29	118.51	-1,304.66	-1,349.71	2,390.01	2,352.75	37.27	64.132				
7,500.00	7,289.63	6,685.83	6,752.92	33.15	28.49	120.27	-1,323.17	-1,403.75	2,432.84	2,394.16	38.68	62.895				
7,600.00	7,383.22	6,707.87	6,942.39	33.80	29.39	121.66	-1,335.10	-1,438.56	2,470.50	2,430.71	39.79	62.089				
7,683.32	7,461.21	7,343.12	7,204.22	34.34	30.48	123.49	-1,346.54	-1,471.94	2,497.69	2,456.62	41.06	60.829				
7,700.00	7,476.83	7,386.61	7,247.52	34.44	30.65	123.85	-1,347.85	-1,475.76	2,502.62	2,461.36	41.26	60.658				
7,800.00	7,571.03	7,654.21	7,514.70	35.07	31.56	125.86	-1,352.37	-1,488.94	2,527.83	2,485.49	42.34	59.700				
7,900.00	7,666.07	7,791.98	7,652.47	35.68	31.97	126.90	-1,352.55	-1,489.47	2,547.12	2,504.12	43.01	59.226				
8,000.00	7,761.89	7,887.81	7,748.29	36.25	32.26	127.61	-1,352.55	-1,489.47	2,564.90	2,521.33	43.56	58.876				
8,100.00	7,858.43	7,984.34	7,844.83	36.80	32.54	128.26	-1,352.55	-1,489.47	2,581.28	2,537.17	44.11	58.518				
8,200.00	7,955.62	8,081.53	7,942.02	37.32	32.83	128.83	-1,352.55	-1,489.47	2,596.20	2,551.55	44.65	58.150				
8,300.00	8,053.39	8,179.30	8,039.79	37.81	33.13	129.35	-1,352.55	-1,489.47	2,609.61	2,564.44	45.17	57.771				
8,400.00	8,151.68	8,277.59	8,138.08	38.27	33.42	129.79	-1,352.55	-1,489.47	2,621.46	2,575.78	45.69	57.380				
8,500.00	8,250.41	8,371.07	8,231.55	38.71	33.70	130.16	-1,352.63	-1,489.47	2,631.73	2,585.55	46.18	56.992				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
8,600.00	8,349.53	8,435.24	8,295.52	39.11	33.90	130.31	-1,357.28	-1,489.42	2,641.20	2,594.60	46.60	56.681		
8,700.00	8,448.96	8,500.00	8,359.14	39.49	34.11	130.27	-1,369.19	-1,489.30	2,650.33	2,603.31	47.02	56.365		
8,800.00	8,548.63	8,559.84	8,416.39	39.84	34.31	130.07	-1,386.52	-1,489.13	2,659.20	2,611.78	47.43	56.071		
8,900.00	8,648.48	8,616.87	8,468.99	40.17	34.51	129.75	-1,408.50	-1,488.91	2,668.01	2,620.20	47.81	55.801		
9,000.00	8,748.44	8,668.91	8,514.87	40.46	34.70	129.36	-1,433.03	-1,488.67	2,677.00	2,628.83	48.16	55.580		
9,057.57	8,806.00	8,700.00	8,541.15	40.62	34.81	-98.89	-1,449.63	-1,488.50	2,682.36	2,634.00	48.36	55.466		
9,100.00	8,848.43	8,715.61	8,553.99	40.73	34.87	-99.08	-1,458.50	-1,488.41	2,686.59	2,638.12	48.47	55.433		
9,200.00	8,948.43	8,750.00	8,581.41	41.00	35.00	-99.52	-1,479.25	-1,488.20	2,698.26	2,649.58	48.68	55.425		
9,300.00	9,048.43	8,800.00	8,618.93	41.26	35.19	-100.21	-1,512.27	-1,487.87	2,712.42	2,663.46	48.97	55.393		
9,400.00	9,148.43	8,827.91	8,638.58	41.53	35.29	-100.63	-1,532.08	-1,487.68	2,729.23	2,680.13	49.11	55.577		
9,500.00	9,248.43	8,850.00	8,653.44	41.80	35.38	-100.97	-1,548.43	-1,487.51	2,748.83	2,699.65	49.18	55.891		
9,600.00	9,348.43	8,883.89	8,674.97	42.06	35.51	-101.52	-1,574.60	-1,487.25	2,771.19	2,721.89	49.30	56.206		
9,700.00	9,448.43	8,900.00	8,684.66	42.34	35.58	-101.79	-1,587.46	-1,487.12	2,796.46	2,747.18	49.28	56.744		
9,800.00	9,548.43	8,928.62	8,700.96	42.61	35.69	-102.28	-1,610.99	-1,486.89	2,824.53	2,775.22	49.32	57.274		
9,900.00	9,648.43	8,950.00	8,712.36	42.88	35.78	-102.66	-1,629.07	-1,486.71	2,855.47	2,806.20	49.28	57.948		
10,000.00	9,748.43	8,950.00	8,712.36	43.16	35.78	-102.66	-1,629.07	-1,486.71	2,889.33	2,840.26	49.07	58.887		
10,100.00	9,848.43	8,980.29	8,727.34	43.43	35.91	-103.20	-1,655.39	-1,486.44	2,925.71	2,876.67	49.04	59.655		
10,200.00	9,948.43	9,000.00	8,736.33	43.71	35.99	-103.56	-1,672.93	-1,486.27	2,964.92	2,915.99	48.93	60.597		
10,300.00	10,048.43	9,000.00	8,736.33	43.99	35.99	-103.56	-1,672.93	-1,486.27	3,006.73	2,958.07	48.66	61.792		
10,400.00	10,148.43	9,018.94	8,744.39	44.26	36.08	-103.91	-1,690.06	-1,486.10	3,051.04	3,002.53	48.51	62.896		
10,500.00	10,248.43	9,029.69	8,748.72	44.55	36.13	-104.12	-1,699.90	-1,486.00	3,097.82	3,049.53	48.29	64.150		
10,600.00	10,348.43	9,050.00	8,756.38	44.83	36.22	-104.50	-1,718.71	-1,485.81	3,147.02	3,098.89	48.13	65.385		
10,700.00	10,448.43	9,050.00	8,756.38	45.11	36.22	-104.50	-1,718.71	-1,485.81	3,198.35	3,150.52	47.82	66.877		
10,800.00	10,548.43	9,050.00	8,756.38	45.39	36.22	-104.50	-1,718.71	-1,485.81	3,251.94	3,204.42	47.52	68.440		
10,900.00	10,648.43	9,050.00	8,756.38	45.68	36.22	-104.50	-1,718.71	-1,485.81	3,307.69	3,260.48	47.21	70.067		
11,000.00	10,748.43	9,072.19	8,763.99	45.96	36.32	-104.93	-1,739.55	-1,485.60	3,365.15	3,318.09	47.06	71.508		
11,100.00	10,848.43	9,078.95	8,766.14	46.25	36.35	-105.06	-1,745.96	-1,485.54	3,424.64	3,377.83	46.81	73.165		
11,200.00	10,948.43	9,100.00	8,772.37	46.54	36.45	-105.46	-1,766.07	-1,485.34	3,486.08	3,439.43	46.66	74.715		
11,300.00	11,048.43	9,100.00	8,772.37	46.83	36.45	-105.46	-1,766.07	-1,485.34	3,548.98	3,502.61	46.37	76.528		
11,400.00	11,148.43	9,100.00	8,772.37	47.12	36.45	-105.46	-1,766.07	-1,485.34	3,613.55	3,567.45	46.10	78.382		
11,500.00	11,248.43	9,100.00	8,772.37	47.41	36.45	-105.46	-1,766.07	-1,485.34	3,679.71	3,633.87	45.84	80.271		
11,600.00	11,348.43	9,100.00	8,772.37	47.70	36.45	-105.46	-1,766.07	-1,485.34	3,747.37	3,701.77	45.59	82.191		
11,700.00	11,448.43	9,100.00	8,772.37	47.99	36.45	-105.46	-1,766.07	-1,485.34	3,816.44	3,771.08	45.36	84.138		
11,800.00	11,548.43	9,100.00	8,772.37	48.28	36.45	-105.46	-1,766.07	-1,485.34	3,886.87	3,841.73	45.14	86.107		
11,900.00	11,648.43	9,100.00	8,772.37	48.58	36.45	-105.46	-1,766.07	-1,485.34	3,958.56	3,913.63	44.94	88.093		
12,000.00	11,748.43	9,123.66	8,778.49	48.87	36.57	-105.93	-1,788.92	-1,485.11	4,031.03	3,986.13	44.90	89.785		
12,100.00	11,848.43	9,127.34	8,779.35	49.17	36.59	-106.00	-1,792.50	-1,485.07	4,104.92	4,060.17	44.75	91.739		
12,124.61	11,873.04	9,128.21	8,779.55	49.24	36.59	-106.02	-1,793.35	-1,485.06	4,123.27	4,078.56	44.71	92.221		
12,150.00	11,898.42	9,150.00	8,784.17	49.32	36.70	71.63	-1,814.63	-1,484.85	4,142.51	4,097.71	44.80	92.467		
12,200.00	11,948.22	9,150.00	8,784.17	49.49	36.70	66.61	-1,814.63	-1,484.85	4,179.13	4,134.41	44.72	93.443		
12,250.00	11,997.43	9,150.00	8,784.17	49.67	36.70	62.01	-1,814.63	-1,484.85	4,214.84	4,170.19	44.65	94.387		
12,300.00	12,045.71	9,150.00	8,784.17	49.88	36.70	57.87	-1,814.63	-1,484.85	4,249.40	4,204.81	44.59	95.293		
12,350.00	12,092.66	9,150.00	8,784.17	50.11	36.70	54.20	-1,814.63	-1,484.85	4,282.57	4,238.03	44.54	96.155		
12,400.00	12,137.95	9,150.00	8,784.17	50.35	36.70	50.96	-1,814.63	-1,484.85	4,314.14	4,269.65	44.49	96.968		
12,450.00	12,181.22	9,150.00	8,784.17	50.62	36.70	48.14	-1,814.63	-1,484.85	4,343.90	4,299.45	44.45	97.727		
12,500.00	12,222.15	9,150.00	8,784.17	50.89	36.70	45.70	-1,814.63	-1,484.85	4,371.67	4,327.25	44.42	98.427		
12,550.00	12,260.41	9,150.00	8,784.17	51.18	36.70	43.61	-1,814.63	-1,484.85	4,397.27	4,352.88	44.39	99.062		
12,600.00	12,295.73	9,150.00	8,784.17	51.49	36.70	41.82	-1,814.63	-1,484.85	4,420.55	4,376.18	44.37	99.629		
12,650.00	12,327.84	9,172.99	8,788.17	51.81	36.82	40.22	-1,837.27	-1,484.63	4,440.94	4,396.45	44.49	99.826		
12,700.00	12,356.48	9,200.00	8,791.69	52.14	36.97	38.90	-1,864.05	-1,484.36	4,459.26	4,414.63	44.63	99.918		
12,750.00	12,381.44	9,200.00	8,791.69	52.48	36.97	37.92	-1,864.05	-1,484.36	4,474.29	4,429.65	44.64	100.240		
12,800.00	12,402.53	9,200.00	8,791.69	52.84	36.97	37.15	-1,864.05	-1,484.36	4,486.52	4,441.86	44.65	100.477		

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 101H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
				(usft)	(usft)	(°)	+N/-S (usft)	+E/-W (usft)								
12,850.00	12,419.60	9,200.00	8,791.69	53.20	36.97	36.58	-1,864.05	-1,484.36	4,495.89	4,451.21	44.68	100.625				
12,900.00	12,432.50	9,200.00	8,791.69	53.57	36.97	36.19	-1,864.05	-1,484.36	4,502.34	4,457.62	44.72	100.681				
12,950.00	12,441.15	9,200.00	8,791.69	53.95	36.97	35.98	-1,864.05	-1,484.36	4,505.84	4,461.07	44.77	100.643				
13,000.00	12,445.47	9,200.00	8,791.69	54.34	36.97	35.95	-1,864.05	-1,484.36	4,506.36	4,461.53	44.84	100.508				
13,024.61	12,446.00	9,222.27	8,793.65	54.53	37.09	36.02	-1,886.22	-1,484.14	4,505.13	4,460.14	44.99	100.142				
13,100.00	12,446.00	9,250.00	8,794.88	55.13	37.24	36.03	-1,913.93	-1,483.86	4,501.89	4,456.64	45.25	99.487				
13,200.00	12,446.00	9,250.00	8,794.88	55.95	37.24	36.03	-1,913.93	-1,483.86	4,498.71	4,453.27	45.44	99.001				
13,300.00	12,446.00	9,261.55	8,795.00	56.81	37.31	36.03	-1,925.48	-1,483.74	4,497.68	4,451.97	45.71	98.389				
13,304.11	12,446.00	9,261.55	8,795.00	56.84	37.31	36.03	-1,925.48	-1,483.74	4,497.68	4,451.95	45.72	98.367				
13,400.00	12,446.00	9,347.78	8,795.00	57.70	37.82	36.03	-2,011.71	-1,482.88	4,497.86	4,451.49	46.38	96.984				
13,500.00	12,446.00	9,447.78	8,795.00	58.63	38.48	36.03	-2,111.70	-1,481.88	4,498.07	4,450.92	47.15	95.401				
13,600.00	12,446.00	9,547.78	8,795.00	59.59	39.20	36.04	-2,211.69	-1,480.88	4,498.27	4,450.30	47.96	93.783				
13,700.00	12,446.00	9,647.78	8,795.00	60.58	39.98	36.04	-2,311.69	-1,479.88	4,498.47	4,449.65	48.82	92.141				
13,800.00	12,446.00	9,747.78	8,795.00	61.60	40.82	36.05	-2,411.68	-1,478.89	4,498.68	4,448.96	49.72	90.485				
13,900.00	12,446.00	9,847.78	8,795.00	62.64	41.70	36.05	-2,511.68	-1,477.89	4,498.88	4,448.23	50.65	88.824				
14,000.00	12,446.00	9,947.78	8,795.00	63.71	42.63	36.05	-2,611.67	-1,476.89	4,499.08	4,447.47	51.61	87.167				
14,100.00	12,446.00	10,047.78	8,795.00	64.81	43.61	36.06	-2,711.67	-1,475.89	4,499.29	4,446.67	52.61	85.518				
14,200.00	12,446.00	10,147.78	8,795.00	65.92	44.63	36.06	-2,811.66	-1,474.89	4,499.49	4,445.85	53.64	83.880				
14,300.00	12,446.00	10,247.78	8,795.00	67.07	45.69	36.06	-2,911.66	-1,473.89	4,499.69	4,444.99	54.70	82.260				
14,400.00	12,446.00	10,347.78	8,795.00	68.23	46.78	36.07	-3,011.65	-1,472.89	4,499.90	4,444.11	55.79	80.660				
14,500.00	12,446.00	10,447.78	8,795.00	69.41	47.91	36.07	-3,111.64	-1,471.89	4,500.10	4,443.20	56.90	79.083				
14,600.00	12,446.00	10,547.78	8,795.00	70.61	49.07	36.07	-3,211.64	-1,470.89	4,500.30	4,442.26	58.04	77.533				
14,700.00	12,446.00	10,647.78	8,795.00	71.83	50.25	36.08	-3,311.63	-1,469.89	4,500.51	4,441.30	59.21	76.014				
14,800.00	12,446.00	10,747.78	8,795.00	73.06	51.46	36.08	-3,411.63	-1,468.89	4,500.71	4,440.32	60.39	74.526				
14,900.00	12,446.00	10,847.78	8,795.00	74.32	52.70	36.08	-3,511.62	-1,467.89	4,500.91	4,439.32	61.59	73.074				
15,000.00	12,446.00	10,947.77	8,795.00	75.58	53.96	36.09	-3,611.62	-1,466.89	4,501.12	4,438.30	62.82	71.656				
15,100.00	12,446.00	11,047.77	8,795.00	76.87	55.24	36.09	-3,711.61	-1,465.89	4,501.32	4,437.26	64.06	70.272				
15,200.00	12,446.00	11,147.77	8,795.00	78.16	56.54	36.10	-3,811.61	-1,464.89	4,501.52	4,436.21	65.31	68.922				
15,300.00	12,446.00	11,247.77	8,795.00	79.47	57.86	36.10	-3,911.60	-1,463.90	4,501.73	4,435.14	66.59	67.606				
15,400.00	12,446.00	11,347.77	8,795.00	80.79	59.19	36.10	-4,011.59	-1,462.90	4,501.93	4,434.05	67.88	66.325				
15,500.00	12,446.00	11,447.77	8,795.00	82.13	60.54	36.11	-4,111.59	-1,461.90	4,502.13	4,432.95	69.18	65.077				
15,600.00	12,446.00	11,547.77	8,795.00	83.47	61.91	36.11	-4,211.58	-1,460.90	4,502.34	4,431.84	70.50	63.863				
15,700.00	12,446.00	11,647.77	8,795.00	84.83	63.29	36.11	-4,311.58	-1,459.90	4,502.54	4,430.71	71.83	62.683				
15,800.00	12,446.00	11,747.77	8,795.00	86.20	64.68	36.12	-4,411.57	-1,458.90	4,502.74	4,429.57	73.17	61.537				
15,900.00	12,446.00	11,847.77	8,795.00	87.57	66.09	36.12	-4,511.57	-1,457.90	4,502.95	4,428.42	74.52	60.423				
16,000.00	12,446.00	11,947.77	8,795.00	88.96	67.50	36.12	-4,611.56	-1,456.90	4,503.15	4,427.26	75.89	59.339				
16,100.00	12,446.00	12,047.77	8,795.00	90.35	68.93	36.13	-4,711.55	-1,455.90	4,503.36	4,426.09	77.26	58.287				
16,200.00	12,446.00	12,147.77	8,795.00	91.76	70.36	36.13	-4,811.55	-1,454.90	4,503.56	4,424.91	78.65	57.263				
16,300.00	12,446.00	12,247.77	8,795.00	93.17	71.81	36.13	-4,911.54	-1,453.90	4,503.76	4,423.72	80.04	56.269				
16,400.00	12,446.00	12,347.77	8,795.00	94.59	73.26	36.14	-5,011.54	-1,452.90	4,503.97	4,422.52	81.44	55.302				
16,500.00	12,446.00	12,447.77	8,795.00	96.02	74.73	36.14	-5,111.53	-1,451.90	4,504.17	4,421.32	82.85	54.363				
16,600.00	12,446.00	12,547.77	8,795.00	97.45	76.20	36.14	-5,211.53	-1,450.90	4,504.37	4,420.10	84.27	53.450				
16,700.00	12,446.00	12,647.76	8,795.00	98.89	77.68	36.15	-5,311.52	-1,449.90	4,504.58	4,418.88	85.70	52.564				
16,800.00	12,446.00	12,747.76	8,795.00	100.34	79.16	36.15	-5,411.52	-1,448.91	4,504.78	4,417.65	87.13	51.703				
16,900.00	12,446.00	12,847.76	8,795.00	101.79	80.65	36.16	-5,511.51	-1,447.91	4,504.99	4,416.42	88.57	50.866				
17,000.00	12,446.00	12,947.76	8,795.00	103.25	82.15	36.16	-5,611.50	-1,446.91	4,505.19	4,415.18	90.01	50.051				
17,100.00	12,446.00	13,047.76	8,795.00	104.72	83.65	36.16	-5,711.50	-1,445.91	4,505.39	4,413.93	91.46	49.259				
17,200.00	12,446.00	13,147.76	8,795.00	106.19	85.16	36.17	-5,811.49	-1,444.91	4,505.60	4,412.68	92.92	48.488				
17,300.00	12,446.00	13,247.76	8,795.00	107.66	86.68	36.17	-5,911.49	-1,443.91	4,505.80	4,411.42	94.38	47.739				
17,400.00	12,446.00	13,347.76	8,795.00	109.15	88.20	36.17	-6,011.48	-1,442.91	4,506.00	4,410.15	95.85	47.009				
17,500.00	12,446.00	13,447.76	8,795.00	110.63	89.72	36.18	-6,111.48	-1,441.91	4,506.21	4,408.88	97.33	46.300				
17,600.00	12,446.00	13,547.76	8,795.00	112.12	91.25	36.18	-6,211.47	-1,440.91	4,506.41	4,407.61	98.80	45.610				

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 101H - OH - Plan #1		Offset Site Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
							+N/-S (usft)	+E/-W (usft)								
17,700.00	12,446.00	13,647.76	8,795.00	113.62	92.78	36.18	-6,311.47	-1,439.91	4,506.62	4,406.33	100.28	44.939				
17,800.00	12,446.00	13,747.76	8,795.00	115.12	94.32	36.19	-6,411.46	-1,438.91	4,506.82	4,405.05	101.77	44.285				
17,900.00	12,446.00	13,847.76	8,795.00	116.62	95.86	36.19	-6,511.45	-1,437.91	4,507.02	4,403.77	103.26	43.648				
18,000.00	12,446.00	13,947.76	8,795.00	118.13	97.40	36.19	-6,611.45	-1,436.91	4,507.23	4,402.47	104.76	43.026				
18,100.00	12,446.00	14,047.76	8,795.00	119.64	98.95	36.20	-6,711.44	-1,435.91	4,507.43	4,401.18	106.26	42.421				
18,200.00	12,446.00	14,147.76	8,795.00	121.16	100.50	36.20	-6,811.44	-1,434.92	4,507.64	4,399.88	107.76	41.831				
18,300.00	12,446.00	14,247.76	8,795.00	122.67	102.05	36.21	-6,911.43	-1,433.92	4,507.84	4,398.58	109.26	41.257				
18,400.00	12,446.00	14,347.75	8,795.00	124.20	103.61	36.21	-7,011.43	-1,432.92	4,508.04	4,397.28	110.77	40.698				
18,500.00	12,446.00	14,447.75	8,795.00	125.72	105.17	36.21	-7,111.42	-1,431.92	4,508.25	4,395.97	112.28	40.152				
18,600.00	12,446.00	14,547.75	8,795.00	127.25	106.73	36.22	-7,211.42	-1,430.92	4,508.45	4,394.66	113.79	39.619				
18,700.00	12,446.00	14,647.75	8,795.00	128.78	108.30	36.22	-7,311.41	-1,429.92	4,508.66	4,393.35	115.31	39.100				
18,800.00	12,446.00	14,747.75	8,795.00	130.32	109.87	36.22	-7,411.40	-1,428.92	4,508.86	4,392.03	116.83	38.593				
18,900.00	12,446.00	14,847.75	8,795.00	131.86	111.44	36.23	-7,511.40	-1,427.92	4,509.06	4,390.71	118.36	38.097				
19,000.00	12,446.00	14,947.75	8,795.00	133.40	113.01	36.23	-7,611.39	-1,426.92	4,509.27	4,389.39	119.88	37.614				
19,100.00	12,446.00	15,047.75	8,795.00	134.94	114.59	36.23	-7,711.39	-1,425.92	4,509.47	4,388.06	121.41	37.143				
19,200.00	12,446.00	15,147.75	8,795.00	136.48	116.16	36.24	-7,811.38	-1,424.92	4,509.68	4,386.74	122.94	36.682				
19,300.00	12,446.00	15,247.75	8,795.00	138.03	117.74	36.24	-7,911.38	-1,423.92	4,509.88	4,385.41	124.47	36.232				
19,400.00	12,446.00	15,347.75	8,795.00	139.58	119.32	36.24	-8,011.37	-1,422.92	4,510.09	4,384.08	126.01	35.793				
19,500.00	12,446.00	15,447.75	8,795.00	141.14	120.91	36.25	-8,111.36	-1,421.92	4,510.29	4,382.75	127.54	35.363				
19,600.00	12,446.00	15,547.75	8,795.00	142.69	122.49	36.25	-8,211.36	-1,420.92	4,510.49	4,381.41	129.08	34.943				
19,700.00	12,446.00	15,647.75	8,795.00	144.25	124.08	36.25	-8,311.35	-1,419.93	4,510.70	4,380.08	130.62	34.532				
19,800.00	12,446.00	15,747.75	8,795.00	145.81	125.66	36.26	-8,411.35	-1,418.93	4,510.90	4,378.74	132.17	34.131				
19,900.00	12,446.00	15,847.75	8,795.00	147.37	127.25	36.26	-8,511.34	-1,417.93	4,511.11	4,377.40	133.71	33.738				
20,000.00	12,446.00	15,947.75	8,795.00	148.93	128.85	36.27	-8,611.34	-1,416.93	4,511.31	4,376.05	135.26	33.353				
20,100.00	12,446.00	16,047.74	8,795.00	150.50	130.44	36.27	-8,711.33	-1,415.93	4,511.52	4,374.71	136.80	32.978				
20,200.00	12,446.00	16,147.74	8,795.00	152.06	132.03	36.27	-8,811.33	-1,414.93	4,511.72	4,373.37	138.35	32.611				
20,300.00	12,446.00	16,247.74	8,795.00	153.63	133.63	36.28	-8,911.32	-1,413.93	4,511.92	4,372.02	139.90	32.251				
20,400.00	12,446.00	16,347.74	8,795.00	155.20	135.23	36.28	-9,011.31	-1,412.93	4,512.13	4,370.68	141.45	31.898				
20,500.00	12,446.00	16,447.74	8,795.00	156.77	136.82	36.28	-9,111.31	-1,411.93	4,512.33	4,369.33	143.01	31.553				
20,600.00	12,446.00	16,547.74	8,795.00	158.35	138.42	36.29	-9,211.30	-1,410.93	4,512.54	4,367.97	144.56	31.215				
20,700.00	12,446.00	16,647.74	8,795.00	159.92	140.02	36.29	-9,311.30	-1,409.93	4,512.74	4,366.62	146.12	30.884				
20,800.00	12,446.00	16,747.74	8,795.00	161.50	141.63	36.29	-9,411.29	-1,408.93	4,512.95	4,365.27	147.68	30.559				
20,900.00	12,446.00	16,847.74	8,795.00	163.08	143.23	36.30	-9,511.29	-1,407.93	4,513.15	4,363.91	149.24	30.242				
21,000.00	12,446.00	16,947.74	8,795.00	164.66	144.83	36.30	-9,611.28	-1,406.93	4,513.36	4,362.56	150.79	29.930				
21,100.00	12,446.00	17,047.74	8,795.00	166.24	146.44	36.30	-9,711.28	-1,405.93	4,513.56	4,361.21	152.35	29.625				
21,200.00	12,446.00	17,147.74	8,795.00	167.82	148.05	36.31	-9,811.27	-1,404.94	4,513.76	4,359.85	153.92	29.326				
21,300.00	12,446.00	17,247.74	8,795.00	169.41	149.65	36.31	-9,911.26	-1,403.94	4,513.97	4,358.49	155.48	29.032				
21,400.00	12,446.00	17,347.74	8,795.00	170.99	151.26	36.31	-10,011.26	-1,402.94	4,514.17	4,357.12	157.05	28.744				
21,500.00	12,446.00	17,447.74	8,795.00	172.58	152.87	36.32	-10,111.25	-1,401.94	4,514.38	4,355.77	158.61	28.462				
21,600.00	12,446.00	17,547.74	8,795.00	174.17	154.48	36.32	-10,211.25	-1,400.94	4,514.58	4,354.41	160.18	28.185				
21,700.00	12,446.00	17,647.73	8,795.00	175.76	156.09	36.33	-10,311.24	-1,399.94	4,514.79	4,353.04	161.74	27.913				
21,800.00	12,446.00	17,747.73	8,795.00	177.35	157.70	36.33	-10,411.24	-1,398.94	4,514.99	4,351.68	163.31	27.647				
21,900.00	12,446.00	17,847.73	8,795.00	178.94	159.32	36.33	-10,511.23	-1,397.94	4,515.20	4,350.32	164.88	27.385				
22,000.00	12,446.00	17,947.73	8,795.00	180.53	160.93	36.34	-10,611.23	-1,396.94	4,515.40	4,348.95	166.45	27.128				
22,100.00	12,446.00	18,047.73	8,795.00	182.12	162.54	36.34	-10,711.22	-1,395.94	4,515.61	4,347.58	168.02	26.875				
22,200.00	12,446.00	18,147.73	8,795.00	183.72	164.16	36.34	-10,811.21	-1,394.94	4,515.81	4,346.22	169.60	26.627				
22,300.00	12,446.00	18,247.73	8,795.00	185.31	165.77	36.35	-10,911.21	-1,393.94	4,516.02	4,344.85	171.17	26.384				
22,400.00	12,446.00	18,347.73	8,795.00	186.91	167.39	36.35	-11,011.20	-1,392.94	4,516.22	4,343.48	172.74	26.145				
22,500.00	12,446.00	18,447.73	8,795.00	188.51	169.01	36.35	-11,111.20	-1,391.94	4,516.43	4,342.12	174.31	25.910				
22,600.00	12,446.00	18,547.73	8,795.00	190.11	170.62	36.36	-11,211.19	-1,390.94	4,516.63	4,340.75	175.88	25.680				
22,700.00	12,446.00	18,647.73	8,795.00	191.71	172.24	36.36	-11,311.19	-1,389.95	4,516.83	4,339.38	177.46	25.453				
22,800.00	12,446.00	18,747.73	8,795.00	193.31	173.86	36.36	-11,411.18	-1,388.95	4,517.04	4,338.01	179.03	25.230				

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design	Tatanka Fed Com - Tatanka Fed Com 101H - OH - Plan #1											Offset Site Error:	0.00 usft
Survey Program:	0-OWSG (Rev2) MWD											Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
22,817.13	12,446.00	18,762.37	8,795.00	193.58	174.10	36.36	-11,425.82	-1,388.80	4,517.08	4,337.79	179.28	25.196 SF	



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Tatanka Fed Com - Tatanka Fed Com 102H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.00	0.00	0.00	0.00	0.00	0.00	-153.87	-1,022.32	-501.48	1,138.78					
100.00	100.00	85.70	85.70	0.13	0.11	-153.87	-1,022.32	-501.48	1,138.69	1,138.53	0.17	6,891.318		
200.00	200.00	185.70	185.70	0.48	0.43	-153.87	-1,022.32	-501.48	1,138.69	1,138.04	0.65	1,754.114		
300.00	300.00	285.70	285.70	0.84	0.79	-153.87	-1,022.32	-501.48	1,138.69	1,137.54	1.16	985.312		
400.00	400.00	385.70	385.70	1.20	1.15	-153.87	-1,022.32	-501.48	1,138.69	1,137.03	1.66	684.949		
500.00	500.00	485.70	485.70	1.56	1.51	-153.87	-1,022.32	-501.48	1,138.69	1,136.52	2.17	524.910		
600.00	600.00	585.70	585.70	1.92	1.87	-153.87	-1,022.32	-501.48	1,138.69	1,136.02	2.68	425.487		
700.00	700.00	685.70	685.70	2.28	2.23	-153.87	-1,022.32	-501.48	1,138.69	1,135.51	3.18	357.728		
800.00	800.00	785.70	785.70	2.63	2.58	-153.87	-1,022.32	-501.48	1,138.69	1,135.00	3.69	308.584		
900.00	900.00	885.70	885.70	2.99	2.94	-153.87	-1,022.32	-501.48	1,138.69	1,134.50	4.20	271.312		
1,000.00	1,000.00	985.70	985.70	3.35	3.30	-153.87	-1,022.32	-501.48	1,138.69	1,133.99	4.70	242.073		
1,100.00	1,100.00	1,085.70	1,085.70	3.71	3.66	-153.87	-1,022.32	-501.48	1,138.69	1,133.48	5.21	218.523		
1,200.00	1,200.00	1,185.70	1,185.70	4.07	4.02	-153.87	-1,022.32	-501.48	1,138.69	1,132.97	5.72	199.148		
1,300.00	1,300.00	1,285.70	1,285.70	4.43	4.38	-153.87	-1,022.32	-501.48	1,138.69	1,132.47	6.22	182.930		
1,400.00	1,400.00	1,385.70	1,385.70	4.79	4.73	-153.87	-1,022.32	-501.48	1,138.69	1,131.96	6.73	169.154		
1,500.00	1,500.00	1,485.70	1,485.70	5.14	5.09	-153.87	-1,022.32	-501.48	1,138.69	1,131.45	7.24	157.307		
1,600.00	1,600.00	1,585.70	1,585.70	5.50	5.45	-153.87	-1,022.32	-501.48	1,138.69	1,130.95	7.75	147.011		
1,700.00	1,700.00	1,685.70	1,685.70	5.86	5.81	-153.87	-1,022.32	-501.48	1,138.69	1,130.44	8.25	137.981		
1,800.00	1,800.00	1,785.70	1,785.70	6.22	6.17	-153.87	-1,022.32	-501.48	1,138.69	1,129.93	8.76	129.995		
1,900.00	1,900.00	1,885.70	1,885.70	6.58	6.53	-153.87	-1,022.32	-501.48	1,138.69	1,129.43	9.27	122.883		
2,000.00	2,000.00	1,985.70	1,985.70	6.94	6.89	-153.87	-1,022.32	-501.48	1,138.69	1,128.92	9.77	116.509		
2,100.00	2,100.00	2,085.70	2,085.70	7.29	7.24	-153.87	-1,022.32	-501.48	1,138.69	1,128.41	10.28	110.764		
2,200.00	2,200.00	2,185.70	2,185.70	7.65	7.60	-153.87	-1,022.32	-501.48	1,138.69	1,127.91	10.79	105.559		
2,300.00	2,300.00	2,285.70	2,285.70	8.01	7.96	-153.87	-1,022.32	-501.48	1,138.69	1,127.40	11.29	100.820		
2,400.00	2,400.00	2,385.70	2,385.70	8.37	8.32	-153.87	-1,022.32	-501.48	1,138.69	1,126.89	11.80	96.489		
2,500.00	2,500.00	2,485.70	2,485.70	8.73	8.68	-153.87	-1,022.32	-501.48	1,138.69	1,126.38	12.31	92.515		
2,600.00	2,600.00	2,585.70	2,585.70	9.09	9.04	-153.87	-1,022.32	-501.48	1,138.69	1,125.88	12.82	88.855		
2,700.00	2,700.00	2,685.70	2,685.70	9.45	9.39	-153.87	-1,022.32	-501.48	1,138.69	1,125.37	13.32	85.474		
2,800.00	2,800.00	2,785.70	2,785.70	9.80	9.75	-153.87	-1,022.32	-501.48	1,138.69	1,124.86	13.83	82.341		
2,900.00	2,900.00	2,885.70	2,885.70	10.16	10.11	-153.87	-1,022.32	-501.48	1,138.69	1,124.36	14.34	79.429		
3,000.00	3,000.00	2,985.70	2,985.70	10.52	10.47	-153.87	-1,022.32	-501.48	1,138.69	1,123.85	14.84	76.716		
3,100.00	3,100.00	3,085.70	3,085.70	10.88	10.83	-153.87	-1,022.32	-501.48	1,138.69	1,123.34	15.35	74.182		
3,200.00	3,200.00	3,185.70	3,185.70	11.24	11.19	-153.87	-1,022.32	-501.48	1,138.69	1,122.84	15.86	71.811		
3,300.00	3,300.00	3,267.60	3,267.60	11.60	11.47	-153.88	-1,022.92	-501.48	1,139.37	1,123.07	16.31	69.868		
3,400.00	3,399.99	3,346.44	3,346.40	11.94	11.73	74.04	-1,025.13	-501.48	1,141.53	1,124.80	16.73	68.240		
3,500.00	3,499.91	3,425.21	3,425.08	12.27	11.98	74.06	-1,028.96	-501.48	1,144.82	1,127.69	17.13	66.830		
3,600.00	3,599.69	3,500.00	3,499.69	12.60	12.23	74.12	-1,034.09	-501.48	1,149.25	1,131.73	17.52	65.607		
3,700.00	3,699.27	3,582.40	3,581.77	12.94	12.50	74.23	-1,041.45	-501.48	1,154.81	1,136.88	17.93	64.419		
3,800.00	3,798.57	3,660.76	3,659.64	13.28	12.75	74.38	-1,050.08	-501.48	1,161.52	1,143.20	18.32	63.397		
3,900.00	3,897.54	3,743.17	3,741.35	13.62	13.03	74.60	-1,060.85	-501.47	1,169.37	1,150.64	18.73	62.427		
4,000.00	3,996.09	3,881.37	3,878.42	13.97	13.49	75.13	-1,078.32	-499.24	1,175.52	1,156.16	19.36	60.726		
4,100.00	4,094.16	4,020.05	4,016.20	14.33	13.97	75.79	-1,092.70	-493.08	1,177.76	1,157.78	19.98	58.950		
4,200.00	4,191.70	4,158.81	4,154.12	14.70	14.45	76.58	-1,103.94	-483.00	1,176.14	1,155.55	20.60	57.107		
4,300.00	4,288.62	4,297.24	4,291.61	15.08	14.94	77.50	-1,111.98	-469.04	1,170.71	1,149.51	21.21	55.207		
4,400.00	4,384.86	4,434.96	4,428.09	15.48	15.43	78.58	-1,116.84	-451.31	1,161.55	1,139.74	21.81	53.259		
4,500.00	4,480.36	4,559.35	4,550.97	15.89	15.88	79.72	-1,118.60	-432.11	1,148.93	1,126.54	22.39	51.315		
4,600.00	4,575.05	4,656.83	4,647.17	16.33	16.23	80.80	-1,119.41	-416.39	1,135.32	1,112.37	22.95	49.477		
4,674.25	4,644.79	4,728.85	4,718.25	16.66	16.50	81.70	-1,120.01	-404.77	1,125.14	1,101.77	23.37	48.145		
4,700.00	4,668.90	4,753.77	4,742.84	16.78	16.59	81.97	-1,120.22	-400.75	1,121.63	1,098.11	23.52	47.690		
4,800.00	4,762.49	4,850.56	4,838.35	17.26	16.95	83.05	-1,121.03	-385.14	1,108.22	1,084.11	24.11	45.973		
4,900.00	4,856.09	4,947.34	4,933.86	17.75	17.31	84.16	-1,121.84	-369.53	1,095.23	1,070.52	24.70	44.332		
5,000.00	4,949.69	5,044.12	5,029.38	18.25	17.68	85.28	-1,122.65	-353.91	1,082.66	1,057.35	25.32	42.767		

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 102H - OH - Plan #1		Offset Site Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
5,100.00	5,043.29	5,140.90	5,124.89	18.76	18.05	86.44	-1,123.46	-338.30	1,070.54	1,044.61	25.94	41.276				
5,200.00	5,136.88	5,237.69	5,220.40	19.29	18.42	87.61	-1,124.27	-322.69	1,058.88	1,032.32	26.57	39.857				
5,300.00	5,230.48	5,334.47	5,315.91	19.82	18.80	88.82	-1,125.07	-307.08	1,047.70	1,020.49	27.21	38.511				
5,400.00	5,324.08	5,431.25	5,411.43	20.37	19.18	90.04	-1,125.88	-291.47	1,037.00	1,009.15	27.85	37.234				
5,500.00	5,417.68	5,528.04	5,506.94	20.93	19.56	91.29	-1,126.69	-275.85	1,026.81	998.31	28.50	36.025				
5,600.00	5,511.27	5,624.82	5,602.45	21.49	19.94	92.56	-1,127.50	-260.24	1,017.14	987.98	29.16	34.883				
5,700.00	5,604.87	5,721.60	5,697.96	22.06	20.32	93.86	-1,128.31	-244.63	1,008.00	978.19	29.82	33.804				
5,800.00	5,698.47	5,818.39	5,793.47	22.64	20.70	95.17	-1,129.12	-229.02	999.42	968.94	30.48	32.786				
5,900.00	5,792.07	5,915.17	5,888.99	23.22	21.09	96.51	-1,129.93	-213.41	991.40	960.25	31.15	31.828				
6,000.00	5,885.66	6,011.95	5,984.50	23.81	21.48	97.87	-1,130.74	-197.79	983.96	952.14	31.81	30.928				
6,100.00	5,979.26	6,108.74	6,080.01	24.41	21.87	99.24	-1,131.54	-182.18	977.11	944.62	32.48	30.083				
6,200.00	6,072.86	6,205.52	6,175.52	25.01	22.26	100.64	-1,132.35	-166.57	970.86	937.71	33.15	29.291				
6,300.00	6,166.46	6,302.30	6,271.04	25.61	22.65	102.05	-1,133.16	-150.96	965.23	931.42	33.81	28.550				
6,400.00	6,260.05	6,399.08	6,366.55	26.22	23.05	103.47	-1,133.97	-135.35	960.22	925.75	34.47	27.859				
6,500.00	6,353.65	6,495.87	6,462.06	26.84	23.44	104.91	-1,134.78	-119.73	955.85	920.73	35.12	27.215				
6,600.00	6,447.25	6,592.65	6,557.57	27.45	23.84	106.35	-1,135.59	-104.12	952.13	916.36	35.77	26.617				
6,700.00	6,540.85	6,689.43	6,653.08	28.07	24.24	107.81	-1,136.40	-88.51	949.06	912.64	36.41	26.063				
6,800.00	6,634.44	6,786.22	6,748.60	28.70	24.64	109.28	-1,137.21	-72.90	946.64	909.59	37.05	25.550				
6,900.00	6,728.04	6,883.00	6,844.11	29.33	25.03	110.75	-1,138.01	-57.29	944.90	907.22	37.68	25.077				
7,000.00	6,821.64	6,977.71	6,937.57	29.96	25.43	112.20	-1,138.81	-42.02	943.83	905.53	38.30	24.642				
7,021.88	6,842.12	6,995.13	6,954.78	30.10	25.50	112.46	-1,138.95	-39.29	943.77	905.33	38.44	24.553	CC, ES			
7,100.00	6,915.24	7,057.16	7,016.14	30.59	25.75	113.44	-1,139.42	-30.22	944.52	905.61	38.91	24.272				
7,200.00	7,008.83	7,136.13	7,094.46	31.23	26.06	114.71	-1,139.94	-20.11	947.70	908.20	39.50	23.992				
7,300.00	7,102.43	7,214.56	7,172.43	31.87	26.37	116.01	-1,140.38	-11.67	953.43	913.37	40.06	23.799				
7,400.00	7,196.03	7,300.00	7,257.55	32.51	26.70	117.46	-1,140.76	-4.30	961.77	921.17	40.61	23.684				
7,500.00	7,289.63	7,369.55	7,326.95	33.15	26.95	118.65	-1,141.00	0.30	972.65	931.56	41.10	23.668	SF			
7,600.00	7,383.22	7,446.01	7,403.32	33.80	27.23	119.97	-1,141.18	3.89	986.20	944.63	41.57	23.725				
7,683.32	7,461.21	7,509.12	7,466.41	34.34	27.45	121.05	-1,141.28	5.71	999.48	957.54	41.94	23.832				
7,700.00	7,476.83	7,521.71	7,478.99	34.44	27.49	121.30	-1,141.29	5.95	1,002.34	960.33	42.01	23.860				
7,800.00	7,571.03	7,599.45	7,556.73	35.07	27.76	122.80	-1,141.32	6.52	1,020.17	977.74	42.43	24.043				
7,900.00	7,666.07	7,694.49	7,651.77	35.68	28.08	124.42	-1,141.32	6.52	1,037.99	995.08	42.91	24.189				
8,000.00	7,761.89	7,790.32	7,747.59	36.25	28.40	125.87	-1,141.32	6.52	1,054.91	1,011.53	43.39	24.314				
8,100.00	7,858.43	7,886.85	7,844.13	36.80	28.72	127.17	-1,141.32	6.52	1,070.78	1,026.93	43.86	24.414				
8,200.00	7,955.62	7,984.04	7,941.32	37.32	29.05	128.32	-1,141.32	6.52	1,085.45	1,041.12	44.33	24.487				
8,300.00	8,053.39	8,081.81	8,039.09	37.81	29.38	129.32	-1,141.32	6.52	1,098.78	1,053.99	44.79	24.531				
8,400.00	8,151.68	8,180.10	8,137.38	38.27	29.72	130.18	-1,141.32	6.52	1,110.68	1,065.43	45.26	24.542				
8,500.00	8,250.41	8,276.39	8,233.66	38.71	30.04	130.90	-1,141.44	6.52	1,121.07	1,075.36	45.70	24.528				
8,600.00	8,349.53	8,358.65	8,315.51	39.11	30.31	131.04	-1,149.00	6.60	1,130.78	1,084.66	46.12	24.519				
8,700.00	8,448.96	8,439.04	8,393.64	39.49	30.58	130.54	-1,167.62	6.78	1,140.40	1,093.82	46.58	24.485				
8,800.00	8,548.63	8,514.06	8,463.54	39.84	30.84	129.52	-1,194.70	7.05	1,150.39	1,103.37	47.02	24.464				
8,900.00	8,648.48	8,581.43	8,522.83	40.17	31.06	128.21	-1,226.62	7.36	1,161.59	1,114.19	47.40	24.504				
9,000.00	8,748.44	8,640.22	8,571.20	40.46	31.25	126.79	-1,259.99	7.69	1,174.96	1,127.30	47.66	24.653				
9,057.57	8,806.00	8,670.19	8,594.47	40.62	31.35	-101.96	-1,278.87	7.88	1,183.99	1,136.27	47.73	24.807				
9,100.00	8,848.43	8,690.62	8,609.75	40.73	31.42	-102.61	-1,292.42	8.01	1,191.52	1,143.78	47.74	24.959				
9,200.00	8,948.43	8,733.93	8,640.50	41.00	31.56	-104.06	-1,322.90	8.31	1,213.02	1,165.38	47.64	25.464				
9,300.00	9,048.43	8,771.22	8,665.07	41.26	31.69	-105.38	-1,350.94	8.59	1,239.99	1,192.64	47.35	26.187				
9,400.00	9,148.43	8,800.00	8,682.76	41.53	31.79	-106.44	-1,373.65	8.81	1,272.55	1,225.70	46.84	27.165				
9,500.00	9,248.43	8,831.30	8,700.67	41.80	31.91	-107.62	-1,399.31	9.07	1,310.57	1,264.26	46.31	28.302				
9,600.00	9,348.43	8,850.00	8,710.69	42.06	31.98	-108.34	-1,415.10	9.22	1,353.89	1,308.38	45.51	29.748				
9,700.00	9,448.43	8,876.90	8,724.19	42.34	32.09	-109.39	-1,438.36	9.45	1,402.12	1,357.30	44.82	31.283				
9,800.00	9,548.43	8,900.00	8,734.91	42.61	32.18	-110.30	-1,458.82	9.65	1,455.02	1,410.96	44.06	33.022				
9,900.00	9,648.43	8,900.00	8,734.91	42.88	32.18	-110.30	-1,458.82	9.65	1,512.26	1,469.30	42.96	35.204				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Tatanka Fed Com - Tatanka Fed Com 102H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
10,000.00	9,748.43	8,927.06	8,746.39	43.16	32.29	-111.38	-1,483.32	9.90	1,573.11	1,530.80	42.31	37.182		
10,100.00	9,848.43	8,950.00	8,755.22	43.43	32.39	-112.30	-1,504.49	10.11	1,637.67	1,596.04	41.63	39.336		
10,200.00	9,948.43	8,950.00	8,755.22	43.71	32.39	-112.30	-1,504.49	10.11	1,705.21	1,664.54	40.68	41.921		
10,300.00	10,048.43	8,950.00	8,755.22	43.99	32.39	-112.30	-1,504.49	10.11	1,775.82	1,736.03	39.79	44.629		
10,400.00	10,148.43	8,972.73	8,763.12	44.26	32.50	-113.21	-1,525.80	10.32	1,848.65	1,809.36	39.29	47.056		
10,500.00	10,248.43	8,981.62	8,765.98	44.55	32.54	-113.57	-1,534.22	10.40	1,923.90	1,885.25	38.66	49.771		
10,600.00	10,348.43	9,000.00	8,771.47	44.83	32.63	-114.31	-1,551.76	10.57	2,001.30	1,963.09	38.21	52.379		
10,700.00	10,448.43	9,000.00	8,771.47	45.11	32.63	-114.31	-1,551.76	10.57	2,080.32	2,042.72	37.60	55.333		
10,800.00	10,548.43	9,000.00	8,771.47	45.39	32.63	-114.31	-1,551.76	10.57	2,161.08	2,124.02	37.05	58.324		
10,900.00	10,648.43	9,000.00	8,771.47	45.68	32.63	-114.31	-1,551.76	10.57	2,243.39	2,206.81	36.57	61.343		
11,000.00	10,748.43	9,000.00	8,771.47	45.96	32.63	-114.31	-1,551.76	10.57	2,327.08	2,290.93	36.15	64.371		
11,100.00	10,848.43	9,021.73	8,777.24	46.25	32.73	-115.18	-1,572.70	10.78	2,411.56	2,375.55	36.01	66.970		
11,200.00	10,948.43	9,026.80	8,778.47	46.54	32.76	-115.39	-1,577.62	10.83	2,497.37	2,461.63	35.74	69.874		
11,300.00	11,048.43	9,050.00	8,783.54	46.83	32.87	-116.31	-1,600.26	11.05	2,584.50	2,548.81	35.69	72.418		
11,400.00	11,148.43	9,050.00	8,783.54	47.12	32.87	-116.31	-1,600.26	11.05	2,672.03	2,636.57	35.46	75.358		
11,500.00	11,248.43	9,050.00	8,783.54	47.41	32.87	-116.31	-1,600.26	11.05	2,760.41	2,725.14	35.27	78.263		
11,600.00	11,348.43	9,050.00	8,783.54	47.70	32.87	-116.31	-1,600.26	11.05	2,849.56	2,814.44	35.12	81.137		
11,700.00	11,448.43	9,050.00	8,783.54	47.99	32.87	-116.31	-1,600.26	11.05	2,939.40	2,904.39	35.01	83.962		
11,800.00	11,548.43	9,050.00	8,783.54	48.28	32.87	-116.31	-1,600.26	11.05	3,029.89	2,994.95	34.93	86.736		
11,900.00	11,648.43	9,050.00	8,783.54	48.58	32.87	-116.31	-1,600.26	11.05	3,120.95	3,086.07	34.88	89.464		
12,000.00	11,748.43	9,050.00	8,783.54	48.87	32.87	-116.31	-1,600.26	11.05	3,212.55	3,177.68	34.87	92.136		
12,100.00	11,848.43	9,050.00	8,783.54	49.17	32.87	-116.31	-1,600.26	11.05	3,304.63	3,269.75	34.88	94.748		
12,124.61	11,873.04	9,050.00	8,783.54	49.24	32.87	-116.31	-1,600.26	11.05	3,327.36	3,292.47	34.88	95.382		
12,150.00	11,898.42	9,050.00	8,783.54	49.32	32.87	59.17	-1,600.26	11.05	3,350.74	3,315.85	34.89	96.036		
12,200.00	11,948.22	9,050.00	8,783.54	49.49	32.87	50.31	-1,600.26	11.05	3,396.16	3,361.26	34.90	97.320		
12,250.00	11,997.43	9,050.00	8,783.54	49.67	32.87	43.31	-1,600.26	11.05	3,440.50	3,405.61	34.90	98.595		
12,300.00	12,045.71	9,050.00	8,783.54	49.88	32.87	37.84	-1,600.26	11.05	3,483.48	3,448.59	34.89	99.849		
12,350.00	12,092.66	9,073.11	8,787.68	50.11	32.99	33.26	-1,622.99	11.28	3,524.29	3,489.28	35.01	100.662		
12,400.00	12,137.95	9,077.18	8,788.32	50.35	33.01	29.90	-1,627.02	11.32	3,563.53	3,528.52	35.01	101.783		
12,450.00	12,181.22	9,100.00	8,791.34	50.62	33.13	27.07	-1,649.63	11.54	3,600.92	3,565.81	35.11	102.558		
12,500.00	12,222.15	9,100.00	8,791.34	50.89	33.13	24.98	-1,649.63	11.54	3,635.42	3,600.35	35.07	103.655		
12,550.00	12,260.41	9,100.00	8,791.34	51.18	33.13	23.28	-1,649.63	11.54	3,667.35	3,632.32	35.03	104.694		
12,600.00	12,295.73	9,100.00	8,791.34	51.49	33.13	21.90	-1,649.63	11.54	3,696.54	3,661.56	34.98	105.670		
12,650.00	12,327.84	9,100.00	8,791.34	51.81	33.13	20.77	-1,649.63	11.54	3,722.84	3,687.91	34.93	106.576		
12,700.00	12,356.48	9,100.00	8,791.34	52.14	33.13	19.86	-1,649.63	11.54	3,746.10	3,711.22	34.88	107.401		
12,750.00	12,381.44	9,100.00	8,791.34	52.48	33.13	19.13	-1,649.63	11.54	3,766.20	3,731.37	34.83	108.139		
12,800.00	12,402.53	9,121.95	8,793.40	52.84	33.25	18.52	-1,671.47	11.75	3,782.59	3,747.71	34.88	108.454		
12,850.00	12,419.60	9,150.00	8,794.81	53.20	33.40	18.05	-1,699.49	12.03	3,796.22	3,761.27	34.95	108.615		
12,900.00	12,432.50	9,150.00	8,794.81	53.57	33.40	17.76	-1,699.49	12.03	3,805.68	3,770.78	34.90	109.050		
12,950.00	12,441.15	9,150.00	8,794.81	53.95	33.40	17.57	-1,699.49	12.03	3,811.68	3,776.83	34.85	109.372		
13,000.00	12,445.47	9,150.00	8,794.81	54.34	33.40	17.50	-1,699.49	12.03	3,814.18	3,779.37	34.81	109.573		
13,024.61	12,446.00	9,150.00	8,794.81	54.53	33.40	17.50	-1,699.49	12.03	3,814.13	3,779.34	34.79	109.627		
13,100.00	12,446.00	9,164.76	8,795.00	55.13	33.48	17.50	-1,714.25	12.18	3,813.26	3,778.46	34.81	109.549		
13,113.53	12,446.00	9,164.76	8,795.00	55.24	33.48	17.50	-1,714.25	12.18	3,813.24	3,778.43	34.81	109.558		
13,200.00	12,446.00	9,247.13	8,795.00	55.95	33.97	17.51	-1,796.61	12.99	3,813.33	3,778.24	35.10	108.656		
13,300.00	12,446.00	9,347.13	8,795.00	56.81	34.63	17.51	-1,896.60	13.98	3,813.44	3,777.95	35.49	107.461		
13,400.00	12,446.00	9,447.13	8,795.00	57.70	35.34	17.52	-1,996.60	14.96	3,813.55	3,777.63	35.92	106.172		
13,500.00	12,446.00	9,547.12	8,795.00	58.63	36.12	17.52	-2,096.59	15.95	3,813.65	3,777.26	36.39	104.801		
13,600.00	12,446.00	9,647.12	8,795.00	59.59	36.96	17.53	-2,196.59	16.94	3,813.76	3,776.86	36.90	103.359		
13,700.00	12,446.00	9,747.12	8,795.00	60.58	37.85	17.53	-2,296.58	17.93	3,813.87	3,776.43	37.44	101.863		
13,800.00	12,446.00	9,847.12	8,795.00	61.60	38.78	17.54	-2,396.58	18.91	3,813.98	3,775.96	38.02	100.320		
13,900.00	12,446.00	9,947.12	8,795.00	62.64	39.77	17.54	-2,496.57	19.90	3,814.08	3,775.46	38.63	98.739		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance						Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,000.00	12,446.00	10,047.12	8,795.00	63.71	40.80	17.55	-2,596.56	20.89	3,814.19	3,774.92	39.27	97.129		
14,100.00	12,446.00	10,147.12	8,795.00	64.81	41.86	17.55	-2,696.56	21.87	3,814.30	3,774.36	39.94	95.499		
14,200.00	12,446.00	10,247.12	8,795.00	65.92	42.97	17.56	-2,796.55	22.86	3,814.41	3,773.77	40.64	93.857		
14,300.00	12,446.00	10,347.12	8,795.00	67.07	44.11	17.56	-2,896.55	23.85	3,814.52	3,773.15	41.37	92.210		
14,400.00	12,446.00	10,447.12	8,795.00	68.23	45.28	17.57	-2,996.54	24.84	3,814.62	3,772.50	42.12	90.564		
14,500.00	12,446.00	10,547.12	8,795.00	69.41	46.47	17.57	-3,096.54	25.82	3,814.73	3,771.83	42.90	88.926		
14,600.00	12,446.00	10,647.12	8,795.00	70.61	47.70	17.58	-3,196.53	26.81	3,814.84	3,771.14	43.70	87.300		
14,700.00	12,446.00	10,747.12	8,795.00	71.83	48.95	17.58	-3,296.53	27.80	3,814.95	3,770.43	44.52	85.690		
14,800.00	12,446.00	10,847.12	8,795.00	73.06	50.23	17.59	-3,396.52	28.79	3,815.06	3,769.69	45.36	84.101		
14,900.00	12,446.00	10,947.12	8,795.00	74.32	51.52	17.59	-3,496.52	29.77	3,815.16	3,768.94	46.23	82.534		
15,000.00	12,446.00	11,047.11	8,795.00	75.58	52.84	17.60	-3,596.51	30.76	3,815.27	3,768.17	47.11	80.993		
15,100.00	12,446.00	11,147.11	8,795.00	76.87	54.17	17.60	-3,696.50	31.75	3,815.38	3,767.38	48.00	79.480		
15,200.00	12,446.00	11,247.11	8,795.00	78.16	55.52	17.61	-3,796.50	32.73	3,815.49	3,766.57	48.92	77.996		
15,300.00	12,446.00	11,347.11	8,795.00	79.47	56.89	17.61	-3,896.49	33.72	3,815.60	3,765.75	49.85	76.542		
15,400.00	12,446.00	11,447.11	8,795.00	80.79	58.27	17.62	-3,996.49	34.71	3,815.70	3,764.91	50.79	75.124		
15,500.00	12,446.00	11,547.11	8,795.00	82.13	59.66	17.62	-4,096.48	35.70	3,815.81	3,764.06	51.75	73.736		
15,600.00	12,446.00	11,647.11	8,795.00	83.47	61.07	17.63	-4,196.48	36.68	3,815.92	3,763.20	52.72	72.381		
15,700.00	12,446.00	11,747.11	8,795.00	84.83	62.49	17.63	-4,296.47	37.67	3,816.03	3,762.33	53.70	71.061		
15,800.00	12,446.00	11,847.11	8,795.00	86.20	63.92	17.64	-4,396.47	38.66	3,816.14	3,761.44	54.69	69.773		
15,900.00	12,446.00	11,947.11	8,795.00	87.57	65.36	17.65	-4,496.46	39.64	3,816.25	3,760.55	55.70	68.517		
16,000.00	12,446.00	12,047.11	8,795.00	88.96	66.81	17.65	-4,596.45	40.63	3,816.35	3,759.64	56.71	67.293		
16,100.00	12,446.00	12,147.11	8,795.00	90.35	68.27	17.66	-4,696.45	41.62	3,816.46	3,758.73	57.74	66.101		
16,200.00	12,446.00	12,247.11	8,795.00	91.76	69.74	17.66	-4,796.44	42.61	3,816.57	3,757.80	58.77	64.939		
16,300.00	12,446.00	12,347.11	8,795.00	93.17	71.22	17.67	-4,896.44	43.59	3,816.68	3,756.87	59.81	63.808		
16,400.00	12,446.00	12,447.11	8,795.00	94.59	72.70	17.67	-4,996.43	44.58	3,816.79	3,755.92	60.87	62.707		
16,500.00	12,446.00	12,547.11	8,795.00	96.02	74.19	17.68	-5,096.43	45.57	3,816.90	3,754.97	61.93	61.635		
16,600.00	12,446.00	12,647.10	8,795.00	97.45	75.69	17.68	-5,196.42	46.56	3,817.01	3,754.01	63.00	60.592		
16,700.00	12,446.00	12,747.10	8,795.00	98.89	77.19	17.69	-5,296.42	47.54	3,817.11	3,753.04	64.07	59.577		
16,800.00	12,446.00	12,847.10	8,795.00	100.34	78.70	17.69	-5,396.41	48.53	3,817.22	3,752.07	65.15	58.589		
16,900.00	12,446.00	12,947.10	8,795.00	101.79	80.22	17.70	-5,496.40	49.52	3,817.33	3,751.09	66.24	57.627		
17,000.00	12,446.00	13,047.10	8,795.00	103.25	81.74	17.70	-5,596.40	50.50	3,817.44	3,750.10	67.34	56.691		
17,100.00	12,446.00	13,147.10	8,795.00	104.72	83.27	17.71	-5,696.39	51.49	3,817.55	3,749.11	68.44	55.780		
17,200.00	12,446.00	13,247.10	8,795.00	106.19	84.80	17.71	-5,796.39	52.48	3,817.66	3,748.11	69.55	54.894		
17,300.00	12,446.00	13,347.10	8,795.00	107.66	86.33	17.72	-5,896.38	53.47	3,817.77	3,747.11	70.66	54.033		
17,400.00	12,446.00	13,447.10	8,795.00	109.15	87.87	17.72	-5,996.38	54.45	3,817.88	3,746.10	71.77	53.194		
17,500.00	12,446.00	13,547.10	8,795.00	110.63	89.41	17.73	-6,096.37	55.44	3,817.98	3,745.09	72.89	52.378		
17,600.00	12,446.00	13,647.10	8,795.00	112.12	90.96	17.73	-6,196.37	56.43	3,818.09	3,744.08	74.02	51.584		
17,700.00	12,446.00	13,747.10	8,795.00	113.62	92.51	17.74	-6,296.36	57.41	3,818.20	3,743.06	75.15	50.811		
17,800.00	12,446.00	13,847.10	8,795.00	115.12	94.06	17.74	-6,396.36	58.40	3,818.31	3,742.03	76.28	50.058		
17,900.00	12,446.00	13,947.10	8,795.00	116.62	95.62	17.75	-6,496.35	59.39	3,818.42	3,741.00	77.42	49.324		
18,000.00	12,446.00	14,047.10	8,795.00	118.13	97.18	17.75	-6,596.34	60.38	3,818.53	3,739.97	78.56	48.608		
18,100.00	12,446.00	14,147.10	8,795.00	119.64	98.74	17.76	-6,696.34	61.36	3,818.64	3,738.94	79.70	47.911		
18,200.00	12,446.00	14,247.09	8,795.00	121.16	100.31	17.76	-6,796.33	62.35	3,818.75	3,737.90	80.85	47.232		
18,300.00	12,446.00	14,347.09	8,795.00	122.67	101.88	17.77	-6,896.33	63.34	3,818.86	3,736.85	82.00	46.569		
18,400.00	12,446.00	14,447.09	8,795.00	124.20	103.45	17.77	-6,996.32	64.33	3,818.97	3,735.81	83.16	45.923		
18,500.00	12,446.00	14,547.09	8,795.00	125.72	105.02	17.78	-7,096.32	65.31	3,819.07	3,734.76	84.32	45.293		
18,600.00	12,446.00	14,647.09	8,795.00	127.25	106.60	17.78	-7,196.31	66.30	3,819.18	3,733.70	85.48	44.678		
18,700.00	12,446.00	14,747.09	8,795.00	128.78	108.18	17.79	-7,296.31	67.29	3,819.29	3,732.65	86.65	44.079		
18,800.00	12,446.00	14,847.09	8,795.00	130.32	109.76	17.79	-7,396.30	68.27	3,819.40	3,731.59	87.82	43.493		
18,900.00	12,446.00	14,947.09	8,795.00	131.86	111.34	17.80	-7,496.29	69.26	3,819.51	3,730.52	88.99	42.922		
19,000.00	12,446.00	15,047.09	8,795.00	133.40	112.93	17.80	-7,596.29	70.25	3,819.62	3,729.46	90.16	42.364		
19,100.00	12,446.00	15,147.09	8,795.00	134.94	114.51	17.81	-7,696.28	71.24	3,819.73	3,728.40	91.33	41.821		

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Tatanka Fed Com - Tatanka Fed Com 102H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth	Vertical	Measured	Vertical	Reference	Offset	Highside	Offset Wellbore Centre		Between	Between	Minimum	Separation		
Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	(usft)	(usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Centres (usft)	Ellipses (usft)	Separation (usft)	Factor		
19,200.00	12,446.00	15,247.09	8,795.00	136.48	116.10	17.81	-7,796.28	72.22	3,819.84	3,727.33	92.51	41.290		
19,300.00	12,446.00	15,347.09	8,795.00	138.03	117.69	17.82	-7,896.27	73.21	3,819.95	3,726.26	93.69	40.772		
19,400.00	12,446.00	15,447.09	8,795.00	139.58	119.28	17.82	-7,996.27	74.20	3,820.06	3,725.19	94.87	40.266		
19,500.00	12,446.00	15,547.09	8,795.00	141.14	120.88	17.83	-8,096.26	75.18	3,820.17	3,724.11	96.05	39.771		
19,600.00	12,446.00	15,647.09	8,795.00	142.69	122.47	17.83	-8,196.26	76.17	3,820.28	3,723.04	97.24	39.288		
19,700.00	12,446.00	15,747.08	8,795.00	144.25	124.07	17.84	-8,296.25	77.16	3,820.39	3,721.96	98.42	38.815		
19,800.00	12,446.00	15,847.08	8,795.00	145.81	125.67	17.84	-8,396.25	78.15	3,820.50	3,720.88	99.61	38.353		
19,900.00	12,446.00	15,947.08	8,795.00	147.37	127.27	17.85	-8,496.24	79.13	3,820.61	3,719.80	100.80	37.901		
20,000.00	12,446.00	16,047.08	8,795.00	148.93	128.87	17.85	-8,596.23	80.12	3,820.72	3,718.72	102.00	37.459		
20,100.00	12,446.00	16,147.08	8,795.00	150.50	130.47	17.86	-8,696.23	81.11	3,820.83	3,717.63	103.19	37.027		
20,200.00	12,446.00	16,247.08	8,795.00	152.06	132.07	17.86	-8,796.22	82.10	3,820.93	3,716.55	104.39	36.603		
20,300.00	12,446.00	16,347.08	8,795.00	153.63	133.67	17.87	-8,896.22	83.08	3,821.04	3,715.46	105.59	36.189		
20,400.00	12,446.00	16,447.08	8,795.00	155.20	135.28	17.87	-8,996.21	84.07	3,821.15	3,714.37	106.79	35.784		
20,500.00	12,446.00	16,547.08	8,795.00	156.77	136.89	17.88	-9,096.21	85.06	3,821.26	3,713.28	107.99	35.387		
20,600.00	12,446.00	16,647.08	8,795.00	158.35	138.49	17.89	-9,196.20	86.04	3,821.37	3,712.18	109.19	34.998		
20,700.00	12,446.00	16,747.08	8,795.00	159.92	140.10	17.89	-9,296.20	87.03	3,821.48	3,711.09	110.39	34.617		
20,800.00	12,446.00	16,847.08	8,795.00	161.50	141.71	17.90	-9,396.19	88.02	3,821.59	3,709.99	111.60	34.244		
20,900.00	12,446.00	16,947.08	8,795.00	163.08	143.32	17.90	-9,496.18	89.01	3,821.70	3,708.90	112.81	33.879		
21,000.00	12,446.00	17,047.08	8,795.00	164.66	144.93	17.91	-9,596.18	89.99	3,821.81	3,707.80	114.01	33.521		
21,100.00	12,446.00	17,147.08	8,795.00	166.24	146.55	17.91	-9,696.17	90.98	3,821.92	3,706.70	115.22	33.170		
21,200.00	12,446.00	17,247.08	8,795.00	167.82	148.16	17.92	-9,796.17	91.97	3,822.03	3,705.60	116.43	32.827		
21,300.00	12,446.00	17,347.07	8,795.00	169.41	149.77	17.92	-9,896.16	92.95	3,822.14	3,704.51	117.64	32.491		
21,400.00	12,446.00	17,447.07	8,795.00	170.99	151.39	17.93	-9,996.16	93.94	3,822.25	3,703.41	118.85	32.161		
21,500.00	12,446.00	17,547.07	8,795.00	172.58	153.00	17.93	-10,096.15	94.93	3,822.36	3,702.30	120.06	31.837		
21,600.00	12,446.00	17,647.07	8,795.00	174.17	154.62	17.94	-10,196.15	95.92	3,822.47	3,701.20	121.27	31.520		
21,700.00	12,446.00	17,747.07	8,795.00	175.76	156.24	17.94	-10,296.14	96.90	3,822.58	3,700.10	122.49	31.208		
21,800.00	12,446.00	17,847.07	8,795.00	177.35	157.85	17.95	-10,396.13	97.89	3,822.69	3,699.99	123.70	30.903		
21,900.00	12,446.00	17,947.07	8,795.00	178.94	159.47	17.95	-10,496.13	98.88	3,822.80	3,697.89	124.92	30.603		
22,000.00	12,446.00	18,047.07	8,795.00	180.53	161.09	17.96	-10,596.12	99.87	3,822.91	3,696.78	126.13	30.308		
22,100.00	12,446.00	18,147.07	8,795.00	182.12	162.71	17.96	-10,696.12	100.85	3,823.02	3,695.67	127.35	30.019		
22,200.00	12,446.00	18,247.07	8,795.00	183.72	164.33	17.97	-10,796.11	101.84	3,823.13	3,694.56	128.57	29.736		
22,300.00	12,446.00	18,347.07	8,795.00	185.31	165.95	17.97	-10,896.11	102.83	3,823.24	3,693.45	129.79	29.457		
22,400.00	12,446.00	18,447.07	8,795.00	186.91	167.57	17.98	-10,996.10	103.81	3,823.36	3,692.34	131.01	29.183		
22,500.00	12,446.00	18,547.07	8,795.00	188.51	169.20	17.98	-11,096.10	104.80	3,823.47	3,691.23	132.23	28.914		
22,600.00	12,446.00	18,647.07	8,795.00	190.11	170.82	17.99	-11,196.09	105.79	3,823.58	3,690.12	133.46	28.650		
22,700.00	12,446.00	18,747.07	8,795.00	191.71	172.44	17.99	-11,296.09	106.78	3,823.69	3,689.00	134.68	28.391		
22,800.00	12,446.00	18,847.07	8,795.00	193.31	174.07	18.00	-11,396.08	107.76	3,823.80	3,687.89	135.90	28.136		
22,817.13	12,446.00	18,862.99	8,795.00	193.58	174.32	18.00	-11,412.00	107.92	3,823.82	3,687.71	136.10	28.095		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	123.00	-1,002.64	1,543.80	1,840.90					
100.00	100.00	83.00	83.00	0.13	0.10	123.00	-1,002.64	1,543.80	1,840.82	1,840.65	0.16	N/A		
200.00	200.00	183.00	183.00	0.48	0.42	123.00	-1,002.64	1,543.80	1,840.82	1,840.17	0.64	2,863.993		
300.00	300.00	283.00	283.00	0.84	0.78	123.00	-1,002.64	1,543.80	1,840.82	1,839.67	1.15	1,602.016		
400.00	400.00	383.00	383.00	1.20	1.14	123.00	-1,002.64	1,543.80	1,840.82	1,839.16	1.66	1,111.758		
500.00	500.00	483.00	483.00	1.56	1.50	123.00	-1,002.64	1,543.80	1,840.82	1,838.65	2.16	851.208		
600.00	600.00	583.00	583.00	1.92	1.86	123.00	-1,002.64	1,543.80	1,840.82	1,838.15	2.67	689.582		
700.00	700.00	683.00	683.00	2.28	2.22	123.00	-1,002.64	1,543.80	1,840.82	1,837.64	3.18	579.535		
800.00	800.00	783.00	783.00	2.63	2.57	123.00	-1,002.64	1,543.80	1,840.82	1,837.13	3.68	499.776		
900.00	900.00	883.00	883.00	2.99	2.93	123.00	-1,002.64	1,543.80	1,840.82	1,836.63	4.19	439.314		
1,000.00	1,000.00	983.00	983.00	3.35	3.29	123.00	-1,002.64	1,543.80	1,840.82	1,836.12	4.70	391.902		
1,100.00	1,100.00	1,083.00	1,083.00	3.71	3.65	123.00	-1,002.64	1,543.80	1,840.82	1,835.61	5.20	353.726		
1,200.00	1,200.00	1,183.00	1,183.00	4.07	4.01	123.00	-1,002.64	1,543.80	1,840.82	1,835.11	5.71	322.327		
1,300.00	1,300.00	1,283.00	1,283.00	4.43	4.37	123.00	-1,002.64	1,543.80	1,840.82	1,834.60	6.22	296.048		
1,400.00	1,400.00	1,383.00	1,383.00	4.79	4.72	123.00	-1,002.64	1,543.80	1,840.82	1,834.09	6.72	273.731		
1,500.00	1,500.00	1,483.00	1,483.00	5.14	5.08	123.00	-1,002.64	1,543.80	1,840.82	1,833.58	7.23	254.543		
1,600.00	1,600.00	1,583.00	1,583.00	5.50	5.44	123.00	-1,002.64	1,543.80	1,840.82	1,833.08	7.74	237.869		
1,700.00	1,700.00	1,683.00	1,683.00	5.86	5.80	123.00	-1,002.64	1,543.80	1,840.82	1,832.57	8.25	223.245		
1,800.00	1,800.00	1,783.00	1,783.00	6.22	6.16	123.00	-1,002.64	1,543.80	1,840.82	1,832.06	8.75	210.314		
1,900.00	1,900.00	1,883.00	1,883.00	6.58	6.52	123.00	-1,002.64	1,543.80	1,840.82	1,831.56	9.26	198.800		
2,000.00	2,000.00	1,983.00	1,983.00	6.94	6.88	123.00	-1,002.64	1,543.80	1,840.82	1,831.05	9.77	188.481		
2,100.00	2,100.00	2,083.00	2,083.00	7.29	7.23	123.00	-1,002.64	1,543.80	1,840.82	1,830.54	10.27	179.180		
2,200.00	2,200.00	2,183.00	2,183.00	7.65	7.59	123.00	-1,002.64	1,543.80	1,840.82	1,830.04	10.78	170.754		
2,300.00	2,300.00	2,283.00	2,283.00	8.01	7.95	123.00	-1,002.64	1,543.80	1,840.82	1,829.53	11.29	163.085		
2,400.00	2,400.00	2,383.00	2,383.00	8.37	8.31	123.00	-1,002.64	1,543.80	1,840.82	1,829.02	11.79	156.076		
2,500.00	2,500.00	2,483.00	2,483.00	8.73	8.67	123.00	-1,002.64	1,543.80	1,840.82	1,828.52	12.30	149.644		
2,600.00	2,600.00	2,583.00	2,583.00	9.09	9.03	123.00	-1,002.64	1,543.80	1,840.82	1,828.01	12.81	143.721		
2,700.00	2,700.00	2,683.00	2,683.00	9.45	9.38	123.00	-1,002.64	1,543.80	1,840.82	1,827.50	13.32	138.249		
2,800.00	2,800.00	2,783.00	2,783.00	9.80	9.74	123.00	-1,002.64	1,543.80	1,840.82	1,826.99	13.82	133.178		
2,900.00	2,900.00	2,883.00	2,883.00	10.16	10.10	123.00	-1,002.64	1,543.80	1,840.82	1,826.49	14.33	128.466		
3,000.00	3,000.00	2,983.00	2,983.00	10.52	10.46	123.00	-1,002.64	1,543.80	1,840.82	1,825.98	14.84	124.077		
3,100.00	3,100.00	3,065.61	3,065.60	10.88	10.74	123.02	-1,003.20	1,543.80	1,841.21	1,825.92	15.29	120.419		
3,200.00	3,200.00	3,144.59	3,144.56	11.24	11.01	123.07	-1,005.38	1,543.82	1,842.72	1,827.00	15.73	117.176		
3,300.00	3,300.00	3,223.46	3,223.33	11.60	11.26	123.17	-1,009.17	1,543.84	1,845.38	1,829.23	16.16	114.218		
3,400.00	3,399.99	3,300.00	3,299.69	11.94	11.51	-8.73	-1,014.41	1,543.87	1,847.90	1,831.33	16.57	111.528		
3,500.00	3,499.91	3,380.76	3,380.13	12.27	11.77	-8.56	-1,021.60	1,543.92	1,848.99	1,832.01	16.98	108.883		
3,600.00	3,599.69	3,459.16	3,458.05	12.60	12.03	-8.36	-1,030.20	1,543.97	1,848.67	1,831.29	17.39	106.318		
3,700.00	3,699.27	3,538.52	3,536.74	12.94	12.30	-8.13	-1,040.53	1,544.04	1,846.95	1,829.15	17.80	103.775		
3,800.00	3,798.57	3,637.96	3,635.21	13.28	12.63	-7.84	-1,054.37	1,544.12	1,843.20	1,824.94	18.27	100.896		
3,900.00	3,897.54	3,737.31	3,733.59	13.62	12.97	-7.56	-1,068.19	1,544.21	1,836.92	1,818.17	18.74	98.011		
4,000.00	3,996.09	3,836.49	3,831.81	13.97	13.32	-7.29	-1,081.98	1,544.30	1,828.09	1,808.87	19.22	95.121		
4,100.00	4,094.16	3,935.44	3,929.80	14.33	13.67	-7.03	-1,095.75	1,544.38	1,816.72	1,797.03	19.70	92.231		
4,200.00	4,191.70	4,034.09	4,027.49	14.70	14.02	-6.78	-1,109.47	1,544.47	1,802.82	1,782.64	20.18	89.344		
4,300.00	4,288.62	4,132.38	4,124.83	15.08	14.37	-6.54	-1,123.14	1,544.55	1,786.39	1,765.73	20.66	86.463		
4,400.00	4,384.86	4,260.87	4,252.28	15.48	14.84	-6.27	-1,139.40	1,544.65	1,766.74	1,745.50	21.24	83.199		
4,500.00	4,480.36	4,394.28	4,385.10	15.89	15.32	-6.12	-1,151.77	1,544.73	1,742.56	1,720.75	21.82	79.877		
4,600.00	4,575.05	4,525.45	4,516.05	16.33	15.78	-6.11	-1,159.41	1,544.78	1,713.89	1,691.51	22.38	76.589		
4,674.25	4,644.79	4,621.06	4,611.61	16.66	16.11	-6.20	-1,162.15	1,544.80	1,689.75	1,666.97	22.78	74.166		
4,700.00	4,668.90	4,653.85	4,644.40	16.78	16.22	-6.23	-1,162.53	1,544.80	1,680.90	1,657.98	22.92	73.330		
4,800.00	4,762.49	4,754.94	4,745.49	17.26	16.57	-6.37	-1,162.64	1,544.80	1,645.93	1,622.52	23.41	70.322		
4,900.00	4,856.09	4,848.54	4,839.09	17.75	16.90	-6.51	-1,162.64	1,544.80	1,610.92	1,587.04	23.88	67.468		
5,000.00	4,949.69	4,942.14	4,932.69	18.25	17.23	-6.65	-1,162.64	1,544.80	1,575.91	1,551.56	24.35	64.718		

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 103H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
5,100.00	5,043.29	5,035.73	5,026.29	18.76	17.56	-6.81	-1,162.64	1,544.80	1,540.92	1,516.09	24.83	62.066				
5,200.00	5,136.88	5,129.33	5,119.88	19.29	17.88	-6.97	-1,162.64	1,544.80	1,505.94	1,480.63	25.31	59.508				
5,300.00	5,230.48	5,222.93	5,213.48	19.82	18.21	-7.13	-1,162.64	1,544.80	1,470.96	1,445.17	25.79	57.040				
5,400.00	5,324.08	5,316.53	5,307.08	20.37	18.54	-7.31	-1,162.64	1,544.80	1,436.00	1,409.73	26.27	54.658				
5,500.00	5,417.68	5,410.12	5,400.68	20.93	18.87	-7.49	-1,162.64	1,544.80	1,401.05	1,374.29	26.76	52.358				
5,600.00	5,511.27	5,503.72	5,494.27	21.49	19.20	-7.68	-1,162.64	1,544.80	1,366.11	1,338.87	27.25	50.136				
5,700.00	5,604.87	5,597.32	5,587.87	22.06	19.53	-7.88	-1,162.64	1,544.80	1,331.19	1,303.45	27.74	47.989				
5,800.00	5,698.47	5,690.92	5,681.47	22.64	19.86	-8.10	-1,162.64	1,544.80	1,296.29	1,268.05	28.23	45.913				
5,900.00	5,792.07	5,784.51	5,775.07	23.22	20.19	-8.32	-1,162.64	1,544.80	1,261.40	1,232.67	28.73	43.907				
6,000.00	5,885.66	5,878.11	5,868.66	23.81	20.52	-8.56	-1,162.64	1,544.80	1,226.52	1,197.30	29.23	41.965				
6,100.00	5,979.26	5,971.71	5,962.26	24.41	20.85	-8.81	-1,162.64	1,544.80	1,191.67	1,161.94	29.73	40.087				
6,200.00	6,072.86	6,065.31	6,055.86	25.01	21.18	-9.08	-1,162.64	1,544.80	1,156.84	1,126.61	30.23	38.268				
6,300.00	6,166.46	6,158.90	6,149.46	25.61	21.51	-9.36	-1,162.64	1,544.80	1,122.03	1,091.30	30.73	36.507				
6,400.00	6,260.05	6,252.50	6,243.05	26.22	21.84	-9.66	-1,162.64	1,544.80	1,087.25	1,056.01	31.24	34.802				
6,500.00	6,353.65	6,346.10	6,336.65	26.84	22.17	-9.98	-1,162.64	1,544.80	1,052.50	1,020.75	31.75	33.149				
6,600.00	6,447.25	6,439.70	6,430.25	27.45	22.50	-10.33	-1,162.64	1,544.80	1,017.78	985.51	32.26	31.547				
6,700.00	6,540.85	6,533.29	6,523.85	28.07	22.83	-10.69	-1,162.64	1,544.80	983.09	950.31	32.78	29.993				
6,800.00	6,634.44	6,626.89	6,617.44	28.70	23.16	-11.09	-1,162.64	1,544.80	948.44	915.14	33.29	28.486				
6,900.00	6,728.04	6,720.49	6,711.04	29.33	23.49	-11.51	-1,162.64	1,544.80	913.83	880.02	33.82	27.024				
7,000.00	6,821.64	6,814.09	6,804.64	29.96	23.82	-11.97	-1,162.64	1,544.80	879.27	844.93	34.34	25.605				
7,100.00	6,915.24	6,907.68	6,898.24	30.59	24.15	-12.46	-1,162.64	1,544.80	844.77	809.90	34.87	24.228				
7,200.00	7,008.83	7,001.28	6,991.83	31.23	24.48	-12.99	-1,162.64	1,544.80	810.32	774.92	35.40	22.890				
7,300.00	7,102.43	7,094.88	7,085.43	31.87	24.82	-13.58	-1,162.64	1,544.80	775.94	740.01	35.94	21.592				
7,400.00	7,196.03	7,188.48	7,179.03	32.51	25.15	-14.21	-1,162.64	1,544.80	741.64	705.16	36.48	20.330				
7,500.00	7,289.63	7,282.08	7,272.63	33.15	25.48	-14.91	-1,162.64	1,544.80	707.43	670.40	37.03	19.105				
7,600.00	7,383.22	7,375.67	7,366.22	33.80	25.81	-15.68	-1,162.64	1,544.80	673.32	635.74	37.59	17.914				
7,683.32	7,461.21	7,453.66	7,444.21	34.34	26.09	-16.38	-1,162.64	1,544.80	645.00	606.94	38.06	16.948				
7,700.00	7,476.83	7,469.28	7,459.83	34.44	26.14	-16.50	-1,162.64	1,544.80	639.37	601.22	38.15	16.758				
7,800.00	7,571.03	7,563.48	7,554.03	35.07	26.48	-17.24	-1,162.64	1,544.80	607.09	568.37	38.73	15.677				
7,900.00	7,666.07	7,658.52	7,649.07	35.68	26.82	-18.01	-1,162.64	1,544.80	577.33	538.03	39.31	14.688				
8,000.00	7,761.89	7,754.34	7,744.89	36.25	27.16	-18.79	-1,162.64	1,544.80	550.09	510.20	39.89	13.790				
8,100.00	7,858.43	7,850.88	7,841.43	36.80	27.50	-19.57	-1,162.64	1,544.80	525.37	484.89	40.48	12.979				
8,200.00	7,955.62	7,948.07	7,938.62	37.32	27.84	-20.35	-1,162.64	1,544.80	503.18	462.11	41.07	12.253				
8,300.00	8,053.39	8,045.84	8,036.39	37.81	28.19	-21.10	-1,162.64	1,544.80	483.50	441.84	41.65	11.608				
8,400.00	8,151.68	8,138.09	8,128.63	38.27	28.52	-21.73	-1,163.01	1,544.80	466.49	424.23	42.26	11.039				
8,500.00	8,250.41	8,214.95	8,205.03	38.71	28.78	-21.30	-1,170.91	1,544.88	455.44	412.64	42.80	10.640				
8,591.52	8,341.11	8,284.17	8,272.38	39.08	29.03	-19.83	-1,186.71	1,545.03	452.00	408.86	43.14	10.478 CC, ES				
8,600.00	8,349.53	8,290.44	8,278.38	39.11	29.05	-19.65	-1,188.54	1,545.05	452.03	408.87	43.16	10.473 SF				
8,700.00	8,448.96	8,361.58	8,344.82	39.49	29.32	-17.05	-1,213.85	1,545.30	457.37	414.09	43.29	10.567				
8,800.00	8,548.63	8,426.30	8,402.11	39.84	29.57	-13.93	-1,243.86	1,545.59	472.90	429.78	43.12	10.966				
8,900.00	8,648.48	8,483.56	8,449.71	40.17	29.79	-10.72	-1,275.65	1,545.90	499.69	457.05	42.64	11.718				
9,000.00	8,748.44	8,533.26	8,488.27	40.46	30.00	-7.71	-1,306.98	1,546.20	537.97	496.10	41.87	12.848				
9,057.57	8,806.00	8,550.00	8,500.63	40.62	30.07	125.36	-1,318.27	1,546.31	565.10	523.95	41.15	13.734				
9,100.00	8,848.43	8,575.91	8,519.09	40.73	30.18	127.06	-1,336.45	1,546.49	586.88	545.98	40.90	14.348				
9,200.00	8,948.43	8,612.82	8,543.93	41.00	30.34	129.47	-1,363.73	1,546.76	643.68	603.84	39.84	16.158				
9,300.00	9,048.43	8,650.00	8,567.13	41.26	30.51	131.86	-1,392.78	1,547.04	706.96	668.08	38.88	18.185				
9,400.00	9,148.43	8,672.84	8,580.43	41.53	30.62	133.30	-1,411.35	1,547.22	775.58	737.85	37.73	20.558				
9,500.00	9,248.43	8,700.00	8,595.26	41.80	30.75	134.98	-1,434.10	1,547.44	848.74	811.91	36.83	23.044				
9,600.00	9,348.43	8,718.86	8,604.92	42.06	30.84	136.11	-1,450.29	1,547.60	925.59	889.67	35.92	25.771				
9,700.00	9,448.43	8,750.00	8,619.68	42.34	30.99	137.92	-1,477.71	1,547.86	1,005.71	970.31	35.40	28.412				
9,800.00	9,548.43	8,750.00	8,619.68	42.61	30.99	137.92	-1,477.71	1,547.86	1,088.03	1,053.62	34.41	31.621				
9,900.00	9,648.43	8,769.95	8,628.35	42.88	31.10	139.05	-1,495.67	1,548.04	1,172.60	1,138.67	33.93	34.558				

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance								Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,000.00	9,748.43	8,800.00	8,640.21	43.16	31.25	140.68	-1,523.28	1,548.31	1,259.32	1,225.60	33.72	37.349		
10,100.00	9,848.43	8,800.00	8,640.21	43.43	31.25	140.68	-1,523.28	1,548.31	1,346.89	1,313.79	33.10	40.689		
10,200.00	9,948.43	8,800.00	8,640.21	43.71	31.25	140.68	-1,523.28	1,548.31	1,436.09	1,403.50	32.60	44.056		
10,300.00	10,048.43	8,800.00	8,640.21	43.99	31.25	140.68	-1,523.28	1,548.31	1,526.63	1,494.45	32.19	47.433		
10,400.00	10,148.43	8,826.04	8,649.31	44.26	31.39	142.03	-1,547.68	1,548.54	1,617.50	1,585.32	32.18	50.260		
10,500.00	10,248.43	8,850.00	8,656.69	44.55	31.52	143.22	-1,570.46	1,548.77	1,709.80	1,677.61	32.19	53.115		
10,600.00	10,348.43	8,850.00	8,656.69	44.83	31.52	143.22	-1,570.46	1,548.77	1,802.32	1,770.36	31.96	56.400		
10,700.00	10,448.43	8,850.00	8,656.69	45.11	31.52	143.22	-1,570.46	1,548.77	1,895.60	1,863.82	31.78	59.649		
10,800.00	10,548.43	8,850.00	8,656.69	45.39	31.52	143.22	-1,570.46	1,548.77	1,989.54	1,957.89	31.65	62.861		
10,900.00	10,648.43	8,850.00	8,656.69	45.68	31.52	143.22	-1,570.46	1,548.77	2,084.04	2,052.47	31.56	66.029		
11,000.00	10,748.43	8,850.00	8,656.69	45.96	31.52	143.22	-1,570.46	1,548.77	2,179.03	2,147.51	31.51	69.144		
11,100.00	10,848.43	8,872.86	8,662.84	46.25	31.65	144.31	-1,592.48	1,548.98	2,273.88	2,242.19	31.69	71.745		
11,200.00	10,948.43	8,877.78	8,664.05	46.54	31.68	144.54	-1,597.25	1,549.03	2,369.42	2,337.68	31.74	74.656		
11,300.00	11,048.43	8,900.00	8,668.99	46.83	31.80	145.55	-1,618.91	1,549.24	2,465.59	2,433.65	31.94	77.192		
11,400.00	11,148.43	8,900.00	8,668.99	47.12	31.80	145.55	-1,618.91	1,549.24	2,561.56	2,529.58	31.99	80.079		
11,500.00	11,248.43	8,900.00	8,668.99	47.41	31.80	145.55	-1,618.91	1,549.24	2,657.84	2,625.78	32.06	82.906		
11,600.00	11,348.43	8,900.00	8,668.99	47.70	31.80	145.55	-1,618.91	1,549.24	2,754.38	2,722.23	32.15	85.671		
11,700.00	11,448.43	8,900.00	8,668.99	47.99	31.80	145.55	-1,618.91	1,549.24	2,851.15	2,818.89	32.26	88.381		
11,800.00	11,548.43	8,900.00	8,668.99	48.28	31.80	145.55	-1,618.91	1,549.24	2,948.15	2,915.76	32.39	91.030		
11,900.00	11,648.43	8,900.00	8,668.99	48.58	31.80	145.55	-1,618.91	1,549.24	3,045.33	3,012.80	32.53	93.616		
12,000.00	11,748.43	8,900.00	8,668.99	48.87	31.80	145.55	-1,618.91	1,549.24	3,142.70	3,110.01	32.69	96.139		
12,100.00	11,848.43	8,900.00	8,668.99	49.17	31.80	145.55	-1,618.91	1,549.24	3,240.22	3,207.36	32.86	98.600		
12,124.61	11,873.04	8,900.00	8,668.99	49.24	31.80	145.55	-1,618.91	1,549.24	3,264.24	3,231.33	32.91	99.196		
12,150.00	11,898.42	8,900.00	8,668.99	49.32	31.80	-28.25	-1,618.91	1,549.24	3,288.93	3,255.98	32.95	99.811		
12,200.00	11,948.22	8,900.00	8,668.99	49.49	31.80	-21.27	-1,618.91	1,549.24	3,336.81	3,303.78	33.03	101.023		
12,250.00	11,997.43	8,900.00	8,668.99	49.67	31.80	-17.02	-1,618.91	1,549.24	3,383.46	3,350.36	33.10	102.227		
12,300.00	12,045.71	8,900.00	8,668.99	49.88	31.80	-14.20	-1,618.91	1,549.24	3,428.57	3,395.42	33.15	103.410		
12,350.00	12,092.66	8,923.23	8,673.26	50.11	31.93	-12.09	-1,641.74	1,549.46	3,471.33	3,438.02	33.31	104.203		
12,400.00	12,137.95	8,927.22	8,673.90	50.35	31.96	-10.65	-1,645.68	1,549.50	3,512.37	3,479.00	33.37	105.259		
12,450.00	12,181.22	8,950.00	8,677.03	50.62	32.09	-9.50	-1,668.24	1,549.72	3,551.39	3,517.89	33.50	106.009		
12,500.00	12,222.15	8,950.00	8,677.03	50.89	32.09	-8.69	-1,668.24	1,549.72	3,587.32	3,553.80	33.52	107.018		
12,550.00	12,260.41	8,950.00	8,677.03	51.18	32.09	-8.04	-1,668.24	1,549.72	3,620.51	3,586.98	33.54	107.959		
12,600.00	12,295.73	8,950.00	8,677.03	51.49	32.09	-7.53	-1,668.24	1,549.72	3,650.78	3,617.23	33.55	108.824		
12,650.00	12,327.84	8,950.00	8,677.03	51.81	32.09	-7.11	-1,668.24	1,549.72	3,677.96	3,644.41	33.56	109.605		
12,700.00	12,356.48	8,950.00	8,677.03	52.14	32.09	-6.78	-1,668.24	1,549.72	3,701.93	3,668.37	33.56	110.294		
12,750.00	12,381.44	8,950.00	8,677.03	52.48	32.09	-6.52	-1,668.24	1,549.72	3,722.57	3,688.99	33.57	110.879		
12,800.00	12,402.53	8,950.00	8,677.03	52.84	32.09	-6.31	-1,668.24	1,549.72	3,739.77	3,706.19	33.58	111.370		
12,850.00	12,419.60	8,977.35	8,679.59	53.20	32.25	-6.15	-1,695.46	1,549.98	3,752.70	3,719.02	33.68	111.421		
12,900.00	12,432.50	9,000.00	8,680.73	53.57	32.38	-6.04	-1,718.09	1,550.20	3,762.66	3,728.91	33.75	111.478		
12,950.00	12,441.15	9,000.00	8,680.73	53.95	32.38	-5.97	-1,718.09	1,550.20	3,768.47	3,734.70	33.77	111.603		
13,000.00	12,445.47	9,000.00	8,680.73	54.34	32.38	-5.95	-1,718.09	1,550.20	3,770.61	3,736.82	33.78	111.611		
13,024.61	12,446.00	9,000.00	8,680.73	54.53	32.38	-5.96	-1,718.09	1,550.20	3,770.31	3,736.52	33.80	111.563		
13,100.00	12,446.00	9,017.49	8,681.00	55.13	32.49	-5.95	-1,735.57	1,550.37	3,768.74	3,734.86	33.89	111.218		
13,200.00	12,446.00	9,063.41	8,681.00	55.95	32.77	-5.95	-1,781.48	1,550.82	3,768.32	3,734.23	34.09	110.545		
13,300.00	12,446.00	9,163.40	8,681.00	56.81	33.44	-5.95	-1,881.48	1,551.79	3,768.28	3,733.84	34.44	109.427		
13,400.00	12,446.00	9,263.40	8,681.00	57.70	34.18	-5.94	-1,981.47	1,552.76	3,768.24	3,733.42	34.82	108.231		
13,500.00	12,446.00	9,363.40	8,681.00	58.63	34.98	-5.94	-2,081.47	1,553.73	3,768.20	3,732.97	35.23	106.962		
13,600.00	12,446.00	9,463.40	8,681.00	59.59	35.83	-5.93	-2,181.46	1,554.71	3,768.16	3,732.49	35.67	105.635		
13,700.00	12,446.00	9,563.40	8,681.00	60.58	36.74	-5.92	-2,281.46	1,555.68	3,768.12	3,731.98	36.14	104.254		
13,800.00	12,446.00	9,663.40	8,681.00	61.60	37.70	-5.92	-2,381.45	1,556.65	3,768.09	3,731.44	36.64	102.828		
13,900.00	12,446.00	9,763.40	8,681.00	62.64	38.71	-5.91	-2,481.45	1,557.62	3,768.05	3,730.87	37.17	101.365		
14,000.00	12,446.00	9,863.40	8,681.00	63.71	39.76	-5.91	-2,581.44	1,558.59	3,768.01	3,730.28	37.73	99.874		

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 103H - OH - Plan #1		Offset Site Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
14,100.00	12,446.00	9,963.40	8,681.00	64.81	40.85	-5.90	-2,681.44	1,559.57	3,767.97	3,729.66	38.31	98.360				
14,200.00	12,446.00	10,063.40	8,681.00	65.92	41.97	-5.90	-2,781.43	1,560.54	3,767.93	3,729.02	38.91	96.833				
14,300.00	12,446.00	10,163.40	8,681.00	67.07	43.13	-5.89	-2,881.43	1,561.51	3,767.89	3,728.36	39.54	95.301				
14,400.00	12,446.00	10,263.40	8,681.00	68.23	44.33	-5.88	-2,981.42	1,562.48	3,767.86	3,727.67	40.18	93.765				
14,500.00	12,446.00	10,363.40	8,681.00	69.41	45.55	-5.88	-3,081.41	1,563.46	3,767.82	3,726.96	40.85	92.230				
14,600.00	12,446.00	10,463.40	8,681.00	70.61	46.79	-5.87	-3,181.41	1,564.43	3,767.78	3,726.24	41.54	90.702				
14,700.00	12,446.00	10,563.40	8,681.00	71.83	48.06	-5.87	-3,281.40	1,565.40	3,767.74	3,725.49	42.25	89.183				
14,800.00	12,446.00	10,663.39	8,681.00	73.06	49.36	-5.86	-3,381.40	1,566.37	3,767.70	3,724.73	42.97	87.678				
14,900.00	12,446.00	10,763.39	8,681.00	74.32	50.67	-5.86	-3,481.39	1,567.34	3,767.66	3,723.95	43.71	86.189				
15,000.00	12,446.00	10,863.39	8,681.00	75.58	52.01	-5.85	-3,581.39	1,568.32	3,767.63	3,723.15	44.48	84.709				
15,100.00	12,446.00	10,963.39	8,681.00	76.87	53.36	-5.85	-3,681.38	1,569.29	3,767.59	3,722.34	45.25	83.263				
15,200.00	12,446.00	11,063.39	8,681.00	78.16	54.73	-5.84	-3,781.38	1,570.26	3,767.55	3,721.51	46.04	81.839				
15,300.00	12,446.00	11,163.39	8,681.00	79.47	56.11	-5.83	-3,881.37	1,571.23	3,767.51	3,720.68	46.84	80.440				
15,400.00	12,446.00	11,263.39	8,681.00	80.79	57.51	-5.83	-3,981.37	1,572.21	3,767.48	3,719.82	47.65	79.065				
15,500.00	12,446.00	11,363.39	8,681.00	82.13	58.92	-5.82	-4,081.36	1,573.18	3,767.44	3,718.96	48.48	77.717				
15,600.00	12,446.00	11,463.39	8,681.00	83.47	60.34	-5.82	-4,181.35	1,574.15	3,767.40	3,718.08	49.31	76.395				
15,700.00	12,446.00	11,563.39	8,681.00	84.83	61.77	-5.81	-4,281.35	1,575.12	3,767.36	3,717.20	50.16	75.101				
15,800.00	12,446.00	11,663.39	8,681.00	86.20	63.22	-5.81	-4,381.34	1,576.09	3,767.32	3,716.30	51.02	73.834				
15,900.00	12,446.00	11,763.39	8,681.00	87.57	64.67	-5.80	-4,481.34	1,577.07	3,767.29	3,715.39	51.89	72.595				
16,000.00	12,446.00	11,863.39	8,681.00	88.96	66.14	-5.79	-4,581.33	1,578.04	3,767.25	3,714.47	52.77	71.384				
16,100.00	12,446.00	11,963.39	8,681.00	90.35	67.61	-5.79	-4,681.33	1,579.01	3,767.21	3,713.55	53.66	70.200				
16,200.00	12,446.00	12,063.38	8,681.00	91.76	69.09	-5.78	-4,781.32	1,579.98	3,767.17	3,712.61	54.56	69.044				
16,300.00	12,446.00	12,163.38	8,681.00	93.17	70.58	-5.78	-4,881.32	1,580.96	3,767.14	3,711.67	55.47	67.915				
16,400.00	12,446.00	12,263.38	8,681.00	94.59	72.07	-5.77	-4,981.31	1,581.93	3,767.10	3,710.72	56.38	66.813				
16,500.00	12,446.00	12,363.38	8,681.00	96.02	73.58	-5.77	-5,081.31	1,582.90	3,767.06	3,709.76	57.30	65.738				
16,600.00	12,446.00	12,463.38	8,681.00	97.45	75.09	-5.76	-5,181.30	1,583.87	3,767.02	3,708.79	58.23	64.688				
16,700.00	12,446.00	12,563.38	8,681.00	98.89	76.60	-5.75	-5,281.30	1,584.84	3,766.99	3,707.82	59.17	63.664				
16,800.00	12,446.00	12,663.38	8,681.00	100.34	78.12	-5.75	-5,381.29	1,585.82	3,766.95	3,706.84	60.11	62.666				
16,900.00	12,446.00	12,763.38	8,681.00	101.79	79.64	-5.74	-5,481.28	1,586.79	3,766.91	3,705.85	61.06	61.691				
17,000.00	12,446.00	12,863.38	8,681.00	103.25	81.17	-5.74	-5,581.28	1,587.76	3,766.87	3,704.86	62.02	60.741				
17,100.00	12,446.00	12,963.38	8,681.00	104.72	82.71	-5.73	-5,681.27	1,588.73	3,766.84	3,703.86	62.98	59.814				
17,200.00	12,446.00	13,063.38	8,681.00	106.19	84.25	-5.73	-5,781.27	1,589.70	3,766.80	3,702.86	63.94	58.912				
17,300.00	12,446.00	13,163.38	8,681.00	107.66	85.79	-5.72	-5,881.26	1,590.68	3,766.76	3,701.86	64.91	58.033				
17,400.00	12,446.00	13,263.38	8,681.00	109.15	87.34	-5.72	-5,981.26	1,591.65	3,766.73	3,700.85	65.88	57.175				
17,500.00	12,446.00	13,363.38	8,681.00	110.63	88.89	-5.71	-6,081.25	1,592.62	3,766.69	3,699.83	66.86	56.341				
17,600.00	12,446.00	13,463.38	8,681.00	112.12	90.44	-5.70	-6,181.25	1,593.59	3,766.65	3,698.81	67.84	55.523				
17,700.00	12,446.00	13,563.37	8,681.00	113.62	92.00	-5.70	-6,281.24	1,594.57	3,766.61	3,697.79	68.83	54.726				
17,800.00	12,446.00	13,663.37	8,681.00	115.12	93.56	-5.69	-6,381.24	1,595.54	3,766.58	3,696.76	69.82	53.948				
17,900.00	12,446.00	13,763.37	8,681.00	116.62	95.13	-5.69	-6,481.23	1,596.51	3,766.54	3,695.73	70.82	53.188				
18,000.00	12,446.00	13,863.37	8,681.00	118.13	96.69	-5.68	-6,581.22	1,597.48	3,766.50	3,694.69	71.82	52.447				
18,100.00	12,446.00	13,963.37	8,681.00	119.64	98.26	-5.68	-6,681.22	1,598.45	3,766.47	3,693.65	72.82	51.724				
18,200.00	12,446.00	14,063.37	8,681.00	121.16	99.84	-5.67	-6,781.21	1,599.43	3,766.43	3,692.60	73.83	51.018				
18,300.00	12,446.00	14,163.37	8,681.00	122.67	101.41	-5.66	-6,881.21	1,600.40	3,766.39	3,691.56	74.84	50.328				
18,400.00	12,446.00	14,263.37	8,681.00	124.20	102.99	-5.66	-6,981.20	1,601.37	3,766.36	3,690.51	75.85	49.657				
18,500.00	12,446.00	14,363.37	8,681.00	125.72	104.57	-5.65	-7,081.20	1,602.34	3,766.32	3,689.46	76.86	49.002				
18,600.00	12,446.00	14,463.37	8,681.00	127.25	106.15	-5.65	-7,181.19	1,603.32	3,766.28	3,688.40	77.88	48.361				
18,700.00	12,446.00	14,563.37	8,681.00	128.78	107.73	-5.64	-7,281.19	1,604.29	3,766.25	3,687.35	78.90	47.736				
18,800.00	12,446.00	14,663.37	8,681.00	130.32	109.32	-5.64	-7,381.18	1,605.26	3,766.21	3,686.29	79.92	47.124				
18,900.00	12,446.00	14,763.37	8,681.00	131.86	110.91	-5.63	-7,481.18	1,606.23	3,766.17	3,685.23	80.95	46.527				
19,000.00	12,446.00	14,863.37	8,681.00	133.40	112.50	-5.63	-7,581.17	1,607.20	3,766.14	3,684.16	81.97	45.943				
19,100.00	12,446.00	14,963.36	8,681.00	134.94	114.09	-5.62	-7,681.17	1,608.18	3,766.10	3,683.09	83.01	45.371				
19,200.00	12,446.00	15,063.36	8,681.00	136.48	115.68	-5.61	-7,781.16	1,609.15	3,766.06	3,682.02	84.04	44.812				

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 103H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD															Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth	Vertical	Measured	Vertical	Reference	Offset	Highside	Offset Wellbore Centre		Between	Between	Minimum	Separation				
Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	(usft)	(usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Centres (usft)	Ellipses (usft)	Separation (usft)	Factor				
19,300.00	12,446.00	15,163.36	8,681.00	138.03	117.28	-5.61	-7,881.15	1,610.12	3,766.03	3,680.95	85.08	44.266				
19,400.00	12,446.00	15,263.36	8,681.00	139.58	118.87	-5.60	-7,981.15	1,611.09	3,765.99	3,679.88	86.12	43.732				
19,500.00	12,446.00	15,363.36	8,681.00	141.14	120.47	-5.60	-8,081.14	1,612.07	3,765.95	3,678.80	87.16	43.209				
19,600.00	12,446.00	15,463.36	8,681.00	142.69	122.07	-5.59	-8,181.14	1,613.04	3,765.92	3,677.72	88.20	42.699				
19,700.00	12,446.00	15,563.36	8,681.00	144.25	123.67	-5.59	-8,281.13	1,614.01	3,765.88	3,676.64	89.24	42.200				
19,800.00	12,446.00	15,663.36	8,681.00	145.81	125.27	-5.58	-8,381.13	1,614.98	3,765.85	3,675.56	90.28	41.712				
19,900.00	12,446.00	15,763.36	8,681.00	147.37	126.88	-5.57	-8,481.12	1,615.95	3,765.81	3,674.48	91.33	41.234				
20,000.00	12,446.00	15,863.36	8,681.00	148.93	128.48	-5.57	-8,581.12	1,616.93	3,765.77	3,673.40	92.38	40.766				
20,100.00	12,446.00	15,963.36	8,681.00	150.50	130.09	-5.56	-8,681.11	1,617.90	3,765.74	3,672.31	93.42	40.308				
20,200.00	12,446.00	16,063.36	8,681.00	152.06	131.69	-5.56	-8,781.11	1,618.87	3,765.70	3,671.23	94.48	39.859				
20,300.00	12,446.00	16,163.36	8,681.00	153.63	133.30	-5.55	-8,881.10	1,619.84	3,765.67	3,670.14	95.53	39.420				
20,400.00	12,446.00	16,263.36	8,681.00	155.20	134.91	-5.55	-8,981.09	1,620.82	3,765.63	3,669.05	96.58	38.989				
20,500.00	12,446.00	16,363.36	8,681.00	156.77	136.52	-5.54	-9,081.09	1,621.79	3,765.59	3,667.96	97.64	38.567				
20,600.00	12,446.00	16,463.35	8,681.00	158.35	138.13	-5.53	-9,181.08	1,622.76	3,765.56	3,666.86	98.69	38.154				
20,700.00	12,446.00	16,563.35	8,681.00	159.92	139.74	-5.53	-9,281.08	1,623.73	3,765.52	3,665.77	99.75	37.748				
20,800.00	12,446.00	16,663.35	8,681.00	161.50	141.35	-5.52	-9,381.07	1,624.70	3,765.49	3,664.67	100.81	37.351				
20,900.00	12,446.00	16,763.35	8,681.00	163.08	142.97	-5.52	-9,481.07	1,625.68	3,765.45	3,663.58	101.87	36.962				
21,000.00	12,446.00	16,863.35	8,681.00	164.66	144.58	-5.51	-9,581.06	1,626.65	3,765.41	3,662.48	102.94	36.580				
21,100.00	12,446.00	16,963.35	8,681.00	166.24	146.20	-5.51	-9,681.06	1,627.62	3,765.38	3,661.38	104.00	36.205				
21,200.00	12,446.00	17,063.35	8,681.00	167.82	147.81	-5.50	-9,781.05	1,628.59	3,765.34	3,660.28	105.07	35.838				
21,300.00	12,446.00	17,163.35	8,681.00	169.41	149.43	-5.50	-9,881.05	1,629.57	3,765.31	3,659.17	106.13	35.478				
21,400.00	12,446.00	17,263.35	8,681.00	170.99	151.05	-5.49	-9,981.04	1,630.54	3,765.27	3,658.07	107.20	35.124				
21,500.00	12,446.00	17,363.35	8,681.00	172.58	152.67	-5.48	-10,081.04	1,631.51	3,765.24	3,656.97	108.27	34.777				
21,600.00	12,446.00	17,463.35	8,681.00	174.17	154.29	-5.48	-10,181.03	1,632.48	3,765.20	3,655.86	109.34	34.436				
21,700.00	12,446.00	17,563.35	8,681.00	175.76	155.91	-5.47	-10,281.02	1,633.45	3,765.16	3,654.76	110.41	34.102				
21,800.00	12,446.00	17,663.35	8,681.00	177.35	157.53	-5.47	-10,381.02	1,634.43	3,765.13	3,653.65	111.48	33.774				
21,900.00	12,446.00	17,763.35	8,681.00	178.94	159.15	-5.46	-10,481.01	1,635.40	3,765.09	3,652.54	112.55	33.452				
22,000.00	12,446.00	17,863.34	8,681.00	180.53	160.77	-5.46	-10,581.01	1,636.37	3,765.06	3,651.43	113.62	33.136				
22,100.00	12,446.00	17,963.34	8,681.00	182.12	162.39	-5.45	-10,681.00	1,637.34	3,765.02	3,650.33	114.69	32.827				
22,200.00	12,446.00	18,063.34	8,681.00	183.72	164.01	-5.44	-10,781.00	1,638.31	3,764.99	3,649.22	115.77	32.522				
22,300.00	12,446.00	18,163.34	8,681.00	185.31	165.64	-5.44	-10,880.99	1,639.29	3,764.95	3,648.11	116.84	32.222				
22,400.00	12,446.00	18,263.34	8,681.00	186.91	167.26	-5.43	-10,980.99	1,640.26	3,764.92	3,647.00	117.92	31.928				
22,500.00	12,446.00	18,363.34	8,681.00	188.51	168.88	-5.43	-11,080.98	1,641.23	3,764.88	3,645.89	119.00	31.639				
22,600.00	12,446.00	18,463.34	8,681.00	190.11	170.51	-5.42	-11,180.98	1,642.20	3,764.85	3,644.77	120.07	31.355				
22,700.00	12,446.00	18,563.34	8,681.00	191.71	172.14	-5.42	-11,280.97	1,643.18	3,764.81	3,643.66	121.15	31.076				
22,800.00	12,446.00	18,663.34	8,681.00	193.31	173.76	-5.41	-11,380.96	1,644.15	3,764.78	3,642.55	122.23	30.802				
22,817.13	12,446.00	18,680.47	8,681.00	193.58	174.04	-5.41	-11,398.09	1,644.31	3,764.77	3,642.36	122.41	30.755				

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 104H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance				Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)		Minimum Separation (usft)	Separation Factor			
0.00	0.00	0.00	0.00	0.00	0.00	122.58	-1,002.40	1,568.80	1,861.79							
100.00	100.00	82.40	82.40	0.13	0.10	122.58	-1,002.40	1,568.80	1,861.70	1,861.54	0.16	N/A				
200.00	200.00	182.40	182.40	0.48	0.42	122.58	-1,002.40	1,568.80	1,861.70	1,861.06	0.64	2,902.873				
300.00	300.00	282.40	282.40	0.84	0.78	122.58	-1,002.40	1,568.80	1,861.70	1,860.56	1.15	1,622.257				
400.00	400.00	382.40	382.40	1.20	1.14	122.58	-1,002.40	1,568.80	1,861.70	1,860.05	1.65	1,125.379				
500.00	500.00	482.40	482.40	1.56	1.50	122.58	-1,002.40	1,568.80	1,861.70	1,859.54	2.16	861.459				
600.00	600.00	582.40	582.40	1.92	1.85	122.58	-1,002.40	1,568.80	1,861.70	1,859.04	2.67	697.797				
700.00	700.00	682.40	682.40	2.28	2.21	122.58	-1,002.40	1,568.80	1,861.70	1,858.53	3.17	586.388				
800.00	800.00	782.40	782.40	2.63	2.57	122.58	-1,002.40	1,568.80	1,861.70	1,858.02	3.68	505.653				
900.00	900.00	882.40	882.40	2.99	2.93	122.58	-1,002.40	1,568.80	1,861.70	1,857.51	4.19	444.458				
1,000.00	1,000.00	982.40	982.40	3.35	3.29	122.58	-1,002.40	1,568.80	1,861.70	1,857.01	4.70	396.476				
1,100.00	1,100.00	1,082.40	1,082.40	3.71	3.65	122.58	-1,002.40	1,568.80	1,861.70	1,856.50	5.20	357.843				
1,200.00	1,200.00	1,182.40	1,182.40	4.07	4.01	122.58	-1,002.40	1,568.80	1,861.70	1,855.99	5.71	326.071				
1,300.00	1,300.00	1,282.40	1,282.40	4.43	4.36	122.58	-1,002.40	1,568.80	1,861.70	1,855.49	6.22	299.480				
1,400.00	1,400.00	1,382.40	1,382.40	4.79	4.72	122.58	-1,002.40	1,568.80	1,861.70	1,854.98	6.72	276.900				
1,500.00	1,500.00	1,482.40	1,482.40	5.14	5.08	122.58	-1,002.40	1,568.80	1,861.70	1,854.47	7.23	257.485				
1,600.00	1,600.00	1,582.40	1,582.40	5.50	5.44	122.58	-1,002.40	1,568.80	1,861.70	1,853.97	7.74	240.615				
1,700.00	1,700.00	1,682.40	1,682.40	5.86	5.80	122.58	-1,002.40	1,568.80	1,861.70	1,853.46	8.24	225.819				
1,800.00	1,800.00	1,782.40	1,782.40	6.22	6.16	122.58	-1,002.40	1,568.80	1,861.70	1,852.95	8.75	212.737				
1,900.00	1,900.00	1,882.40	1,882.40	6.58	6.51	122.58	-1,002.40	1,568.80	1,861.70	1,852.45	9.26	201.089				
2,000.00	2,000.00	1,982.40	1,982.40	6.94	6.87	122.58	-1,002.40	1,568.80	1,861.70	1,851.94	9.77	190.649	CC, ES			
2,100.00	2,100.00	2,051.71	2,051.71	7.29	7.12	122.57	-1,002.47	1,569.26	1,862.38	1,852.19	10.19	182.765				
2,200.00	2,200.00	2,100.00	2,099.98	7.65	7.28	122.56	-1,002.66	1,570.53	1,865.12	1,854.56	10.56	176.661				
2,300.00	2,300.00	2,177.02	2,176.90	8.01	7.55	122.51	-1,003.21	1,574.21	1,869.67	1,858.68	10.99	170.099				
2,400.00	2,400.00	2,239.44	2,239.17	8.37	7.76	122.45	-1,003.88	1,578.69	1,876.31	1,864.93	11.39	164.791				
2,500.00	2,500.00	2,300.00	2,299.45	8.73	7.97	122.38	-1,004.72	1,584.32	1,884.94	1,873.17	11.77	160.128				
2,600.00	2,600.00	2,363.56	2,362.59	9.09	8.19	122.29	-1,005.80	1,591.59	1,895.55	1,883.39	12.16	155.856				
2,700.00	2,700.00	2,425.14	2,423.58	9.45	8.41	122.19	-1,007.05	1,599.94	1,908.13	1,895.59	12.54	152.125				
2,800.00	2,800.00	2,500.00	2,497.47	9.80	8.68	122.04	-1,008.83	1,611.84	1,922.75	1,909.79	12.96	148.341				
2,900.00	2,900.00	2,547.07	2,543.75	10.16	8.86	121.94	-1,010.10	1,620.30	1,939.17	1,925.88	13.29	145.915				
3,000.00	3,000.00	2,600.00	2,595.62	10.52	9.06	121.81	-1,011.65	1,630.72	1,957.62	1,943.99	13.63	143.633				
3,100.00	3,100.00	2,667.02	2,661.01	10.88	9.32	121.64	-1,013.82	1,645.25	1,977.95	1,963.93	14.01	141.149				
3,200.00	3,200.00	2,726.14	2,718.39	11.24	9.55	121.48	-1,015.93	1,659.33	2,000.20	1,985.83	14.37	139.234				
3,300.00	3,300.00	2,800.00	2,789.64	11.60	9.85	121.26	-1,018.80	1,678.56	2,024.43	2,009.66	14.77	137.068				
3,400.00	3,399.99	2,842.65	2,830.55	11.94	10.04	-10.85	-1,020.58	1,690.49	2,049.09	2,034.05	15.04	136.242				
3,500.00	3,499.91	2,900.46	2,885.71	12.27	10.29	-10.99	-1,023.14	1,707.61	2,073.23	2,057.88	15.35	135.049				
3,600.00	3,599.69	2,997.04	2,977.56	12.60	10.74	-11.27	-1,027.55	1,737.14	2,095.84	2,080.01	15.82	132.452				
3,700.00	3,699.27	3,094.10	3,069.86	12.94	11.20	-11.57	-1,031.99	1,766.81	2,116.01	2,099.71	16.30	129.801				
3,800.00	3,798.57	3,191.57	3,162.56	13.28	11.68	-11.89	-1,036.44	1,796.60	2,133.76	2,116.97	16.79	127.109				
3,900.00	3,897.54	3,289.38	3,255.58	13.62	12.17	-12.21	-1,040.91	1,826.50	2,149.07	2,131.79	17.28	124.388				
4,000.00	3,996.09	3,387.47	3,348.87	13.97	12.67	-12.56	-1,045.39	1,856.49	2,161.94	2,144.16	17.77	121.645				
4,100.00	4,094.16	3,485.77	3,442.36	14.33	13.19	-12.92	-1,049.88	1,886.54	2,172.37	2,154.10	18.27	118.888				
4,200.00	4,191.70	3,584.21	3,535.98	14.70	13.72	-13.30	-1,054.38	1,916.63	2,180.37	2,161.60	18.78	116.122				
4,300.00	4,288.62	3,682.73	3,629.67	15.08	14.25	-13.70	-1,058.88	1,946.75	2,185.95	2,166.67	19.28	113.352				
4,400.00	4,384.86	3,781.25	3,723.37	15.48	14.79	-14.13	-1,063.38	1,976.86	2,189.11	2,169.31	19.80	110.581				
4,500.00	4,480.36	3,879.71	3,817.01	15.89	15.34	-14.57	-1,067.88	2,006.96	2,189.87	2,169.56	20.31	107.812				
4,600.00	4,575.05	3,978.05	3,910.53	16.33	15.89	-15.04	-1,072.37	2,037.02	2,188.23	2,167.40	20.83	105.047				
4,674.25	4,644.79	4,050.94	3,979.85	16.66	16.31	-15.41	-1,075.70	2,059.30	2,185.49	2,164.27	21.22	102.997				
4,700.00	4,668.90	4,076.19	4,003.87	16.78	16.45	-15.54	-1,076.85	2,067.02	2,184.31	2,162.96	21.35	102.291				
4,800.00	4,762.49	4,174.28	4,097.15	17.26	17.01	-16.03	-1,081.33	2,097.01	2,179.86	2,157.98	21.88	99.622				
4,900.00	4,856.09	4,272.36	4,190.43	17.75	17.58	-16.52	-1,085.81	2,126.99	2,175.57	2,153.16	22.41	97.064				
5,000.00	4,949.69	4,370.45	4,283.71	18.25	18.15	-17.01	-1,090.29	2,156.98	2,171.45	2,148.50	22.95	94.611				

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.00	5,043.29	4,468.53	4,376.99	18.76	18.72	-17.51	-1,094.77	2,186.96	2,167.50	2,144.00	23.49	92.260		
5,200.00	5,136.88	4,566.61	4,470.28	19.29	19.29	-18.00	-1,099.25	2,216.94	2,163.71	2,139.67	24.04	90.003		
5,300.00	5,230.48	4,664.70	4,563.56	19.82	19.87	-18.50	-1,103.73	2,246.93	2,160.09	2,135.50	24.59	87.838		
5,400.00	5,324.08	4,762.78	4,656.84	20.37	20.45	-19.00	-1,108.21	2,276.91	2,156.65	2,131.50	25.15	85.759		
5,500.00	5,417.68	4,860.87	4,750.12	20.93	21.04	-19.50	-1,112.69	2,306.89	2,153.37	2,127.66	25.71	83.762		
5,600.00	5,511.27	4,958.95	4,843.40	21.49	21.62	-20.01	-1,117.17	2,336.88	2,150.26	2,123.99	26.27	81.844		
5,700.00	5,604.87	5,057.04	4,936.68	22.06	22.21	-20.51	-1,121.65	2,366.86	2,147.33	2,120.49	26.84	79.999		
5,800.00	5,698.47	5,155.12	5,029.96	22.64	22.80	-21.01	-1,126.14	2,396.84	2,144.57	2,117.16	27.42	78.224		
5,900.00	5,792.07	5,253.20	5,123.25	23.22	23.39	-21.52	-1,130.62	2,426.83	2,141.98	2,113.99	27.99	76.516		
6,000.00	5,885.66	5,351.29	5,216.53	23.81	23.98	-22.03	-1,135.10	2,456.81	2,139.57	2,111.00	28.58	74.871		
6,100.00	5,979.26	5,449.37	5,309.81	24.41	24.58	-22.54	-1,139.58	2,486.79	2,137.34	2,108.17	29.16	73.287		
6,200.00	6,072.86	5,547.46	5,403.09	25.01	25.17	-23.05	-1,144.06	2,516.78	2,135.27	2,105.52	29.76	71.760		
6,300.00	6,166.46	5,645.54	5,496.37	25.61	25.77	-23.56	-1,148.54	2,546.76	2,133.39	2,103.04	30.35	70.288		
6,400.00	6,260.05	5,743.62	5,589.65	26.22	26.37	-24.07	-1,153.02	2,576.74	2,131.68	2,100.73	30.95	68.869		
6,500.00	6,353.65	5,841.71	5,682.93	26.84	26.97	-24.58	-1,157.50	2,606.73	2,130.15	2,098.59	31.56	67.499		
6,600.00	6,447.25	5,939.79	5,776.22	27.45	27.57	-25.10	-1,161.98	2,636.71	2,128.79	2,096.62	32.17	66.177		
6,700.00	6,540.85	6,037.88	5,869.50	28.07	28.17	-25.61	-1,166.46	2,666.69	2,127.61	2,094.83	32.78	64.899		
6,800.00	6,634.44	6,135.96	5,962.78	28.70	28.77	-26.12	-1,170.94	2,696.68	2,126.61	2,093.21	33.40	63.665		
6,900.00	6,728.04	6,234.04	6,056.06	29.33	29.38	-26.64	-1,175.42	2,726.66	2,125.79	2,091.76	34.03	62.471		
7,000.00	6,821.64	6,332.13	6,149.34	29.96	29.98	-27.15	-1,179.90	2,756.64	2,125.15	2,090.49	34.66	61.317		
7,100.00	6,915.24	6,430.21	6,242.62	30.59	30.59	-27.67	-1,184.38	2,786.63	2,124.68	2,089.39	35.29	60.200		
7,200.00	7,008.83	6,528.30	6,335.90	31.23	31.19	-28.18	-1,188.86	2,816.61	2,124.39	2,088.46	35.93	59.119		
7,300.00	7,102.43	6,626.38	6,429.19	31.87	31.80	-28.70	-1,193.34	2,846.59	2,124.29	2,087.71	36.58	58.072		
7,310.58	7,112.33	6,636.76	6,439.05	31.94	31.86	-28.75	-1,193.82	2,849.77	2,124.29	2,087.64	36.65	57.963		
7,400.00	7,196.03	6,724.47	6,522.47	32.51	32.40	-29.21	-1,197.82	2,876.58	2,124.36	2,087.12	37.23	57.057		
7,500.00	7,289.63	6,862.32	6,653.72	33.15	33.25	-29.94	-1,204.05	2,918.25	2,124.48	2,086.40	38.08	55.793		
7,600.00	7,383.22	7,173.16	6,955.48	33.80	34.90	-31.56	-1,214.97	2,991.33	2,116.54	2,077.01	39.53	53.541		
7,683.32	7,461.21	7,474.66	7,254.09	34.34	36.11	-33.17	-1,220.94	3,031.26	2,100.55	2,060.05	40.50	51.862		
7,700.00	7,476.83	7,601.63	7,380.79	34.44	36.52	-33.83	-1,222.10	3,039.07	2,096.42	2,055.74	40.67	51.544		
7,800.00	7,571.03	7,774.29	7,553.43	35.07	36.98	-34.53	-1,222.40	3,041.05	2,068.74	2,027.50	41.25	50.154		
7,900.00	7,666.07	7,869.33	7,648.47	35.68	37.22	-34.78	-1,222.40	3,041.05	2,042.76	2,000.92	41.84	48.828		
8,000.00	7,761.89	7,965.16	7,744.29	36.25	37.46	-35.03	-1,222.40	3,041.05	2,018.99	1,976.57	42.42	47.596		
8,100.00	7,858.43	8,061.69	7,840.83	36.80	37.71	-35.26	-1,222.40	3,041.05	1,997.43	1,954.43	43.00	46.456		
8,200.00	7,955.62	8,158.88	7,938.02	37.32	37.96	-35.48	-1,222.40	3,041.05	1,978.05	1,934.49	43.57	45.404		
8,300.00	8,053.39	8,256.65	8,035.79	37.81	38.22	-35.68	-1,222.40	3,041.05	1,960.86	1,916.73	44.13	44.438		
8,400.00	8,151.68	8,333.71	8,112.78	38.27	38.42	-35.73	-1,224.56	3,041.07	1,946.21	1,901.53	44.68	43.558		
8,500.00	8,250.41	8,400.00	8,178.34	38.71	38.59	-35.54	-1,234.12	3,041.17	1,935.15	1,889.95	45.20	42.811		
8,600.00	8,349.53	8,470.66	8,246.51	39.11	38.79	-35.09	-1,252.57	3,041.35	1,927.82	1,882.15	45.67	42.208		
8,700.00	8,448.96	8,534.34	8,305.58	39.49	38.97	-34.47	-1,276.26	3,041.58	1,924.52	1,878.41	46.11	41.740		
8,726.19	8,475.04	8,550.00	8,319.67	39.58	39.02	-34.29	-1,283.09	3,041.65	1,924.36	1,878.15	46.21	41.641		
8,800.00	8,548.63	8,600.00	8,363.34	39.84	39.17	-33.64	-1,307.40	3,041.89	1,925.64	1,879.15	46.49	41.418		
8,900.00	8,648.48	8,650.00	8,404.73	40.17	39.31	-32.90	-1,335.43	3,042.16	1,931.56	1,884.72	46.84	41.237		
9,000.00	8,748.44	8,700.00	8,443.51	40.46	39.46	-32.08	-1,366.96	3,042.47	1,942.75	1,895.62	47.13	41.218		
9,057.57	8,806.00	8,714.23	8,454.04	40.62	39.50	100.17	-1,376.54	3,042.57	1,951.64	1,904.37	47.27	41.286		
9,100.00	8,848.43	8,730.50	8,465.77	40.73	39.55	100.50	-1,387.81	3,042.68	1,959.23	1,911.87	47.36	41.369		
9,200.00	8,948.43	8,765.51	8,489.91	41.00	39.66	101.24	-1,413.16	3,042.93	1,979.67	1,932.14	47.53	41.653		
9,300.00	9,048.43	8,800.00	8,512.12	41.26	39.77	102.00	-1,439.53	3,043.19	2,003.81	1,956.16	47.65	42.056		
9,400.00	9,148.43	8,823.50	8,526.33	41.53	39.84	102.54	-1,458.24	3,043.37	2,031.68	1,983.98	47.70	42.592		
9,500.00	9,248.43	8,850.00	8,541.43	41.80	39.93	103.17	-1,480.02	3,043.58	2,063.30	2,015.59	47.71	43.248		
9,600.00	9,348.43	8,868.89	8,551.56	42.06	39.99	103.62	-1,495.96	3,043.74	2,098.61	2,050.96	47.65	44.038		
9,700.00	9,448.43	8,900.00	8,567.09	42.34	40.09	104.39	-1,522.92	3,044.01	2,137.62	2,090.04	47.59	44.921		
9,800.00	9,548.43	8,900.00	8,567.09	42.61	40.09	104.39	-1,522.92	3,044.01	2,179.95	2,132.56	47.39	45.996		

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
9,900.00	9,648.43	8,920.29	8,576.42	42.88	40.16	104.90	-1,540.93	3,044.18	2,225.69	2,178.46	47.23	47.125		
10,000.00	9,748.43	8,950.00	8,588.91	43.16	40.26	105.65	-1,567.88	3,044.45	2,274.81	2,227.74	47.07	48.328		
10,100.00	9,848.43	8,950.00	8,588.91	43.43	40.26	105.65	-1,567.88	3,044.45	2,326.62	2,279.83	46.79	49.726		
10,200.00	9,948.43	8,950.00	8,588.91	43.71	40.26	105.65	-1,567.88	3,044.45	2,381.50	2,335.01	46.49	51.230		
10,300.00	10,048.43	8,968.44	8,595.96	43.99	40.32	106.13	-1,584.92	3,044.62	2,438.99	2,392.74	46.25	52.740		
10,400.00	10,148.43	8,977.97	8,599.39	44.26	40.36	106.38	-1,593.81	3,044.70	2,499.05	2,453.09	45.96	54.369		
10,500.00	10,248.43	9,000.00	8,606.74	44.55	40.44	106.95	-1,614.58	3,044.91	2,561.63	2,515.90	45.73	56.011		
10,600.00	10,348.43	9,000.00	8,606.74	44.83	40.44	106.95	-1,614.58	3,044.91	2,626.17	2,580.76	45.42	57.823		
10,700.00	10,448.43	9,000.00	8,606.74	45.11	40.44	106.95	-1,614.58	3,044.91	2,692.88	2,647.77	45.11	59.702		
10,800.00	10,548.43	9,000.00	8,606.74	45.39	40.44	106.95	-1,614.58	3,044.91	2,761.60	2,716.80	44.80	61.641		
10,900.00	10,648.43	9,000.00	8,606.74	45.68	40.44	106.95	-1,614.58	3,044.91	2,832.18	2,787.67	44.51	63.634		
11,000.00	10,748.43	9,021.53	8,613.14	45.96	40.52	107.52	-1,635.13	3,045.11	2,904.10	2,859.78	44.32	65.520		
11,100.00	10,848.43	9,027.10	8,614.68	46.25	40.54	107.66	-1,640.49	3,045.16	2,977.78	2,933.70	44.08	67.548		
11,200.00	10,948.43	9,050.00	8,620.42	46.54	40.63	108.27	-1,662.65	3,045.38	3,053.18	3,009.24	43.94	69.493		
11,300.00	11,048.43	9,050.00	8,620.42	46.83	40.63	108.27	-1,662.65	3,045.38	3,129.54	3,085.83	43.70	71.608		
11,400.00	11,148.43	9,050.00	8,620.42	47.12	40.63	108.27	-1,662.65	3,045.38	3,207.19	3,163.70	43.49	73.747		
11,500.00	11,248.43	9,050.00	8,620.42	47.41	40.63	108.27	-1,662.65	3,045.38	3,286.05	3,242.76	43.29	75.903		
11,600.00	11,348.43	9,050.00	8,620.42	47.70	40.63	108.27	-1,662.65	3,045.38	3,366.04	3,322.93	43.11	78.072		
11,700.00	11,448.43	9,050.00	8,620.42	47.99	40.63	108.27	-1,662.65	3,045.38	3,447.07	3,404.12	42.96	80.248		
11,800.00	11,548.43	9,050.00	8,620.42	48.28	40.63	108.27	-1,662.65	3,045.38	3,529.08	3,486.27	42.81	82.429		
11,900.00	11,648.43	9,050.00	8,620.42	48.58	40.63	108.27	-1,662.65	3,045.38	3,611.99	3,569.30	42.69	84.608		
12,000.00	11,748.43	9,050.00	8,620.42	48.87	40.63	108.27	-1,662.65	3,045.38	3,695.75	3,653.16	42.59	86.783		
12,100.00	11,848.43	9,050.00	8,620.42	49.17	40.63	108.27	-1,662.65	3,045.38	3,780.30	3,737.80	42.50	88.950		
12,124.61	11,873.04	9,050.00	8,620.42	49.24	40.63	108.27	-1,662.65	3,045.38	3,801.22	3,758.74	42.48	89.481		
12,150.00	11,898.42	9,050.00	8,620.42	49.32	40.63	-67.17	-1,662.65	3,045.38	3,822.75	3,780.29	42.46	90.027		
12,200.00	11,948.22	9,050.00	8,620.42	49.49	40.63	-60.33	-1,662.65	3,045.38	3,864.57	3,822.14	42.43	91.082		
12,250.00	11,997.43	9,073.63	8,625.42	49.67	40.72	-53.96	-1,685.74	3,045.61	3,904.88	3,862.38	42.50	91.878		
12,300.00	12,045.71	9,076.75	8,626.01	49.88	40.73	-48.90	-1,688.80	3,045.64	3,944.26	3,901.77	42.49	92.820		
12,350.00	12,092.66	9,100.00	8,629.87	50.11	40.83	-44.40	-1,711.73	3,045.86	3,982.41	3,939.84	42.57	93.542		
12,400.00	12,137.95	9,100.00	8,629.87	50.35	40.83	-40.91	-1,711.73	3,045.86	4,018.25	3,975.68	42.57	94.391		
12,450.00	12,181.22	9,100.00	8,629.87	50.62	40.83	-38.00	-1,711.73	3,045.86	4,052.05	4,009.48	42.58	95.170		
12,500.00	12,222.15	9,100.00	8,629.87	50.89	40.83	-35.56	-1,711.73	3,045.86	4,083.61	4,041.01	42.60	95.870		
12,550.00	12,260.41	9,100.00	8,629.87	51.18	40.83	-33.53	-1,711.73	3,045.86	4,112.73	4,070.10	42.63	96.485		
12,600.00	12,295.73	9,100.00	8,629.87	51.49	40.83	-31.84	-1,711.73	3,045.86	4,139.25	4,096.58	42.67	97.009		
12,650.00	12,327.84	9,100.00	8,629.87	51.81	40.83	-30.44	-1,711.73	3,045.86	4,163.02	4,120.30	42.73	97.435		
12,700.00	12,356.48	9,100.00	8,629.87	52.14	40.83	-29.29	-1,711.73	3,045.86	4,183.91	4,141.11	42.80	97.758		
12,750.00	12,381.44	9,121.77	8,632.63	52.48	40.92	-28.32	-1,733.32	3,046.08	4,201.37	4,158.42	42.96	97.805		
12,800.00	12,402.53	9,128.02	8,633.27	52.84	40.95	-27.59	-1,739.54	3,046.14	4,215.89	4,172.81	43.08	97.867		
12,850.00	12,419.60	9,150.00	8,635.00	53.20	41.04	-27.03	-1,761.45	3,046.35	4,227.37	4,184.11	43.26	97.722		
12,900.00	12,432.50	9,150.00	8,635.00	53.57	41.04	-26.67	-1,761.45	3,046.35	4,235.17	4,191.78	43.39	97.602		
12,950.00	12,441.15	9,150.00	8,635.00	53.95	41.04	-26.47	-1,761.45	3,046.35	4,239.69	4,196.14	43.54	97.367		
13,000.00	12,445.47	9,150.00	8,635.00	54.34	41.04	-26.41	-1,761.45	3,046.35	4,240.89	4,197.18	43.71	97.019		
13,024.61	12,446.00	9,150.00	8,635.00	54.53	41.04	-26.44	-1,761.45	3,046.35	4,240.27	4,196.47	43.80	96.806		
13,100.00	12,446.00	9,167.03	8,635.75	55.13	41.12	-26.44	-1,778.46	3,046.52	4,237.53	4,193.39	44.14	96.011		
13,200.00	12,446.00	9,183.90	8,636.00	55.95	41.19	-26.45	-1,795.33	3,046.69	4,235.77	4,191.16	44.61	94.958		
13,300.00	12,446.00	9,255.29	8,636.00	56.81	41.53	-26.44	-1,866.72	3,047.39	4,235.51	4,190.29	45.22	93.664		
13,400.00	12,446.00	9,355.29	8,636.00	57.70	42.06	-26.44	-1,966.71	3,048.37	4,235.35	4,189.43	45.92	92.232		
13,500.00	12,446.00	9,455.29	8,636.00	58.63	42.64	-26.43	-2,066.71	3,049.36	4,235.19	4,188.54	46.65	90.779		
13,600.00	12,446.00	9,555.29	8,636.00	59.59	43.28	-26.43	-2,166.70	3,050.34	4,235.03	4,187.61	47.42	89.311		
13,700.00	12,446.00	9,655.29	8,636.00	60.58	43.98	-26.42	-2,266.70	3,051.33	4,234.87	4,186.66	48.21	87.836		
13,800.00	12,446.00	9,755.29	8,636.00	61.60	44.73	-26.42	-2,366.69	3,052.31	4,234.71	4,185.68	49.03	86.363		
13,900.00	12,446.00	9,855.29	8,636.00	62.64	45.53	-26.42	-2,466.68	3,053.29	4,234.55	4,184.67	49.88	84.893		

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 104H - OH - Plan #1		Offset Site Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
14,000.00	12,446.00	9,955.29	8,636.00	63.71	46.38	-26.41	-2,566.68	3,054.28	4,234.39	4,183.63	50.75	83.429				
14,100.00	12,446.00	10,055.29	8,636.00	64.81	47.27	-26.41	-2,666.67	3,055.26	4,234.23	4,182.58	51.65	81.974				
14,200.00	12,446.00	10,155.29	8,636.00	65.92	48.21	-26.40	-2,766.67	3,056.25	4,234.07	4,181.49	52.58	80.532				
14,300.00	12,446.00	10,255.29	8,636.00	67.07	49.18	-26.40	-2,866.66	3,057.23	4,233.91	4,180.39	53.52	79.106				
14,400.00	12,446.00	10,355.29	8,636.00	68.23	50.19	-26.39	-2,966.66	3,058.21	4,233.75	4,179.26	54.49	77.701				
14,500.00	12,446.00	10,455.29	8,636.00	69.41	51.24	-26.39	-3,066.65	3,059.20	4,233.59	4,178.11	55.47	76.317				
14,600.00	12,446.00	10,555.29	8,636.00	70.61	52.33	-26.39	-3,166.65	3,060.18	4,233.43	4,176.95	56.48	74.961				
14,700.00	12,446.00	10,655.29	8,636.00	71.83	53.44	-26.38	-3,266.64	3,061.16	4,233.27	4,175.77	57.49	73.630				
14,800.00	12,446.00	10,755.28	8,636.00	73.06	54.58	-26.38	-3,366.64	3,062.15	4,233.11	4,174.58	58.53	72.325				
14,900.00	12,446.00	10,855.28	8,636.00	74.32	55.75	-26.37	-3,466.63	3,063.13	4,232.94	4,173.36	59.58	71.046				
15,000.00	12,446.00	10,955.28	8,636.00	75.58	56.94	-26.37	-3,566.62	3,064.12	4,232.78	4,172.14	60.65	69.794				
15,100.00	12,446.00	11,055.28	8,636.00	76.87	58.16	-26.36	-3,666.62	3,065.10	4,232.62	4,170.90	61.73	68.569				
15,200.00	12,446.00	11,155.28	8,636.00	78.16	59.40	-26.36	-3,766.61	3,066.08	4,232.46	4,169.64	62.82	67.372				
15,300.00	12,446.00	11,255.28	8,636.00	79.47	60.66	-26.35	-3,866.61	3,067.07	4,232.30	4,168.38	63.93	66.203				
15,400.00	12,446.00	11,355.28	8,636.00	80.79	61.94	-26.35	-3,966.60	3,068.05	4,232.14	4,167.10	65.05	65.062				
15,500.00	12,446.00	11,455.28	8,636.00	82.13	63.23	-26.35	-4,066.60	3,069.04	4,231.98	4,165.80	66.18	63.948				
15,600.00	12,446.00	11,555.28	8,636.00	83.47	64.55	-26.34	-4,166.59	3,070.02	4,231.82	4,164.50	67.32	62.861				
15,700.00	12,446.00	11,655.28	8,636.00	84.83	65.88	-26.34	-4,266.59	3,071.00	4,231.66	4,163.19	68.47	61.804				
15,800.00	12,446.00	11,755.28	8,636.00	86.20	67.22	-26.33	-4,366.58	3,071.99	4,231.50	4,161.88	69.63	60.773				
15,900.00	12,446.00	11,855.28	8,636.00	87.57	68.58	-26.33	-4,466.57	3,072.97	4,231.34	4,160.55	70.80	59.767				
16,000.00	12,446.00	11,955.28	8,636.00	88.96	69.95	-26.32	-4,566.57	3,073.96	4,231.18	4,159.21	71.98	58.786				
16,100.00	12,446.00	12,055.28	8,636.00	90.35	71.33	-26.32	-4,666.56	3,074.94	4,231.02	4,157.86	73.16	57.830				
16,200.00	12,446.00	12,155.28	8,636.00	91.76	72.73	-26.32	-4,766.56	3,075.92	4,230.86	4,156.51	74.35	56.901				
16,300.00	12,446.00	12,255.27	8,636.00	93.17	74.13	-26.31	-4,866.55	3,076.91	4,230.70	4,155.15	75.55	55.996				
16,400.00	12,446.00	12,355.27	8,636.00	94.59	75.55	-26.31	-4,966.55	3,077.89	4,230.54	4,153.78	76.76	55.114				
16,500.00	12,446.00	12,455.27	8,636.00	96.02	76.97	-26.30	-5,066.54	3,078.87	4,230.38	4,152.41	77.97	54.254				
16,600.00	12,446.00	12,555.27	8,636.00	97.45	78.41	-26.30	-5,166.54	3,079.86	4,230.22	4,151.03	79.19	53.416				
16,700.00	12,446.00	12,655.27	8,636.00	98.89	79.85	-26.29	-5,266.53	3,080.84	4,230.06	4,149.64	80.42	52.600				
16,800.00	12,446.00	12,755.27	8,636.00	100.34	81.30	-26.29	-5,366.53	3,081.83	4,229.90	4,148.25	81.65	51.804				
16,900.00	12,446.00	12,855.27	8,636.00	101.79	82.76	-26.28	-5,466.52	3,082.81	4,229.74	4,146.85	82.89	51.029				
17,000.00	12,446.00	12,955.27	8,636.00	103.25	84.23	-26.28	-5,566.51	3,083.79	4,229.58	4,145.45	84.13	50.273				
17,100.00	12,446.00	13,055.27	8,636.00	104.72	85.70	-26.28	-5,666.51	3,084.78	4,229.42	4,144.04	85.38	49.536				
17,200.00	12,446.00	13,155.27	8,636.00	106.19	87.18	-26.27	-5,766.50	3,085.76	4,229.26	4,142.63	86.63	48.817				
17,300.00	12,446.00	13,255.27	8,636.00	107.66	88.66	-26.27	-5,866.50	3,086.75	4,229.10	4,141.21	87.89	48.117				
17,400.00	12,446.00	13,355.27	8,636.00	109.15	90.16	-26.26	-5,966.49	3,087.73	4,228.95	4,139.79	89.16	47.433				
17,500.00	12,446.00	13,455.27	8,636.00	110.63	91.65	-26.26	-6,066.49	3,088.71	4,228.79	4,138.37	90.42	46.768				
17,600.00	12,446.00	13,555.27	8,636.00	112.12	93.15	-26.25	-6,166.48	3,089.70	4,228.63	4,136.94	91.69	46.119				
17,700.00	12,446.00	13,655.27	8,636.00	113.62	94.66	-26.25	-6,266.48	3,090.68	4,228.47	4,135.51	92.96	45.486				
17,800.00	12,446.00	13,755.26	8,636.00	115.12	96.17	-26.25	-6,366.47	3,091.67	4,228.31	4,134.07	94.23	44.870				
17,900.00	12,446.00	13,855.26	8,636.00	116.62	97.69	-26.24	-6,466.47	3,092.65	4,228.15	4,132.63	95.51	44.268				
18,000.00	12,446.00	13,955.26	8,636.00	118.13	99.21	-26.24	-6,566.46	3,093.63	4,227.99	4,131.19	96.79	43.681				
18,100.00	12,446.00	14,055.26	8,636.00	119.64	100.74	-26.23	-6,666.45	3,094.62	4,227.83	4,129.75	98.08	43.107				
18,200.00	12,446.00	14,155.26	8,636.00	121.16	102.27	-26.23	-6,766.45	3,095.60	4,227.67	4,128.30	99.37	42.547				
18,300.00	12,446.00	14,255.26	8,636.00	122.67	103.80	-26.22	-6,866.44	3,096.59	4,227.51	4,126.85	100.66	42.000				
18,400.00	12,446.00	14,355.26	8,636.00	124.20	105.34	-26.22	-6,966.44	3,097.57	4,227.35	4,125.40	101.95	41.465				
18,500.00	12,446.00	14,455.26	8,636.00	125.72	106.88	-26.21	-7,066.43	3,098.55	4,227.19	4,123.94	103.25	40.943				
18,600.00	12,446.00	14,555.26	8,636.00	127.25	108.42	-26.21	-7,166.43	3,099.54	4,227.03	4,122.49	104.54	40.433				
18,700.00	12,446.00	14,655.26	8,636.00	128.78	109.97	-26.21	-7,266.42	3,100.52	4,226.87	4,121.03	105.85	39.934				
18,800.00	12,446.00	14,755.26	8,636.00	130.32	111.52	-26.20	-7,366.42	3,101.50	4,226.71	4,119.56	107.15	39.447				
18,900.00	12,446.00	14,855.26	8,636.00	131.86	113.07	-26.20	-7,466.41	3,102.49	4,226.55	4,118.10	108.46	38.970				
19,000.00	12,446.00	14,955.26	8,636.00	133.40	114.62	-26.19	-7,566.40	3,103.47	4,226.39	4,116.63	109.77	38.504				
19,100.00	12,446.00	15,055.26	8,636.00	134.94	116.18	-26.19	-7,666.40	3,104.46	4,226.23	4,115.16	111.08	38.048				

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,200.00	12,446.00	15,155.26	8,636.00	136.48	117.74	-26.18	-7,766.39	3,105.44	4,226.07	4,113.69	112.39	37.603		
19,300.00	12,446.00	15,255.26	8,636.00	138.03	119.30	-26.18	-7,866.39	3,106.42	4,225.92	4,112.22	113.70	37.168		
19,400.00	12,446.00	15,355.25	8,636.00	139.58	120.87	-26.18	-7,966.38	3,107.41	4,225.76	4,110.75	115.01	36.742		
19,500.00	12,446.00	15,455.25	8,636.00	141.14	122.44	-26.17	-8,066.38	3,108.39	4,225.60	4,109.27	116.33	36.326		
19,600.00	12,446.00	15,555.25	8,636.00	142.69	124.01	-26.17	-8,166.37	3,109.38	4,225.44	4,107.80	117.64	35.918		
19,700.00	12,446.00	15,655.25	8,636.00	144.25	125.58	-26.16	-8,266.37	3,110.36	4,225.28	4,106.32	118.96	35.519		
19,800.00	12,446.00	15,755.25	8,636.00	145.81	127.15	-26.16	-8,366.36	3,111.34	4,225.12	4,104.84	120.28	35.128		
19,900.00	12,446.00	15,855.25	8,636.00	147.37	128.73	-26.15	-8,466.36	3,112.33	4,224.96	4,103.36	121.60	34.745		
20,000.00	12,446.00	15,955.25	8,636.00	148.93	130.31	-26.15	-8,566.35	3,113.31	4,224.80	4,101.88	122.92	34.370		
20,100.00	12,446.00	16,055.25	8,636.00	150.50	131.89	-26.14	-8,666.34	3,114.30	4,224.64	4,100.40	124.25	34.002		
20,200.00	12,446.00	16,155.25	8,636.00	152.06	133.47	-26.14	-8,766.34	3,115.28	4,224.48	4,098.91	125.57	33.642		
20,300.00	12,446.00	16,255.25	8,636.00	153.63	135.05	-26.14	-8,866.33	3,116.26	4,224.32	4,097.43	126.90	33.289		
20,400.00	12,446.00	16,355.25	8,636.00	155.20	136.64	-26.13	-8,966.33	3,117.25	4,224.17	4,095.94	128.23	32.943		
20,500.00	12,446.00	16,455.25	8,636.00	156.77	138.22	-26.13	-9,066.32	3,118.23	4,224.01	4,094.45	129.56	32.604		
20,600.00	12,446.00	16,555.25	8,636.00	158.35	139.81	-26.12	-9,166.32	3,119.21	4,223.85	4,092.96	130.89	32.271		
20,700.00	12,446.00	16,655.25	8,636.00	159.92	141.40	-26.12	-9,266.31	3,120.20	4,223.69	4,091.47	132.22	31.945		
20,800.00	12,446.00	16,755.25	8,636.00	161.50	142.99	-26.11	-9,366.31	3,121.18	4,223.53	4,089.98	133.55	31.625		
20,900.00	12,446.00	16,855.24	8,636.00	163.08	144.58	-26.11	-9,466.30	3,122.17	4,223.37	4,088.49	134.88	31.311		
21,000.00	12,446.00	16,955.24	8,636.00	164.66	146.18	-26.10	-9,566.29	3,123.15	4,223.21	4,087.00	136.21	31.004		
21,100.00	12,446.00	17,055.24	8,636.00	166.24	147.77	-26.10	-9,666.29	3,124.13	4,223.05	4,085.51	137.55	30.703		
21,200.00	12,446.00	17,155.24	8,636.00	167.82	149.37	-26.10	-9,766.28	3,125.12	4,222.90	4,084.02	138.88	30.407		
21,300.00	12,446.00	17,255.24	8,636.00	169.41	150.96	-26.09	-9,866.28	3,126.10	4,222.74	4,082.53	140.21	30.117		
21,400.00	12,446.00	17,355.24	8,636.00	170.99	152.56	-26.09	-9,966.27	3,127.09	4,222.58	4,081.03	141.55	29.832		
21,500.00	12,446.00	17,455.24	8,636.00	172.58	154.16	-26.08	-10,066.27	3,128.07	4,222.42	4,079.54	142.88	29.552		
21,600.00	12,446.00	17,555.24	8,636.00	174.17	155.76	-26.08	-10,166.26	3,129.05	4,222.26	4,078.04	144.22	29.277		
21,700.00	12,446.00	17,655.24	8,636.00	175.76	157.36	-26.07	-10,266.26	3,130.04	4,222.10	4,076.55	145.55	29.007		
21,800.00	12,446.00	17,755.24	8,636.00	177.35	158.97	-26.07	-10,366.25	3,131.02	4,221.94	4,075.05	146.89	28.742		
21,900.00	12,446.00	17,855.24	8,636.00	178.94	160.57	-26.07	-10,466.25	3,132.01	4,221.78	4,073.55	148.23	28.481		
22,000.00	12,446.00	17,955.24	8,636.00	180.53	162.17	-26.06	-10,566.24	3,132.99	4,221.63	4,072.05	149.57	28.225		
22,100.00	12,446.00	18,055.24	8,636.00	182.12	163.78	-26.06	-10,666.23	3,133.97	4,221.47	4,070.56	150.91	27.973		
22,200.00	12,446.00	18,155.24	8,636.00	183.72	165.39	-26.05	-10,766.23	3,134.96	4,221.31	4,069.06	152.25	27.726		
22,300.00	12,446.00	18,255.24	8,636.00	185.31	166.99	-26.05	-10,866.22	3,135.94	4,221.15	4,067.56	153.59	27.482		
22,400.00	12,446.00	18,355.24	8,636.00	186.91	168.60	-26.04	-10,966.22	3,136.93	4,220.99	4,066.06	154.94	27.243		
22,500.00	12,446.00	18,455.23	8,636.00	188.51	170.21	-26.04	-11,066.21	3,137.91	4,220.83	4,064.55	156.28	27.008		
22,600.00	12,446.00	18,555.23	8,636.00	190.11	171.82	-26.03	-11,166.21	3,138.89	4,220.68	4,063.06	157.62	26.778		
22,700.00	12,446.00	18,655.23	8,636.00	191.71	173.43	-26.03	-11,266.20	3,139.88	4,220.52	4,061.56	158.96	26.551		
22,800.00	12,446.00	18,755.23	8,636.00	193.31	175.04	-26.03	-11,366.20	3,140.86	4,220.36	4,060.06	160.30	26.328		
22,817.13	12,446.00	18,772.36	8,636.00	193.58	175.32	-26.02	-11,383.32	3,141.03	4,220.33	4,059.80	160.53	26.290 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 501H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD															Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth	Vertical	Measured	Vertical	Reference	Offset	Highside	Offset Wellbore Centre		Between	Between	Minimum	Separation				
Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	(usft)	(usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Centres (usft)	Ellipses (usft)	Separation (usft)	Factor				
0.00	0.00	0.00	0.00	0.00	0.00	-155.01	-1,022.08	-476.48	1,127.78							
100.00	100.00	85.30	85.30	0.13	0.11	-155.01	-1,022.08	-476.48	1,127.69	1,127.52	0.16	6,838.218				
200.00	200.00	185.30	185.30	0.48	0.43	-155.01	-1,022.08	-476.48	1,127.69	1,127.04	0.65	1,739.721				
300.00	300.00	285.30	285.30	0.84	0.79	-155.01	-1,022.08	-476.48	1,127.69	1,126.53	1.15	976.619				
400.00	400.00	385.30	385.30	1.20	1.15	-155.01	-1,022.08	-476.48	1,127.69	1,126.03	1.66	678.734				
500.00	500.00	485.30	485.30	1.56	1.51	-155.01	-1,022.08	-476.48	1,127.69	1,125.52	2.17	520.076				
600.00	600.00	585.30	585.30	1.92	1.87	-155.01	-1,022.08	-476.48	1,127.69	1,125.01	2.68	421.533				
700.00	700.00	685.30	685.30	2.28	2.22	-155.01	-1,022.08	-476.48	1,127.69	1,124.51	3.18	354.382				
800.00	800.00	785.30	785.30	2.63	2.58	-155.01	-1,022.08	-476.48	1,127.69	1,124.00	3.69	305.685				
900.00	900.00	885.30	885.30	2.99	2.94	-155.01	-1,022.08	-476.48	1,127.69	1,123.49	4.20	268.754				
1,000.00	1,000.00	985.30	985.30	3.35	3.30	-155.01	-1,022.08	-476.48	1,127.69	1,122.99	4.70	239.785				
1,100.00	1,100.00	1,085.30	1,085.30	3.71	3.66	-155.01	-1,022.08	-476.48	1,127.69	1,122.48	5.21	216.453				
1,200.00	1,200.00	1,185.30	1,185.30	4.07	4.02	-155.01	-1,022.08	-476.48	1,127.69	1,121.97	5.72	197.259				
1,300.00	1,300.00	1,285.30	1,285.30	4.43	4.37	-155.01	-1,022.08	-476.48	1,127.69	1,121.46	6.22	181.191				
1,400.00	1,400.00	1,385.30	1,385.30	4.79	4.73	-155.01	-1,022.08	-476.48	1,127.69	1,120.96	6.73	167.544				
1,500.00	1,500.00	1,485.30	1,485.30	5.14	5.09	-155.01	-1,022.08	-476.48	1,127.69	1,120.45	7.24	155.809				
1,600.00	1,600.00	1,585.30	1,585.30	5.50	5.45	-155.01	-1,022.08	-476.48	1,127.69	1,119.94	7.74	145.610				
1,700.00	1,700.00	1,685.30	1,685.30	5.86	5.81	-155.01	-1,022.08	-476.48	1,127.69	1,119.44	8.25	136.664				
1,800.00	1,800.00	1,785.30	1,785.30	6.22	6.17	-155.01	-1,022.08	-476.48	1,127.69	1,118.93	8.76	128.754				
1,900.00	1,900.00	1,885.30	1,885.30	6.58	6.53	-155.01	-1,022.08	-476.48	1,127.69	1,118.42	9.27	121.709				
2,000.00	2,000.00	1,985.30	1,985.30	6.94	6.88	-155.01	-1,022.08	-476.48	1,127.69	1,117.92	9.77	115.395				
2,100.00	2,100.00	2,085.30	2,085.30	7.29	7.24	-155.01	-1,022.08	-476.48	1,127.69	1,117.41	10.28	109.704				
2,200.00	2,200.00	2,185.30	2,185.30	7.65	7.60	-155.01	-1,022.08	-476.48	1,127.69	1,116.90	10.79	104.548				
2,300.00	2,300.00	2,285.30	2,285.30	8.01	7.96	-155.01	-1,022.08	-476.48	1,127.69	1,116.39	11.29	99.855				
2,400.00	2,400.00	2,385.30	2,385.30	8.37	8.32	-155.01	-1,022.08	-476.48	1,127.69	1,115.89	11.80	95.565				
2,500.00	2,500.00	2,485.30	2,485.30	8.73	8.68	-155.01	-1,022.08	-476.48	1,127.69	1,115.38	12.31	91.629				
2,600.00	2,600.00	2,585.30	2,585.30	9.09	9.03	-155.01	-1,022.08	-476.48	1,127.69	1,114.87	12.81	88.004				
2,700.00	2,700.00	2,685.30	2,685.30	9.45	9.39	-155.01	-1,022.08	-476.48	1,127.69	1,114.37	13.32	84.655				
2,800.00	2,800.00	2,785.30	2,785.30	9.80	9.75	-155.01	-1,022.08	-476.48	1,127.69	1,113.86	13.83	81.551				
2,900.00	2,900.00	2,885.30	2,885.30	10.16	10.11	-155.01	-1,022.08	-476.48	1,127.69	1,113.35	14.33	78.667				
3,000.00	3,000.00	2,985.30	2,985.30	10.52	10.47	-155.01	-1,022.08	-476.48	1,127.69	1,112.85	14.84	75.980				
3,100.00	3,100.00	3,085.30	3,085.30	10.88	10.83	-155.01	-1,022.08	-476.48	1,127.69	1,112.34	15.35	73.470				
3,200.00	3,200.00	3,185.30	3,185.30	11.24	11.19	-155.01	-1,022.08	-476.48	1,127.69	1,111.83	15.86	71.121				
3,300.00	3,300.00	3,285.30	3,285.30	11.60	11.54	-155.01	-1,022.08	-476.48	1,127.69	1,111.33	16.36	68.918				
3,400.00	3,399.99	3,385.29	3,385.29	11.94	11.90	73.02	-1,022.08	-476.48	1,127.31	1,110.45	16.86	66.867				
3,500.00	3,499.91	3,471.92	3,471.91	12.27	12.20	73.22	-1,022.24	-477.14	1,126.67	1,109.36	17.31	65.106				
3,548.86	3,548.69	3,513.02	3,513.01	12.43	12.35	73.38	-1,022.47	-478.11	1,126.59	1,109.07	17.52	64.308 CC				
3,600.00	3,599.69	3,555.94	3,555.89	12.60	12.49	73.59	-1,022.83	-479.57	1,126.68	1,108.94	17.74	63.515 ES				
3,700.00	3,699.27	3,639.42	3,639.26	12.94	12.77	74.12	-1,023.84	-483.77	1,127.43	1,109.27	18.17	62.055				
3,800.00	3,798.57	3,722.15	3,721.77	13.28	13.06	74.80	-1,025.26	-489.68	1,129.05	1,110.46	18.60	60.715				
3,900.00	3,897.54	3,800.00	3,799.27	13.62	13.32	75.59	-1,026.98	-496.82	1,131.69	1,112.69	19.01	59.537				
4,000.00	3,996.09	3,884.55	3,883.26	13.97	13.62	76.59	-1,029.27	-506.32	1,135.52	1,116.07	19.45	58.395				
4,100.00	4,094.16	3,963.85	3,961.80	14.33	13.89	77.67	-1,031.81	-516.87	1,140.75	1,120.89	19.87	57.419				
4,200.00	4,191.70	4,041.64	4,038.62	14.70	14.17	78.83	-1,034.67	-528.75	1,147.62	1,127.33	20.29	56.570				
4,300.00	4,288.62	4,117.76	4,113.55	15.08	14.45	80.07	-1,037.83	-541.85	1,156.36	1,135.66	20.70	55.851				
4,400.00	4,384.86	4,200.00	4,194.16	15.48	14.75	81.52	-1,041.63	-557.63	1,167.26	1,146.10	21.16	55.171				
4,500.00	4,480.36	4,264.48	4,257.12	15.89	14.99	82.69	-1,044.89	-571.18	1,180.45	1,158.91	21.53	54.821				
4,600.00	4,575.05	4,334.84	4,325.53	16.33	15.26	84.02	-1,048.73	-587.14	1,196.26	1,174.32	21.94	54.513				
4,674.25	4,644.79	4,385.70	4,374.79	16.66	15.46	85.00	-1,051.70	-599.44	1,209.81	1,187.56	22.25	54.376				
4,700.00	4,668.90	4,400.00	4,388.62	16.78	15.51	85.34	-1,052.56	-603.01	1,214.90	1,192.56	22.34	54.391				
4,800.00	4,762.49	4,469.86	4,455.92	17.26	15.79	86.99	-1,056.94	-621.19	1,236.62	1,213.86	22.76	54.330				
4,900.00	4,856.09	4,535.41	4,518.76	17.75	16.06	88.53	-1,061.31	-639.33	1,261.47	1,238.31	23.16	54.463				

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,000.00	4,949.69	4,600.00	4,580.36	18.25	16.34	90.04	-1,065.86	-658.23	1,289.39	1,265.83	23.56	54.737		
5,100.00	5,043.29	4,662.83	4,639.95	18.76	16.61	91.48	-1,070.52	-677.59	1,320.29	1,296.36	23.94	55.154		
5,200.00	5,136.88	4,724.70	4,698.31	19.29	16.89	92.88	-1,075.33	-697.57	1,354.10	1,329.79	24.31	55.697		
5,300.00	5,230.48	4,798.56	4,767.65	19.82	17.23	94.52	-1,081.29	-722.31	1,390.44	1,365.67	24.77	56.130		
5,400.00	5,324.08	4,879.53	4,843.64	20.37	17.62	96.24	-1,087.84	-749.48	1,428.35	1,403.06	25.29	56.485		
5,500.00	5,417.68	4,960.51	4,919.63	20.93	18.01	97.89	-1,094.38	-776.66	1,467.62	1,441.82	25.81	56.872		
5,600.00	5,511.27	5,041.48	4,995.62	21.49	18.42	99.47	-1,100.93	-803.84	1,508.16	1,481.83	26.33	57.286		
5,700.00	5,604.87	5,122.45	5,071.62	22.06	18.83	100.99	-1,107.48	-831.02	1,549.85	1,523.01	26.85	57.724		
5,800.00	5,698.47	5,203.42	5,147.61	22.64	19.25	102.44	-1,114.02	-858.20	1,592.62	1,565.25	27.37	58.179		
5,900.00	5,792.07	5,284.39	5,223.60	23.22	19.67	103.83	-1,120.57	-885.38	1,636.38	1,608.48	27.90	58.649		
6,000.00	5,885.66	5,365.37	5,299.60	23.81	20.11	105.16	-1,127.12	-912.56	1,681.04	1,652.61	28.43	59.131		
6,100.00	5,979.26	5,446.34	5,375.59	24.41	20.55	106.44	-1,133.66	-939.74	1,726.55	1,697.59	28.96	59.621		
6,200.00	6,072.86	5,527.31	5,451.58	25.01	20.99	107.65	-1,140.21	-966.92	1,772.82	1,743.33	29.49	60.117		
6,300.00	6,166.46	5,608.28	5,527.58	25.61	21.44	108.82	-1,146.76	-994.09	1,819.82	1,789.80	30.02	60.618		
6,400.00	6,260.05	5,689.25	5,603.57	26.22	21.89	109.93	-1,153.30	-1,021.27	1,867.47	1,836.92	30.55	61.119		
6,500.00	6,353.65	5,770.23	5,679.56	26.84	22.35	111.00	-1,159.85	-1,048.45	1,915.74	1,884.65	31.09	61.621		
6,600.00	6,447.25	5,851.20	5,755.55	27.45	22.82	112.02	-1,166.40	-1,075.63	1,964.57	1,932.95	31.62	62.122		
6,700.00	6,540.85	5,932.17	5,831.55	28.07	23.29	113.00	-1,172.94	-1,102.81	2,013.93	1,981.77	32.16	62.620		
6,800.00	6,634.44	6,013.14	5,907.54	28.70	23.76	113.94	-1,179.49	-1,129.99	2,063.78	2,031.08	32.70	63.115		
6,900.00	6,728.04	6,094.11	5,983.53	29.33	24.24	114.84	-1,186.04	-1,157.17	2,114.08	2,080.85	33.24	63.605		
7,000.00	6,821.64	6,175.09	6,059.53	29.96	24.72	115.70	-1,192.58	-1,184.35	2,164.81	2,131.03	33.78	64.089		
7,100.00	6,915.24	6,256.06	6,135.52	30.59	25.20	116.52	-1,199.13	-1,211.52	2,215.93	2,181.61	34.32	64.568		
7,200.00	7,008.83	6,337.03	6,211.51	31.23	25.68	117.32	-1,205.68	-1,238.70	2,267.41	2,232.55	34.86	65.039		
7,300.00	7,102.43	6,439.85	6,308.07	31.87	26.30	118.28	-1,213.95	-1,273.06	2,319.17	2,283.61	35.56	65.219		
7,400.00	7,196.03	6,553.92	6,411.57	32.51	27.53	120.14	-1,229.48	-1,337.54	2,368.27	2,331.29	36.98	64.041		
7,500.00	7,289.63	6,681.82	6,531.94	33.15	28.73	121.97	-1,243.06	-1,393.90	2,412.81	2,374.43	38.38	62.874		
7,600.00	7,383.22	7,076.30	6,922.49	33.80	29.66	123.42	-1,252.13	-1,431.58	2,452.25	2,412.76	39.49	62.094		
7,683.32	7,461.21	7,279.55	7,123.43	34.34	30.52	124.86	-1,259.25	-1,461.10	2,481.08	2,440.54	40.54	61.199		
7,700.00	7,476.83	7,377.07	7,220.32	34.44	30.90	125.60	-1,261.81	-1,471.76	2,486.35	2,445.40	40.95	60.716		
7,800.00	7,571.03	7,643.92	7,486.60	35.07	31.83	127.62	-1,265.73	-1,488.04	2,513.47	2,471.42	42.05	59.770		
7,900.00	7,666.07	7,808.71	7,651.37	35.68	32.33	128.81	-1,266.08	-1,489.48	2,533.90	2,491.12	42.78	59.237		
8,000.00	7,761.89	7,904.53	7,747.19	36.25	32.61	129.51	-1,266.08	-1,489.48	2,552.41	2,509.09	43.33	58.911		
8,100.00	7,858.43	8,001.07	7,843.73	36.80	32.90	130.15	-1,266.08	-1,489.48	2,569.46	2,525.59	43.87	58.573		
8,200.00	7,955.62	8,098.26	7,940.92	37.32	33.18	130.72	-1,266.08	-1,489.48	2,584.98	2,540.58	44.40	58.221		
8,300.00	8,053.39	8,196.03	8,038.69	37.81	33.48	131.23	-1,266.08	-1,489.48	2,598.91	2,553.99	44.92	57.856		
8,400.00	8,151.68	8,294.32	8,136.98	38.27	33.77	131.67	-1,266.08	-1,489.48	2,611.22	2,565.79	45.43	57.475		
8,500.00	8,250.41	8,393.05	8,235.71	38.71	34.07	132.04	-1,266.08	-1,489.48	2,621.87	2,575.93	45.93	57.079		
8,600.00	8,349.53	8,492.17	8,334.83	39.11	34.37	132.36	-1,266.08	-1,489.48	2,630.81	2,584.38	46.43	56.667		
8,700.00	8,448.96	8,591.60	8,434.26	39.49	34.67	132.61	-1,266.08	-1,489.48	2,638.03	2,591.12	46.91	56.238		
8,800.00	8,548.63	8,691.27	8,533.93	39.84	34.97	132.79	-1,266.08	-1,489.48	2,643.49	2,596.11	47.38	55.792		
8,900.00	8,648.48	8,791.12	8,633.78	40.17	35.27	132.92	-1,266.08	-1,489.48	2,647.19	2,599.34	47.84	55.329		
9,000.00	8,748.44	8,891.08	8,733.74	40.46	35.58	132.99	-1,266.08	-1,489.48	2,649.11	2,600.81	48.30	54.849		
9,057.57	8,806.00	8,948.64	8,791.30	40.62	35.76	-94.96	-1,266.08	-1,489.48	2,649.40	2,600.85	48.55	54.567		
9,100.00	8,848.43	8,991.07	8,833.73	40.73	35.89	-94.96	-1,266.08	-1,489.48	2,649.40	2,600.66	48.74	54.360		
9,200.00	8,948.43	9,091.07	8,933.73	41.00	36.19	-94.96	-1,266.08	-1,489.48	2,649.40	2,600.23	49.17	53.878		
9,300.00	9,048.43	9,191.07	9,033.73	41.26	36.50	-94.96	-1,266.08	-1,489.48	2,649.40	2,599.79	49.61	53.403		
9,400.00	9,148.43	9,291.07	9,133.73	41.53	36.81	-94.96	-1,266.08	-1,489.48	2,649.40	2,599.35	50.05	52.934		
9,500.00	9,248.43	9,391.07	9,233.73	41.80	37.12	-94.96	-1,266.08	-1,489.48	2,649.40	2,598.91	50.49	52.473		
9,600.00	9,348.43	9,491.07	9,333.73	42.06	37.43	-94.96	-1,266.08	-1,489.48	2,649.40	2,598.47	50.93	52.018		
9,700.00	9,448.43	9,591.07	9,433.73	42.34	37.75	-94.96	-1,266.08	-1,489.48	2,649.40	2,598.03	51.38	51.570		
9,800.00	9,548.43	9,691.07	9,533.73	42.61	38.06	-94.96	-1,266.08	-1,489.48	2,649.40	2,597.58	51.82	51.128		
9,900.00	9,648.43	9,791.07	9,633.73	42.88	38.37	-94.96	-1,266.08	-1,489.48	2,649.40	2,597.14	52.26	50.693		

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,000.00	9,748.43	9,891.07	9,733.73	43.16	38.69	-94.96	-1,266.08	-1,489.48	2,649.40	2,596.69	52.71	50.264		
10,100.00	9,848.43	9,991.07	9,833.73	43.43	39.00	-94.96	-1,266.08	-1,489.48	2,649.40	2,596.25	53.16	49.841		
10,200.00	9,948.43	10,091.07	9,933.73	43.71	39.32	-94.96	-1,266.08	-1,489.48	2,649.40	2,595.80	53.61	49.424		
10,300.00	10,048.43	10,191.07	10,033.73	43.99	39.63	-94.96	-1,266.08	-1,489.48	2,649.40	2,595.35	54.05	49.013		
10,400.00	10,148.43	10,291.07	10,133.73	44.26	39.95	-94.96	-1,266.08	-1,489.48	2,649.40	2,594.90	54.50	48.608		
10,407.39	10,155.83	10,298.47	10,141.13	44.29	39.98	-94.96	-1,266.08	-1,489.48	2,649.40	2,594.86	54.54	48.579		
10,500.00	10,248.43	10,381.46	10,224.11	44.55	40.24	-94.97	-1,266.72	-1,489.47	2,649.47	2,594.54	54.93	48.231		
10,600.00	10,348.43	10,480.00	10,292.22	44.83	40.45	-95.13	-1,274.04	-1,489.40	2,650.35	2,595.03	55.32	47.913		
10,700.00	10,448.43	10,524.03	10,364.22	45.11	40.69	-95.50	-1,291.01	-1,489.23	2,652.34	2,596.61	55.73	47.595		
10,800.00	10,548.43	10,588.97	10,425.13	45.39	40.89	-95.98	-1,313.43	-1,489.01	2,655.67	2,599.55	56.12	47.323		
10,900.00	10,648.43	10,650.00	10,479.72	45.68	41.09	-96.56	-1,340.66	-1,488.74	2,660.62	2,604.12	56.50	47.094		
11,000.00	10,748.43	10,700.00	10,522.08	45.96	41.25	-97.13	-1,367.19	-1,488.48	2,667.47	2,610.65	56.82	46.945		
11,100.00	10,848.43	10,750.00	10,561.96	46.25	41.40	-97.78	-1,397.32	-1,488.18	2,676.50	2,619.37	57.13	46.847		
11,200.00	10,948.43	10,800.00	10,599.07	46.54	41.55	-98.49	-1,430.80	-1,487.85	2,688.00	2,630.57	57.43	46.807		
11,300.00	11,048.43	10,825.98	10,617.16	46.83	41.63	-98.89	-1,449.44	-1,487.66	2,702.02	2,644.44	57.58	46.928		
11,400.00	11,148.43	10,850.00	10,633.12	47.12	41.71	-99.27	-1,467.39	-1,487.49	2,718.86	2,661.17	57.68	47.134		
11,500.00	11,248.43	10,900.00	10,663.85	47.41	41.86	-100.10	-1,506.81	-1,487.09	2,738.57	2,680.66	57.91	47.294		
11,600.00	11,348.43	10,900.00	10,663.85	47.70	41.86	-100.10	-1,506.81	-1,487.09	2,761.11	2,703.30	57.81	47.762		
11,700.00	11,448.43	10,933.35	10,682.39	47.99	41.96	-100.69	-1,534.53	-1,486.82	2,786.55	2,728.68	57.88	48.147		
11,800.00	11,548.43	10,950.00	10,691.03	48.28	42.01	-100.98	-1,548.76	-1,486.68	2,814.98	2,757.17	57.81	48.691		
11,900.00	11,648.43	10,970.67	10,701.18	48.58	42.08	-101.36	-1,566.77	-1,486.50	2,846.30	2,788.56	57.75	49.288		
12,000.00	11,748.43	11,000.00	10,714.45	48.87	42.17	-101.91	-1,592.92	-1,486.24	2,880.58	2,822.87	57.71	49.913		
12,100.00	11,848.43	11,000.00	10,714.45	49.17	42.17	-101.91	-1,592.92	-1,486.24	2,917.47	2,860.00	57.47	50.765		
12,124.61	11,873.04	11,000.00	10,714.45	49.24	42.17	-101.91	-1,592.92	-1,486.24	2,926.99	2,869.59	57.41	50.986		
12,150.00	11,898.42	11,000.00	10,714.45	49.32	42.17	77.81	-1,592.92	-1,486.24	2,936.91	2,879.57	57.34	51.217		
12,200.00	11,948.22	11,000.00	10,714.45	49.49	42.17	75.76	-1,592.92	-1,486.24	2,956.32	2,899.10	57.22	51.668		
12,250.00	11,997.43	11,023.23	10,724.00	49.67	42.24	73.39	-1,614.09	-1,486.03	2,975.15	2,917.89	57.25	51.967		
12,300.00	12,045.71	11,032.17	10,727.44	49.88	42.27	71.36	-1,622.33	-1,485.95	2,993.58	2,936.39	57.20	52.337		
12,350.00	12,092.66	11,050.00	10,733.93	50.11	42.33	69.32	-1,638.94	-1,485.79	3,011.39	2,954.18	57.21	52.637		
12,400.00	12,137.95	11,050.00	10,733.93	50.35	42.33	67.65	-1,638.94	-1,485.79	3,028.30	2,971.18	57.12	53.015		
12,450.00	12,181.22	11,050.00	10,733.93	50.62	42.33	66.09	-1,638.94	-1,485.79	3,044.37	2,987.33	57.04	53.370		
12,500.00	12,222.15	11,073.35	10,741.64	50.89	42.41	64.42	-1,660.98	-1,485.57	3,059.18	3,002.06	57.13	53.551		
12,550.00	12,260.41	11,100.00	10,749.32	51.18	42.50	62.90	-1,686.50	-1,485.31	3,073.02	3,015.78	57.24	53.686		
12,600.00	12,295.73	11,100.00	10,749.32	51.49	42.50	61.78	-1,686.50	-1,485.31	3,085.27	3,028.07	57.21	53.932		
12,650.00	12,327.84	11,100.00	10,749.32	51.81	42.50	60.79	-1,686.50	-1,485.31	3,096.28	3,039.09	57.19	54.142		
12,700.00	12,356.48	11,120.51	10,754.43	52.14	42.58	59.83	-1,706.36	-1,485.12	3,105.72	3,048.41	57.31	54.187		
12,750.00	12,381.44	11,150.00	10,760.52	52.48	42.68	59.00	-1,735.21	-1,484.83	3,113.82	3,056.31	57.51	54.143		
12,800.00	12,402.53	11,150.00	10,760.52	52.84	42.68	58.48	-1,735.21	-1,484.83	3,119.95	3,062.40	57.55	54.212		
12,850.00	12,419.60	11,150.00	10,760.52	53.20	42.68	58.08	-1,735.21	-1,484.83	3,124.60	3,066.98	57.61	54.235		
12,900.00	12,432.50	11,170.73	10,763.90	53.57	42.76	57.79	-1,755.66	-1,484.63	3,127.47	3,069.65	57.82	54.091		
12,950.00	12,441.15	11,200.00	10,767.42	53.95	42.87	57.68	-1,784.71	-1,484.34	3,128.83	3,070.74	58.09	53.860		
13,000.00	12,445.47	11,200.00	10,767.42	54.34	42.87	57.74	-1,784.71	-1,484.34	3,128.12	3,069.90	58.22	53.727		
13,024.61	12,446.00	11,200.00	10,767.42	54.53	42.87	57.82	-1,784.71	-1,484.34	3,127.21	3,068.92	58.29	53.645		
13,100.00	12,446.00	11,221.71	10,769.07	55.13	42.96	57.85	-1,806.36	-1,484.13	3,124.47	3,065.82	58.65	53.272		
13,200.00	12,446.00	11,254.38	10,770.00	55.95	43.09	57.86	-1,839.01	-1,483.80	3,122.95	3,063.79	59.16	52.789		
13,218.16	12,446.00	11,254.38	10,770.00	56.10	43.09	57.86	-1,839.01	-1,483.80	3,122.90	3,063.68	59.22	52.731		
13,300.00	12,446.00	11,326.86	10,770.00	56.81	43.41	57.86	-1,911.48	-1,483.08	3,123.13	3,063.23	59.90	52.135		
13,400.00	12,446.00	11,426.86	10,770.00	57.70	43.90	57.87	-2,011.47	-1,482.09	3,123.43	3,062.58	60.85	51.332		
13,500.00	12,446.00	11,526.86	10,770.00	58.63	44.45	57.87	-2,111.47	-1,481.10	3,123.73	3,061.89	61.84	50.510		
13,600.00	12,446.00	11,626.85	10,770.00	59.59	45.05	57.87	-2,211.46	-1,480.11	3,124.03	3,061.14	62.89	49.673		
13,700.00	12,446.00	11,726.85	10,770.00	60.58	45.72	57.88	-2,311.46	-1,479.12	3,124.33	3,060.34	63.99	48.826		
13,800.00	12,446.00	11,826.85	10,770.00	61.60	46.43	57.88	-2,411.45	-1,478.13	3,124.63	3,059.50	65.13	47.974		

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 501H - OH - Plan #1		Offset Site Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
							+N/-S (usft)	+E/-W (usft)								
13,900.00	12,446.00	11,926.85	10,770.00	62.64	47.20	57.88	-2,511.45	-1,477.14	3,124.93	3,058.61	66.32	47.118				
14,000.00	12,446.00	12,026.85	10,770.00	63.71	48.02	57.89	-2,611.44	-1,476.15	3,125.23	3,057.68	67.55	46.264				
14,100.00	12,446.00	12,126.85	10,770.00	64.81	48.88	57.89	-2,711.44	-1,475.16	3,125.53	3,056.70	68.82	45.414				
14,200.00	12,446.00	12,226.85	10,770.00	65.92	49.78	57.89	-2,811.43	-1,474.17	3,125.83	3,055.70	70.13	44.571				
14,300.00	12,446.00	12,326.85	10,770.00	67.07	50.72	57.90	-2,911.43	-1,473.18	3,126.13	3,054.65	71.48	43.737				
14,400.00	12,446.00	12,426.85	10,770.00	68.23	51.70	57.90	-3,011.42	-1,472.18	3,126.43	3,053.58	72.85	42.916				
14,500.00	12,446.00	12,526.85	10,770.00	69.41	52.72	57.90	-3,111.41	-1,471.19	3,126.73	3,052.47	74.26	42.107				
14,600.00	12,446.00	12,626.85	10,770.00	70.61	53.76	57.91	-3,211.41	-1,470.20	3,127.03	3,051.33	75.69	41.312				
14,700.00	12,446.00	12,726.85	10,770.00	71.83	54.84	57.91	-3,311.40	-1,469.21	3,127.33	3,050.17	77.16	40.531				
14,800.00	12,446.00	12,826.85	10,770.00	73.06	55.95	57.92	-3,411.40	-1,468.22	3,127.63	3,048.98	78.65	39.766				
14,900.00	12,446.00	12,926.85	10,770.00	74.32	57.09	57.92	-3,511.39	-1,467.23	3,127.93	3,047.76	80.17	39.018				
15,000.00	12,446.00	13,026.85	10,770.00	75.58	58.25	57.92	-3,611.39	-1,466.24	3,128.23	3,046.52	81.71	38.286				
15,100.00	12,446.00	13,126.85	10,770.00	76.87	59.43	57.93	-3,711.38	-1,465.25	3,128.53	3,045.26	83.27	37.571				
15,200.00	12,446.00	13,226.84	10,770.00	78.16	60.64	57.93	-3,811.38	-1,464.26	3,128.83	3,043.97	84.85	36.873				
15,300.00	12,446.00	13,326.84	10,770.00	79.47	61.87	57.93	-3,911.37	-1,463.27	3,129.13	3,042.67	86.46	36.193				
15,400.00	12,446.00	13,426.84	10,770.00	80.79	63.12	57.94	-4,011.36	-1,462.28	3,129.43	3,041.35	88.08	35.530				
15,500.00	12,446.00	13,526.84	10,770.00	82.13	64.38	57.94	-4,111.36	-1,461.28	3,129.73	3,040.01	89.72	34.885				
15,600.00	12,446.00	13,626.84	10,770.00	83.47	65.67	57.94	-4,211.35	-1,460.29	3,130.03	3,038.65	91.37	34.256				
15,700.00	12,446.00	13,726.84	10,770.00	84.83	66.97	57.95	-4,311.35	-1,459.30	3,130.33	3,037.28	93.04	33.643				
15,800.00	12,446.00	13,826.84	10,770.00	86.20	68.28	57.95	-4,411.34	-1,458.31	3,130.63	3,035.89	94.73	33.047				
15,900.00	12,446.00	13,926.84	10,770.00	87.57	69.61	57.95	-4,511.34	-1,457.32	3,130.93	3,034.49	96.43	32.467				
16,000.00	12,446.00	14,026.84	10,770.00	88.96	70.96	57.96	-4,611.33	-1,456.33	3,131.23	3,033.08	98.15	31.903				
16,100.00	12,446.00	14,126.84	10,770.00	90.35	72.31	57.96	-4,711.33	-1,455.34	3,131.53	3,031.65	99.88	31.354				
16,200.00	12,446.00	14,226.84	10,770.00	91.76	73.68	57.96	-4,811.32	-1,454.35	3,131.83	3,030.21	101.61	30.821				
16,300.00	12,446.00	14,326.84	10,770.00	93.17	75.06	57.97	-4,911.31	-1,453.36	3,132.12	3,028.76	103.37	30.301				
16,400.00	12,446.00	14,426.84	10,770.00	94.59	76.46	57.97	-5,011.31	-1,452.37	3,132.42	3,027.30	105.13	29.797				
16,500.00	12,446.00	14,526.84	10,770.00	96.02	77.86	57.97	-5,111.30	-1,451.38	3,132.72	3,025.83	106.90	29.305				
16,600.00	12,446.00	14,626.84	10,770.00	97.45	79.27	57.98	-5,211.30	-1,450.38	3,133.02	3,024.34	108.68	28.828				
16,700.00	12,446.00	14,726.84	10,770.00	98.89	80.69	57.98	-5,311.29	-1,449.39	3,133.32	3,022.85	110.47	28.363				
16,800.00	12,446.00	14,826.83	10,770.00	100.34	82.12	57.98	-5,411.29	-1,448.40	3,133.63	3,021.35	112.27	27.910				
16,900.00	12,446.00	14,926.83	10,770.00	101.79	83.56	57.99	-5,511.28	-1,447.41	3,133.93	3,019.84	114.08	27.471				
17,000.00	12,446.00	15,026.83	10,770.00	103.25	85.00	57.99	-5,611.28	-1,446.42	3,134.23	3,018.33	115.90	27.043				
17,100.00	12,446.00	15,126.83	10,770.00	104.72	86.46	57.99	-5,711.27	-1,445.43	3,134.53	3,016.81	117.72	26.627				
17,200.00	12,446.00	15,226.83	10,770.00	106.19	87.92	58.00	-5,811.26	-1,444.44	3,134.83	3,015.27	119.55	26.222				
17,300.00	12,446.00	15,326.83	10,770.00	107.66	89.38	58.00	-5,911.26	-1,443.45	3,135.13	3,013.73	121.39	25.827				
17,400.00	12,446.00	15,426.83	10,770.00	109.15	90.86	58.00	-6,011.25	-1,442.46	3,135.43	3,012.19	123.24	25.442				
17,500.00	12,446.00	15,526.83	10,770.00	110.63	92.33	58.01	-6,111.25	-1,441.47	3,135.73	3,010.64	125.09	25.068				
17,600.00	12,446.00	15,626.83	10,770.00	112.12	93.82	58.01	-6,211.24	-1,440.47	3,136.03	3,009.08	126.95	24.703				
17,700.00	12,446.00	15,726.83	10,770.00	113.62	95.31	58.01	-6,311.24	-1,439.48	3,136.33	3,007.52	128.81	24.348				
17,800.00	12,446.00	15,826.83	10,770.00	115.12	96.81	58.02	-6,411.23	-1,438.49	3,136.63	3,005.95	130.68	24.003				
17,900.00	12,446.00	15,926.83	10,770.00	116.62	98.31	58.02	-6,511.23	-1,437.50	3,136.93	3,004.37	132.55	23.665				
18,000.00	12,446.00	16,026.83	10,770.00	118.13	99.81	58.03	-6,611.22	-1,436.51	3,137.23	3,002.79	134.43	23.337				
18,100.00	12,446.00	16,126.83	10,770.00	119.64	101.32	58.03	-6,711.21	-1,435.52	3,137.53	3,001.21	136.32	23.016				
18,200.00	12,446.00	16,226.83	10,770.00	121.16	102.84	58.03	-6,811.21	-1,434.53	3,137.83	2,999.62	138.21	22.704				
18,300.00	12,446.00	16,326.83	10,770.00	122.67	104.36	58.04	-6,911.20	-1,433.54	3,138.13	2,998.03	140.10	22.399				
18,400.00	12,446.00	16,426.82	10,770.00	124.20	105.88	58.04	-7,011.20	-1,432.55	3,138.43	2,996.43	142.00	22.102				
18,500.00	12,446.00	16,526.82	10,770.00	125.72	107.41	58.04	-7,111.19	-1,431.56	3,138.73	2,994.83	143.90	21.812				
18,600.00	12,446.00	16,626.82	10,770.00	127.25	108.94	58.05	-7,211.19	-1,430.57	3,139.03	2,993.23	145.80	21.529				
18,700.00	12,446.00	16,726.82	10,770.00	128.78	110.47	58.05	-7,311.18	-1,429.57	3,139.33	2,991.62	147.71	21.253				
18,800.00	12,446.00	16,826.82	10,770.00	130.32	112.01	58.05	-7,411.18	-1,428.58	3,139.63	2,990.00	149.62	20.983				
18,900.00	12,446.00	16,926.82	10,770.00	131.86	113.55	58.06	-7,511.17	-1,427.59	3,139.93	2,988.39	151.54	20.720				
19,000.00	12,446.00	17,026.82	10,770.00	133.40	115.09	58.06	-7,611.17	-1,426.60	3,140.23	2,986.77	153.46	20.463				

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 501H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
19,100.00	12,446.00	17,126.82	10,770.00	134.94	116.64	58.06	-7,711.16	-1,425.61	3,140.53	2,985.14	155.38	20.211				
19,200.00	12,446.00	17,226.82	10,770.00	136.48	118.19	58.07	-7,811.15	-1,424.62	3,140.83	2,983.52	157.31	19.966				
19,300.00	12,446.00	17,326.82	10,770.00	138.03	119.74	58.07	-7,911.15	-1,423.63	3,141.13	2,981.89	159.24	19.726				
19,400.00	12,446.00	17,426.82	10,770.00	139.58	121.29	58.07	-8,011.14	-1,422.64	3,141.43	2,980.26	161.17	19.492				
19,500.00	12,446.00	17,526.82	10,770.00	141.14	122.85	58.08	-8,111.14	-1,421.65	3,141.73	2,978.63	163.10	19.262				
19,600.00	12,446.00	17,626.82	10,770.00	142.69	124.41	58.08	-8,211.13	-1,420.66	3,142.03	2,976.99	165.04	19.038				
19,700.00	12,446.00	17,726.82	10,770.00	144.25	125.97	58.08	-8,311.13	-1,419.67	3,142.33	2,975.35	166.98	18.819				
19,800.00	12,446.00	17,826.82	10,770.00	145.81	127.54	58.09	-8,411.12	-1,418.67	3,142.63	2,973.71	168.92	18.604				
19,900.00	12,446.00	17,926.82	10,770.00	147.37	129.10	58.09	-8,511.12	-1,417.68	3,142.93	2,972.06	170.87	18.394				
20,000.00	12,446.00	18,026.81	10,770.00	148.93	130.67	58.09	-8,611.11	-1,416.69	3,143.23	2,970.42	172.81	18.189				
20,100.00	12,446.00	18,126.81	10,770.00	150.50	132.24	58.10	-8,711.10	-1,415.70	3,143.53	2,968.77	174.76	17.988				
20,200.00	12,446.00	18,226.81	10,770.00	152.06	133.81	58.10	-8,811.10	-1,414.71	3,143.83	2,967.12	176.71	17.791				
20,300.00	12,446.00	18,326.81	10,770.00	153.63	135.39	58.10	-8,911.09	-1,413.72	3,144.13	2,965.47	178.66	17.598				
20,400.00	12,446.00	18,426.81	10,770.00	155.20	136.96	58.11	-9,011.09	-1,412.73	3,144.43	2,963.81	180.62	17.409				
20,500.00	12,446.00	18,526.81	10,770.00	156.77	138.54	58.11	-9,111.08	-1,411.74	3,144.73	2,962.16	182.58	17.224				
20,600.00	12,446.00	18,626.81	10,770.00	158.35	140.12	58.11	-9,211.08	-1,410.75	3,145.03	2,960.50	184.54	17.043				
20,700.00	12,446.00	18,726.81	10,770.00	159.92	141.70	58.12	-9,311.07	-1,409.76	3,145.33	2,958.84	186.50	16.866				
20,800.00	12,446.00	18,826.81	10,770.00	161.50	143.29	58.12	-9,411.07	-1,408.77	3,145.64	2,957.18	188.46	16.692				
20,900.00	12,446.00	18,926.81	10,770.00	163.08	144.87	58.12	-9,511.06	-1,407.77	3,145.94	2,955.52	190.42	16.521				
21,000.00	12,446.00	19,026.81	10,770.00	164.66	146.46	58.13	-9,611.05	-1,406.78	3,146.24	2,953.85	192.39	16.354				
21,100.00	12,446.00	19,126.81	10,770.00	166.24	148.04	58.13	-9,711.05	-1,405.79	3,146.54	2,952.18	194.35	16.190				
21,200.00	12,446.00	19,226.81	10,770.00	167.82	149.63	58.13	-9,811.04	-1,404.80	3,146.84	2,950.52	196.32	16.029				
21,300.00	12,446.00	19,326.81	10,770.00	169.41	151.22	58.14	-9,911.04	-1,403.81	3,147.14	2,948.85	198.29	15.871				
21,400.00	12,446.00	19,426.81	10,770.00	170.99	152.81	58.14	-10,011.03	-1,402.82	3,147.44	2,947.18	200.26	15.717				
21,500.00	12,446.00	19,526.81	10,770.00	172.58	154.41	58.14	-10,111.03	-1,401.83	3,147.74	2,945.51	202.23	15.565				
21,600.00	12,446.00	19,626.80	10,770.00	174.17	156.00	58.15	-10,211.02	-1,400.84	3,148.04	2,943.83	204.21	15.416				
21,700.00	12,446.00	19,726.80	10,770.00	175.76	157.60	58.15	-10,311.02	-1,399.85	3,148.34	2,942.16	206.18	15.270				
21,800.00	12,446.00	19,826.80	10,770.00	177.35	159.19	58.15	-10,411.01	-1,398.86	3,148.64	2,940.48	208.16	15.126				
21,900.00	12,446.00	19,926.80	10,770.00	178.94	160.79	58.16	-10,511.00	-1,397.87	3,148.94	2,938.81	210.14	14.985				
22,000.00	12,446.00	20,026.80	10,770.00	180.53	162.39	58.16	-10,611.00	-1,396.87	3,149.24	2,937.13	212.11	14.847				
22,100.00	12,446.00	20,126.80	10,770.00	182.12	163.99	58.16	-10,710.99	-1,395.88	3,149.54	2,935.45	214.09	14.711				
22,200.00	12,446.00	20,226.80	10,770.00	183.72	165.59	58.17	-10,810.99	-1,394.89	3,149.84	2,933.77	216.07	14.578				
22,300.00	12,446.00	20,326.80	10,770.00	185.31	167.19	58.17	-10,910.98	-1,393.90	3,150.14	2,932.09	218.05	14.447				
22,400.00	12,446.00	20,426.80	10,770.00	186.91	168.79	58.18	-11,010.98	-1,392.91	3,150.44	2,930.41	220.04	14.318				
22,500.00	12,446.00	20,526.80	10,770.00	188.51	170.40	58.18	-11,110.97	-1,391.92	3,150.75	2,928.72	222.02	14.191				
22,600.00	12,446.00	20,626.80	10,770.00	190.11	172.00	58.18	-11,210.97	-1,390.93	3,151.05	2,927.04	224.01	14.067				
22,700.00	12,446.00	20,726.80	10,770.00	191.71	173.61	58.19	-11,310.96	-1,389.94	3,151.35	2,925.36	225.99	13.945				
22,800.00	12,446.00	20,826.80	10,770.00	193.31	175.18	58.19	-11,410.95	-1,388.95	3,151.65	2,923.71	227.94	13.827				
22,817.13	12,446.00	20,841.66	10,770.00	193.58	175.40	58.19	-11,425.82	-1,388.80	3,151.70	2,923.47	228.23	13.809 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 502H - OH - Plan #1		Offset Site Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
0.00	0.00	0.00	0.00	0.00	0.00	-156.16	-1,021.84	-451.49	1,117.24							
100.00	100.00	84.80	84.80	0.13	0.11	-156.16	-1,021.84	-451.49	1,117.14	1,116.97	0.16	6,790.987				
200.00	200.00	184.80	184.80	0.48	0.43	-156.16	-1,021.84	-451.49	1,117.14	1,116.49	0.65	1,726.620				
300.00	300.00	284.80	284.80	0.84	0.79	-156.16	-1,021.84	-451.49	1,117.14	1,115.99	1.15	968.511				
400.00	400.00	384.80	384.80	1.20	1.15	-156.16	-1,021.84	-451.49	1,117.14	1,115.48	1.66	672.887				
500.00	500.00	484.80	484.80	1.56	1.50	-156.16	-1,021.84	-451.49	1,117.14	1,114.97	2.17	515.507				
600.00	600.00	584.80	584.80	1.92	1.86	-156.16	-1,021.84	-451.49	1,117.14	1,114.47	2.67	417.785				
700.00	700.00	684.80	684.80	2.28	2.22	-156.16	-1,021.84	-451.49	1,117.14	1,113.96	3.18	351.205				
800.00	800.00	784.80	784.80	2.63	2.58	-156.16	-1,021.84	-451.49	1,117.14	1,113.45	3.69	302.929				
900.00	900.00	884.80	884.80	2.99	2.94	-156.16	-1,021.84	-451.49	1,117.14	1,112.94	4.19	266.320				
1,000.00	1,000.00	984.80	984.80	3.35	3.30	-156.16	-1,021.84	-451.49	1,117.14	1,112.44	4.70	237.605				
1,100.00	1,100.00	1,084.80	1,084.80	3.71	3.66	-156.16	-1,021.84	-451.49	1,117.14	1,111.93	5.21	214.480				
1,200.00	1,200.00	1,184.80	1,184.80	4.07	4.01	-156.16	-1,021.84	-451.49	1,117.14	1,111.42	5.72	195.456				
1,300.00	1,300.00	1,284.80	1,284.80	4.43	4.37	-156.16	-1,021.84	-451.49	1,117.14	1,110.92	6.22	179.533				
1,400.00	1,400.00	1,384.80	1,384.80	4.79	4.73	-156.16	-1,021.84	-451.49	1,117.14	1,110.41	6.73	166.008				
1,500.00	1,500.00	1,484.80	1,484.80	5.14	5.09	-156.16	-1,021.84	-451.49	1,117.14	1,109.90	7.24	154.378				
1,600.00	1,600.00	1,584.80	1,584.80	5.50	5.45	-156.16	-1,021.84	-451.49	1,117.14	1,109.40	7.74	144.271				
1,700.00	1,700.00	1,684.80	1,684.80	5.86	5.81	-156.16	-1,021.84	-451.49	1,117.14	1,108.89	8.25	135.406				
1,800.00	1,800.00	1,784.80	1,784.80	6.22	6.16	-156.16	-1,021.84	-451.49	1,117.14	1,108.38	8.76	127.568				
1,900.00	1,900.00	1,884.80	1,884.80	6.58	6.52	-156.16	-1,021.84	-451.49	1,117.14	1,107.88	9.26	120.587				
2,000.00	2,000.00	1,984.80	1,984.80	6.94	6.88	-156.16	-1,021.84	-451.49	1,117.14	1,107.37	9.77	114.331				
2,100.00	2,100.00	2,084.80	2,084.80	7.29	7.24	-156.16	-1,021.84	-451.49	1,117.14	1,106.86	10.28	108.691				
2,200.00	2,200.00	2,184.80	2,184.80	7.65	7.60	-156.16	-1,021.84	-451.49	1,117.14	1,106.35	10.79	103.582				
2,300.00	2,300.00	2,284.80	2,284.80	8.01	7.96	-156.16	-1,021.84	-451.49	1,117.14	1,105.85	11.29	98.932				
2,400.00	2,400.00	2,384.80	2,384.80	8.37	8.32	-156.16	-1,021.84	-451.49	1,117.14	1,105.34	11.80	94.681				
2,500.00	2,500.00	2,484.80	2,484.80	8.73	8.67	-156.16	-1,021.84	-451.49	1,117.14	1,104.83	12.31	90.781				
2,600.00	2,600.00	2,584.80	2,584.80	9.09	9.03	-156.16	-1,021.84	-451.49	1,117.14	1,104.33	12.81	87.189				
2,700.00	2,700.00	2,684.80	2,684.80	9.45	9.39	-156.16	-1,021.84	-451.49	1,117.14	1,103.82	13.32	83.871				
2,800.00	2,800.00	2,784.80	2,784.80	9.80	9.75	-156.16	-1,021.84	-451.49	1,117.14	1,103.31	13.83	80.795				
2,900.00	2,900.00	2,884.80	2,884.80	10.16	10.11	-156.16	-1,021.84	-451.49	1,117.14	1,102.81	14.33	77.938				
3,000.00	3,000.00	2,984.80	2,984.80	10.52	10.47	-156.16	-1,021.84	-451.49	1,117.14	1,102.30	14.84	75.276				
3,100.00	3,100.00	3,084.80	3,084.80	10.88	10.83	-156.16	-1,021.84	-451.49	1,117.14	1,101.79	15.35	72.789				
3,200.00	3,200.00	3,184.80	3,184.80	11.24	11.18	-156.16	-1,021.84	-451.49	1,117.14	1,101.28	15.85	70.462				
3,300.00	3,300.00	3,294.24	3,294.23	11.60	11.57	-156.22	-1,021.92	-450.33	1,116.78	1,100.40	16.38	68.185				
3,400.00	3,399.99	3,405.27	3,405.17	11.94	11.95	71.63	-1,022.20	-445.99	1,115.03	1,098.14	16.89	66.027				
3,500.00	3,499.91	3,516.13	3,515.77	12.27	12.33	71.52	-1,022.70	-438.44	1,111.47	1,094.09	17.39	63.926				
3,600.00	3,599.69	3,626.76	3,625.88	12.60	12.71	71.43	-1,023.40	-427.73	1,106.12	1,088.23	17.89	61.836				
3,700.00	3,699.27	3,728.34	3,726.77	12.94	13.07	71.41	-1,024.18	-415.97	1,099.30	1,080.92	18.38	59.825				
3,800.00	3,798.57	3,828.04	3,825.79	13.28	13.42	71.52	-1,024.94	-404.39	1,091.64	1,072.77	18.86	57.871				
3,900.00	3,897.54	3,927.64	3,924.71	13.62	13.78	71.79	-1,025.70	-392.82	1,083.15	1,063.79	19.36	55.959				
4,000.00	3,996.09	4,027.07	4,023.47	13.97	14.13	72.19	-1,026.46	-381.27	1,073.86	1,054.01	19.85	54.088				
4,100.00	4,094.16	4,126.26	4,121.99	14.33	14.49	72.75	-1,027.22	-369.75	1,063.82	1,043.46	20.36	52.255				
4,200.00	4,191.70	4,225.15	4,220.20	14.70	14.85	73.47	-1,027.97	-358.26	1,053.08	1,032.21	20.87	50.460				
4,300.00	4,288.62	4,323.66	4,318.04	15.08	15.21	74.33	-1,028.73	-346.82	1,041.73	1,020.34	21.39	48.703				
4,400.00	4,384.86	4,421.73	4,415.44	15.48	15.57	75.36	-1,029.48	-335.43	1,029.88	1,007.96	21.92	46.986				
4,500.00	4,480.36	4,519.29	4,512.34	15.89	15.93	76.55	-1,030.22	-324.09	1,017.65	995.19	22.46	45.310				
4,600.00	4,575.05	4,616.27	4,608.66	16.33	16.29	77.90	-1,030.96	-312.83	1,005.19	982.17	23.01	43.678				
4,674.25	4,644.79	4,687.87	4,679.77	16.66	16.56	79.01	-1,031.51	-304.51	995.89	972.46	23.43	42.498				
4,700.00	4,668.90	4,712.64	4,704.37	16.78	16.65	79.37	-1,031.70	-301.63	992.70	969.11	23.58	42.096				
4,800.00	4,762.49	4,808.82	4,799.90	17.26	17.01	80.76	-1,032.43	-290.46	980.66	956.50	24.16	40.584				
4,900.00	4,856.09	4,904.99	4,895.42	17.75	17.37	82.19	-1,033.17	-279.29	969.25	944.49	24.76	39.149				
5,000.00	4,949.69	5,001.17	4,990.95	18.25	17.73	83.64	-1,033.90	-268.12	958.48	933.12	25.36	37.791				

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 502H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
5,100.00	5,043.29	5,097.35	5,086.47	18.76	18.09	85.13	-1,034.64	-256.94	948.38	922.40	25.98	36.509				
5,200.00	5,136.88	5,193.53	5,182.00	19.29	18.46	86.64	-1,035.37	-245.77	938.97	912.37	26.60	35.300				
5,300.00	5,230.48	5,289.71	5,277.52	19.82	18.82	88.19	-1,036.11	-234.60	930.28	903.05	27.23	34.163				
5,400.00	5,324.08	5,385.89	5,373.04	20.37	19.19	89.75	-1,036.84	-223.43	922.31	894.44	27.87	33.097				
5,500.00	5,417.68	5,482.07	5,468.57	20.93	19.55	91.35	-1,037.58	-212.25	915.09	886.58	28.51	32.098				
5,600.00	5,511.27	5,578.24	5,564.09	21.49	19.92	92.96	-1,038.31	-201.08	908.65	879.49	29.16	31.166				
5,700.00	5,604.87	5,674.42	5,659.62	22.06	20.29	94.60	-1,039.05	-189.91	902.98	873.18	29.80	30.298				
5,800.00	5,698.47	5,770.60	5,755.14	22.64	20.66	96.25	-1,039.78	-178.74	898.12	867.67	30.45	29.491				
5,900.00	5,792.07	5,866.78	5,850.67	23.22	21.03	97.92	-1,040.52	-167.56	894.07	862.96	31.10	28.745				
6,000.00	5,885.66	5,962.96	5,946.19	23.81	21.40	99.60	-1,041.25	-156.39	890.84	859.09	31.75	28.056				
6,100.00	5,979.26	6,059.14	6,041.72	24.41	21.77	101.29	-1,041.99	-145.22	888.44	856.05	32.40	27.422				
6,200.00	6,072.86	6,155.32	6,137.24	25.01	22.14	102.99	-1,042.72	-134.05	886.89	853.85	33.04	26.842				
6,300.00	6,166.46	6,251.49	6,232.77	25.61	22.51	104.69	-1,043.46	-122.87	886.18	852.50	33.68	26.312				
6,334.26	6,198.52	6,284.44	6,265.49	25.82	22.64	105.27	-1,043.71	-119.05	886.13	852.23	33.90	26.141	CC			
6,400.00	6,260.05	6,347.67	6,328.29	26.22	22.89	106.39	-1,044.19	-111.70	886.31	852.00	34.31	25.830	ES			
6,500.00	6,353.65	6,443.85	6,423.81	26.84	23.26	108.09	-1,044.93	-100.53	887.29	852.35	34.94	25.395				
6,600.00	6,447.25	6,540.03	6,519.34	27.45	23.63	109.79	-1,045.66	-89.36	889.11	853.55	35.56	25.004				
6,700.00	6,540.85	6,636.21	6,614.86	28.07	24.01	111.47	-1,046.40	-78.18	891.77	855.60	36.17	24.655				
6,800.00	6,634.44	6,732.39	6,710.39	28.70	24.38	113.15	-1,047.13	-67.01	895.25	858.48	36.77	24.346				
6,900.00	6,728.04	6,828.57	6,805.91	29.33	24.76	114.81	-1,047.87	-55.84	899.56	862.20	37.37	24.074				
7,000.00	6,821.64	6,924.74	6,901.44	29.96	25.13	116.46	-1,048.60	-44.67	904.68	866.73	37.95	23.837				
7,100.00	6,915.24	7,020.92	6,996.96	30.59	25.51	118.09	-1,049.34	-33.50	910.59	872.06	38.53	23.634				
7,200.00	7,008.83	7,117.10	7,092.49	31.23	25.88	119.70	-1,050.07	-22.32	917.28	878.19	39.10	23.462				
7,300.00	7,102.43	7,200.00	7,174.90	31.87	26.21	121.08	-1,050.66	-13.42	925.52	885.88	39.64	23.348				
7,400.00	7,196.03	7,274.77	7,249.39	32.51	26.49	122.34	-1,051.09	-6.92	936.36	896.21	40.15	23.324				
7,500.00	7,289.63	7,351.91	7,326.35	33.15	26.77	123.65	-1,051.43	-1.74	949.82	909.19	40.63	23.379				
7,600.00	7,383.22	7,428.33	7,402.69	33.80	27.05	124.94	-1,051.67	1.86	965.90	924.81	41.08	23.512				
7,683.32	7,461.21	7,500.00	7,474.33	34.34	27.30	126.14	-1,051.80	3.86	981.32	939.85	41.47	23.662				
7,700.00	7,476.83	7,500.00	7,474.33	34.44	27.30	126.18	-1,051.80	3.86	984.56	943.07	41.49	23.730				
7,800.00	7,571.03	7,581.51	7,555.83	35.07	27.58	127.70	-1,051.84	4.51	1,004.73	962.82	41.92	23.970				
7,900.00	7,666.07	7,676.55	7,650.87	35.68	27.91	129.27	-1,051.84	4.51	1,024.68	982.29	42.39	24.171				
8,000.00	7,761.89	7,772.37	7,746.69	36.25	28.23	130.68	-1,051.84	4.51	1,043.51	1,000.64	42.87	24.343				
8,100.00	7,858.43	7,868.91	7,843.23	36.80	28.56	131.93	-1,051.84	4.51	1,061.06	1,017.72	43.34	24.484				
8,200.00	7,955.62	7,966.10	7,940.42	37.32	28.89	133.02	-1,051.84	4.51	1,077.20	1,033.39	43.81	24.589				
8,300.00	8,053.39	8,063.87	8,038.19	37.81	29.23	133.98	-1,051.84	4.51	1,091.82	1,047.54	44.28	24.660				
8,400.00	8,151.68	8,162.15	8,136.48	38.27	29.57	134.80	-1,051.84	4.51	1,104.81	1,060.07	44.74	24.693				
8,500.00	8,250.41	8,260.89	8,235.21	38.71	29.90	135.49	-1,051.84	4.51	1,116.11	1,070.91	45.21	24.689				
8,600.00	8,349.53	8,360.00	8,334.33	39.11	30.24	136.06	-1,051.84	4.51	1,125.65	1,079.98	45.67	24.647				
8,700.00	8,448.96	8,459.43	8,433.76	39.49	30.58	136.52	-1,051.84	4.51	1,133.37	1,087.24	46.13	24.567				
8,800.00	8,548.63	8,559.11	8,533.43	39.84	30.93	136.85	-1,051.84	4.51	1,139.23	1,092.64	46.59	24.450				
8,900.00	8,648.48	8,658.96	8,633.28	40.17	31.27	137.08	-1,051.84	4.51	1,143.20	1,096.15	47.05	24.297				
9,000.00	8,748.44	8,758.91	8,733.24	40.46	31.61	137.20	-1,051.84	4.51	1,145.27	1,097.76	47.51	24.106				
9,057.57	8,806.00	8,816.48	8,790.80	40.62	31.81	-90.74	-1,051.84	4.51	1,145.59	1,097.82	47.77	23.982				
9,100.00	8,848.43	8,858.91	8,833.23	40.73	31.96	-90.74	-1,051.84	4.51	1,145.59	1,097.63	47.96	23.887				
9,200.00	8,948.43	8,958.91	8,933.23	41.00	32.30	-90.74	-1,051.84	4.51	1,145.59	1,097.18	48.40	23.667				
9,300.00	9,048.43	9,058.91	9,033.23	41.26	32.65	-90.74	-1,051.84	4.51	1,145.59	1,096.73	48.85	23.450				
9,400.00	9,148.43	9,158.91	9,133.23	41.53	32.99	-90.74	-1,051.84	4.51	1,145.59	1,096.28	49.30	23.236				
9,500.00	9,248.43	9,258.91	9,233.23	41.80	33.34	-90.74	-1,051.84	4.51	1,145.59	1,095.83	49.75	23.026				
9,600.00	9,348.43	9,358.91	9,333.23	42.06	33.69	-90.74	-1,051.84	4.51	1,145.59	1,095.38	50.20	22.819				
9,700.00	9,448.43	9,458.91	9,433.23	42.34	34.03	-90.74	-1,051.84	4.51	1,145.59	1,094.93	50.65	22.616				
9,800.00	9,548.43	9,558.91	9,533.23	42.61	34.38	-90.74	-1,051.84	4.51	1,145.59	1,094.48	51.11	22.415				
9,900.00	9,648.43	9,658.91	9,633.23	42.88	34.73	-90.74	-1,051.84	4.51	1,145.59	1,094.02	51.56	22.217				

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 502H - OH - Plan #1		Offset Site Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
10,000.00	9,748.43	9,758.91	9,733.23	43.16	35.07	-90.74	-1,051.84	4.51	1,145.59	1,093.57	52.02	22.023				
10,100.00	9,848.43	9,858.91	9,833.23	43.43	35.42	-90.74	-1,051.84	4.51	1,145.59	1,093.11	52.47	21.831				
10,200.00	9,948.43	9,958.91	9,933.23	43.71	35.77	-90.74	-1,051.84	4.51	1,145.59	1,092.65	52.93	21.643				
10,300.00	10,048.43	10,058.91	10,033.23	43.99	36.11	-90.74	-1,051.84	4.51	1,145.59	1,092.20	53.39	21.457				
10,400.00	10,148.43	10,158.91	10,133.23	44.26	36.46	-90.74	-1,051.84	4.51	1,145.59	1,091.74	53.85	21.274				
10,404.10	10,152.53	10,163.01	10,137.33	44.28	36.48	-90.74	-1,051.84	4.51	1,145.59	1,091.72	53.87	21.267				
10,500.00	10,248.43	10,258.21	10,232.39	44.55	36.79	-90.94	-1,055.69	4.55	1,145.60	1,091.29	54.31	21.092				
10,600.00	10,348.43	10,353.48	10,325.66	44.83	37.10	-91.88	-1,074.52	4.74	1,145.90	1,091.08	54.83	20.901				
10,700.00	10,448.43	10,440.44	10,407.02	45.11	37.37	-93.40	-1,104.98	5.04	1,147.28	1,091.94	55.34	20.732				
10,800.00	10,548.43	10,516.72	10,473.90	45.39	37.60	-95.22	-1,141.57	5.41	1,150.89	1,095.10	55.79	20.630				
10,900.00	10,648.43	10,582.00	10,526.83	45.68	37.78	-97.11	-1,179.69	5.79	1,157.98	1,101.86	56.12	20.634				
11,000.00	10,748.43	10,637.12	10,567.92	45.96	37.93	-98.91	-1,216.41	6.15	1,169.57	1,113.30	56.28	20.782				
11,100.00	10,848.43	10,683.49	10,599.62	46.25	38.05	-100.56	-1,250.23	6.49	1,186.45	1,130.21	56.23	21.098				
11,200.00	10,948.43	10,722.56	10,624.13	46.54	38.16	-102.03	-1,280.64	6.79	1,209.06	1,153.08	55.98	21.598				
11,300.00	11,048.43	10,750.00	10,640.08	46.83	38.23	-103.10	-1,302.97	7.02	1,237.63	1,182.18	55.45	22.320				
11,400.00	11,148.43	10,783.81	10,658.23	47.12	38.33	-104.45	-1,331.48	7.30	1,272.05	1,217.14	54.90	23.168				
11,500.00	11,248.43	10,800.00	10,666.33	47.41	38.38	-105.11	-1,345.51	7.44	1,312.25	1,258.22	54.03	24.287				
11,600.00	11,348.43	10,828.92	10,679.78	47.70	38.46	-106.30	-1,371.10	7.70	1,357.75	1,304.45	53.30	25.474				
11,700.00	11,448.43	10,850.00	10,688.76	47.99	38.53	-107.18	-1,390.17	7.89	1,408.33	1,355.89	52.44	26.857				
11,800.00	11,548.43	10,850.00	10,688.76	48.28	38.53	-107.18	-1,390.17	7.89	1,463.65	1,412.36	51.29	28.535				
11,900.00	11,648.43	10,877.25	10,699.33	48.58	38.62	-108.33	-1,415.29	8.14	1,522.87	1,472.30	50.57	30.117				
12,000.00	11,748.43	10,900.00	10,707.22	48.87	38.70	-109.29	-1,436.62	8.35	1,586.11	1,536.30	49.82	31.838				
12,100.00	11,848.43	10,900.00	10,707.22	49.17	38.70	-109.29	-1,436.62	8.35	1,652.56	1,603.73	48.84	33.839				
12,124.61	11,873.04	10,900.00	10,707.22	49.24	38.70	-109.29	-1,436.62	8.35	1,669.43	1,620.82	48.61	34.346				
12,150.00	11,898.42	10,900.00	10,707.22	49.32	38.70	69.21	-1,436.62	8.35	1,686.89	1,638.52	48.37	34.874				
12,200.00	11,948.22	10,900.00	10,707.22	49.49	38.70	64.92	-1,436.62	8.35	1,721.00	1,673.09	47.91	35.920				
12,250.00	11,997.43	10,919.58	10,713.33	49.67	38.76	60.26	-1,455.21	8.54	1,754.18	1,706.48	47.70	36.778				
12,300.00	12,045.71	10,927.44	10,715.61	49.88	38.79	56.40	-1,462.74	8.61	1,786.57	1,739.23	47.34	37.738				
12,350.00	12,092.66	10,950.00	10,721.56	50.11	38.87	52.56	-1,484.50	8.83	1,817.99	1,770.83	47.16	38.549				
12,400.00	12,137.95	10,950.00	10,721.56	50.35	38.87	49.68	-1,484.50	8.83	1,847.69	1,800.96	46.73	39.537				
12,450.00	12,181.22	10,950.00	10,721.56	50.62	38.87	47.11	-1,484.50	8.83	1,875.99	1,829.67	46.32	40.498				
12,500.00	12,222.15	10,950.00	10,721.56	50.89	38.87	44.84	-1,484.50	8.83	1,902.75	1,856.81	45.93	41.425				
12,550.00	12,260.41	10,976.04	10,727.36	51.18	38.97	42.49	-1,509.88	9.08	1,927.16	1,881.34	45.82	42.057				
12,600.00	12,295.73	11,000.00	10,731.67	51.49	39.06	40.53	-1,533.45	9.32	1,949.91	1,904.21	45.70	42.671				
12,650.00	12,327.84	11,000.00	10,731.67	51.81	39.06	39.11	-1,533.45	9.32	1,970.15	1,924.79	45.36	43.432				
12,700.00	12,356.48	11,000.00	10,731.67	52.14	39.06	37.90	-1,533.45	9.32	1,988.35	1,943.29	45.06	44.131				
12,750.00	12,381.44	11,022.37	10,734.81	52.48	39.14	36.74	-1,555.59	9.54	2,003.94	1,958.97	44.97	44.564				
12,800.00	12,402.53	11,050.00	10,737.48	52.84	39.25	35.78	-1,583.09	9.81	2,017.38	1,972.44	44.93	44.896				
12,850.00	12,419.60	11,050.00	10,737.48	53.20	39.25	35.16	-1,583.09	9.81	2,027.81	1,983.10	44.71	45.353				
12,900.00	12,432.50	11,050.00	10,737.48	53.57	39.25	34.69	-1,583.09	9.81	2,035.93	1,991.40	44.53	45.723				
12,950.00	12,441.15	11,072.00	10,738.66	53.95	39.34	34.33	-1,605.06	10.03	2,041.23	1,996.71	44.53	45.842				
13,000.00	12,445.47	11,091.72	10,739.00	54.34	39.42	34.17	-1,624.77	10.23	2,043.99	1,999.45	44.54	45.893				
13,024.61	12,446.00	11,091.72	10,739.00	54.53	39.42	34.15	-1,624.77	10.23	2,044.29	1,999.79	44.50	45.943				
13,100.00	12,446.00	11,163.70	10,739.00	55.13	39.74	34.16	-1,696.75	10.95	2,044.43	1,999.61	44.83	45.609				
13,200.00	12,446.00	11,263.70	10,739.00	55.95	40.23	34.16	-1,796.74	11.95	2,044.63	1,999.30	45.33	45.105				
13,300.00	12,446.00	11,363.70	10,739.00	56.81	40.78	34.17	-1,896.74	12.94	2,044.82	1,998.94	45.88	44.565				
13,400.00	12,446.00	11,463.70	10,739.00	57.70	41.38	34.18	-1,996.73	13.94	2,045.02	1,998.53	46.49	43.992				
13,500.00	12,446.00	11,563.70	10,739.00	58.63	42.04	34.19	-2,096.73	14.94	2,045.21	1,998.08	47.13	43.391				
13,600.00	12,446.00	11,663.70	10,739.00	59.59	42.76	34.20	-2,196.72	15.94	2,045.40	1,997.58	47.83	42.767				
13,700.00	12,446.00	11,763.70	10,739.00	60.58	43.52	34.20	-2,296.72	16.94	2,045.60	1,997.04	48.56	42.124				
13,800.00	12,446.00	11,863.70	10,739.00	61.60	44.34	34.21	-2,396.71	17.93	2,045.79	1,996.46	49.33	41.468				
13,900.00	12,446.00	11,963.70	10,739.00	62.64	45.19	34.22	-2,496.70	18.93	2,045.99	1,995.84	50.15	40.801				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 502H - OH - Plan #1		Offset Site Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
14,000.00	12,446.00	12,063.70	10,739.00	63.71	46.10	34.23	-2,596.70	19.93	2,046.18	1,995.19	50.99	40.127				
14,100.00	12,446.00	12,163.70	10,739.00	64.81	47.04	34.24	-2,696.69	20.93	2,046.38	1,994.50	51.88	39.448				
14,200.00	12,446.00	12,263.70	10,739.00	65.92	48.02	34.24	-2,796.69	21.93	2,046.57	1,993.78	52.79	38.767				
14,300.00	12,446.00	12,363.69	10,739.00	67.07	49.03	34.25	-2,896.68	22.92	2,046.77	1,993.03	53.74	38.088				
14,400.00	12,446.00	12,463.69	10,739.00	68.23	50.08	34.26	-2,996.68	23.92	2,046.96	1,992.25	54.71	37.413				
14,500.00	12,446.00	12,563.69	10,739.00	69.41	51.17	34.27	-3,096.67	24.92	2,047.16	1,991.44	55.72	36.743				
14,600.00	12,446.00	12,663.69	10,739.00	70.61	52.28	34.28	-3,196.67	25.92	2,047.36	1,990.61	56.75	36.079				
14,700.00	12,446.00	12,763.69	10,739.00	71.83	53.42	34.28	-3,296.66	26.92	2,047.55	1,989.75	57.80	35.424				
14,800.00	12,446.00	12,863.69	10,739.00	73.06	54.58	34.29	-3,396.65	27.91	2,047.75	1,988.86	58.88	34.778				
14,900.00	12,446.00	12,963.69	10,739.00	74.32	55.77	34.30	-3,496.65	28.91	2,047.94	1,987.96	59.98	34.143				
15,000.00	12,446.00	13,063.69	10,739.00	75.58	56.99	34.31	-3,596.64	29.91	2,048.14	1,987.03	61.10	33.519				
15,100.00	12,446.00	13,163.69	10,739.00	76.87	58.22	34.32	-3,696.64	30.91	2,048.33	1,986.09	62.24	32.909				
15,200.00	12,446.00	13,263.69	10,739.00	78.16	59.47	34.32	-3,796.63	31.91	2,048.53	1,985.12	63.40	32.309				
15,300.00	12,446.00	13,363.69	10,739.00	79.47	60.75	34.33	-3,896.63	32.91	2,048.72	1,984.14	64.58	31.722				
15,400.00	12,446.00	13,463.69	10,739.00	80.79	62.04	34.34	-3,996.62	33.90	2,048.92	1,983.14	65.78	31.149				
15,500.00	12,446.00	13,563.69	10,739.00	82.13	63.35	34.35	-4,096.62	34.90	2,049.11	1,982.13	66.99	30.590				
15,600.00	12,446.00	13,663.69	10,739.00	83.47	64.67	34.36	-4,196.61	35.90	2,049.31	1,981.10	68.21	30.043				
15,700.00	12,446.00	13,763.69	10,739.00	84.83	66.01	34.36	-4,296.60	36.90	2,049.51	1,980.05	69.45	29.510				
15,800.00	12,446.00	13,863.69	10,739.00	86.20	67.36	34.37	-4,396.60	37.90	2,049.70	1,979.00	70.70	28.990				
15,900.00	12,446.00	13,963.68	10,739.00	87.57	68.73	34.38	-4,496.59	38.89	2,049.90	1,977.93	71.97	28.482				
16,000.00	12,446.00	14,063.68	10,739.00	88.96	70.11	34.39	-4,596.59	39.89	2,050.09	1,976.84	73.25	27.988				
16,100.00	12,446.00	14,163.68	10,739.00	90.35	71.50	34.40	-4,696.58	40.89	2,050.29	1,975.75	74.54	27.506				
16,200.00	12,446.00	14,263.68	10,739.00	91.76	72.90	34.40	-4,796.58	41.89	2,050.48	1,974.65	75.84	27.038				
16,300.00	12,446.00	14,363.68	10,739.00	93.17	74.31	34.41	-4,896.57	42.89	2,050.68	1,973.53	77.15	26.581				
16,400.00	12,446.00	14,463.68	10,739.00	94.59	75.73	34.42	-4,996.56	43.88	2,050.88	1,972.41	78.47	26.136				
16,500.00	12,446.00	14,563.68	10,739.00	96.02	77.16	34.43	-5,096.56	44.88	2,051.07	1,971.27	79.80	25.703				
16,600.00	12,446.00	14,663.68	10,739.00	97.45	78.60	34.44	-5,196.55	45.88	2,051.27	1,970.13	81.13	25.282				
16,700.00	12,446.00	14,763.68	10,739.00	98.89	80.04	34.44	-5,296.55	46.88	2,051.46	1,968.98	82.48	24.872				
16,800.00	12,446.00	14,863.68	10,739.00	100.34	81.50	34.45	-5,396.54	47.88	2,051.66	1,967.83	83.83	24.473				
16,900.00	12,446.00	14,963.68	10,739.00	101.79	82.96	34.46	-5,496.54	48.87	2,051.86	1,966.66	85.20	24.084				
17,000.00	12,446.00	15,063.68	10,739.00	103.25	84.43	34.47	-5,596.53	49.87	2,052.05	1,965.49	86.56	23.706				
17,100.00	12,446.00	15,163.68	10,739.00	104.72	85.90	34.48	-5,696.53	50.87	2,052.25	1,964.31	87.93	23.338				
17,200.00	12,446.00	15,263.68	10,739.00	106.19	87.39	34.48	-5,796.52	51.87	2,052.44	1,963.13	89.31	22.980				
17,300.00	12,446.00	15,363.68	10,739.00	107.66	88.87	34.49	-5,896.51	52.87	2,052.64	1,961.94	90.70	22.631				
17,400.00	12,446.00	15,463.68	10,739.00	109.15	90.37	34.50	-5,996.51	53.87	2,052.84	1,960.74	92.09	22.291				
17,500.00	12,446.00	15,563.68	10,739.00	110.63	91.87	34.51	-6,096.50	54.86	2,053.03	1,959.54	93.49	21.959				
17,600.00	12,446.00	15,663.67	10,739.00	112.12	93.37	34.52	-6,196.50	55.86	2,053.23	1,958.33	94.90	21.636				
17,700.00	12,446.00	15,763.67	10,739.00	113.62	94.88	34.52	-6,296.49	56.86	2,053.43	1,957.12	96.31	21.322				
17,800.00	12,446.00	15,863.67	10,739.00	115.12	96.39	34.53	-6,396.49	57.86	2,053.62	1,955.90	97.72	21.015				
17,900.00	12,446.00	15,963.67	10,739.00	116.62	97.91	34.54	-6,496.48	58.86	2,053.82	1,954.68	99.14	20.717				
18,000.00	12,446.00	16,063.67	10,739.00	118.13	99.43	34.55	-6,596.48	59.85	2,054.02	1,953.46	100.56	20.426				
18,100.00	12,446.00	16,163.67	10,739.00	119.64	100.96	34.56	-6,696.47	60.85	2,054.21	1,952.23	101.99	20.142				
18,200.00	12,446.00	16,263.67	10,739.00	121.16	102.49	34.56	-6,796.46	61.85	2,054.41	1,950.99	103.42	19.866				
18,300.00	12,446.00	16,363.67	10,739.00	122.67	104.02	34.57	-6,896.46	62.85	2,054.61	1,949.76	104.85	19.596				
18,400.00	12,446.00	16,463.67	10,739.00	124.20	105.56	34.58	-6,996.45	63.85	2,054.80	1,948.52	106.29	19.332				
18,500.00	12,446.00	16,563.67	10,739.00	125.72	107.10	34.59	-7,096.45	64.84	2,055.00	1,947.27	107.73	19.076				
18,600.00	12,446.00	16,663.67	10,739.00	127.25	108.65	34.60	-7,196.44	65.84	2,055.20	1,946.03	109.17	18.826				
18,700.00	12,446.00	16,763.67	10,739.00	128.78	110.19	34.60	-7,296.44	66.84	2,055.39	1,944.78	110.62	18.581				
18,800.00	12,446.00	16,863.67	10,739.00	130.32	111.74	34.61	-7,396.43	67.84	2,055.59	1,943.53	112.07	18.343				
18,900.00	12,446.00	16,963.67	10,739.00	131.86	113.30	34.62	-7,496.43	68.84	2,055.79	1,942.27	113.52	18.110				
19,000.00	12,446.00	17,063.67	10,739.00	133.40	114.85	34.63	-7,596.42	69.83	2,055.98	1,941.01	114.98	17.882				
19,100.00	12,446.00	17,163.67	10,739.00	134.94	116.41	34.64	-7,696.41	70.83	2,056.18	1,939.75	116.44	17.659				

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Tatanka Fed Com - Tatanka Fed Com 502H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth	Vertical	Measured	Vertical	Reference	Offset	Highside	Offset Wellbore Centre		Between	Between	Minimum	Separation		
Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	(usft)	(usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Centres (usft)	Ellipses (usft)	Separation (usft)	Factor		
19,200.00	12,446.00	17,263.67	10,739.00	136.48	117.97	34.64	-7,796.41	71.83	2,056.38	1,938.48	117.90	17.442		
19,300.00	12,446.00	17,363.66	10,739.00	138.03	119.53	34.65	-7,896.40	72.83	2,056.58	1,937.22	119.36	17.230		
19,400.00	12,446.00	17,463.66	10,739.00	139.58	121.10	34.66	-7,996.40	73.83	2,056.77	1,935.95	120.83	17.023		
19,500.00	12,446.00	17,563.66	10,739.00	141.14	122.67	34.67	-8,096.39	74.83	2,056.97	1,934.68	122.29	16.820		
19,600.00	12,446.00	17,663.66	10,739.00	142.69	124.24	34.67	-8,196.39	75.82	2,057.17	1,933.40	123.76	16.622		
19,700.00	12,446.00	17,763.66	10,739.00	144.25	125.81	34.68	-8,296.38	76.82	2,057.36	1,932.13	125.23	16.428		
19,800.00	12,446.00	17,863.66	10,739.00	145.81	127.38	34.69	-8,396.38	77.82	2,057.56	1,930.85	126.71	16.238		
19,900.00	12,446.00	17,963.66	10,739.00	147.37	128.96	34.70	-8,496.37	78.82	2,057.76	1,929.57	128.19	16.053		
20,000.00	12,446.00	18,063.66	10,739.00	148.93	130.54	34.71	-8,596.36	79.82	2,057.96	1,928.29	129.66	15.872		
20,100.00	12,446.00	18,163.66	10,739.00	150.50	132.12	34.71	-8,696.36	80.81	2,058.15	1,927.01	131.14	15.694		
20,200.00	12,446.00	18,263.66	10,739.00	152.06	133.70	34.72	-8,796.35	81.81	2,058.35	1,925.73	132.62	15.521		
20,300.00	12,446.00	18,363.66	10,739.00	153.63	135.28	34.73	-8,896.35	82.81	2,058.55	1,924.45	134.10	15.351		
20,400.00	12,446.00	18,463.66	10,739.00	155.20	136.87	34.74	-8,996.34	83.81	2,058.75	1,923.16	135.59	15.184		
20,500.00	12,446.00	18,563.66	10,739.00	156.77	138.46	34.75	-9,096.34	84.81	2,058.94	1,921.87	137.07	15.021		
20,600.00	12,446.00	18,663.66	10,739.00	158.35	140.04	34.75	-9,196.33	85.80	2,059.14	1,920.58	138.56	14.861		
20,700.00	12,446.00	18,763.66	10,739.00	159.92	141.63	34.76	-9,296.32	86.80	2,059.34	1,919.29	140.05	14.704		
20,800.00	12,446.00	18,863.66	10,739.00	161.50	143.22	34.77	-9,396.32	87.80	2,059.54	1,918.00	141.54	14.551		
20,900.00	12,446.00	18,963.65	10,739.00	163.08	144.82	34.78	-9,496.31	88.80	2,059.73	1,916.71	143.03	14.401		
21,000.00	12,446.00	19,063.65	10,739.00	164.66	146.41	34.79	-9,596.31	89.80	2,059.93	1,915.41	144.52	14.254		
21,100.00	12,446.00	19,163.65	10,739.00	166.24	148.00	34.79	-9,696.30	90.79	2,060.13	1,914.12	146.01	14.109		
21,200.00	12,446.00	19,263.65	10,739.00	167.82	149.60	34.80	-9,796.30	91.79	2,060.33	1,912.82	147.51	13.968		
21,300.00	12,446.00	19,363.65	10,739.00	169.41	151.20	34.81	-9,896.29	92.79	2,060.53	1,911.52	149.00	13.829		
21,400.00	12,446.00	19,463.65	10,739.00	170.99	152.80	34.82	-9,996.29	93.79	2,060.72	1,910.22	150.50	13.693		
21,500.00	12,446.00	19,563.65	10,739.00	172.58	154.39	34.83	-10,096.28	94.79	2,060.92	1,908.93	152.00	13.559		
21,600.00	12,446.00	19,663.65	10,739.00	174.17	156.00	34.83	-10,196.27	95.79	2,061.12	1,907.63	153.49	13.428		
21,700.00	12,446.00	19,763.65	10,739.00	175.76	157.60	34.84	-10,296.27	96.78	2,061.32	1,906.33	154.99	13.300		
21,800.00	12,446.00	19,863.65	10,739.00	177.35	159.20	34.85	-10,396.26	97.78	2,061.52	1,905.03	156.49	13.174		
21,900.00	12,446.00	19,963.65	10,739.00	178.94	160.80	34.86	-10,496.26	98.78	2,061.71	1,903.73	157.99	13.050		
22,000.00	12,446.00	20,063.65	10,739.00	180.53	162.41	34.86	-10,596.25	99.78	2,061.91	1,902.42	159.49	12.928		
22,100.00	12,446.00	20,163.65	10,739.00	182.12	164.01	34.87	-10,696.25	100.78	2,062.11	1,901.12	160.99	12.809		
22,200.00	12,446.00	20,263.65	10,739.00	183.72	165.62	34.88	-10,796.24	101.77	2,062.31	1,899.81	162.50	12.691		
22,300.00	12,446.00	20,363.65	10,739.00	185.31	167.23	34.89	-10,896.24	102.77	2,062.51	1,898.51	164.00	12.576		
22,400.00	12,446.00	20,463.65	10,739.00	186.91	168.83	34.90	-10,996.23	103.77	2,062.70	1,897.20	165.50	12.463		
22,500.00	12,446.00	20,563.65	10,739.00	188.51	170.44	34.90	-11,096.22	104.77	2,062.90	1,895.89	167.01	12.352		
22,600.00	12,446.00	20,663.64	10,739.00	190.11	172.05	34.91	-11,196.22	105.77	2,063.10	1,894.59	168.52	12.243		
22,700.00	12,446.00	20,763.64	10,739.00	191.71	173.66	34.92	-11,296.21	106.76	2,063.30	1,893.28	170.02	12.136		
22,800.00	12,446.00	20,863.64	10,739.00	193.31	175.27	34.93	-11,396.21	107.76	2,063.50	1,891.97	171.53	12.030		
22,817.13	12,446.00	20,879.44	10,739.00	193.58	175.53	34.93	-11,412.00	107.92	2,063.53	1,891.77	171.76	12.014 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 503H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
0.00	0.00	0.00	0.00	0.00	0.00	123.88	-1,003.12	1,493.81	1,799.45							
100.00	100.00	82.30	82.30	0.13	0.10	123.88	-1,003.12	1,493.81	1,799.37	1,799.20	0.16	N/A				
200.00	200.00	182.30	182.30	0.48	0.42	123.88	-1,003.12	1,493.81	1,799.37	1,798.72	0.64	2,806.187				
300.00	300.00	282.30	282.30	0.84	0.78	123.88	-1,003.12	1,493.81	1,799.37	1,798.22	1.15	1,568.104				
400.00	400.00	382.30	382.30	1.20	1.14	123.88	-1,003.12	1,493.81	1,799.37	1,797.71	1.65	1,087.778				
500.00	500.00	482.30	482.30	1.56	1.50	123.88	-1,003.12	1,493.81	1,799.37	1,797.21	2.16	832.662				
600.00	600.00	582.30	582.30	1.92	1.85	123.88	-1,003.12	1,493.81	1,799.37	1,796.70	2.67	674.464				
700.00	700.00	682.30	682.30	2.28	2.21	123.88	-1,003.12	1,493.81	1,799.37	1,796.19	3.17	566.775				
800.00	800.00	782.30	782.30	2.63	2.57	123.88	-1,003.12	1,493.81	1,799.37	1,795.68	3.68	488.738				
900.00	900.00	882.30	882.30	2.99	2.93	123.88	-1,003.12	1,493.81	1,799.37	1,795.18	4.19	429.589				
1,000.00	1,000.00	982.30	982.30	3.35	3.29	123.88	-1,003.12	1,493.81	1,799.37	1,794.67	4.70	383.210				
1,100.00	1,100.00	1,082.30	1,082.30	3.71	3.65	123.88	-1,003.12	1,493.81	1,799.37	1,794.16	5.20	345.870				
1,200.00	1,200.00	1,182.30	1,182.30	4.07	4.01	123.88	-1,003.12	1,493.81	1,799.37	1,793.66	5.71	315.160				
1,300.00	1,300.00	1,282.30	1,282.30	4.43	4.36	123.88	-1,003.12	1,493.81	1,799.37	1,793.15	6.22	289.458				
1,400.00	1,400.00	1,382.30	1,382.30	4.79	4.72	123.88	-1,003.12	1,493.81	1,799.37	1,792.64	6.72	267.633				
1,500.00	1,500.00	1,482.30	1,482.30	5.14	5.08	123.88	-1,003.12	1,493.81	1,799.37	1,792.14	7.23	248.868				
1,600.00	1,600.00	1,582.30	1,582.30	5.50	5.44	123.88	-1,003.12	1,493.81	1,799.37	1,791.63	7.74	232.562				
1,700.00	1,700.00	1,682.30	1,682.30	5.86	5.80	123.88	-1,003.12	1,493.81	1,799.37	1,791.12	8.24	218.261				
1,800.00	1,800.00	1,782.30	1,782.30	6.22	6.16	123.88	-1,003.12	1,493.81	1,799.37	1,790.62	8.75	205.617				
1,900.00	1,900.00	1,882.30	1,882.30	6.58	6.51	123.88	-1,003.12	1,493.81	1,799.37	1,790.11	9.26	194.358				
2,000.00	2,000.00	1,982.30	1,982.30	6.94	6.87	123.88	-1,003.12	1,493.81	1,799.37	1,789.60	9.76	184.268				
2,100.00	2,100.00	2,082.30	2,082.30	7.29	7.23	123.88	-1,003.12	1,493.81	1,799.37	1,789.09	10.27	175.174				
2,200.00	2,200.00	2,182.30	2,182.30	7.65	7.59	123.88	-1,003.12	1,493.81	1,799.37	1,788.59	10.78	166.935				
2,300.00	2,300.00	2,282.30	2,282.30	8.01	7.95	123.88	-1,003.12	1,493.81	1,799.37	1,788.08	11.29	159.436				
2,400.00	2,400.00	2,382.30	2,382.30	8.37	8.31	123.88	-1,003.12	1,493.81	1,799.37	1,787.57	11.79	152.582				
2,500.00	2,500.00	2,482.30	2,482.30	8.73	8.67	123.88	-1,003.12	1,493.81	1,799.37	1,787.07	12.30	146.293				
2,600.00	2,600.00	2,582.30	2,582.30	9.09	9.02	123.88	-1,003.12	1,493.81	1,799.37	1,786.56	12.81	140.502				
2,700.00	2,700.00	2,682.30	2,682.30	9.45	9.38	123.88	-1,003.12	1,493.81	1,799.37	1,786.05	13.31	135.152				
2,800.00	2,800.00	2,782.30	2,782.30	9.80	9.74	123.88	-1,003.12	1,493.81	1,799.37	1,785.55	13.82	130.195				
2,900.00	2,900.00	2,882.30	2,882.30	10.16	10.10	123.88	-1,003.12	1,493.81	1,799.37	1,785.04	14.33	125.588				
3,000.00	3,000.00	2,982.30	2,982.30	10.52	10.46	123.88	-1,003.12	1,493.81	1,799.37	1,784.53	14.83	121.296				
3,100.00	3,100.00	3,082.30	3,082.30	10.88	10.82	123.88	-1,003.12	1,493.81	1,799.37	1,784.02	15.34	117.288				
3,200.00	3,200.00	3,182.30	3,182.30	11.24	11.17	123.88	-1,003.12	1,493.81	1,799.37	1,783.52	15.85	113.536				
3,300.00	3,300.00	3,282.30	3,282.30	11.60	11.53	123.88	-1,003.12	1,493.81	1,799.37	1,783.01	16.36	110.017				
3,400.00	3,399.99	3,382.29	3,382.29	11.94	11.89	-8.17	-1,003.12	1,493.81	1,798.07	1,781.22	16.85	106.702				
3,500.00	3,499.91	3,482.21	3,482.21	12.27	12.25	-8.19	-1,003.12	1,493.81	1,794.18	1,776.85	17.34	103.487				
3,600.00	3,599.69	3,581.99	3,581.99	12.60	12.61	-8.24	-1,003.12	1,493.81	1,787.71	1,769.89	17.82	100.300				
3,700.00	3,699.27	3,681.57	3,681.57	12.94	12.96	-8.30	-1,003.12	1,493.81	1,778.66	1,760.35	18.31	97.141				
3,800.00	3,798.57	3,780.87	3,780.87	13.28	13.32	-8.38	-1,003.12	1,493.81	1,767.02	1,748.23	18.80	94.011				
3,900.00	3,897.54	3,879.84	3,879.84	13.62	13.68	-8.48	-1,003.12	1,493.81	1,752.83	1,733.55	19.28	90.907				
4,000.00	3,996.09	3,978.39	3,978.39	13.97	14.03	-8.60	-1,003.12	1,493.81	1,736.08	1,716.31	19.77	87.831				
4,100.00	4,094.16	4,076.46	4,076.46	14.33	14.38	-8.74	-1,003.12	1,493.81	1,716.78	1,696.53	20.25	84.781				
4,200.00	4,191.70	4,174.00	4,174.00	14.70	14.73	-8.91	-1,003.12	1,493.81	1,694.96	1,674.23	20.73	81.756				
4,300.00	4,288.62	4,270.92	4,270.92	15.08	15.08	-9.10	-1,003.12	1,493.81	1,670.63	1,649.42	21.21	78.755				
4,400.00	4,384.86	4,367.16	4,367.16	15.48	15.42	-9.32	-1,003.12	1,493.81	1,643.81	1,622.12	21.69	75.777				
4,500.00	4,480.36	4,462.66	4,462.66	15.89	15.76	-9.56	-1,003.12	1,493.81	1,614.53	1,592.36	22.17	72.822				
4,600.00	4,575.05	4,540.55	4,540.55	16.33	16.04	-9.80	-1,003.23	1,493.99	1,583.10	1,560.50	22.60	70.038				
4,674.25	4,644.79	4,600.00	4,599.99	16.66	16.24	-10.01	-1,003.79	1,494.93	1,559.22	1,536.29	22.93	68.011				
4,700.00	4,668.90	4,600.00	4,599.99	16.78	16.24	-10.01	-1,003.79	1,494.93	1,550.88	1,527.90	22.99	67.468				
4,800.00	4,762.49	4,678.47	4,678.40	17.26	16.50	-10.20	-1,005.26	1,497.37	1,519.62	1,496.21	23.41	64.917				
4,900.00	4,856.09	4,773.48	4,773.33	17.75	16.82	-10.44	-1,007.39	1,500.93	1,489.05	1,465.17	23.88	62.366				
5,000.00	4,949.69	4,868.50	4,868.26	18.25	17.14	-10.70	-1,009.53	1,504.49	1,458.51	1,434.16	24.35	59.904				

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.00	5,043.29	4,963.52	4,963.18	18.76	17.46	-10.96	-1,011.67	1,508.05	1,427.99	1,403.17	24.82	57.528		
5,200.00	5,136.88	5,058.54	5,058.11	19.29	17.78	-11.24	-1,013.80	1,511.61	1,397.51	1,372.21	25.30	55.235		
5,300.00	5,230.48	5,153.56	5,153.04	19.82	18.10	-11.53	-1,015.94	1,515.17	1,367.05	1,341.27	25.78	53.020		
5,400.00	5,324.08	5,248.57	5,247.97	20.37	18.42	-11.83	-1,018.07	1,518.73	1,336.63	1,310.36	26.27	50.882		
5,500.00	5,417.68	5,343.59	5,342.89	20.93	18.74	-12.14	-1,020.21	1,522.29	1,306.25	1,279.49	26.76	48.816		
5,600.00	5,511.27	5,438.61	5,437.82	21.49	19.07	-12.47	-1,022.35	1,525.86	1,275.90	1,248.65	27.25	46.819		
5,700.00	5,604.87	5,533.63	5,532.75	22.06	19.39	-12.82	-1,024.48	1,529.42	1,245.59	1,217.84	27.75	44.890		
5,800.00	5,698.47	5,628.65	5,627.67	22.64	19.72	-13.18	-1,026.62	1,532.98	1,215.33	1,187.08	28.25	43.024		
5,900.00	5,792.07	5,723.66	5,722.60	23.22	20.04	-13.56	-1,028.76	1,536.54	1,185.11	1,156.36	28.75	41.220		
6,000.00	5,885.66	5,818.68	5,817.53	23.81	20.37	-13.97	-1,030.89	1,540.10	1,154.94	1,125.68	29.26	39.475		
6,100.00	5,979.26	5,946.78	5,945.56	24.41	20.81	-14.55	-1,032.92	1,543.48	1,123.66	1,093.84	29.82	37.680		
6,200.00	6,072.86	6,056.38	6,055.16	25.01	21.20	-15.09	-1,033.12	1,543.81	1,089.76	1,059.41	30.35	35.902		
6,300.00	6,166.46	6,149.98	6,148.76	25.61	21.54	-15.58	-1,033.12	1,543.81	1,055.66	1,024.79	30.87	34.192		
6,400.00	6,260.05	6,243.57	6,242.35	26.22	21.87	-16.11	-1,033.12	1,543.81	1,021.64	990.24	31.40	32.537		
6,500.00	6,353.65	6,337.17	6,335.95	26.84	22.20	-16.67	-1,033.12	1,543.81	987.69	955.76	31.93	30.934		
6,600.00	6,447.25	6,430.77	6,429.55	27.45	22.54	-17.28	-1,033.12	1,543.81	953.84	921.37	32.46	29.381		
6,700.00	6,540.85	6,524.37	6,523.15	28.07	22.87	-17.92	-1,033.12	1,543.81	920.09	887.08	33.00	27.878		
6,800.00	6,634.44	6,617.96	6,616.74	28.70	23.20	-18.62	-1,033.12	1,543.81	886.45	852.90	33.55	26.422		
6,900.00	6,728.04	6,711.56	6,710.34	29.33	23.54	-19.37	-1,033.12	1,543.81	852.94	818.84	34.10	25.011		
7,000.00	6,821.64	6,805.16	6,803.94	29.96	23.87	-20.18	-1,033.12	1,543.81	819.57	784.91	34.66	23.643		
7,100.00	6,915.24	6,898.76	6,897.54	30.59	24.21	-21.06	-1,033.12	1,543.81	786.36	751.13	35.23	22.318		
7,200.00	7,008.83	6,992.35	6,991.13	31.23	24.54	-22.01	-1,033.12	1,543.81	753.34	717.52	35.81	21.034		
7,300.00	7,102.43	7,085.95	7,084.73	31.87	24.88	-23.05	-1,033.12	1,543.81	720.52	684.11	36.41	19.790		
7,400.00	7,196.03	7,179.55	7,178.33	32.51	25.21	-24.19	-1,033.12	1,543.81	687.93	650.92	37.01	18.586		
7,500.00	7,289.63	7,273.15	7,271.93	33.15	25.54	-25.43	-1,033.12	1,543.81	655.62	617.98	37.64	17.420		
7,600.00	7,383.22	7,366.74	7,365.52	33.80	25.88	-26.81	-1,033.12	1,543.81	623.62	585.34	38.28	16.291		
7,683.32	7,461.21	7,444.73	7,443.51	34.34	26.16	-28.06	-1,033.12	1,543.81	597.23	558.40	38.83	15.379		
7,700.00	7,476.83	7,460.36	7,459.13	34.44	26.21	-28.28	-1,033.12	1,543.81	592.01	553.07	38.95	15.201		
7,800.00	7,571.03	7,554.55	7,553.33	35.07	26.55	-29.65	-1,033.12	1,543.81	562.25	522.62	39.63	14.188		
7,900.00	7,666.07	7,649.59	7,648.37	35.68	26.89	-31.05	-1,033.12	1,543.81	535.08	494.75	40.32	13.269		
8,000.00	7,761.89	7,745.41	7,744.19	36.25	27.23	-32.48	-1,033.12	1,543.81	510.49	469.46	41.03	12.442		
8,100.00	7,858.43	7,841.95	7,840.73	36.80	27.58	-33.92	-1,033.12	1,543.81	488.44	446.70	41.74	11.702		
8,200.00	7,955.62	7,939.14	7,937.92	37.32	27.92	-35.34	-1,033.12	1,543.81	468.90	426.45	42.45	11.046		
8,300.00	8,053.39	8,036.91	8,035.69	37.81	28.27	-36.71	-1,033.12	1,543.81	451.79	408.64	43.15	10.470		
8,400.00	8,151.68	8,135.20	8,133.98	38.27	28.62	-38.00	-1,033.12	1,543.81	437.06	393.22	43.84	9.969		
8,500.00	8,250.41	8,233.93	8,232.71	38.71	28.98	-39.19	-1,033.12	1,543.81	424.62	380.10	44.52	9.539		
8,600.00	8,349.53	8,333.05	8,331.83	39.11	29.33	-40.25	-1,033.12	1,543.81	414.39	369.23	45.16	9.176		
8,700.00	8,448.96	8,432.48	8,431.26	39.49	29.69	-41.13	-1,033.12	1,543.81	406.30	360.52	45.78	8.875		
8,800.00	8,548.63	8,532.15	8,530.93	39.84	30.04	-41.83	-1,033.12	1,543.81	400.26	353.90	46.36	8.634		
8,900.00	8,648.48	8,632.00	8,630.78	40.17	30.40	-42.31	-1,033.12	1,543.81	396.23	349.32	46.90	8.448		
9,000.00	8,748.44	8,731.96	8,730.74	40.46	30.76	-42.57	-1,033.12	1,543.81	394.15	346.74	47.41	8.314		
9,057.57	8,806.00	8,789.52	8,788.30	40.62	30.96	89.44	-1,033.12	1,543.81	393.83	346.15	47.68	8.261		
9,100.00	8,848.43	8,831.95	8,830.73	40.73	31.12	89.44	-1,033.12	1,543.81	393.83	345.96	47.87	8.227		
9,200.00	8,948.43	8,931.95	8,930.73	41.00	31.47	89.44	-1,033.12	1,543.81	393.83	345.51	48.32	8.151		
9,300.00	9,048.43	9,031.95	9,030.73	41.26	31.83	89.44	-1,033.12	1,543.81	393.83	345.06	48.77	8.075		
9,400.00	9,148.43	9,131.95	9,130.73	41.53	32.19	89.44	-1,033.12	1,543.81	393.83	344.60	49.23	8.000		
9,500.00	9,248.43	9,231.95	9,230.73	41.80	32.55	89.44	-1,033.12	1,543.81	393.83	344.15	49.68	7.927		
9,600.00	9,348.43	9,331.95	9,330.73	42.06	32.90	89.44	-1,033.12	1,543.81	393.83	343.69	50.14	7.855		
9,700.00	9,448.43	9,431.95	9,430.73	42.34	33.26	89.44	-1,033.12	1,543.81	393.83	343.24	50.59	7.784		
9,800.00	9,548.43	9,531.95	9,530.73	42.61	33.62	89.44	-1,033.12	1,543.81	393.83	342.78	51.05	7.714		
9,900.00	9,648.43	9,631.95	9,630.73	42.88	33.98	89.44	-1,033.12	1,543.81	393.83	342.32	51.51	7.646		
10,000.00	9,748.43	9,731.95	9,730.73	43.16	34.34	89.44	-1,033.12	1,543.81	393.83	341.86	51.97	7.578		

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,100.00	9,848.43	9,831.95	9,830.73	43.43	34.69	89.44	-1,033.12	1,543.81	393.83	341.40	52.43	7.511		
10,200.00	9,948.43	9,931.95	9,930.73	43.71	35.05	89.44	-1,033.12	1,543.81	393.83	340.94	52.89	7.446		
10,300.00	10,048.43	10,031.95	10,030.73	43.99	35.41	89.44	-1,033.12	1,543.81	393.83	340.48	53.35	7.381		
10,400.00	10,148.43	10,131.95	10,130.73	44.26	35.77	89.44	-1,033.12	1,543.81	393.83	340.01	53.82	7.318		
10,424.69	10,173.13	10,156.65	10,155.43	44.33	35.85	89.44	-1,033.18	1,543.81	393.83	339.90	53.93	7.303 CC		
10,500.00	10,248.43	10,231.38	10,229.86	44.55	36.10	90.31	-1,039.14	1,543.87	393.88	339.69	54.18	7.270 ES		
10,600.00	10,348.43	10,326.04	10,321.98	44.83	36.40	93.41	-1,060.48	1,544.08	394.87	340.52	54.35	7.265 SF		
10,700.00	10,448.43	10,411.70	10,401.30	45.11	36.67	98.03	-1,092.62	1,544.39	399.38	345.01	54.37	7.345		
10,800.00	10,548.43	10,486.38	10,465.87	45.39	36.89	103.26	-1,130.02	1,544.75	410.72	356.56	54.16	7.584		
10,900.00	10,648.43	10,550.00	10,516.66	45.68	37.09	108.38	-1,168.28	1,545.12	431.70	378.16	53.54	8.063		
11,000.00	10,748.43	10,600.00	10,553.41	45.96	37.25	112.67	-1,202.16	1,545.45	463.79	411.39	52.40	8.852		
11,100.00	10,848.43	10,650.00	10,587.07	46.25	37.41	117.05	-1,239.11	1,545.81	506.84	455.80	51.04	9.930		
11,200.00	10,948.43	10,686.59	10,609.59	46.54	37.53	120.24	-1,267.94	1,546.09	559.78	510.39	49.39	11.333		
11,300.00	11,048.43	10,718.71	10,627.81	46.83	37.64	123.00	-1,294.39	1,546.34	621.04	573.25	47.79	12.995		
11,400.00	11,148.43	10,750.00	10,644.10	47.12	37.74	125.61	-1,321.09	1,546.60	689.06	642.66	46.40	14.850		
11,500.00	11,248.43	10,769.63	10,653.57	47.41	37.81	127.21	-1,338.28	1,546.77	762.44	717.43	45.01	16.940		
11,600.00	11,348.43	10,800.00	10,667.05	47.70	37.91	129.60	-1,365.50	1,547.03	840.25	796.15	44.10	19.051		
11,700.00	11,448.43	10,800.00	10,667.05	47.99	37.91	129.60	-1,365.50	1,547.03	921.28	878.47	42.81	21.519		
11,800.00	11,548.43	10,823.35	10,676.42	48.28	38.00	131.37	-1,386.88	1,547.24	1,005.02	962.83	42.19	23.822		
11,900.00	11,648.43	10,850.00	10,686.04	48.58	38.09	133.31	-1,411.73	1,547.48	1,091.27	1,049.50	41.77	26.125		
12,000.00	11,748.43	10,850.00	10,686.04	48.87	38.09	133.31	-1,411.73	1,547.48	1,178.90	1,137.84	41.06	28.712		
12,100.00	11,848.43	10,850.00	10,686.04	49.17	38.09	133.31	-1,411.73	1,547.48	1,268.36	1,227.86	40.50	31.317		
12,124.61	11,873.04	10,850.00	10,686.04	49.24	38.09	133.31	-1,411.73	1,547.48	1,290.61	1,250.23	40.38	31.959		
12,150.00	11,898.42	10,850.00	10,686.04	49.32	38.09	-42.25	-1,411.73	1,547.48	1,313.49	1,273.23	40.26	32.622		
12,200.00	11,948.22	10,871.62	10,692.98	49.49	38.17	-35.28	-1,432.20	1,547.68	1,357.16	1,316.86	40.30	33.677		
12,250.00	11,997.43	10,878.57	10,695.05	49.67	38.20	-30.61	-1,438.84	1,547.74	1,399.69	1,359.57	40.12	34.886		
12,300.00	12,045.71	10,900.00	10,700.92	49.88	38.28	-26.63	-1,459.45	1,547.94	1,440.80	1,400.69	40.11	35.925		
12,350.00	12,092.66	10,900.00	10,700.92	50.11	38.28	-23.99	-1,459.45	1,547.94	1,479.62	1,439.80	39.82	37.154		
12,400.00	12,137.95	10,900.00	10,700.92	50.35	38.28	-21.85	-1,459.45	1,547.94	1,516.57	1,477.02	39.55	38.344		
12,450.00	12,181.22	10,900.00	10,700.92	50.62	38.28	-20.11	-1,459.45	1,547.94	1,551.50	1,512.21	39.29	39.486		
12,500.00	12,222.15	10,923.76	10,706.52	50.89	38.37	-18.44	-1,482.53	1,548.17	1,583.64	1,544.37	39.27	40.331		
12,550.00	12,260.41	10,950.00	10,711.59	51.18	38.47	-17.09	-1,508.27	1,548.42	1,613.75	1,574.49	39.25	41.110		
12,600.00	12,295.73	10,950.00	10,711.59	51.49	38.47	-16.17	-1,508.27	1,548.42	1,640.67	1,601.64	39.02	42.045		
12,650.00	12,327.84	10,950.00	10,711.59	51.81	38.47	-15.41	-1,508.27	1,548.42	1,665.11	1,626.29	38.82	42.894		
12,700.00	12,356.48	10,950.00	10,711.59	52.14	38.47	-14.78	-1,508.27	1,548.42	1,687.01	1,648.36	38.65	43.647		
12,750.00	12,381.44	10,980.31	10,715.97	52.48	38.59	-14.16	-1,538.26	1,548.71	1,705.25	1,666.56	38.69	44.075		
12,800.00	12,402.53	11,000.00	10,717.97	52.84	38.67	-13.71	-1,557.85	1,548.90	1,720.94	1,682.26	38.67	44.500		
12,850.00	12,419.60	11,000.00	10,717.97	53.20	38.67	-13.41	-1,557.85	1,548.90	1,733.45	1,694.86	38.58	44.927		
12,900.00	12,432.50	11,000.00	10,717.97	53.57	38.67	-13.18	-1,557.85	1,548.90	1,743.19	1,704.65	38.54	45.230		
12,950.00	12,441.15	11,029.56	10,719.69	53.95	38.78	-13.00	-1,587.35	1,549.18	1,749.14	1,710.52	38.63	45.282		
13,000.00	12,445.47	11,048.26	10,720.00	54.34	38.86	-12.92	-1,606.05	1,549.37	1,752.30	1,713.61	38.70	45.280		
13,024.61	12,446.00	11,048.32	10,720.00	54.53	38.86	-12.91	-1,606.11	1,549.37	1,752.63	1,713.90	38.73	45.257		
13,100.00	12,446.00	11,123.71	10,720.00	55.13	39.19	-12.90	-1,681.50	1,550.10	1,752.56	1,713.59	38.97	44.967		
13,200.00	12,446.00	11,223.71	10,720.00	55.95	39.67	-12.89	-1,781.49	1,551.07	1,752.48	1,713.15	39.33	44.559		
13,300.00	12,446.00	11,323.71	10,720.00	56.81	40.21	-12.88	-1,881.49	1,552.04	1,752.40	1,712.68	39.72	44.123		
13,400.00	12,446.00	11,423.71	10,720.00	57.70	40.82	-12.87	-1,981.48	1,553.01	1,752.31	1,712.18	40.13	43.661		
13,500.00	12,446.00	11,523.71	10,720.00	58.63	41.48	-12.86	-2,081.48	1,553.98	1,752.23	1,711.65	40.58	43.177		
13,600.00	12,446.00	11,623.71	10,720.00	59.59	42.20	-12.84	-2,181.47	1,554.95	1,752.15	1,711.09	41.06	42.672		
13,700.00	12,446.00	11,723.71	10,720.00	60.58	42.96	-12.83	-2,281.47	1,555.91	1,752.06	1,710.50	41.57	42.150		
13,800.00	12,446.00	11,823.71	10,720.00	61.60	43.78	-12.82	-2,381.46	1,556.88	1,751.98	1,709.88	42.10	41.614		
13,900.00	12,446.00	11,923.71	10,720.00	62.64	44.64	-12.81	-2,481.45	1,557.85	1,751.90	1,709.24	42.66	41.066		
14,000.00	12,446.00	12,023.71	10,720.00	63.71	45.55	-12.80	-2,581.45	1,558.82	1,751.81	1,708.57	43.25	40.509		

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 503H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
14,100.00	12,446.00	12,123.70	10,720.00	64.81	46.50	-12.78	-2,681.44	1,559.79	1,751.73	1,707.88	43.85	39.944				
14,200.00	12,446.00	12,223.70	10,720.00	65.92	47.48	-12.77	-2,781.44	1,560.76	1,751.65	1,707.16	44.49	39.374				
14,300.00	12,446.00	12,323.70	10,720.00	67.07	48.50	-12.76	-2,881.43	1,561.73	1,751.56	1,706.42	45.14	38.802				
14,400.00	12,446.00	12,423.70	10,720.00	68.23	49.56	-12.75	-2,981.43	1,562.70	1,751.48	1,705.67	45.81	38.230				
14,500.00	12,446.00	12,523.70	10,720.00	69.41	50.65	-12.74	-3,081.42	1,563.67	1,751.40	1,704.89	46.51	37.658				
14,600.00	12,446.00	12,623.70	10,720.00	70.61	51.77	-12.73	-3,181.42	1,564.64	1,751.32	1,704.09	47.22	37.088				
14,700.00	12,446.00	12,723.70	10,720.00	71.83	52.91	-12.71	-3,281.41	1,565.61	1,751.23	1,703.28	47.95	36.520				
14,800.00	12,446.00	12,823.70	10,720.00	73.06	54.08	-12.70	-3,381.41	1,566.58	1,751.15	1,702.45	48.70	35.956				
14,900.00	12,446.00	12,923.70	10,720.00	74.32	55.28	-12.69	-3,481.40	1,567.55	1,751.07	1,701.60	49.47	35.399				
15,000.00	12,446.00	13,023.70	10,720.00	75.58	56.50	-12.68	-3,581.39	1,568.52	1,750.99	1,700.74	50.25	34.847				
15,100.00	12,446.00	13,123.70	10,720.00	76.87	57.74	-12.67	-3,681.39	1,569.49	1,750.90	1,699.86	51.04	34.302				
15,200.00	12,446.00	13,223.70	10,720.00	78.16	59.00	-12.65	-3,781.38	1,570.46	1,750.82	1,698.97	51.85	33.765				
15,300.00	12,446.00	13,323.70	10,720.00	79.47	60.28	-12.64	-3,881.38	1,571.43	1,750.74	1,698.06	52.68	33.236				
15,400.00	12,446.00	13,423.70	10,720.00	80.79	61.58	-12.63	-3,981.37	1,572.40	1,750.66	1,697.14	53.51	32.715				
15,500.00	12,446.00	13,523.70	10,720.00	82.13	62.89	-12.62	-4,081.37	1,573.37	1,750.58	1,696.21	54.36	32.202				
15,600.00	12,446.00	13,623.69	10,720.00	83.47	64.22	-12.61	-4,181.36	1,574.34	1,750.49	1,695.27	55.22	31.699				
15,700.00	12,446.00	13,723.69	10,720.00	84.83	65.56	-12.59	-4,281.36	1,575.31	1,750.41	1,694.32	56.09	31.205				
15,800.00	12,446.00	13,823.69	10,720.00	86.20	66.92	-12.58	-4,381.35	1,576.28	1,750.33	1,693.35	56.98	30.721				
15,900.00	12,446.00	13,923.69	10,720.00	87.57	68.29	-12.57	-4,481.35	1,577.25	1,750.25	1,692.38	57.87	30.246				
16,000.00	12,446.00	14,023.69	10,720.00	88.96	69.68	-12.56	-4,581.34	1,578.22	1,750.17	1,691.40	58.77	29.781				
16,100.00	12,446.00	14,123.69	10,720.00	90.35	71.07	-12.55	-4,681.34	1,579.19	1,750.08	1,690.41	59.68	29.325				
16,200.00	12,446.00	14,223.69	10,720.00	91.76	72.48	-12.53	-4,781.33	1,580.15	1,750.00	1,689.40	60.60	28.879				
16,300.00	12,446.00	14,323.69	10,720.00	93.17	73.89	-12.52	-4,881.32	1,581.12	1,749.92	1,688.40	61.53	28.442				
16,400.00	12,446.00	14,423.69	10,720.00	94.59	75.32	-12.51	-4,981.32	1,582.09	1,749.84	1,687.38	62.46	28.014				
16,500.00	12,446.00	14,523.69	10,720.00	96.02	76.75	-12.50	-5,081.31	1,583.06	1,749.76	1,686.35	63.41	27.596				
16,600.00	12,446.00	14,623.69	10,720.00	97.45	78.19	-12.49	-5,181.31	1,584.03	1,749.68	1,685.32	64.36	27.188				
16,700.00	12,446.00	14,723.69	10,720.00	98.89	79.64	-12.47	-5,281.30	1,585.00	1,749.60	1,684.29	65.31	26.788				
16,800.00	12,446.00	14,823.69	10,720.00	100.34	81.10	-12.46	-5,381.30	1,585.97	1,749.52	1,683.24	66.28	26.398				
16,900.00	12,446.00	14,923.69	10,720.00	101.79	82.57	-12.45	-5,481.29	1,586.94	1,749.44	1,682.19	67.24	26.016				
17,000.00	12,446.00	15,023.68	10,720.00	103.25	84.04	-12.44	-5,581.29	1,587.91	1,749.35	1,681.13	68.22	25.643				
17,100.00	12,446.00	15,123.68	10,720.00	104.72	85.52	-12.43	-5,681.28	1,588.88	1,749.27	1,680.07	69.20	25.278				
17,200.00	12,446.00	15,223.68	10,720.00	106.19	87.01	-12.41	-5,781.28	1,589.85	1,749.19	1,679.01	70.19	24.922				
17,300.00	12,446.00	15,323.68	10,720.00	107.66	88.50	-12.40	-5,881.27	1,590.82	1,749.11	1,677.93	71.18	24.574				
17,400.00	12,446.00	15,423.68	10,720.00	109.15	89.99	-12.39	-5,981.27	1,591.79	1,749.03	1,676.86	72.17	24.234				
17,500.00	12,446.00	15,523.68	10,720.00	110.63	91.50	-12.38	-6,081.26	1,592.76	1,748.95	1,675.78	73.18	23.901				
17,600.00	12,446.00	15,623.68	10,720.00	112.12	93.00	-12.37	-6,181.25	1,593.73	1,748.87	1,674.69	74.18	23.575				
17,700.00	12,446.00	15,723.68	10,720.00	113.62	94.52	-12.35	-6,281.25	1,594.70	1,748.79	1,673.60	75.19	23.258				
17,800.00	12,446.00	15,823.68	10,720.00	115.12	96.03	-12.34	-6,381.24	1,595.67	1,748.71	1,672.51	76.20	22.948				
17,900.00	12,446.00	15,923.68	10,720.00	116.62	97.55	-12.33	-6,481.24	1,596.64	1,748.63	1,671.41	77.22	22.644				
18,000.00	12,446.00	16,023.68	10,720.00	118.13	99.08	-12.32	-6,581.23	1,597.61	1,748.55	1,670.31	78.24	22.348				
18,100.00	12,446.00	16,123.68	10,720.00	119.64	100.61	-12.31	-6,681.23	1,598.58	1,748.47	1,669.20	79.27	22.058				
18,200.00	12,446.00	16,223.68	10,720.00	121.16	102.14	-12.29	-6,781.22	1,599.55	1,748.39	1,668.09	80.30	21.774				
18,300.00	12,446.00	16,323.68	10,720.00	122.67	103.68	-12.28	-6,881.22	1,600.52	1,748.31	1,666.98	81.33	21.497				
18,400.00	12,446.00	16,423.67	10,720.00	124.20	105.22	-12.27	-6,981.21	1,601.49	1,748.23	1,665.87	82.36	21.226				
18,500.00	12,446.00	16,523.67	10,720.00	125.72	106.76	-12.26	-7,081.21	1,602.46	1,748.15	1,664.75	83.40	20.961				
18,600.00	12,446.00	16,623.67	10,720.00	127.25	108.31	-12.25	-7,181.20	1,603.43	1,748.07	1,663.63	84.44	20.702				
18,700.00	12,446.00	16,723.67	10,720.00	128.78	109.86	-12.23	-7,281.19	1,604.39	1,747.99	1,662.51	85.48	20.449				
18,800.00	12,446.00	16,823.67	10,720.00	130.32	111.41	-12.22	-7,381.19	1,605.36	1,747.91	1,661.38	86.53	20.200				
18,900.00	12,446.00	16,923.67	10,720.00	131.86	112.97	-12.21	-7,481.18	1,606.33	1,747.83	1,660.26	87.58	19.958				
19,000.00	12,446.00	17,023.67	10,720.00	133.40	114.52	-12.20	-7,581.18	1,607.30	1,747.75	1,659.13	88.63	19.720				
19,100.00	12,446.00	17,123.67	10,720.00	134.94	116.09	-12.19	-7,681.17	1,608.27	1,747.67	1,657.99	89.68	19.488				
19,200.00	12,446.00	17,223.67	10,720.00	136.48	117.65	-12.17	-7,781.17	1,609.24	1,747.60	1,656.86	90.74	19.260				

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 503H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
							+N/-S (usft)	+E/-W (usft)								
19,300.00	12,446.00	17,323.67	10,720.00	138.03	119.21	-12.16	-7,881.16	1,610.21	1,747.52	1,655.72	91.79	19.038				
19,400.00	12,446.00	17,423.67	10,720.00	139.58	120.78	-12.15	-7,981.16	1,611.18	1,747.44	1,654.59	92.85	18.820				
19,500.00	12,446.00	17,523.67	10,720.00	141.14	122.35	-12.14	-8,081.15	1,612.15	1,747.36	1,653.45	93.91	18.606				
19,600.00	12,446.00	17,623.67	10,720.00	142.69	123.92	-12.13	-8,181.15	1,613.12	1,747.28	1,652.30	94.98	18.397				
19,700.00	12,446.00	17,723.67	10,720.00	144.25	125.50	-12.11	-8,281.14	1,614.09	1,747.20	1,651.16	96.04	18.192				
19,800.00	12,446.00	17,823.66	10,720.00	145.81	127.07	-12.10	-8,381.14	1,615.06	1,747.12	1,650.01	97.11	17.992				
19,900.00	12,446.00	17,923.66	10,720.00	147.37	128.65	-12.09	-8,481.13	1,616.03	1,747.04	1,648.87	98.17	17.795				
20,000.00	12,446.00	18,023.66	10,720.00	148.93	130.23	-12.08	-8,581.12	1,617.00	1,746.97	1,647.72	99.24	17.603				
20,100.00	12,446.00	18,123.66	10,720.00	150.50	131.81	-12.06	-8,681.12	1,617.97	1,746.89	1,646.57	100.32	17.414				
20,200.00	12,446.00	18,223.66	10,720.00	152.06	133.40	-12.05	-8,781.11	1,618.94	1,746.81	1,645.42	101.39	17.229				
20,300.00	12,446.00	18,323.66	10,720.00	153.63	134.98	-12.04	-8,881.11	1,619.91	1,746.73	1,644.27	102.46	17.048				
20,400.00	12,446.00	18,423.66	10,720.00	155.20	136.57	-12.03	-8,981.10	1,620.88	1,746.65	1,643.11	103.54	16.870				
20,500.00	12,446.00	18,523.66	10,720.00	156.77	138.16	-12.02	-9,081.10	1,621.85	1,746.57	1,641.96	104.62	16.695				
20,600.00	12,446.00	18,623.66	10,720.00	158.35	139.75	-12.00	-9,181.09	1,622.82	1,746.50	1,640.80	105.69	16.524				
20,700.00	12,446.00	18,723.66	10,720.00	159.92	141.34	-11.99	-9,281.09	1,623.79	1,746.42	1,639.65	106.77	16.357				
20,800.00	12,446.00	18,823.66	10,720.00	161.50	142.93	-11.98	-9,381.08	1,624.76	1,746.34	1,638.49	107.85	16.192				
20,900.00	12,446.00	18,923.66	10,720.00	163.08	144.52	-11.97	-9,481.08	1,625.73	1,746.26	1,637.33	108.93	16.031				
21,000.00	12,446.00	19,023.66	10,720.00	164.66	146.12	-11.96	-9,581.07	1,626.70	1,746.18	1,636.17	110.02	15.872				
21,100.00	12,446.00	19,123.66	10,720.00	166.24	147.71	-11.94	-9,681.07	1,627.67	1,746.11	1,635.01	111.10	15.717				
21,200.00	12,446.00	19,223.66	10,720.00	167.82	149.31	-11.93	-9,781.06	1,628.63	1,746.03	1,633.85	112.18	15.564				
21,300.00	12,446.00	19,323.65	10,720.00	169.41	150.91	-11.92	-9,881.05	1,629.60	1,745.95	1,632.68	113.27	15.414				
21,400.00	12,446.00	19,423.65	10,720.00	170.99	152.51	-11.91	-9,981.05	1,630.57	1,745.87	1,631.52	114.35	15.267				
21,500.00	12,446.00	19,523.65	10,720.00	172.58	154.11	-11.90	-10,081.04	1,631.54	1,745.80	1,630.35	115.44	15.123				
21,600.00	12,446.00	19,623.65	10,720.00	174.17	155.71	-11.88	-10,181.04	1,632.51	1,745.72	1,629.19	116.53	14.981				
21,700.00	12,446.00	19,723.65	10,720.00	175.76	157.32	-11.87	-10,281.03	1,633.48	1,745.64	1,628.02	117.62	14.842				
21,800.00	12,446.00	19,823.65	10,720.00	177.35	158.92	-11.86	-10,381.03	1,634.45	1,745.56	1,626.86	118.71	14.705				
21,900.00	12,446.00	19,923.65	10,720.00	178.94	160.52	-11.85	-10,481.02	1,635.42	1,745.49	1,625.69	119.80	14.570				
22,000.00	12,446.00	20,023.65	10,720.00	180.53	162.13	-11.84	-10,581.02	1,636.39	1,745.41	1,624.52	120.89	14.438				
22,100.00	12,446.00	20,123.65	10,720.00	182.12	163.74	-11.82	-10,681.01	1,637.36	1,745.33	1,623.35	121.98	14.308				
22,200.00	12,446.00	20,223.65	10,720.00	183.72	165.34	-11.81	-10,781.01	1,638.33	1,745.26	1,622.18	123.07	14.181				
22,300.00	12,446.00	20,323.65	10,720.00	185.31	166.95	-11.80	-10,881.00	1,639.30	1,745.18	1,621.01	124.17	14.055				
22,400.00	12,446.00	20,423.65	10,720.00	186.91	168.56	-11.79	-10,981.00	1,640.27	1,745.10	1,619.84	125.26	13.932				
22,500.00	12,446.00	20,523.65	10,720.00	188.51	170.17	-11.78	-11,080.99	1,641.24	1,745.03	1,618.67	126.35	13.811				
22,600.00	12,446.00	20,623.65	10,720.00	190.11	171.78	-11.76	-11,180.98	1,642.21	1,744.95	1,617.50	127.45	13.691				
22,700.00	12,446.00	20,723.64	10,720.00	191.71	173.39	-11.75	-11,280.98	1,643.18	1,744.87	1,616.33	128.54	13.574				
22,800.00	12,446.00	20,823.64	10,720.00	193.31	174.96	-11.74	-11,380.97	1,644.15	1,744.80	1,615.21	129.58	13.465				
22,817.13	12,446.00	20,840.77	10,720.00	193.58	175.21	-11.74	-11,398.10	1,644.31	1,744.78	1,615.06	129.73	13.449				

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 504H - OH - Plan #1		Offset Site Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance						Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
0.00	0.00	0.00	0.00	0.00	0.00	123.44	-1,002.88	1,518.81	1,820.13							
100.00	100.00	82.00	82.00	0.13	0.10	123.44	-1,002.88	1,518.81	1,820.04	1,819.88	0.16	N/A				
200.00	200.00	182.00	182.00	0.48	0.42	123.44	-1,002.88	1,518.81	1,820.04	1,819.40	0.64	2,842.077				
300.00	300.00	282.00	282.00	0.84	0.78	123.44	-1,002.88	1,518.81	1,820.04	1,818.90	1.15	1,587.300				
400.00	400.00	382.00	382.00	1.20	1.14	123.44	-1,002.88	1,518.81	1,820.04	1,818.39	1.65	1,100.851				
500.00	500.00	482.00	482.00	1.56	1.49	123.44	-1,002.88	1,518.81	1,820.04	1,817.88	2.16	842.568				
600.00	600.00	582.00	582.00	1.92	1.85	123.44	-1,002.88	1,518.81	1,820.04	1,817.37	2.67	682.437				
700.00	700.00	682.00	682.00	2.28	2.21	123.44	-1,002.88	1,518.81	1,820.04	1,816.87	3.17	573.446				
800.00	800.00	782.00	782.00	2.63	2.57	123.44	-1,002.88	1,518.81	1,820.04	1,816.36	3.68	494.472				
900.00	900.00	882.00	882.00	2.99	2.93	123.44	-1,002.88	1,518.81	1,820.04	1,815.85	4.19	434.616				
1,000.00	1,000.00	982.00	982.00	3.35	3.29	123.44	-1,002.88	1,518.81	1,820.04	1,815.35	4.69	387.686				
1,100.00	1,100.00	1,082.00	1,082.00	3.71	3.65	123.44	-1,002.88	1,518.81	1,820.04	1,814.84	5.20	349.903				
1,200.00	1,200.00	1,182.00	1,182.00	4.07	4.00	123.44	-1,002.88	1,518.81	1,820.04	1,814.33	5.71	318.830				
1,300.00	1,300.00	1,282.00	1,282.00	4.43	4.36	123.44	-1,002.88	1,518.81	1,820.04	1,813.83	6.22	292.826				
1,400.00	1,400.00	1,382.00	1,382.00	4.79	4.72	123.44	-1,002.88	1,518.81	1,820.04	1,813.32	6.72	270.744				
1,500.00	1,500.00	1,482.00	1,482.00	5.14	5.08	123.44	-1,002.88	1,518.81	1,820.04	1,812.81	7.23	251.758				
1,600.00	1,600.00	1,582.00	1,582.00	5.50	5.44	123.44	-1,002.88	1,518.81	1,820.04	1,812.31	7.74	235.261				
1,700.00	1,700.00	1,682.00	1,682.00	5.86	5.80	123.44	-1,002.88	1,518.81	1,820.04	1,811.80	8.24	220.793				
1,800.00	1,800.00	1,782.00	1,782.00	6.22	6.15	123.44	-1,002.88	1,518.81	1,820.04	1,811.29	8.75	208.001				
1,900.00	1,900.00	1,882.00	1,882.00	6.58	6.51	123.44	-1,002.88	1,518.81	1,820.04	1,810.78	9.26	196.610				
2,000.00	2,000.00	1,982.00	1,982.00	6.94	6.87	123.44	-1,002.88	1,518.81	1,820.04	1,810.28	9.76	186.402				
2,100.00	2,100.00	2,082.00	2,082.00	7.29	7.23	123.44	-1,002.88	1,518.81	1,820.04	1,809.77	10.27	177.202				
2,200.00	2,200.00	2,182.00	2,182.00	7.65	7.59	123.44	-1,002.88	1,518.81	1,820.04	1,809.26	10.78	168.867				
2,300.00	2,300.00	2,282.00	2,282.00	8.01	7.95	123.44	-1,002.88	1,518.81	1,820.04	1,808.76	11.28	161.281				
2,400.00	2,400.00	2,382.00	2,382.00	8.37	8.31	123.44	-1,002.88	1,518.81	1,820.04	1,808.25	11.79	154.347				
2,500.00	2,500.00	2,482.00	2,482.00	8.73	8.66	123.44	-1,002.88	1,518.81	1,820.04	1,807.74	12.30	147.985				
2,600.00	2,600.00	2,582.00	2,582.00	9.09	9.02	123.44	-1,002.88	1,518.81	1,820.04	1,807.24	12.81	142.127				
2,700.00	2,700.00	2,682.00	2,682.00	9.45	9.38	123.44	-1,002.88	1,518.81	1,820.04	1,806.73	13.31	136.714				
2,800.00	2,800.00	2,782.00	2,782.00	9.80	9.74	123.44	-1,002.88	1,518.81	1,820.04	1,806.22	13.82	131.699				
2,900.00	2,900.00	2,882.00	2,882.00	10.16	10.10	123.44	-1,002.88	1,518.81	1,820.04	1,805.72	14.33	127.039				
3,000.00	3,000.00	2,982.00	2,982.00	10.52	10.46	123.44	-1,002.88	1,518.81	1,820.04	1,805.21	14.83	122.697				
3,100.00	3,100.00	3,082.00	3,082.00	10.88	10.82	123.44	-1,002.88	1,518.81	1,820.04	1,804.70	15.34	118.643				
3,200.00	3,200.00	3,182.00	3,182.00	11.24	11.17	123.44	-1,002.88	1,518.81	1,820.04	1,804.19	15.85	114.847				
3,300.00	3,300.00	3,282.00	3,282.00	11.60	11.53	123.44	-1,002.88	1,518.81	1,820.04	1,803.69	16.35	111.287				
3,400.00	3,399.99	3,351.99	3,351.98	11.94	11.78	-8.62	-1,002.95	1,519.28	1,819.42	1,802.65	16.77	108.499				
3,500.00	3,499.91	3,400.00	3,399.98	12.27	11.94	-8.64	-1,003.15	1,520.53	1,818.30	1,801.19	17.11	106.283				
3,600.00	3,599.69	3,478.75	3,478.63	12.60	12.21	-8.72	-1,003.73	1,524.32	1,816.40	1,798.87	17.52	103.665				
3,700.00	3,699.27	3,542.08	3,541.79	12.94	12.43	-8.82	-1,004.44	1,528.91	1,814.03	1,796.14	17.89	101.404				
3,800.00	3,798.57	3,600.00	3,599.45	13.28	12.63	-8.93	-1,005.27	1,534.32	1,811.11	1,792.87	18.23	99.323				
3,900.00	3,897.54	3,668.59	3,667.58	13.62	12.87	-9.09	-1,006.49	1,542.21	1,807.61	1,789.00	18.61	97.138				
4,000.00	3,996.09	3,731.75	3,730.12	13.97	13.09	-9.27	-1,007.83	1,550.90	1,803.59	1,784.63	18.96	95.124				
4,100.00	4,094.16	3,800.00	3,797.47	14.33	13.33	-9.49	-1,009.51	1,561.82	1,799.04	1,779.72	19.33	93.090				
4,200.00	4,191.70	3,857.79	3,854.27	14.70	13.54	-9.71	-1,011.13	1,572.31	1,793.96	1,774.32	19.65	91.305				
4,300.00	4,288.62	3,920.64	3,915.80	15.08	13.76	-9.97	-1,013.09	1,585.00	1,788.40	1,768.42	19.98	89.492				
4,400.00	4,384.86	4,000.00	3,993.06	15.48	14.06	-10.34	-1,015.85	1,602.91	1,782.48	1,762.10	20.38	87.442				
4,500.00	4,480.36	4,045.99	4,037.59	15.89	14.24	-10.58	-1,017.60	1,614.26	1,775.86	1,755.22	20.64	86.036				
4,600.00	4,575.05	4,114.94	4,104.01	16.33	14.51	-10.96	-1,020.42	1,632.55	1,768.90	1,747.91	20.99	84.268				
4,674.25	4,644.79	4,187.85	4,174.11	16.66	14.80	-11.39	-1,023.47	1,652.34	1,762.67	1,741.32	21.35	82.544				
4,700.00	4,668.90	4,213.11	4,198.40	16.78	14.90	-11.53	-1,024.53	1,659.20	1,760.29	1,738.81	21.48	81.947				
4,800.00	4,762.49	4,311.19	4,292.71	17.26	15.31	-12.08	-1,028.63	1,685.82	1,751.14	1,729.16	21.98	79.685				
4,900.00	4,856.09	4,409.27	4,387.02	17.75	15.72	-12.64	-1,032.74	1,712.45	1,742.16	1,719.68	22.48	77.508				
5,000.00	4,949.69	4,507.35	4,481.33	18.25	16.15	-13.21	-1,036.85	1,739.08	1,733.35	1,710.36	22.98	75.414				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.00	5,043.29	4,605.43	4,575.63	18.76	16.58	-13.78	-1,040.95	1,765.71	1,724.72	1,701.22	23.50	73.400		
5,200.00	5,136.88	4,703.52	4,669.94	19.29	17.03	-14.36	-1,045.06	1,792.34	1,716.26	1,692.25	24.02	71.462		
5,300.00	5,230.48	4,801.60	4,764.25	19.82	17.48	-14.94	-1,049.16	1,818.96	1,707.99	1,683.45	24.54	69.598		
5,400.00	5,324.08	4,899.68	4,858.56	20.37	17.93	-15.53	-1,053.27	1,845.59	1,699.90	1,674.83	25.07	67.805		
5,500.00	5,417.68	4,997.76	4,952.87	20.93	18.40	-16.13	-1,057.38	1,872.22	1,691.99	1,666.39	25.61	66.079		
5,600.00	5,511.27	5,095.85	5,047.18	21.49	18.87	-16.73	-1,061.48	1,898.85	1,684.28	1,658.13	26.15	64.419		
5,700.00	5,604.87	5,193.93	5,141.49	22.06	19.34	-17.33	-1,065.59	1,925.47	1,676.75	1,650.06	26.69	62.821		
5,800.00	5,698.47	5,292.01	5,235.80	22.64	19.82	-17.94	-1,069.69	1,952.10	1,669.42	1,642.18	27.24	61.282		
5,900.00	5,792.07	5,390.09	5,330.11	23.22	20.31	-18.56	-1,073.80	1,978.73	1,662.28	1,634.49	27.80	59.801		
6,000.00	5,885.66	5,488.18	5,424.42	23.81	20.80	-19.18	-1,077.91	2,005.36	1,655.35	1,626.99	28.36	58.374		
6,100.00	5,979.26	5,586.26	5,518.73	24.41	21.29	-19.80	-1,082.01	2,031.99	1,648.61	1,619.69	28.92	56.999		
6,200.00	6,072.86	5,684.34	5,613.04	25.01	21.79	-20.43	-1,086.12	2,058.61	1,642.08	1,612.58	29.49	55.673		
6,300.00	6,166.46	5,782.42	5,707.35	25.61	22.29	-21.06	-1,090.22	2,085.24	1,635.75	1,605.68	30.07	54.395		
6,400.00	6,260.05	5,880.50	5,801.66	26.22	22.79	-21.70	-1,094.33	2,111.87	1,629.64	1,598.98	30.65	53.163		
6,500.00	6,353.65	5,978.59	5,895.96	26.84	23.30	-22.35	-1,098.44	2,138.50	1,623.73	1,592.49	31.24	51.974		
6,600.00	6,447.25	6,076.67	5,990.27	27.45	23.81	-23.00	-1,102.54	2,165.13	1,618.04	1,586.20	31.83	50.826		
6,700.00	6,540.85	6,174.75	6,084.58	28.07	24.32	-23.65	-1,106.65	2,191.75	1,612.56	1,580.12	32.43	49.718		
6,800.00	6,634.44	6,272.83	6,178.89	28.70	24.84	-24.31	-1,110.75	2,218.38	1,607.30	1,574.26	33.04	48.648		
6,900.00	6,728.04	6,370.92	6,273.20	29.33	25.36	-24.97	-1,114.86	2,245.01	1,602.26	1,568.61	33.65	47.614		
7,000.00	6,821.64	6,469.00	6,367.51	29.96	25.88	-25.63	-1,118.97	2,271.64	1,597.44	1,563.17	34.27	46.615		
7,100.00	6,915.24	6,567.08	6,461.82	30.59	26.40	-26.30	-1,123.07	2,298.26	1,592.85	1,557.95	34.89	45.649		
7,200.00	7,008.83	6,665.16	6,556.13	31.23	26.92	-26.97	-1,127.18	2,324.89	1,588.48	1,552.95	35.52	44.716		
7,300.00	7,102.43	6,763.25	6,650.44	31.87	27.45	-27.65	-1,131.28	2,351.52	1,584.34	1,548.18	36.16	43.814		
7,400.00	7,196.03	6,861.33	6,744.75	32.51	27.98	-28.33	-1,135.39	2,378.15	1,580.43	1,543.62	36.80	42.942		
7,500.00	7,289.63	6,959.41	6,839.06	33.15	28.51	-29.01	-1,139.50	2,404.78	1,576.75	1,539.29	37.45	42.098		
7,600.00	7,383.22	7,057.49	6,933.37	33.80	29.04	-29.70	-1,143.60	2,431.40	1,573.30	1,535.19	38.11	41.282		
7,683.32	7,461.21	7,139.21	7,011.94	34.34	29.48	-30.27	-1,147.02	2,453.59	1,570.61	1,531.94	38.66	40.621		
7,700.00	7,476.83	7,155.58	7,027.68	34.44	29.57	-30.38	-1,147.71	2,458.03	1,570.12	1,531.34	38.78	40.492		
7,800.00	7,571.03	7,253.86	7,122.18	35.07	30.11	-31.03	-1,151.82	2,484.71	1,568.64	1,529.20	39.44	39.773		
7,810.34	7,580.82	7,264.03	7,131.96	35.14	30.16	-31.09	-1,152.25	2,487.48	1,568.62	1,529.12	39.51	39.704 CC, ES		
7,900.00	7,666.07	7,352.38	7,216.91	35.68	30.64	-31.65	-1,155.95	2,511.46	1,569.60	1,529.50	40.10	39.145		
8,000.00	7,761.89	7,451.09	7,311.82	36.25	31.18	-32.24	-1,160.08	2,538.26	1,572.96	1,532.21	40.75	38.604		
8,100.00	7,858.43	7,549.90	7,406.83	36.80	31.73	-32.80	-1,164.22	2,565.09	1,578.68	1,537.29	41.38	38.147		
8,200.00	7,955.62	7,648.75	7,501.88	37.32	32.27	-33.33	-1,168.35	2,591.92	1,586.70	1,544.69	42.01	37.770		
8,300.00	8,053.39	7,747.58	7,596.91	37.81	32.81	-33.82	-1,172.49	2,618.75	1,597.00	1,554.38	42.62	37.469		
8,400.00	8,151.68	7,846.32	7,691.85	38.27	33.36	-34.27	-1,176.62	2,645.56	1,609.52	1,566.31	43.22	37.243		
8,500.00	8,250.41	7,944.89	7,786.63	38.71	33.90	-34.69	-1,180.75	2,672.32	1,624.24	1,580.45	43.80	37.086		
8,600.00	8,349.53	8,043.24	7,881.19	39.11	34.45	-35.07	-1,184.87	2,699.02	1,641.12	1,596.76	44.36	36.997		
8,700.00	8,448.96	8,141.29	7,975.47	39.49	34.99	-35.41	-1,188.97	2,725.64	1,660.13	1,615.22	44.90	36.972		
8,800.00	8,548.63	8,238.97	8,069.40	39.84	35.54	-35.71	-1,193.06	2,752.16	1,681.23	1,635.81	45.43	37.009		
8,900.00	8,648.48	8,336.23	8,162.91	40.17	36.08	-35.99	-1,197.13	2,778.56	1,704.42	1,658.48	45.93	37.105		
9,000.00	8,748.44	8,432.99	8,255.95	40.46	36.62	-36.22	-1,201.18	2,804.83	1,729.66	1,683.23	46.42	37.258		
9,057.57	8,806.00	8,488.44	8,309.27	40.62	36.93	95.69	-1,203.50	2,819.88	1,745.11	1,698.42	46.69	37.373		
9,100.00	8,848.43	8,529.24	8,348.50	40.73	37.15	95.71	-1,205.21	2,830.96	1,756.75	1,709.86	46.89	37.465		
9,200.00	8,948.43	8,625.39	8,440.95	41.00	37.69	95.76	-1,209.24	2,857.06	1,784.19	1,736.84	47.35	37.679		
9,300.00	9,048.43	8,721.54	8,533.41	41.26	38.23	95.81	-1,213.26	2,883.17	1,811.62	1,763.81	47.82	37.887		
9,400.00	9,148.43	8,817.70	8,625.86	41.53	38.77	95.85	-1,217.29	2,909.27	1,839.06	1,790.78	48.28	38.091		
9,500.00	9,248.43	8,914.03	8,728.11	41.80	39.36	95.90	-1,221.73	2,938.10	1,866.48	1,817.68	48.80	38.246		
9,600.00	9,348.43	9,010.50	8,833.44	42.06	40.03	95.99	-1,231.27	2,969.95	1,888.65	1,838.60	50.05	37.735		
9,700.00	9,448.43	9,109.08	8,933.69	42.34	41.96	96.05	-1,236.75	3,005.46	1,900.93	1,850.03	50.90	37.345		
9,800.00	9,548.43	9,206.01	9,030.43	42.61	42.69	96.06	-1,237.88	3,042.81	1,903.44	1,852.07	51.37	37.056		
9,900.00	9,648.43	9,306.01	9,130.43	42.88	42.96	96.06	-1,237.88	3,042.81	1,903.44	1,851.63	51.81	36.739		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 504H - OH - Plan #1		Offset Site Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
10,000.00	9,748.43	9,936.01	9,730.43	43.16	43.24	96.06	-1,237.88	3,042.81	1,903.44	1,851.18	52.26	36.426				
10,100.00	9,848.43	10,036.01	9,830.43	43.43	43.53	96.06	-1,237.88	3,042.81	1,903.44	1,850.74	52.70	36.117				
10,200.00	9,948.43	10,136.01	9,930.43	43.71	43.81	96.06	-1,237.88	3,042.81	1,903.44	1,850.29	53.15	35.813				
10,300.00	10,048.43	10,236.01	10,030.43	43.99	44.09	96.06	-1,237.88	3,042.81	1,903.44	1,849.84	53.60	35.513				
10,400.00	10,148.43	10,336.01	10,130.43	44.26	44.37	96.06	-1,237.88	3,042.81	1,903.44	1,849.39	54.05	35.218				
10,500.00	10,248.43	10,409.86	10,204.13	44.55	44.58	96.18	-1,241.82	3,042.85	1,904.08	1,849.59	54.49	34.941				
10,600.00	10,348.43	10,479.81	10,272.93	44.83	44.78	96.55	-1,254.23	3,042.97	1,906.26	1,851.35	54.91	34.715				
10,700.00	10,448.43	10,550.00	10,339.93	45.11	44.99	97.17	-1,275.00	3,043.17	1,910.22	1,854.92	55.30	34.544				
10,800.00	10,548.43	10,600.00	10,385.86	45.39	45.14	97.75	-1,294.72	3,043.36	1,916.28	1,860.62	55.66	34.427				
10,900.00	10,648.43	10,661.78	10,439.96	45.68	45.32	98.63	-1,324.50	3,043.65	1,924.80	1,868.81	55.99	34.377				
11,000.00	10,748.43	10,710.98	10,480.55	45.96	45.47	99.45	-1,352.27	3,043.92	1,936.17	1,879.89	56.28	34.404				
11,100.00	10,848.43	10,750.00	10,510.96	46.25	45.58	100.17	-1,376.70	3,044.15	1,950.71	1,894.20	56.52	34.517				
11,200.00	10,948.43	10,800.00	10,547.37	46.54	45.73	101.17	-1,410.94	3,044.49	1,968.67	1,911.95	56.71	34.712				
11,300.00	11,048.43	10,826.99	10,565.74	46.83	45.81	101.74	-1,430.71	3,044.68	1,990.16	1,933.33	56.83	35.018				
11,400.00	11,148.43	10,850.00	10,580.66	47.12	45.88	102.24	-1,448.23	3,044.85	2,015.39	1,958.51	56.88	35.430				
11,500.00	11,248.43	10,883.39	10,601.03	47.41	45.98	103.00	-1,474.67	3,045.10	2,044.29	1,987.39	56.91	35.925				
11,600.00	11,348.43	10,900.00	10,610.58	47.70	46.03	103.39	-1,488.27	3,045.23	2,076.96	2,020.13	56.83	36.547				
11,700.00	11,448.43	10,927.76	10,625.64	47.99	46.11	104.06	-1,511.58	3,045.46	2,113.22	2,056.47	56.74	37.243				
11,800.00	11,548.43	10,950.00	10,636.89	48.28	46.18	104.60	-1,530.76	3,045.65	2,153.07	2,096.47	56.60	38.043				
11,900.00	11,648.43	10,950.00	10,636.89	48.58	46.18	104.60	-1,530.76	3,045.65	2,196.45	2,140.12	56.33	38.989				
12,000.00	11,748.43	10,978.27	10,650.09	48.87	46.27	105.30	-1,555.76	3,045.89	2,242.91	2,186.76	56.15	39.946				
12,100.00	11,848.43	11,000.00	10,659.39	49.17	46.34	105.85	-1,575.39	3,046.08	2,292.66	2,236.75	55.92	41.001				
12,124.61	11,873.04	11,000.00	10,659.39	49.24	46.34	105.85	-1,575.39	3,046.08	2,305.33	2,249.49	55.84	41.287				
12,150.00	11,898.42	11,000.00	10,659.39	49.32	46.34	-71.91	-1,575.39	3,046.08	2,318.46	2,262.71	55.75	41.584				
12,200.00	11,948.22	11,000.00	10,659.39	49.49	46.34	-69.11	-1,575.39	3,046.08	2,344.01	2,288.42	55.60	42.161				
12,250.00	11,997.43	11,000.00	10,659.39	49.67	46.34	-66.44	-1,575.39	3,046.08	2,369.02	2,313.57	55.45	42.722				
12,300.00	12,045.71	11,022.19	10,668.12	49.88	46.41	-63.51	-1,595.79	3,046.28	2,392.94	2,337.53	55.41	43.182				
12,350.00	12,092.66	11,031.43	10,671.52	50.11	46.44	-61.04	-1,604.38	3,046.36	2,415.98	2,360.64	55.34	43.658				
12,400.00	12,137.95	11,050.00	10,677.93	50.35	46.50	-58.65	-1,621.81	3,046.53	2,437.88	2,382.56	55.32	44.070				
12,450.00	12,181.22	11,050.00	10,677.93	50.62	46.50	-56.76	-1,621.81	3,046.53	2,458.30	2,403.06	55.24	44.499				
12,500.00	12,222.15	11,050.00	10,677.93	50.89	46.50	-55.05	-1,621.81	3,046.53	2,477.39	2,422.19	55.19	44.885				
12,550.00	12,260.41	11,073.19	10,685.13	51.18	46.58	-53.30	-1,643.85	3,046.74	2,494.61	2,439.35	55.26	45.145				
12,600.00	12,295.73	11,100.00	10,692.34	51.49	46.67	-51.76	-1,669.67	3,046.99	2,510.37	2,455.01	55.36	45.350				
12,650.00	12,327.84	11,100.00	10,692.34	51.81	46.67	-50.66	-1,669.67	3,046.99	2,523.90	2,468.51	55.39	45.565				
12,700.00	12,356.48	11,100.00	10,692.34	52.14	46.67	-49.73	-1,669.67	3,046.99	2,535.68	2,480.22	55.46	45.719				
12,750.00	12,381.44	11,120.11	10,696.95	52.48	46.75	-48.87	-1,689.25	3,047.18	2,545.34	2,489.71	55.63	45.754				
12,800.00	12,402.53	11,150.00	10,702.53	52.84	46.85	-48.18	-1,718.60	3,047.46	2,553.19	2,497.33	55.85	45.711				
12,850.00	12,419.60	11,150.00	10,702.53	53.20	46.85	-47.79	-1,718.60	3,047.46	2,558.42	2,502.38	56.04	45.654				
12,900.00	12,432.50	11,150.00	10,702.53	53.57	46.85	-47.55	-1,718.60	3,047.46	2,561.70	2,505.43	56.27	45.528				
12,950.00	12,441.15	11,169.43	10,705.33	53.95	46.93	-47.45	-1,737.83	3,047.65	2,562.71	2,506.14	56.57	45.298				
13,000.00	12,445.47	11,200.00	10,708.41	54.34	47.04	-47.56	-1,768.24	3,047.94	2,561.81	2,504.88	56.93	45.000				
13,024.61	12,446.00	11,200.00	10,708.41	54.53	47.04	-47.67	-1,768.24	3,047.94	2,560.28	2,503.19	57.09	44.843				
13,100.00	12,446.00	11,200.00	10,708.41	55.13	47.04	-47.67	-1,768.24	3,047.94	2,555.98	2,498.34	57.64	44.343				
13,200.00	12,446.00	11,242.62	10,710.00	55.95	47.21	-47.70	-1,810.81	3,048.36	2,553.00	2,494.55	58.46	43.673				
13,300.00	12,446.00	11,298.81	10,710.00	56.81	47.45	-47.69	-1,867.00	3,048.90	2,552.35	2,493.03	59.32	43.029				
13,400.00	12,446.00	11,398.81	10,710.00	57.70	47.91	-47.69	-1,967.00	3,049.87	2,552.07	2,491.84	60.23	42.373				
13,500.00	12,446.00	11,498.81	10,710.00	58.63	48.42	-47.68	-2,066.99	3,050.84	2,551.79	2,490.61	61.18	41.707				
13,600.00	12,446.00	11,598.81	10,710.00	59.59	48.99	-47.68	-2,166.99	3,051.80	2,551.51	2,489.33	62.18	41.034				
13,700.00	12,446.00	11,698.81	10,710.00	60.58	49.60	-47.67	-2,266.98	3,052.77	2,551.23	2,488.02	63.22	40.357				
13,800.00	12,446.00	11,798.80	10,710.00	61.60	50.27	-47.66	-2,366.97	3,053.74	2,550.96	2,486.67	64.29	39.679				
13,900.00	12,446.00	11,898.80	10,710.00	62.64	50.98	-47.66	-2,466.97	3,054.71	2,550.68	2,485.28	65.40	39.002				
14,000.00	12,446.00	11,998.80	10,710.00	63.71	51.73	-47.65	-2,566.96	3,055.68	2,550.40	2,483.86	66.54	38.328				

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 504H - OH - Plan #1		Offset Site Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance						Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
14,100.00	12,446.00	12,098.80	10,710.00	64.81	52.53	-47.65	-2,666.96	3,056.65	2,550.12	2,482.41	67.72	37.659				
14,200.00	12,446.00	12,198.80	10,710.00	65.92	53.37	-47.64	-2,766.95	3,057.61	2,549.84	2,480.92	68.92	36.998				
14,300.00	12,446.00	12,298.80	10,710.00	67.07	54.25	-47.64	-2,866.95	3,058.58	2,549.56	2,479.41	70.15	36.344				
14,400.00	12,446.00	12,398.80	10,710.00	68.23	55.17	-47.63	-2,966.94	3,059.55	2,549.29	2,477.88	71.41	35.699				
14,500.00	12,446.00	12,498.80	10,710.00	69.41	56.12	-47.62	-3,066.94	3,060.52	2,549.01	2,476.31	72.70	35.063				
14,600.00	12,446.00	12,598.80	10,710.00	70.61	57.10	-47.62	-3,166.93	3,061.49	2,548.73	2,474.72	74.01	34.439				
14,700.00	12,446.00	12,698.80	10,710.00	71.83	58.12	-47.61	-3,266.93	3,062.45	2,548.45	2,473.11	75.34	33.827				
14,800.00	12,446.00	12,798.80	10,710.00	73.06	59.17	-47.61	-3,366.92	3,063.42	2,548.17	2,471.48	76.69	33.227				
14,900.00	12,446.00	12,898.80	10,710.00	74.32	60.24	-47.60	-3,466.92	3,064.39	2,547.89	2,469.83	78.06	32.639				
15,000.00	12,446.00	12,998.80	10,710.00	75.58	61.35	-47.60	-3,566.91	3,065.36	2,547.62	2,468.16	79.46	32.062				
15,100.00	12,446.00	13,098.80	10,710.00	76.87	62.47	-47.59	-3,666.90	3,066.33	2,547.34	2,466.47	80.87	31.499				
15,200.00	12,446.00	13,198.80	10,710.00	78.16	63.62	-47.58	-3,766.90	3,067.29	2,547.06	2,464.76	82.30	30.949				
15,300.00	12,446.00	13,298.79	10,710.00	79.47	64.80	-47.58	-3,866.89	3,068.26	2,546.78	2,463.04	83.74	30.412				
15,400.00	12,446.00	13,398.79	10,710.00	80.79	65.99	-47.57	-3,966.89	3,069.23	2,546.50	2,461.30	85.20	29.888				
15,500.00	12,446.00	13,498.79	10,710.00	82.13	67.21	-47.57	-4,066.88	3,070.20	2,546.23	2,459.55	86.68	29.376				
15,600.00	12,446.00	13,598.79	10,710.00	83.47	68.44	-47.56	-4,166.88	3,071.17	2,545.95	2,457.78	88.17	28.876				
15,700.00	12,446.00	13,698.79	10,710.00	84.83	69.69	-47.56	-4,266.87	3,072.13	2,545.67	2,456.00	89.67	28.389				
15,800.00	12,446.00	13,798.79	10,710.00	86.20	70.96	-47.55	-4,366.87	3,073.10	2,545.39	2,454.20	91.19	27.914				
15,900.00	12,446.00	13,898.79	10,710.00	87.57	72.24	-47.54	-4,466.86	3,074.07	2,545.11	2,452.40	92.72	27.451				
16,000.00	12,446.00	13,998.79	10,710.00	88.96	73.54	-47.54	-4,566.86	3,075.04	2,544.84	2,450.58	94.25	27.000				
16,100.00	12,446.00	14,098.79	10,710.00	90.35	74.86	-47.53	-4,666.85	3,076.01	2,544.56	2,448.76	95.80	26.560				
16,200.00	12,446.00	14,198.79	10,710.00	91.76	76.18	-47.53	-4,766.84	3,076.97	2,544.28	2,446.92	97.36	26.132				
16,300.00	12,446.00	14,298.79	10,710.00	93.17	77.52	-47.52	-4,866.84	3,077.94	2,544.00	2,445.07	98.93	25.715				
16,400.00	12,446.00	14,398.79	10,710.00	94.59	78.88	-47.52	-4,966.83	3,078.91	2,543.72	2,443.22	100.51	25.309				
16,500.00	12,446.00	14,498.79	10,710.00	96.02	80.24	-47.51	-5,066.83	3,079.88	2,543.45	2,441.35	102.09	24.913				
16,600.00	12,446.00	14,598.79	10,710.00	97.45	81.61	-47.50	-5,166.82	3,080.85	2,543.17	2,439.48	103.69	24.527				
16,700.00	12,446.00	14,698.78	10,710.00	98.89	83.00	-47.50	-5,266.82	3,081.81	2,542.89	2,437.60	105.29	24.152				
16,800.00	12,446.00	14,798.78	10,710.00	100.34	84.39	-47.49	-5,366.81	3,082.78	2,542.61	2,435.72	106.90	23.786				
16,900.00	12,446.00	14,898.78	10,710.00	101.79	85.79	-47.49	-5,466.81	3,083.75	2,542.34	2,433.82	108.51	23.429				
17,000.00	12,446.00	14,998.78	10,710.00	103.25	87.21	-47.48	-5,566.80	3,084.72	2,542.06	2,431.92	110.14	23.081				
17,100.00	12,446.00	15,098.78	10,710.00	104.72	88.63	-47.48	-5,666.80	3,085.69	2,541.78	2,430.02	111.77	22.742				
17,200.00	12,446.00	15,198.78	10,710.00	106.19	90.06	-47.47	-5,766.79	3,086.66	2,541.50	2,428.10	113.40	22.412				
17,300.00	12,446.00	15,298.78	10,710.00	107.66	91.49	-47.46	-5,866.79	3,087.62	2,541.23	2,426.19	115.04	22.090				
17,400.00	12,446.00	15,398.78	10,710.00	109.15	92.94	-47.46	-5,966.78	3,088.59	2,540.95	2,424.26	116.68	21.776				
17,500.00	12,446.00	15,498.78	10,710.00	110.63	94.39	-47.45	-6,066.77	3,089.56	2,540.67	2,422.33	118.34	21.470				
17,600.00	12,446.00	15,598.78	10,710.00	112.12	95.84	-47.45	-6,166.77	3,090.53	2,540.39	2,420.40	119.99	21.171				
17,700.00	12,446.00	15,698.78	10,710.00	113.62	97.31	-47.44	-6,266.76	3,091.50	2,540.12	2,418.46	121.65	20.880				
17,800.00	12,446.00	15,798.78	10,710.00	115.12	98.78	-47.44	-6,366.76	3,092.46	2,539.84	2,416.52	123.32	20.595				
17,900.00	12,446.00	15,898.78	10,710.00	116.62	100.25	-47.43	-6,466.75	3,093.43	2,539.56	2,414.57	124.99	20.318				
18,000.00	12,446.00	15,998.78	10,710.00	118.13	101.73	-47.42	-6,566.75	3,094.40	2,539.28	2,412.62	126.66	20.047				
18,100.00	12,446.00	16,098.77	10,710.00	119.64	103.22	-47.42	-6,666.74	3,095.37	2,539.01	2,410.67	128.34	19.783				
18,200.00	12,446.00	16,198.77	10,710.00	121.16	104.71	-47.41	-6,766.74	3,096.34	2,538.73	2,408.71	130.02	19.525				
18,300.00	12,446.00	16,298.77	10,710.00	122.67	106.20	-47.41	-6,866.73	3,097.30	2,538.45	2,406.74	131.71	19.273				
18,400.00	12,446.00	16,398.77	10,710.00	124.20	107.70	-47.40	-6,966.73	3,098.27	2,538.17	2,404.78	133.40	19.027				
18,500.00	12,446.00	16,498.77	10,710.00	125.72	109.21	-47.39	-7,066.72	3,099.24	2,537.90	2,402.81	135.09	18.787				
18,600.00	12,446.00	16,598.77	10,710.00	127.25	110.72	-47.39	-7,166.72	3,100.21	2,537.62	2,400.84	136.78	18.552				
18,700.00	12,446.00	16,698.77	10,710.00	128.78	112.23	-47.38	-7,266.71	3,101.18	2,537.34	2,398.86	138.48	18.323				
18,800.00	12,446.00	16,798.77	10,710.00	130.32	113.75	-47.38	-7,366.70	3,102.14	2,537.06	2,396.89	140.18	18.099				
18,900.00	12,446.00	16,898.77	10,710.00	131.86	115.27	-47.37	-7,466.70	3,103.11	2,536.79	2,394.91	141.88	17.880				
19,000.00	12,446.00	16,998.77	10,710.00	133.40	116.79	-47.37	-7,566.69	3,104.08	2,536.51	2,392.92	143.59	17.665				
19,100.00	12,446.00	17,098.77	10,710.00	134.94	118.32	-47.36	-7,666.69	3,105.05	2,536.23	2,390.94	145.29	17.456				
19,200.00	12,446.00	17,198.77	10,710.00	136.48	119.85	-47.35	-7,766.68	3,106.02	2,535.96	2,388.95	147.00	17.251				

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,300.00	12,446.00	17,298.77	10,710.00	138.03	121.38	-47.35	-7,866.68	3,106.98	2,535.68	2,386.96	148.72	17.051		
19,400.00	12,446.00	17,398.77	10,710.00	139.58	122.92	-47.34	-7,966.67	3,107.95	2,535.40	2,384.97	150.43	16.854		
19,500.00	12,446.00	17,498.76	10,710.00	141.14	124.46	-47.34	-8,066.67	3,108.92	2,535.13	2,382.98	152.15	16.663		
19,600.00	12,446.00	17,598.76	10,710.00	142.69	126.00	-47.33	-8,166.66	3,109.89	2,534.85	2,380.98	153.86	16.475		
19,700.00	12,446.00	17,698.76	10,710.00	144.25	127.55	-47.33	-8,266.66	3,110.86	2,534.57	2,378.99	155.58	16.291		
19,800.00	12,446.00	17,798.76	10,710.00	145.81	129.10	-47.32	-8,366.65	3,111.82	2,534.29	2,376.99	157.30	16.111		
19,900.00	12,446.00	17,898.76	10,710.00	147.37	130.65	-47.31	-8,466.65	3,112.79	2,534.02	2,374.99	159.03	15.935		
20,000.00	12,446.00	17,998.76	10,710.00	148.93	132.20	-47.31	-8,566.64	3,113.76	2,533.74	2,372.99	160.75	15.762		
20,100.00	12,446.00	18,098.76	10,710.00	150.50	133.75	-47.30	-8,666.63	3,114.73	2,533.46	2,370.99	162.48	15.593		
20,200.00	12,446.00	18,198.76	10,710.00	152.06	135.31	-47.30	-8,766.63	3,115.70	2,533.19	2,368.98	164.21	15.427		
20,300.00	12,446.00	18,298.76	10,710.00	153.63	136.87	-47.29	-8,866.62	3,116.67	2,532.91	2,366.98	165.93	15.265		
20,400.00	12,446.00	18,398.76	10,710.00	155.20	138.44	-47.29	-8,966.62	3,117.63	2,532.63	2,364.97	167.66	15.106		
20,500.00	12,446.00	18,498.76	10,710.00	156.77	140.00	-47.28	-9,066.61	3,118.60	2,532.36	2,362.96	169.39	14.950		
20,600.00	12,446.00	18,598.76	10,710.00	158.35	141.57	-47.27	-9,166.61	3,119.57	2,532.08	2,360.95	171.13	14.796		
20,700.00	12,446.00	18,698.76	10,710.00	159.92	143.13	-47.27	-9,266.60	3,120.54	2,531.80	2,358.94	172.86	14.647		
20,800.00	12,446.00	18,798.76	10,710.00	161.50	144.70	-47.26	-9,366.60	3,121.51	2,531.53	2,356.93	174.59	14.500		
20,900.00	12,446.00	18,898.75	10,710.00	163.08	146.28	-47.26	-9,466.59	3,122.47	2,531.25	2,354.92	176.33	14.355		
21,000.00	12,446.00	18,998.75	10,710.00	164.66	147.85	-47.25	-9,566.59	3,123.44	2,530.97	2,352.91	178.06	14.214		
21,100.00	12,446.00	19,098.75	10,710.00	166.24	149.42	-47.24	-9,666.58	3,124.41	2,530.70	2,350.89	179.80	14.075		
21,200.00	12,446.00	19,198.75	10,710.00	167.82	151.00	-47.24	-9,766.58	3,125.38	2,530.42	2,348.88	181.54	13.939		
21,300.00	12,446.00	19,298.75	10,710.00	169.41	152.58	-47.23	-9,866.57	3,126.35	2,530.14	2,346.87	183.28	13.805		
21,400.00	12,446.00	19,398.75	10,710.00	170.99	154.16	-47.23	-9,966.56	3,127.31	2,529.87	2,344.85	185.01	13.674		
21,500.00	12,446.00	19,498.75	10,710.00	172.58	155.74	-47.22	-10,066.56	3,128.28	2,529.59	2,342.84	186.75	13.545		
21,600.00	12,446.00	19,598.75	10,710.00	174.17	157.32	-47.22	-10,166.55	3,129.25	2,529.31	2,340.82	188.49	13.418		
21,700.00	12,446.00	19,698.75	10,710.00	175.76	158.91	-47.21	-10,266.55	3,130.22	2,529.04	2,338.80	190.23	13.294		
21,800.00	12,446.00	19,798.75	10,710.00	177.35	160.49	-47.20	-10,366.54	3,131.19	2,528.76	2,336.79	191.98	13.172		
21,900.00	12,446.00	19,898.75	10,710.00	178.94	162.08	-47.20	-10,466.54	3,132.15	2,528.48	2,334.77	193.72	13.052		
22,000.00	12,446.00	19,998.75	10,710.00	180.53	163.67	-47.19	-10,566.53	3,133.12	2,528.21	2,332.75	195.46	12.935		
22,100.00	12,446.00	20,098.75	10,710.00	182.12	165.26	-47.19	-10,666.53	3,134.09	2,527.93	2,330.73	197.20	12.819		
22,200.00	12,446.00	20,198.75	10,710.00	183.72	166.85	-47.18	-10,766.52	3,135.06	2,527.66	2,328.71	198.94	12.705		
22,300.00	12,446.00	20,298.74	10,710.00	185.31	168.44	-47.18	-10,866.52	3,136.03	2,527.38	2,326.69	200.69	12.594		
22,400.00	12,446.00	20,398.74	10,710.00	186.91	170.03	-47.17	-10,966.51	3,136.99	2,527.10	2,324.67	202.43	12.484		
22,500.00	12,446.00	20,498.74	10,710.00	188.51	171.63	-47.16	-11,066.51	3,137.96	2,526.83	2,322.65	204.18	12.376		
22,600.00	12,446.00	20,598.74	10,710.00	190.11	173.22	-47.16	-11,166.50	3,138.93	2,526.55	2,320.63	205.92	12.270		
22,700.00	12,446.00	20,698.74	10,710.00	191.71	174.82	-47.15	-11,266.49	3,139.90	2,526.27	2,318.61	207.66	12.165		
22,800.00	12,446.00	20,798.74	10,710.00	193.31	176.42	-47.15	-11,366.49	3,140.87	2,526.00	2,316.59	209.41	12.063		
22,817.13	12,446.00	20,815.87	10,710.00	193.58	176.69	-47.15	-11,383.61	3,141.03	2,525.95	2,316.24	209.71	12.045 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 601H - OH - Plan #2		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD															Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
0.00	0.00	0.00	0.00	0.00	0.00	-127.52	-1,020.08	-1,328.38	1,674.86							
100.00	100.00	98.50	98.50	0.13	0.12	-127.52	-1,020.08	-1,328.38	1,674.86	1,674.68	0.18	9,510.366				
200.00	200.00	198.50	198.50	0.48	0.48	-127.52	-1,020.08	-1,328.38	1,674.86	1,674.18	0.68	2,460.864				
300.00	300.00	298.50	298.50	0.84	0.84	-127.52	-1,020.08	-1,328.38	1,674.86	1,673.67	1.19	1,410.350				
400.00	400.00	398.50	398.50	1.20	1.20	-127.52	-1,020.08	-1,328.38	1,674.86	1,673.17	1.69	988.408				
500.00	500.00	498.50	498.50	1.56	1.55	-127.52	-1,020.08	-1,328.38	1,674.86	1,672.66	2.20	760.796				
600.00	600.00	598.50	598.50	1.92	1.91	-127.52	-1,020.08	-1,328.38	1,674.86	1,672.15	2.71	618.392				
700.00	700.00	698.50	698.50	2.28	2.27	-127.52	-1,020.08	-1,328.38	1,674.86	1,671.64	3.22	520.892				
800.00	800.00	798.50	798.50	2.63	2.63	-127.52	-1,020.08	-1,328.38	1,674.86	1,671.14	3.72	449.950				
900.00	900.00	898.50	898.50	2.99	2.99	-127.52	-1,020.08	-1,328.38	1,674.86	1,670.63	4.23	396.016				
1,000.00	1,000.00	998.50	998.50	3.35	3.35	-127.52	-1,020.08	-1,328.38	1,674.86	1,670.12	4.74	353.627				
1,100.00	1,100.00	1,098.50	1,098.50	3.71	3.70	-127.52	-1,020.08	-1,328.38	1,674.86	1,669.62	5.24	319.436				
1,200.00	1,200.00	1,198.50	1,198.50	4.07	4.06	-127.52	-1,020.08	-1,328.38	1,674.86	1,669.11	5.75	291.273				
1,300.00	1,300.00	1,298.50	1,298.50	4.43	4.42	-127.52	-1,020.08	-1,328.38	1,674.86	1,668.60	6.26	267.674				
1,400.00	1,400.00	1,398.50	1,398.50	4.79	4.78	-127.52	-1,020.08	-1,328.38	1,674.86	1,668.10	6.76	247.612				
1,500.00	1,500.00	1,498.50	1,498.50	5.14	5.14	-127.52	-1,020.08	-1,328.38	1,674.86	1,667.59	7.27	230.348				
1,600.00	1,600.00	1,598.50	1,598.50	5.50	5.50	-127.52	-1,020.08	-1,328.38	1,674.86	1,667.08	7.78	215.334				
1,700.00	1,700.00	1,698.50	1,698.50	5.86	5.86	-127.52	-1,020.08	-1,328.38	1,674.86	1,666.58	8.28	202.158				
1,800.00	1,800.00	1,798.50	1,798.50	6.22	6.21	-127.52	-1,020.08	-1,328.38	1,674.86	1,666.07	8.79	190.501				
1,900.00	1,900.00	1,898.50	1,898.50	6.58	6.57	-127.52	-1,020.08	-1,328.38	1,674.86	1,665.56	9.30	180.115				
2,000.00	2,000.00	1,998.50	1,998.50	6.94	6.93	-127.52	-1,020.08	-1,328.38	1,674.86	1,665.05	9.81	170.803				
2,100.00	2,100.00	2,098.50	2,098.50	7.29	7.29	-127.52	-1,020.08	-1,328.38	1,674.86	1,664.55	10.31	162.407				
2,200.00	2,200.00	2,198.50	2,198.50	7.65	7.65	-127.52	-1,020.08	-1,328.38	1,674.86	1,664.04	10.82	154.797				
2,300.00	2,300.00	2,298.50	2,298.50	8.01	8.01	-127.52	-1,020.08	-1,328.38	1,674.86	1,663.53	11.33	147.869				
2,400.00	2,400.00	2,398.50	2,398.50	8.37	8.36	-127.52	-1,020.08	-1,328.38	1,674.86	1,663.03	11.83	141.534				
2,500.00	2,500.00	2,498.50	2,498.50	8.73	8.72	-127.52	-1,020.08	-1,328.38	1,674.86	1,662.52	12.34	135.720				
2,600.00	2,600.00	2,598.50	2,598.50	9.09	9.08	-127.52	-1,020.08	-1,328.38	1,674.86	1,662.01	12.85	130.365				
2,700.00	2,700.00	2,698.50	2,698.50	9.45	9.44	-127.52	-1,020.08	-1,328.38	1,674.86	1,661.51	13.35	125.416				
2,800.00	2,800.00	2,798.50	2,798.50	9.80	9.80	-127.52	-1,020.08	-1,328.38	1,674.86	1,661.00	13.86	120.829				
2,900.00	2,900.00	2,898.50	2,898.50	10.16	10.16	-127.52	-1,020.08	-1,328.38	1,674.86	1,660.49	14.37	116.566				
3,000.00	3,000.00	2,998.50	2,998.50	10.52	10.52	-127.52	-1,020.08	-1,328.38	1,674.86	1,659.98	14.88	112.593				
3,100.00	3,100.00	3,098.50	3,098.50	10.88	10.87	-127.52	-1,020.08	-1,328.38	1,674.86	1,659.48	15.38	108.882				
3,200.00	3,200.00	3,198.50	3,198.50	11.24	11.23	-127.52	-1,020.08	-1,328.38	1,674.86	1,658.97	15.89	105.408	CC, ES			
3,300.00	3,300.00	3,268.64	3,268.63	11.60	11.47	-127.52	-1,020.51	-1,328.82	1,675.74	1,659.43	16.31	102.737				
3,400.00	3,399.99	3,338.27	3,338.23	11.94	11.71	100.41	-1,021.84	-1,330.15	1,678.66	1,661.95	16.71	100.445				
3,500.00	3,499.91	3,400.00	3,399.91	12.27	11.91	100.40	-1,023.77	-1,332.09	1,683.89	1,666.82	17.07	98.624				
3,600.00	3,599.69	3,481.38	3,481.13	12.60	12.18	100.45	-1,027.36	-1,335.71	1,691.33	1,673.84	17.49	96.714				
3,700.00	3,699.27	3,580.68	3,580.19	12.94	12.51	100.59	-1,032.25	-1,340.63	1,699.95	1,681.99	17.96	94.673				
3,800.00	3,798.57	3,679.70	3,678.96	13.28	12.84	100.81	-1,037.13	-1,345.53	1,709.10	1,690.67	18.43	92.749				
3,900.00	3,897.54	3,778.37	3,777.39	13.62	13.18	101.10	-1,041.98	-1,350.42	1,718.82	1,699.92	18.90	90.935				
4,000.00	3,996.09	3,876.61	3,875.40	13.97	13.51	101.46	-1,046.82	-1,355.28	1,729.16	1,709.78	19.38	89.221				
4,100.00	4,094.16	3,974.38	3,972.92	14.33	13.84	101.88	-1,051.63	-1,360.13	1,740.18	1,720.32	19.87	87.600				
4,200.00	4,191.70	4,071.58	4,069.89	14.70	14.18	102.36	-1,056.42	-1,364.94	1,751.95	1,731.59	20.36	86.067				
4,300.00	4,288.62	4,168.17	4,166.25	15.08	14.51	102.90	-1,061.17	-1,369.72	1,764.54	1,743.68	20.85	84.616				
4,400.00	4,384.86	4,264.08	4,261.92	15.48	14.84	103.49	-1,065.89	-1,374.47	1,778.02	1,756.66	21.36	83.242				
4,500.00	4,480.36	4,359.23	4,356.84	15.89	15.17	104.12	-1,070.58	-1,379.19	1,792.49	1,770.62	21.88	81.941				
4,600.00	4,575.05	4,453.57	4,450.94	16.33	15.50	104.79	-1,075.22	-1,383.86	1,808.04	1,785.64	22.40	80.710				
4,674.25	4,644.79	4,523.05	4,520.25	16.66	15.74	105.32	-1,078.64	-1,387.30	1,820.34	1,797.54	22.80	79.840				
4,700.00	4,668.90	4,547.05	4,544.20	16.78	15.83	105.56	-1,079.82	-1,388.49	1,824.74	1,801.80	22.94	79.547				
4,800.00	4,762.49	4,640.29	4,637.21	17.26	16.16	106.52	-1,084.41	-1,393.11	1,842.17	1,818.68	23.49	78.434				
4,900.00	4,856.09	4,733.52	4,730.21	17.75	16.48	107.45	-1,089.00	-1,397.73	1,860.14	1,836.10	24.04	77.368				
5,000.00	4,949.69	4,826.76	4,823.22	18.25	16.81	108.37	-1,093.59	-1,402.34	1,878.63	1,854.03	24.61	76.348				

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.00	5,043.29	4,919.99	4,916.23	18.76	17.14	109.27	-1,098.18	-1,406.96	1,897.64	1,872.46	25.18	75.375		
5,200.00	5,136.88	5,013.23	5,009.24	19.29	17.48	110.16	-1,102.77	-1,411.58	1,917.13	1,891.38	25.75	74.448		
5,300.00	5,230.48	5,106.46	5,102.24	19.82	17.81	111.03	-1,107.36	-1,416.20	1,937.11	1,910.78	26.33	73.566		
5,400.00	5,324.08	5,199.70	5,195.25	20.37	18.14	111.88	-1,111.95	-1,420.82	1,957.55	1,930.63	26.92	72.728		
5,500.00	5,417.68	5,292.93	5,288.26	20.93	18.47	112.72	-1,116.54	-1,425.43	1,978.44	1,950.93	27.50	71.932		
5,600.00	5,511.27	5,386.17	5,381.26	21.49	18.81	113.54	-1,121.13	-1,430.05	1,999.76	1,971.67	28.10	71.178		
5,700.00	5,604.87	5,479.40	5,474.27	22.06	19.14	114.35	-1,125.72	-1,434.67	2,021.51	1,992.82	28.69	70.464		
5,800.00	5,698.47	5,572.64	5,567.28	22.64	19.48	115.14	-1,130.31	-1,439.29	2,043.66	2,014.38	29.28	69.788		
5,900.00	5,792.07	5,665.87	5,660.28	23.22	19.81	115.91	-1,134.90	-1,443.90	2,066.21	2,036.33	29.88	69.148		
6,000.00	5,885.66	5,759.10	5,753.29	23.81	20.15	116.67	-1,139.49	-1,448.52	2,089.15	2,058.67	30.48	68.543		
6,100.00	5,979.26	5,852.34	5,846.30	24.41	20.49	117.41	-1,144.08	-1,453.14	2,112.45	2,081.37	31.08	67.972		
6,200.00	6,072.86	5,945.57	5,939.31	25.01	20.82	118.14	-1,148.66	-1,457.76	2,136.11	2,104.43	31.68	67.432		
6,300.00	6,166.46	6,038.81	6,032.31	25.61	21.16	118.86	-1,153.25	-1,462.38	2,160.11	2,127.84	32.28	66.921		
6,400.00	6,260.05	6,132.04	6,125.32	26.22	21.50	119.55	-1,157.84	-1,466.99	2,184.45	2,151.58	32.88	66.440		
6,500.00	6,353.65	6,225.28	6,218.33	26.84	21.84	120.24	-1,162.43	-1,471.61	2,209.12	2,175.64	33.48	65.985		
6,600.00	6,447.25	6,318.51	6,311.33	27.45	22.18	120.91	-1,167.02	-1,476.23	2,234.10	2,200.02	34.08	65.556		
6,700.00	6,540.85	6,411.75	6,404.34	28.07	22.51	121.57	-1,171.61	-1,480.85	2,259.38	2,224.70	34.68	65.152		
6,800.00	6,634.44	6,505.34	6,500.00	28.70	22.91	122.31	-1,176.84	-1,486.11	2,284.90	2,249.58	35.33	64.677		
6,900.00	6,728.04	6,599.96	6,600.00	29.33	23.59	123.66	-1,181.87	-1,491.17	2,308.21	2,271.98	36.23	63.716		
7,000.00	6,821.64	6,694.56	6,700.00	29.96	23.99	124.53	-1,187.08	-1,496.38	2,329.01	2,292.12	36.88	63.145		
7,100.00	6,915.24	6,790.15	6,800.00	30.59	24.32	125.20	-1,182.08	-1,491.38	2,350.03	2,312.56	37.47	62.714		
7,200.00	7,008.83	7,015.15	7,007.33	31.23	24.64	125.87	-1,182.08	-1,491.38	2,371.39	2,333.33	38.06	62.309		
7,300.00	7,102.43	7,108.75	7,100.93	31.87	24.97	126.52	-1,182.08	-1,491.38	2,393.07	2,354.43	38.64	61.927		
7,400.00	7,196.03	7,202.34	7,194.53	32.51	25.29	127.17	-1,182.08	-1,491.38	2,415.08	2,375.85	39.23	61.567		
7,500.00	7,289.63	7,295.94	7,288.13	33.15	25.61	127.80	-1,182.08	-1,491.38	2,437.39	2,397.58	39.81	61.230		
7,600.00	7,383.22	7,389.54	7,381.72	33.80	25.94	128.43	-1,182.08	-1,491.38	2,460.01	2,419.62	40.39	60.912		
7,683.32	7,461.21	7,467.52	7,459.71	34.34	26.21	128.94	-1,182.08	-1,491.38	2,479.07	2,438.21	40.87	60.663		
7,700.00	7,476.83	7,483.15	7,475.33	34.44	26.26	129.08	-1,182.08	-1,491.38	2,482.89	2,441.93	40.96	60.614		
7,800.00	7,571.03	7,577.35	7,569.53	35.07	26.59	129.92	-1,182.08	-1,491.38	2,505.00	2,463.47	41.53	60.315		
7,900.00	7,666.07	7,672.39	7,664.57	35.68	26.92	130.69	-1,182.08	-1,491.38	2,525.70	2,483.61	42.09	60.004		
8,000.00	7,761.89	7,768.21	7,760.39	36.25	27.26	131.38	-1,182.08	-1,491.38	2,544.93	2,502.28	42.64	59.679		
8,100.00	7,858.43	7,864.75	7,856.93	36.80	27.59	132.01	-1,182.08	-1,491.38	2,562.61	2,519.42	43.18	59.340		
8,200.00	7,955.62	7,961.94	7,954.12	37.32	27.93	132.58	-1,182.08	-1,491.38	2,578.69	2,534.98	43.72	58.986		
8,300.00	8,053.39	8,059.71	8,051.89	37.81	28.27	133.07	-1,182.08	-1,491.38	2,593.13	2,548.89	44.24	58.614		
8,400.00	8,151.68	8,157.99	8,150.18	38.27	28.62	133.51	-1,182.08	-1,491.38	2,605.88	2,561.12	44.75	58.225		
8,500.00	8,250.41	8,256.73	8,248.91	38.71	28.96	133.88	-1,182.08	-1,491.38	2,616.89	2,571.63	45.26	57.819		
8,600.00	8,349.53	8,355.84	8,348.03	39.11	29.31	134.18	-1,182.08	-1,491.38	2,626.14	2,580.38	45.76	57.394		
8,700.00	8,448.96	8,455.27	8,447.46	39.49	29.66	134.43	-1,182.08	-1,491.38	2,633.60	2,587.36	46.24	56.950		
8,800.00	8,548.63	8,554.94	8,547.13	39.84	30.00	134.62	-1,182.08	-1,491.38	2,639.25	2,592.53	46.72	56.488		
8,900.00	8,648.48	8,654.79	8,646.98	40.17	30.35	134.74	-1,182.08	-1,491.38	2,643.07	2,595.88	47.19	56.006		
9,000.00	8,748.44	8,754.75	8,746.94	40.46	30.70	134.80	-1,182.08	-1,491.38	2,645.06	2,597.40	47.65	55.506		
9,057.57	8,806.00	8,812.32	8,804.50	40.62	30.91	-93.14	-1,182.08	-1,491.38	2,645.36	2,597.45	47.91	55.212		
9,100.00	8,848.43	8,854.75	8,846.93	40.73	31.05	-93.14	-1,182.08	-1,491.38	2,645.36	2,597.26	48.10	54.996		
9,200.00	8,948.43	8,954.75	8,946.93	41.00	31.41	-93.14	-1,182.08	-1,491.38	2,645.36	2,596.82	48.55	54.493		
9,300.00	9,048.43	9,054.75	9,046.93	41.26	31.76	-93.14	-1,182.08	-1,491.38	2,645.36	2,596.37	48.99	53.997		
9,400.00	9,148.43	9,154.75	9,146.93	41.53	32.11	-93.14	-1,182.08	-1,491.38	2,645.36	2,595.92	49.44	53.509		
9,500.00	9,248.43	9,254.75	9,246.93	41.80	32.46	-93.14	-1,182.08	-1,491.38	2,645.36	2,595.48	49.89	53.029		
9,600.00	9,348.43	9,354.75	9,346.93	42.06	32.81	-93.14	-1,182.08	-1,491.38	2,645.36	2,595.03	50.33	52.555		
9,700.00	9,448.43	9,454.75	9,446.93	42.34	33.16	-93.14	-1,182.08	-1,491.38	2,645.36	2,594.58	50.78	52.090		
9,800.00	9,548.43	9,554.75	9,546.93	42.61	33.51	-93.14	-1,182.08	-1,491.38	2,645.36	2,594.13	51.24	51.631		
9,900.00	9,648.43	9,654.75	9,646.93	42.88	33.87	-93.14	-1,182.08	-1,491.38	2,645.36	2,593.67	51.69	51.179		
10,000.00	9,748.43	9,754.75	9,746.93	43.16	34.22	-93.14	-1,182.08	-1,491.38	2,645.36	2,593.22	52.14	50.734		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,100.00	9,848.43	9,854.75	9,846.93	43.43	34.57	-93.14	-1,182.08	-1,491.38	2,645.36	2,592.77	52.60	50.296		
10,200.00	9,948.43	9,954.75	9,946.93	43.71	34.92	-93.14	-1,182.08	-1,491.38	2,645.36	2,592.31	53.05	49.865		
10,300.00	10,048.43	10,054.75	10,046.93	43.99	35.27	-93.14	-1,182.08	-1,491.38	2,645.36	2,591.85	53.51	49.440		
10,400.00	10,148.43	10,154.75	10,146.93	44.26	35.63	-93.14	-1,182.08	-1,491.38	2,645.36	2,591.40	53.96	49.021		
10,500.00	10,248.43	10,254.75	10,246.93	44.55	35.98	-93.14	-1,182.08	-1,491.38	2,645.36	2,590.94	54.42	48.608		
10,600.00	10,348.43	10,354.75	10,346.93	44.83	36.33	-93.14	-1,182.08	-1,491.38	2,645.36	2,590.48	54.88	48.202		
10,700.00	10,448.43	10,454.75	10,446.93	45.11	36.68	-93.14	-1,182.08	-1,491.38	2,645.36	2,590.02	55.34	47.802		
10,800.00	10,548.43	10,554.75	10,546.93	45.39	37.04	-93.14	-1,182.08	-1,491.38	2,645.36	2,589.56	55.80	47.407		
10,900.00	10,648.43	10,654.75	10,646.93	45.68	37.39	-93.14	-1,182.08	-1,491.38	2,645.36	2,589.10	56.26	47.018		
11,000.00	10,748.43	10,754.75	10,746.93	45.96	37.74	-93.14	-1,182.08	-1,491.38	2,645.36	2,588.64	56.72	46.635		
11,100.00	10,848.43	10,854.75	10,846.93	46.25	38.10	-93.14	-1,182.08	-1,491.38	2,645.36	2,588.17	57.19	46.258		
11,200.00	10,948.43	10,954.75	10,946.93	46.54	38.45	-93.14	-1,182.08	-1,491.38	2,645.36	2,587.71	57.65	45.886		
11,300.00	11,048.43	11,054.75	11,046.93	46.83	38.80	-93.14	-1,182.08	-1,491.38	2,645.36	2,587.25	58.12	45.519		
11,400.00	11,148.43	11,154.75	11,146.93	47.12	39.16	-93.14	-1,182.08	-1,491.38	2,645.36	2,586.78	58.58	45.158		
11,500.00	11,248.43	11,254.75	11,246.93	47.41	39.51	-93.14	-1,182.08	-1,491.38	2,645.36	2,586.32	59.05	44.802		
11,600.00	11,348.43	11,354.75	11,346.93	47.70	39.87	-93.14	-1,182.08	-1,491.38	2,645.36	2,585.85	59.51	44.451		
11,700.00	11,448.43	11,454.75	11,446.93	47.99	40.22	-93.14	-1,182.08	-1,491.38	2,645.36	2,585.38	59.98	44.105		
11,800.00	11,548.43	11,554.75	11,546.93	48.28	40.57	-93.14	-1,182.08	-1,491.38	2,645.36	2,584.91	60.45	43.763		
11,900.00	11,648.43	11,654.75	11,646.93	48.58	40.92	-93.14	-1,182.08	-1,491.38	2,645.36	2,584.44	60.92	43.421		
12,000.00	11,748.43	11,754.75	11,746.93	48.87	41.27	-93.14	-1,182.08	-1,491.38	2,645.36	2,583.97	61.39	43.079		
12,100.00	11,848.43	11,854.75	11,846.93	49.17	41.62	-93.14	-1,182.08	-1,491.38	2,645.36	2,583.50	61.86	42.737		
12,124.61	11,873.04	11,880.18	11,871.57	49.24	41.44	-94.30	-1,235.47	-1,490.85	2,649.50	2,587.68	61.82	42.860		
12,150.00	11,898.42	11,904.42	11,897.09	49.32	41.50	86.24	-1,242.97	-1,490.77	2,650.28	2,588.36	61.92	42.801		
12,200.00	11,948.22	11,958.01	11,936.65	49.49	41.62	85.80	-1,258.92	-1,490.61	2,651.86	2,589.73	62.13	42.682		
12,250.00	11,997.43	11,991.20	11,964.90	49.67	41.73	85.37	-1,276.34	-1,490.44	2,653.48	2,591.13	62.35	42.559		
12,300.00	12,045.71	11,924.04	11,891.80	49.88	41.85	84.97	-1,295.16	-1,490.25	2,655.11	2,592.54	62.58	42.431		
12,350.00	12,092.66	11,950.00	11,912.28	50.11	41.94	84.63	-1,311.11	-1,490.09	2,656.73	2,593.96	62.78	42.319		
12,400.00	12,137.95	11,988.85	11,941.52	50.35	42.08	84.24	-1,336.67	-1,489.83	2,658.28	2,595.22	63.05	42.158		
12,450.00	12,181.22	12,020.90	11,964.30	50.62	42.19	83.92	-1,359.22	-1,489.61	2,659.75	2,596.44	63.31	42.013		
12,500.00	12,222.15	12,050.00	11,983.86	50.89	42.30	83.64	-1,380.75	-1,489.39	2,661.12	2,597.57	63.55	41.872		
12,550.00	12,260.41	12,084.46	12,005.57	51.18	42.43	83.38	-1,407.51	-1,489.17	2,662.36	2,598.52	63.84	41.703		
12,600.00	12,295.73	12,116.03	12,024.02	51.49	42.55	83.16	-1,433.12	-1,488.87	2,663.44	2,599.32	64.12	41.538		
12,650.00	12,327.84	12,150.00	12,042.26	51.81	42.68	82.98	-1,461.77	-1,488.58	2,664.37	2,599.94	64.42	41.356		
12,700.00	12,356.48	12,178.88	12,056.41	52.14	42.80	82.85	-1,486.94	-1,488.33	2,665.11	2,600.40	64.71	41.184		
12,750.00	12,381.44	12,210.21	12,070.31	52.48	42.92	82.75	-1,515.02	-1,488.05	2,665.66	2,600.64	65.02	40.996		
12,800.00	12,402.53	12,250.00	12,085.71	52.84	43.08	82.69	-1,551.69	-1,487.68	2,666.03	2,600.64	65.39	40.771		
12,850.00	12,419.60	12,272.80	12,093.37	53.20	43.18	82.68	-1,573.16	-1,487.46	2,666.16	2,600.49	65.67	40.597		
12,900.00	12,432.50	12,300.00	12,101.39	53.57	43.29	82.71	-1,599.15	-1,487.20	2,666.11	2,600.12	65.99	40.402		
12,950.00	12,441.15	12,335.44	12,109.97	53.95	43.44	82.78	-1,633.52	-1,486.86	2,665.84	2,599.48	66.36	40.172		
13,000.00	12,445.47	12,366.83	12,115.78	54.34	43.58	82.89	-1,664.37	-1,486.55	2,665.39	2,598.67	66.72	39.951		
13,024.61	12,446.00	12,382.31	12,118.02	54.53	43.64	82.96	-1,679.68	-1,486.40	2,665.09	2,598.20	66.89	39.842		
13,100.00	12,446.00	12,430.18	12,122.33	55.13	43.85	83.06	-1,727.35	-1,485.92	2,664.52	2,597.08	67.44	39.509		
13,126.29	12,446.00	12,450.00	12,122.94	55.34	43.94	83.07	-1,747.15	-1,485.72	2,664.51	2,596.85	67.65	39.385		
13,200.00	12,446.00	12,514.62	12,123.00	55.95	44.23	83.07	-1,811.77	-1,485.07	2,664.74	2,596.44	68.30	39.015		
13,300.00	12,446.00	12,614.62	12,123.00	56.81	44.73	83.07	-1,911.77	-1,484.07	2,665.08	2,595.77	69.30	38.455		
13,400.00	12,446.00	12,714.62	12,123.00	57.70	45.29	83.07	-2,011.76	-1,483.07	2,665.42	2,595.05	70.37	37.878		
13,500.00	12,446.00	12,814.62	12,123.00	58.63	45.89	83.07	-2,111.75	-1,482.07	2,665.76	2,594.26	71.49	37.286		
13,600.00	12,446.00	12,914.62	12,123.00	59.59	46.55	83.07	-2,211.75	-1,481.07	2,666.10	2,593.42	72.68	36.685		
13,700.00	12,446.00	13,014.62	12,123.00	60.58	47.25	83.07	-2,311.74	-1,480.07	2,666.44	2,592.53	73.91	36.076		
13,800.00	12,446.00	13,114.62	12,123.00	61.60	48.00	83.08	-2,411.74	-1,479.07	2,666.78	2,591.58	75.20	35.463		
13,900.00	12,446.00	13,214.62	12,123.00	62.64	48.80	83.08	-2,511.73	-1,478.07	2,667.12	2,590.59	76.54	34.848		
14,000.00	12,446.00	13,314.62	12,123.00	63.71	49.64	83.08	-2,611.73	-1,477.06	2,667.46	2,589.54	77.92	34.234		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 601H - OH - Plan #2		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD															Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
14,100.00	12,446.00	13,414.62	12,123.00	64.81	50.51	83.08	-2,711.72	-1,476.06	2,667.80	2,588.46	79.35	33.623				
14,200.00	12,446.00	13,514.62	12,123.00	65.92	51.43	83.08	-2,811.72	-1,475.06	2,668.15	2,587.33	80.81	33.016				
14,300.00	12,446.00	13,614.62	12,123.00	67.07	52.38	83.08	-2,911.71	-1,474.06	2,668.49	2,586.16	82.32	32.415				
14,400.00	12,446.00	13,714.61	12,123.00	68.23	53.37	83.08	-3,011.70	-1,473.06	2,668.83	2,584.96	83.87	31.822				
14,500.00	12,446.00	13,814.61	12,123.00	69.41	54.39	83.08	-3,111.70	-1,472.06	2,669.17	2,583.72	85.45	31.238				
14,600.00	12,446.00	13,914.61	12,123.00	70.61	55.43	83.08	-3,211.69	-1,471.06	2,669.51	2,582.45	87.06	30.663				
14,700.00	12,446.00	14,014.61	12,123.00	71.83	56.51	83.08	-3,311.69	-1,470.05	2,669.85	2,581.15	88.70	30.098				
14,800.00	12,446.00	14,114.61	12,123.00	73.06	57.62	83.08	-3,411.68	-1,469.05	2,670.19	2,579.81	90.38	29.544				
14,900.00	12,446.00	14,214.61	12,123.00	74.32	58.75	83.09	-3,511.68	-1,468.05	2,670.53	2,578.45	92.08	29.002				
15,000.00	12,446.00	14,314.61	12,123.00	75.58	59.90	83.09	-3,611.67	-1,467.05	2,670.87	2,577.06	93.81	28.471				
15,100.00	12,446.00	14,414.61	12,123.00	76.87	61.08	83.09	-3,711.66	-1,466.05	2,671.21	2,575.65	95.57	27.952				
15,200.00	12,446.00	14,514.61	12,123.00	78.16	62.28	83.09	-3,811.66	-1,465.05	2,671.55	2,574.21	97.34	27.445				
15,300.00	12,446.00	14,614.61	12,123.00	79.47	63.49	83.09	-3,911.65	-1,464.05	2,671.90	2,572.75	99.14	26.950				
15,400.00	12,446.00	14,714.61	12,123.00	80.79	64.73	83.09	-4,011.65	-1,463.04	2,672.24	2,571.27	100.97	26.467				
15,500.00	12,446.00	14,814.61	12,123.00	82.13	65.99	83.09	-4,111.64	-1,462.04	2,672.58	2,569.77	102.81	25.996				
15,600.00	12,446.00	14,914.61	12,123.00	83.47	67.26	83.09	-4,211.64	-1,461.04	2,672.92	2,568.25	104.67	25.537				
15,700.00	12,446.00	15,014.61	12,123.00	84.83	68.55	83.09	-4,311.63	-1,460.04	2,673.26	2,566.71	106.55	25.090				
15,800.00	12,446.00	15,114.61	12,123.00	86.20	69.86	83.09	-4,411.63	-1,459.04	2,673.60	2,565.16	108.44	24.655				
15,900.00	12,446.00	15,214.61	12,123.00	87.57	71.18	83.09	-4,511.62	-1,458.04	2,673.94	2,563.59	110.35	24.230				
16,000.00	12,446.00	15,314.61	12,123.00	88.96	72.51	83.10	-4,611.61	-1,457.04	2,674.28	2,562.00	112.28	23.818				
16,100.00	12,446.00	15,414.60	12,123.00	90.35	73.85	83.10	-4,711.61	-1,456.04	2,674.62	2,560.40	114.22	23.415				
16,200.00	12,446.00	15,514.60	12,123.00	91.76	75.21	83.10	-4,811.60	-1,455.03	2,674.96	2,558.78	116.18	23.024				
16,300.00	12,446.00	15,614.60	12,123.00	93.17	76.58	83.10	-4,911.60	-1,454.03	2,675.31	2,557.15	118.15	22.643				
16,400.00	12,446.00	15,714.60	12,123.00	94.59	77.96	83.10	-5,011.59	-1,453.03	2,675.65	2,555.51	120.13	22.272				
16,500.00	12,446.00	15,814.60	12,123.00	96.02	79.35	83.10	-5,111.59	-1,452.03	2,675.99	2,553.86	122.13	21.912				
16,600.00	12,446.00	15,914.60	12,123.00	97.45	80.75	83.10	-5,211.58	-1,451.03	2,676.33	2,552.20	124.13	21.560				
16,700.00	12,446.00	16,014.60	12,123.00	98.89	82.16	83.10	-5,311.58	-1,450.03	2,676.67	2,550.52	126.15	21.218				
16,800.00	12,446.00	16,114.60	12,123.00	100.34	83.58	83.10	-5,411.57	-1,449.03	2,677.01	2,548.83	128.18	20.886				
16,900.00	12,446.00	16,214.60	12,123.00	101.79	85.01	83.10	-5,511.56	-1,448.02	2,677.35	2,547.14	130.21	20.561				
17,000.00	12,446.00	16,314.60	12,123.00	103.25	86.44	83.10	-5,611.56	-1,447.02	2,677.69	2,545.43	132.26	20.246				
17,100.00	12,446.00	16,414.60	12,123.00	104.72	87.89	83.10	-5,711.55	-1,446.02	2,678.03	2,543.72	134.31	19.939				
17,200.00	12,446.00	16,514.60	12,123.00	106.19	89.34	83.11	-5,811.55	-1,445.02	2,678.37	2,542.00	136.38	19.640				
17,300.00	12,446.00	16,614.60	12,123.00	107.66	90.79	83.11	-5,911.54	-1,444.02	2,678.71	2,540.27	138.45	19.348				
17,400.00	12,446.00	16,714.60	12,123.00	109.15	92.26	83.11	-6,011.54	-1,443.02	2,679.06	2,538.53	140.53	19.064				
17,500.00	12,446.00	16,814.60	12,123.00	110.63	93.73	83.11	-6,111.53	-1,442.02	2,679.40	2,536.78	142.61	18.788				
17,600.00	12,446.00	16,914.60	12,123.00	112.12	95.20	83.11	-6,211.52	-1,441.02	2,679.74	2,535.03	144.71	18.518				
17,700.00	12,446.00	17,014.60	12,123.00	113.62	96.68	83.11	-6,311.52	-1,440.01	2,680.08	2,533.27	146.81	18.255				
17,800.00	12,446.00	17,114.59	12,123.00	115.12	98.17	83.11	-6,411.51	-1,439.01	2,680.42	2,531.50	148.92	17.999				
17,900.00	12,446.00	17,214.59	12,123.00	116.62	99.66	83.11	-6,511.51	-1,438.01	2,680.76	2,529.73	151.03	17.750				
18,000.00	12,446.00	17,314.59	12,123.00	118.13	101.16	83.11	-6,611.50	-1,437.01	2,681.10	2,527.95	153.15	17.506				
18,100.00	12,446.00	17,414.59	12,123.00	119.64	102.66	83.11	-6,711.50	-1,436.01	2,681.44	2,526.16	155.28	17.269				
18,200.00	12,446.00	17,514.59	12,123.00	121.16	104.17	83.11	-6,811.49	-1,435.01	2,681.78	2,524.37	157.41	17.037				
18,300.00	12,446.00	17,614.59	12,123.00	122.67	105.68	83.12	-6,911.49	-1,434.01	2,682.12	2,522.58	159.55	16.811				
18,400.00	12,446.00	17,714.59	12,123.00	124.20	107.19	83.12	-7,011.48	-1,433.00	2,682.46	2,520.78	161.69	16.590				
18,500.00	12,446.00	17,814.59	12,123.00	125.72	108.71	83.12	-7,111.47	-1,432.00	2,682.81	2,518.97	163.83	16.375				
18,600.00	12,446.00	17,914.59	12,123.00	127.25	110.23	83.12	-7,211.47	-1,431.00	2,683.15	2,517.16	165.99	16.165				
18,700.00	12,446.00	18,014.59	12,123.00	128.78	111.76	83.12	-7,311.46	-1,430.00	2,683.49	2,515.35	168.14	15.960				
18,800.00	12,446.00	18,114.59	12,123.00	130.32	113.29	83.12	-7,411.46	-1,429.00	2,683.83	2,513.53	170.30	15.759				
18,900.00	12,446.00	18,214.59	12,123.00	131.86	114.82	83.12	-7,511.45	-1,428.00	2,684.17	2,511.70	172.47	15.563				
19,000.00	12,446.00	18,314.59	12,123.00	133.40	116.36	83.12	-7,611.45	-1,427.00	2,684.51	2,509.88	174.63	15.372				
19,100.00	12,446.00	18,414.59	12,123.00	134.94	117.90	83.12	-7,711.44	-1,426.00	2,684.85	2,508.04	176.81	15.185				
19,200.00	12,446.00	18,514.59	12,123.00	136.48	119.44	83.12	-7,811.44	-1,424.99	2,685.19	2,506.21	178.98	15.003				

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 601H - OH - Plan #2		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
19,300.00	12,446.00	18,614.59	12,123.00	138.03	120.99	83.12	-7,911.43	-1,423.99	2,685.53	2,504.37	181.16	14.824				
19,400.00	12,446.00	18,714.59	12,123.00	139.58	122.53	83.13	-8,011.42	-1,422.99	2,685.87	2,502.53	183.35	14.649				
19,500.00	12,446.00	18,814.58	12,123.00	141.14	124.08	83.13	-8,111.42	-1,421.99	2,686.22	2,500.68	185.53	14.478				
19,600.00	12,446.00	18,914.58	12,123.00	142.69	125.64	83.13	-8,211.41	-1,420.99	2,686.56	2,498.83	187.72	14.311				
19,700.00	12,446.00	19,014.58	12,123.00	144.25	127.19	83.13	-8,311.41	-1,419.99	2,686.90	2,496.98	189.92	14.148				
19,800.00	12,446.00	19,114.58	12,123.00	145.81	128.75	83.13	-8,411.40	-1,418.99	2,687.24	2,495.13	192.11	13.988				
19,900.00	12,446.00	19,214.58	12,123.00	147.37	130.31	83.13	-8,511.40	-1,417.98	2,687.58	2,493.27	194.31	13.831				
20,000.00	12,446.00	19,314.58	12,123.00	148.93	131.87	83.13	-8,611.39	-1,416.98	2,687.92	2,491.41	196.51	13.678				
20,100.00	12,446.00	19,414.58	12,123.00	150.50	133.44	83.13	-8,711.38	-1,415.98	2,688.26	2,489.54	198.72	13.528				
20,200.00	12,446.00	19,514.58	12,123.00	152.06	135.01	83.13	-8,811.38	-1,414.98	2,688.60	2,487.68	200.92	13.381				
20,300.00	12,446.00	19,614.58	12,123.00	153.63	136.57	83.13	-8,911.37	-1,413.98	2,688.94	2,485.81	203.13	13.237				
20,400.00	12,446.00	19,714.58	12,123.00	155.20	138.15	83.13	-9,011.37	-1,412.98	2,689.28	2,483.94	205.34	13.096				
20,500.00	12,446.00	19,814.58	12,123.00	156.77	139.72	83.13	-9,111.36	-1,411.98	2,689.63	2,482.07	207.56	12.958				
20,600.00	12,446.00	19,914.58	12,123.00	158.35	141.29	83.14	-9,211.36	-1,410.98	2,689.97	2,480.19	209.78	12.823				
20,700.00	12,446.00	20,014.58	12,123.00	159.92	142.87	83.14	-9,311.35	-1,409.97	2,690.31	2,478.31	211.99	12.690				
20,800.00	12,446.00	20,114.58	12,123.00	161.50	144.45	83.14	-9,411.35	-1,408.97	2,690.65	2,476.43	214.22	12.560				
20,900.00	12,446.00	20,214.58	12,123.00	163.08	146.03	83.14	-9,511.34	-1,407.97	2,690.99	2,474.55	216.44	12.433				
21,000.00	12,446.00	20,314.58	12,123.00	164.66	147.61	83.14	-9,611.33	-1,406.97	2,691.33	2,472.67	218.66	12.308				
21,100.00	12,446.00	20,414.58	12,123.00	166.24	149.19	83.14	-9,711.33	-1,405.97	2,691.67	2,470.78	220.89	12.186				
21,200.00	12,446.00	20,514.57	12,123.00	167.82	150.77	83.14	-9,811.32	-1,404.97	2,692.01	2,468.89	223.12	12.065				
21,300.00	12,446.00	20,614.57	12,123.00	169.41	152.36	83.14	-9,911.32	-1,403.97	2,692.35	2,467.00	225.35	11.947				
21,400.00	12,446.00	20,714.57	12,123.00	170.99	153.95	83.14	-10,011.31	-1,402.96	2,692.69	2,465.11	227.58	11.832				
21,500.00	12,446.00	20,814.57	12,123.00	172.58	155.53	83.14	-10,111.31	-1,401.96	2,693.03	2,463.22	229.82	11.718				
21,600.00	12,446.00	20,914.57	12,123.00	174.17	157.12	83.14	-10,211.30	-1,400.96	2,693.38	2,461.32	232.05	11.607				
21,700.00	12,446.00	21,014.57	12,123.00	175.76	158.71	83.15	-10,311.30	-1,399.96	2,693.72	2,459.43	234.29	11.497				
21,800.00	12,446.00	21,114.57	12,123.00	177.35	160.31	83.15	-10,411.29	-1,398.96	2,694.06	2,457.53	236.53	11.390				
21,900.00	12,446.00	21,214.57	12,123.00	178.94	161.90	83.15	-10,511.28	-1,397.96	2,694.40	2,455.63	238.77	11.285				
22,000.00	12,446.00	21,314.57	12,123.00	180.53	163.49	83.15	-10,611.28	-1,396.96	2,694.74	2,453.73	241.01	11.181				
22,100.00	12,446.00	21,414.57	12,123.00	182.12	165.09	83.15	-10,711.27	-1,395.96	2,695.08	2,451.83	243.26	11.079				
22,200.00	12,446.00	21,514.57	12,123.00	183.72	166.69	83.15	-10,811.27	-1,394.95	2,695.42	2,449.92	245.50	10.979				
22,300.00	12,446.00	21,614.57	12,123.00	185.31	168.28	83.15	-10,911.26	-1,393.95	2,695.76	2,448.02	247.75	10.881				
22,400.00	12,446.00	21,714.57	12,123.00	186.91	169.88	83.15	-11,011.26	-1,392.95	2,696.10	2,446.11	249.99	10.785				
22,500.00	12,446.00	21,814.57	12,123.00	188.51	171.48	83.15	-11,111.25	-1,391.95	2,696.44	2,444.20	252.24	10.690				
22,600.00	12,446.00	21,914.57	12,123.00	190.11	173.08	83.15	-11,211.24	-1,390.95	2,696.79	2,442.29	254.49	10.597				
22,700.00	12,446.00	22,014.57	12,123.00	191.71	174.68	83.15	-11,311.24	-1,389.95	2,697.13	2,440.38	256.75	10.505				
22,800.00	12,446.00	22,114.57	12,123.00	193.31	176.26	83.15	-11,411.23	-1,388.95	2,697.47	2,438.49	258.98	10.416				
22,817.13	12,446.00	22,129.15	12,123.00	193.58	176.47	83.15	-11,425.82	-1,388.80	2,697.53	2,438.22	259.31	10.403 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 602H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth	Vertical	Measured	Vertical	Reference	Offset	Highside	Offset Wellbore Centre		Between	Between	Minimum	Separation				
Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	(usft)	(usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Centres (usft)	Ellipses (usft)	Separation (usft)	Factor				
0.00	0.00	0.00	0.00	0.00	0.00	-90.54	-0.71	-74.98	74.99							
100.00	100.00	99.30	99.30	0.13	0.12	-90.54	-0.71	-74.98	74.98	74.81	0.18	424.079				
200.00	200.00	199.30	199.30	0.48	0.48	-90.54	-0.71	-74.98	74.98	74.30	0.68	109.847				
300.00	300.00	299.30	299.30	0.84	0.84	-90.54	-0.71	-74.98	74.98	73.79	1.19	63.034				
400.00	400.00	399.30	399.30	1.20	1.20	-90.54	-0.71	-74.98	74.98	73.29	1.70	44.198				
500.00	500.00	499.30	499.30	1.56	1.56	-90.54	-0.71	-74.98	74.98	72.78	2.20	34.029				
600.00	600.00	599.30	599.30	1.92	1.92	-90.54	-0.71	-74.98	74.98	72.27	2.71	27.665				
700.00	700.00	699.30	699.30	2.28	2.27	-90.54	-0.71	-74.98	74.98	71.77	3.22	23.306				
800.00	800.00	799.30	799.30	2.63	2.63	-90.54	-0.71	-74.98	74.98	71.26	3.72	20.133				
900.00	900.00	899.30	899.30	2.99	2.99	-90.54	-0.71	-74.98	74.98	70.75	4.23	17.721				
1,000.00	1,000.00	999.30	999.30	3.35	3.35	-90.54	-0.71	-74.98	74.98	70.25	4.74	15.825				
1,100.00	1,100.00	1,099.30	1,099.30	3.71	3.71	-90.54	-0.71	-74.98	74.98	69.74	5.25	14.296				
1,200.00	1,200.00	1,199.30	1,199.30	4.07	4.07	-90.54	-0.71	-74.98	74.98	69.23	5.75	13.036				
1,300.00	1,300.00	1,299.30	1,299.30	4.43	4.42	-90.54	-0.71	-74.98	74.98	68.72	6.26	11.980				
1,400.00	1,400.00	1,399.30	1,399.30	4.79	4.78	-90.54	-0.71	-74.98	74.98	68.22	6.77	11.082				
1,500.00	1,500.00	1,499.30	1,499.30	5.14	5.14	-90.54	-0.71	-74.98	74.98	67.71	7.27	10.310				
1,600.00	1,600.00	1,599.30	1,599.30	5.50	5.50	-90.54	-0.71	-74.98	74.98	67.20	7.78	9.638				
1,700.00	1,700.00	1,699.30	1,699.30	5.86	5.86	-90.54	-0.71	-74.98	74.98	66.70	8.29	9.048				
1,800.00	1,800.00	1,799.30	1,799.30	6.22	6.22	-90.54	-0.71	-74.98	74.98	66.19	8.79	8.527				
1,900.00	1,900.00	1,899.30	1,899.30	6.58	6.58	-90.54	-0.71	-74.98	74.98	65.68	9.30	8.062				
2,000.00	2,000.00	1,999.30	1,999.30	6.94	6.93	-90.54	-0.71	-74.98	74.98	65.18	9.81	7.645				
2,100.00	2,100.00	2,099.30	2,099.30	7.29	7.29	-90.54	-0.71	-74.98	74.98	64.67	10.31	7.270				
2,200.00	2,200.00	2,199.30	2,199.30	7.65	7.65	-90.54	-0.71	-74.98	74.98	64.16	10.82	6.929				
2,300.00	2,300.00	2,299.30	2,299.30	8.01	8.01	-90.54	-0.71	-74.98	74.98	63.65	11.33	6.619				
2,400.00	2,400.00	2,399.30	2,399.30	8.37	8.37	-90.54	-0.71	-74.98	74.98	63.15	11.84	6.335				
2,500.00	2,500.00	2,499.30	2,499.30	8.73	8.73	-90.54	-0.71	-74.98	74.98	62.64	12.34	6.075				
2,600.00	2,600.00	2,599.30	2,599.30	9.09	9.08	-90.54	-0.71	-74.98	74.98	62.13	12.85	5.835				
2,700.00	2,700.00	2,699.30	2,699.30	9.45	9.44	-90.54	-0.71	-74.98	74.98	61.63	13.36	5.614				
2,800.00	2,800.00	2,799.30	2,799.30	9.80	9.80	-90.54	-0.71	-74.98	74.98	61.12	13.86	5.409				
2,900.00	2,900.00	2,899.30	2,899.30	10.16	10.16	-90.54	-0.71	-74.98	74.98	60.61	14.37	5.218				
3,000.00	3,000.00	2,999.30	2,999.30	10.52	10.52	-90.54	-0.71	-74.98	74.98	60.11	14.88	5.040				
3,100.00	3,100.00	3,099.30	3,099.30	10.88	10.88	-90.54	-0.71	-74.98	74.98	59.60	15.38	4.874				
3,200.00	3,200.00	3,199.30	3,199.30	11.24	11.24	-90.54	-0.71	-74.98	74.98	59.09	15.89	4.719				
3,300.00	3,300.00	3,299.74	3,299.73	11.60	11.58	-91.51	-1.97	-74.66	74.69	58.30	16.39	4.558				
3,340.31	3,340.31	3,340.21	3,340.18	11.73	11.71	135.61	-3.20	-74.35	74.57	58.00	16.58	4.499 CC				
3,400.00	3,399.99	3,400.09	3,400.00	11.94	11.90	134.19	-5.79	-73.69	74.83	57.97	16.86	4.439 ES				
3,500.00	3,499.91	3,500.33	3,500.02	12.27	12.23	131.45	-12.15	-72.08	76.47	59.15	17.32	4.415				
3,600.00	3,599.69	3,600.41	3,599.68	12.60	12.56	128.40	-21.04	-69.84	79.68	61.89	17.79	4.480				
3,700.00	3,699.27	3,700.31	3,698.88	12.94	12.89	125.24	-32.43	-66.95	84.52	66.27	18.26	4.630				
3,800.00	3,798.57	3,800.00	3,797.54	13.28	13.22	122.16	-46.30	-63.44	91.04	72.31	18.73	4.861				
3,900.00	3,897.54	3,899.43	3,895.53	13.62	13.56	119.27	-62.62	-59.31	99.25	80.04	19.21	5.166				
4,000.00	3,996.09	3,998.59	3,992.78	13.97	13.91	116.67	-81.34	-54.57	109.13	89.43	19.70	5.540				
4,100.00	4,094.16	4,097.43	4,089.20	14.33	14.27	114.38	-102.44	-49.23	120.64	100.45	20.19	5.974				
4,200.00	4,191.70	4,196.38	4,185.28	14.70	14.64	112.66	-125.36	-43.43	133.64	112.94	20.70	6.455				
4,300.00	4,288.62	4,295.38	4,281.39	15.08	15.02	112.11	-148.39	-37.60	147.71	126.47	21.23	6.956				
4,400.00	4,384.86	4,394.22	4,377.34	15.48	15.40	112.48	-171.39	-31.78	162.76	140.98	21.78	7.473				
4,500.00	4,480.36	4,492.85	4,473.09	15.89	15.80	113.51	-194.33	-25.97	178.85	156.51	22.34	8.006				
4,600.00	4,575.05	4,591.19	4,568.55	16.33	16.20	115.02	-217.21	-20.18	196.09	173.18	22.91	8.558				
4,674.25	4,644.79	4,663.98	4,639.21	16.66	16.50	116.37	-234.14	-15.90	209.73	186.39	23.35	8.983				
4,700.00	4,668.90	4,689.18	4,663.68	16.78	16.60	116.91	-240.01	-14.41	214.61	191.11	23.50	9.133				
4,800.00	4,762.49	4,787.07	4,758.71	17.26	17.01	118.82	-262.78	-8.65	233.70	209.61	24.09	9.701				
4,900.00	4,856.09	4,884.95	4,853.73	17.75	17.43	120.44	-285.55	-2.88	253.00	228.31	24.69	10.246				

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 602H - OH - Plan #1		Offset Site Error:		0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:		0.00 usft			
Reference		Offset		Semi Major Axis			Distance						Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor						
5,000.00	4,949.69	4,982.84	4,948.76	18.25	17.85	121.82	-308.32	2.88	272.47	247.17	25.30	10.769						
5,100.00	5,043.29	5,080.73	5,043.79	18.76	18.28	123.03	-331.09	8.64	292.07	266.16	25.92	11.270						
5,200.00	5,136.88	5,178.62	5,138.82	19.29	18.71	124.08	-353.86	14.41	311.78	285.25	26.54	11.748						
5,300.00	5,230.48	5,276.50	5,233.84	19.82	19.14	125.01	-376.64	20.17	331.59	304.42	27.17	12.205						
5,400.00	5,324.08	5,374.39	5,328.87	20.37	19.58	125.83	-399.41	25.93	351.46	323.66	27.80	12.642						
5,500.00	5,417.68	5,472.28	5,423.90	20.93	20.03	126.56	-422.18	31.70	371.40	342.96	28.44	13.058						
5,600.00	5,511.27	5,570.16	5,518.92	21.49	20.47	127.22	-444.95	37.46	391.39	362.30	29.09	13.456						
5,700.00	5,604.87	5,668.05	5,613.95	22.06	20.92	127.82	-467.72	43.23	411.42	381.69	29.74	13.835						
5,800.00	5,698.47	5,765.94	5,708.98	22.64	21.38	128.36	-490.50	48.99	431.50	401.10	30.39	14.197						
5,900.00	5,792.07	5,863.82	5,804.00	23.22	21.83	128.85	-513.27	54.75	451.60	420.55	31.05	14.543						
6,000.00	5,885.66	5,961.71	5,899.03	23.81	22.29	129.30	-536.04	60.52	471.74	440.03	31.72	14.874						
6,100.00	5,979.26	6,059.60	5,994.06	24.41	22.75	129.71	-558.81	66.28	491.90	459.52	32.38	15.190						
6,200.00	6,072.86	6,157.49	6,089.08	25.01	23.22	130.09	-581.58	72.04	512.09	479.03	33.05	15.492						
6,300.00	6,166.46	6,255.37	6,184.11	25.61	23.68	130.45	-604.35	77.81	532.29	498.57	33.73	15.781						
6,400.00	6,260.05	6,353.26	6,279.14	26.22	24.15	130.77	-627.13	83.57	552.52	518.11	34.41	16.058						
6,500.00	6,353.65	6,451.15	6,374.16	26.84	24.62	131.08	-649.90	89.33	572.76	537.67	35.09	16.324						
6,600.00	6,447.25	6,549.03	6,469.19	27.45	25.09	131.36	-672.67	95.10	593.01	557.24	35.77	16.578						
6,700.00	6,540.85	6,646.92	6,564.22	28.07	25.57	131.62	-695.44	100.86	613.28	576.82	36.46	16.822						
6,800.00	6,634.44	6,744.81	6,659.24	28.70	26.04	131.87	-718.21	106.63	633.56	596.41	37.15	17.056						
6,900.00	6,728.04	6,842.69	6,754.27	29.33	26.52	132.10	-740.99	112.39	653.84	616.01	37.84	17.281						
7,000.00	6,821.64	6,940.58	6,849.30	29.96	27.00	132.32	-763.76	118.15	674.14	635.61	38.53	17.497						
7,100.00	6,915.24	7,038.47	6,944.32	30.59	27.48	132.52	-786.53	123.92	694.45	655.22	39.23	17.704						
7,200.00	7,008.83	7,136.36	7,039.35	31.23	27.96	132.72	-809.30	129.68	714.77	674.84	39.92	17.904						
7,300.00	7,102.43	7,234.24	7,134.38	31.87	28.44	132.90	-832.07	135.44	735.09	694.47	40.62	18.095						
7,400.00	7,196.03	7,332.13	7,229.40	32.51	28.93	133.07	-854.84	141.21	755.42	714.09	41.32	18.280						
7,500.00	7,289.63	7,430.02	7,324.43	33.15	29.41	133.24	-877.62	146.97	775.75	733.73	42.03	18.458						
7,600.00	7,383.22	7,527.90	7,419.46	33.80	29.90	133.39	-900.39	152.74	796.09	753.36	42.73	18.630						
7,683.32	7,461.21	7,609.46	7,498.63	34.34	30.31	133.52	-919.36	157.54	813.05	769.73	43.32	18.768						
7,700.00	7,476.83	7,625.80	7,514.49	34.44	30.39	133.58	-923.16	158.50	816.42	772.98	43.44	18.795						
7,800.00	7,571.03	7,723.94	7,609.76	35.07	30.88	133.84	-945.99	164.28	835.59	791.44	44.15	18.927						
7,900.00	7,666.07	7,822.40	7,705.35	35.68	31.37	133.95	-968.90	170.08	852.97	808.11	44.86	19.014						
8,000.00	7,761.89	7,921.13	7,801.19	36.25	31.86	133.92	-991.87	175.89	868.57	823.00	45.58	19.057						
8,100.00	7,858.43	8,020.05	7,897.22	36.80	32.36	133.75	-1,014.88	181.71	882.40	836.10	46.30	19.060						
8,200.00	7,955.62	8,115.72	7,990.30	37.32	32.83	133.52	-1,036.34	187.15	894.62	847.63	46.99	19.040						
8,300.00	8,053.39	8,211.01	8,083.51	37.81	33.29	133.32	-1,055.50	192.00	905.53	857.88	47.64	19.006						
8,400.00	8,151.68	8,306.53	8,177.42	38.27	33.72	133.15	-1,072.44	196.28	915.11	866.83	48.27	18.956						
8,500.00	8,250.41	8,402.26	8,271.93	38.71	34.14	132.99	-1,087.12	200.00	923.34	874.47	48.87	18.892						
8,600.00	8,349.53	8,500.00	8,368.80	39.11	34.55	132.86	-1,099.74	203.19	930.23	880.78	49.45	18.810						
8,700.00	8,448.96	8,594.22	8,462.46	39.49	34.92	132.75	-1,109.62	205.69	935.76	885.77	49.98	18.722						
8,800.00	8,548.63	8,690.39	8,558.31	39.84	35.27	132.66	-1,117.40	207.66	939.91	889.42	50.49	18.616						
8,900.00	8,648.48	8,786.67	8,654.41	40.17	35.61	132.59	-1,122.84	209.04	942.69	891.72	50.96	18.497						
9,000.00	8,748.44	8,883.00	8,750.69	40.46	35.93	132.53	-1,125.93	209.82	944.09	892.68	51.41	18.364						
9,057.57	8,806.00	8,938.48	8,806.16	40.62	36.10	-95.45	-1,126.64	210.00	944.26	892.61	51.65	18.283						
9,089.60	8,838.03	8,969.65	8,837.33	40.70	36.20	-95.45	-1,126.71	210.02	944.25	892.48	51.78	18.237						
9,100.00	8,848.43	8,980.05	8,847.73	40.73	36.23	-95.45	-1,126.71	210.02	944.25	892.43	51.82	18.222						
9,200.00	8,948.43	9,080.05	8,947.73	41.00	36.52	-95.45	-1,126.71	210.02	944.25	892.03	52.22	18.081						
9,300.00	9,048.43	9,180.05	9,047.73	41.26	36.81	-95.45	-1,126.71	210.02	944.25	891.62	52.63	17.942						
9,400.00	9,148.43	9,280.05	9,147.73	41.53	37.10	-95.45	-1,126.71	210.02	944.25	891.21	53.04	17.803						
9,500.00	9,248.43	9,380.05	9,247.73	41.80	37.39	-95.45	-1,126.71	210.02	944.25	890.80	53.45	17.667						
9,600.00	9,348.43	9,480.05	9,347.73	42.06	37.68	-95.45	-1,126.71	210.02	944.25	890.39	53.86	17.532						
9,700.00	9,448.43	9,580.05	9,447.73	42.34	37.98	-95.45	-1,126.71	210.02	944.25	889.98	54.27	17.399						
9,800.00	9,548.43	9,680.05	9,547.73	42.61	38.27	-95.45	-1,126.71	210.02	944.25	889.56	54.69	17.267						

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
9,900.00	9,648.43	9,780.05	9,647.73	42.88	38.57	-95.45	-1,126.71	210.02	944.25	889.15	55.10	17.136		
10,000.00	9,748.43	9,880.05	9,747.73	43.16	38.87	-95.45	-1,126.71	210.02	944.25	888.73	55.52	17.007		
10,100.00	9,848.43	9,980.05	9,847.73	43.43	39.17	-95.45	-1,126.71	210.02	944.25	888.31	55.94	16.880		
10,200.00	9,948.43	10,080.05	9,947.73	43.71	39.47	-95.45	-1,126.71	210.02	944.25	887.89	56.36	16.754		
10,300.00	10,048.43	10,180.05	10,047.73	43.99	39.77	-95.45	-1,126.71	210.02	944.25	887.47	56.78	16.629		
10,400.00	10,148.43	10,280.05	10,147.73	44.26	40.07	-95.45	-1,126.71	210.02	944.25	887.04	57.21	16.506		
10,500.00	10,248.43	10,380.05	10,247.73	44.55	40.37	-95.45	-1,126.71	210.02	944.25	886.62	57.63	16.384		
10,600.00	10,348.43	10,480.05	10,347.73	44.83	40.68	-95.45	-1,126.71	210.02	944.25	886.19	58.06	16.264		
10,700.00	10,448.43	10,580.05	10,447.73	45.11	40.98	-95.45	-1,126.71	210.02	944.25	885.77	58.48	16.145		
10,800.00	10,548.43	10,680.05	10,547.73	45.39	41.29	-95.45	-1,126.71	210.02	944.25	885.34	58.91	16.028		
10,900.00	10,648.43	10,780.05	10,647.73	45.68	41.59	-95.45	-1,126.71	210.02	944.25	884.91	59.34	15.912		
11,000.00	10,748.43	10,880.05	10,747.73	45.96	41.90	-95.45	-1,126.71	210.02	944.25	884.48	59.77	15.797		
11,100.00	10,848.43	10,980.05	10,847.73	46.25	42.21	-95.45	-1,126.71	210.02	944.25	884.04	60.21	15.683		
11,200.00	10,948.43	11,080.05	10,947.73	46.54	42.52	-95.45	-1,126.71	210.02	944.25	883.61	60.64	15.571		
11,300.00	11,048.43	11,180.05	11,047.73	46.83	42.83	-95.45	-1,126.71	210.02	944.25	883.18	61.08	15.460		
11,400.00	11,148.43	11,280.05	11,147.73	47.12	43.14	-95.45	-1,126.71	210.02	944.25	882.74	61.51	15.351		
11,500.00	11,248.43	11,380.05	11,247.73	47.41	43.45	-95.45	-1,126.71	210.02	944.25	882.30	61.95	15.243		
11,600.00	11,348.43	11,480.05	11,347.73	47.70	43.76	-95.45	-1,126.71	210.02	944.25	881.87	62.39	15.136		
11,615.39	11,363.82	11,495.44	11,363.12	47.74	43.81	-95.45	-1,126.71	210.02	944.25	881.80	62.45	15.119		
11,700.00	11,448.43	11,579.59	11,447.28	47.99	44.07	-95.45	-1,126.72	210.02	944.25	881.43	62.82	15.030		
11,800.00	11,548.43	11,666.53	11,533.84	48.28	44.40	-95.88	-1,133.79	210.09	944.98	881.71	63.28	14.934		
11,900.00	11,648.43	11,750.00	11,615.04	48.58	44.78	-97.03	-1,152.82	210.28	947.40	883.58	63.82	14.846		
12,000.00	11,748.43	11,825.63	11,685.52	48.87	45.19	-98.66	-1,180.08	210.54	952.32	887.97	64.35	14.799		
12,100.00	11,848.43	11,893.43	11,745.18	49.17	45.60	-100.57	-1,212.22	210.86	960.84	896.04	64.79	14.829		
12,124.61	11,873.04	11,908.78	11,758.13	49.24	45.70	-101.05	-1,220.47	210.94	963.61	898.73	64.88	14.852		
12,150.00	11,898.42	11,924.31	11,771.00	49.32	45.81	78.92	-1,229.15	211.02	966.67	901.72	64.96	14.882		
12,200.00	11,948.22	11,950.00	11,791.76	49.49	45.98	77.51	-1,244.28	211.17	972.99	907.99	65.01	14.967		
12,250.00	11,997.43	11,984.59	11,818.60	49.67	46.22	75.89	-1,266.09	211.39	979.53	914.35	65.18	15.029		
12,300.00	12,045.71	12,014.30	11,840.57	49.88	46.44	74.47	-1,286.08	211.58	986.19	920.95	65.24	15.116		
12,350.00	12,092.66	12,050.00	11,865.55	50.11	46.70	72.98	-1,311.58	211.83	992.87	927.48	65.39	15.184		
12,400.00	12,137.95	12,073.05	11,880.82	50.35	46.88	71.86	-1,328.84	212.00	999.37	934.07	65.30	15.304		
12,450.00	12,181.22	12,100.00	11,897.77	50.62	47.09	70.73	-1,349.79	212.21	1,005.65	940.40	65.26	15.411		
12,500.00	12,222.15	12,131.10	11,916.09	50.89	47.35	69.62	-1,374.92	212.45	1,011.59	946.30	65.29	15.494		
12,550.00	12,260.41	12,150.00	11,926.54	51.18	47.50	68.80	-1,390.66	212.61	1,017.19	952.12	65.07	15.632		
12,600.00	12,295.73	12,188.64	11,946.27	51.49	47.83	67.81	-1,423.88	212.93	1,022.12	956.86	65.25	15.664		
12,650.00	12,327.84	12,217.27	11,959.41	51.81	48.07	67.08	-1,449.31	213.18	1,026.55	961.30	65.24	15.734		
12,700.00	12,356.48	12,250.00	11,972.86	52.14	48.35	66.43	-1,479.14	213.48	1,030.35	965.03	65.33	15.772		
12,750.00	12,381.44	12,274.32	11,981.75	52.48	48.57	65.97	-1,501.78	213.70	1,033.44	968.17	65.27	15.833		
12,800.00	12,402.53	12,300.00	11,990.07	52.84	48.80	65.61	-1,526.06	213.94	1,035.83	970.56	65.27	15.870		
12,850.00	12,419.60	12,331.20	11,998.71	53.20	49.08	65.36	-1,556.03	214.23	1,037.44	972.03	65.41	15.862		
12,900.00	12,432.50	12,350.00	12,003.12	53.57	49.25	65.24	-1,574.31	214.41	1,038.36	973.01	65.35	15.889		
12,950.00	12,441.15	12,388.00	12,010.20	53.95	49.59	65.24	-1,611.64	214.78	1,038.33	972.64	65.69	15.806		
13,000.00	12,445.47	12,416.41	12,013.86	54.34	49.85	65.37	-1,639.80	215.05	1,037.60	971.70	65.90	15.745		
13,024.61	12,446.00	12,430.40	12,015.16	54.53	49.98	65.48	-1,653.73	215.19	1,036.96	970.93	66.02	15.706		
13,100.00	12,446.00	12,476.36	12,017.00	55.13	50.40	65.58	-1,699.64	215.64	1,035.88	969.45	66.43	15.594		
13,103.55	12,446.00	12,476.36	12,017.00	55.15	50.40	65.58	-1,699.64	215.64	1,035.88	969.47	66.41	15.597		
13,200.00	12,446.00	12,571.26	12,017.00	55.95	51.28	65.59	-1,794.54	216.57	1,036.20	968.73	67.47	15.359		
13,300.00	12,446.00	12,671.26	12,017.00	56.81	52.24	65.59	-1,894.53	217.55	1,036.53	967.90	68.63	15.104		
13,400.00	12,446.00	12,771.26	12,017.00	57.70	53.24	65.60	-1,994.53	218.53	1,036.86	967.02	69.84	14.847		
13,500.00	12,446.00	12,871.26	12,017.00	58.63	54.27	65.61	-2,094.52	219.51	1,037.19	966.10	71.09	14.589		
13,600.00	12,446.00	12,971.26	12,017.00	59.59	55.33	65.62	-2,194.52	220.49	1,037.52	965.13	72.39	14.332		
13,700.00	12,446.00	13,071.25	12,017.00	60.58	56.41	65.63	-2,294.51	221.47	1,037.86	964.13	73.73	14.077		

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 602H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
13,800.00	12,446.00	13,171.25	12,017.00	61.60	57.53	65.63	-2,394.50	222.45	1,038.19	963.08	75.10	13.824				
13,900.00	12,446.00	13,271.25	12,017.00	62.64	58.66	65.64	-2,494.50	223.44	1,038.52	962.00	76.51	13.573				
14,000.00	12,446.00	13,371.25	12,017.00	63.71	59.83	65.65	-2,594.49	224.42	1,038.85	960.89	77.96	13.325				
14,100.00	12,446.00	13,471.25	12,017.00	64.81	61.01	65.66	-2,694.49	225.40	1,039.18	959.74	79.44	13.081				
14,200.00	12,446.00	13,571.25	12,017.00	65.92	62.22	65.67	-2,794.48	226.38	1,039.51	958.57	80.95	12.842				
14,300.00	12,446.00	13,671.25	12,017.00	67.07	63.45	65.68	-2,894.48	227.36	1,039.85	957.36	82.49	12.606				
14,400.00	12,446.00	13,771.25	12,017.00	68.23	64.69	65.68	-2,994.47	228.34	1,040.18	956.13	84.05	12.376				
14,500.00	12,446.00	13,871.25	12,017.00	69.41	65.95	65.69	-3,094.47	229.32	1,040.51	954.87	85.64	12.150				
14,600.00	12,446.00	13,971.25	12,017.00	70.61	67.23	65.70	-3,194.46	230.30	1,040.84	953.59	87.25	11.929				
14,700.00	12,446.00	14,071.25	12,017.00	71.83	68.53	65.71	-3,294.45	231.28	1,041.17	952.28	88.89	11.713				
14,800.00	12,446.00	14,171.25	12,017.00	73.06	69.84	65.72	-3,394.45	232.26	1,041.50	950.96	90.55	11.502				
14,900.00	12,446.00	14,271.25	12,017.00	74.32	71.17	65.73	-3,494.44	233.24	1,041.84	949.61	92.23	11.296				
15,000.00	12,446.00	14,371.25	12,017.00	75.58	72.50	65.73	-3,594.44	234.22	1,042.17	948.24	93.93	11.096				
15,100.00	12,446.00	14,471.25	12,017.00	76.87	73.86	65.74	-3,694.43	235.20	1,042.50	946.86	95.64	10.900				
15,200.00	12,446.00	14,571.24	12,017.00	78.16	75.22	65.75	-3,794.43	236.19	1,042.83	945.46	97.38	10.709				
15,300.00	12,446.00	14,671.24	12,017.00	79.47	76.59	65.76	-3,894.42	237.17	1,043.16	944.04	99.12	10.524				
15,400.00	12,446.00	14,771.24	12,017.00	80.79	77.98	65.77	-3,994.42	238.15	1,043.50	942.61	100.89	10.343				
15,500.00	12,446.00	14,871.24	12,017.00	82.13	79.37	65.78	-4,094.41	239.13	1,043.83	941.16	102.67	10.167				
15,600.00	12,446.00	14,971.24	12,017.00	83.47	80.78	65.78	-4,194.41	240.11	1,044.16	939.70	104.46	9.995				
15,700.00	12,446.00	15,071.24	12,017.00	84.83	82.19	65.79	-4,294.40	241.09	1,044.49	938.22	106.27	9.828				
15,800.00	12,446.00	15,171.24	12,017.00	86.20	83.62	65.80	-4,394.39	242.07	1,044.82	936.73	108.09	9.666				
15,900.00	12,446.00	15,271.24	12,017.00	87.57	85.05	65.81	-4,494.39	243.05	1,045.16	935.23	109.92	9.508				
16,000.00	12,446.00	15,371.24	12,017.00	88.96	86.49	65.82	-4,594.38	244.03	1,045.49	933.72	111.76	9.354				
16,100.00	12,446.00	15,471.24	12,017.00	90.35	87.93	65.82	-4,694.38	245.01	1,045.82	932.20	113.62	9.205				
16,200.00	12,446.00	15,571.24	12,017.00	91.76	89.39	65.83	-4,794.37	245.99	1,046.15	930.67	115.48	9.059				
16,300.00	12,446.00	15,671.24	12,017.00	93.17	90.85	65.84	-4,894.37	246.97	1,046.48	929.13	117.35	8.917				
16,400.00	12,446.00	15,771.24	12,017.00	94.59	92.31	65.85	-4,994.36	247.95	1,046.82	927.58	119.23	8.779				
16,500.00	12,446.00	15,871.24	12,017.00	96.02	93.79	65.86	-5,094.36	248.93	1,047.15	926.02	121.12	8.645				
16,600.00	12,446.00	15,971.24	12,017.00	97.45	95.26	65.86	-5,194.35	249.92	1,047.48	924.46	123.02	8.515				
16,700.00	12,446.00	16,071.23	12,017.00	98.89	96.75	65.87	-5,294.35	250.90	1,047.81	922.88	124.93	8.387				
16,800.00	12,446.00	16,171.23	12,017.00	100.34	98.24	65.88	-5,394.34	251.88	1,048.14	921.30	126.84	8.263				
16,900.00	12,446.00	16,271.23	12,017.00	101.79	99.73	65.89	-5,494.33	252.86	1,048.48	919.71	128.76	8.143				
17,000.00	12,446.00	16,371.23	12,017.00	103.25	101.23	65.90	-5,594.33	253.84	1,048.81	918.12	130.69	8.025				
17,100.00	12,446.00	16,471.23	12,017.00	104.72	102.74	65.91	-5,694.32	254.82	1,049.14	916.51	132.63	7.910				
17,200.00	12,446.00	16,571.23	12,017.00	106.19	104.25	65.91	-5,794.32	255.80	1,049.47	914.91	134.57	7.799				
17,300.00	12,446.00	16,671.23	12,017.00	107.66	105.76	65.92	-5,894.31	256.78	1,049.81	913.29	136.52	7.690				
17,400.00	12,446.00	16,771.23	12,017.00	109.15	107.28	65.93	-5,994.31	257.76	1,050.14	911.67	138.47	7.584				
17,500.00	12,446.00	16,871.23	12,017.00	110.63	108.80	65.94	-6,094.30	258.74	1,050.47	910.05	140.42	7.481				
17,600.00	12,446.00	16,971.23	12,017.00	112.12	110.32	65.95	-6,194.30	259.72	1,050.80	908.42	142.39	7.380				
17,700.00	12,446.00	17,071.23	12,017.00	113.62	111.85	65.95	-6,294.29	260.70	1,051.14	906.78	144.35	7.282				
17,800.00	12,446.00	17,171.23	12,017.00	115.12	113.38	65.96	-6,394.29	261.68	1,051.47	905.14	146.33	7.186				
17,900.00	12,446.00	17,271.23	12,017.00	116.62	114.92	65.97	-6,494.28	262.67	1,051.80	903.50	148.30	7.092				
18,000.00	12,446.00	17,371.23	12,017.00	118.13	116.46	65.98	-6,594.27	263.65	1,052.13	901.85	150.28	7.001				
18,100.00	12,446.00	17,471.23	12,017.00	119.64	118.00	65.99	-6,694.27	264.63	1,052.47	900.20	152.27	6.912				
18,200.00	12,446.00	17,571.22	12,017.00	121.16	119.54	65.99	-6,794.26	265.61	1,052.80	898.54	154.26	6.825				
18,300.00	12,446.00	17,671.22	12,017.00	122.67	121.09	66.00	-6,894.26	266.59	1,053.13	896.88	156.25	6.740				
18,400.00	12,446.00	17,771.22	12,017.00	124.20	122.64	66.01	-6,994.25	267.57	1,053.46	895.22	158.25	6.657				
18,500.00	12,446.00	17,871.22	12,017.00	125.72	124.19	66.02	-7,094.25	268.55	1,053.80	893.55	160.25	6.576				
18,600.00	12,446.00	17,971.22	12,017.00	127.25	125.75	66.03	-7,194.24	269.53	1,054.13	891.88	162.25	6.497				
18,700.00	12,446.00	18,071.22	12,017.00	128.78	127.30	66.03	-7,294.24	270.51	1,054.46	890.21	164.25	6.420				
18,800.00	12,446.00	18,171.22	12,017.00	130.32	128.86	66.04	-7,394.23	271.49	1,054.79	888.53	166.26	6.344				
18,900.00	12,446.00	18,271.22	12,017.00	131.86	130.43	66.05	-7,494.23	272.47	1,055.13	886.85	168.28	6.270				

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 602H - OH - Plan #1		Offset Site Error:		0.00 usft
Survey Program: 0-OWSG (Rev2) MWD															Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis			Distance										
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning				
19,000.00	12,446.00	18,371.22	12,017.00	133.40	131.99	66.06	-7,594.22	273.45	1,055.46	885.17	170.29	6.198					
19,100.00	12,446.00	18,471.22	12,017.00	134.94	133.56	66.07	-7,694.21	274.43	1,055.79	883.48	172.31	6.127					
19,200.00	12,446.00	18,571.22	12,017.00	136.48	135.12	66.07	-7,794.21	275.42	1,056.12	881.80	174.33	6.058					
19,300.00	12,446.00	18,671.22	12,017.00	138.03	136.69	66.08	-7,894.20	276.40	1,056.46	880.11	176.35	5.991					
19,400.00	12,446.00	18,771.22	12,017.00	139.58	138.27	66.09	-7,994.20	277.38	1,056.79	878.41	178.38	5.925					
19,500.00	12,446.00	18,871.22	12,017.00	141.14	139.84	66.10	-8,094.19	278.36	1,057.12	876.72	180.40	5.860					
19,600.00	12,446.00	18,971.22	12,017.00	142.69	141.42	66.11	-8,194.19	279.34	1,057.46	875.03	182.43	5.796					
19,700.00	12,446.00	19,071.21	12,017.00	144.25	142.99	66.11	-8,294.18	280.32	1,057.79	873.33	184.46	5.734					
19,800.00	12,446.00	19,171.21	12,017.00	145.81	144.57	66.12	-8,394.18	281.30	1,058.12	871.63	186.50	5.674					
19,900.00	12,446.00	19,271.21	12,017.00	147.37	146.15	66.13	-8,494.17	282.28	1,058.45	869.92	188.53	5.614					
20,000.00	12,446.00	19,371.21	12,017.00	148.93	147.74	66.14	-8,594.17	283.26	1,058.79	868.22	190.57	5.556					
20,100.00	12,446.00	19,471.21	12,017.00	150.50	149.32	66.15	-8,694.16	284.24	1,059.12	866.51	192.61	5.499					
20,200.00	12,446.00	19,571.21	12,017.00	152.06	150.91	66.15	-8,794.15	285.22	1,059.45	864.81	194.65	5.443					
20,300.00	12,446.00	19,671.21	12,017.00	153.63	152.49	66.16	-8,894.15	286.20	1,059.79	863.10	196.69	5.388					
20,400.00	12,446.00	19,771.21	12,017.00	155.20	154.08	66.17	-8,994.14	287.18	1,060.12	861.39	198.73	5.334					
20,500.00	12,446.00	19,871.21	12,017.00	156.77	155.67	66.18	-9,094.14	288.16	1,060.45	859.67	200.78	5.282					
20,600.00	12,446.00	19,971.21	12,017.00	158.35	157.26	66.19	-9,194.13	289.15	1,060.79	857.96	202.82	5.230					
20,700.00	12,446.00	20,071.21	12,017.00	159.92	158.85	66.19	-9,294.13	290.13	1,061.12	856.25	204.87	5.179					
20,800.00	12,446.00	20,171.21	12,017.00	161.50	160.45	66.20	-9,394.12	291.11	1,061.45	854.53	206.92	5.130					
20,900.00	12,446.00	20,271.21	12,017.00	163.08	162.04	66.21	-9,494.12	292.09	1,061.78	852.81	208.97	5.081					
21,000.00	12,446.00	20,371.21	12,017.00	164.66	163.63	66.22	-9,594.11	293.07	1,062.12	851.09	211.02	5.033					
21,100.00	12,446.00	20,471.21	12,017.00	166.24	165.23	66.23	-9,694.10	294.05	1,062.45	849.38	213.07	4.986					
21,200.00	12,446.00	20,571.21	12,017.00	167.82	166.83	66.23	-9,794.10	295.03	1,062.78	847.66	215.13	4.940					
21,300.00	12,446.00	20,671.20	12,017.00	169.41	168.43	66.24	-9,894.09	296.01	1,063.12	845.93	217.18	4.895					
21,400.00	12,446.00	20,771.20	12,017.00	170.99	170.03	66.25	-9,994.09	296.99	1,063.45	844.21	219.24	4.851					
21,500.00	12,446.00	20,871.20	12,017.00	172.58	171.63	66.26	-10,094.08	297.97	1,063.78	842.49	221.30	4.807					
21,600.00	12,446.00	20,971.20	12,017.00	174.17	173.23	66.27	-10,194.08	298.95	1,064.12	840.76	223.35	4.764					
21,700.00	12,446.00	21,071.20	12,017.00	175.76	174.83	66.27	-10,294.07	299.93	1,064.45	839.04	225.41	4.722					
21,800.00	12,446.00	21,171.20	12,017.00	177.35	176.44	66.28	-10,394.07	300.91	1,064.78	837.31	227.47	4.681					
21,900.00	12,446.00	21,271.20	12,017.00	178.94	178.04	66.29	-10,494.06	301.90	1,065.12	835.58	229.53	4.640					
22,000.00	12,446.00	21,371.20	12,017.00	180.53	179.64	66.30	-10,594.06	302.88	1,065.45	833.85	231.60	4.600					
22,100.00	12,446.00	21,471.20	12,017.00	182.12	181.25	66.31	-10,694.05	303.86	1,065.78	832.13	233.66	4.561					
22,200.00	12,446.00	21,571.20	12,017.00	183.72	182.86	66.31	-10,794.04	304.84	1,066.12	830.40	235.72	4.523					
22,300.00	12,446.00	21,671.20	12,017.00	185.31	184.46	66.32	-10,894.04	305.82	1,066.45	828.67	237.78	4.485					
22,400.00	12,446.00	21,771.20	12,017.00	186.91	186.07	66.33	-10,994.03	306.80	1,066.78	826.94	239.85	4.448					
22,500.00	12,446.00	21,871.20	12,017.00	188.51	187.68	66.34	-11,094.03	307.78	1,067.12	825.20	241.91	4.411					
22,600.00	12,446.00	21,971.20	12,017.00	190.11	189.29	66.34	-11,194.02	308.76	1,067.45	823.47	243.98	4.375					
22,700.00	12,446.00	22,071.20	12,017.00	191.71	190.90	66.35	-11,294.02	309.74	1,067.78	821.74	246.04	4.340					
22,800.00	12,446.00	22,171.19	12,017.00	193.31	192.51	66.36	-11,394.01	310.72	1,068.12	820.01	248.11	4.305					
22,817.13	12,446.00	22,187.30	12,017.00	193.58	192.77	66.36	-11,410.12	310.88	1,068.17	819.74	248.43	4.300 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 603H - OH - Plan #1		Offset Site Error:		0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:		0.00 usft		
Reference		Offset		Semi Major Axis			Distance										
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	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	0.10	0.10	0.00	0.00	89.47	0.23	25.00	25.00								
100.00	100.00	100.10	100.10	0.13	0.13	89.47	0.23	25.00	25.00	24.82	0.18	140.702					
200.00	200.00	200.10	200.10	0.48	0.48	89.47	0.23	25.00	25.00	24.32	0.68	36.517					
300.00	300.00	300.10	300.10	0.84	0.84	89.47	0.23	25.00	25.00	23.81	1.19	20.981					
400.00	400.00	400.10	400.10	1.20	1.20	89.47	0.23	25.00	25.00	23.30	1.70	14.719					
500.00	500.00	500.10	500.10	1.56	1.56	89.47	0.23	25.00	25.00	22.80	2.21	11.336					
600.00	600.00	600.10	600.10	1.92	1.92	89.47	0.23	25.00	25.00	22.29	2.71	9.217					
700.00	700.00	700.10	700.10	2.28	2.28	89.47	0.23	25.00	25.00	21.78	3.22	7.766					
800.00	800.00	800.10	800.10	2.63	2.64	89.47	0.23	25.00	25.00	21.27	3.73	6.709					
900.00	900.00	900.10	900.10	2.99	2.99	89.47	0.23	25.00	25.00	20.77	4.23	5.906					
1,000.00	1,000.00	1,000.10	1,000.10	3.35	3.35	89.47	0.23	25.00	25.00	20.26	4.74	5.274					
1,100.00	1,100.00	1,100.10	1,100.10	3.71	3.71	89.47	0.23	25.00	25.00	19.75	5.25	4.765					
1,200.00	1,200.00	1,200.10	1,200.10	4.07	4.07	89.47	0.23	25.00	25.00	19.25	5.75	4.345					
1,300.00	1,300.00	1,300.10	1,300.10	4.43	4.43	89.47	0.23	25.00	25.00	18.74	6.26	3.993					
1,400.00	1,400.00	1,400.10	1,400.10	4.79	4.79	89.47	0.23	25.00	25.00	18.23	6.77	3.694					
1,500.00	1,500.00	1,500.10	1,500.10	5.14	5.14	89.47	0.23	25.00	25.00	17.73	7.28	3.437					
1,600.00	1,600.00	1,600.10	1,600.10	5.50	5.50	89.47	0.23	25.00	25.00	17.22	7.78	3.213					
1,700.00	1,700.00	1,700.10	1,700.10	5.86	5.86	89.47	0.23	25.00	25.00	16.71	8.29	3.016					
1,800.00	1,800.00	1,800.10	1,800.10	6.22	6.22	89.47	0.23	25.00	25.00	16.21	8.80	2.842					
1,900.00	1,900.00	1,900.10	1,900.10	6.58	6.58	89.47	0.23	25.00	25.00	15.70	9.30	2.687					
2,000.00	2,000.00	2,000.10	2,000.10	6.94	6.94	89.47	0.23	25.00	25.00	15.19	9.81	2.549					
2,100.00	2,100.00	2,100.10	2,100.10	7.29	7.30	89.47	0.23	25.00	25.00	14.68	10.32	2.423					
2,200.00	2,200.00	2,200.10	2,200.10	7.65	7.65	89.47	0.23	25.00	25.00	14.18	10.82	2.310					
2,300.00	2,300.00	2,300.10	2,300.10	8.01	8.01	89.47	0.23	25.00	25.00	13.67	11.33	2.206					
2,400.00	2,400.00	2,400.10	2,400.10	8.37	8.37	89.47	0.23	25.00	25.00	13.16	11.84	2.112					
2,500.00	2,500.00	2,500.10	2,500.10	8.73	8.73	89.47	0.23	25.00	25.00	12.66	12.34	2.025					
2,600.00	2,600.00	2,600.10	2,600.10	9.09	9.09	89.47	0.23	25.00	25.00	12.15	12.85	1.945					
2,700.00	2,700.00	2,700.10	2,700.10	9.45	9.45	89.47	0.23	25.00	25.00	11.64	13.36	1.872					
2,800.00	2,800.00	2,800.10	2,800.10	9.80	9.80	89.47	0.23	25.00	25.00	11.14	13.87	1.803					
2,900.00	2,900.00	2,900.10	2,900.10	10.16	10.16	89.47	0.23	25.00	25.00	10.63	14.37	1.740					
3,000.00	3,000.00	3,000.10	3,000.10	10.52	10.52	89.47	0.23	25.00	25.00	10.12	14.88	1.680					
3,100.00	3,100.00	3,100.10	3,100.10	10.88	10.88	89.47	0.23	25.00	25.00	9.61	15.39	1.625					
3,116.63	3,116.63	3,116.73	3,116.73	10.94	10.94	89.47	0.23	25.00	25.00	9.53	15.47	1.616 CC					
3,200.00	3,200.00	3,200.00	3,200.00	11.24	11.24	89.47	0.23	25.00	25.00	9.11	15.89	1.573 ES, SF					
3,300.00	3,300.00	3,299.57	3,299.56	11.60	11.58	91.28	-0.58	26.01	26.03	9.64	16.38	1.589					
3,400.00	3,399.99	3,398.97	3,398.88	11.94	11.91	-37.67	-3.01	29.05	28.18	11.34	16.84	1.674					
3,500.00	3,499.91	3,498.29	3,497.99	12.27	12.24	-35.29	-7.04	34.09	30.48	13.21	17.27	1.765					
3,600.00	3,599.69	3,597.55	3,596.84	12.60	12.57	-33.48	-12.68	41.14	32.88	15.20	17.69	1.859					
3,700.00	3,699.27	3,696.75	3,695.35	12.94	12.91	-32.14	-19.92	50.19	35.38	17.28	18.10	1.955					
3,800.00	3,798.57	3,795.88	3,793.46	13.28	13.25	-31.20	-28.75	61.22	37.94	19.45	18.50	2.051					
3,900.00	3,897.54	3,894.94	3,891.11	13.62	13.60	-30.58	-39.15	74.23	40.57	21.68	18.89	2.148					
4,000.00	3,996.09	3,993.93	3,988.23	13.97	13.96	-30.22	-51.13	89.20	43.25	23.98	19.28	2.244					
4,100.00	4,094.16	4,092.86	4,084.76	14.33	14.33	-30.08	-64.66	106.12	45.98	26.32	19.66	2.339					
4,200.00	4,191.70	4,191.73	4,180.63	14.70	14.71	-30.13	-79.74	124.97	48.76	28.72	20.04	2.433					
4,300.00	4,288.62	4,290.54	4,275.78	15.08	15.10	-30.33	-96.36	145.74	51.58	31.16	20.42	2.526					
4,400.00	4,384.86	4,389.28	4,370.15	15.48	15.51	-30.65	-114.50	168.41	54.45	33.64	20.80	2.617					
4,500.00	4,480.36	4,488.42	4,464.19	15.89	15.94	-31.17	-134.13	192.95	57.21	35.96	21.25	2.693					
4,600.00	4,575.05	4,588.40	4,558.84	16.33	16.39	-32.75	-154.25	218.10	58.23	36.41	21.82	2.669					
4,674.25	4,644.79	4,662.62	4,629.10	16.66	16.73	-34.85	-169.18	236.76	57.61	35.34	22.27	2.587					
4,700.00	4,668.90	4,688.35	4,653.46	16.78	16.85	-35.73	-174.35	243.23	57.21	34.78	22.43	2.551					
4,800.00	4,762.49	4,788.28	4,748.07	17.26	17.33	-39.25	-194.46	268.36	55.79	32.70	23.09	2.416					
4,900.00	4,856.09	4,888.21	4,842.67	17.75	17.82	-42.95	-214.56	293.49	54.60	30.80	23.80	2.294					

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 603H - OH - Plan #1		Offset Site Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
5,000.00	4,949.69	4,988.14	4,937.28	18.25	18.31	-46.79	-234.66	318.62	53.64	29.09	24.55	2.185				
5,100.00	5,043.29	5,088.07	5,031.88	18.76	18.82	-50.76	-254.77	343.75	52.93	27.59	25.34	2.089				
5,200.00	5,136.88	5,188.00	5,126.49	19.29	19.33	-54.81	-274.87	368.88	52.49	26.31	26.18	2.005				
5,300.00	5,230.48	5,287.93	5,221.10	19.82	19.85	-58.92	-294.97	394.01	52.30	25.25	27.06	1.933				
5,317.16	5,246.54	5,305.08	5,237.33	19.92	19.94	-59.62	-298.43	398.32	52.30	25.09	27.21	1.922				
5,400.00	5,324.08	5,387.86	5,315.70	20.37	20.38	-63.02	-315.08	419.14	52.39	24.43	27.96	1.874				
5,500.00	5,417.68	5,487.79	5,410.31	20.93	20.92	-67.10	-335.18	444.27	52.75	23.86	28.89	1.826				
5,600.00	5,511.27	5,587.72	5,504.91	21.49	21.46	-71.10	-355.29	469.39	53.37	23.54	29.83	1.789				
5,700.00	5,604.87	5,687.64	5,599.52	22.06	22.01	-74.99	-375.39	494.52	54.24	23.47	30.78	1.763				
5,800.00	5,698.47	5,787.57	5,694.12	22.64	22.56	-78.74	-395.49	519.65	55.36	23.65	31.71	1.746				
5,900.00	5,792.07	5,887.50	5,788.73	23.22	23.12	-82.33	-415.60	544.78	56.70	24.07	32.63	1.738				
6,000.00	5,885.66	5,987.43	5,883.34	23.81	23.69	-85.73	-435.70	569.91	58.25	24.73	33.52	1.738				
6,100.00	5,979.26	6,087.36	5,977.94	24.41	24.25	-88.96	-455.80	595.04	60.00	25.61	34.39	1.745				
6,200.00	6,072.86	6,187.29	6,072.55	25.01	24.83	-91.99	-475.91	620.17	61.93	26.70	35.23	1.758				
6,300.00	6,166.46	6,287.22	6,167.15	25.61	25.40	-94.83	-496.01	645.30	64.02	27.97	36.05	1.776				
6,400.00	6,260.05	6,387.15	6,261.76	26.22	25.98	-97.48	-516.11	670.43	66.26	29.42	36.84	1.798				
6,500.00	6,353.65	6,487.08	6,356.36	26.84	26.56	-99.96	-536.22	695.56	68.63	31.02	37.61	1.825				
6,600.00	6,447.25	6,587.01	6,450.97	27.45	27.15	-102.26	-556.32	720.69	71.12	32.76	38.36	1.854				
6,700.00	6,540.85	6,686.94	6,545.58	28.07	27.74	-104.41	-576.42	745.82	73.72	34.62	39.10	1.885				
6,800.00	6,634.44	6,786.87	6,640.18	28.70	28.33	-106.41	-596.53	770.95	76.41	36.60	39.82	1.919				
6,900.00	6,728.04	6,886.80	6,734.79	29.33	28.92	-108.27	-616.63	796.08	79.20	38.67	40.53	1.954				
7,000.00	6,821.64	6,986.73	6,829.39	29.96	29.51	-110.00	-636.74	821.21	82.05	40.83	41.22	1.990				
7,100.00	6,915.24	7,086.66	6,924.00	30.59	30.11	-111.62	-656.84	846.34	84.98	43.07	41.91	2.028				
7,200.00	7,008.83	7,186.59	7,018.60	31.23	30.71	-113.12	-676.94	871.47	87.97	45.38	42.60	2.065				
7,300.00	7,102.43	7,286.52	7,113.21	31.87	31.31	-114.53	-697.05	896.60	91.02	47.75	43.27	2.103				
7,400.00	7,196.03	7,386.44	7,207.82	32.51	31.92	-115.85	-717.15	921.72	94.12	50.18	43.95	2.142				
7,500.00	7,289.63	7,486.37	7,302.42	33.15	32.52	-117.08	-737.25	946.85	97.27	52.65	44.62	2.180				
7,600.00	7,383.22	7,586.30	7,397.03	33.80	33.13	-118.23	-757.36	971.98	100.46	55.17	45.28	2.218				
7,683.32	7,461.21	7,669.56	7,475.85	34.34	33.64	-119.13	-774.11	992.92	103.14	57.30	45.84	2.250				
7,700.00	7,476.83	7,686.23	7,491.63	34.44	33.74	-119.30	-777.46	997.11	103.67	57.71	45.95	2.256				
7,800.00	7,571.03	7,786.20	7,586.28	35.07	34.35	-119.53	-797.57	1,022.25	106.06	59.33	46.73	2.270				
7,900.00	7,666.07	7,886.17	7,680.92	35.68	34.96	-118.53	-817.68	1,047.39	107.17	59.50	47.67	2.248				
8,000.00	7,761.89	7,986.08	7,775.51	36.25	35.57	-116.29	-837.78	1,072.52	107.14	58.36	48.78	2.196				
8,100.00	7,858.43	8,085.86	7,869.97	36.80	36.19	-112.75	-857.86	1,097.61	106.23	56.18	50.05	2.122				
8,200.00	7,955.62	8,185.44	7,964.24	37.32	36.80	-107.83	-877.89	1,122.65	104.90	53.47	51.43	2.040				
8,300.00	8,053.39	8,284.75	8,058.26	37.81	37.41	-101.45	-897.87	1,147.62	103.80	51.00	52.80	1.966				
8,351.14	8,103.59	8,335.40	8,106.22	38.05	37.73	-97.63	-908.06	1,160.36	103.61	50.19	53.42	1.940				
8,400.00	8,151.68	8,383.72	8,151.96	38.27	38.03	-93.64	-917.78	1,172.51	103.83	49.91	53.92	1.926				
8,500.00	8,250.41	8,482.28	8,245.27	38.71	38.64	-84.67	-937.61	1,197.30	106.02	51.52	54.49	1.946				
8,600.00	8,349.53	8,580.38	8,338.14	39.11	39.24	-75.06	-957.34	1,221.97	111.40	57.08	54.32	2.051				
8,700.00	8,448.96	8,677.93	8,430.50	39.49	39.85	-65.53	-976.97	1,246.50	120.80	67.26	53.54	2.256				
8,800.00	8,548.63	8,774.88	8,522.28	39.84	40.45	-56.71	-996.47	1,270.88	134.60	82.11	52.48	2.565				
8,900.00	8,648.48	8,871.16	8,613.43	40.17	41.05	-48.98	-1,015.84	1,295.09	152.81	101.35	51.47	2.969				
9,000.00	8,748.44	8,994.11	8,732.97	40.46	41.68	-43.21	-1,033.16	1,316.74	167.82	116.54	51.29	3.272				
9,057.57	8,806.00	9,067.40	8,806.10	40.62	41.92	89.59	-1,035.77	1,320.00	170.00	118.97	51.03	3.331				
9,100.00	8,848.43	9,109.84	8,848.53	40.73	42.03	89.59	-1,035.77	1,320.00	170.00	118.80	51.21	3.320				
9,200.00	8,948.43	9,209.84	8,948.53	41.00	42.28	89.59	-1,035.77	1,320.00	170.00	118.39	51.62	3.293				
9,300.00	9,048.43	9,309.84	9,048.53	41.26	42.54	89.59	-1,035.77	1,320.00	170.00	117.97	52.03	3.267				
9,400.00	9,148.43	9,409.84	9,148.53	41.53	42.80	89.59	-1,035.77	1,320.00	170.00	117.56	52.45	3.241				
9,500.00	9,248.43	9,509.84	9,248.53	41.80	43.06	89.59	-1,035.77	1,320.00	170.00	117.14	52.86	3.216				
9,600.00	9,348.43	9,609.84	9,348.53	42.06	43.32	89.59	-1,035.77	1,320.00	170.00	116.72	53.28	3.191				
9,700.00	9,448.43	9,709.84	9,448.53	42.34	43.58	89.59	-1,035.77	1,320.00	170.00	116.30	53.70	3.166				

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 603H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
9,800.00	9,548.43	9,809.84	9,548.53	42.61	43.85	89.59	-1,035.77	1,320.00	170.00	115.88	54.12	3.141				
9,900.00	9,648.43	9,909.84	9,648.53	42.88	44.12	89.59	-1,035.77	1,320.00	170.00	115.46	54.54	3.117				
10,000.00	9,748.43	10,009.84	9,748.53	43.16	44.38	89.59	-1,035.77	1,320.00	170.00	115.04	54.97	3.093				
10,100.00	9,848.43	10,109.84	9,848.53	43.43	44.65	89.59	-1,035.77	1,320.00	170.00	114.61	55.39	3.069				
10,200.00	9,948.43	10,209.84	9,948.53	43.71	44.92	89.59	-1,035.77	1,320.00	170.00	114.18	55.82	3.046				
10,300.00	10,048.43	10,309.84	10,048.53	43.99	45.19	89.59	-1,035.77	1,320.00	170.00	113.76	56.25	3.022				
10,400.00	10,148.43	10,409.84	10,148.53	44.26	45.47	89.59	-1,035.77	1,320.00	170.00	113.33	56.68	3.000				
10,500.00	10,248.43	10,509.84	10,248.53	44.55	45.74	89.59	-1,035.77	1,320.00	170.00	112.90	57.11	2.977				
10,600.00	10,348.43	10,609.84	10,348.53	44.83	46.01	89.59	-1,035.77	1,320.00	170.00	112.47	57.54	2.955				
10,700.00	10,448.43	10,709.84	10,448.53	45.11	46.29	89.59	-1,035.77	1,320.00	170.00	112.03	57.97	2.933				
10,800.00	10,548.43	10,809.84	10,548.53	45.39	46.57	89.59	-1,035.77	1,320.00	170.00	111.60	58.41	2.911				
10,900.00	10,648.43	10,909.84	10,648.53	45.68	46.84	89.59	-1,035.77	1,320.00	170.00	111.16	58.84	2.889				
11,000.00	10,748.43	11,009.84	10,748.53	45.96	47.12	89.59	-1,035.77	1,320.00	170.00	110.73	59.28	2.868				
11,100.00	10,848.43	11,109.84	10,848.53	46.25	47.40	89.59	-1,035.77	1,320.00	170.00	110.29	59.71	2.847				
11,200.00	10,948.43	11,209.84	10,948.53	46.54	47.69	89.59	-1,035.77	1,320.00	170.00	109.85	60.15	2.826				
11,300.00	11,048.43	11,309.84	11,048.53	46.83	47.97	89.59	-1,035.77	1,320.00	170.00	109.41	60.59	2.806				
11,400.00	11,148.43	11,409.84	11,148.53	47.12	48.25	89.59	-1,035.77	1,320.00	170.00	108.97	61.03	2.785				
11,500.00	11,248.43	11,509.84	11,248.53	47.41	48.54	89.59	-1,035.77	1,320.00	170.00	108.53	61.47	2.765				
11,600.00	11,348.43	11,609.84	11,348.53	47.70	48.82	89.59	-1,035.77	1,320.00	170.00	108.09	61.92	2.746				
11,700.00	11,448.43	11,709.84	11,448.53	47.99	49.11	89.59	-1,035.77	1,320.00	170.00	107.64	62.36	2.726				
11,700.88	11,449.32	11,710.72	11,449.42	47.99	49.11	89.59	-1,035.77	1,320.00	170.00	107.64	62.36	2.726				
11,800.00	11,548.43	11,809.84	11,548.53	48.28	49.41	90.52	-1,038.53	1,320.03	170.03	107.38	62.66	2.714				
11,900.00	11,648.43	11,909.84	11,648.53	48.58	49.76	96.37	-1,055.99	1,320.20	171.35	109.04	62.30	2.750				
12,000.00	11,748.43	11,994.34	11,726.00	48.87	50.15	105.95	-1,085.71	1,320.49	178.74	117.11	61.63	2.900				
12,100.00	11,848.43	12,072.05	11,794.56	49.17	50.54	116.49	-1,122.14	1,320.84	198.37	137.78	60.59	3.274				
12,124.61	11,873.04	12,089.44	11,809.19	49.24	50.63	118.95	-1,131.55	1,320.94	205.54	145.29	60.25	3.412				
12,150.00	11,898.42	12,106.94	11,823.62	49.32	50.72	-57.18	-1,141.46	1,321.03	213.67	153.80	59.87	3.569				
12,200.00	11,948.22	12,140.88	11,850.69	49.49	50.91	-51.68	-1,161.90	1,321.23	230.69	171.60	59.08	3.904				
12,250.00	11,997.43	12,174.20	11,876.06	49.67	51.10	-46.95	-1,183.50	1,321.44	248.46	190.23	58.23	4.267				
12,300.00	12,045.71	12,206.99	11,899.76	49.88	51.29	-42.93	-1,206.17	1,321.67	266.45	209.12	57.32	4.648				
12,350.00	12,092.66	12,239.33	11,921.82	50.11	51.49	-39.51	-1,229.81	1,321.90	284.23	227.86	56.37	5.042				
12,400.00	12,137.95	12,271.28	11,942.27	50.35	51.69	-36.61	-1,254.35	1,322.14	301.50	246.10	55.39	5.443				
12,450.00	12,181.22	12,300.00	11,959.45	50.62	51.87	-34.28	-1,277.35	1,322.36	318.03	263.79	54.24	5.863				
12,500.00	12,222.15	12,334.21	11,978.39	50.89	52.10	-32.09	-1,305.83	1,322.64	333.59	280.16	53.43	6.243				
12,550.00	12,260.41	12,365.27	11,994.09	51.18	52.31	-30.35	-1,332.63	1,322.90	348.08	295.59	52.48	6.632				
12,600.00	12,295.73	12,400.00	12,009.90	51.49	52.55	-28.78	-1,363.54	1,323.21	361.40	309.63	51.77	6.981				
12,650.00	12,327.84	12,426.78	12,020.78	51.81	52.73	-27.64	-1,388.01	1,323.44	373.37	322.61	50.76	7.356				
12,700.00	12,356.48	12,450.00	12,029.29	52.14	52.90	-26.73	-1,409.61	1,323.66	384.10	334.38	49.73	7.724				
12,750.00	12,381.44	12,487.65	12,041.21	52.48	53.17	-25.77	-1,445.32	1,324.01	393.19	343.83	49.36	7.966				
12,800.00	12,402.53	12,517.91	12,049.07	52.84	53.39	-25.10	-1,474.54	1,324.29	400.90	352.08	48.82	8.211				
12,850.00	12,419.60	12,550.00	12,055.70	53.20	53.63	-24.56	-1,505.92	1,324.60	407.11	358.64	48.46	8.400				
12,900.00	12,432.50	12,578.20	12,060.08	53.57	53.84	-24.18	-1,533.78	1,324.87	411.74	363.58	48.16	8.549				
12,950.00	12,441.15	12,600.00	12,062.52	53.95	54.01	-23.95	-1,555.44	1,325.08	414.95	366.97	47.98	8.649				
13,000.00	12,445.47	12,638.30	12,064.80	54.34	54.30	-23.80	-1,593.66	1,325.46	416.30	368.18	48.12	8.652				
13,024.61	12,446.00	12,653.34	12,065.00	54.53	54.42	-23.78	-1,608.70	1,325.60	416.45	368.23	48.21	8.638				
13,100.00	12,446.00	12,728.30	12,065.00	55.13	55.01	-23.74	-1,683.65	1,326.34	416.34	367.74	48.59	8.568				
13,200.00	12,446.00	12,828.30	12,065.00	55.95	55.82	-23.70	-1,783.65	1,327.31	416.19	367.07	49.12	8.473				
13,300.00	12,446.00	12,928.30	12,065.00	56.81	56.68	-23.65	-1,883.64	1,328.29	416.04	366.37	49.67	8.375				
13,400.00	12,446.00	13,028.30	12,065.00	57.70	57.57	-23.60	-1,983.64	1,329.27	415.89	365.64	50.25	8.276				
13,500.00	12,446.00	13,128.30	12,065.00	58.63	58.49	-23.56	-2,083.63	1,330.25	415.75	364.90	50.85	8.176				
13,600.00	12,446.00	13,228.30	12,065.00	59.59	59.44	-23.51	-2,183.63	1,331.23	415.60	364.13	51.47	8.074				
13,700.00	12,446.00	13,328.29	12,065.00	60.58	60.42	-23.46	-2,283.62	1,332.20	415.45	363.34	52.12	7.972				

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design		Tatanka Fed Com - Tatanka Fed Com 603H - OH - Plan #1											Offset Site Error:	0.00 usft
Survey Program:		0-OWSG (Rev2) MWD											Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
13,800.00	12,446.00	13,428.29	12,065.00	61.60	61.44	-23.42	-2,383.61	1,333.18	415.31	362.53	52.78	7.869		
13,900.00	12,446.00	13,528.29	12,065.00	62.64	62.48	-23.37	-2,483.61	1,334.16	415.16	361.70	53.46	7.766		
14,000.00	12,446.00	13,628.29	12,065.00	63.71	63.54	-23.32	-2,583.60	1,335.14	415.02	360.86	54.16	7.663		
14,100.00	12,446.00	13,728.29	12,065.00	64.81	64.63	-23.28	-2,683.60	1,336.11	414.87	359.99	54.88	7.560		
14,200.00	12,446.00	13,828.29	12,065.00	65.92	65.75	-23.23	-2,783.59	1,337.09	414.73	359.11	55.61	7.457		
14,300.00	12,446.00	13,928.29	12,065.00	67.07	66.88	-23.18	-2,883.59	1,338.07	414.58	358.22	56.36	7.355		
14,400.00	12,446.00	14,028.29	12,065.00	68.23	68.04	-23.14	-2,983.58	1,339.05	414.44	357.31	57.13	7.255		
14,500.00	12,446.00	14,128.29	12,065.00	69.41	69.22	-23.09	-3,083.58	1,340.03	414.29	356.39	57.91	7.155		
14,600.00	12,446.00	14,228.29	12,065.00	70.61	70.42	-23.05	-3,183.57	1,341.00	414.15	355.45	58.70	7.056		
14,700.00	12,446.00	14,328.29	12,065.00	71.83	71.63	-23.00	-3,283.57	1,341.98	414.01	354.50	59.50	6.958		
14,800.00	12,446.00	14,428.29	12,065.00	73.06	72.87	-22.95	-3,383.56	1,342.96	413.86	353.54	60.32	6.861		
14,900.00	12,446.00	14,528.29	12,065.00	74.32	74.11	-22.90	-3,483.55	1,343.94	413.72	352.57	61.15	6.766		
15,000.00	12,446.00	14,628.29	12,065.00	75.58	75.38	-22.86	-3,583.55	1,344.92	413.58	351.59	61.99	6.672		
15,100.00	12,446.00	14,728.29	12,065.00	76.87	76.66	-22.81	-3,683.54	1,345.89	413.44	350.60	62.83	6.580		
15,200.00	12,446.00	14,828.28	12,065.00	78.16	77.95	-22.76	-3,783.54	1,346.87	413.29	349.60	63.69	6.489		
15,300.00	12,446.00	14,928.28	12,065.00	79.47	79.26	-22.72	-3,883.53	1,347.85	413.15	348.59	64.56	6.399		
15,400.00	12,446.00	15,028.28	12,065.00	80.79	80.58	-22.67	-3,983.53	1,348.83	413.01	347.57	65.44	6.312		
15,500.00	12,446.00	15,128.28	12,065.00	82.13	81.91	-22.62	-4,083.52	1,349.81	412.87	346.55	66.32	6.225		
15,600.00	12,446.00	15,228.28	12,065.00	83.47	83.25	-22.58	-4,183.52	1,350.78	412.73	345.52	67.21	6.141		
15,700.00	12,446.00	15,328.28	12,065.00	84.83	84.61	-22.53	-4,283.51	1,351.76	412.59	344.48	68.11	6.058		
15,800.00	12,446.00	15,428.28	12,065.00	86.20	85.97	-22.48	-4,383.51	1,352.74	412.45	343.43	69.02	5.976		
15,900.00	12,446.00	15,528.28	12,065.00	87.57	87.35	-22.44	-4,483.50	1,353.72	412.31	342.38	69.93	5.896		
16,000.00	12,446.00	15,628.28	12,065.00	88.96	88.73	-22.39	-4,583.49	1,354.69	412.17	341.32	70.85	5.818		
16,100.00	12,446.00	15,728.28	12,065.00	90.35	90.12	-22.34	-4,683.49	1,355.67	412.03	340.25	71.77	5.741		
16,200.00	12,446.00	15,828.28	12,065.00	91.76	91.53	-22.29	-4,783.48	1,356.65	411.89	339.19	72.70	5.665		
16,300.00	12,446.00	15,928.28	12,065.00	93.17	92.94	-22.25	-4,883.48	1,357.63	411.75	338.11	73.64	5.592		
16,400.00	12,446.00	16,028.28	12,065.00	94.59	94.35	-22.20	-4,983.47	1,358.61	411.61	337.03	74.58	5.519		
16,500.00	12,446.00	16,128.28	12,065.00	96.02	95.78	-22.15	-5,083.47	1,359.58	411.47	335.95	75.52	5.448		
16,600.00	12,446.00	16,228.28	12,065.00	97.45	97.21	-22.10	-5,183.46	1,360.56	411.33	334.86	76.47	5.379		
16,700.00	12,446.00	16,328.27	12,065.00	98.89	98.65	-22.06	-5,283.46	1,361.54	411.20	333.77	77.43	5.311		
16,800.00	12,446.00	16,428.27	12,065.00	100.34	100.10	-22.01	-5,383.45	1,362.52	411.06	332.67	78.38	5.244		
16,900.00	12,446.00	16,528.27	12,065.00	101.79	101.55	-21.96	-5,483.45	1,363.50	410.92	331.57	79.35	5.179		
17,000.00	12,446.00	16,628.27	12,065.00	103.25	103.01	-21.91	-5,583.44	1,364.47	410.78	330.47	80.31	5.115		
17,100.00	12,446.00	16,728.27	12,065.00	104.72	104.47	-21.87	-5,683.43	1,365.45	410.65	329.37	81.28	5.052		
17,200.00	12,446.00	16,828.27	12,065.00	106.19	105.94	-21.82	-5,783.43	1,366.43	410.51	328.26	82.25	4.991		
17,300.00	12,446.00	16,928.27	12,065.00	107.66	107.42	-21.77	-5,883.42	1,367.41	410.37	327.15	83.23	4.931		
17,400.00	12,446.00	17,028.27	12,065.00	109.15	108.90	-21.72	-5,983.42	1,368.38	410.24	326.04	84.20	4.872		
17,500.00	12,446.00	17,128.27	12,065.00	110.63	110.38	-21.68	-6,083.41	1,369.36	410.10	324.92	85.18	4.814		
17,600.00	12,446.00	17,228.27	12,065.00	112.12	111.87	-21.63	-6,183.41	1,370.34	409.97	323.80	86.17	4.758		
17,700.00	12,446.00	17,328.27	12,065.00	113.62	113.37	-21.58	-6,283.40	1,371.32	409.83	322.68	87.15	4.703		
17,800.00	12,446.00	17,428.27	12,065.00	115.12	114.86	-21.53	-6,383.40	1,372.30	409.70	321.56	88.14	4.648		
17,900.00	12,446.00	17,528.27	12,065.00	116.62	116.37	-21.49	-6,483.39	1,373.27	409.56	320.43	89.13	4.595		
18,000.00	12,446.00	17,628.27	12,065.00	118.13	117.87	-21.44	-6,583.39	1,374.25	409.43	319.31	90.12	4.543		
18,100.00	12,446.00	17,728.27	12,065.00	119.64	119.38	-21.39	-6,683.38	1,375.23	409.29	318.18	91.11	4.492		
18,200.00	12,446.00	17,828.26	12,065.00	121.16	120.90	-21.34	-6,783.37	1,376.21	409.16	317.05	92.11	4.442		
18,300.00	12,446.00	17,928.26	12,065.00	122.67	122.42	-21.29	-6,883.37	1,377.19	409.03	315.92	93.11	4.393		
18,400.00	12,446.00	18,028.26	12,065.00	124.20	123.94	-21.25	-6,983.36	1,378.16	408.89	314.79	94.11	4.345		
18,500.00	12,446.00	18,128.26	12,065.00	125.72	125.46	-21.20	-7,083.36	1,379.14	408.76	313.65	95.11	4.298		
18,600.00	12,446.00	18,228.26	12,065.00	127.25	126.99	-21.15	-7,183.35	1,380.12	408.63	312.52	96.11	4.252		
18,700.00	12,446.00	18,328.26	12,065.00	128.78	128.52	-21.10	-7,283.35	1,381.10	408.50	311.38	97.11	4.206		
18,800.00	12,446.00	18,428.26	12,065.00	130.32	130.05	-21.06	-7,383.34	1,382.08	408.36	310.25	98.12	4.162		
18,900.00	12,446.00	18,528.26	12,065.00	131.86	131.59	-21.01	-7,483.34	1,383.05	408.23	309.11	99.13	4.118		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 603H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
19,000.00	12,446.00	18,628.26	12,065.00	133.40	133.13	-20.96	-7,583.33	1,384.03	408.10	307.97	100.13	4.076				
19,100.00	12,446.00	18,728.26	12,065.00	134.94	134.67	-20.91	-7,683.33	1,385.01	407.97	306.83	101.14	4.034				
19,200.00	12,446.00	18,828.26	12,065.00	136.48	136.22	-20.86	-7,783.32	1,385.99	407.84	305.69	102.15	3.992				
19,300.00	12,446.00	18,928.26	12,065.00	138.03	137.76	-20.81	-7,883.31	1,386.96	407.71	304.55	103.16	3.952				
19,400.00	12,446.00	19,028.26	12,065.00	139.58	139.31	-20.77	-7,983.31	1,387.94	407.58	303.40	104.18	3.912				
19,500.00	12,446.00	19,128.26	12,065.00	141.14	140.86	-20.72	-8,083.30	1,388.92	407.45	302.26	105.19	3.874				
19,600.00	12,446.00	19,228.25	12,065.00	142.69	142.42	-20.67	-8,183.30	1,389.90	407.32	301.12	106.20	3.835				
19,700.00	12,446.00	19,328.25	12,065.00	144.25	143.97	-20.62	-8,283.29	1,390.88	407.19	299.97	107.22	3.798				
19,800.00	12,446.00	19,428.25	12,065.00	145.81	145.53	-20.57	-8,383.29	1,391.85	407.06	298.83	108.23	3.761				
19,900.00	12,446.00	19,528.25	12,065.00	147.37	147.09	-20.52	-8,483.28	1,392.83	406.93	297.68	109.25	3.725				
20,000.00	12,446.00	19,628.25	12,065.00	148.93	148.66	-20.48	-8,583.28	1,393.81	406.80	296.54	110.27	3.689				
20,100.00	12,446.00	19,728.25	12,065.00	150.50	150.22	-20.43	-8,683.27	1,394.79	406.68	295.39	111.28	3.654				
20,200.00	12,446.00	19,828.25	12,065.00	152.06	151.79	-20.38	-8,783.27	1,395.77	406.55	294.24	112.30	3.620				
20,300.00	12,446.00	19,928.25	12,065.00	153.63	153.35	-20.33	-8,883.26	1,396.74	406.42	293.10	113.32	3.586				
20,400.00	12,446.00	20,028.25	12,065.00	155.20	154.92	-20.28	-8,983.25	1,397.72	406.29	291.95	114.34	3.553				
20,500.00	12,446.00	20,128.25	12,065.00	156.77	156.49	-20.23	-9,083.25	1,398.70	406.17	290.80	115.36	3.521				
20,600.00	12,446.00	20,228.25	12,065.00	158.35	158.07	-20.19	-9,183.24	1,399.68	406.04	289.66	116.38	3.489				
20,700.00	12,446.00	20,328.25	12,065.00	159.92	159.64	-20.14	-9,283.24	1,400.65	405.91	288.51	117.40	3.457				
20,800.00	12,446.00	20,428.25	12,065.00	161.50	161.22	-20.09	-9,383.23	1,401.63	405.79	287.36	118.43	3.426				
20,900.00	12,446.00	20,528.25	12,065.00	163.08	162.80	-20.04	-9,483.23	1,402.61	405.66	286.21	119.45	3.396				
21,000.00	12,446.00	20,628.25	12,065.00	164.66	164.37	-19.99	-9,583.22	1,403.59	405.53	285.06	120.47	3.366				
21,100.00	12,446.00	20,728.24	12,065.00	166.24	165.95	-19.94	-9,683.22	1,404.57	405.41	283.91	121.49	3.337				
21,200.00	12,446.00	20,828.24	12,065.00	167.82	167.54	-19.89	-9,783.21	1,405.54	405.28	282.77	122.52	3.308				
21,300.00	12,446.00	20,928.24	12,065.00	169.41	169.12	-19.84	-9,883.21	1,406.52	405.16	281.62	123.54	3.280				
21,400.00	12,446.00	21,028.24	12,065.00	170.99	170.70	-19.80	-9,983.20	1,407.50	405.04	280.47	124.57	3.252				
21,500.00	12,446.00	21,128.24	12,065.00	172.58	172.29	-19.75	-10,083.20	1,408.48	404.91	279.32	125.59	3.224				
21,600.00	12,446.00	21,228.24	12,065.00	174.17	173.88	-19.70	-10,183.19	1,409.46	404.79	278.17	126.62	3.197				
21,700.00	12,446.00	21,328.24	12,065.00	175.76	175.46	-19.65	-10,283.18	1,410.43	404.66	277.02	127.64	3.170				
21,800.00	12,446.00	21,428.24	12,065.00	177.35	177.05	-19.60	-10,383.18	1,411.41	404.54	275.87	128.67	3.144				
21,900.00	12,446.00	21,528.24	12,065.00	178.94	178.64	-19.55	-10,483.17	1,412.39	404.42	274.72	129.69	3.118				
22,000.00	12,446.00	21,628.24	12,065.00	180.53	180.24	-19.50	-10,583.17	1,413.37	404.30	273.58	130.72	3.093				
22,100.00	12,446.00	21,728.24	12,065.00	182.12	181.83	-19.45	-10,683.16	1,414.35	404.17	272.43	131.75	3.068				
22,200.00	12,446.00	21,828.24	12,065.00	183.72	183.42	-19.40	-10,783.16	1,415.32	404.05	271.28	132.77	3.043				
22,300.00	12,446.00	21,928.24	12,065.00	185.31	185.02	-19.36	-10,883.15	1,416.30	403.93	270.13	133.80	3.019				
22,400.00	12,446.00	22,028.24	12,065.00	186.91	186.61	-19.31	-10,983.15	1,417.28	403.81	268.98	134.83	2.995				
22,500.00	12,446.00	22,128.24	12,065.00	188.51	188.21	-19.26	-11,083.14	1,418.26	403.69	267.83	135.85	2.971				
22,600.00	12,446.00	22,228.23	12,065.00	190.11	189.81	-19.21	-11,183.14	1,419.23	403.57	266.68	136.88	2.948				
22,700.00	12,446.00	22,328.23	12,065.00	191.71	191.40	-19.16	-11,283.13	1,420.21	403.45	265.54	137.91	2.925				
22,800.00	12,446.00	22,428.23	12,065.00	193.31	193.00	-19.11	-11,383.12	1,421.19	403.32	264.39	138.94	2.903				
22,817.13	12,446.00	22,445.36	12,065.00	193.58	193.28	-19.10	-11,400.25	1,421.36	403.30	264.19	139.11	2.899				

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	111.39	-992.61	2,533.59	2,721.44					
100.00	100.00	56.70	56.70	0.13	0.07	111.39	-992.61	2,533.59	2,721.09	2,720.95	0.14	N/A		
200.00	200.00	156.70	156.70	0.48	0.33	111.39	-992.61	2,533.59	2,721.09	2,720.51	0.59	4,651.268		
300.00	300.00	256.70	256.70	0.84	0.69	111.39	-992.61	2,533.59	2,721.09	2,720.01	1.09	2,502.975		
400.00	400.00	356.70	356.70	1.20	1.05	111.39	-992.61	2,533.59	2,721.09	2,719.50	1.59	1,708.874		
500.00	500.00	456.70	456.70	1.56	1.40	111.39	-992.61	2,533.59	2,721.09	2,719.00	2.10	1,296.764		
600.00	600.00	556.70	556.70	1.92	1.76	111.39	-992.61	2,533.59	2,721.09	2,718.49	2.60	1,044.659		
700.00	700.00	656.70	656.70	2.28	2.12	111.39	-992.61	2,533.59	2,721.09	2,717.98	3.11	874.571		
800.00	800.00	756.70	756.70	2.63	2.48	111.39	-992.61	2,533.59	2,721.09	2,717.48	3.62	752.093		
900.00	900.00	856.70	856.70	2.99	2.84	111.39	-992.61	2,533.59	2,721.09	2,716.97	4.12	659.694		
1,000.00	1,000.00	956.70	956.70	3.35	3.20	111.39	-992.61	2,533.59	2,721.09	2,716.46	4.63	587.509		
1,100.00	1,100.00	1,056.70	1,056.70	3.71	3.55	111.39	-992.61	2,533.59	2,721.09	2,715.96	5.14	529.560		
1,200.00	1,200.00	1,156.70	1,156.70	4.07	3.91	111.39	-992.61	2,533.59	2,721.09	2,715.45	5.65	482.014		
1,300.00	1,300.00	1,256.70	1,256.70	4.43	4.27	111.39	-992.61	2,533.59	2,721.09	2,714.94	6.15	442.302		
1,400.00	1,400.00	1,356.70	1,356.70	4.79	4.63	111.39	-992.61	2,533.59	2,721.09	2,714.44	6.66	408.634		
1,500.00	1,500.00	1,456.70	1,456.70	5.14	4.99	111.39	-992.61	2,533.59	2,721.09	2,713.93	7.17	379.729		
1,600.00	1,600.00	1,556.70	1,556.70	5.50	5.35	111.39	-992.61	2,533.59	2,721.09	2,713.42	7.67	354.642		
1,700.00	1,700.00	1,656.70	1,656.70	5.86	5.71	111.39	-992.61	2,533.59	2,721.09	2,712.91	8.18	332.664		
1,800.00	1,800.00	1,756.70	1,756.70	6.22	6.06	111.39	-992.61	2,533.59	2,721.09	2,712.41	8.69	313.251		
1,900.00	1,900.00	1,856.70	1,856.70	6.58	6.42	111.39	-992.61	2,533.59	2,721.09	2,711.90	9.19	295.979		
2,000.00	2,000.00	1,956.70	1,956.70	6.94	6.78	111.39	-992.61	2,533.59	2,721.09	2,711.39	9.70	280.512		
2,100.00	2,100.00	2,056.70	2,056.70	7.29	7.14	111.39	-992.61	2,533.59	2,721.09	2,710.89	10.21	266.581		
2,200.00	2,200.00	2,156.70	2,156.70	7.65	7.50	111.39	-992.61	2,533.59	2,721.09	2,710.38	10.71	253.968		
2,300.00	2,300.00	2,256.70	2,256.70	8.01	7.86	111.39	-992.61	2,533.59	2,721.09	2,709.87	11.22	242.495		
2,400.00	2,400.00	2,356.70	2,356.70	8.37	8.22	111.39	-992.61	2,533.59	2,721.09	2,709.37	11.73	232.014		
2,500.00	2,500.00	2,456.70	2,456.70	8.73	8.57	111.39	-992.61	2,533.59	2,721.09	2,708.86	12.24	222.401		
2,600.00	2,600.00	2,556.70	2,556.70	9.09	8.93	111.39	-992.61	2,533.59	2,721.09	2,708.35	12.74	213.553		
2,700.00	2,700.00	2,656.70	2,656.70	9.45	9.29	111.39	-992.61	2,533.59	2,721.09	2,707.85	13.25	205.382		
2,800.00	2,800.00	2,756.70	2,756.70	9.80	9.65	111.39	-992.61	2,533.59	2,721.09	2,707.34	13.76	197.813		
2,900.00	2,900.00	2,856.70	2,856.70	10.16	10.01	111.39	-992.61	2,533.59	2,721.09	2,706.83	14.26	190.782		
3,000.00	3,000.00	2,956.70	2,956.70	10.52	10.37	111.39	-992.61	2,533.59	2,721.09	2,706.32	14.77	184.234		
3,100.00	3,100.00	3,056.70	3,056.70	10.88	10.72	111.39	-992.61	2,533.59	2,721.09	2,705.82	15.28	178.120		
3,200.00	3,200.00	3,156.70	3,156.70	11.24	11.08	111.39	-992.61	2,533.59	2,721.09	2,705.31	15.78	172.399		
3,300.00	3,300.00	3,256.70	3,256.70	11.60	11.44	111.39	-992.61	2,533.59	2,721.09	2,704.80	16.29	167.034		
3,400.00	3,399.99	3,356.69	3,356.69	11.94	11.80	-20.66	-992.61	2,533.59	2,719.87	2,703.08	16.79	162.027		
3,500.00	3,499.91	3,433.51	3,433.51	12.27	12.07	-20.70	-992.63	2,533.74	2,716.44	2,699.23	17.21	157.831		
3,600.00	3,599.69	3,500.00	3,499.99	12.60	12.30	-20.77	-992.77	2,534.89	2,711.93	2,694.33	17.61	154.033		
3,700.00	3,699.27	3,551.77	3,551.73	12.94	12.48	-20.84	-992.98	2,536.58	2,706.45	2,688.50	17.96	150.709		
3,800.00	3,798.57	3,600.00	3,599.91	13.28	12.64	-20.93	-993.25	2,538.79	2,700.09	2,681.79	18.30	147.566		
3,900.00	3,897.54	3,671.92	3,671.69	13.62	12.89	-21.07	-993.80	2,543.19	2,692.72	2,674.02	18.70	144.011		
4,000.00	3,996.09	3,771.20	3,770.73	13.97	13.23	-21.29	-994.65	2,550.07	2,683.64	2,664.47	19.17	139.965		
4,100.00	4,094.16	3,870.15	3,869.44	14.33	13.57	-21.54	-995.50	2,556.93	2,672.17	2,652.52	19.65	135.983		
4,200.00	4,191.70	3,968.71	3,967.75	14.70	13.91	-21.82	-996.35	2,563.76	2,658.31	2,638.18	20.13	132.064		
4,300.00	4,288.62	4,066.80	4,065.61	15.08	14.26	-22.15	-997.19	2,570.56	2,642.09	2,621.48	20.61	128.204		
4,400.00	4,384.86	4,164.36	4,162.93	15.48	14.60	-22.51	-998.03	2,577.32	2,623.52	2,602.43	21.09	124.400		
4,500.00	4,480.36	4,261.32	4,259.66	15.89	14.94	-22.92	-998.86	2,584.04	2,602.64	2,581.07	21.57	120.648		
4,600.00	4,575.05	4,357.62	4,355.72	16.33	15.28	-23.37	-999.69	2,590.71	2,579.48	2,557.43	22.06	116.947		
4,674.25	4,644.79	4,428.65	4,426.58	16.66	15.53	-23.73	-1,000.30	2,595.63	2,560.83	2,538.41	22.42	114.228		
4,700.00	4,668.90	4,453.22	4,451.08	16.78	15.61	-23.82	-1,000.51	2,597.34	2,554.15	2,531.60	22.54	113.294		
4,800.00	4,762.49	4,548.60	4,546.23	17.26	15.95	-24.17	-1,001.33	2,603.95	2,528.26	2,505.22	23.04	109.756		
4,900.00	4,856.09	4,643.98	4,641.38	17.75	16.29	-24.53	-1,002.15	2,610.56	2,502.46	2,478.93	23.53	106.345		
5,000.00	4,949.69	4,739.37	4,736.53	18.25	16.63	-24.90	-1,002.96	2,617.17	2,476.76	2,452.73	24.03	103.055		

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.00	5,043.29	4,834.75	4,831.68	18.76	16.97	-25.27	-1,003.78	2,623.78	2,451.16	2,426.62	24.54	99.882		
5,200.00	5,136.88	4,930.13	4,926.83	19.29	17.31	-25.65	-1,004.60	2,630.39	2,425.66	2,400.61	25.05	96.821		
5,300.00	5,230.48	5,025.52	5,021.98	19.82	17.65	-26.04	-1,005.42	2,637.00	2,400.27	2,374.70	25.57	93.867		
5,400.00	5,324.08	5,120.90	5,117.13	20.37	17.99	-26.43	-1,006.24	2,643.61	2,374.98	2,348.89	26.09	91.016		
5,500.00	5,417.68	5,216.28	5,212.28	20.93	18.33	-26.84	-1,007.06	2,650.22	2,349.81	2,323.19	26.62	88.265		
5,600.00	5,511.27	5,311.67	5,307.43	21.49	18.68	-27.25	-1,007.88	2,656.83	2,324.75	2,297.60	27.16	85.608		
5,700.00	5,604.87	5,407.05	5,402.59	22.06	19.02	-27.67	-1,008.70	2,663.44	2,299.81	2,272.12	27.69	83.043		
5,800.00	5,698.47	5,502.43	5,497.74	22.64	19.37	-28.10	-1,009.52	2,670.05	2,274.99	2,246.76	28.24	80.565		
5,900.00	5,792.07	5,597.82	5,592.89	23.22	19.71	-28.54	-1,010.34	2,676.67	2,250.31	2,221.52	28.79	78.171		
6,000.00	5,885.66	5,693.20	5,688.04	23.81	20.06	-28.99	-1,011.16	2,683.28	2,225.75	2,196.41	29.34	75.857		
6,100.00	5,979.26	5,788.59	5,783.19	24.41	20.40	-29.45	-1,011.97	2,689.89	2,201.33	2,171.42	29.90	73.621		
6,200.00	6,072.86	5,883.97	5,878.34	25.01	20.75	-29.92	-1,012.79	2,696.50	2,177.04	2,146.58	30.47	71.458		
6,300.00	6,166.46	5,979.35	5,973.49	25.61	21.09	-30.40	-1,013.61	2,703.11	2,152.91	2,121.87	31.04	69.367		
6,400.00	6,260.05	6,074.74	6,068.64	26.22	21.44	-30.89	-1,014.43	2,709.72	2,128.92	2,097.31	31.61	67.345		
6,500.00	6,353.65	6,170.12	6,163.79	26.84	21.79	-31.39	-1,015.25	2,716.33	2,105.09	2,072.89	32.19	65.388		
6,600.00	6,447.25	6,265.50	6,258.94	27.45	22.14	-31.90	-1,016.07	2,722.94	2,081.42	2,048.64	32.78	63.494		
6,700.00	6,540.85	6,360.89	6,354.09	28.07	22.48	-32.42	-1,016.89	2,729.55	2,057.91	2,024.54	33.37	61.661		
6,800.00	6,634.44	6,456.27	6,449.24	28.70	22.83	-32.96	-1,017.71	2,736.16	2,034.58	2,000.60	33.97	59.886		
6,900.00	6,728.04	6,551.65	6,544.39	29.33	23.18	-33.50	-1,018.53	2,742.77	2,011.42	1,976.84	34.58	58.168		
7,000.00	6,821.64	6,647.04	6,639.54	29.96	23.53	-34.06	-1,019.35	2,749.38	1,988.45	1,953.26	35.19	56.504		
7,100.00	6,915.24	6,742.83	6,735.10	30.59	24.18	-35.16	-1,020.45	2,756.32	1,963.87	1,927.91	35.97	54.604		
7,200.00	7,008.83	6,838.28	6,830.53	31.23	24.69	-36.07	-1,020.61	2,759.59	1,935.31	1,898.66	36.65	52.811		
7,300.00	7,102.43	6,933.87	6,925.13	31.87	25.02	-36.68	-1,020.61	2,759.59	1,906.32	1,869.05	37.27	51.153		
7,400.00	7,196.03	7,029.47	7,020.73	32.51	25.35	-37.30	-1,020.61	2,759.59	1,877.54	1,839.65	37.89	49.546		
7,500.00	7,289.63	7,125.07	7,116.33	33.15	25.68	-37.95	-1,020.61	2,759.59	1,848.99	1,810.46	38.53	47.987		
7,600.00	7,383.22	7,220.67	7,211.92	33.80	26.00	-38.61	-1,020.61	2,759.59	1,820.67	1,781.50	39.18	46.475		
7,683.32	7,461.21	7,306.26	7,297.51	34.34	26.28	-39.18	-1,020.61	2,759.59	1,797.26	1,757.55	39.72	45.251		
7,700.00	7,476.83	7,401.28	7,392.53	34.44	26.33	-39.25	-1,020.61	2,759.59	1,792.62	1,752.80	39.83	45.010		
7,800.00	7,571.03	7,506.47	7,497.73	35.07	26.66	-39.66	-1,020.61	2,759.59	1,766.10	1,725.62	40.48	43.629		
7,900.00	7,666.07	7,601.51	7,592.77	35.68	27.00	-40.06	-1,020.61	2,759.59	1,741.74	1,700.61	41.13	42.351		
8,000.00	7,761.89	7,697.34	7,688.59	36.25	27.33	-40.44	-1,020.61	2,759.59	1,719.54	1,677.77	41.76	41.172		
8,100.00	7,858.43	7,793.88	7,785.13	36.80	27.67	-40.80	-1,020.61	2,759.59	1,699.45	1,657.06	42.39	40.087		
8,200.00	7,955.62	7,890.06	7,881.32	37.32	28.01	-41.13	-1,020.61	2,759.59	1,681.46	1,638.45	43.01	39.094		
8,300.00	8,053.39	8,017.83	8,009.09	37.81	28.36	-41.44	-1,020.61	2,759.59	1,665.54	1,621.93	43.61	38.188		
8,400.00	8,151.68	8,116.12	8,107.38	38.27	28.70	-41.72	-1,020.61	2,759.59	1,651.66	1,607.46	44.20	37.366		
8,500.00	8,250.41	8,214.86	8,206.11	38.71	29.05	-41.97	-1,020.61	2,759.59	1,639.79	1,595.02	44.77	36.623		
8,600.00	8,349.53	8,313.97	8,305.23	39.11	29.40	-42.18	-1,020.61	2,759.59	1,629.92	1,584.59	45.33	35.958		
8,700.00	8,448.96	8,413.40	8,404.66	39.49	29.75	-42.35	-1,020.61	2,759.59	1,622.02	1,576.15	45.86	35.366		
8,800.00	8,548.63	8,513.07	8,504.33	39.84	30.10	-42.48	-1,020.61	2,759.59	1,616.07	1,569.69	46.38	34.844		
8,900.00	8,648.48	8,612.92	8,604.18	40.17	30.45	-42.57	-1,020.61	2,759.59	1,612.07	1,565.19	46.88	34.389		
9,000.00	8,748.44	8,712.88	8,704.14	40.46	30.81	-42.62	-1,020.61	2,759.59	1,609.99	1,562.64	47.36	33.998		
9,057.57	8,806.00	8,770.44	8,762.70	40.62	31.01	89.42	-1,020.61	2,759.59	1,609.67	1,562.05	47.62	33.804		
9,100.00	8,848.43	8,812.88	8,805.13	40.73	31.16	89.42	-1,020.61	2,759.59	1,609.67	1,561.86	47.81	33.669		
9,200.00	8,948.43	8,912.88	8,905.13	41.00	31.51	89.42	-1,020.61	2,759.59	1,609.67	1,561.42	48.26	33.356		
9,300.00	9,048.43	9,012.88	9,005.13	41.26	31.87	89.42	-1,020.61	2,759.59	1,609.67	1,560.97	48.71	33.048		
9,400.00	9,148.43	9,112.88	9,105.13	41.53	32.22	89.42	-1,020.61	2,759.59	1,609.67	1,560.52	49.16	32.745		
9,500.00	9,248.43	9,212.88	9,205.13	41.80	32.57	89.42	-1,020.61	2,759.59	1,609.67	1,560.06	49.61	32.446		
9,600.00	9,348.43	9,312.88	9,305.13	42.06	32.93	89.42	-1,020.61	2,759.59	1,609.67	1,559.61	50.06	32.153		
9,700.00	9,448.43	9,412.88	9,405.13	42.34	33.28	89.42	-1,020.61	2,759.59	1,609.67	1,559.16	50.52	31.864		
9,800.00	9,548.43	9,512.88	9,505.13	42.61	33.63	89.42	-1,020.61	2,759.59	1,609.67	1,558.70	50.97	31.579		
9,900.00	9,648.43	9,612.88	9,605.13	42.88	33.99	89.42	-1,020.61	2,759.59	1,609.67	1,558.24	51.43	31.299		
10,000.00	9,748.43	9,712.88	9,705.13	43.16	34.34	89.42	-1,020.61	2,759.59	1,609.67	1,557.79	51.89	31.023		

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance								Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,100.00	9,848.43	9,812.88	9,805.13	43.43	34.69	89.42	-1,020.61	2,759.59	1,609.67	1,557.33	52.34	30.752		
10,200.00	9,948.43	9,912.88	9,905.13	43.71	35.05	89.42	-1,020.61	2,759.59	1,609.67	1,556.87	52.80	30.485		
10,300.00	10,048.43	10,012.88	10,005.13	43.99	35.40	89.42	-1,020.61	2,759.59	1,609.67	1,556.41	53.26	30.222		
10,400.00	10,148.43	10,112.88	10,105.13	44.26	35.76	89.42	-1,020.61	2,759.59	1,609.67	1,555.95	53.72	29.963		
10,500.00	10,248.43	10,212.88	10,205.13	44.55	36.11	89.42	-1,020.61	2,759.59	1,609.67	1,555.49	54.18	29.707		
10,600.00	10,348.43	10,312.88	10,305.13	44.83	36.47	89.42	-1,020.61	2,759.59	1,609.67	1,555.03	54.65	29.456		
10,700.00	10,448.43	10,412.88	10,405.13	45.11	36.82	89.42	-1,020.61	2,759.59	1,609.67	1,554.56	55.11	29.209		
10,800.00	10,548.43	10,512.88	10,505.13	45.39	37.17	89.42	-1,020.61	2,759.59	1,609.67	1,554.10	55.57	28.965		
10,900.00	10,648.43	10,612.88	10,605.13	45.68	37.53	89.42	-1,020.61	2,759.59	1,609.67	1,553.64	56.04	28.725		
11,000.00	10,748.43	10,712.88	10,705.13	45.96	37.88	89.42	-1,020.61	2,759.59	1,609.67	1,553.17	56.50	28.488		
11,100.00	10,848.43	10,812.88	10,805.13	46.25	38.24	89.42	-1,020.61	2,759.59	1,609.67	1,552.70	56.97	28.255		
11,200.00	10,948.43	10,912.88	10,905.13	46.54	38.59	89.42	-1,020.61	2,759.59	1,609.67	1,552.24	57.44	28.026		
11,300.00	11,048.43	11,012.88	11,005.13	46.83	38.95	89.42	-1,020.61	2,759.59	1,609.67	1,551.77	57.90	27.799		
11,400.00	11,148.43	11,112.88	11,105.13	47.12	39.30	89.42	-1,020.61	2,759.59	1,609.67	1,551.30	58.37	27.577		
11,500.00	11,248.43	11,212.88	11,205.13	47.41	39.66	89.42	-1,020.61	2,759.59	1,609.67	1,550.83	58.84	27.357		
11,600.00	11,348.43	11,312.88	11,305.13	47.70	40.01	89.42	-1,020.61	2,759.59	1,609.67	1,550.36	59.31	27.140		
11,673.63	11,422.06	11,386.51	11,378.76	47.91	40.27	89.44	-1,021.23	2,759.60	1,609.67	1,550.02	59.65	26.985 CC		
11,700.00	11,448.43	11,412.78	11,404.96	47.99	40.36	89.50	-1,023.06	2,759.61	1,609.67	1,549.91	59.77	26.933		
11,800.00	11,548.43	11,509.54	11,500.10	48.28	40.68	90.11	-1,040.07	2,759.78	1,609.79	1,549.63	60.16	26.758		
11,900.00	11,648.43	11,600.00	11,585.28	48.58	40.96	91.18	-1,070.23	2,760.08	1,610.54	1,550.03	60.51	26.616		
12,000.00	11,748.43	11,676.51	11,652.88	48.87	41.18	92.45	-1,105.94	2,760.43	1,612.75	1,551.92	60.83	26.514		
12,100.00	11,848.43	11,743.46	11,707.68	49.17	41.37	93.81	-1,144.34	2,760.80	1,617.31	1,556.21	61.10	26.470		
12,124.61	11,873.04	11,758.29	11,719.18	49.24	41.41	94.14	-1,153.69	2,760.89	1,618.89	1,557.73	61.16	26.470		
12,150.00	11,898.42	11,773.22	11,730.52	49.32	41.45	-84.57	-1,163.41	2,760.99	1,620.69	1,559.46	61.22	26.472		
12,200.00	11,948.22	11,800.00	11,750.21	49.49	41.53	-83.61	-1,181.56	2,761.17	1,624.52	1,563.17	61.35	26.479		
12,250.00	11,997.43	11,831.21	11,772.05	49.67	41.62	-82.56	-1,203.85	2,761.38	1,628.68	1,567.18	61.50	26.484		
12,300.00	12,045.71	11,859.80	11,790.96	49.88	41.70	-81.57	-1,225.28	2,761.59	1,633.07	1,571.42	61.65	26.488		
12,350.00	12,092.66	11,888.17	11,808.65	50.11	41.78	-80.60	-1,247.45	2,761.81	1,637.61	1,575.79	61.82	26.489		
12,400.00	12,137.95	11,916.35	11,825.11	50.35	41.87	-79.67	-1,270.32	2,762.04	1,642.21	1,580.21	62.00	26.486		
12,450.00	12,181.22	11,950.00	11,843.27	50.62	41.97	-78.70	-1,298.64	2,762.31	1,646.80	1,584.60	62.20	26.475		
12,500.00	12,222.15	11,972.24	11,854.35	50.89	42.04	-77.94	-1,317.93	2,762.50	1,651.26	1,588.85	62.41	26.460		
12,550.00	12,260.41	12,000.00	11,867.11	51.18	42.13	-77.16	-1,342.58	2,762.74	1,655.56	1,592.93	62.63	26.433		
12,600.00	12,295.73	12,027.65	11,878.61	51.49	42.22	-76.44	-1,367.71	2,762.99	1,659.61	1,596.73	62.88	26.395		
12,650.00	12,327.84	12,050.00	11,887.02	51.81	42.30	-75.83	-1,388.42	2,763.19	1,663.37	1,600.23	63.14	26.346		
12,700.00	12,356.48	12,082.70	11,897.85	52.14	42.41	-75.20	-1,419.27	2,763.49	1,666.74	1,603.31	63.43	26.278		
12,750.00	12,381.44	12,100.00	11,902.86	52.48	42.47	-74.77	-1,435.83	2,763.66	1,669.76	1,606.02	63.73	26.199		
12,800.00	12,402.53	12,137.51	11,912.00	52.84	42.60	-74.28	-1,472.20	2,764.01	1,672.21	1,608.14	64.07	26.098		
12,850.00	12,419.60	12,164.85	11,917.15	53.20	42.70	-73.94	-1,499.04	2,764.27	1,674.23	1,609.79	64.44	25.983		
12,900.00	12,432.50	12,200.00	11,921.88	53.57	42.82	-73.66	-1,533.87	2,764.62	1,675.76	1,610.94	64.82	25.853		
12,950.00	12,441.15	12,219.44	11,923.58	53.95	42.89	-73.53	-1,553.23	2,764.81	1,676.67	1,611.43	65.24	25.700		
13,000.00	12,445.47	12,250.00	11,924.91	54.34	43.01	-73.45	-1,583.76	2,765.10	1,677.07	1,611.40	65.67	25.537		
13,024.61	12,446.00	12,260.41	11,925.00	54.53	43.04	-73.45	-1,594.17	2,765.21	1,677.05	1,611.15	65.90	25.448		
13,100.00	12,446.00	12,335.80	11,925.00	55.13	43.34	-73.45	-1,669.55	2,765.94	1,676.79	1,610.22	66.56	25.191		
13,200.00	12,446.00	12,435.80	11,925.00	55.95	43.79	-73.44	-1,769.55	2,766.92	1,676.44	1,608.94	67.49	24.838		
13,300.00	12,446.00	12,535.80	11,925.00	56.81	44.28	-73.44	-1,869.54	2,767.90	1,676.09	1,607.60	68.49	24.473		
13,400.00	12,446.00	12,635.80	11,925.00	57.70	44.84	-73.44	-1,969.54	2,768.88	1,675.74	1,606.20	69.54	24.098		
13,500.00	12,446.00	12,735.80	11,925.00	58.63	45.44	-73.43	-2,069.53	2,769.86	1,675.39	1,604.74	70.65	23.715		
13,600.00	12,446.00	12,835.80	11,925.00	59.59	46.10	-73.43	-2,169.53	2,770.84	1,675.04	1,603.23	71.81	23.326		
13,700.00	12,446.00	12,935.80	11,925.00	60.58	46.80	-73.43	-2,269.52	2,771.82	1,674.69	1,601.66	73.02	22.933		
13,800.00	12,446.00	13,035.80	11,925.00	61.60	47.55	-73.42	-2,369.52	2,772.80	1,674.33	1,600.05	74.29	22.539		
13,900.00	12,446.00	13,135.80	11,925.00	62.64	48.35	-73.42	-2,469.51	2,773.78	1,673.98	1,598.39	75.59	22.144		
14,000.00	12,446.00	13,235.80	11,925.00	63.71	49.19	-73.42	-2,569.51	2,774.76	1,673.63	1,596.69	76.95	21.751		

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Tatanka Fed Com - Tatanka Fed Com 604H - OH - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,100.00	12,446.00	13,335.80	11,925.00	64.81	50.07	-73.41	-2,669.50	2,775.74	1,673.28	1,594.95	78.34	21.360		
14,200.00	12,446.00	13,435.80	11,925.00	65.92	50.99	-73.41	-2,769.49	2,776.71	1,672.93	1,593.16	79.77	20.972		
14,300.00	12,446.00	13,535.79	11,925.00	67.07	51.94	-73.40	-2,869.49	2,777.69	1,672.58	1,591.34	81.24	20.588		
14,400.00	12,446.00	13,635.79	11,925.00	68.23	52.93	-73.40	-2,969.48	2,778.67	1,672.23	1,589.49	82.75	20.209		
14,500.00	12,446.00	13,735.79	11,925.00	69.41	53.95	-73.40	-3,069.48	2,779.65	1,671.88	1,587.60	84.28	19.836		
14,600.00	12,446.00	13,835.79	11,925.00	70.61	55.00	-73.39	-3,169.47	2,780.63	1,671.53	1,585.68	85.85	19.469		
14,700.00	12,446.00	13,935.79	11,925.00	71.83	56.08	-73.39	-3,269.47	2,781.61	1,671.18	1,583.73	87.45	19.109		
14,800.00	12,446.00	14,035.79	11,925.00	73.06	57.19	-73.39	-3,369.46	2,782.59	1,670.83	1,581.75	89.08	18.756		
14,900.00	12,446.00	14,135.79	11,925.00	74.32	58.32	-73.38	-3,469.46	2,783.57	1,670.48	1,579.74	90.74	18.410		
15,000.00	12,446.00	14,235.79	11,925.00	75.58	59.48	-73.38	-3,569.45	2,784.55	1,670.13	1,577.71	92.42	18.071		
15,100.00	12,446.00	14,335.79	11,925.00	76.87	60.66	-73.38	-3,669.45	2,785.53	1,669.78	1,575.65	94.12	17.740		
15,200.00	12,446.00	14,435.79	11,925.00	78.16	61.86	-73.37	-3,769.44	2,786.51	1,669.43	1,573.58	95.85	17.417		
15,300.00	12,446.00	14,535.79	11,925.00	79.47	63.08	-73.37	-3,869.43	2,787.48	1,669.08	1,571.48	97.60	17.101		
15,400.00	12,446.00	14,635.79	11,925.00	80.79	64.32	-73.37	-3,969.43	2,788.46	1,668.73	1,569.36	99.37	16.793		
15,500.00	12,446.00	14,735.79	11,925.00	82.13	65.58	-73.36	-4,069.42	2,789.44	1,668.38	1,567.22	101.16	16.493		
15,600.00	12,446.00	14,835.79	11,925.00	83.47	66.86	-73.36	-4,169.42	2,790.42	1,668.03	1,565.07	102.96	16.201		
15,700.00	12,446.00	14,935.79	11,925.00	84.83	68.15	-73.35	-4,269.41	2,791.40	1,667.68	1,562.89	104.78	15.915		
15,800.00	12,446.00	15,035.78	11,925.00	86.20	69.46	-73.35	-4,369.41	2,792.38	1,667.33	1,560.70	106.62	15.637		
15,900.00	12,446.00	15,135.78	11,925.00	87.57	70.78	-73.35	-4,469.40	2,793.36	1,666.98	1,558.50	108.48	15.367		
16,000.00	12,446.00	15,235.78	11,925.00	88.96	72.12	-73.34	-4,569.40	2,794.34	1,666.63	1,556.28	110.35	15.103		
16,100.00	12,446.00	15,335.78	11,925.00	90.35	73.47	-73.34	-4,669.39	2,795.32	1,666.28	1,554.04	112.23	14.847		
16,200.00	12,446.00	15,435.78	11,925.00	91.76	74.83	-73.34	-4,769.39	2,796.30	1,665.93	1,551.80	114.13	14.597		
16,300.00	12,446.00	15,535.78	11,925.00	93.17	76.20	-73.33	-4,869.38	2,797.28	1,665.58	1,549.54	116.04	14.354		
16,400.00	12,446.00	15,635.78	11,925.00	94.59	77.58	-73.33	-4,969.37	2,798.25	1,665.22	1,547.27	117.96	14.117		
16,500.00	12,446.00	15,735.78	11,925.00	96.02	78.98	-73.33	-5,069.37	2,799.23	1,664.87	1,544.99	119.89	13.887		
16,600.00	12,446.00	15,835.78	11,925.00	97.45	80.38	-73.32	-5,169.36	2,800.21	1,664.52	1,542.69	121.83	13.663		
16,700.00	12,446.00	15,935.78	11,925.00	98.89	81.79	-73.32	-5,269.36	2,801.19	1,664.17	1,540.39	123.79	13.444		
16,800.00	12,446.00	16,035.78	11,925.00	100.34	83.21	-73.31	-5,369.35	2,802.17	1,663.82	1,538.07	125.75	13.231		
16,900.00	12,446.00	16,135.78	11,925.00	101.79	84.64	-73.31	-5,469.35	2,803.15	1,663.47	1,535.75	127.72	13.024		
17,000.00	12,446.00	16,235.78	11,925.00	103.25	86.08	-73.31	-5,569.34	2,804.13	1,663.12	1,533.42	129.70	12.823		
17,100.00	12,446.00	16,335.78	11,925.00	104.72	87.53	-73.30	-5,669.34	2,805.11	1,662.77	1,531.08	131.69	12.626		
17,200.00	12,446.00	16,435.78	11,925.00	106.19	88.98	-73.30	-5,769.33	2,806.09	1,662.42	1,528.73	133.69	12.435		
17,300.00	12,446.00	16,535.77	11,925.00	107.66	90.44	-73.30	-5,869.33	2,807.07	1,662.07	1,526.38	135.69	12.249		
17,400.00	12,446.00	16,635.77	11,925.00	109.15	91.90	-73.29	-5,969.32	2,808.05	1,661.72	1,524.02	137.71	12.067		
17,500.00	12,446.00	16,735.77	11,925.00	110.63	93.37	-73.29	-6,069.31	2,809.02	1,661.37	1,521.65	139.73	11.890		
17,600.00	12,446.00	16,835.77	11,925.00	112.12	94.85	-73.29	-6,169.31	2,810.00	1,661.02	1,519.27	141.75	11.718		
17,700.00	12,446.00	16,935.77	11,925.00	113.62	96.34	-73.28	-6,269.30	2,810.98	1,660.67	1,516.88	143.79	11.550		
17,800.00	12,446.00	17,035.77	11,925.00	115.12	97.82	-73.28	-6,369.30	2,811.96	1,660.32	1,514.50	145.83	11.386		
17,900.00	12,446.00	17,135.77	11,925.00	116.62	99.32	-73.28	-6,469.29	2,812.94	1,659.97	1,512.10	147.87	11.226		
18,000.00	12,446.00	17,235.77	11,925.00	118.13	100.82	-73.27	-6,569.29	2,813.92	1,659.62	1,509.70	149.92	11.070		
18,100.00	12,446.00	17,335.77	11,925.00	119.64	102.32	-73.27	-6,669.28	2,814.90	1,659.27	1,507.30	151.98	10.918		
18,200.00	12,446.00	17,435.77	11,925.00	121.16	103.83	-73.26	-6,769.28	2,815.88	1,658.92	1,504.88	154.04	10.770		
18,300.00	12,446.00	17,535.77	11,925.00	122.67	105.34	-73.26	-6,869.27	2,816.86	1,658.57	1,502.47	156.10	10.625		
18,400.00	12,446.00	17,635.77	11,925.00	124.20	106.86	-73.26	-6,969.27	2,817.84	1,658.22	1,500.05	158.17	10.484		
18,500.00	12,446.00	17,735.77	11,925.00	125.72	108.38	-73.25	-7,069.26	2,818.82	1,657.87	1,497.62	160.25	10.346		
18,600.00	12,446.00	17,835.77	11,925.00	127.25	109.90	-73.25	-7,169.25	2,819.79	1,657.52	1,495.19	162.32	10.211		
18,700.00	12,446.00	17,935.77	11,925.00	128.78	111.43	-73.25	-7,269.25	2,820.77	1,657.17	1,492.76	164.41	10.080		
18,800.00	12,446.00	18,035.76	11,925.00	130.32	112.96	-73.24	-7,369.24	2,821.75	1,656.82	1,490.32	166.50	9.951		
18,900.00	12,446.00	18,135.76	11,925.00	131.86	114.50	-73.24	-7,469.24	2,822.73	1,656.47	1,487.88	168.59	9.826		
19,000.00	12,446.00	18,235.76	11,925.00	133.40	116.03	-73.23	-7,569.23	2,823.71	1,656.12	1,485.44	170.68	9.703		
19,100.00	12,446.00	18,335.76	11,925.00	134.94	117.57	-73.23	-7,669.23	2,824.69	1,655.77	1,482.99	172.78	9.583		
19,200.00	12,446.00	18,435.76	11,925.00	136.48	119.12	-73.23	-7,769.22	2,825.67	1,655.42	1,480.54	174.88	9.466		

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 604H - OH - Plan #2		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD															Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
19,300.00	12,446.00	18,535.76	11,925.00	138.03	120.67	-73.22	-7,869.22	2,826.65	1,655.07	1,478.08	176.99	9.351				
19,400.00	12,446.00	18,635.76	11,925.00	139.58	122.22	-73.22	-7,969.21	2,827.63	1,654.72	1,475.62	179.10	9.239				
19,500.00	12,446.00	18,735.76	11,925.00	141.14	123.77	-73.22	-8,069.21	2,828.61	1,654.37	1,473.16	181.21	9.130				
19,600.00	12,446.00	18,835.76	11,925.00	142.69	125.32	-73.21	-8,169.20	2,829.59	1,654.02	1,470.70	183.32	9.023				
19,700.00	12,446.00	18,935.76	11,925.00	144.25	126.88	-73.21	-8,269.19	2,830.56	1,653.67	1,468.23	185.44	8.918				
19,800.00	12,446.00	19,035.76	11,925.00	145.81	128.44	-73.21	-8,369.19	2,831.54	1,653.32	1,465.76	187.56	8.815				
19,900.00	12,446.00	19,135.76	11,925.00	147.37	130.00	-73.20	-8,469.18	2,832.52	1,652.97	1,463.29	189.68	8.715				
20,000.00	12,446.00	19,235.76	11,925.00	148.93	131.56	-73.20	-8,569.18	2,833.50	1,652.62	1,460.82	191.80	8.616				
20,100.00	12,446.00	19,335.76	11,925.00	150.50	133.13	-73.19	-8,669.17	2,834.48	1,652.27	1,458.34	193.93	8.520				
20,200.00	12,446.00	19,435.76	11,925.00	152.06	134.70	-73.19	-8,769.17	2,835.46	1,651.92	1,455.86	196.06	8.426				
20,300.00	12,446.00	19,535.75	11,925.00	153.63	136.27	-73.19	-8,869.16	2,836.44	1,651.57	1,453.38	198.19	8.333				
20,400.00	12,446.00	19,635.75	11,925.00	155.20	137.84	-73.18	-8,969.16	2,837.42	1,651.22	1,450.90	200.32	8.243				
20,500.00	12,446.00	19,735.75	11,925.00	156.77	139.41	-73.18	-9,069.15	2,838.40	1,650.87	1,448.41	202.46	8.154				
20,600.00	12,446.00	19,835.75	11,925.00	158.35	140.99	-73.18	-9,169.15	2,839.38	1,650.52	1,445.92	204.60	8.067				
20,700.00	12,446.00	19,935.75	11,925.00	159.92	142.57	-73.17	-9,269.14	2,840.36	1,650.17	1,443.43	206.74	7.982				
20,800.00	12,446.00	20,035.75	11,925.00	161.50	144.15	-73.17	-9,369.13	2,841.34	1,649.82	1,440.94	208.88	7.898				
20,900.00	12,446.00	20,135.75	11,925.00	163.08	145.73	-73.17	-9,469.13	2,842.31	1,649.47	1,438.45	211.02	7.817				
21,000.00	12,446.00	20,235.75	11,925.00	164.66	147.31	-73.16	-9,569.12	2,843.29	1,649.12	1,435.95	213.16	7.736				
21,100.00	12,446.00	20,335.75	11,925.00	166.24	148.89	-73.16	-9,669.12	2,844.27	1,648.77	1,433.46	215.31	7.658				
21,200.00	12,446.00	20,435.75	11,925.00	167.82	150.48	-73.15	-9,769.11	2,845.25	1,648.42	1,430.96	217.46	7.580				
21,300.00	12,446.00	20,535.75	11,925.00	169.41	152.06	-73.15	-9,869.11	2,846.23	1,648.07	1,428.46	219.61	7.505				
21,400.00	12,446.00	20,635.75	11,925.00	170.99	153.65	-73.15	-9,969.10	2,847.21	1,647.72	1,425.96	221.76	7.430				
21,500.00	12,446.00	20,735.75	11,925.00	172.58	155.24	-73.14	-10,069.10	2,848.19	1,647.37	1,423.46	223.91	7.357				
21,600.00	12,446.00	20,835.75	11,925.00	174.17	156.83	-73.14	-10,169.09	2,849.17	1,647.02	1,420.95	226.06	7.286				
21,700.00	12,446.00	20,935.75	11,925.00	175.76	158.42	-73.14	-10,269.09	2,850.15	1,646.67	1,418.45	228.22	7.215				
21,800.00	12,446.00	21,035.74	11,925.00	177.35	160.02	-73.13	-10,369.08	2,851.13	1,646.32	1,415.94	230.38	7.146				
21,900.00	12,446.00	21,135.74	11,925.00	178.94	161.61	-73.13	-10,469.07	2,852.11	1,645.97	1,413.43	232.53	7.078				
22,000.00	12,446.00	21,235.74	11,925.00	180.53	163.21	-73.12	-10,569.07	2,853.08	1,645.62	1,410.93	234.69	7.012				
22,100.00	12,446.00	21,335.74	11,925.00	182.12	164.80	-73.12	-10,669.06	2,854.06	1,645.27	1,408.42	236.85	6.946				
22,200.00	12,446.00	21,435.74	11,925.00	183.72	166.40	-73.12	-10,769.06	2,855.04	1,644.92	1,405.91	239.01	6.882				
22,300.00	12,446.00	21,535.74	11,925.00	185.31	168.00	-73.11	-10,869.05	2,856.02	1,644.57	1,403.39	241.17	6.819				
22,400.00	12,446.00	21,635.74	11,925.00	186.91	169.60	-73.11	-10,969.05	2,857.00	1,644.22	1,400.88	243.34	6.757				
22,500.00	12,446.00	21,735.74	11,925.00	188.51	171.20	-73.11	-11,069.04	2,857.98	1,643.87	1,398.37	245.50	6.696				
22,600.00	12,446.00	21,835.74	11,925.00	190.11	172.80	-73.10	-11,169.04	2,858.96	1,643.52	1,395.85	247.66	6.636				
22,700.00	12,446.00	21,935.74	11,925.00	191.71	174.40	-73.10	-11,269.03	2,859.94	1,643.17	1,393.34	249.83	6.577				
22,800.00	12,446.00	22,035.74	11,925.00	193.31	176.00	-73.10	-11,369.03	2,860.92	1,642.82	1,390.82	252.00	6.519				
22,817.13	12,446.00	22,052.86	11,925.00	193.58	176.28	-73.09	-11,386.15	2,861.08	1,642.76	1,390.39	252.37	6.509 ES, SF				

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



Total Directional Services

Anticollision Report



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Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design		Tatanka Fed Com - Tatanka Fed Com 702H - OH - Plan #1											Offset Site Error:	0.00 usft
Survey Program:		0-OWSG (Rev2) MWD											Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	+N/-S (usft)	+E/-W (usft)	(usft)	(usft)	(usft)			
0.00	0.00	0.00	0.00	0.00	0.00	-90.54	-0.94	-99.98	99.99					
100.00	100.00	99.30	99.30	0.13	0.12	-90.54	-0.94	-99.98	99.98	99.81	0.18	565.476		
200.00	200.00	199.30	199.30	0.48	0.48	-90.54	-0.94	-99.98	99.98	99.30	0.68	146.472		
300.00	300.00	299.30	299.30	0.84	0.84	-90.54	-0.94	-99.98	99.98	98.79	1.19	84.051		
400.00	400.00	399.30	399.30	1.20	1.20	-90.54	-0.94	-99.98	99.98	98.29	1.70	58.935		
500.00	500.00	499.30	499.30	1.56	1.56	-90.54	-0.94	-99.98	99.98	97.78	2.20	45.376		
600.00	600.00	599.30	599.30	1.92	1.92	-90.54	-0.94	-99.98	99.98	97.27	2.71	36.889		
700.00	700.00	699.30	699.30	2.28	2.27	-90.54	-0.94	-99.98	99.98	96.77	3.22	31.076		
800.00	800.00	799.30	799.30	2.63	2.63	-90.54	-0.94	-99.98	99.98	96.26	3.72	26.846		
900.00	900.00	899.30	899.30	2.99	2.99	-90.54	-0.94	-99.98	99.98	95.75	4.23	23.630		
1,000.00	1,000.00	999.30	999.30	3.35	3.35	-90.54	-0.94	-99.98	99.98	95.25	4.74	21.102		
1,100.00	1,100.00	1,099.30	1,099.30	3.71	3.71	-90.54	-0.94	-99.98	99.98	94.74	5.25	19.062		
1,200.00	1,200.00	1,199.30	1,199.30	4.07	4.07	-90.54	-0.94	-99.98	99.98	94.23	5.75	17.382		
1,300.00	1,300.00	1,299.30	1,299.30	4.43	4.42	-90.54	-0.94	-99.98	99.98	93.73	6.26	15.974		
1,400.00	1,400.00	1,399.30	1,399.30	4.79	4.78	-90.54	-0.94	-99.98	99.98	93.22	6.77	14.777		
1,500.00	1,500.00	1,499.30	1,499.30	5.14	5.14	-90.54	-0.94	-99.98	99.98	92.71	7.27	13.747		
1,600.00	1,600.00	1,599.30	1,599.30	5.50	5.50	-90.54	-0.94	-99.98	99.98	92.20	7.78	12.851		
1,700.00	1,700.00	1,699.30	1,699.30	5.86	5.86	-90.54	-0.94	-99.98	99.98	91.70	8.29	12.065		
1,800.00	1,800.00	1,799.30	1,799.30	6.22	6.22	-90.54	-0.94	-99.98	99.98	91.19	8.79	11.370		
1,900.00	1,900.00	1,899.30	1,899.30	6.58	6.58	-90.54	-0.94	-99.98	99.98	90.68	9.30	10.750		
2,000.00	2,000.00	1,999.30	1,999.30	6.94	6.93	-90.54	-0.94	-99.98	99.98	90.18	9.81	10.194		
2,100.00	2,100.00	2,099.30	2,099.30	7.29	7.29	-90.54	-0.94	-99.98	99.98	89.67	10.31	9.693		
2,200.00	2,200.00	2,199.30	2,199.30	7.65	7.65	-90.54	-0.94	-99.98	99.98	89.16	10.82	9.239		
2,300.00	2,300.00	2,299.30	2,299.30	8.01	8.01	-90.54	-0.94	-99.98	99.98	88.66	11.33	8.826		
2,400.00	2,400.00	2,399.30	2,399.30	8.37	8.37	-90.54	-0.94	-99.98	99.98	88.15	11.84	8.448		
2,500.00	2,500.00	2,499.30	2,499.30	8.73	8.73	-90.54	-0.94	-99.98	99.98	87.64	12.34	8.101		
2,600.00	2,600.00	2,599.30	2,599.30	9.09	9.08	-90.54	-0.94	-99.98	99.98	87.13	12.85	7.781		
2,700.00	2,700.00	2,699.30	2,699.30	9.45	9.44	-90.54	-0.94	-99.98	99.98	86.63	13.36	7.486		
2,800.00	2,800.00	2,799.30	2,799.30	9.80	9.80	-90.54	-0.94	-99.98	99.98	86.12	13.86	7.212		
2,900.00	2,900.00	2,899.30	2,899.30	10.16	10.16	-90.54	-0.94	-99.98	99.98	85.61	14.37	6.958		
3,000.00	3,000.00	2,999.30	2,999.30	10.52	10.52	-90.54	-0.94	-99.98	99.98	85.11	14.88	6.721		
3,100.00	3,100.00	3,099.30	3,099.30	10.88	10.88	-90.54	-0.94	-99.98	99.98	84.60	15.38	6.499		
3,200.00	3,200.00	3,199.30	3,199.30	11.24	11.24	-90.54	-0.94	-99.98	99.98	84.09	15.89	6.292		
3,300.00	3,300.00	3,299.30	3,299.30	11.60	11.59	-90.54	-0.94	-99.98	99.98	83.59	16.40	6.097	CC, ES	
3,400.00	3,399.99	3,399.29	3,399.29	11.94	11.95	137.91	-0.94	-99.98	100.95	84.06	16.89	5.976		
3,500.00	3,499.91	3,499.07	3,499.06	12.27	12.29	138.62	-2.22	-100.07	103.96	86.59	17.37	5.986		
3,600.00	3,599.69	3,598.80	3,598.71	12.60	12.61	138.80	-6.10	-100.32	109.08	91.26	17.83	6.119		
3,700.00	3,699.27	3,698.38	3,698.08	12.94	12.94	138.50	-12.56	-100.76	116.31	98.02	18.29	6.359		
3,800.00	3,798.57	3,797.75	3,797.03	13.28	13.26	137.82	-21.58	-101.36	125.63	106.88	18.75	6.699		
3,900.00	3,897.54	3,896.83	3,895.43	13.62	13.59	136.85	-33.13	-102.13	137.07	117.85	19.22	7.131		
4,000.00	3,996.09	3,995.54	3,993.13	13.97	13.92	135.71	-47.17	-103.07	150.65	130.95	19.69	7.649		
4,100.00	4,094.16	4,093.82	4,090.01	14.33	14.25	134.48	-63.64	-104.17	166.37	146.20	20.17	8.248		
4,200.00	4,191.70	4,191.60	4,185.94	14.70	14.59	133.21	-82.49	-105.43	184.25	163.60	20.66	8.920		
4,300.00	4,288.62	4,289.01	4,281.03	15.08	14.94	131.97	-103.61	-106.84	204.28	183.13	21.15	9.659		
4,400.00	4,384.86	4,386.57	4,376.11	15.48	15.30	131.22	-125.41	-108.29	226.15	204.49	21.66	10.442		
4,500.00	4,480.36	4,483.75	4,470.83	15.89	15.66	131.00	-147.12	-109.74	249.70	227.53	22.18	11.260		
4,600.00	4,575.05	4,580.49	4,565.11	16.33	16.03	131.18	-168.73	-111.19	274.94	252.23	22.71	12.108		
4,674.25	4,644.79	4,652.00	4,634.80	16.66	16.31	131.50	-184.71	-112.25	294.77	271.66	23.11	12.756		
4,700.00	4,668.90	4,676.74	4,658.91	16.78	16.40	131.71	-190.24	-112.62	301.81	278.56	23.25	12.982		
4,800.00	4,762.49	4,772.84	4,752.57	17.26	16.78	132.45	-211.71	-114.06	329.20	305.40	23.80	13.833		
4,900.00	4,856.09	4,868.94	4,846.23	17.75	17.16	133.07	-233.18	-115.49	356.62	332.27	24.36	14.642		
5,000.00	4,949.69	4,965.04	4,939.89	18.25	17.55	133.61	-254.65	-116.93	384.08	359.16	24.92	15.410		

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 702H - OH - Plan #1		Offset Site Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance						Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
5,100.00	5,043.29	5,061.13	5,033.55	18.76	17.95	134.07	-276.12	-118.36	411.57	386.07	25.50	16.140				
5,200.00	5,136.88	5,157.23	5,127.20	19.29	18.35	134.47	-297.59	-119.79	439.08	413.00	26.08	16.834				
5,300.00	5,230.48	5,253.33	5,220.86	19.82	18.75	134.83	-319.06	-121.23	466.61	439.94	26.67	17.494				
5,400.00	5,324.08	5,349.43	5,314.52	20.37	19.16	135.15	-340.52	-122.66	494.15	466.88	27.27	18.121				
5,500.00	5,417.68	5,445.53	5,408.18	20.93	19.57	135.43	-361.99	-124.10	521.71	493.83	27.87	18.717				
5,600.00	5,511.27	5,541.63	5,501.84	21.49	19.99	135.69	-383.46	-125.53	549.27	520.79	28.48	19.285				
5,700.00	5,604.87	5,637.72	5,595.50	22.06	20.40	135.92	-404.93	-126.96	576.85	547.75	29.10	19.825				
5,800.00	5,698.47	5,733.82	5,689.15	22.64	20.82	136.13	-426.40	-128.40	604.43	574.71	29.72	20.340				
5,900.00	5,792.07	5,829.92	5,782.81	23.22	21.25	136.32	-447.87	-129.83	632.02	601.68	30.34	20.830				
6,000.00	5,885.66	5,926.02	5,876.47	23.81	21.68	136.49	-469.34	-131.27	659.61	628.64	30.97	21.298				
6,100.00	5,979.26	6,022.12	5,970.13	24.41	22.11	136.66	-490.81	-132.70	687.21	655.61	31.60	21.745				
6,200.00	6,072.86	6,118.22	6,063.79	25.01	22.54	136.80	-512.28	-134.13	714.82	682.58	32.24	22.171				
6,300.00	6,166.46	6,214.31	6,157.45	25.61	22.97	136.94	-533.75	-135.57	742.43	709.55	32.88	22.578				
6,400.00	6,260.05	6,310.41	6,251.10	26.22	23.41	137.07	-555.22	-137.00	770.04	736.51	33.53	22.967				
6,500.00	6,353.65	6,406.51	6,344.76	26.84	23.85	137.19	-576.69	-138.44	797.66	763.48	34.18	23.340				
6,600.00	6,447.25	6,502.61	6,438.42	27.45	24.29	137.30	-598.16	-139.87	825.28	790.45	34.83	23.696				
6,700.00	6,540.85	6,598.71	6,532.08	28.07	24.73	137.40	-619.63	-141.30	852.90	817.42	35.48	24.037				
6,800.00	6,634.44	6,694.81	6,625.74	28.70	25.17	137.50	-641.10	-142.74	880.52	844.38	36.14	24.364				
6,900.00	6,728.04	6,790.90	6,719.40	29.33	25.62	137.59	-662.57	-144.17	908.15	871.35	36.80	24.677				
7,000.00	6,821.64	6,887.00	6,813.05	29.96	26.07	137.68	-684.04	-145.61	935.78	898.32	37.46	24.978				
7,100.00	6,915.24	6,983.10	6,906.71	30.59	26.52	137.76	-705.51	-147.04	963.41	925.28	38.13	25.267				
7,200.00	7,008.83	7,079.20	7,000.37	31.23	26.97	137.84	-726.98	-148.48	991.04	952.24	38.80	25.544				
7,300.00	7,102.43	7,175.30	7,094.03	31.87	27.42	137.91	-748.45	-149.91	1,018.68	979.21	39.47	25.811				
7,400.00	7,196.03	7,271.40	7,187.69	32.51	27.87	137.98	-769.92	-151.34	1,046.31	1,006.17	40.14	26.067				
7,500.00	7,289.63	7,367.49	7,281.34	33.15	28.33	138.04	-791.39	-152.78	1,073.95	1,033.13	40.81	26.314				
7,600.00	7,383.22	7,463.59	7,375.00	33.80	28.78	138.11	-812.86	-154.21	1,101.58	1,060.10	41.49	26.551				
7,683.32	7,461.21	7,543.66	7,453.04	34.34	29.16	138.15	-830.75	-155.41	1,124.61	1,082.56	42.05	26.742				
7,700.00	7,476.83	7,559.70	7,468.67	34.44	29.24	138.21	-834.33	-155.65	1,129.20	1,087.03	42.17	26.779				
7,800.00	7,571.03	7,656.15	7,562.67	35.07	29.70	138.48	-855.88	-157.08	1,155.58	1,112.74	42.85	26.971				
7,900.00	7,666.07	7,753.09	7,657.15	35.68	30.16	138.64	-877.54	-158.53	1,180.07	1,136.55	43.52	27.113				
8,000.00	7,761.89	7,850.44	7,752.03	36.25	30.63	138.70	-899.29	-159.98	1,202.66	1,158.46	44.20	27.208				
8,100.00	7,858.43	7,948.14	7,847.24	36.80	31.10	138.66	-921.11	-161.44	1,223.34	1,178.46	44.88	27.258				
8,200.00	7,955.62	8,046.12	7,942.74	37.32	31.57	138.53	-943.01	-162.90	1,242.13	1,196.57	45.55	27.267				
8,300.00	8,053.39	8,145.28	8,039.48	37.81	32.04	138.32	-964.73	-164.36	1,259.01	1,212.78	46.23	27.236				
8,400.00	8,151.68	8,245.66	8,137.90	38.27	32.50	138.13	-984.38	-165.67	1,273.89	1,227.01	46.88	27.172				
8,500.00	8,250.41	8,346.60	8,237.37	38.71	32.95	137.97	-1,001.53	-166.81	1,286.73	1,239.22	47.51	27.083				
8,600.00	8,349.53	8,448.03	8,337.74	39.11	33.37	137.83	-1,016.11	-167.79	1,297.51	1,249.40	48.11	26.968				
8,700.00	8,448.96	8,549.87	8,438.87	39.49	33.78	137.71	-1,028.08	-168.59	1,306.20	1,257.52	48.69	26.830				
8,800.00	8,548.63	8,652.05	8,540.61	39.84	34.17	137.61	-1,037.37	-169.21	1,312.80	1,263.57	49.23	26.667				
8,900.00	8,648.48	8,754.47	8,642.82	40.17	34.54	137.53	-1,043.96	-169.65	1,317.28	1,267.53	49.74	26.482				
9,000.00	8,748.44	8,857.06	8,745.33	40.46	34.89	137.47	-1,047.82	-169.91	1,319.63	1,269.41	50.22	26.275				
9,057.57	8,806.00	8,916.16	8,804.42	40.62	35.08	-90.51	-1,048.79	-169.97	1,320.02	1,269.54	50.49	26.146				
9,100.00	8,848.43	8,959.47	8,847.73	40.73	35.22	-90.52	-1,048.94	-169.98	1,320.03	1,269.37	50.67	26.053				
9,200.00	8,948.43	9,059.47	8,947.73	41.00	35.51	-90.52	-1,048.94	-169.98	1,320.03	1,268.95	51.08	25.842				
9,300.00	9,048.43	9,159.47	9,047.73	41.26	35.81	-90.52	-1,048.94	-169.98	1,320.03	1,268.54	51.50	25.633				
9,400.00	9,148.43	9,259.47	9,147.73	41.53	36.11	-90.52	-1,048.94	-169.98	1,320.03	1,268.12	51.91	25.428				
9,500.00	9,248.43	9,359.47	9,247.73	41.80	36.41	-90.52	-1,048.94	-169.98	1,320.03	1,267.70	52.33	25.224				
9,600.00	9,348.43	9,459.47	9,347.73	42.06	36.71	-90.52	-1,048.94	-169.98	1,320.03	1,267.28	52.75	25.023				
9,700.00	9,448.43	9,559.47	9,447.73	42.34	37.02	-90.52	-1,048.94	-169.98	1,320.03	1,266.86	53.17	24.825				
9,800.00	9,548.43	9,659.47	9,547.73	42.61	37.32	-90.52	-1,048.94	-169.98	1,320.03	1,266.44	53.60	24.629				
9,900.00	9,648.43	9,759.47	9,647.73	42.88	37.63	-90.52	-1,048.94	-169.98	1,320.03	1,266.01	54.02	24.436				
10,000.00	9,748.43	9,859.47	9,747.73	43.16	37.93	-90.52	-1,048.94	-169.98	1,320.03	1,265.59	54.45	24.245				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 702H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
10,100.00	9,848.43	9,959.47	9,847.73	43.43	38.24	-90.52	-1,048.94	-169.98	1,320.03	1,265.16	54.87	24.056				
10,200.00	9,948.43	10,059.47	9,947.73	43.71	38.55	-90.52	-1,048.94	-169.98	1,320.03	1,264.73	55.30	23.869				
10,300.00	10,048.43	10,159.47	10,047.73	43.99	38.85	-90.52	-1,048.94	-169.98	1,320.03	1,264.30	55.73	23.685				
10,400.00	10,148.43	10,259.47	10,147.73	44.26	39.16	-90.52	-1,048.94	-169.98	1,320.03	1,263.87	56.16	23.503				
10,500.00	10,248.43	10,359.47	10,247.73	44.55	39.47	-90.52	-1,048.94	-169.98	1,320.03	1,263.44	56.60	23.324				
10,600.00	10,348.43	10,459.47	10,347.73	44.83	39.78	-90.52	-1,048.94	-169.98	1,320.03	1,263.00	57.03	23.146				
10,700.00	10,448.43	10,559.47	10,447.73	45.11	40.09	-90.52	-1,048.94	-169.98	1,320.03	1,262.57	57.46	22.971				
10,800.00	10,548.43	10,659.47	10,547.73	45.39	40.41	-90.52	-1,048.94	-169.98	1,320.03	1,262.13	57.90	22.798				
10,900.00	10,648.43	10,759.47	10,647.73	45.68	40.72	-90.52	-1,048.94	-169.98	1,320.03	1,261.70	58.34	22.627				
11,000.00	10,748.43	10,859.47	10,747.73	45.96	41.03	-90.52	-1,048.94	-169.98	1,320.03	1,261.26	58.78	22.459				
11,100.00	10,848.43	10,959.47	10,847.73	46.25	41.35	-90.52	-1,048.94	-169.98	1,320.03	1,260.82	59.22	22.292				
11,200.00	10,948.43	11,059.47	10,947.73	46.54	41.66	-90.52	-1,048.94	-169.98	1,320.03	1,260.38	59.66	22.127				
11,300.00	11,048.43	11,159.47	11,047.73	46.83	41.98	-90.52	-1,048.94	-169.98	1,320.03	1,259.94	60.10	21.965				
11,400.00	11,148.43	11,259.47	11,147.73	47.12	42.30	-90.52	-1,048.94	-169.98	1,320.03	1,259.49	60.54	21.804				
11,500.00	11,248.43	11,359.47	11,247.73	47.41	42.61	-90.52	-1,048.94	-169.98	1,320.03	1,259.05	60.98	21.646				
11,600.00	11,348.43	11,459.47	11,347.73	47.70	42.93	-90.52	-1,048.94	-169.98	1,320.03	1,258.61	61.43	21.489				
11,700.00	11,448.43	11,559.47	11,447.73	47.99	43.25	-90.52	-1,048.94	-169.98	1,320.03	1,258.16	61.87	21.334				
11,800.00	11,548.43	11,659.47	11,547.73	48.28	43.57	-90.52	-1,048.94	-169.98	1,320.03	1,257.71	62.32	21.181				
11,855.65	11,604.08	11,715.14	11,603.38	48.45	43.76	-90.56	-1,049.85	-169.97	1,320.03	1,257.45	62.58	21.094				
11,900.00	11,648.43	11,759.13	11,647.17	48.58	43.92	-90.74	-1,054.02	-169.93	1,320.04	1,257.23	62.81	21.017				
12,000.00	11,748.43	11,854.42	11,740.13	48.87	44.35	-91.63	-1,074.46	-169.73	1,320.28	1,256.89	63.39	20.827				
12,100.00	11,848.43	11,940.90	11,820.52	49.17	44.82	-93.00	-1,106.11	-169.42	1,321.51	1,257.50	64.01	20.644				
12,124.61	11,873.04	11,960.54	11,838.05	49.24	44.93	-93.38	-1,114.96	-169.34	1,322.08	1,257.92	64.16	20.605				
12,150.00	11,898.42	11,980.32	11,855.39	49.32	45.05	86.92	-1,124.47	-169.24	1,322.79	1,258.47	64.32	20.566				
12,200.00	11,948.22	12,018.57	11,887.94	49.49	45.29	86.02	-1,144.55	-169.05	1,324.44	1,259.82	64.62	20.496				
12,250.00	11,997.43	12,055.99	11,918.41	49.67	45.53	85.13	-1,166.25	-168.84	1,326.39	1,261.47	64.92	20.430				
12,300.00	12,045.71	12,092.69	11,946.87	49.88	45.78	84.27	-1,189.42	-168.61	1,328.58	1,263.36	65.22	20.370				
12,350.00	12,092.66	12,128.76	11,973.33	50.11	46.04	83.43	-1,213.92	-168.37	1,330.96	1,265.44	65.52	20.313				
12,400.00	12,137.95	12,164.28	11,997.84	50.35	46.30	82.63	-1,239.63	-168.12	1,333.47	1,267.66	65.82	20.260				
12,450.00	12,181.22	12,200.00	12,020.82	50.62	46.57	81.86	-1,266.96	-167.86	1,336.06	1,269.94	66.12	20.208				
12,500.00	12,222.15	12,233.97	12,041.06	50.89	46.83	81.15	-1,294.23	-167.59	1,338.66	1,272.26	66.40	20.161				
12,550.00	12,260.41	12,268.24	12,059.81	51.18	47.11	80.48	-1,322.91	-167.31	1,341.22	1,274.53	66.69	20.112				
12,600.00	12,295.73	12,300.00	12,075.62	51.49	47.36	79.88	-1,350.45	-167.04	1,343.71	1,276.76	66.95	20.070				
12,650.00	12,327.84	12,335.90	12,091.63	51.81	47.66	79.29	-1,382.57	-166.73	1,346.06	1,278.78	67.27	20.008				
12,700.00	12,356.48	12,369.36	12,104.71	52.14	47.94	78.79	-1,413.37	-166.43	1,348.24	1,280.66	67.57	19.952				
12,750.00	12,381.44	12,400.00	12,115.09	52.48	48.20	78.37	-1,442.19	-166.15	1,350.21	1,282.36	67.85	19.900				
12,800.00	12,402.53	12,435.75	12,125.24	52.84	48.51	77.98	-1,476.46	-165.82	1,351.94	1,283.74	68.20	19.824				
12,850.00	12,419.60	12,468.74	12,132.69	53.20	48.80	77.67	-1,508.60	-165.50	1,353.39	1,284.87	68.52	19.751				
12,900.00	12,432.50	12,500.00	12,138.03	53.57	49.07	77.44	-1,539.39	-165.20	1,354.55	1,285.71	68.84	19.676				
12,950.00	12,441.15	12,534.46	12,141.96	53.95	49.38	77.27	-1,573.62	-164.87	1,355.40	1,286.18	69.22	19.582				
13,000.00	12,445.47	12,567.24	12,143.79	54.34	49.66	77.18	-1,606.34	-164.55	1,355.92	1,286.34	69.58	19.486				
13,024.61	12,446.00	12,583.68	12,144.00	54.53	49.81	77.16	-1,622.78	-164.39	1,356.06	1,286.28	69.77	19.435				
13,100.00	12,446.00	12,659.08	12,144.00	55.13	50.48	77.16	-1,698.17	-163.66	1,356.33	1,285.67	70.66	19.194				
13,200.00	12,446.00	12,759.08	12,144.00	55.95	51.41	77.17	-1,798.16	-162.68	1,356.69	1,284.80	71.89	18.873				
13,300.00	12,446.00	12,859.08	12,144.00	56.81	52.37	77.17	-1,898.16	-161.71	1,357.05	1,283.89	73.16	18.549				
13,400.00	12,446.00	12,959.07	12,144.00	57.70	53.36	77.18	-1,998.15	-160.74	1,357.41	1,282.93	74.48	18.225				
13,500.00	12,446.00	13,059.07	12,144.00	58.63	54.39	77.18	-2,098.15	-159.76	1,357.78	1,281.93	75.85	17.901				
13,600.00	12,446.00	13,159.07	12,144.00	59.59	55.44	77.18	-2,198.14	-158.79	1,358.14	1,280.88	77.26	17.579				
13,700.00	12,446.00	13,259.07	12,144.00	60.58	56.53	77.19	-2,298.14	-157.82	1,358.50	1,279.79	78.71	17.259				
13,800.00	12,446.00	13,359.07	12,144.00	61.60	57.64	77.19	-2,398.13	-156.84	1,358.86	1,278.66	80.20	16.943				
13,900.00	12,446.00	13,459.07	12,144.00	62.64	58.77	77.19	-2,498.13	-155.87	1,359.22	1,277.49	81.73	16.630				
14,000.00	12,446.00	13,559.07	12,144.00	63.71	59.93	77.20	-2,598.12	-154.89	1,359.58	1,276.29	83.30	16.322				

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 702H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance						Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
14,100.00	12,446.00	13,659.07	12,144.00	64.81	61.12	77.20	-2,698.12	-153.92	1,359.95	1,275.06	84.89	16.020				
14,200.00	12,446.00	13,759.07	12,144.00	65.92	62.32	77.20	-2,798.11	-152.95	1,360.31	1,273.79	86.52	15.723				
14,300.00	12,446.00	13,859.07	12,144.00	67.07	63.55	77.21	-2,898.10	-151.97	1,360.67	1,272.50	88.17	15.432				
14,400.00	12,446.00	13,959.07	12,144.00	68.23	64.79	77.21	-2,998.10	-151.00	1,361.03	1,271.18	89.86	15.147				
14,500.00	12,446.00	14,059.07	12,144.00	69.41	66.05	77.21	-3,098.09	-150.03	1,361.39	1,269.83	91.57	14.868				
14,600.00	12,446.00	14,159.07	12,144.00	70.61	67.33	77.22	-3,198.09	-149.05	1,361.76	1,268.46	93.30	14.595				
14,700.00	12,446.00	14,259.07	12,144.00	71.83	68.62	77.22	-3,298.08	-148.08	1,362.12	1,267.06	95.06	14.329				
14,800.00	12,446.00	14,359.07	12,144.00	73.06	69.93	77.22	-3,398.08	-147.10	1,362.48	1,265.64	96.84	14.070				
14,900.00	12,446.00	14,459.06	12,144.00	74.32	71.26	77.23	-3,498.07	-146.13	1,362.84	1,264.20	98.64	13.817				
15,000.00	12,446.00	14,559.06	12,144.00	75.58	72.59	77.23	-3,598.07	-145.16	1,363.20	1,262.75	100.46	13.570				
15,100.00	12,446.00	14,659.06	12,144.00	76.87	73.94	77.23	-3,698.06	-144.18	1,363.56	1,261.27	102.30	13.330				
15,200.00	12,446.00	14,759.06	12,144.00	78.16	75.31	77.24	-3,798.06	-143.21	1,363.93	1,259.77	104.15	13.096				
15,300.00	12,446.00	14,859.06	12,144.00	79.47	76.68	77.24	-3,898.05	-142.24	1,364.29	1,258.26	106.02	12.868				
15,400.00	12,446.00	14,959.06	12,144.00	80.79	78.06	77.24	-3,998.04	-141.26	1,364.65	1,256.74	107.91	12.646				
15,500.00	12,446.00	15,059.06	12,144.00	82.13	79.46	77.25	-4,098.04	-140.29	1,365.01	1,255.19	109.82	12.430				
15,600.00	12,446.00	15,159.06	12,144.00	83.47	80.86	77.25	-4,198.03	-139.31	1,365.37	1,253.64	111.74	12.220				
15,700.00	12,446.00	15,259.06	12,144.00	84.83	82.27	77.25	-4,298.03	-138.34	1,365.74	1,252.07	113.67	12.015				
15,800.00	12,446.00	15,359.06	12,144.00	86.20	83.69	77.26	-4,398.02	-137.37	1,366.10	1,250.49	115.61	11.816				
15,900.00	12,446.00	15,459.06	12,144.00	87.57	85.12	77.26	-4,498.02	-136.39	1,366.46	1,248.89	117.57	11.622				
16,000.00	12,446.00	15,559.06	12,144.00	88.96	86.56	77.27	-4,598.01	-135.42	1,366.82	1,247.28	119.54	11.434				
16,100.00	12,446.00	15,659.06	12,144.00	90.35	88.01	77.27	-4,698.01	-134.45	1,367.18	1,245.66	121.52	11.251				
16,200.00	12,446.00	15,759.06	12,144.00	91.76	89.46	77.27	-4,798.00	-133.47	1,367.55	1,244.04	123.51	11.072				
16,300.00	12,446.00	15,859.06	12,144.00	93.17	90.92	77.28	-4,898.00	-132.50	1,367.91	1,242.40	125.51	10.899				
16,400.00	12,446.00	15,959.05	12,144.00	94.59	92.39	77.28	-4,997.99	-131.52	1,368.27	1,240.75	127.52	10.730				
16,500.00	12,446.00	16,059.05	12,144.00	96.02	93.86	77.28	-5,097.98	-130.55	1,368.63	1,239.09	129.54	10.566				
16,600.00	12,446.00	16,159.05	12,144.00	97.45	95.34	77.29	-5,197.98	-129.58	1,368.99	1,237.43	131.56	10.405				
16,700.00	12,446.00	16,259.05	12,144.00	98.89	96.82	77.29	-5,297.97	-128.60	1,369.36	1,235.75	133.60	10.250				
16,800.00	12,446.00	16,359.05	12,144.00	100.34	98.31	77.29	-5,397.97	-127.63	1,369.72	1,234.07	135.64	10.098				
16,900.00	12,446.00	16,459.05	12,144.00	101.79	99.80	77.30	-5,497.96	-126.66	1,370.08	1,232.39	137.69	9.950				
17,000.00	12,446.00	16,559.05	12,144.00	103.25	101.30	77.30	-5,597.96	-125.68	1,370.44	1,230.69	139.75	9.806				
17,100.00	12,446.00	16,659.05	12,144.00	104.72	102.80	77.30	-5,697.95	-124.71	1,370.80	1,228.99	141.82	9.666				
17,200.00	12,446.00	16,759.05	12,144.00	106.19	104.31	77.31	-5,797.95	-123.73	1,371.17	1,227.28	143.89	9.529				
17,300.00	12,446.00	16,859.05	12,144.00	107.66	105.82	77.31	-5,897.94	-122.76	1,371.53	1,225.56	145.97	9.396				
17,400.00	12,446.00	16,959.05	12,144.00	109.15	107.34	77.31	-5,997.94	-121.79	1,371.89	1,223.84	148.05	9.266				
17,500.00	12,446.00	17,059.05	12,144.00	110.63	108.86	77.32	-6,097.93	-120.81	1,372.25	1,222.11	150.14	9.140				
17,600.00	12,446.00	17,159.05	12,144.00	112.12	110.39	77.32	-6,197.93	-119.84	1,372.61	1,220.38	152.24	9.016				
17,700.00	12,446.00	17,259.05	12,144.00	113.62	111.91	77.32	-6,297.92	-118.87	1,372.98	1,218.64	154.34	8.896				
17,800.00	12,446.00	17,359.04	12,144.00	115.12	113.44	77.33	-6,397.91	-117.89	1,373.34	1,216.90	156.44	8.779				
17,900.00	12,446.00	17,459.04	12,144.00	116.62	114.98	77.33	-6,497.91	-116.92	1,373.70	1,215.15	158.55	8.664				
18,000.00	12,446.00	17,559.04	12,144.00	118.13	116.52	77.33	-6,597.90	-115.94	1,374.06	1,213.39	160.67	8.552				
18,100.00	12,446.00	17,659.04	12,144.00	119.64	118.06	77.34	-6,697.90	-114.97	1,374.42	1,211.64	162.79	8.443				
18,200.00	12,446.00	17,759.04	12,144.00	121.16	119.60	77.34	-6,797.89	-114.00	1,374.79	1,209.88	164.91	8.337				
18,300.00	12,446.00	17,859.04	12,144.00	122.67	121.15	77.34	-6,897.89	-113.02	1,375.15	1,208.11	167.04	8.233				
18,400.00	12,446.00	17,959.04	12,144.00	124.20	122.70	77.35	-6,997.88	-112.05	1,375.51	1,206.34	169.17	8.131				
18,500.00	12,446.00	18,059.04	12,144.00	125.72	124.25	77.35	-7,097.88	-111.08	1,375.87	1,204.57	171.31	8.032				
18,600.00	12,446.00	18,159.04	12,144.00	127.25	125.80	77.35	-7,197.87	-110.10	1,376.23	1,202.79	173.44	7.935				
18,700.00	12,446.00	18,259.04	12,144.00	128.78	127.36	77.36	-7,297.87	-109.13	1,376.60	1,201.01	175.59	7.840				
18,800.00	12,446.00	18,359.04	12,144.00	130.32	128.92	77.36	-7,397.86	-108.16	1,376.96	1,199.22	177.73	7.747				
18,900.00	12,446.00	18,459.04	12,144.00	131.86	130.48	77.36	-7,497.85	-107.18	1,377.32	1,197.44	179.88	7.657				
19,000.00	12,446.00	18,559.04	12,144.00	133.40	132.04	77.37	-7,597.85	-106.21	1,377.68	1,195.65	182.04	7.568				
19,100.00	12,446.00	18,659.04	12,144.00	134.94	133.61	77.37	-7,697.84	-105.23	1,378.04	1,193.85	184.19	7.482				
19,200.00	12,446.00	18,759.04	12,144.00	136.48	135.18	77.37	-7,797.84	-104.26	1,378.41	1,192.06	186.35	7.397				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 702H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
19,300.00	12,446.00	18,859.03	12,144.00	138.03	136.75	77.38	-7,897.83	-103.29	1,378.77	1,190.26	188.51	7.314				
19,400.00	12,446.00	18,959.03	12,144.00	139.58	138.32	77.38	-7,997.83	-102.31	1,379.13	1,188.45	190.68	7.233				
19,500.00	12,446.00	19,059.03	12,144.00	141.14	139.89	77.38	-8,097.82	-101.34	1,379.49	1,186.65	192.84	7.153				
19,600.00	12,446.00	19,159.03	12,144.00	142.69	141.47	77.39	-8,197.82	-100.37	1,379.85	1,184.84	195.01	7.076				
19,700.00	12,446.00	19,259.03	12,144.00	144.25	143.05	77.39	-8,297.81	-99.39	1,380.22	1,183.03	197.18	7.000				
19,800.00	12,446.00	19,359.03	12,144.00	145.81	144.62	77.39	-8,397.81	-98.42	1,380.58	1,181.22	199.36	6.925				
19,900.00	12,446.00	19,459.03	12,144.00	147.37	146.20	77.40	-8,497.80	-97.44	1,380.94	1,179.40	201.54	6.852				
20,000.00	12,446.00	19,559.03	12,144.00	148.93	147.79	77.40	-8,597.79	-96.47	1,381.30	1,177.59	203.71	6.781				
20,100.00	12,446.00	19,659.03	12,144.00	150.50	149.37	77.40	-8,697.79	-95.50	1,381.66	1,175.77	205.89	6.711				
20,200.00	12,446.00	19,759.03	12,144.00	152.06	150.95	77.41	-8,797.78	-94.52	1,382.03	1,173.95	208.08	6.642				
20,300.00	12,446.00	19,859.03	12,144.00	153.63	152.54	77.41	-8,897.78	-93.55	1,382.39	1,172.13	210.26	6.575				
20,400.00	12,446.00	19,959.03	12,144.00	155.20	154.13	77.41	-8,997.77	-92.58	1,382.75	1,170.30	212.45	6.509				
20,500.00	12,446.00	20,059.03	12,144.00	156.77	155.72	77.42	-9,097.77	-91.60	1,383.11	1,168.47	214.64	6.444				
20,600.00	12,446.00	20,159.03	12,144.00	158.35	157.31	77.42	-9,197.76	-90.63	1,383.47	1,166.64	216.83	6.380				
20,700.00	12,446.00	20,259.02	12,144.00	159.92	158.90	77.42	-9,297.76	-89.65	1,383.84	1,164.81	219.02	6.318				
20,800.00	12,446.00	20,359.02	12,144.00	161.50	160.49	77.43	-9,397.75	-88.68	1,384.20	1,162.98	221.22	6.257				
20,900.00	12,446.00	20,459.02	12,144.00	163.08	162.09	77.43	-9,497.75	-87.71	1,384.56	1,161.15	223.41	6.197				
21,000.00	12,446.00	20,559.02	12,144.00	164.66	163.68	77.43	-9,597.74	-86.73	1,384.92	1,159.31	225.61	6.139				
21,100.00	12,446.00	20,659.02	12,144.00	166.24	165.28	77.44	-9,697.74	-85.76	1,385.29	1,157.48	227.81	6.081				
21,200.00	12,446.00	20,759.02	12,144.00	167.82	166.87	77.44	-9,797.73	-84.79	1,385.65	1,155.64	230.01	6.024				
21,300.00	12,446.00	20,859.02	12,144.00	169.41	168.47	77.44	-9,897.72	-83.81	1,386.01	1,153.80	232.21	5.969				
21,400.00	12,446.00	20,959.02	12,144.00	170.99	170.07	77.45	-9,997.72	-82.84	1,386.37	1,151.96	234.41	5.914				
21,500.00	12,446.00	21,059.02	12,144.00	172.58	171.67	77.45	-10,097.71	-81.86	1,386.73	1,150.12	236.62	5.861				
21,600.00	12,446.00	21,159.02	12,144.00	174.17	173.27	77.45	-10,197.71	-80.89	1,387.10	1,148.27	238.82	5.808				
21,700.00	12,446.00	21,259.02	12,144.00	175.76	174.88	77.46	-10,297.70	-79.92	1,387.46	1,146.43	241.03	5.756				
21,800.00	12,446.00	21,359.02	12,144.00	177.35	176.48	77.46	-10,397.70	-78.94	1,387.82	1,144.58	243.24	5.706				
21,900.00	12,446.00	21,459.02	12,144.00	178.94	178.08	77.46	-10,497.69	-77.97	1,388.18	1,142.73	245.45	5.656				
22,000.00	12,446.00	21,559.02	12,144.00	180.53	179.69	77.47	-10,597.69	-77.00	1,388.55	1,140.88	247.66	5.607				
22,100.00	12,446.00	21,659.02	12,144.00	182.12	181.29	77.47	-10,697.68	-76.02	1,388.91	1,139.03	249.87	5.558				
22,200.00	12,446.00	21,759.01	12,144.00	183.72	182.90	77.47	-10,797.68	-75.05	1,389.27	1,137.18	252.09	5.511				
22,300.00	12,446.00	21,859.01	12,144.00	185.31	184.51	77.48	-10,897.67	-74.07	1,389.63	1,135.33	254.30	5.465				
22,400.00	12,446.00	21,959.01	12,144.00	186.91	186.12	77.48	-10,997.66	-73.10	1,389.99	1,133.48	256.52	5.419				
22,500.00	12,446.00	22,059.01	12,144.00	188.51	187.72	77.48	-11,097.66	-72.13	1,390.36	1,131.62	258.73	5.374				
22,600.00	12,446.00	22,159.01	12,144.00	190.11	189.33	77.49	-11,197.65	-71.15	1,390.72	1,129.77	260.95	5.329				
22,700.00	12,446.00	22,259.01	12,144.00	191.71	190.94	77.49	-11,297.65	-70.18	1,391.08	1,127.91	263.17	5.286				
22,800.00	12,446.00	22,359.01	12,144.00	193.31	192.45	77.49	-11,397.64	-69.21	1,391.44	1,126.14	265.31	5.245				
22,817.13	12,446.00	22,375.46	12,144.00	193.58	192.68	77.49	-11,414.09	-69.05	1,391.51	1,125.86	265.65	5.238 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 703H - OH - Plan #1		Offset Site Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
0.00	0.00	0.00	0.00	0.00	0.00	-90.55	-0.24	-24.99	24.99							
100.00	100.00	100.00	100.00	0.13	0.13	-90.55	-0.24	-24.99	24.99	24.81	0.18	140.847				
200.00	200.00	200.00	200.00	0.48	0.48	-90.55	-0.24	-24.99	24.99	24.31	0.68	36.516				
300.00	300.00	300.00	300.00	0.84	0.84	-90.55	-0.24	-24.99	24.99	23.80	1.19	20.977				
400.00	400.00	400.00	400.00	1.20	1.20	-90.55	-0.24	-24.99	24.99	23.29	1.70	14.715				
500.00	500.00	500.00	500.00	1.56	1.56	-90.55	-0.24	-24.99	24.99	22.79	2.21	11.333				
600.00	600.00	600.00	600.00	1.92	1.92	-90.55	-0.24	-24.99	24.99	22.28	2.71	9.214				
700.00	700.00	700.00	700.00	2.28	2.28	-90.55	-0.24	-24.99	24.99	21.77	3.22	7.763				
800.00	800.00	800.00	800.00	2.63	2.63	-90.55	-0.24	-24.99	24.99	21.27	3.73	6.707				
900.00	900.00	900.00	900.00	2.99	2.99	-90.55	-0.24	-24.99	24.99	20.76	4.23	5.904				
1,000.00	1,000.00	1,000.00	1,000.00	3.35	3.35	-90.55	-0.24	-24.99	24.99	20.25	4.74	5.272				
1,100.00	1,100.00	1,100.00	1,100.00	3.71	3.71	-90.55	-0.24	-24.99	24.99	19.74	5.25	4.763				
1,200.00	1,200.00	1,200.00	1,200.00	4.07	4.07	-90.55	-0.24	-24.99	24.99	19.24	5.75	4.343				
1,300.00	1,300.00	1,300.00	1,300.00	4.43	4.43	-90.55	-0.24	-24.99	24.99	18.73	6.26	3.992				
1,400.00	1,400.00	1,400.00	1,400.00	4.79	4.79	-90.55	-0.24	-24.99	24.99	18.22	6.77	3.693				
1,500.00	1,500.00	1,500.00	1,500.00	5.14	5.14	-90.55	-0.24	-24.99	24.99	17.72	7.27	3.435				
1,600.00	1,600.00	1,600.00	1,600.00	5.50	5.50	-90.55	-0.24	-24.99	24.99	17.21	7.78	3.212				
1,700.00	1,700.00	1,700.00	1,700.00	5.86	5.86	-90.55	-0.24	-24.99	24.99	16.70	8.29	3.015				
1,800.00	1,800.00	1,800.00	1,800.00	6.22	6.22	-90.55	-0.24	-24.99	24.99	16.20	8.80	2.841				
1,900.00	1,900.00	1,900.00	1,900.00	6.58	6.58	-90.55	-0.24	-24.99	24.99	15.69	9.30	2.686				
2,000.00	2,000.00	2,000.00	2,000.00	6.94	6.94	-90.55	-0.24	-24.99	24.99	15.18	9.81	2.548				
2,100.00	2,100.00	2,100.00	2,100.00	7.29	7.29	-90.55	-0.24	-24.99	24.99	14.67	10.32	2.422				
2,200.00	2,200.00	2,200.00	2,200.00	7.65	7.65	-90.55	-0.24	-24.99	24.99	14.17	10.82	2.309				
2,300.00	2,300.00	2,300.00	2,300.00	8.01	8.01	-90.55	-0.24	-24.99	24.99	13.66	11.33	2.206				
2,400.00	2,400.00	2,400.00	2,400.00	8.37	8.37	-90.55	-0.24	-24.99	24.99	13.15	11.84	2.111				
2,500.00	2,500.00	2,500.00	2,500.00	8.73	8.73	-90.55	-0.24	-24.99	24.99	12.65	12.34	2.024				
2,600.00	2,600.00	2,600.00	2,600.00	9.09	9.09	-90.55	-0.24	-24.99	24.99	12.14	12.85	1.945				
2,700.00	2,700.00	2,700.00	2,700.00	9.45	9.45	-90.55	-0.24	-24.99	24.99	11.63	13.36	1.871				
2,800.00	2,800.00	2,800.00	2,800.00	9.80	9.80	-90.55	-0.24	-24.99	24.99	11.13	13.87	1.802				
2,900.00	2,900.00	2,900.00	2,900.00	10.16	10.16	-90.55	-0.24	-24.99	24.99	10.62	14.37	1.739				
3,000.00	3,000.00	3,000.00	3,000.00	10.52	10.52	-90.55	-0.24	-24.99	24.99	10.11	14.88	1.680				
3,100.00	3,100.00	3,100.00	3,100.00	10.88	10.88	-90.55	-0.24	-24.99	24.99	9.61	15.39	1.624				
3,200.00	3,200.00	3,200.00	3,200.00	11.24	11.24	-90.55	-0.24	-24.99	24.99	9.10	15.89	1.572				
3,300.00	3,300.00	3,300.39	3,300.37	11.60	11.58	-92.99	-1.26	-24.16	24.19	7.81	16.39	1.477	Level 3			
3,400.00	3,399.99	3,400.69	3,400.60	11.94	11.91	129.30	-4.33	-21.67	22.91	6.06	16.85	1.360	Level 3			
3,500.00	3,499.91	3,500.92	3,500.61	12.27	12.24	122.52	-9.43	-17.52	22.22	4.92	17.31	1.284	Level 3			
3,547.77	3,547.60	3,548.78	3,548.29	12.43	12.40	118.99	-12.59	-14.96	22.14	4.61	17.53	1.263	Level 3, CC			
3,600.00	3,599.69	3,601.08	3,600.34	12.60	12.57	115.02	-16.57	-11.72	22.24	4.46	17.78	1.251	Level 3, ES, SF			
3,700.00	3,699.27	3,701.16	3,699.72	12.94	12.91	107.42	-25.72	-4.29	23.03	4.76	18.27	1.261	Level 3			
3,800.00	3,798.57	3,801.16	3,798.68	13.28	13.25	100.33	-36.88	4.78	24.59	5.84	18.76	1.311	Level 3			
3,900.00	3,897.54	3,901.07	3,897.14	13.62	13.60	94.16	-50.03	15.47	26.88	7.64	19.24	1.397	Level 3			
4,000.00	3,996.09	4,000.90	3,995.05	13.97	13.96	89.07	-65.17	27.76	29.82	10.10	19.73	1.512				
4,100.00	4,094.16	4,100.65	4,092.33	14.33	14.33	85.03	-82.27	41.66	33.35	13.14	20.21	1.650				
4,200.00	4,191.70	4,200.31	4,188.91	14.70	14.70	81.91	-101.32	57.13	37.39	16.68	20.70	1.806				
4,300.00	4,288.62	4,299.88	4,284.74	15.08	15.10	79.53	-122.29	74.18	41.89	20.68	21.21	1.975				
4,400.00	4,384.86	4,399.75	4,380.47	15.48	15.51	79.11	-144.40	92.14	46.41	24.64	21.78	2.131				
4,500.00	4,480.36	4,499.64	4,476.20	15.89	15.93	81.67	-166.52	110.11	50.50	28.10	22.40	2.255				
4,600.00	4,575.05	4,599.46	4,571.87	16.33	16.36	86.57	-188.62	128.07	54.46	31.40	23.06	2.361				
4,674.25	4,644.79	4,673.48	4,642.82	16.66	16.69	91.42	-205.01	141.38	57.65	34.08	23.56	2.447				
4,700.00	4,668.90	4,699.14	4,667.41	16.78	16.80	93.24	-210.69	146.00	58.86	35.13	23.73	2.480				
4,800.00	4,762.49	4,798.77	4,762.90	17.26	17.25	99.59	-232.74	163.92	64.07	39.69	24.38	2.628				
4,900.00	4,856.09	4,898.40	4,858.40	17.75	17.71	104.93	-254.80	181.84	69.94	44.94	25.01	2.797				

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,000.00	4,949.69	4,998.03	4,953.89	18.25	18.17	109.42	-276.86	199.76	76.33	50.71	25.62	2.979		
5,100.00	5,043.29	5,097.66	5,049.38	18.76	18.65	113.20	-298.92	217.69	83.12	56.89	26.23	3.169		
5,200.00	5,136.88	5,197.29	5,144.87	19.29	19.13	116.40	-320.98	235.61	90.21	63.37	26.84	3.362		
5,300.00	5,230.48	5,296.93	5,240.36	19.82	19.61	119.12	-343.03	253.53	97.54	70.09	27.44	3.554		
5,400.00	5,324.08	5,396.56	5,335.85	20.37	20.10	121.46	-365.09	271.45	105.05	77.00	28.05	3.745		
5,500.00	5,417.68	5,496.19	5,431.35	20.93	20.60	123.49	-387.15	289.38	112.72	84.05	28.67	3.932		
5,600.00	5,511.27	5,595.82	5,526.84	21.49	21.10	125.25	-409.21	307.30	120.51	91.23	29.28	4.115		
5,700.00	5,604.87	5,695.45	5,622.33	22.06	21.60	126.80	-431.27	325.22	128.40	98.50	29.90	4.294		
5,800.00	5,698.47	5,795.08	5,717.82	22.64	22.11	128.17	-453.33	343.14	136.37	105.85	30.53	4.467		
5,900.00	5,792.07	5,894.72	5,813.31	23.22	22.62	129.39	-475.38	361.06	144.42	113.26	31.16	4.635		
6,000.00	5,885.66	5,994.35	5,908.81	23.81	23.14	130.48	-497.44	378.99	152.52	120.73	31.79	4.798		
6,100.00	5,979.26	6,093.98	6,004.30	24.41	23.66	131.46	-519.50	396.91	160.67	128.24	32.42	4.955		
6,200.00	6,072.86	6,193.61	6,099.79	25.01	24.19	132.34	-541.56	414.83	168.86	135.80	33.06	5.107		
6,300.00	6,166.46	6,293.24	6,195.28	25.61	24.71	133.15	-563.62	432.75	177.09	143.38	33.70	5.254		
6,400.00	6,260.05	6,392.87	6,290.77	26.22	25.24	133.88	-585.67	450.68	185.35	151.00	34.35	5.396		
6,500.00	6,353.65	6,492.51	6,386.27	26.84	25.77	134.55	-607.73	468.60	193.63	158.64	34.99	5.533		
6,600.00	6,447.25	6,592.14	6,481.76	27.45	26.31	135.16	-629.79	486.52	201.94	166.30	35.64	5.666		
6,700.00	6,540.85	6,691.77	6,577.25	28.07	26.84	135.72	-651.85	504.44	210.28	173.98	36.29	5.794		
6,800.00	6,634.44	6,791.40	6,672.74	28.70	27.38	136.25	-673.91	522.36	218.63	181.68	36.95	5.917		
6,900.00	6,728.04	6,891.03	6,768.23	29.33	27.92	136.73	-695.97	540.29	226.99	189.39	37.61	6.036		
7,000.00	6,821.64	6,990.66	6,863.72	29.96	28.47	137.18	-718.02	558.21	235.38	197.11	38.26	6.151		
7,100.00	6,915.24	7,090.30	6,959.22	30.59	29.01	137.60	-740.08	576.13	243.77	204.85	38.92	6.263		
7,200.00	7,008.83	7,189.93	7,054.71	31.23	29.56	137.99	-762.14	594.05	252.18	212.59	39.59	6.370		
7,300.00	7,102.43	7,289.56	7,150.20	31.87	30.11	138.35	-784.20	611.98	260.60	220.35	40.25	6.475		
7,400.00	7,196.03	7,389.19	7,245.69	32.51	30.66	138.70	-806.26	629.90	269.03	228.11	40.92	6.575		
7,500.00	7,289.63	7,488.82	7,341.18	33.15	31.21	139.02	-828.31	647.82	277.47	235.88	41.58	6.673		
7,600.00	7,383.22	7,588.45	7,436.68	33.80	31.76	139.32	-850.37	665.74	285.91	243.66	42.25	6.767		
7,683.32	7,461.21	7,671.47	7,516.24	34.34	32.22	139.56	-868.75	680.68	292.95	250.14	42.81	6.843		
7,700.00	7,476.83	7,688.09	7,532.17	34.44	32.31	139.61	-872.43	683.67	294.34	251.42	42.92	6.858		
7,800.00	7,571.03	7,787.83	7,627.77	35.07	32.87	139.74	-894.51	701.61	301.47	257.85	43.62	6.912		
7,900.00	7,666.07	7,887.69	7,723.47	35.68	33.43	139.53	-916.62	719.57	306.61	262.25	44.35	6.913		
8,000.00	7,761.89	7,982.67	7,814.83	36.25	33.95	139.18	-936.81	735.97	310.55	265.45	45.11	6.885		
8,100.00	7,858.43	8,077.56	7,906.70	36.80	34.44	138.87	-955.21	750.92	314.14	268.32	45.82	6.856		
8,200.00	7,955.62	8,172.44	7,999.13	37.32	34.92	138.60	-971.83	764.42	317.38	270.88	46.50	6.825		
8,300.00	8,053.39	8,267.32	8,092.06	37.81	35.38	138.35	-986.66	776.48	320.26	273.11	47.15	6.792		
8,400.00	8,151.68	8,362.19	8,185.44	38.27	35.81	138.14	-999.70	787.07	322.77	275.01	47.76	6.758		
8,500.00	8,250.41	8,457.07	8,279.20	38.71	36.22	137.95	-1,010.93	796.20	324.92	276.58	48.34	6.722		
8,600.00	8,349.53	8,551.95	8,373.29	39.11	36.60	137.79	-1,020.35	803.85	326.69	277.82	48.87	6.685		
8,700.00	8,448.96	8,646.82	8,467.66	39.49	36.97	137.66	-1,027.96	810.03	328.09	278.72	49.37	6.645		
8,800.00	8,548.63	8,741.70	8,562.25	39.84	37.31	137.56	-1,033.74	814.73	329.11	279.28	49.84	6.604		
8,900.00	8,648.48	8,836.59	8,656.99	40.17	37.63	137.47	-1,037.70	817.95	329.76	279.49	50.27	6.560		
9,000.00	8,748.44	8,931.48	8,751.84	40.46	37.93	137.42	-1,039.83	819.68	330.03	279.37	50.66	6.515		
9,057.57	8,806.00	8,986.10	8,806.46	40.62	38.09	-90.56	-1,040.23	820.00	330.01	279.15	50.86	6.488		
9,075.52	8,823.95	9,003.59	8,823.95	40.67	38.14	-90.56	-1,040.24	820.01	330.01	279.07	50.93	6.479		
9,100.00	8,848.43	9,028.07	8,848.43	40.73	38.20	-90.56	-1,040.24	820.01	330.01	278.97	51.03	6.467		
9,200.00	8,948.43	9,128.07	8,948.43	41.00	38.48	-90.56	-1,040.24	820.01	330.01	278.56	51.44	6.415		
9,300.00	9,048.43	9,228.07	9,048.43	41.26	38.76	-90.56	-1,040.24	820.01	330.01	278.15	51.86	6.364		
9,400.00	9,148.43	9,328.07	9,148.43	41.53	39.04	-90.56	-1,040.24	820.01	330.01	277.73	52.27	6.313		
9,500.00	9,248.43	9,428.07	9,248.43	41.80	39.33	-90.56	-1,040.24	820.01	330.01	277.32	52.69	6.263		
9,600.00	9,348.43	9,528.07	9,348.43	42.06	39.61	-90.56	-1,040.24	820.01	330.01	276.90	53.11	6.214		
9,700.00	9,448.43	9,628.07	9,448.43	42.34	39.89	-90.56	-1,040.24	820.01	330.01	276.48	53.53	6.165		
9,800.00	9,548.43	9,728.07	9,548.43	42.61	40.18	-90.56	-1,040.24	820.01	330.01	276.06	53.95	6.117		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
9,900.00	9,648.43	9,828.07	9,648.43	42.88	40.47	-90.56	-1,040.24	820.01	330.01	275.63	54.37	6.069		
10,000.00	9,748.43	9,928.07	9,748.43	43.16	40.76	-90.56	-1,040.24	820.01	330.01	275.21	54.80	6.022		
10,100.00	9,848.43	10,028.07	9,848.43	43.43	41.05	-90.56	-1,040.24	820.01	330.01	274.78	55.22	5.976		
10,200.00	9,948.43	10,128.07	9,948.43	43.71	41.34	-90.56	-1,040.24	820.01	330.01	274.36	55.65	5.930		
10,300.00	10,048.43	10,228.07	10,048.43	43.99	41.63	-90.56	-1,040.24	820.01	330.01	273.93	56.08	5.885		
10,400.00	10,148.43	10,328.07	10,148.43	44.26	41.92	-90.56	-1,040.24	820.01	330.01	273.50	56.51	5.840		
10,500.00	10,248.43	10,428.07	10,248.43	44.55	42.21	-90.56	-1,040.24	820.01	330.01	273.07	56.94	5.796		
10,600.00	10,348.43	10,528.07	10,348.43	44.83	42.51	-90.56	-1,040.24	820.01	330.01	272.64	57.37	5.752		
10,700.00	10,448.43	10,628.07	10,448.43	45.11	42.80	-90.56	-1,040.24	820.01	330.01	272.20	57.80	5.709		
10,800.00	10,548.43	10,728.07	10,548.43	45.39	43.10	-90.56	-1,040.24	820.01	330.01	271.77	58.24	5.667		
10,900.00	10,648.43	10,828.07	10,648.43	45.68	43.40	-90.56	-1,040.24	820.01	330.01	271.33	58.67	5.625		
11,000.00	10,748.43	10,928.07	10,748.43	45.96	43.70	-90.56	-1,040.24	820.01	330.01	270.90	59.11	5.583		
11,100.00	10,848.43	11,028.07	10,848.43	46.25	44.00	-90.56	-1,040.24	820.01	330.01	270.46	59.55	5.542		
11,200.00	10,948.43	11,128.07	10,948.43	46.54	44.30	-90.56	-1,040.24	820.01	330.01	270.02	59.99	5.501		
11,300.00	11,048.43	11,228.07	11,048.43	46.83	44.60	-90.56	-1,040.24	820.01	330.01	269.58	60.43	5.461		
11,400.00	11,148.43	11,328.07	11,148.43	47.12	44.90	-90.56	-1,040.24	820.01	330.01	269.14	60.87	5.422		
11,500.00	11,248.43	11,428.07	11,248.43	47.41	45.20	-90.56	-1,040.24	820.01	330.01	268.70	61.31	5.383		
11,600.00	11,348.43	11,528.07	11,348.43	47.70	45.50	-90.56	-1,040.24	820.01	330.01	268.25	61.75	5.344		
11,700.00	11,448.43	11,628.07	11,448.43	47.99	45.81	-90.56	-1,040.24	820.01	330.01	267.81	62.20	5.306		
11,800.00	11,548.43	11,728.07	11,548.43	48.28	46.11	-90.56	-1,040.24	820.01	330.01	267.36	62.64	5.268		
11,900.00	11,648.43	11,828.07	11,648.43	48.58	46.42	-90.56	-1,040.24	820.01	330.01	266.92	63.09	5.231		
12,000.00	11,748.43	11,928.07	11,748.43	48.87	46.73	-90.56	-1,040.24	820.01	330.01	266.47	63.53	5.194		
12,005.40	11,753.83	11,933.47	11,753.83	48.89	46.74	-90.56	-1,040.24	820.01	330.01	266.45	63.56	5.192		
12,100.00	11,848.43	12,027.61	11,847.74	49.17	47.06	-91.46	-1,045.40	820.06	330.05	265.92	64.12	5.147		
12,124.61	11,873.04	12,051.62	11,871.46	49.24	47.15	-92.10	-1,049.11	820.10	330.13	265.80	64.33	5.132		
12,150.00	11,898.42	12,076.14	11,895.50	49.32	47.25	87.91	-1,053.92	820.14	330.28	265.73	64.55	5.116		
12,200.00	11,948.22	12,123.92	11,941.65	49.49	47.46	86.44	-1,066.23	820.26	330.76	265.77	64.99	5.090		
12,250.00	11,997.43	12,171.05	11,986.02	49.67	47.69	85.01	-1,082.10	820.42	331.46	266.05	65.40	5.068		
12,300.00	12,045.71	12,217.59	12,028.40	49.88	47.93	83.63	-1,101.29	820.61	332.34	266.55	65.80	5.051		
12,350.00	12,092.66	12,263.57	12,068.61	50.11	48.18	82.30	-1,123.57	820.83	333.40	267.24	66.16	5.040		
12,400.00	12,137.95	12,309.05	12,106.49	50.35	48.44	81.04	-1,148.70	821.07	334.59	268.11	66.48	5.033		
12,450.00	12,181.22	12,354.06	12,141.91	50.62	48.71	79.85	-1,176.46	821.34	335.87	269.12	66.75	5.032		
12,500.00	12,222.15	12,400.00	12,175.70	50.89	49.01	78.72	-1,207.57	821.65	337.22	270.18	67.04	5.030		
12,550.00	12,260.41	12,442.84	12,204.87	51.18	49.29	77.72	-1,238.93	821.95	338.60	271.43	67.17	5.041		
12,600.00	12,295.73	12,486.70	12,232.22	51.49	49.59	76.79	-1,273.20	822.29	339.97	272.66	67.31	5.050		
12,650.00	12,327.84	12,530.26	12,256.71	51.81	49.91	75.96	-1,309.21	822.64	341.30	273.88	67.43	5.062		
12,700.00	12,356.48	12,573.55	12,278.27	52.14	50.22	75.22	-1,346.73	823.01	342.56	275.05	67.51	5.074		
12,750.00	12,381.44	12,616.62	12,296.85	52.48	50.55	74.58	-1,385.57	823.39	343.73	276.14	67.58	5.086		
12,800.00	12,402.53	12,659.49	12,312.39	52.84	50.88	74.04	-1,425.52	823.78	344.76	277.12	67.65	5.096		
12,850.00	12,419.60	12,700.00	12,324.30	53.20	51.20	73.62	-1,464.23	824.16	345.67	278.05	67.61	5.112		
12,900.00	12,432.50	12,744.81	12,334.24	53.57	51.56	73.28	-1,507.90	824.59	346.39	278.57	67.82	5.108		
12,950.00	12,441.15	12,787.32	12,340.50	53.95	51.90	73.06	-1,549.94	825.00	346.94	279.00	67.94	5.106		
13,000.00	12,445.47	12,829.78	12,343.62	54.34	52.25	72.94	-1,592.28	825.41	347.30	279.20	68.11	5.100		
13,024.61	12,446.00	12,850.68	12,344.00	54.53	52.42	72.93	-1,613.17	825.62	347.41	279.21	68.20	5.094		
13,100.00	12,446.00	12,926.06	12,344.00	55.13	53.05	72.94	-1,688.55	826.36	347.68	278.67	69.01	5.038		
13,200.00	12,446.00	13,026.06	12,344.00	55.95	53.91	72.96	-1,788.54	827.33	348.03	277.90	70.13	4.962		
13,300.00	12,446.00	13,126.06	12,344.00	56.81	54.81	72.98	-1,888.53	828.31	348.38	277.08	71.30	4.886		
13,400.00	12,446.00	13,226.06	12,344.00	57.70	55.75	72.99	-1,988.53	829.29	348.73	276.21	72.52	4.809		
13,500.00	12,446.00	13,326.06	12,344.00	58.63	56.72	73.01	-2,088.52	830.27	349.08	275.29	73.78	4.731		
13,600.00	12,446.00	13,426.06	12,344.00	59.59	57.72	73.03	-2,188.52	831.25	349.43	274.34	75.09	4.653		
13,700.00	12,446.00	13,526.06	12,344.00	60.58	58.74	73.05	-2,288.51	832.23	349.78	273.34	76.44	4.576		
13,800.00	12,446.00	13,626.06	12,344.00	61.60	59.80	73.06	-2,388.51	833.21	350.13	272.30	77.83	4.499		

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 703H - OH - Plan #1		Offset Site Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance						Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
							+N/-S (usft)	+E/-W (usft)								
13,900.00	12,446.00	13,726.06	12,344.00	62.64	60.88	73.08	-2,488.50	834.18	350.48	271.22	79.26	4.422				
14,000.00	12,446.00	13,826.05	12,344.00	63.71	61.99	73.10	-2,588.50	835.16	350.83	270.11	80.72	4.346				
14,100.00	12,446.00	13,926.05	12,344.00	64.81	63.12	73.12	-2,688.49	836.14	351.18	268.97	82.21	4.272				
14,200.00	12,446.00	14,026.05	12,344.00	65.92	64.28	73.13	-2,788.49	837.12	351.53	267.79	83.74	4.198				
14,300.00	12,446.00	14,126.05	12,344.00	67.07	65.45	73.15	-2,888.48	838.10	351.88	266.58	85.30	4.125				
14,400.00	12,446.00	14,226.05	12,344.00	68.23	66.65	73.17	-2,988.47	839.08	352.23	265.35	86.88	4.054				
14,500.00	12,446.00	14,326.05	12,344.00	69.41	67.86	73.18	-3,088.47	840.06	352.58	264.09	88.49	3.984				
14,600.00	12,446.00	14,426.05	12,344.00	70.61	69.09	73.20	-3,188.46	841.04	352.93	262.81	90.12	3.916				
14,700.00	12,446.00	14,526.05	12,344.00	71.83	70.34	73.22	-3,288.46	842.01	353.28	261.50	91.78	3.849				
14,800.00	12,446.00	14,626.05	12,344.00	73.06	71.61	73.24	-3,388.45	842.99	353.63	260.17	93.46	3.784				
14,900.00	12,446.00	14,726.05	12,344.00	74.32	72.89	73.25	-3,488.45	843.97	353.98	258.82	95.17	3.720				
15,000.00	12,446.00	14,826.05	12,344.00	75.58	74.19	73.27	-3,588.44	844.95	354.33	257.45	96.89	3.657				
15,100.00	12,446.00	14,926.05	12,344.00	76.87	75.50	73.29	-3,688.44	845.93	354.68	256.06	98.63	3.596				
15,200.00	12,446.00	15,026.05	12,344.00	78.16	76.82	73.30	-3,788.43	846.91	355.03	254.65	100.39	3.537				
15,300.00	12,446.00	15,126.05	12,344.00	79.47	78.15	73.32	-3,888.43	847.89	355.39	253.22	102.16	3.479				
15,400.00	12,446.00	15,226.04	12,344.00	80.79	79.50	73.34	-3,988.42	848.87	355.74	251.78	103.95	3.422				
15,500.00	12,446.00	15,326.04	12,344.00	82.13	80.86	73.35	-4,088.41	849.84	356.09	250.33	105.76	3.367				
15,600.00	12,446.00	15,426.04	12,344.00	83.47	82.23	73.37	-4,188.41	850.82	356.44	248.86	107.58	3.313				
15,700.00	12,446.00	15,526.04	12,344.00	84.83	83.61	73.39	-4,288.40	851.80	356.79	247.38	109.41	3.261				
15,800.00	12,446.00	15,626.04	12,344.00	86.20	85.00	73.40	-4,388.40	852.78	357.14	245.88	111.26	3.210				
15,900.00	12,446.00	15,726.04	12,344.00	87.57	86.40	73.42	-4,488.39	853.76	357.49	244.38	113.11	3.160				
16,000.00	12,446.00	15,826.04	12,344.00	88.96	87.80	73.44	-4,588.39	854.74	357.84	242.86	114.98	3.112				
16,100.00	12,446.00	15,926.04	12,344.00	90.35	89.22	73.46	-4,688.38	855.72	358.19	241.33	116.86	3.065				
16,200.00	12,446.00	16,026.04	12,344.00	91.76	90.64	73.47	-4,788.38	856.69	358.54	239.79	118.75	3.019				
16,300.00	12,446.00	16,126.04	12,344.00	93.17	92.07	73.49	-4,888.37	857.67	358.89	238.24	120.65	2.975				
16,400.00	12,446.00	16,226.04	12,344.00	94.59	93.51	73.51	-4,988.37	858.65	359.24	236.69	122.56	2.931				
16,500.00	12,446.00	16,326.04	12,344.00	96.02	94.96	73.52	-5,088.36	859.63	359.60	235.12	124.47	2.889				
16,600.00	12,446.00	16,426.04	12,344.00	97.45	96.41	73.54	-5,188.35	860.61	359.95	233.55	126.40	2.848				
16,700.00	12,446.00	16,526.04	12,344.00	98.89	97.87	73.55	-5,288.35	861.59	360.30	231.97	128.33	2.808				
16,800.00	12,446.00	16,626.04	12,344.00	100.34	99.33	73.57	-5,388.34	862.57	360.65	230.38	130.27	2.768				
16,900.00	12,446.00	16,726.03	12,344.00	101.79	100.80	73.59	-5,488.34	863.55	361.00	228.78	132.22	2.730				
17,000.00	12,446.00	16,826.03	12,344.00	103.25	102.28	73.60	-5,588.33	864.52	361.35	227.18	134.17	2.693				
17,100.00	12,446.00	16,926.03	12,344.00	104.72	103.76	73.62	-5,688.33	865.50	361.70	225.58	136.13	2.657				
17,200.00	12,446.00	17,026.03	12,344.00	106.19	105.24	73.64	-5,788.32	866.48	362.05	223.96	138.09	2.622				
17,300.00	12,446.00	17,126.03	12,344.00	107.66	106.73	73.65	-5,888.32	867.46	362.40	222.34	140.06	2.587				
17,400.00	12,446.00	17,226.03	12,344.00	109.15	108.23	73.67	-5,988.31	868.44	362.76	220.72	142.04	2.554				
17,500.00	12,446.00	17,326.03	12,344.00	110.63	109.73	73.69	-6,088.30	869.42	363.11	219.09	144.01	2.521				
17,600.00	12,446.00	17,426.03	12,344.00	112.12	111.23	73.70	-6,188.30	870.40	363.46	217.46	146.00	2.489				
17,700.00	12,446.00	17,526.03	12,344.00	113.62	112.74	73.72	-6,288.29	871.38	363.81	215.82	147.99	2.458				
17,800.00	12,446.00	17,626.03	12,344.00	115.12	114.25	73.73	-6,388.29	872.35	364.16	214.18	149.98	2.428				
17,900.00	12,446.00	17,726.03	12,344.00	116.62	115.77	73.75	-6,488.28	873.33	364.51	212.54	151.98	2.398				
18,000.00	12,446.00	17,826.03	12,344.00	118.13	117.29	73.77	-6,588.28	874.31	364.86	210.89	153.98	2.370				
18,100.00	12,446.00	17,926.03	12,344.00	119.64	118.81	73.78	-6,688.27	875.29	365.22	209.24	155.98	2.341				
18,200.00	12,446.00	18,026.03	12,344.00	121.16	120.34	73.80	-6,788.27	876.27	365.57	207.58	157.99	2.314				
18,300.00	12,446.00	18,126.03	12,344.00	122.67	121.87	73.81	-6,888.26	877.25	365.92	205.92	159.99	2.287				
18,400.00	12,446.00	18,226.02	12,344.00	124.20	123.40	73.83	-6,988.26	878.23	366.27	204.26	162.01	2.261				
18,500.00	12,446.00	18,326.02	12,344.00	125.72	124.94	73.85	-7,088.25	879.20	366.62	202.60	164.02	2.235				
18,600.00	12,446.00	18,426.02	12,344.00	127.25	126.48	73.86	-7,188.24	880.18	366.97	200.94	166.04	2.210				
18,700.00	12,446.00	18,526.02	12,344.00	128.78	128.02	73.88	-7,288.24	881.16	367.33	199.27	168.06	2.186				
18,800.00	12,446.00	18,626.02	12,344.00	130.32	129.56	73.89	-7,388.23	882.14	367.68	197.60	170.08	2.162				
18,900.00	12,446.00	18,726.02	12,344.00	131.86	131.11	73.91	-7,488.23	883.12	368.03	195.93	172.10	2.138				
19,000.00	12,446.00	18,826.02	12,344.00	133.40	132.66	73.93	-7,588.22	884.10	368.38	194.26	174.13	2.116				

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 703H - OH - Plan #1		Offset Site Error:		0.00 usft
Survey Program: 0-OWSG (Rev2) MWD															Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor					
19,100.00	12,446.00	18,926.02	12,344.00	134.94	134.21	73.94	-7,688.22	885.08	368.73	192.58	176.15	2.093					
19,200.00	12,446.00	19,026.02	12,344.00	136.48	135.77	73.96	-7,788.21	886.06	369.08	190.90	178.18	2.071					
19,300.00	12,446.00	19,126.02	12,344.00	138.03	137.32	73.97	-7,888.21	887.03	369.44	189.23	180.21	2.050					
19,400.00	12,446.00	19,226.02	12,344.00	139.58	138.88	73.99	-7,988.20	888.01	369.79	187.55	182.24	2.029					
19,500.00	12,446.00	19,326.02	12,344.00	141.14	140.44	74.00	-8,088.20	888.99	370.14	185.87	184.27	2.009					
19,600.00	12,446.00	19,426.02	12,344.00	142.69	142.01	74.02	-8,188.19	889.97	370.49	184.19	186.30	1.989					
19,700.00	12,446.00	19,526.02	12,344.00	144.25	143.57	74.04	-8,288.18	890.95	370.84	182.51	188.34	1.969					
19,800.00	12,446.00	19,626.02	12,344.00	145.81	145.14	74.05	-8,388.18	891.93	371.20	180.82	190.37	1.950					
19,900.00	12,446.00	19,726.01	12,344.00	147.37	146.71	74.07	-8,488.17	892.91	371.55	179.14	192.41	1.931					
20,000.00	12,446.00	19,826.01	12,344.00	148.93	148.28	74.08	-8,588.17	893.89	371.90	177.46	194.44	1.913					
20,100.00	12,446.00	19,926.01	12,344.00	150.50	149.85	74.10	-8,688.16	894.86	372.25	175.78	196.48	1.895					
20,200.00	12,446.00	20,026.01	12,344.00	152.06	151.42	74.11	-8,788.16	895.84	372.60	174.09	198.51	1.877					
20,300.00	12,446.00	20,126.01	12,344.00	153.63	153.00	74.13	-8,888.15	896.82	372.96	172.41	200.55	1.860					
20,400.00	12,446.00	20,226.01	12,344.00	155.20	154.58	74.14	-8,988.15	897.80	373.31	170.72	202.58	1.843					
20,500.00	12,446.00	20,326.01	12,344.00	156.77	156.15	74.16	-9,088.14	898.78	373.66	169.04	204.62	1.826					
20,600.00	12,446.00	20,426.01	12,344.00	158.35	157.74	74.17	-9,188.14	899.76	374.01	167.36	206.66	1.810					
20,700.00	12,446.00	20,526.01	12,344.00	159.92	159.32	74.19	-9,288.13	900.74	374.36	165.67	208.69	1.794					
20,800.00	12,446.00	20,626.01	12,344.00	161.50	160.90	74.20	-9,388.12	901.71	374.72	163.99	210.73	1.778					
20,900.00	12,446.00	20,726.01	12,344.00	163.08	162.48	74.22	-9,488.12	902.69	375.07	162.31	212.76	1.763					
21,000.00	12,446.00	20,826.01	12,344.00	164.66	164.07	74.23	-9,588.11	903.67	375.42	160.62	214.80	1.748					
21,100.00	12,446.00	20,926.01	12,344.00	166.24	165.66	74.25	-9,688.11	904.65	375.77	158.94	216.83	1.733					
21,200.00	12,446.00	21,026.01	12,344.00	167.82	167.24	74.27	-9,788.10	905.63	376.13	157.26	218.87	1.719					
21,300.00	12,446.00	21,126.01	12,344.00	169.41	168.83	74.28	-9,888.10	906.61	376.48	155.58	220.90	1.704					
21,400.00	12,446.00	21,226.00	12,344.00	170.99	170.43	74.30	-9,988.09	907.59	376.83	153.90	222.93	1.690					
21,500.00	12,446.00	21,326.00	12,344.00	172.58	172.02	74.31	-10,088.09	908.57	377.18	152.22	224.96	1.677					
21,600.00	12,446.00	21,426.00	12,344.00	174.17	173.61	74.33	-10,188.08	909.54	377.54	150.54	226.99	1.663					
21,700.00	12,446.00	21,526.00	12,344.00	175.76	175.20	74.34	-10,288.08	910.52	377.89	148.87	229.02	1.650					
21,800.00	12,446.00	21,626.00	12,344.00	177.35	176.80	74.36	-10,388.07	911.50	378.24	147.19	231.05	1.637					
21,900.00	12,446.00	21,726.00	12,344.00	178.94	178.39	74.37	-10,488.06	912.48	378.59	145.52	233.08	1.624					
22,000.00	12,446.00	21,826.00	12,344.00	180.53	179.99	74.39	-10,588.06	913.46	378.95	143.84	235.10	1.612					
22,100.00	12,446.00	21,926.00	12,344.00	182.12	181.59	74.40	-10,688.05	914.44	379.30	142.17	237.13	1.600					
22,200.00	12,446.00	22,026.00	12,344.00	183.72	183.19	74.41	-10,788.05	915.42	379.65	140.50	239.15	1.587					
22,300.00	12,446.00	22,126.00	12,344.00	185.31	184.79	74.43	-10,888.04	916.39	380.00	138.83	241.17	1.576					
22,400.00	12,446.00	22,226.00	12,344.00	186.91	186.39	74.44	-10,988.04	917.37	380.36	137.16	243.19	1.564					
22,500.00	12,446.00	22,326.00	12,344.00	188.51	187.99	74.46	-11,088.03	918.35	380.71	135.50	245.21	1.553					
22,600.00	12,446.00	22,426.00	12,344.00	190.11	189.59	74.47	-11,188.03	919.33	381.06	133.83	247.23	1.541					
22,700.00	12,446.00	22,526.00	12,344.00	191.71	191.20	74.49	-11,288.02	920.31	381.41	132.17	249.25	1.530					
22,800.00	12,446.00	22,626.00	12,344.00	193.31	192.77	74.50	-11,388.02	921.29	381.77	130.60	251.16	1.520					
22,817.13	12,446.00	22,642.51	12,344.00	193.58	193.01	74.51	-11,404.53	921.45	381.83	130.49	251.34	1.519					

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 704H - OH - Plan #2		Offset Site Error:		0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD															Offset Well Error:		0.00 usft	
Reference		Offset		Semi Major Axis			Distance											
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning					
0.00	0.00	0.00	0.00	0.00	0.00	111.80	-993.12	2,483.60	2,675.13									
100.00	100.00	57.80	57.80	0.13	0.07	111.80	-993.12	2,483.60	2,674.80	2,674.66	0.14	N/A						
200.00	200.00	157.80	157.80	0.48	0.33	111.80	-993.12	2,483.60	2,674.80	2,674.21	0.59	4,554.815						
300.00	300.00	257.80	257.80	0.84	0.69	111.80	-993.12	2,483.60	2,674.80	2,673.71	1.09	2,454.754						
400.00	400.00	357.80	357.80	1.20	1.05	111.80	-993.12	2,483.60	2,674.80	2,673.21	1.59	1,677.071						
500.00	500.00	457.80	457.80	1.56	1.41	111.80	-993.12	2,483.60	2,674.80	2,672.70	2.10	1,273.100						
600.00	600.00	557.80	557.80	1.92	1.77	111.80	-993.12	2,483.60	2,674.80	2,672.19	2.61	1,025.834						
700.00	700.00	657.80	657.80	2.28	2.13	111.80	-993.12	2,483.60	2,674.80	2,671.69	3.11	858.950						
800.00	800.00	757.80	757.80	2.63	2.48	111.80	-993.12	2,483.60	2,674.80	2,671.18	3.62	738.745						
900.00	900.00	857.80	857.80	2.99	2.84	111.80	-993.12	2,483.60	2,674.80	2,670.67	4.13	648.044						
1,000.00	1,000.00	957.80	957.80	3.35	3.20	111.80	-993.12	2,483.60	2,674.80	2,670.17	4.63	577.175						
1,100.00	1,100.00	1,057.80	1,057.80	3.71	3.56	111.80	-993.12	2,483.60	2,674.80	2,669.66	5.14	520.274						
1,200.00	1,200.00	1,157.80	1,157.80	4.07	3.92	111.80	-993.12	2,483.60	2,674.80	2,669.15	5.65	473.585						
1,300.00	1,300.00	1,257.80	1,257.80	4.43	4.28	111.80	-993.12	2,483.60	2,674.80	2,668.65	6.15	434.583						
1,400.00	1,400.00	1,357.80	1,357.80	4.79	4.63	111.80	-993.12	2,483.60	2,674.80	2,668.14	6.66	401.516						
1,500.00	1,500.00	1,457.80	1,457.80	5.14	4.99	111.80	-993.12	2,483.60	2,674.80	2,667.63	7.17	373.125						
1,600.00	1,600.00	1,557.80	1,557.80	5.50	5.35	111.80	-993.12	2,483.60	2,674.80	2,667.12	7.68	348.484						
1,700.00	1,700.00	1,657.80	1,657.80	5.86	5.71	111.80	-993.12	2,483.60	2,674.80	2,666.62	8.18	326.895						
1,800.00	1,800.00	1,757.80	1,757.80	6.22	6.07	111.80	-993.12	2,483.60	2,674.80	2,666.11	8.69	307.825						
1,900.00	1,900.00	1,857.80	1,857.80	6.58	6.43	111.80	-993.12	2,483.60	2,674.80	2,665.60	9.20	290.857						
2,000.00	2,000.00	1,957.80	1,957.80	6.94	6.79	111.80	-993.12	2,483.60	2,674.80	2,665.10	9.70	275.661						
2,100.00	2,100.00	2,057.80	2,057.80	7.29	7.14	111.80	-993.12	2,483.60	2,674.80	2,664.59	10.21	261.975						
2,200.00	2,200.00	2,157.80	2,157.80	7.65	7.50	111.80	-993.12	2,483.60	2,674.80	2,664.08	10.72	249.583						
2,300.00	2,300.00	2,257.80	2,257.80	8.01	7.86	111.80	-993.12	2,483.60	2,674.80	2,663.58	11.22	238.311						
2,400.00	2,400.00	2,357.80	2,357.80	8.37	8.22	111.80	-993.12	2,483.60	2,674.80	2,663.07	11.73	228.013						
2,500.00	2,500.00	2,457.80	2,457.80	8.73	8.58	111.80	-993.12	2,483.60	2,674.80	2,662.56	12.24	218.568						
2,600.00	2,600.00	2,557.80	2,557.80	9.09	8.94	111.80	-993.12	2,483.60	2,674.80	2,662.06	12.74	209.874						
2,700.00	2,700.00	2,657.80	2,657.80	9.45	9.29	111.80	-993.12	2,483.60	2,674.80	2,661.55	13.25	201.845						
2,800.00	2,800.00	2,757.80	2,757.80	9.80	9.65	111.80	-993.12	2,483.60	2,674.80	2,661.04	13.76	194.408						
2,900.00	2,900.00	2,857.80	2,857.80	10.16	10.01	111.80	-993.12	2,483.60	2,674.80	2,660.53	14.27	187.500						
3,000.00	3,000.00	2,957.80	2,957.80	10.52	10.37	111.80	-993.12	2,483.60	2,674.80	2,660.03	14.77	181.065						
3,100.00	3,100.00	3,057.80	3,057.80	10.88	10.73	111.80	-993.12	2,483.60	2,674.80	2,659.52	15.28	175.058						
3,200.00	3,200.00	3,157.80	3,157.80	11.24	11.09	111.80	-993.12	2,483.60	2,674.80	2,659.01	15.79	169.437						
3,300.00	3,300.00	3,358.56	3,358.51	11.60	11.79	111.82	-993.29	2,480.31	2,673.71	2,657.19	16.52	161.801						
3,400.00	3,399.99	3,579.71	3,579.06	11.94	12.55	-20.13	-994.12	2,464.56	2,665.47	2,648.21	17.27	154.375						
3,500.00	3,499.91	3,897.62	3,893.75	12.27	13.68	-19.90	-996.45	2,420.16	2,648.48	2,630.34	18.14	145.972						
3,600.00	3,599.69	4,035.12	4,028.63	12.60	14.19	-19.83	-997.85	2,393.47	2,624.68	2,606.00	18.68	140.508						
3,700.00	3,699.27	4,131.44	4,123.04	12.94	14.55	-19.85	-998.85	2,374.41	2,598.33	2,579.18	19.15	135.683						
3,800.00	3,798.57	4,227.13	4,216.83	13.28	14.92	-19.90	-999.85	2,355.46	2,569.61	2,549.99	19.62	130.970						
3,900.00	3,897.54	4,322.12	4,309.93	13.62	15.29	-19.99	-1,000.84	2,336.66	2,538.56	2,518.47	20.09	126.365						
4,000.00	3,996.09	4,416.35	4,402.29	13.97	15.67	-20.11	-1,001.82	2,318.01	2,505.18	2,484.62	20.56	121.862						
4,100.00	4,094.16	4,509.74	4,493.83	14.33	16.04	-20.27	-1,002.79	2,299.52	2,469.49	2,448.47	21.02	117.456						
4,200.00	4,191.70	4,602.25	4,584.50	14.70	16.41	-20.46	-1,003.75	2,281.21	2,431.52	2,410.03	21.49	113.142						
4,300.00	4,288.62	4,693.80	4,674.23	15.08	16.79	-20.69	-1,004.70	2,263.08	2,391.30	2,369.34	21.96	108.916						
4,400.00	4,384.86	4,784.33	4,762.97	15.48	17.16	-20.97	-1,005.64	2,245.16	2,348.84	2,326.42	22.42	104.774						
4,500.00	4,480.36	4,873.78	4,850.64	15.89	17.53	-21.30	-1,006.57	2,227.45	2,304.19	2,281.31	22.88	100.711						
4,600.00	4,575.05	4,962.09	4,937.20	16.33	17.90	-21.67	-1,007.49	2,209.97	2,257.37	2,234.03	23.34	96.723						
4,674.25	4,644.79	5,026.88	5,000.71	16.66	18.17	-21.98	-1,008.16	2,197.15	2,221.22	2,197.54	23.68	93.808						
4,700.00	4,668.90	5,049.24	5,022.62	16.78	18.27	-22.02	-1,008.40	2,192.72	2,208.49	2,184.69	23.80	92.807						
4,800.00	4,762.49	5,136.05	5,107.70	17.26	18.64	-22.14	-1,009.30	2,175.54	2,159.03	2,134.77	24.25	89.016						
4,900.00	4,856.09	5,222.86	5,192.79	17.75	19.00	-22.28	-1,010.20	2,158.35	2,109.58	2,084.86	24.72	85.351						
5,000.00	4,949.69	5,309.67	5,277.88	18.25	19.38	-22.42	-1,011.10	2,141.17	2,060.14	2,034.96	25.18	81.808						

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.00	5,043.29	5,396.48	5,362.96	18.76	19.75	-22.57	-1,012.01	2,123.98	2,010.71	1,985.06	25.65	78.383		
5,200.00	5,136.88	5,483.28	5,448.05	19.29	20.13	-22.72	-1,012.91	2,106.80	1,961.29	1,935.17	26.13	75.070		
5,300.00	5,230.48	5,570.09	5,533.14	19.82	20.50	-22.89	-1,013.81	2,089.61	1,911.89	1,885.28	26.60	71.867		
5,400.00	5,324.08	5,656.90	5,618.22	20.37	20.88	-23.06	-1,014.72	2,072.43	1,862.49	1,835.41	27.08	68.769		
5,500.00	5,417.68	5,743.71	5,703.31	20.93	21.26	-23.24	-1,015.62	2,055.24	1,813.11	1,785.54	27.57	65.773		
5,600.00	5,511.27	5,830.52	5,788.40	21.49	21.64	-23.43	-1,016.52	2,038.06	1,763.74	1,735.69	28.05	62.873		
5,700.00	5,604.87	5,917.33	5,873.48	22.06	22.03	-23.63	-1,017.42	2,020.87	1,714.39	1,685.85	28.54	60.066		
5,800.00	5,698.47	6,004.14	5,958.57	22.64	22.41	-23.85	-1,018.33	2,003.69	1,665.06	1,636.02	29.03	57.347		
5,900.00	5,792.07	6,090.95	6,043.66	23.22	22.80	-24.07	-1,019.23	1,986.50	1,615.74	1,586.21	29.53	54.714		
6,000.00	5,885.66	6,177.76	6,128.74	23.81	23.18	-24.31	-1,020.13	1,969.32	1,566.45	1,536.42	30.03	52.164		
6,100.00	5,979.26	6,264.57	6,213.83	24.41	23.57	-24.57	-1,021.03	1,952.13	1,517.17	1,486.64	30.53	49.692		
6,200.00	6,072.86	6,351.38	6,298.92	25.01	23.96	-24.85	-1,021.94	1,934.95	1,467.93	1,436.89	31.04	47.296		
6,300.00	6,166.46	6,438.19	6,384.00	25.61	24.35	-25.14	-1,022.84	1,917.76	1,418.70	1,387.16	31.55	44.974		
6,400.00	6,260.05	6,525.00	6,469.09	26.22	24.74	-25.45	-1,023.74	1,900.58	1,369.51	1,337.46	32.06	42.721		
6,500.00	6,353.65	6,611.81	6,554.18	26.84	25.13	-25.79	-1,024.64	1,883.40	1,320.36	1,287.79	32.57	40.536		
6,600.00	6,447.25	6,698.62	6,639.26	27.45	25.53	-26.15	-1,025.55	1,866.21	1,271.24	1,238.15	33.09	38.417		
6,700.00	6,540.85	6,785.42	6,724.35	28.07	25.92	-26.55	-1,026.45	1,849.03	1,222.16	1,188.55	33.61	36.359		
6,800.00	6,634.44	6,872.08	6,794.65	28.70	26.24	-26.90	-1,027.17	1,835.20	1,173.57	1,139.40	34.17	34.341		
6,900.00	6,728.04	6,958.56	6,862.07	29.33	26.54	-27.29	-1,027.81	1,823.17	1,126.46	1,091.71	34.75	32.416		
7,000.00	6,821.64	7,000.00	6,935.58	29.96	26.86	-27.77	-1,028.42	1,811.47	1,080.93	1,045.61	35.32	30.601		
7,100.00	6,915.24	7,065.92	7,000.85	30.59	27.13	-28.24	-1,028.90	1,802.31	1,037.01	1,001.08	35.92	28.869		
7,200.00	7,008.83	7,137.75	7,072.15	31.23	27.42	-28.82	-1,029.36	1,793.60	994.79	958.28	36.52	27.242		
7,300.00	7,102.43	7,210.65	7,144.67	31.87	27.71	-29.48	-1,029.75	1,786.14	954.35	917.23	37.12	25.709		
7,400.00	7,196.03	7,284.60	7,218.35	32.51	27.99	-30.22	-1,030.07	1,779.98	915.76	878.02	37.73	24.269		
7,500.00	7,289.63	7,359.54	7,293.15	33.15	28.26	-31.05	-1,030.33	1,775.20	879.10	840.74	38.35	22.921		
7,600.00	7,383.22	7,435.46	7,368.99	33.80	28.53	-31.98	-1,030.50	1,771.84	844.46	805.48	38.99	21.661		
7,683.32	7,461.21	7,500.00	7,433.51	34.34	28.75	-32.84	-1,030.59	1,770.18	817.22	777.70	39.52	20.678		
7,700.00	7,476.83	7,512.31	7,445.81	34.44	28.79	-32.96	-1,030.60	1,769.98	811.98	772.35	39.63	20.489		
7,800.00	7,571.03	7,595.33	7,528.83	35.07	29.06	-33.86	-1,030.62	1,769.60	782.99	742.71	40.28	19.438		
7,900.00	7,666.07	7,690.37	7,623.87	35.68	29.37	-34.92	-1,030.62	1,769.60	756.93	715.99	40.94	18.488		
8,000.00	7,761.89	7,786.19	7,719.69	36.25	29.68	-35.96	-1,030.62	1,769.60	733.31	691.70	41.61	17.625		
8,100.00	7,858.43	7,882.73	7,816.23	36.80	29.99	-36.98	-1,030.62	1,769.60	712.08	669.81	42.27	16.846		
8,200.00	7,955.62	7,979.92	7,913.42	37.32	30.31	-37.96	-1,030.62	1,769.60	693.21	650.28	42.93	16.148		
8,300.00	8,053.39	8,077.69	8,011.19	37.81	30.62	-38.89	-1,030.62	1,769.60	676.63	633.05	43.57	15.528		
8,400.00	8,151.68	8,175.97	8,109.48	38.27	30.95	-39.74	-1,030.62	1,769.60	662.28	618.07	44.21	14.981		
8,500.00	8,250.41	8,274.71	8,208.21	38.71	31.27	-40.51	-1,030.62	1,769.60	650.10	605.28	44.82	14.503		
8,600.00	8,349.53	8,373.82	8,307.33	39.11	31.59	-41.18	-1,030.62	1,769.60	640.04	594.62	45.42	14.092		
8,700.00	8,448.96	8,473.25	8,406.76	39.49	31.92	-41.73	-1,030.62	1,769.60	632.04	586.05	45.99	13.743		
8,800.00	8,548.63	8,572.93	8,506.43	39.84	32.25	-42.16	-1,030.62	1,769.60	626.05	579.52	46.53	13.454		
8,900.00	8,648.48	8,672.78	8,606.28	40.17	32.58	-42.45	-1,030.62	1,769.60	622.03	574.98	47.05	13.222		
9,000.00	8,748.44	8,772.73	8,706.24	40.46	32.91	-42.61	-1,030.62	1,769.60	619.95	572.42	47.53	13.043		
9,057.57	8,806.00	8,830.30	8,763.80	40.62	33.10	89.41	-1,030.62	1,769.60	619.63	571.84	47.79	12.965		
9,100.00	8,848.43	8,872.73	8,806.23	40.73	33.24	89.41	-1,030.62	1,769.60	619.63	571.65	47.98	12.914		
9,200.00	8,948.43	8,972.73	8,906.23	41.00	33.57	89.41	-1,030.62	1,769.60	619.63	571.21	48.43	12.795		
9,300.00	9,048.43	9,072.73	9,006.23	41.26	33.90	89.41	-1,030.62	1,769.60	619.63	570.76	48.87	12.678		
9,400.00	9,148.43	9,172.73	9,106.23	41.53	34.24	89.41	-1,030.62	1,769.60	619.63	570.31	49.32	12.563		
9,500.00	9,248.43	9,272.73	9,206.23	41.80	34.57	89.41	-1,030.62	1,769.60	619.63	569.86	49.77	12.450		
9,600.00	9,348.43	9,372.73	9,306.23	42.06	34.90	89.41	-1,030.62	1,769.60	619.63	569.41	50.22	12.339		
9,700.00	9,448.43	9,472.73	9,406.23	42.34	35.24	89.41	-1,030.62	1,769.60	619.63	568.96	50.67	12.229		
9,800.00	9,548.43	9,572.73	9,506.23	42.61	35.57	89.41	-1,030.62	1,769.60	619.63	568.51	51.12	12.121		
9,900.00	9,648.43	9,672.73	9,606.23	42.88	35.91	89.41	-1,030.62	1,769.60	619.63	568.06	51.57	12.014		
10,000.00	9,748.43	9,772.73	9,706.23	43.16	36.24	89.41	-1,030.62	1,769.60	619.63	567.60	52.03	11.910		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 704H - OH - Plan #2		Offset Site Error:		0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:		0.00 usft		
Reference		Offset		Semi Major Axis		Distance								Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor					
10,100.00	9,848.43	9,872.73	9,806.23	43.43	36.58	89.41	-1,030.62	1,769.60	619.63	567.15	52.48	11.806					
10,200.00	9,948.43	9,972.73	9,906.23	43.71	36.92	89.41	-1,030.62	1,769.60	619.63	566.69	52.94	11.705					
10,300.00	10,048.43	10,072.73	10,006.23	43.99	37.25	89.41	-1,030.62	1,769.60	619.63	566.24	53.40	11.605					
10,400.00	10,148.43	10,172.73	10,106.23	44.26	37.59	89.41	-1,030.62	1,769.60	619.63	565.78	53.85	11.506					
10,500.00	10,248.43	10,272.73	10,206.23	44.55	37.93	89.41	-1,030.62	1,769.60	619.63	565.32	54.31	11.409					
10,600.00	10,348.43	10,372.73	10,306.23	44.83	38.27	89.41	-1,030.62	1,769.60	619.63	564.86	54.77	11.313					
10,700.00	10,448.43	10,472.73	10,406.23	45.11	38.60	89.41	-1,030.62	1,769.60	619.63	564.40	55.23	11.219					
10,800.00	10,548.43	10,572.73	10,506.23	45.39	38.94	89.41	-1,030.62	1,769.60	619.63	563.94	55.69	11.126					
10,900.00	10,648.43	10,672.73	10,606.23	45.68	39.28	89.41	-1,030.62	1,769.60	619.63	563.48	56.15	11.035					
11,000.00	10,748.43	10,772.73	10,706.23	45.96	39.62	89.41	-1,030.62	1,769.60	619.63	563.02	56.62	10.944					
11,100.00	10,848.43	10,872.73	10,806.23	46.25	39.96	89.41	-1,030.62	1,769.60	619.63	562.55	57.08	10.856					
11,200.00	10,948.43	10,972.73	10,906.23	46.54	40.30	89.41	-1,030.62	1,769.60	619.63	562.09	57.54	10.768					
11,300.00	11,048.43	11,072.73	11,006.23	46.83	40.64	89.41	-1,030.62	1,769.60	619.63	561.62	58.01	10.682					
11,400.00	11,148.43	11,172.73	11,106.23	47.12	40.98	89.41	-1,030.62	1,769.60	619.63	561.16	58.47	10.597					
11,500.00	11,248.43	11,272.73	11,206.23	47.41	41.32	89.41	-1,030.62	1,769.60	619.63	560.69	58.94	10.513					
11,600.00	11,348.43	11,372.73	11,306.23	47.70	41.67	89.41	-1,030.62	1,769.60	619.63	560.23	59.41	10.430					
11,700.00	11,448.43	11,472.73	11,406.23	47.99	42.01	89.41	-1,030.62	1,769.60	619.63	559.76	59.87	10.349					
11,800.00	11,548.43	11,572.73	11,506.23	48.28	42.35	89.41	-1,030.62	1,769.60	619.63	559.29	60.34	10.269					
11,848.42	11,596.85	11,621.15	11,554.65	48.43	42.51	89.44	-1,030.92	1,769.60	619.63	559.07	60.56	10.231	CC				
11,900.00	11,648.43	11,672.42	11,605.75	48.58	42.68	89.80	-1,034.88	1,769.64	619.65	558.88	60.77	10.197					
12,000.00	11,748.43	11,768.06	11,699.27	48.87	42.98	91.60	-1,054.36	1,769.83	620.12	559.05	61.06	10.155					
12,100.00	11,848.43	11,855.13	11,780.53	49.17	43.23	94.46	-1,085.40	1,770.14	622.55	561.30	61.26	10.163					
12,124.61	11,873.04	11,874.93	11,798.29	49.24	43.29	95.27	-1,094.16	1,770.22	623.70	562.41	61.29	10.177					
12,150.00	11,898.42	11,894.88	11,815.86	49.32	43.34	-83.00	-1,103.60	1,770.32	625.12	563.80	61.32	10.195					
12,200.00	11,948.22	11,933.46	11,848.87	49.49	43.45	-81.13	-1,123.56	1,770.51	628.39	567.02	61.38	10.238					
12,250.00	11,997.43	11,971.21	11,879.79	49.67	43.54	-79.32	-1,145.19	1,770.72	632.22	570.78	61.44	10.291					
12,300.00	12,045.71	12,008.22	11,908.66	49.88	43.64	-77.58	-1,168.33	1,770.95	636.47	574.98	61.49	10.351					
12,350.00	12,092.66	12,050.00	11,939.38	50.11	43.74	-75.74	-1,196.64	1,771.23	641.06	579.51	61.56	10.414					
12,400.00	12,137.95	12,080.41	11,960.41	50.35	43.80	-74.35	-1,218.61	1,771.44	645.79	584.24	61.55	10.492					
12,450.00	12,181.22	12,115.75	11,983.33	50.62	43.88	-72.87	-1,245.49	1,771.71	650.63	589.06	61.57	10.567					
12,500.00	12,222.15	12,150.00	12,003.92	50.89	43.96	-71.52	-1,272.86	1,771.98	655.44	593.86	61.57	10.645					
12,550.00	12,260.41	12,185.21	12,023.35	51.18	44.03	-70.24	-1,302.21	1,772.26	660.12	598.53	61.59	10.718					
12,600.00	12,295.73	12,219.44	12,040.47	51.49	44.11	-69.10	-1,331.84	1,772.55	664.59	602.98	61.61	10.787					
12,650.00	12,327.84	12,250.00	12,054.24	51.81	44.17	-68.14	-1,359.12	1,772.82	668.76	607.13	61.63	10.852					
12,700.00	12,356.48	12,287.12	12,068.98	52.14	44.26	-67.18	-1,393.18	1,773.16	672.53	610.82	61.71	10.898					
12,750.00	12,381.44	12,320.64	12,080.37	52.48	44.34	-66.41	-1,424.71	1,773.47	675.87	614.06	61.82	10.934					
12,800.00	12,402.53	12,350.00	12,088.81	52.84	44.41	-65.81	-1,452.82	1,773.74	678.73	616.78	61.95	10.956					
12,850.00	12,419.60	12,387.25	12,097.44	53.20	44.51	-65.25	-1,489.04	1,774.10	681.01	618.84	62.17	10.955					
12,900.00	12,432.50	12,420.39	12,103.12	53.57	44.60	-64.87	-1,521.69	1,774.42	682.73	620.30	62.43	10.936					
12,950.00	12,441.15	12,450.00	12,106.59	53.95	44.68	-64.63	-1,551.09	1,774.71	683.84	621.08	62.76	10.896					
13,000.00	12,445.47	12,486.49	12,108.77	54.34	44.80	-64.49	-1,587.50	1,775.06	684.30	621.16	63.14	10.837					
13,024.61	12,446.00	12,502.84	12,109.00	54.53	44.85	-64.48	-1,603.85	1,775.22	684.30	620.94	63.36	10.800					
13,100.00	12,446.00	12,578.23	12,109.00	55.13	45.11	-64.47	-1,679.24	1,775.96	684.06	620.09	63.96	10.695					
13,200.00	12,446.00	12,678.23	12,109.00	55.95	45.51	-64.46	-1,779.23	1,776.94	683.73	618.92	64.81	10.550					
13,300.00	12,446.00	12,778.23	12,109.00	56.81	45.98	-64.45	-1,879.23	1,777.92	683.40	617.69	65.71	10.400					
13,400.00	12,446.00	12,878.23	12,109.00	57.70	46.49	-64.43	-1,979.22	1,778.90	683.07	616.40	66.67	10.245					
13,500.00	12,446.00	12,978.23	12,109.00	58.63	47.07	-64.42	-2,079.22	1,779.89	682.74	615.05	67.69	10.087					
13,600.00	12,446.00	13,078.23	12,109.00	59.59	47.70	-64.41	-2,179.21	1,780.87	682.41	613.66	68.75	9.926					
13,700.00	12,446.00	13,178.23	12,109.00	60.58	48.37	-64.39	-2,279.20	1,781.85	682.09	612.22	69.87	9.763					
13,800.00	12,446.00	13,278.22	12,109.00	61.60	49.10	-64.38	-2,379.20	1,782.83	681.76	610.73	71.03	9.599					
13,900.00	12,446.00	13,378.22	12,109.00	62.64	49.86	-64.37	-2,479.19	1,783.81	681.43	609.20	72.23	9.434					
14,000.00	12,446.00	13,478.22	12,109.00	63.71	50.68	-64.35	-2,579.19	1,784.79	681.10	607.63	73.47	9.270					

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,100.00	12,446.00	13,578.22	12,109.00	64.81	51.53	-64.34	-2,679.18	1,785.77	680.77	606.01	74.76	9.106		
14,200.00	12,446.00	13,678.22	12,109.00	65.92	52.42	-64.33	-2,779.18	1,786.75	680.45	604.36	76.08	8.944		
14,300.00	12,446.00	13,778.22	12,109.00	67.07	53.35	-64.31	-2,879.17	1,787.73	680.12	602.68	77.44	8.783		
14,400.00	12,446.00	13,878.22	12,109.00	68.23	54.31	-64.30	-2,979.17	1,788.71	679.79	600.96	78.83	8.624		
14,500.00	12,446.00	13,978.22	12,109.00	69.41	55.30	-64.29	-3,079.16	1,789.69	679.46	599.21	80.25	8.467		
14,600.00	12,446.00	14,078.22	12,109.00	70.61	56.33	-64.27	-3,179.16	1,790.67	679.13	597.43	81.70	8.312		
14,700.00	12,446.00	14,178.22	12,109.00	71.83	57.38	-64.26	-3,279.15	1,791.66	678.81	595.63	83.18	8.161		
14,800.00	12,446.00	14,278.22	12,109.00	73.06	58.46	-64.25	-3,379.14	1,792.64	678.48	593.79	84.69	8.012		
14,900.00	12,446.00	14,378.22	12,109.00	74.32	59.57	-64.23	-3,479.14	1,793.62	678.15	591.93	86.22	7.866		
15,000.00	12,446.00	14,478.22	12,109.00	75.58	60.71	-64.22	-3,579.13	1,794.60	677.82	590.05	87.77	7.723		
15,100.00	12,446.00	14,578.22	12,109.00	76.87	61.86	-64.21	-3,679.13	1,795.58	677.50	588.15	89.35	7.583		
15,200.00	12,446.00	14,678.22	12,109.00	78.16	63.04	-64.19	-3,779.12	1,796.56	677.17	586.22	90.94	7.446		
15,300.00	12,446.00	14,778.21	12,109.00	79.47	64.24	-64.18	-3,879.12	1,797.54	676.84	584.28	92.56	7.312		
15,400.00	12,446.00	14,878.21	12,109.00	80.79	65.46	-64.17	-3,979.11	1,798.52	676.51	582.32	94.20	7.182		
15,500.00	12,446.00	14,978.21	12,109.00	82.13	66.70	-64.15	-4,079.11	1,799.50	676.19	580.34	95.85	7.055		
15,600.00	12,446.00	15,078.21	12,109.00	83.47	67.95	-64.14	-4,179.10	1,800.48	675.86	578.34	97.52	6.931		
15,700.00	12,446.00	15,178.21	12,109.00	84.83	69.23	-64.13	-4,279.10	1,801.46	675.53	576.33	99.20	6.810		
15,800.00	12,446.00	15,278.21	12,109.00	86.20	70.51	-64.11	-4,379.09	1,802.44	675.20	574.30	100.90	6.692		
15,900.00	12,446.00	15,378.21	12,109.00	87.57	71.82	-64.10	-4,479.08	1,803.43	674.88	572.26	102.61	6.577		
16,000.00	12,446.00	15,478.21	12,109.00	88.96	73.13	-64.09	-4,579.08	1,804.41	674.55	570.21	104.34	6.465		
16,100.00	12,446.00	15,578.21	12,109.00	90.35	74.46	-64.07	-4,679.07	1,805.39	674.22	568.14	106.08	6.356		
16,200.00	12,446.00	15,678.21	12,109.00	91.76	75.81	-64.06	-4,779.07	1,806.37	673.89	566.06	107.83	6.250		
16,300.00	12,446.00	15,778.21	12,109.00	93.17	77.16	-64.04	-4,879.06	1,807.35	673.57	563.98	109.59	6.146		
16,400.00	12,446.00	15,878.21	12,109.00	94.59	78.53	-64.03	-4,979.06	1,808.33	673.24	561.88	111.36	6.045		
16,500.00	12,446.00	15,978.21	12,109.00	96.02	79.91	-64.02	-5,079.05	1,809.31	672.91	559.77	113.14	5.947		
16,600.00	12,446.00	16,078.21	12,109.00	97.45	81.29	-64.00	-5,179.05	1,810.29	672.58	557.65	114.93	5.852		
16,700.00	12,446.00	16,178.21	12,109.00	98.89	82.69	-63.99	-5,279.04	1,811.27	672.26	555.53	116.73	5.759		
16,800.00	12,446.00	16,278.20	12,109.00	100.34	84.10	-63.98	-5,379.04	1,812.25	671.93	553.39	118.54	5.668		
16,900.00	12,446.00	16,378.20	12,109.00	101.79	85.51	-63.96	-5,479.03	1,813.23	671.60	551.25	120.35	5.580		
17,000.00	12,446.00	16,478.20	12,109.00	103.25	86.93	-63.95	-5,579.02	1,814.21	671.28	549.10	122.18	5.494		
17,100.00	12,446.00	16,578.20	12,109.00	104.72	88.37	-63.94	-5,679.02	1,815.20	670.95	546.94	124.00	5.411		
17,200.00	12,446.00	16,678.20	12,109.00	106.19	89.80	-63.92	-5,779.01	1,816.18	670.62	544.78	125.84	5.329		
17,300.00	12,446.00	16,778.20	12,109.00	107.66	91.25	-63.91	-5,879.01	1,817.16	670.30	542.62	127.68	5.250		
17,400.00	12,446.00	16,878.20	12,109.00	109.15	92.70	-63.89	-5,979.00	1,818.14	669.97	540.44	129.53	5.172		
17,500.00	12,446.00	16,978.20	12,109.00	110.63	94.16	-63.88	-6,079.00	1,819.12	669.64	538.26	131.38	5.097		
17,600.00	12,446.00	17,078.20	12,109.00	112.12	95.63	-63.87	-6,178.99	1,820.10	669.32	536.08	133.24	5.024		
17,700.00	12,446.00	17,178.20	12,109.00	113.62	97.10	-63.85	-6,278.99	1,821.08	668.99	533.89	135.10	4.952		
17,800.00	12,446.00	17,278.20	12,109.00	115.12	98.58	-63.84	-6,378.98	1,822.06	668.66	531.70	136.96	4.882		
17,900.00	12,446.00	17,378.20	12,109.00	116.62	100.06	-63.83	-6,478.98	1,823.04	668.34	529.50	138.83	4.814		
18,000.00	12,446.00	17,478.20	12,109.00	118.13	101.55	-63.81	-6,578.97	1,824.02	668.01	527.30	140.71	4.747		
18,100.00	12,446.00	17,578.20	12,109.00	119.64	103.04	-63.80	-6,678.96	1,825.00	667.68	525.10	142.58	4.683		
18,200.00	12,446.00	17,678.20	12,109.00	121.16	104.54	-63.78	-6,778.96	1,825.98	667.36	522.89	144.47	4.619		
18,300.00	12,446.00	17,778.19	12,109.00	122.67	106.04	-63.77	-6,878.95	1,826.97	667.03	520.68	146.35	4.558		
18,400.00	12,446.00	17,878.19	12,109.00	124.20	107.55	-63.76	-6,978.95	1,827.95	666.70	518.47	148.24	4.498		
18,500.00	12,446.00	17,978.19	12,109.00	125.72	109.06	-63.74	-7,078.94	1,828.93	666.38	516.25	150.13	4.439		
18,600.00	12,446.00	18,078.19	12,109.00	127.25	110.57	-63.73	-7,178.94	1,829.91	666.05	514.03	152.02	4.381		
18,700.00	12,446.00	18,178.19	12,109.00	128.78	112.09	-63.72	-7,278.93	1,830.89	665.72	511.81	153.91	4.325		
18,800.00	12,446.00	18,278.19	12,109.00	130.32	113.62	-63.70	-7,378.93	1,831.87	665.40	509.59	155.81	4.271		
18,900.00	12,446.00	18,378.19	12,109.00	131.86	115.14	-63.69	-7,478.92	1,832.85	665.07	507.36	157.71	4.217		
19,000.00	12,446.00	18,478.19	12,109.00	133.40	116.67	-63.67	-7,578.91	1,833.83	664.74	505.14	159.61	4.165		
19,100.00	12,446.00	18,578.19	12,109.00	134.94	118.20	-63.66	-7,678.91	1,834.81	664.42	502.91	161.51	4.114		
19,200.00	12,446.00	18,678.19	12,109.00	136.48	119.74	-63.65	-7,778.90	1,835.79	664.09	500.68	163.41	4.064		

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,300.00	12,446.00	18,778.19	12,109.00	138.03	121.28	-63.63	-7,878.90	1,836.77	663.77	498.45	165.32	4.015		
19,400.00	12,446.00	18,878.19	12,109.00	139.58	122.82	-63.62	-7,978.89	1,837.75	663.44	496.22	167.22	3.967		
19,500.00	12,446.00	18,978.19	12,109.00	141.14	124.36	-63.60	-8,078.89	1,838.74	663.11	493.98	169.13	3.921		
19,600.00	12,446.00	19,078.19	12,109.00	142.69	125.91	-63.59	-8,178.88	1,839.72	662.79	491.75	171.04	3.875		
19,700.00	12,446.00	19,178.19	12,109.00	144.25	127.46	-63.58	-8,278.88	1,840.70	662.46	489.52	172.95	3.830		
19,800.00	12,446.00	19,278.18	12,109.00	145.81	129.01	-63.56	-8,378.87	1,841.68	662.14	487.28	174.85	3.787		
19,900.00	12,446.00	19,378.18	12,109.00	147.37	130.57	-63.55	-8,478.87	1,842.66	661.81	485.05	176.76	3.744		
20,000.00	12,446.00	19,478.18	12,109.00	148.93	132.13	-63.53	-8,578.86	1,843.64	661.48	482.81	178.67	3.702		
20,100.00	12,446.00	19,578.18	12,109.00	150.50	133.69	-63.52	-8,678.85	1,844.62	661.16	480.57	180.58	3.661		
20,200.00	12,446.00	19,678.18	12,109.00	152.06	135.25	-63.51	-8,778.85	1,845.60	660.83	478.34	182.49	3.621		
20,300.00	12,446.00	19,778.18	12,109.00	153.63	136.81	-63.49	-8,878.84	1,846.58	660.51	476.10	184.41	3.582		
20,400.00	12,446.00	19,878.18	12,109.00	155.20	138.38	-63.48	-8,978.84	1,847.56	660.18	473.87	186.32	3.543		
20,500.00	12,446.00	19,978.18	12,109.00	156.77	139.95	-63.46	-9,078.83	1,848.54	659.86	471.63	188.23	3.506		
20,600.00	12,446.00	20,078.18	12,109.00	158.35	141.52	-63.45	-9,178.83	1,849.52	659.53	469.39	190.14	3.469		
20,700.00	12,446.00	20,178.18	12,109.00	159.92	143.09	-63.44	-9,278.82	1,850.51	659.21	467.16	192.05	3.433		
20,800.00	12,446.00	20,278.18	12,109.00	161.50	144.66	-63.42	-9,378.82	1,851.49	658.88	464.92	193.96	3.397		
20,900.00	12,446.00	20,378.18	12,109.00	163.08	146.24	-63.41	-9,478.81	1,852.47	658.55	462.69	195.87	3.362		
21,000.00	12,446.00	20,478.18	12,109.00	164.66	147.81	-63.39	-9,578.81	1,853.45	658.23	460.45	197.77	3.328		
21,100.00	12,446.00	20,578.18	12,109.00	166.24	149.39	-63.38	-9,678.80	1,854.43	657.90	458.22	199.68	3.295		
21,200.00	12,446.00	20,678.18	12,109.00	167.82	150.97	-63.36	-9,778.79	1,855.41	657.58	455.99	201.59	3.262		
21,300.00	12,446.00	20,778.17	12,109.00	169.41	152.55	-63.35	-9,878.79	1,856.39	657.25	453.76	203.50	3.230		
21,400.00	12,446.00	20,878.17	12,109.00	170.99	154.13	-63.34	-9,978.78	1,857.37	656.93	451.52	205.40	3.198		
21,500.00	12,446.00	20,978.17	12,109.00	172.58	155.72	-63.32	-10,078.78	1,858.35	656.60	449.30	207.31	3.167		
21,600.00	12,446.00	21,078.17	12,109.00	174.17	157.30	-63.31	-10,178.77	1,859.33	656.28	447.07	209.21	3.137		
21,700.00	12,446.00	21,178.17	12,109.00	175.76	158.89	-63.29	-10,278.77	1,860.31	655.95	444.84	211.11	3.107		
21,800.00	12,446.00	21,278.17	12,109.00	177.35	160.48	-63.28	-10,378.76	1,861.29	655.63	442.61	213.02	3.078		
21,900.00	12,446.00	21,378.17	12,109.00	178.94	162.07	-63.26	-10,478.76	1,862.28	655.30	440.39	214.92	3.049		
22,000.00	12,446.00	21,478.17	12,109.00	180.53	163.66	-63.25	-10,578.75	1,863.26	654.98	438.16	216.82	3.021		
22,100.00	12,446.00	21,578.17	12,109.00	182.12	165.25	-63.24	-10,678.75	1,864.24	654.65	435.94	218.71	2.993		
22,200.00	12,446.00	21,678.17	12,109.00	183.72	166.85	-63.22	-10,778.74	1,865.22	654.33	433.72	220.61	2.966		
22,300.00	12,446.00	21,778.17	12,109.00	185.31	168.44	-63.21	-10,878.73	1,866.20	654.00	431.50	222.50	2.939		
22,400.00	12,446.00	21,878.17	12,109.00	186.91	170.04	-63.19	-10,978.73	1,867.18	653.68	429.28	224.40	2.913		
22,500.00	12,446.00	21,978.17	12,109.00	188.51	171.63	-63.18	-11,078.72	1,868.16	653.35	427.06	226.29	2.887		
22,600.00	12,446.00	22,078.17	12,109.00	190.11	173.23	-63.16	-11,178.72	1,869.14	653.03	424.85	228.18	2.862		
22,700.00	12,446.00	22,178.17	12,109.00	191.71	174.83	-63.15	-11,278.71	1,870.12	652.70	422.63	230.07	2.837		
22,800.00	12,446.00	22,278.16	12,109.00	193.31	176.43	-63.14	-11,378.71	1,871.10	652.38	420.42	231.96	2.813		
22,817.13	12,446.00	22,295.29	12,109.00	193.58	176.70	-63.13	-11,395.83	1,871.27	652.32	420.04	232.28	2.808 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													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	111.20	-992.36	2,558.58	2,744.64							
100.00	100.00	56.00	56.00	0.13	0.07	111.20	-992.36	2,558.58	2,744.29	2,744.14	0.14	N/A				
200.00	200.00	156.00	156.00	0.48	0.33	111.20	-992.36	2,558.58	2,744.29	2,743.70	0.58	4,702.215				
300.00	300.00	256.00	256.00	0.84	0.68	111.20	-992.36	2,558.58	2,744.29	2,743.20	1.09	2,527.993				
400.00	400.00	356.00	356.00	1.20	1.04	111.20	-992.36	2,558.58	2,744.29	2,742.70	1.59	1,725.223				
500.00	500.00	456.00	456.00	1.56	1.40	111.20	-992.36	2,558.58	2,744.29	2,742.19	2.10	1,308.864				
600.00	600.00	556.00	556.00	1.92	1.76	111.20	-992.36	2,558.58	2,744.29	2,741.68	2.60	1,054.250				
700.00	700.00	656.00	656.00	2.28	2.12	111.20	-992.36	2,558.58	2,744.29	2,741.18	3.11	882.510				
800.00	800.00	756.00	756.00	2.63	2.48	111.20	-992.36	2,558.58	2,744.29	2,740.67	3.62	758.863				
900.00	900.00	856.00	856.00	2.99	2.84	111.20	-992.36	2,558.58	2,744.29	2,740.16	4.12	665.595				
1,000.00	1,000.00	956.00	956.00	3.35	3.19	111.20	-992.36	2,558.58	2,744.29	2,739.66	4.63	592.738				
1,100.00	1,100.00	1,056.00	1,056.00	3.71	3.55	111.20	-992.36	2,558.58	2,744.29	2,739.15	5.14	534.254				
1,200.00	1,200.00	1,156.00	1,156.00	4.07	3.91	111.20	-992.36	2,558.58	2,744.29	2,738.64	5.64	486.273				
1,300.00	1,300.00	1,256.00	1,256.00	4.43	4.27	111.20	-992.36	2,558.58	2,744.29	2,738.14	6.15	446.198				
1,400.00	1,400.00	1,356.00	1,356.00	4.79	4.63	111.20	-992.36	2,558.58	2,744.29	2,737.63	6.66	412.225				
1,500.00	1,500.00	1,456.00	1,456.00	5.14	4.99	111.20	-992.36	2,558.58	2,744.29	2,737.12	7.16	383.058				
1,600.00	1,600.00	1,556.00	1,556.00	5.50	5.34	111.20	-992.36	2,558.58	2,744.29	2,736.62	7.67	357.746				
1,700.00	1,700.00	1,656.00	1,656.00	5.86	5.70	111.20	-992.36	2,558.58	2,744.29	2,736.11	8.18	335.571				
1,800.00	1,800.00	1,756.00	1,756.00	6.22	6.06	111.20	-992.36	2,558.58	2,744.29	2,735.60	8.68	315.985				
1,900.00	1,900.00	1,856.00	1,856.00	6.58	6.42	111.20	-992.36	2,558.58	2,744.29	2,735.10	9.19	298.559				
2,000.00	2,000.00	1,956.00	1,956.00	6.94	6.78	111.20	-992.36	2,558.58	2,744.29	2,734.59	9.70	282.954				
2,100.00	2,100.00	2,056.00	2,056.00	7.29	7.14	111.20	-992.36	2,558.58	2,744.29	2,734.08	10.21	268.900				
2,200.00	2,200.00	2,156.00	2,156.00	7.65	7.50	111.20	-992.36	2,558.58	2,744.29	2,733.57	10.71	256.175				
2,300.00	2,300.00	2,256.00	2,256.00	8.01	7.85	111.20	-992.36	2,558.58	2,744.29	2,733.07	11.22	244.600				
2,400.00	2,400.00	2,356.00	2,356.00	8.37	8.21	111.20	-992.36	2,558.58	2,744.29	2,732.56	11.73	234.026				
2,500.00	2,500.00	2,456.00	2,456.00	8.73	8.57	111.20	-992.36	2,558.58	2,744.29	2,732.05	12.23	224.328				
2,600.00	2,600.00	2,556.00	2,556.00	9.09	8.93	111.20	-992.36	2,558.58	2,744.29	2,731.55	12.74	215.402				
2,700.00	2,700.00	2,656.00	2,656.00	9.45	9.29	111.20	-992.36	2,558.58	2,744.29	2,731.04	13.25	207.160				
2,800.00	2,800.00	2,756.00	2,756.00	9.80	9.65	111.20	-992.36	2,558.58	2,744.29	2,730.53	13.75	199.524				
2,900.00	2,900.00	2,856.00	2,856.00	10.16	10.00	111.20	-992.36	2,558.58	2,744.29	2,730.03	14.26	192.432				
3,000.00	3,000.00	2,956.00	2,956.00	10.52	10.36	111.20	-992.36	2,558.58	2,744.29	2,729.52	14.77	185.826				
3,100.00	3,100.00	3,056.00	3,056.00	10.88	10.72	111.20	-992.36	2,558.58	2,744.29	2,729.01	15.27	179.659				
3,200.00	3,200.00	3,156.00	3,156.00	11.24	11.08	111.20	-992.36	2,558.58	2,744.29	2,728.50	15.78	173.888				
3,300.00	3,300.00	3,256.00	3,256.00	11.60	11.44	111.20	-992.36	2,558.58	2,744.29	2,728.00	16.29	168.476				
3,400.00	3,399.99	3,332.63	3,332.62	11.94	11.71	-20.86	-992.40	2,558.71	2,743.30	2,726.58	16.72	164.045				
3,500.00	3,499.91	3,400.00	3,399.99	12.27	11.94	-20.89	-992.74	2,559.83	2,741.27	2,724.15	17.12	160.133				
3,600.00	3,599.69	3,449.14	3,449.10	12.60	12.11	-20.93	-993.20	2,561.37	2,738.26	2,720.80	17.46	156.807				
3,700.00	3,699.27	3,500.00	3,499.91	12.94	12.28	-20.99	-993.88	2,563.59	2,734.38	2,716.57	17.81	153.553				
3,800.00	3,798.57	3,565.61	3,565.40	13.28	12.50	-21.08	-995.04	2,567.42	2,729.54	2,711.35	18.19	150.066				
3,900.00	3,897.54	3,623.83	3,623.44	13.62	12.70	-21.18	-996.34	2,571.71	2,723.81	2,705.26	18.55	146.841				
4,000.00	3,996.09	3,700.00	3,699.27	13.97	12.96	-21.33	-998.43	2,578.61	2,717.27	2,698.31	18.96	143.324				
4,100.00	4,094.16	3,740.20	3,739.22	14.33	13.10	-21.44	-999.71	2,582.83	2,709.63	2,690.36	19.27	140.648				
4,200.00	4,191.70	3,800.00	3,798.57	14.70	13.31	-21.60	-1,001.83	2,589.86	2,701.19	2,681.57	19.63	137.631				
4,300.00	4,288.62	3,882.39	3,880.21	15.08	13.60	-21.83	-1,005.06	2,600.50	2,691.57	2,671.51	20.06	134.201				
4,400.00	4,384.86	3,981.08	3,977.99	15.48	13.95	-22.13	-1,008.94	2,613.31	2,679.67	2,659.13	20.54	130.466				
4,500.00	4,480.36	4,079.33	4,075.33	15.89	14.30	-22.47	-1,012.80	2,626.06	2,665.42	2,644.39	21.03	126.773				
4,600.00	4,575.05	4,177.09	4,172.19	16.33	14.65	-22.85	-1,016.64	2,638.75	2,648.83	2,627.32	21.51	123.119				
4,674.25	4,644.79	4,249.32	4,243.75	16.66	14.91	-23.15	-1,019.48	2,648.12	2,635.02	2,613.14	21.88	120.430				
4,700.00	4,668.90	4,274.31	4,268.51	16.78	15.00	-23.23	-1,020.46	2,651.36	2,630.02	2,608.01	22.01	119.505				
4,800.00	4,762.49	4,371.37	4,364.67	17.26	15.36	-23.55	-1,024.28	2,663.96	2,610.63	2,588.12	22.50	116.002				
4,900.00	4,856.09	4,468.42	4,460.82	17.75	15.72	-23.87	-1,028.10	2,676.56	2,591.32	2,568.31	23.01	112.626				
5,000.00	4,949.69	4,565.47	4,556.98	18.25	16.08	-24.19	-1,031.91	2,689.15	2,572.09	2,548.57	23.52	109.370				

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.00	5,043.29	4,662.52	4,653.14	18.76	16.44	-24.52	-1,035.73	2,701.75	2,552.94	2,528.91	24.03	106.231		
5,200.00	5,136.88	4,759.58	4,749.29	19.29	16.81	-24.86	-1,039.54	2,714.34	2,533.88	2,509.33	24.55	103.204		
5,300.00	5,230.48	4,856.63	4,845.45	19.82	17.17	-25.20	-1,043.36	2,726.94	2,514.90	2,489.82	25.08	100.285		
5,400.00	5,324.08	4,953.68	4,941.61	20.37	17.54	-25.54	-1,047.17	2,739.53	2,496.01	2,470.41	25.61	97.469		
5,500.00	5,417.68	5,050.74	5,037.76	20.93	17.91	-25.89	-1,050.99	2,752.13	2,477.22	2,451.07	26.14	94.752		
5,600.00	5,511.27	5,147.79	5,133.92	21.49	18.28	-26.25	-1,054.80	2,764.73	2,458.51	2,431.83	26.69	92.131		
5,700.00	5,604.87	5,244.84	5,230.08	22.06	18.66	-26.61	-1,058.62	2,777.32	2,439.90	2,412.67	27.23	89.600		
5,800.00	5,698.47	5,341.90	5,326.23	22.64	19.03	-26.97	-1,062.43	2,789.92	2,421.39	2,393.61	27.78	87.157		
5,900.00	5,792.07	5,438.95	5,422.39	23.22	19.41	-27.34	-1,066.25	2,802.51	2,402.97	2,374.64	28.34	84.798		
6,000.00	5,885.66	5,536.00	5,518.55	23.81	19.78	-27.72	-1,070.06	2,815.11	2,384.66	2,355.76	28.90	82.518		
6,100.00	5,979.26	5,633.06	5,614.70	24.41	20.16	-28.10	-1,073.88	2,827.70	2,366.45	2,336.99	29.46	80.316		
6,200.00	6,072.86	5,730.11	5,710.86	25.01	20.54	-28.49	-1,077.69	2,840.30	2,348.35	2,318.31	30.03	78.188		
6,300.00	6,166.46	5,827.16	5,807.02	25.61	20.92	-28.88	-1,081.51	2,852.90	2,330.35	2,299.74	30.61	76.130		
6,400.00	6,260.05	5,924.21	5,903.17	26.22	21.31	-29.28	-1,085.32	2,865.49	2,312.47	2,281.28	31.19	74.140		
6,500.00	6,353.65	6,021.27	5,999.33	26.84	21.69	-29.69	-1,089.14	2,878.09	2,294.70	2,262.92	31.78	72.215		
6,600.00	6,447.25	6,118.32	6,095.49	27.45	22.07	-30.10	-1,092.96	2,890.68	2,277.04	2,244.68	32.37	70.353		
6,700.00	6,540.85	6,215.37	6,191.64	28.07	22.46	-30.52	-1,096.77	2,903.28	2,259.51	2,226.55	32.96	68.550		
6,800.00	6,634.44	6,312.43	6,287.80	28.70	22.84	-30.94	-1,100.59	2,915.87	2,242.10	2,208.54	33.56	66.805		
6,900.00	6,728.04	6,409.48	6,383.96	29.33	23.23	-31.37	-1,104.40	2,928.47	2,224.81	2,190.64	34.17	65.115		
7,000.00	6,821.64	6,506.53	6,480.11	29.96	23.61	-31.81	-1,108.22	2,941.07	2,207.65	2,172.87	34.78	63.479		
7,100.00	6,915.24	6,603.59	6,576.27	30.59	24.00	-32.25	-1,112.03	2,953.66	2,190.62	2,155.23	35.39	61.893		
7,200.00	7,008.83	6,700.64	6,672.43	31.23	24.39	-32.71	-1,115.85	2,966.26	2,173.72	2,137.71	36.01	60.357		
7,300.00	7,102.43	6,797.69	6,768.58	31.87	24.78	-33.16	-1,119.66	2,978.85	2,156.96	2,120.32	36.64	58.869		
7,400.00	7,196.03	6,894.75	6,864.74	32.51	25.17	-33.63	-1,123.48	2,991.45	2,140.35	2,103.07	37.27	57.427		
7,500.00	7,289.63	6,991.80	6,960.90	33.15	25.56	-34.10	-1,127.29	3,004.04	2,123.87	2,085.96	37.91	56.028		
7,600.00	7,383.22	7,179.36	7,147.17	33.80	26.29	-35.05	-1,133.63	3,024.95	2,105.91	2,067.14	38.77	54.316		
7,683.32	7,461.21	7,353.11	7,320.47	34.34	26.94	-35.99	-1,137.14	3,036.54	2,087.17	2,047.70	39.48	52.873		
7,700.00	7,476.83	7,387.41	7,354.74	34.44	27.06	-36.15	-1,137.56	3,037.94	2,083.04	2,043.43	39.61	52.593		
7,800.00	7,571.03	7,559.73	7,527.03	35.07	27.65	-36.88	-1,138.36	3,040.58	2,056.84	2,016.52	40.31	51.020		
7,900.00	7,666.07	7,654.77	7,622.07	35.68	27.97	-37.16	-1,138.36	3,040.58	2,031.57	1,990.63	40.94	49.626		
8,000.00	7,761.89	7,750.59	7,717.89	36.25	28.30	-37.43	-1,138.36	3,040.58	2,008.48	1,966.92	41.55	48.335		
8,100.00	7,858.43	7,847.13	7,814.43	36.80	28.62	-37.68	-1,138.36	3,040.58	1,987.54	1,945.38	42.16	47.142		
8,200.00	7,955.62	7,944.32	7,911.62	37.32	28.95	-37.92	-1,138.36	3,040.58	1,968.75	1,925.99	42.76	46.045		
8,300.00	8,053.39	8,042.09	8,009.39	37.81	29.28	-38.14	-1,138.36	3,040.58	1,952.08	1,908.73	43.34	45.039		
8,400.00	8,151.68	8,140.38	8,107.68	38.27	29.61	-38.34	-1,138.36	3,040.58	1,937.52	1,893.60	43.91	44.121		
8,500.00	8,250.41	8,239.11	8,206.41	38.71	29.95	-38.51	-1,138.36	3,040.58	1,925.05	1,880.57	44.47	43.288		
8,600.00	8,349.53	8,338.23	8,305.53	39.11	30.28	-38.66	-1,138.36	3,040.58	1,914.65	1,869.64	45.01	42.536		
8,700.00	8,448.96	8,437.66	8,404.96	39.49	30.62	-38.78	-1,138.36	3,040.58	1,906.33	1,860.79	45.54	41.862		
8,800.00	8,548.63	8,537.33	8,504.63	39.84	30.96	-38.87	-1,138.36	3,040.58	1,900.05	1,854.00	46.05	41.262		
8,900.00	8,648.48	8,637.18	8,604.48	40.17	31.30	-38.94	-1,138.36	3,040.58	1,895.82	1,849.28	46.54	40.735		
9,000.00	8,748.44	8,737.14	8,704.44	40.46	31.64	-38.97	-1,138.36	3,040.58	1,893.63	1,846.62	47.01	40.277		
9,057.57	8,806.00	8,794.70	8,762.00	40.62	31.84	93.07	-1,138.36	3,040.58	1,893.30	1,846.02	47.28	40.046		
9,100.00	8,848.43	8,837.13	8,804.43	40.73	31.98	93.07	-1,138.36	3,040.58	1,893.30	1,845.83	47.47	39.886		
9,200.00	8,948.43	8,937.13	8,904.43	41.00	32.32	93.07	-1,138.36	3,040.58	1,893.30	1,845.38	47.92	39.512		
9,300.00	9,048.43	9,037.13	9,004.43	41.26	32.67	93.07	-1,138.36	3,040.58	1,893.30	1,844.93	48.37	39.144		
9,400.00	9,148.43	9,137.13	9,104.43	41.53	33.01	93.07	-1,138.36	3,040.58	1,893.30	1,844.48	48.82	38.783		
9,500.00	9,248.43	9,237.13	9,204.43	41.80	33.35	93.07	-1,138.36	3,040.58	1,893.30	1,844.02	49.27	38.427		
9,600.00	9,348.43	9,337.13	9,304.43	42.06	33.69	93.07	-1,138.36	3,040.58	1,893.30	1,843.57	49.72	38.076		
9,700.00	9,448.43	9,437.13	9,404.43	42.34	34.04	93.07	-1,138.36	3,040.58	1,893.30	1,843.12	50.18	37.732		
9,800.00	9,548.43	9,537.13	9,504.43	42.61	34.38	93.07	-1,138.36	3,040.58	1,893.30	1,842.66	50.63	37.392		
9,900.00	9,648.43	9,637.13	9,604.43	42.88	34.73	93.07	-1,138.36	3,040.58	1,893.30	1,842.21	51.09	37.058		
10,000.00	9,748.43	9,737.13	9,704.43	43.16	35.07	93.07	-1,138.36	3,040.58	1,893.30	1,841.75	51.55	36.730		

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,100.00	9,848.43	9,837.13	9,804.43	43.43	35.42	93.07	-1,138.36	3,040.58	1,893.30	1,841.29	52.00	36.406		
10,200.00	9,948.43	9,937.13	9,904.43	43.71	35.76	93.07	-1,138.36	3,040.58	1,893.30	1,840.83	52.46	36.088		
10,300.00	10,048.43	10,037.13	10,004.43	43.99	36.11	93.07	-1,138.36	3,040.58	1,893.30	1,840.37	52.92	35.774		
10,400.00	10,148.43	10,137.13	10,104.43	44.26	36.45	93.07	-1,138.36	3,040.58	1,893.30	1,839.91	53.38	35.465		
10,500.00	10,248.43	10,237.13	10,204.43	44.55	36.80	93.07	-1,138.36	3,040.58	1,893.30	1,839.45	53.85	35.161		
10,600.00	10,348.43	10,337.13	10,304.43	44.83	37.14	93.07	-1,138.36	3,040.58	1,893.30	1,838.99	54.31	34.862		
10,700.00	10,448.43	10,437.13	10,404.43	45.11	37.49	93.07	-1,138.36	3,040.58	1,893.30	1,838.52	54.77	34.567		
10,800.00	10,548.43	10,537.13	10,504.43	45.39	37.83	93.07	-1,138.36	3,040.58	1,893.30	1,838.06	55.24	34.277		
10,900.00	10,648.43	10,637.13	10,604.43	45.68	38.18	93.07	-1,138.36	3,040.58	1,893.30	1,837.59	55.70	33.991		
11,000.00	10,748.43	10,737.13	10,704.43	45.96	38.53	93.07	-1,138.36	3,040.58	1,893.30	1,837.13	56.17	33.709		
11,100.00	10,848.43	10,837.13	10,804.43	46.25	38.88	93.07	-1,138.36	3,040.58	1,893.30	1,836.66	56.63	33.431		
11,200.00	10,948.43	10,937.13	10,904.43	46.54	39.22	93.07	-1,138.36	3,040.58	1,893.30	1,836.20	57.10	33.158		
11,300.00	11,048.43	11,037.13	11,004.43	46.83	39.57	93.07	-1,138.36	3,040.58	1,893.30	1,835.73	57.57	32.889		
11,400.00	11,148.43	11,137.13	11,104.43	47.12	39.92	93.07	-1,138.36	3,040.58	1,893.30	1,835.26	58.03	32.623		
11,500.00	11,248.43	11,237.13	11,204.43	47.41	40.27	93.07	-1,138.36	3,040.58	1,893.30	1,834.79	58.50	32.362		
11,600.00	11,348.43	11,337.13	11,304.43	47.70	40.61	93.07	-1,138.36	3,040.58	1,893.30	1,834.32	58.97	32.104		
11,700.00	11,448.43	11,437.13	11,404.43	47.99	40.96	93.07	-1,138.36	3,040.58	1,893.30	1,833.85	59.44	31.850		
11,707.53	11,455.97	11,444.67	11,411.97	48.01	40.99	93.07	-1,138.36	3,040.58	1,893.30	1,833.82	59.48	31.831		
11,800.00	11,548.43	11,537.13	11,494.88	48.28	41.27	93.12	-1,140.12	3,040.60	1,893.43	1,833.53	59.90	31.611		
11,900.00	11,648.43	11,637.13	11,574.66	48.58	41.54	93.48	-1,152.08	3,040.71	1,894.45	1,834.14	60.31	31.412		
12,000.00	11,748.43	11,737.13	11,647.52	48.87	41.80	94.13	-1,173.47	3,040.92	1,896.70	1,836.01	60.69	31.252		
12,100.00	11,848.43	11,837.13	11,707.71	49.17	42.01	94.91	-1,199.57	3,041.18	1,900.62	1,839.58	61.04	31.140		
12,124.61	11,873.04	11,869.53	11,725.01	49.24	42.07	95.19	-1,208.65	3,041.27	1,901.89	1,840.77	61.12	31.119		
12,150.00	11,898.42	11,895.91	11,739.03	49.32	42.13	-83.68	-1,216.58	3,041.35	1,903.29	1,842.09	61.20	31.100		
12,200.00	11,948.22	11,917.08	11,765.73	49.49	42.23	-82.97	-1,233.17	3,041.51	1,906.12	1,844.75	61.38	31.057		
12,250.00	11,997.43	11,950.00	11,792.66	49.67	42.33	-82.27	-1,252.08	3,041.70	1,908.99	1,847.42	61.57	31.005		
12,300.00	12,045.71	11,879.01	11,815.46	49.88	42.42	-81.65	-1,270.01	3,041.87	1,911.83	1,850.05	61.78	30.945		
12,350.00	12,092.66	11,909.58	11,838.48	50.11	42.52	-81.05	-1,290.13	3,042.07	1,914.60	1,852.60	62.01	30.877		
12,400.00	12,137.95	11,939.94	11,860.24	50.35	42.61	-80.49	-1,311.29	3,042.28	1,917.25	1,855.01	62.25	30.800		
12,450.00	12,181.22	11,970.12	11,880.73	50.62	42.71	-79.99	-1,333.44	3,042.49	1,919.74	1,857.23	62.51	30.713		
12,500.00	12,222.15	12,000.00	11,899.84	50.89	42.80	-79.53	-1,356.40	3,042.72	1,922.01	1,859.23	62.78	30.615		
12,550.00	12,260.41	12,030.02	11,917.82	51.18	42.90	-79.13	-1,380.45	3,042.95	1,924.03	1,860.96	63.07	30.506		
12,600.00	12,295.73	12,050.00	11,929.07	51.49	42.96	-78.84	-1,396.96	3,043.12	1,925.81	1,862.44	63.37	30.389		
12,650.00	12,327.84	12,089.50	11,949.58	51.81	43.10	-78.51	-1,430.69	3,043.45	1,927.20	1,863.48	63.71	30.248		
12,700.00	12,356.48	12,119.12	11,963.41	52.14	43.20	-78.30	-1,456.88	3,043.70	1,928.29	1,864.23	64.06	30.099		
12,750.00	12,381.44	12,150.00	11,976.37	52.48	43.31	-78.14	-1,484.91	3,043.98	1,929.04	1,864.60	64.44	29.937		
12,800.00	12,402.53	12,178.23	11,986.88	52.84	43.41	-78.06	-1,511.10	3,044.23	1,929.42	1,864.59	64.83	29.761		
12,850.00	12,419.60	12,200.00	11,994.10	53.20	43.49	-78.05	-1,531.64	3,044.44	1,929.45	1,864.21	65.24	29.573		
12,900.00	12,432.50	12,237.27	12,004.63	53.57	43.64	-78.10	-1,567.39	3,044.79	1,929.06	1,863.39	65.68	29.372		
12,950.00	12,441.15	12,266.81	12,011.31	53.95	43.75	-78.22	-1,596.16	3,045.07	1,928.33	1,862.20	66.13	29.160		
13,000.00	12,445.47	12,300.00	12,017.03	54.34	43.89	-78.41	-1,628.84	3,045.39	1,927.25	1,860.66	66.59	28.941		
13,024.61	12,446.00	12,310.96	12,018.51	54.53	43.93	-78.51	-1,639.70	3,045.50	1,926.58	1,859.75	66.83	28.828		
13,100.00	12,446.00	12,350.00	12,022.06	55.13	44.09	-78.62	-1,678.57	3,045.88	1,925.04	1,857.47	67.57	28.491		
13,200.00	12,446.00	12,438.24	12,023.00	55.95	44.48	-78.64	-1,766.78	3,046.74	1,924.46	1,855.92	68.53	28.080		
13,300.00	12,446.00	12,538.24	12,023.00	56.81	44.97	-78.64	-1,866.78	3,047.72	1,924.10	1,854.56	69.54	27.669		
13,400.00	12,446.00	12,638.24	12,023.00	57.70	45.50	-78.64	-1,966.77	3,048.70	1,923.74	1,853.14	70.61	27.246		
13,500.00	12,446.00	12,738.24	12,023.00	58.63	46.09	-78.64	-2,066.77	3,049.68	1,923.39	1,851.65	71.73	26.814		
13,600.00	12,446.00	12,838.24	12,023.00	59.59	46.74	-78.63	-2,166.76	3,050.66	1,923.03	1,850.12	72.91	26.375		
13,700.00	12,446.00	12,938.23	12,023.00	60.58	47.43	-78.63	-2,266.76	3,051.64	1,922.67	1,848.53	74.14	25.932		
13,800.00	12,446.00	13,038.23	12,023.00	61.60	48.16	-78.63	-2,366.75	3,052.62	1,922.31	1,846.89	75.42	25.486		
13,900.00	12,446.00	13,138.23	12,023.00	62.64	48.94	-78.63	-2,466.75	3,053.60	1,921.96	1,845.20	76.75	25.041		
14,000.00	12,446.00	13,238.23	12,023.00	63.71	49.77	-78.62	-2,566.74	3,054.58	1,921.60	1,843.47	78.13	24.596		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,100.00	12,446.00	13,338.23	12,023.00	64.81	50.63	-78.62	-2,666.74	3,055.57	1,921.24	1,841.70	79.54	24.153		
14,200.00	12,446.00	13,438.23	12,023.00	65.92	51.53	-78.62	-2,766.73	3,056.55	1,920.89	1,839.89	81.00	23.715		
14,300.00	12,446.00	13,538.23	12,023.00	67.07	52.47	-78.62	-2,866.72	3,057.53	1,920.53	1,838.03	82.50	23.280		
14,400.00	12,446.00	13,638.23	12,023.00	68.23	53.44	-78.62	-2,966.72	3,058.51	1,920.17	1,836.14	84.03	22.852		
14,500.00	12,446.00	13,738.23	12,023.00	69.41	54.45	-78.61	-3,066.71	3,059.49	1,919.81	1,834.22	85.59	22.430		
14,600.00	12,446.00	13,838.23	12,023.00	70.61	55.48	-78.61	-3,166.71	3,060.47	1,919.46	1,832.26	87.19	22.014		
14,700.00	12,446.00	13,938.23	12,023.00	71.83	56.55	-78.61	-3,266.70	3,061.45	1,919.10	1,830.28	88.82	21.606		
14,800.00	12,446.00	14,038.23	12,023.00	73.06	57.64	-78.61	-3,366.70	3,062.43	1,918.74	1,828.26	90.48	21.206		
14,900.00	12,446.00	14,138.23	12,023.00	74.32	58.76	-78.61	-3,466.69	3,063.41	1,918.39	1,826.22	92.16	20.815		
15,000.00	12,446.00	14,238.23	12,023.00	75.58	59.91	-78.60	-3,566.69	3,064.39	1,918.03	1,824.15	93.88	20.432		
15,100.00	12,446.00	14,338.23	12,023.00	76.87	61.07	-78.60	-3,666.68	3,065.37	1,917.67	1,822.06	95.61	20.057		
15,200.00	12,446.00	14,438.22	12,023.00	78.16	62.26	-78.60	-3,766.68	3,066.35	1,917.31	1,819.94	97.37	19.691		
15,300.00	12,446.00	14,538.22	12,023.00	79.47	63.47	-78.60	-3,866.67	3,067.33	1,916.96	1,817.80	99.15	19.333		
15,400.00	12,446.00	14,638.22	12,023.00	80.79	64.70	-78.59	-3,966.66	3,068.31	1,916.60	1,815.64	100.96	18.985		
15,500.00	12,446.00	14,738.22	12,023.00	82.13	65.95	-78.59	-4,066.66	3,069.29	1,916.24	1,813.47	102.78	18.645		
15,600.00	12,446.00	14,838.22	12,023.00	83.47	67.21	-78.59	-4,166.65	3,070.27	1,915.89	1,811.27	104.62	18.313		
15,700.00	12,446.00	14,938.22	12,023.00	84.83	68.50	-78.59	-4,266.65	3,071.25	1,915.53	1,809.05	106.48	17.990		
15,800.00	12,446.00	15,038.22	12,023.00	86.20	69.79	-78.59	-4,366.64	3,072.23	1,915.17	1,806.82	108.35	17.676		
15,900.00	12,446.00	15,138.22	12,023.00	87.57	71.11	-78.58	-4,466.64	3,073.21	1,914.81	1,804.57	110.24	17.369		
16,000.00	12,446.00	15,238.22	12,023.00	88.96	72.43	-78.58	-4,566.63	3,074.19	1,914.46	1,802.31	112.15	17.071		
16,100.00	12,446.00	15,338.22	12,023.00	90.35	73.77	-78.58	-4,666.63	3,075.17	1,914.10	1,800.03	114.07	16.780		
16,200.00	12,446.00	15,438.22	12,023.00	91.76	75.12	-78.58	-4,766.62	3,076.15	1,913.74	1,797.74	116.00	16.498		
16,300.00	12,446.00	15,538.22	12,023.00	93.17	76.48	-78.58	-4,866.62	3,077.13	1,913.39	1,795.44	117.95	16.222		
16,400.00	12,446.00	15,638.22	12,023.00	94.59	77.86	-78.57	-4,966.61	3,078.12	1,913.03	1,793.12	119.91	15.954		
16,500.00	12,446.00	15,738.22	12,023.00	96.02	79.24	-78.57	-5,066.60	3,079.10	1,912.67	1,790.79	121.88	15.693		
16,600.00	12,446.00	15,838.22	12,023.00	97.45	80.64	-78.57	-5,166.60	3,080.08	1,912.31	1,788.45	123.86	15.439		
16,700.00	12,446.00	15,938.21	12,023.00	98.89	82.04	-78.57	-5,266.59	3,081.06	1,911.96	1,786.10	125.85	15.192		
16,800.00	12,446.00	16,038.21	12,023.00	100.34	83.46	-78.56	-5,366.59	3,082.04	1,911.60	1,783.74	127.86	14.951		
16,900.00	12,446.00	16,138.21	12,023.00	101.79	84.88	-78.56	-5,466.58	3,083.02	1,911.24	1,781.37	129.87	14.717		
17,000.00	12,446.00	16,238.21	12,023.00	103.25	86.31	-78.56	-5,566.58	3,084.00	1,910.89	1,779.00	131.89	14.488		
17,100.00	12,446.00	16,338.21	12,023.00	104.72	87.75	-78.56	-5,666.57	3,084.98	1,910.53	1,776.61	133.92	14.266		
17,200.00	12,446.00	16,438.21	12,023.00	106.19	89.19	-78.56	-5,766.57	3,085.96	1,910.17	1,774.21	135.96	14.049		
17,300.00	12,446.00	16,538.21	12,023.00	107.66	90.64	-78.55	-5,866.56	3,086.94	1,909.81	1,771.81	138.01	13.838		
17,400.00	12,446.00	16,638.21	12,023.00	109.15	92.10	-78.55	-5,966.56	3,087.92	1,909.46	1,769.39	140.06	13.633		
17,500.00	12,446.00	16,738.21	12,023.00	110.63	93.57	-78.55	-6,066.55	3,088.90	1,909.10	1,766.98	142.12	13.433		
17,600.00	12,446.00	16,838.21	12,023.00	112.12	95.04	-78.55	-6,166.54	3,089.88	1,908.74	1,764.55	144.19	13.237		
17,700.00	12,446.00	16,938.21	12,023.00	113.62	96.52	-78.54	-6,266.54	3,090.86	1,908.39	1,762.12	146.27	13.047		
17,800.00	12,446.00	17,038.21	12,023.00	115.12	98.00	-78.54	-6,366.53	3,091.84	1,908.03	1,759.68	148.35	12.862		
17,900.00	12,446.00	17,138.21	12,023.00	116.62	99.49	-78.54	-6,466.53	3,092.82	1,907.67	1,757.23	150.44	12.681		
18,000.00	12,446.00	17,238.21	12,023.00	118.13	100.98	-78.54	-6,566.52	3,093.80	1,907.31	1,754.78	152.53	12.504		
18,100.00	12,446.00	17,338.21	12,023.00	119.64	102.48	-78.54	-6,666.52	3,094.78	1,906.96	1,752.32	154.63	12.332		
18,200.00	12,446.00	17,438.20	12,023.00	121.16	103.98	-78.53	-6,766.51	3,095.76	1,906.60	1,749.86	156.74	12.164		
18,300.00	12,446.00	17,538.20	12,023.00	122.67	105.49	-78.53	-6,866.51	3,096.74	1,906.24	1,747.39	158.85	12.000		
18,400.00	12,446.00	17,638.20	12,023.00	124.20	107.00	-78.53	-6,966.50	3,097.72	1,905.89	1,744.92	160.96	11.840		
18,500.00	12,446.00	17,738.20	12,023.00	125.72	108.52	-78.53	-7,066.49	3,098.70	1,905.53	1,742.44	163.08	11.684		
18,600.00	12,446.00	17,838.20	12,023.00	127.25	110.04	-78.53	-7,166.49	3,099.68	1,905.17	1,739.96	165.21	11.532		
18,700.00	12,446.00	17,938.20	12,023.00	128.78	111.56	-78.52	-7,266.48	3,100.66	1,904.82	1,737.48	167.34	11.383		
18,800.00	12,446.00	18,038.20	12,023.00	130.32	113.09	-78.52	-7,366.48	3,101.65	1,904.46	1,734.99	169.47	11.238		
18,900.00	12,446.00	18,138.20	12,023.00	131.86	114.62	-78.52	-7,466.47	3,102.63	1,904.10	1,732.49	171.61	11.096		
19,000.00	12,446.00	18,238.20	12,023.00	133.40	116.15	-78.52	-7,566.47	3,103.61	1,903.74	1,730.00	173.75	10.957		
19,100.00	12,446.00	18,338.20	12,023.00	134.94	117.69	-78.51	-7,666.46	3,104.59	1,903.39	1,727.50	175.89	10.821		
19,200.00	12,446.00	18,438.20	12,023.00	136.48	119.23	-78.51	-7,766.46	3,105.57	1,903.03	1,724.99	178.04	10.689		

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Tatanka Fed Com - Tatanka Fed Com 705H - OH - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
19,300.00	12,446.00	18,538.20	12,023.00	138.03	120.77	-78.51	-7,866.45	3,106.55	1,902.67	1,722.48	180.19	10.559		
19,400.00	12,446.00	18,638.20	12,023.00	139.58	122.32	-78.51	-7,966.45	3,107.53	1,902.32	1,719.97	182.35	10.432		
19,500.00	12,446.00	18,738.20	12,023.00	141.14	123.87	-78.51	-8,066.44	3,108.51	1,901.96	1,717.45	184.51	10.308		
19,600.00	12,446.00	18,838.20	12,023.00	142.69	125.42	-78.50	-8,166.43	3,109.49	1,901.60	1,714.93	186.67	10.187		
19,700.00	12,446.00	18,938.19	12,023.00	144.25	126.97	-78.50	-8,266.43	3,110.47	1,901.24	1,712.41	188.83	10.068		
19,800.00	12,446.00	19,038.19	12,023.00	145.81	128.53	-78.50	-8,366.42	3,111.45	1,900.89	1,709.89	191.00	9.952		
19,900.00	12,446.00	19,138.19	12,023.00	147.37	130.08	-78.50	-8,466.42	3,112.43	1,900.53	1,707.36	193.17	9.839		
20,000.00	12,446.00	19,238.19	12,023.00	148.93	131.65	-78.49	-8,566.41	3,113.41	1,900.17	1,704.83	195.34	9.727		
20,100.00	12,446.00	19,338.19	12,023.00	150.50	133.21	-78.49	-8,666.41	3,114.39	1,899.82	1,702.30	197.52	9.618		
20,200.00	12,446.00	19,438.19	12,023.00	152.06	134.77	-78.49	-8,766.40	3,115.37	1,899.46	1,699.76	199.70	9.512		
20,300.00	12,446.00	19,538.19	12,023.00	153.63	136.34	-78.49	-8,866.40	3,116.35	1,899.10	1,697.22	201.88	9.407		
20,400.00	12,446.00	19,638.19	12,023.00	155.20	137.91	-78.49	-8,966.39	3,117.33	1,898.75	1,694.68	204.06	9.305		
20,500.00	12,446.00	19,738.19	12,023.00	156.77	139.48	-78.48	-9,066.39	3,118.31	1,898.39	1,692.14	206.25	9.204		
20,600.00	12,446.00	19,838.19	12,023.00	158.35	141.05	-78.48	-9,166.38	3,119.29	1,898.03	1,689.60	208.44	9.106		
20,700.00	12,446.00	19,938.19	12,023.00	159.92	142.63	-78.48	-9,266.37	3,120.27	1,897.67	1,687.05	210.63	9.010		
20,800.00	12,446.00	20,038.19	12,023.00	161.50	144.20	-78.48	-9,366.37	3,121.25	1,897.32	1,684.50	212.82	8.915		
20,900.00	12,446.00	20,138.19	12,023.00	163.08	145.78	-78.48	-9,466.36	3,122.23	1,896.96	1,681.95	215.01	8.823		
21,000.00	12,446.00	20,238.19	12,023.00	164.66	147.36	-78.47	-9,566.36	3,123.21	1,896.60	1,679.40	217.21	8.732		
21,100.00	12,446.00	20,338.19	12,023.00	166.24	148.94	-78.47	-9,666.35	3,124.19	1,896.25	1,676.84	219.40	8.643		
21,200.00	12,446.00	20,438.18	12,023.00	167.82	150.52	-78.47	-9,766.35	3,125.18	1,895.89	1,674.29	221.60	8.555		
21,300.00	12,446.00	20,538.18	12,023.00	169.41	152.11	-78.47	-9,866.34	3,126.16	1,895.53	1,671.73	223.80	8.470		
21,400.00	12,446.00	20,638.18	12,023.00	170.99	153.69	-78.46	-9,966.34	3,127.14	1,895.18	1,669.17	226.01	8.385		
21,500.00	12,446.00	20,738.18	12,023.00	172.58	155.28	-78.46	-10,066.33	3,128.12	1,894.82	1,666.61	228.21	8.303		
21,600.00	12,446.00	20,838.18	12,023.00	174.17	156.87	-78.46	-10,166.33	3,129.10	1,894.46	1,664.04	230.42	8.222		
21,700.00	12,446.00	20,938.18	12,023.00	175.76	158.46	-78.46	-10,266.32	3,130.08	1,894.10	1,661.48	232.62	8.142		
21,800.00	12,446.00	21,038.18	12,023.00	177.35	160.05	-78.46	-10,366.31	3,131.06	1,893.75	1,658.92	234.83	8.064		
21,900.00	12,446.00	21,138.18	12,023.00	178.94	161.64	-78.45	-10,466.31	3,132.04	1,893.39	1,656.35	237.04	7.988		
22,000.00	12,446.00	21,238.18	12,023.00	180.53	163.23	-78.45	-10,566.30	3,133.02	1,893.03	1,653.78	239.25	7.912		
22,100.00	12,446.00	21,338.18	12,023.00	182.12	164.83	-78.45	-10,666.30	3,134.00	1,892.68	1,651.21	241.47	7.838		
22,200.00	12,446.00	21,438.18	12,023.00	183.72	166.42	-78.45	-10,766.29	3,134.98	1,892.32	1,648.64	243.68	7.766		
22,300.00	12,446.00	21,538.18	12,023.00	185.31	168.02	-78.44	-10,866.29	3,135.96	1,891.96	1,646.07	245.90	7.694		
22,400.00	12,446.00	21,638.18	12,023.00	186.91	169.62	-78.44	-10,966.28	3,136.94	1,891.61	1,643.49	248.11	7.624		
22,500.00	12,446.00	21,738.18	12,023.00	188.51	171.22	-78.44	-11,066.28	3,137.92	1,891.25	1,640.92	250.33	7.555		
22,600.00	12,446.00	21,838.18	12,023.00	190.11	172.82	-78.44	-11,166.27	3,138.90	1,890.89	1,638.34	252.55	7.487		
22,700.00	12,446.00	21,938.17	12,023.00	191.71	174.42	-78.44	-11,266.27	3,139.88	1,890.53	1,635.76	254.77	7.420		
22,800.00	12,446.00	22,038.17	12,023.00	193.31	175.95	-78.43	-11,366.26	3,140.86	1,890.18	1,633.23	256.95	7.356		
22,817.13	12,446.00	22,055.30	12,023.00	193.58	176.20	-78.43	-11,383.39	3,141.03	1,890.12	1,632.81	257.31	7.346	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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Tatanka Fed Com - Tatanka Fed Com 801H - OH - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.00	0.00	0.00	0.00	0.00	0.00	-128.04	-1,019.85	-1,303.38	1,654.96					
100.00	100.00	98.30	98.30	0.13	0.12	-128.04	-1,019.85	-1,303.38	1,654.96	1,654.78	0.18	9,406.769		
200.00	200.00	198.30	198.30	0.48	0.48	-128.04	-1,019.85	-1,303.38	1,654.96	1,654.28	0.68	2,433.427		
300.00	300.00	298.30	298.30	0.84	0.84	-128.04	-1,019.85	-1,303.38	1,654.96	1,653.77	1.19	1,394.186		
400.00	400.00	398.30	398.30	1.20	1.19	-128.04	-1,019.85	-1,303.38	1,654.96	1,653.27	1.69	976.956		
500.00	500.00	498.30	498.30	1.56	1.55	-128.04	-1,019.85	-1,303.38	1,654.96	1,652.76	2.20	751.930		
600.00	600.00	598.30	598.30	1.92	1.91	-128.04	-1,019.85	-1,303.38	1,654.96	1,652.25	2.71	611.159		
700.00	700.00	698.30	698.30	2.28	2.27	-128.04	-1,019.85	-1,303.38	1,654.96	1,651.75	3.21	514.785		
800.00	800.00	798.30	798.30	2.63	2.63	-128.04	-1,019.85	-1,303.38	1,654.96	1,651.24	3.72	444.665		
900.00	900.00	898.30	898.30	2.99	2.99	-128.04	-1,019.85	-1,303.38	1,654.96	1,650.73	4.23	391.357		
1,000.00	1,000.00	998.30	998.30	3.35	3.35	-128.04	-1,019.85	-1,303.38	1,654.96	1,650.22	4.74	349.463		
1,100.00	1,100.00	1,098.30	1,098.30	3.71	3.70	-128.04	-1,019.85	-1,303.38	1,654.96	1,649.72	5.24	315.671		
1,200.00	1,200.00	1,198.30	1,198.30	4.07	4.06	-128.04	-1,019.85	-1,303.38	1,654.96	1,649.21	5.75	287.837		
1,300.00	1,300.00	1,298.30	1,298.30	4.43	4.42	-128.04	-1,019.85	-1,303.38	1,654.96	1,648.70	6.26	264.515		
1,400.00	1,400.00	1,398.30	1,398.30	4.79	4.78	-128.04	-1,019.85	-1,303.38	1,654.96	1,648.20	6.76	244.688		
1,500.00	1,500.00	1,498.30	1,498.30	5.14	5.14	-128.04	-1,019.85	-1,303.38	1,654.96	1,647.69	7.27	227.627		
1,600.00	1,600.00	1,598.30	1,598.30	5.50	5.50	-128.04	-1,019.85	-1,303.38	1,654.96	1,647.18	7.78	212.789		
1,700.00	1,700.00	1,698.30	1,698.30	5.86	5.85	-128.04	-1,019.85	-1,303.38	1,654.96	1,646.68	8.28	199.768		
1,800.00	1,800.00	1,798.30	1,798.30	6.22	6.21	-128.04	-1,019.85	-1,303.38	1,654.96	1,646.17	8.79	188.248		
1,900.00	1,900.00	1,898.30	1,898.30	6.58	6.57	-128.04	-1,019.85	-1,303.38	1,654.96	1,645.66	9.30	177.985		
2,000.00	2,000.00	1,998.30	1,998.30	6.94	6.93	-128.04	-1,019.85	-1,303.38	1,654.96	1,645.16	9.81	168.783		
2,100.00	2,100.00	2,098.30	2,098.30	7.29	7.29	-128.04	-1,019.85	-1,303.38	1,654.96	1,644.65	10.31	160.485		
2,200.00	2,200.00	2,198.30	2,198.30	7.65	7.65	-128.04	-1,019.85	-1,303.38	1,654.96	1,644.14	10.82	152.965		
2,300.00	2,300.00	2,298.30	2,298.30	8.01	8.01	-128.04	-1,019.85	-1,303.38	1,654.96	1,643.63	11.33	146.119		
2,400.00	2,400.00	2,398.30	2,398.30	8.37	8.36	-128.04	-1,019.85	-1,303.38	1,654.96	1,643.13	11.83	139.859		
2,500.00	2,500.00	2,498.30	2,498.30	8.73	8.72	-128.04	-1,019.85	-1,303.38	1,654.96	1,642.62	12.34	134.113		
2,600.00	2,600.00	2,598.30	2,598.30	9.09	9.08	-128.04	-1,019.85	-1,303.38	1,654.96	1,642.11	12.85	128.821		
2,700.00	2,700.00	2,698.30	2,698.30	9.45	9.44	-128.04	-1,019.85	-1,303.38	1,654.96	1,641.61	13.35	123.930		
2,800.00	2,800.00	2,798.30	2,798.30	9.80	9.80	-128.04	-1,019.85	-1,303.38	1,654.96	1,641.10	13.86	119.398		
2,900.00	2,900.00	2,898.30	2,898.30	10.16	10.16	-128.04	-1,019.85	-1,303.38	1,654.96	1,640.59	14.37	115.185		
3,000.00	3,000.00	2,998.30	2,998.30	10.52	10.52	-128.04	-1,019.85	-1,303.38	1,654.96	1,640.09	14.87	111.259		
3,100.00	3,100.00	3,098.30	3,098.30	10.88	10.87	-128.04	-1,019.85	-1,303.38	1,654.96	1,639.58	15.38	107.592		
3,200.00	3,200.00	3,198.30	3,198.30	11.24	11.23	-128.04	-1,019.85	-1,303.38	1,654.96	1,639.07	15.89	104.159		
3,300.00	3,300.00	3,298.30	3,298.30	11.60	11.59	-128.04	-1,019.85	-1,303.38	1,654.96	1,638.56	16.40	100.939 CC, ES		
3,400.00	3,399.99	3,370.63	3,370.63	11.94	11.84	99.94	-1,019.99	-1,304.02	1,656.01	1,639.19	16.81	98.488		
3,500.00	3,499.91	3,442.32	3,442.29	12.27	12.09	100.02	-1,020.43	-1,305.97	1,659.21	1,642.00	17.21	96.385		
3,600.00	3,599.69	3,513.70	3,513.58	12.60	12.33	100.15	-1,021.15	-1,309.21	1,664.59	1,646.98	17.61	94.531		
3,700.00	3,699.27	3,591.66	3,591.39	12.94	12.59	100.35	-1,022.26	-1,314.16	1,672.11	1,654.09	18.02	92.788		
3,800.00	3,798.57	3,690.25	3,689.73	13.28	12.93	100.72	-1,023.76	-1,320.88	1,680.67	1,662.18	18.50	90.869		
3,900.00	3,897.54	3,788.39	3,787.63	13.62	13.27	101.15	-1,025.25	-1,327.56	1,689.87	1,670.89	18.97	89.066		
4,000.00	3,996.09	3,886.02	3,885.02	13.97	13.61	101.64	-1,026.74	-1,334.22	1,699.76	1,680.30	19.45	87.370		
4,100.00	4,094.16	3,983.07	3,981.84	14.33	13.94	102.20	-1,028.22	-1,340.83	1,710.42	1,690.48	19.94	85.775		
4,200.00	4,191.70	4,079.47	4,078.00	14.70	14.28	102.81	-1,029.68	-1,347.39	1,721.94	1,701.50	20.43	84.275		
4,300.00	4,288.62	4,175.16	4,173.46	15.08	14.62	103.47	-1,031.14	-1,353.91	1,734.39	1,713.46	20.93	82.864		
4,400.00	4,384.86	4,270.07	4,268.14	15.48	14.95	104.18	-1,032.58	-1,360.38	1,747.89	1,726.45	21.44	81.539		
4,500.00	4,480.36	4,364.14	4,361.98	15.89	15.28	104.92	-1,034.02	-1,366.79	1,762.52	1,740.57	21.95	80.295		
4,600.00	4,575.05	4,457.30	4,454.91	16.33	15.61	105.70	-1,035.43	-1,373.13	1,778.38	1,755.91	22.47	79.130		
4,674.25	4,644.79	4,525.85	4,523.29	16.66	15.85	106.30	-1,036.48	-1,377.80	1,791.02	1,768.15	22.87	78.314		
4,700.00	4,668.90	4,549.52	4,546.91	16.78	15.94	106.57	-1,036.84	-1,379.41	1,795.56	1,772.55	23.01	78.041		
4,800.00	4,762.49	4,641.47	4,638.63	17.26	16.26	107.62	-1,038.24	-1,385.68	1,813.62	1,790.06	23.55	77.008		
4,900.00	4,856.09	4,733.42	4,730.35	17.75	16.59	108.66	-1,039.63	-1,391.94	1,832.34	1,808.23	24.10	76.026		
5,000.00	4,949.69	4,825.36	4,822.08	18.25	16.92	109.68	-1,041.03	-1,398.20	1,851.70	1,827.04	24.66	75.094		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.00	5,043.29	4,917.31	4,913.80	18.76	17.25	110.67	-1,042.43	-1,404.47	1,871.69	1,846.47	25.22	74.212		
5,200.00	5,136.88	5,009.26	5,005.52	19.29	17.58	111.65	-1,043.83	-1,410.73	1,892.29	1,866.50	25.79	73.379		
5,300.00	5,230.48	5,101.20	5,097.25	19.82	17.91	112.61	-1,045.23	-1,417.00	1,913.48	1,887.12	26.36	72.593		
5,400.00	5,324.08	5,193.15	5,188.97	20.37	18.24	113.55	-1,046.63	-1,423.26	1,935.23	1,908.29	26.93	71.853		
5,500.00	5,417.68	5,285.10	5,280.69	20.93	18.57	114.48	-1,048.03	-1,429.52	1,957.52	1,930.01	27.51	71.156		
5,600.00	5,511.27	5,377.05	5,372.41	21.49	18.90	115.38	-1,049.43	-1,435.79	1,980.35	1,952.26	28.09	70.502		
5,700.00	5,604.87	5,468.99	5,464.14	22.06	19.23	116.27	-1,050.83	-1,442.05	2,003.69	1,975.02	28.67	69.889		
5,800.00	5,698.47	5,560.94	5,555.86	22.64	19.56	117.13	-1,052.23	-1,448.31	2,027.53	1,998.28	29.25	69.314		
5,900.00	5,792.07	5,652.89	5,647.58	23.22	19.90	117.98	-1,053.63	-1,454.58	2,051.84	2,022.00	29.83	68.776		
6,000.00	5,885.66	5,744.83	5,739.30	23.81	20.23	118.81	-1,055.03	-1,460.84	2,076.61	2,046.19	30.42	68.272		
6,100.00	5,979.26	5,836.78	5,831.03	24.41	20.56	119.62	-1,056.43	-1,467.10	2,101.82	2,070.82	31.00	67.801		
6,200.00	6,072.86	5,928.73	5,922.75	25.01	20.90	120.42	-1,057.83	-1,473.37	2,127.46	2,095.88	31.58	67.362		
6,300.00	6,166.46	6,020.67	6,014.47	25.61	21.23	121.20	-1,059.23	-1,479.63	2,153.52	2,121.35	32.17	66.952		
6,400.00	6,260.05	6,182.96	6,176.48	26.22	21.82	122.53	-1,061.26	-1,488.75	2,179.11	2,146.13	32.98	66.074		
6,500.00	6,353.65	6,358.46	6,351.95	26.84	22.44	123.91	-1,061.85	-1,491.38	2,200.62	2,166.82	33.80	65.100		
6,600.00	6,447.25	6,452.06	6,445.55	27.45	22.77	124.63	-1,061.85	-1,491.38	2,221.35	2,186.95	34.39	64.590		
6,700.00	6,540.85	6,545.66	6,539.15	28.07	23.09	125.34	-1,061.85	-1,491.38	2,242.43	2,207.45	34.98	64.110		
6,800.00	6,634.44	6,639.26	6,632.74	28.70	23.42	126.04	-1,061.85	-1,491.38	2,263.87	2,228.30	35.56	63.658		
6,900.00	6,728.04	6,732.85	6,726.34	29.33	23.75	126.72	-1,061.85	-1,491.38	2,285.64	2,249.50	36.15	63.232		
7,000.00	6,821.64	6,826.45	6,819.94	29.96	24.08	127.40	-1,061.85	-1,491.38	2,307.75	2,271.02	36.73	62.831		
7,100.00	6,915.24	6,920.05	6,913.54	30.59	24.41	128.06	-1,061.85	-1,491.38	2,330.18	2,292.87	37.31	62.455		
7,200.00	7,008.83	7,013.65	7,007.13	31.23	24.74	128.71	-1,061.85	-1,491.38	2,352.93	2,315.04	37.89	62.100		
7,300.00	7,102.43	7,107.24	7,100.73	31.87	25.07	129.34	-1,061.85	-1,491.38	2,375.97	2,337.51	38.47	61.768		
7,400.00	7,196.03	7,200.84	7,194.33	32.51	25.40	129.97	-1,061.85	-1,491.38	2,399.32	2,360.28	39.04	61.455		
7,500.00	7,289.63	7,294.44	7,287.93	33.15	25.73	130.59	-1,061.85	-1,491.38	2,422.95	2,383.33	39.62	61.162		
7,600.00	7,383.22	7,388.04	7,381.52	33.80	26.06	131.19	-1,061.85	-1,491.38	2,446.85	2,406.67	40.19	60.887		
7,683.32	7,461.21	7,466.02	7,459.51	34.34	26.33	131.68	-1,061.85	-1,491.38	2,466.98	2,426.32	40.66	60.670		
7,700.00	7,476.83	7,481.65	7,475.13	34.44	26.39	131.83	-1,061.85	-1,491.38	2,471.01	2,430.25	40.76	60.628		
7,800.00	7,571.03	7,575.84	7,569.33	35.07	26.72	132.65	-1,061.85	-1,491.38	2,494.31	2,452.98	41.32	60.364		
7,900.00	7,666.07	7,670.88	7,664.37	35.68	27.05	133.40	-1,061.85	-1,491.38	2,516.09	2,474.21	41.88	60.084		
8,000.00	7,761.89	7,766.71	7,760.19	36.25	27.39	134.08	-1,061.85	-1,491.38	2,536.29	2,493.87	42.42	59.785		
8,100.00	7,858.43	7,863.25	7,856.73	36.80	27.73	134.70	-1,061.85	-1,491.38	2,554.86	2,511.90	42.96	59.467		
8,200.00	7,955.62	7,960.43	7,953.92	37.32	28.08	135.25	-1,061.85	-1,491.38	2,571.73	2,528.24	43.49	59.129		
8,300.00	8,053.39	8,058.20	8,051.69	37.81	28.42	135.73	-1,061.85	-1,491.38	2,586.86	2,542.84	44.02	58.770		
8,400.00	8,151.68	8,156.49	8,149.98	38.27	28.77	136.15	-1,061.85	-1,491.38	2,600.20	2,555.67	44.53	58.391		
8,500.00	8,250.41	8,255.23	8,248.71	38.71	29.12	136.51	-1,061.85	-1,491.38	2,611.73	2,566.69	45.04	57.990		
8,600.00	8,349.53	8,354.34	8,347.83	39.11	29.47	136.81	-1,061.85	-1,491.38	2,621.41	2,575.87	45.54	57.568		
8,700.00	8,448.96	8,453.77	8,447.26	39.49	29.82	137.05	-1,061.85	-1,491.38	2,629.21	2,583.18	46.03	57.125		
8,800.00	8,548.63	8,553.44	8,546.93	39.84	30.17	137.23	-1,061.85	-1,491.38	2,635.11	2,588.60	46.51	56.660		
8,900.00	8,648.48	8,653.29	8,646.78	40.17	30.53	137.35	-1,061.85	-1,491.38	2,639.11	2,592.12	46.98	56.173		
9,000.00	8,748.44	8,753.25	8,746.74	40.46	30.88	137.41	-1,061.85	-1,491.38	2,641.18	2,593.73	47.45	55.666		
9,057.57	8,806.00	8,810.81	8,804.30	40.62	31.08	-90.54	-1,061.85	-1,491.38	2,641.50	2,593.79	47.71	55.367		
9,100.00	8,848.43	8,853.25	8,846.73	40.73	31.23	-90.54	-1,061.85	-1,491.38	2,641.50	2,593.60	47.90	55.147		
9,200.00	8,948.43	8,953.25	8,946.73	41.00	31.59	-90.54	-1,061.85	-1,491.38	2,641.50	2,593.15	48.35	54.634		
9,300.00	9,048.43	9,053.25	9,046.73	41.26	31.94	-90.54	-1,061.85	-1,491.38	2,641.50	2,592.70	48.80	54.130		
9,400.00	9,148.43	9,153.25	9,146.73	41.53	32.30	-90.54	-1,061.85	-1,491.38	2,641.50	2,592.25	49.25	53.634		
9,500.00	9,248.43	9,253.25	9,246.73	41.80	32.65	-90.54	-1,061.85	-1,491.38	2,641.50	2,591.79	49.70	53.145		
9,600.00	9,348.43	9,353.25	9,346.73	42.06	33.01	-90.54	-1,061.85	-1,491.38	2,641.50	2,591.34	50.16	52.664		
9,700.00	9,448.43	9,453.25	9,446.73	42.34	33.36	-90.54	-1,061.85	-1,491.38	2,641.50	2,590.89	50.61	52.191		
9,800.00	9,548.43	9,553.25	9,546.73	42.61	33.72	-90.54	-1,061.85	-1,491.38	2,641.50	2,590.43	51.07	51.726		
9,900.00	9,648.43	9,653.25	9,646.73	42.88	34.07	-90.54	-1,061.85	-1,491.38	2,641.50	2,589.97	51.52	51.267		
10,000.00	9,748.43	9,753.25	9,746.73	43.16	34.43	-90.54	-1,061.85	-1,491.38	2,641.50	2,589.52	51.98	50.816		

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 801H - OH - Plan #2		Offset Site Error:		0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:		0.00 usft			
Reference		Offset		Semi Major Axis			Distance						Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor						
10,100.00	9,848.43	9,853.25	9,846.73	43.43	34.78	-90.54	-1,061.85	-1,491.38	2,641.50	2,589.06	52.44	50.372						
10,200.00	9,948.43	9,953.25	9,946.73	43.71	35.14	-90.54	-1,061.85	-1,491.38	2,641.50	2,588.60	52.90	49.934						
10,300.00	10,048.43	10,053.25	10,046.73	43.99	35.49	-90.54	-1,061.85	-1,491.38	2,641.50	2,588.14	53.36	49.504						
10,400.00	10,148.43	10,153.25	10,146.73	44.26	35.85	-90.54	-1,061.85	-1,491.38	2,641.50	2,587.68	53.82	49.080						
10,500.00	10,248.43	10,253.25	10,246.73	44.55	36.20	-90.54	-1,061.85	-1,491.38	2,641.50	2,587.21	54.28	48.662						
10,600.00	10,348.43	10,353.25	10,346.73	44.83	36.56	-90.54	-1,061.85	-1,491.38	2,641.50	2,586.75	54.75	48.251						
10,700.00	10,448.43	10,453.25	10,446.73	45.11	36.91	-90.54	-1,061.85	-1,491.38	2,641.50	2,586.29	55.21	47.846						
10,800.00	10,548.43	10,553.25	10,546.73	45.39	37.27	-90.54	-1,061.85	-1,491.38	2,641.50	2,585.82	55.67	47.447						
10,900.00	10,648.43	10,653.25	10,646.73	45.68	37.62	-90.54	-1,061.85	-1,491.38	2,641.50	2,585.36	56.14	47.054						
11,000.00	10,748.43	10,753.25	10,746.73	45.96	37.98	-90.54	-1,061.85	-1,491.38	2,641.50	2,584.89	56.60	46.666						
11,100.00	10,848.43	10,853.25	10,846.73	46.25	38.33	-90.54	-1,061.85	-1,491.38	2,641.50	2,584.43	57.07	46.285						
11,200.00	10,948.43	10,953.25	10,946.73	46.54	38.69	-90.54	-1,061.85	-1,491.38	2,641.50	2,583.96	57.54	45.909						
11,300.00	11,048.43	11,053.25	11,046.73	46.83	39.05	-90.54	-1,061.85	-1,491.38	2,641.50	2,583.49	58.01	45.539						
11,400.00	11,148.43	11,153.25	11,146.73	47.12	39.40	-90.54	-1,061.85	-1,491.38	2,641.50	2,583.02	58.47	45.174						
11,500.00	11,248.43	11,253.25	11,246.73	47.41	39.76	-90.54	-1,061.85	-1,491.38	2,641.50	2,582.55	58.94	44.815						
11,600.00	11,348.43	11,353.25	11,346.73	47.70	40.11	-90.54	-1,061.85	-1,491.38	2,641.50	2,582.08	59.41	44.460						
11,700.00	11,448.43	11,453.25	11,446.73	47.99	40.47	-90.54	-1,061.85	-1,491.38	2,641.50	2,581.61	59.88	44.111						
11,800.00	11,548.43	11,553.25	11,546.73	48.28	40.82	-90.54	-1,061.85	-1,491.38	2,641.50	2,581.14	60.35	43.767						
11,900.00	11,648.43	11,653.25	11,646.73	48.58	41.18	-90.54	-1,061.85	-1,491.38	2,641.50	2,580.67	60.83	43.428						
12,000.00	11,748.43	11,753.25	11,746.73	48.87	41.54	-90.54	-1,061.85	-1,491.38	2,641.50	2,580.20	61.30	43.093						
12,100.00	11,848.43	11,853.25	11,846.73	49.17	41.89	-90.54	-1,061.85	-1,491.38	2,641.50	2,579.73	61.77	42.763						
12,124.61	11,873.04	11,877.85	11,871.34	49.24	41.98	-90.54	-1,061.85	-1,491.38	2,641.50	2,579.61	61.89	42.683						
12,150.00	11,898.42	11,903.24	11,896.72	49.32	42.07	90.24	-1,061.85	-1,491.38	2,641.50	2,579.49	62.01	42.600						
12,200.00	11,948.22	11,953.03	11,946.52	49.49	42.25	90.34	-1,061.85	-1,491.38	2,641.52	2,579.27	62.25	42.433						
12,250.00	11,997.43	12,002.25	11,995.73	49.67	42.42	90.52	-1,061.85	-1,491.38	2,641.59	2,579.09	62.50	42.264						
12,300.00	12,045.71	12,050.52	12,044.01	49.88	42.60	90.77	-1,061.85	-1,491.38	2,641.74	2,578.98	62.76	42.093						
12,350.00	12,092.66	12,097.48	12,090.96	50.11	42.76	91.09	-1,061.85	-1,491.38	2,642.04	2,579.02	63.02	41.923						
12,400.00	12,137.95	12,142.77	12,136.25	50.35	42.92	91.45	-1,061.85	-1,491.38	2,642.56	2,579.27	63.28	41.757						
12,450.00	12,181.22	12,188.40	12,181.88	50.62	43.08	91.86	-1,062.04	-1,491.38	2,643.39	2,579.83	63.55	41.592						
12,500.00	12,222.15	12,240.79	12,234.12	50.89	43.26	92.34	-1,065.79	-1,491.34	2,644.50	2,580.65	63.85	41.416						
12,550.00	12,260.41	12,296.44	12,288.98	51.18	43.44	92.81	-1,074.98	-1,491.25	2,645.86	2,581.68	64.17	41.230						
12,600.00	12,295.73	12,355.89	12,346.31	51.49	43.63	93.29	-1,090.62	-1,491.10	2,647.43	2,582.92	64.52	41.034						
12,650.00	12,327.84	12,419.75	12,405.73	51.81	43.82	93.78	-1,113.93	-1,490.86	2,649.19	2,584.30	64.89	40.827						
12,700.00	12,356.48	12,488.67	12,466.51	52.14	44.02	94.27	-1,146.34	-1,490.54	2,651.07	2,585.78	65.29	40.607						
12,750.00	12,381.44	12,563.28	12,527.40	52.48	44.23	94.75	-1,189.36	-1,490.12	2,653.00	2,587.29	65.72	40.371						
12,800.00	12,402.53	12,644.09	12,586.44	52.84	44.46	95.21	-1,244.44	-1,489.57	2,654.89	2,588.71	66.18	40.117						
12,850.00	12,419.60	12,731.33	12,640.80	53.20	44.71	95.64	-1,312.56	-1,488.90	2,656.63	2,589.95	66.68	39.841						
12,900.00	12,432.50	12,824.73	12,686.81	53.57	45.01	96.00	-1,393.71	-1,488.10	2,658.12	2,590.89	67.23	39.538						
12,950.00	12,441.15	12,923.33	12,720.42	53.95	45.33	96.25	-1,486.28	-1,487.18	2,659.23	2,591.40	67.82	39.207						
13,000.00	12,445.47	13,025.41	12,737.98	54.34	45.68	96.38	-1,586.69	-1,486.19	2,659.88	2,591.42	68.46	38.853						
13,024.61	12,446.00	13,076.22	12,739.99	54.53	45.85	96.38	-1,637.45	-1,485.68	2,660.02	2,591.23	68.78	38.672						
13,100.00	12,446.00	13,150.24	12,740.00	55.13	46.13	96.38	-1,711.46	-1,484.95	2,660.28	2,590.85	69.44	38.311						
13,200.00	12,446.00	13,250.24	12,740.00	55.95	46.55	96.38	-1,811.45	-1,483.96	2,660.64	2,590.27	70.37	37.811						
13,300.00	12,446.00	13,350.24	12,740.00	56.81	47.02	96.38	-1,911.45	-1,482.97	2,660.99	2,589.63	71.36	37.290						
13,400.00	12,446.00	13,450.23	12,740.00	57.70	47.54	96.38	-2,011.44	-1,481.98	2,661.34	2,588.93	72.41	36.753						
13,500.00	12,446.00	13,550.23	12,740.00	58.63	48.12	96.38	-2,111.44	-1,480.99	2,661.70	2,588.17	73.52	36.202						
13,600.00	12,446.00	13,650.23	12,740.00	59.59	48.74	96.38	-2,211.43	-1,480.00	2,662.05	2,587.36	74.69	35.641						
13,700.00	12,446.00	13,750.23	12,740.00	60.58	49.41	96.38	-2,311.43	-1,479.01	2,662.40	2,586.49	75.91	35.072						
13,800.00	12,446.00	13,850.23	12,740.00	61.60	50.13	96.38	-2,411.42	-1,478.02	2,662.75	2,585.57	77.18	34.499						
13,900.00	12,446.00	13,950.23	12,740.00	62.64	50.88	96.38	-2,511.41	-1,477.03	2,663.11	2,584.60	78.50	33.924						
14,000.00	12,446.00	14,050.23	12,740.00	63.71	51.68	96.37	-2,611.41	-1,476.04	2,663.46	2,583.59	79.87	33.348						
14,100.00	12,446.00	14,150.23	12,740.00	64.81	52.52	96.37	-2,711.40	-1,475.05	2,663.81	2,582.53	81.28	32.774						

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design		Tatanka Fed Com - Tatanka Fed Com 801H - OH - Plan #2											Offset Site Error:		0.00 usft
Survey Program:		0-OWSG (Rev2) MWD											Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis		Distance								Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
14,200.00	12,446.00	14,250.23	12,740.00	65.92	53.40	96.37	-2,811.40	-1,474.06	2,664.17	2,581.44	82.73	32.204			
14,300.00	12,446.00	14,350.23	12,740.00	67.07	54.32	96.37	-2,911.39	-1,473.07	2,664.52	2,580.30	84.22	31.638			
14,400.00	12,446.00	14,450.23	12,740.00	68.23	55.26	96.37	-3,011.39	-1,472.08	2,664.87	2,579.13	85.74	31.079			
14,500.00	12,446.00	14,550.23	12,740.00	69.41	56.24	96.37	-3,111.38	-1,471.09	2,665.22	2,577.92	87.31	30.527			
14,600.00	12,446.00	14,650.23	12,740.00	70.61	57.26	96.37	-3,211.38	-1,470.10	2,665.58	2,576.67	88.90	29.983			
14,700.00	12,446.00	14,750.23	12,740.00	71.83	58.30	96.37	-3,311.37	-1,469.11	2,665.93	2,575.40	90.53	29.448			
14,800.00	12,446.00	14,850.23	12,740.00	73.06	59.36	96.37	-3,411.36	-1,468.13	2,666.28	2,574.10	92.19	28.923			
14,900.00	12,446.00	14,950.23	12,740.00	74.32	60.46	96.37	-3,511.36	-1,467.14	2,666.64	2,572.76	93.87	28.407			
15,000.00	12,446.00	15,050.22	12,740.00	75.58	61.58	96.37	-3,611.35	-1,466.15	2,666.99	2,571.40	95.58	27.902			
15,100.00	12,446.00	15,150.22	12,740.00	76.87	62.72	96.36	-3,711.35	-1,465.16	2,667.34	2,570.02	97.32	27.407			
15,200.00	12,446.00	15,250.22	12,740.00	78.16	63.89	96.36	-3,811.34	-1,464.17	2,667.69	2,568.61	99.08	26.924			
15,300.00	12,446.00	15,350.22	12,740.00	79.47	65.07	96.36	-3,911.34	-1,463.18	2,668.05	2,567.18	100.87	26.451			
15,400.00	12,446.00	15,450.22	12,740.00	80.79	66.28	96.36	-4,011.33	-1,462.19	2,668.40	2,565.73	102.67	25.989			
15,500.00	12,446.00	15,550.22	12,740.00	82.13	67.50	96.36	-4,111.33	-1,461.20	2,668.75	2,564.25	104.50	25.538			
15,600.00	12,446.00	15,650.22	12,740.00	83.47	68.75	96.36	-4,211.32	-1,460.21	2,669.11	2,562.76	106.35	25.098			
15,700.00	12,446.00	15,750.22	12,740.00	84.83	70.01	96.36	-4,311.31	-1,459.22	2,669.46	2,561.25	108.21	24.669			
15,800.00	12,446.00	15,850.22	12,740.00	86.20	71.28	96.36	-4,411.31	-1,458.23	2,669.81	2,559.72	110.09	24.250			
15,900.00	12,446.00	15,950.22	12,740.00	87.57	72.57	96.36	-4,511.30	-1,457.24	2,670.16	2,558.17	111.99	23.842			
16,000.00	12,446.00	16,050.22	12,740.00	88.96	73.88	96.36	-4,611.30	-1,456.25	2,670.52	2,556.61	113.91	23.445			
16,100.00	12,446.00	16,150.22	12,740.00	90.35	75.20	96.36	-4,711.29	-1,455.26	2,670.87	2,555.03	115.84	23.057			
16,200.00	12,446.00	16,250.22	12,740.00	91.76	76.53	96.36	-4,811.29	-1,454.27	2,671.22	2,553.44	117.78	22.680			
16,300.00	12,446.00	16,350.22	12,740.00	93.17	77.87	96.35	-4,911.28	-1,453.28	2,671.58	2,551.84	119.74	22.312			
16,400.00	12,446.00	16,450.22	12,740.00	94.59	79.23	96.35	-5,011.28	-1,452.29	2,671.93	2,550.22	121.71	21.953			
16,500.00	12,446.00	16,550.22	12,740.00	96.02	80.59	96.35	-5,111.27	-1,451.30	2,672.28	2,548.59	123.69	21.604			
16,600.00	12,446.00	16,650.21	12,740.00	97.45	81.97	96.35	-5,211.27	-1,450.31	2,672.63	2,546.95	125.69	21.264			
16,700.00	12,446.00	16,750.21	12,740.00	98.89	83.36	96.35	-5,311.26	-1,449.32	2,672.99	2,545.30	127.69	20.933			
16,800.00	12,446.00	16,850.21	12,740.00	100.34	84.76	96.35	-5,411.25	-1,448.33	2,673.34	2,543.63	129.71	20.610			
16,900.00	12,446.00	16,950.21	12,740.00	101.79	86.16	96.35	-5,511.25	-1,447.34	2,673.69	2,541.96	131.73	20.296			
17,000.00	12,446.00	17,050.21	12,740.00	103.25	87.58	96.35	-5,611.24	-1,446.35	2,674.05	2,540.27	133.77	19.990			
17,100.00	12,446.00	17,150.21	12,740.00	104.72	89.00	96.35	-5,711.24	-1,445.36	2,674.40	2,538.58	135.82	19.691			
17,200.00	12,446.00	17,250.21	12,740.00	106.19	90.43	96.35	-5,811.23	-1,444.37	2,674.75	2,536.88	137.87	19.400			
17,300.00	12,446.00	17,350.21	12,740.00	107.66	91.87	96.35	-5,911.23	-1,443.38	2,675.10	2,535.17	139.93	19.117			
17,400.00	12,446.00	17,450.21	12,740.00	109.15	93.31	96.35	-6,011.22	-1,442.39	2,675.46	2,533.45	142.00	18.841			
17,500.00	12,446.00	17,550.21	12,740.00	110.63	94.76	96.34	-6,111.22	-1,441.40	2,675.81	2,531.73	144.08	18.571			
17,600.00	12,446.00	17,650.21	12,740.00	112.12	96.22	96.34	-6,211.21	-1,440.41	2,676.16	2,529.99	146.17	18.309			
17,700.00	12,446.00	17,750.21	12,740.00	113.62	97.68	96.34	-6,311.20	-1,439.42	2,676.52	2,528.25	148.26	18.053			
17,800.00	12,446.00	17,850.21	12,740.00	115.12	99.15	96.34	-6,411.20	-1,438.43	2,676.87	2,526.51	150.36	17.803			
17,900.00	12,446.00	17,950.21	12,740.00	116.62	100.63	96.34	-6,511.19	-1,437.44	2,677.22	2,524.75	152.47	17.559			
18,000.00	12,446.00	18,050.21	12,740.00	118.13	102.11	96.34	-6,611.19	-1,436.45	2,677.57	2,522.99	154.58	17.321			
18,100.00	12,446.00	18,150.21	12,740.00	119.64	103.60	96.34	-6,711.18	-1,435.46	2,677.93	2,521.23	156.70	17.090			
18,200.00	12,446.00	18,250.20	12,740.00	121.16	105.09	96.34	-6,811.18	-1,434.47	2,678.28	2,519.46	158.82	16.863			
18,300.00	12,446.00	18,350.20	12,740.00	122.67	106.58	96.34	-6,911.17	-1,433.48	2,678.63	2,517.68	160.95	16.642			
18,400.00	12,446.00	18,450.20	12,740.00	124.20	108.08	96.34	-7,011.17	-1,432.50	2,678.99	2,515.90	163.09	16.427			
18,500.00	12,446.00	18,550.20	12,740.00	125.72	109.59	96.34	-7,111.16	-1,431.51	2,679.34	2,514.11	165.23	16.216			
18,600.00	12,446.00	18,650.20	12,740.00	127.25	111.10	96.34	-7,211.15	-1,430.52	2,679.69	2,512.32	167.37	16.010			
18,700.00	12,446.00	18,750.20	12,740.00	128.78	112.61	96.33	-7,311.15	-1,429.53	2,680.04	2,510.52	169.52	15.809			
18,800.00	12,446.00	18,850.20	12,740.00	130.32	114.13	96.33	-7,411.14	-1,428.54	2,680.40	2,508.72	171.68	15.613			
18,900.00	12,446.00	18,950.20	12,740.00	131.86	115.65	96.33	-7,511.14	-1,427.55	2,680.75	2,506.91	173.84	15.421			
19,000.00	12,446.00	19,050.20	12,740.00	133.40	117.17	96.33	-7,611.13	-1,426.56	2,681.10	2,505.10	176.00	15.234			
19,100.00	12,446.00	19,150.20	12,740.00	134.94	118.70	96.33	-7,711.13	-1,425.57	2,681.46	2,503.29	178.17	15.050			
19,200.00	12,446.00	19,250.20	12,740.00	136.48	120.23	96.33	-7,811.12	-1,424.58	2,681.81	2,501.47	180.34	14.871			
19,300.00	12,446.00	19,350.20	12,740.00	138.03	121.76	96.33	-7,911.12	-1,423.59	2,682.16	2,499.65	182.51	14.696			

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 801H - OH - Plan #2		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance						Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
19,400.00	12,446.00	19,450.20	12,740.00	139.58	123.30	96.33	-8,011.11	-1,422.60	2,682.51	2,497.82	184.69	14.524				
19,500.00	12,446.00	19,550.20	12,740.00	141.14	124.84	96.33	-8,111.10	-1,421.61	2,682.87	2,496.00	186.87	14.357				
19,600.00	12,446.00	19,650.20	12,740.00	142.69	126.38	96.33	-8,211.10	-1,420.62	2,683.22	2,494.16	189.06	14.193				
19,700.00	12,446.00	19,750.20	12,740.00	144.25	127.93	96.33	-8,311.09	-1,419.63	2,683.57	2,492.33	191.24	14.032				
19,800.00	12,446.00	19,850.19	12,740.00	145.81	129.48	96.33	-8,411.09	-1,418.64	2,683.93	2,490.49	193.44	13.875				
19,900.00	12,446.00	19,950.19	12,740.00	147.37	131.03	96.32	-8,511.08	-1,417.65	2,684.28	2,488.65	195.63	13.721				
20,000.00	12,446.00	20,050.19	12,740.00	148.93	132.58	96.32	-8,611.08	-1,416.66	2,684.63	2,486.80	197.83	13.571				
20,100.00	12,446.00	20,150.19	12,740.00	150.50	134.13	96.32	-8,711.07	-1,415.67	2,684.98	2,484.96	200.03	13.423				
20,200.00	12,446.00	20,250.19	12,740.00	152.06	135.69	96.32	-8,811.07	-1,414.68	2,685.34	2,483.11	202.23	13.279				
20,300.00	12,446.00	20,350.19	12,740.00	153.63	137.25	96.32	-8,911.06	-1,413.69	2,685.69	2,481.25	204.44	13.137				
20,400.00	12,446.00	20,450.19	12,740.00	155.20	138.81	96.32	-9,011.06	-1,412.70	2,686.04	2,479.40	206.65	12.998				
20,500.00	12,446.00	20,550.19	12,740.00	156.77	140.38	96.32	-9,111.05	-1,411.71	2,686.40	2,477.54	208.86	12.862				
20,600.00	12,446.00	20,650.19	12,740.00	158.35	141.94	96.32	-9,211.04	-1,410.72	2,686.75	2,475.68	211.07	12.729				
20,700.00	12,446.00	20,750.19	12,740.00	159.92	143.51	96.32	-9,311.04	-1,409.73	2,687.10	2,473.82	213.29	12.599				
20,800.00	12,446.00	20,850.19	12,740.00	161.50	145.08	96.32	-9,411.03	-1,408.74	2,687.45	2,471.95	215.50	12.471				
20,900.00	12,446.00	20,950.19	12,740.00	163.08	146.65	96.32	-9,511.03	-1,407.75	2,687.81	2,470.08	217.72	12.345				
21,000.00	12,446.00	21,050.19	12,740.00	164.66	148.22	96.32	-9,611.02	-1,406.76	2,688.16	2,468.21	219.95	12.222				
21,100.00	12,446.00	21,150.19	12,740.00	166.24	149.80	96.31	-9,711.02	-1,405.77	2,688.51	2,466.34	222.17	12.101				
21,200.00	12,446.00	21,250.19	12,740.00	167.82	151.38	96.31	-9,811.01	-1,404.78	2,688.87	2,464.47	224.40	11.983				
21,300.00	12,446.00	21,350.19	12,740.00	169.41	152.95	96.31	-9,911.01	-1,403.79	2,689.22	2,462.59	226.63	11.866				
21,400.00	12,446.00	21,450.18	12,740.00	170.99	154.53	96.31	-10,011.00	-1,402.80	2,689.57	2,460.72	228.86	11.752				
21,500.00	12,446.00	21,550.18	12,740.00	172.58	156.11	96.31	-10,110.99	-1,401.81	2,689.93	2,458.84	231.09	11.640				
21,600.00	12,446.00	21,650.18	12,740.00	174.17	157.70	96.31	-10,210.99	-1,400.82	2,690.28	2,456.96	233.32	11.530				
21,700.00	12,446.00	21,750.18	12,740.00	175.76	159.28	96.31	-10,310.98	-1,399.83	2,690.63	2,455.07	235.56	11.422				
21,800.00	12,446.00	21,850.18	12,740.00	177.35	160.87	96.31	-10,410.98	-1,398.84	2,690.98	2,453.19	237.80	11.316				
21,900.00	12,446.00	21,950.18	12,740.00	178.94	162.45	96.31	-10,510.97	-1,397.85	2,691.34	2,451.30	240.04	11.212				
22,000.00	12,446.00	22,050.18	12,740.00	180.53	164.04	96.31	-10,610.97	-1,396.87	2,691.69	2,449.41	242.28	11.110				
22,100.00	12,446.00	22,150.18	12,740.00	182.12	165.63	96.31	-10,710.96	-1,395.88	2,692.04	2,447.52	244.52	11.010				
22,200.00	12,446.00	22,250.18	12,740.00	183.72	167.22	96.31	-10,810.96	-1,394.89	2,692.40	2,445.63	246.76	10.911				
22,300.00	12,446.00	22,350.18	12,740.00	185.31	168.81	96.30	-10,910.95	-1,393.90	2,692.75	2,443.74	249.01	10.814				
22,400.00	12,446.00	22,450.18	12,740.00	186.91	170.40	96.30	-11,010.94	-1,392.91	2,693.10	2,441.85	251.25	10.719				
22,500.00	12,446.00	22,550.18	12,740.00	188.51	172.00	96.30	-11,110.94	-1,391.92	2,693.45	2,439.95	253.50	10.625				
22,600.00	12,446.00	22,650.18	12,740.00	190.11	173.59	96.30	-11,210.93	-1,390.93	2,693.81	2,438.05	255.75	10.533				
22,700.00	12,446.00	22,750.18	12,740.00	191.71	175.19	96.30	-11,310.93	-1,389.94	2,694.16	2,436.16	258.00	10.442				
22,800.00	12,446.00	22,850.18	12,740.00	193.31	176.70	96.30	-11,410.92	-1,388.95	2,694.51	2,434.32	260.20	10.356				
22,817.13	12,446.00	22,865.07	12,740.00	193.58	176.91	96.30	-11,425.82	-1,388.80	2,694.57	2,434.04	260.53	10.343 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 802H - OH - Plan #2		Offset Site Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
0.00	0.00	0.00	0.00	0.00	0.00	-128.57	-1,019.61	-1,278.39	1,635.20							
100.00	100.00	98.30	98.30	0.13	0.12	-128.57	-1,019.61	-1,278.39	1,635.20	1,635.03	0.18	9,294.464				
200.00	200.00	198.30	198.30	0.48	0.48	-128.57	-1,019.61	-1,278.39	1,635.20	1,634.52	0.68	2,404.375				
300.00	300.00	298.30	298.30	0.84	0.84	-128.57	-1,019.61	-1,278.39	1,635.20	1,634.01	1.19	1,377.541				
400.00	400.00	398.30	398.30	1.20	1.19	-128.57	-1,019.61	-1,278.39	1,635.20	1,633.51	1.69	965.292				
500.00	500.00	498.30	498.30	1.56	1.55	-128.57	-1,019.61	-1,278.39	1,635.20	1,633.00	2.20	742.953				
600.00	600.00	598.30	598.30	1.92	1.91	-128.57	-1,019.61	-1,278.39	1,635.20	1,632.49	2.71	603.862				
700.00	700.00	698.30	698.30	2.28	2.27	-128.57	-1,019.61	-1,278.39	1,635.20	1,631.99	3.21	508.639				
800.00	800.00	798.30	798.30	2.63	2.63	-128.57	-1,019.61	-1,278.39	1,635.20	1,631.48	3.72	439.356				
900.00	900.00	898.30	898.30	2.99	2.99	-128.57	-1,019.61	-1,278.39	1,635.20	1,630.97	4.23	386.685				
1,000.00	1,000.00	998.30	998.30	3.35	3.35	-128.57	-1,019.61	-1,278.39	1,635.20	1,630.47	4.74	345.291				
1,100.00	1,100.00	1,098.30	1,098.30	3.71	3.70	-128.57	-1,019.61	-1,278.39	1,635.20	1,629.96	5.24	311.902				
1,200.00	1,200.00	1,198.30	1,198.30	4.07	4.06	-128.57	-1,019.61	-1,278.39	1,635.20	1,629.45	5.75	284.401				
1,300.00	1,300.00	1,298.30	1,298.30	4.43	4.42	-128.57	-1,019.61	-1,278.39	1,635.20	1,628.95	6.26	261.357				
1,400.00	1,400.00	1,398.30	1,398.30	4.79	4.78	-128.57	-1,019.61	-1,278.39	1,635.20	1,628.44	6.76	241.767				
1,500.00	1,500.00	1,498.30	1,498.30	5.14	5.14	-128.57	-1,019.61	-1,278.39	1,635.20	1,627.93	7.27	224.909				
1,600.00	1,600.00	1,598.30	1,598.30	5.50	5.50	-128.57	-1,019.61	-1,278.39	1,635.20	1,627.42	7.78	210.249				
1,700.00	1,700.00	1,698.30	1,698.30	5.86	5.85	-128.57	-1,019.61	-1,278.39	1,635.20	1,626.92	8.28	197.383				
1,800.00	1,800.00	1,798.30	1,798.30	6.22	6.21	-128.57	-1,019.61	-1,278.39	1,635.20	1,626.41	8.79	186.001				
1,900.00	1,900.00	1,898.30	1,898.30	6.58	6.57	-128.57	-1,019.61	-1,278.39	1,635.20	1,625.90	9.30	175.860				
2,000.00	2,000.00	1,998.30	1,998.30	6.94	6.93	-128.57	-1,019.61	-1,278.39	1,635.20	1,625.40	9.81	166.768				
2,100.00	2,100.00	2,098.30	2,098.30	7.29	7.29	-128.57	-1,019.61	-1,278.39	1,635.20	1,624.89	10.31	158.569				
2,200.00	2,200.00	2,198.30	2,198.30	7.65	7.65	-128.57	-1,019.61	-1,278.39	1,635.20	1,624.38	10.82	151.139				
2,300.00	2,300.00	2,298.30	2,298.30	8.01	8.01	-128.57	-1,019.61	-1,278.39	1,635.20	1,623.88	11.33	144.374				
2,400.00	2,400.00	2,398.30	2,398.30	8.37	8.36	-128.57	-1,019.61	-1,278.39	1,635.20	1,623.37	11.83	138.189				
2,500.00	2,500.00	2,498.30	2,498.30	8.73	8.72	-128.57	-1,019.61	-1,278.39	1,635.20	1,622.86	12.34	132.512				
2,600.00	2,600.00	2,598.30	2,598.30	9.09	9.08	-128.57	-1,019.61	-1,278.39	1,635.20	1,622.36	12.85	127.283				
2,700.00	2,700.00	2,698.30	2,698.30	9.45	9.44	-128.57	-1,019.61	-1,278.39	1,635.20	1,621.85	13.35	122.451				
2,800.00	2,800.00	2,798.30	2,798.30	9.80	9.80	-128.57	-1,019.61	-1,278.39	1,635.20	1,621.34	13.86	117.972				
2,900.00	2,900.00	2,898.30	2,898.30	10.16	10.16	-128.57	-1,019.61	-1,278.39	1,635.20	1,620.83	14.37	113.810				
3,000.00	3,000.00	2,998.30	2,998.30	10.52	10.52	-128.57	-1,019.61	-1,278.39	1,635.20	1,620.33	14.87	109.931				
3,100.00	3,100.00	3,098.30	3,098.30	10.88	10.87	-128.57	-1,019.61	-1,278.39	1,635.20	1,619.82	15.38	106.308				
3,200.00	3,200.00	3,198.30	3,198.30	11.24	11.23	-128.57	-1,019.61	-1,278.39	1,635.20	1,619.31	15.89	102.916				
3,300.00	3,300.00	3,344.47	3,344.43	11.60	11.74	-128.64	-1,019.76	-1,275.66	1,633.81	1,617.32	16.50	99.048				
3,400.00	3,399.99	3,491.10	3,490.82	11.94	12.24	99.25	-1,020.20	-1,267.32	1,629.77	1,612.70	17.08	95.446				
3,500.00	3,499.91	3,637.24	3,636.28	12.27	12.75	99.22	-1,020.95	-1,253.43	1,623.30	1,605.66	17.64	92.044				
3,600.00	3,599.69	3,782.69	3,780.43	12.60	13.26	99.22	-1,021.99	-1,234.10	1,614.42	1,596.23	18.19	88.760				
3,700.00	3,699.27	3,905.89	3,901.93	12.94	13.71	99.29	-1,023.08	-1,213.73	1,603.46	1,584.76	18.71	85.720				
3,800.00	3,798.57	4,005.29	3,999.86	13.28	14.07	99.46	-1,024.00	-1,196.70	1,592.55	1,573.35	19.19	82.970				
3,900.00	3,897.54	4,104.70	4,097.79	13.62	14.44	99.71	-1,024.91	-1,179.67	1,582.06	1,562.37	19.69	80.357				
4,000.00	3,996.09	4,204.05	4,195.67	13.97	14.82	100.05	-1,025.83	-1,162.65	1,572.02	1,551.83	20.19	77.871				
4,100.00	4,094.16	4,303.27	4,293.42	14.33	15.20	100.48	-1,026.74	-1,145.65	1,562.47	1,541.77	20.69	75.504				
4,200.00	4,191.70	4,402.30	4,390.98	14.70	15.58	101.01	-1,027.65	-1,128.68	1,553.44	1,532.23	21.21	73.249				
4,300.00	4,288.62	4,501.07	4,488.28	15.08	15.96	101.61	-1,028.56	-1,111.76	1,545.01	1,523.28	21.73	71.101				
4,400.00	4,384.86	4,599.51	4,585.26	15.48	16.35	102.31	-1,029.47	-1,094.89	1,537.23	1,514.97	22.26	69.054				
4,500.00	4,480.36	4,697.55	4,681.85	15.89	16.73	103.09	-1,030.37	-1,078.09	1,530.21	1,507.41	22.80	67.106				
4,600.00	4,575.05	4,795.12	4,777.97	16.33	17.12	103.95	-1,031.27	-1,061.37	1,524.03	1,500.68	23.36	65.253				
4,674.25	4,644.79	4,867.23	4,849.01	16.66	17.41	104.64	-1,031.93	-1,049.02	1,520.06	1,496.28	23.77	63.938				
4,700.00	4,668.90	4,892.18	4,873.59	16.78	17.51	104.87	-1,032.16	-1,044.74	1,518.79	1,494.87	23.92	63.493				
4,800.00	4,762.49	4,989.09	4,969.06	17.26	17.90	105.76	-1,033.05	-1,028.14	1,514.10	1,489.61	24.50	61.810				
4,900.00	4,856.09	5,085.99	5,064.53	17.75	18.29	106.65	-1,033.94	-1,011.54	1,509.81	1,484.73	25.08	60.200				
5,000.00	4,949.69	5,182.90	5,160.00	18.25	18.69	107.55	-1,034.84	-994.93	1,505.90	1,480.23	25.67	58.660				

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.00	5,043.29	5,279.81	5,255.47	18.76	19.08	108.46	-1,035.73	-978.33	1,502.40	1,476.13	26.27	57.191		
5,200.00	5,136.88	5,376.71	5,350.94	19.29	19.48	109.36	-1,036.62	-961.73	1,499.29	1,472.41	26.87	55.791		
5,300.00	5,230.48	5,473.62	5,446.41	19.82	19.88	110.27	-1,037.51	-945.12	1,496.58	1,469.10	27.48	54.458		
5,400.00	5,324.08	5,570.52	5,541.88	20.37	20.28	111.18	-1,038.40	-928.52	1,494.27	1,466.18	28.09	53.189		
5,500.00	5,417.68	5,667.43	5,637.35	20.93	20.69	112.10	-1,039.29	-911.92	1,492.37	1,463.66	28.71	51.984		
5,600.00	5,511.27	5,764.34	5,732.82	21.49	21.09	113.02	-1,040.19	-895.31	1,490.88	1,461.55	29.33	50.839		
5,700.00	5,604.87	5,861.24	5,828.29	22.06	21.50	113.94	-1,041.08	-878.71	1,489.79	1,459.84	29.94	49.753		
5,800.00	5,698.47	5,958.15	5,923.75	22.64	21.90	114.86	-1,041.97	-862.11	1,489.11	1,458.54	30.56	48.722		
5,900.00	5,792.07	6,055.06	6,019.22	23.22	22.31	115.78	-1,042.86	-845.50	1,488.84	1,457.65	31.18	47.745		
5,916.11	5,807.15	6,070.67	6,034.61	23.32	22.38	115.92	-1,043.01	-842.83	1,488.83	1,457.55	31.28	47.592 CC		
6,000.00	5,885.66	6,151.96	6,114.69	23.81	22.72	116.70	-1,043.75	-828.90	1,488.98	1,457.17	31.80	46.819		
6,100.00	5,979.26	6,248.87	6,210.16	24.41	23.13	117.62	-1,044.65	-812.29	1,489.52	1,457.10	32.42	45.942 ES		
6,200.00	6,072.86	6,345.77	6,305.63	25.01	23.54	118.54	-1,045.54	-795.69	1,490.48	1,457.44	33.04	45.111		
6,300.00	6,166.46	6,442.68	6,401.10	25.61	23.96	119.45	-1,046.43	-779.09	1,491.84	1,458.19	33.66	44.325		
6,400.00	6,260.05	6,539.59	6,496.57	26.22	24.37	120.37	-1,047.32	-762.48	1,493.61	1,459.34	34.27	43.581		
6,500.00	6,353.65	6,636.49	6,592.04	26.84	24.78	121.28	-1,048.21	-745.88	1,495.79	1,460.91	34.88	42.879		
6,600.00	6,447.25	6,733.40	6,687.51	27.45	25.20	122.19	-1,049.10	-729.28	1,498.37	1,462.88	35.49	42.215		
6,700.00	6,540.85	6,830.31	6,782.98	28.07	25.62	123.10	-1,050.00	-712.67	1,501.35	1,465.25	36.10	41.588		
6,800.00	6,634.44	6,917.84	6,869.23	28.70	25.99	123.92	-1,050.80	-697.76	1,504.84	1,468.14	36.70	41.008		
6,900.00	6,728.04	7,000.00	6,950.40	29.33	26.34	124.70	-1,051.48	-685.08	1,510.14	1,472.86	37.28	40.507		
7,000.00	6,821.64	7,058.02	7,007.88	29.96	26.57	125.26	-1,051.90	-677.18	1,517.42	1,479.60	37.82	40.119		
7,100.00	6,915.24	7,127.53	7,076.89	30.59	26.85	125.93	-1,052.35	-668.86	1,526.88	1,488.52	38.36	39.801		
7,200.00	7,008.83	7,200.00	7,148.98	31.23	27.13	126.64	-1,052.74	-661.53	1,538.47	1,499.57	38.89	39.558		
7,300.00	7,102.43	7,265.20	7,213.95	31.87	27.38	127.29	-1,053.03	-656.10	1,552.15	1,512.76	39.39	39.407		
7,400.00	7,196.03	7,333.27	7,281.87	32.51	27.63	127.96	-1,053.28	-651.61	1,567.95	1,528.07	39.87	39.324		
7,500.00	7,289.63	7,400.00	7,348.52	33.15	27.87	128.62	-1,053.45	-648.39	1,585.83	1,545.49	40.34	39.314		
7,600.00	7,383.22	7,467.70	7,416.19	33.80	28.10	129.28	-1,053.56	-646.31	1,605.78	1,564.99	40.79	39.368		
7,683.32	7,461.21	7,522.99	7,471.47	34.34	28.29	129.82	-1,053.60	-645.50	1,623.97	1,582.82	41.15	39.465		
7,700.00	7,476.83	7,534.01	7,482.50	34.44	28.33	129.98	-1,053.61	-645.43	1,627.76	1,586.54	41.22	39.490		
7,800.00	7,571.03	7,620.85	7,569.33	35.07	28.61	131.03	-1,053.61	-645.39	1,650.23	1,608.52	41.72	39.557		
7,900.00	7,666.07	7,715.89	7,664.37	35.68	28.93	132.06	-1,053.61	-645.39	1,671.44	1,629.20	42.24	39.571		
8,000.00	7,761.89	7,811.71	7,760.19	36.25	29.24	132.98	-1,053.61	-645.39	1,691.20	1,648.45	42.75	39.557		
8,100.00	7,858.43	7,908.25	7,856.73	36.80	29.56	133.81	-1,053.61	-645.39	1,709.45	1,666.18	43.26	39.513		
8,200.00	7,955.62	8,005.44	7,953.92	37.32	29.88	134.55	-1,053.61	-645.39	1,726.09	1,682.32	43.77	39.438		
8,300.00	8,053.39	8,103.21	8,051.69	37.81	30.21	135.19	-1,053.61	-645.39	1,741.06	1,696.80	44.27	39.332		
8,400.00	8,151.68	8,201.49	8,149.98	38.27	30.54	135.75	-1,053.61	-645.39	1,754.30	1,709.55	44.76	39.195		
8,500.00	8,250.41	8,300.23	8,248.71	38.71	30.86	136.23	-1,053.61	-645.39	1,765.77	1,720.52	45.25	39.026		
8,600.00	8,349.53	8,399.34	8,347.83	39.11	31.20	136.62	-1,053.61	-645.39	1,775.41	1,729.68	45.73	38.826		
8,700.00	8,448.96	8,498.77	8,447.26	39.49	31.53	136.94	-1,053.61	-645.39	1,783.19	1,736.98	46.20	38.594		
8,800.00	8,548.63	8,598.45	8,546.93	39.84	31.86	137.17	-1,053.61	-645.39	1,789.08	1,742.41	46.67	38.331		
8,900.00	8,648.48	8,698.29	8,646.78	40.17	32.20	137.33	-1,053.61	-645.39	1,793.08	1,745.94	47.14	38.038		
9,000.00	8,748.44	8,798.25	8,746.74	40.46	32.53	137.42	-1,053.61	-645.39	1,795.15	1,747.55	47.60	37.714		
9,057.57	8,806.00	8,855.82	8,804.30	40.62	32.73	-90.53	-1,053.61	-645.39	1,795.47	1,747.61	47.86	37.516		
9,100.00	8,848.43	8,898.25	8,846.73	40.73	32.87	-90.53	-1,053.61	-645.39	1,795.47	1,747.42	48.05	37.369		
9,200.00	8,948.43	8,998.25	8,946.73	41.00	33.20	-90.53	-1,053.61	-645.39	1,795.47	1,746.97	48.49	37.026		
9,300.00	9,048.43	9,098.25	9,046.73	41.26	33.54	-90.53	-1,053.61	-645.39	1,795.47	1,746.53	48.94	36.687		
9,400.00	9,148.43	9,198.25	9,146.73	41.53	33.88	-90.53	-1,053.61	-645.39	1,795.47	1,746.08	49.39	36.355		
9,500.00	9,248.43	9,298.25	9,246.73	41.80	34.22	-90.53	-1,053.61	-645.39	1,795.47	1,745.63	49.84	36.027		
9,600.00	9,348.43	9,398.25	9,346.73	42.06	34.56	-90.53	-1,053.61	-645.39	1,795.47	1,745.18	50.29	35.704		
9,700.00	9,448.43	9,498.25	9,446.73	42.34	34.89	-90.53	-1,053.61	-645.39	1,795.47	1,744.73	50.74	35.387		
9,800.00	9,548.43	9,598.25	9,546.73	42.61	35.23	-90.53	-1,053.61	-645.39	1,795.47	1,744.28	51.19	35.074		
9,900.00	9,648.43	9,698.25	9,646.73	42.88	35.57	-90.53	-1,053.61	-645.39	1,795.47	1,743.82	51.64	34.766		

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design		Tatanka Fed Com - Tatanka Fed Com 802H - OH - Plan #2											Offset Site Error:		0.00 usft
Survey Program:		0-OWSG (Rev2) MWD											Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis		Distance								Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
10,000.00	9,748.43	9,798.25	9,746.73	43.16	35.91	-90.53	-1,053.61	-645.39	1,795.47	1,743.37	52.10	34.463			
10,100.00	9,848.43	9,898.25	9,846.73	43.43	36.25	-90.53	-1,053.61	-645.39	1,795.47	1,742.91	52.55	34.164			
10,200.00	9,948.43	9,998.25	9,946.73	43.71	36.59	-90.53	-1,053.61	-645.39	1,795.47	1,742.46	53.01	33.870			
10,300.00	10,048.43	10,098.25	10,046.73	43.99	36.94	-90.53	-1,053.61	-645.39	1,795.47	1,742.00	53.47	33.580			
10,400.00	10,148.43	10,198.25	10,146.73	44.26	37.28	-90.53	-1,053.61	-645.39	1,795.47	1,741.54	53.93	33.295			
10,500.00	10,248.43	10,298.25	10,246.73	44.55	37.62	-90.53	-1,053.61	-645.39	1,795.47	1,741.08	54.39	33.014			
10,600.00	10,348.43	10,398.25	10,346.73	44.83	37.96	-90.53	-1,053.61	-645.39	1,795.47	1,740.62	54.85	32.737			
10,700.00	10,448.43	10,498.25	10,446.73	45.11	38.30	-90.53	-1,053.61	-645.39	1,795.47	1,740.16	55.31	32.464			
10,800.00	10,548.43	10,598.25	10,546.73	45.39	38.65	-90.53	-1,053.61	-645.39	1,795.47	1,739.70	55.77	32.196			
10,900.00	10,648.43	10,698.25	10,646.73	45.68	38.99	-90.53	-1,053.61	-645.39	1,795.47	1,739.24	56.23	31.931			
11,000.00	10,748.43	10,798.25	10,746.73	45.96	39.33	-90.53	-1,053.61	-645.39	1,795.47	1,738.77	56.69	31.670			
11,100.00	10,848.43	10,898.25	10,846.73	46.25	39.67	-90.53	-1,053.61	-645.39	1,795.47	1,738.31	57.16	31.413			
11,200.00	10,948.43	10,998.25	10,946.73	46.54	40.02	-90.53	-1,053.61	-645.39	1,795.47	1,737.85	57.62	31.160			
11,300.00	11,048.43	11,098.25	11,046.73	46.83	40.36	-90.53	-1,053.61	-645.39	1,795.47	1,737.38	58.09	30.910			
11,400.00	11,148.43	11,198.25	11,146.73	47.12	40.71	-90.53	-1,053.61	-645.39	1,795.47	1,736.91	58.55	30.665			
11,500.00	11,248.43	11,298.25	11,246.73	47.41	41.05	-90.53	-1,053.61	-645.39	1,795.47	1,736.45	59.02	30.422			
11,600.00	11,348.43	11,398.25	11,346.73	47.70	41.40	-90.53	-1,053.61	-645.39	1,795.47	1,735.98	59.49	30.183			
11,700.00	11,448.43	11,498.25	11,446.73	47.99	41.74	-90.53	-1,053.61	-645.39	1,795.47	1,735.51	59.95	29.948			
11,800.00	11,548.43	11,598.25	11,546.73	48.28	42.09	-90.53	-1,053.61	-645.39	1,795.47	1,735.04	60.42	29.715			
11,900.00	11,648.43	11,698.25	11,646.73	48.58	42.43	-90.53	-1,053.61	-645.39	1,795.47	1,734.58	60.89	29.486			
12,000.00	11,748.43	11,798.25	11,746.73	48.87	42.78	-90.53	-1,053.61	-645.39	1,795.47	1,734.11	61.36	29.261			
12,100.00	11,848.43	11,898.25	11,846.73	49.17	43.12	-90.53	-1,053.61	-645.39	1,795.47	1,733.64	61.83	29.038			
12,124.61	11,873.04	11,922.86	11,871.34	49.24	43.21	-90.53	-1,053.61	-645.39	1,795.47	1,733.52	61.95	28.984			
12,150.00	11,898.42	11,948.24	11,896.72	49.32	43.30	90.26	-1,053.61	-645.39	1,795.47	1,733.40	62.07	28.928			
12,200.00	11,948.22	11,998.03	11,946.52	49.49	43.47	90.40	-1,053.61	-645.39	1,795.49	1,733.19	62.31	28.818			
12,250.00	11,997.43	12,047.25	11,995.73	49.67	43.64	90.66	-1,053.61	-645.39	1,795.58	1,733.03	62.55	28.708			
12,300.00	12,045.71	12,095.52	12,044.01	49.88	43.81	91.04	-1,053.61	-645.39	1,795.78	1,732.99	62.79	28.600			
12,350.00	12,092.66	12,146.34	12,094.75	50.11	43.97	91.49	-1,055.86	-645.37	1,796.13	1,733.09	63.05	28.489			
12,400.00	12,137.95	12,198.66	12,146.58	50.35	44.14	91.94	-1,062.86	-645.30	1,796.63	1,733.30	63.33	28.370			
12,450.00	12,181.22	12,252.59	12,199.11	50.62	44.31	92.38	-1,074.99	-645.18	1,797.25	1,733.62	63.63	28.245			
12,500.00	12,222.15	12,308.25	12,251.88	50.89	44.48	92.81	-1,092.63	-645.00	1,797.98	1,734.02	63.96	28.113			
12,550.00	12,260.41	12,365.72	12,304.30	51.18	44.65	93.23	-1,116.13	-644.77	1,798.81	1,734.50	64.30	27.974			
12,600.00	12,295.73	12,425.08	12,355.69	51.49	44.81	93.63	-1,145.78	-644.48	1,799.70	1,735.03	64.67	27.828			
12,650.00	12,327.84	12,486.37	12,405.25	51.81	44.97	94.01	-1,181.80	-644.12	1,800.64	1,735.58	65.06	27.675			
12,700.00	12,356.48	12,549.60	12,452.03	52.14	45.13	94.36	-1,224.28	-643.70	1,801.60	1,736.12	65.48	27.515			
12,750.00	12,381.44	12,614.71	12,495.01	52.48	45.29	94.68	-1,273.14	-643.22	1,802.53	1,736.61	65.92	27.346			
12,800.00	12,402.53	12,681.58	12,533.10	52.84	45.44	94.95	-1,328.06	-642.68	1,803.40	1,737.02	66.38	27.168			
12,850.00	12,419.60	12,750.04	12,565.19	53.20	45.61	95.17	-1,388.48	-642.08	1,804.18	1,737.31	66.87	26.981			
12,900.00	12,432.50	12,819.81	12,590.26	53.57	45.79	95.34	-1,453.55	-641.44	1,804.84	1,737.45	67.38	26.784			
12,950.00	12,441.15	12,890.58	12,607.41	53.95	45.99	95.45	-1,522.16	-640.76	1,805.34	1,737.42	67.92	26.580			
13,000.00	12,445.47	12,961.96	12,616.01	54.34	46.21	95.49	-1,592.96	-640.06	1,805.68	1,737.20	68.48	26.368			
13,024.61	12,446.00	12,997.17	12,617.00	54.53	46.33	95.49	-1,628.16	-639.71	1,805.79	1,737.03	68.76	26.263			
13,100.00	12,446.00	13,072.08	12,617.00	55.13	46.60	95.49	-1,703.06	-638.97	1,806.05	1,736.63	69.42	26.016			
13,200.00	12,446.00	13,172.08	12,617.00	55.95	47.01	95.49	-1,803.05	-637.98	1,806.41	1,736.05	70.36	25.675			
13,300.00	12,446.00	13,272.08	12,617.00	56.81	47.47	95.49	-1,903.05	-637.00	1,806.76	1,735.41	71.36	25.320			
13,400.00	12,446.00	13,372.08	12,617.00	57.70	47.99	95.48	-2,003.04	-636.01	1,807.12	1,734.70	72.42	24.954			
13,500.00	12,446.00	13,472.08	12,617.00	58.63	48.56	95.48	-2,103.04	-635.02	1,807.47	1,733.94	73.54	24.579			
13,600.00	12,446.00	13,572.08	12,617.00	59.59	49.18	95.48	-2,203.03	-634.03	1,807.83	1,733.11	74.71	24.197			
13,700.00	12,446.00	13,672.08	12,617.00	60.58	49.84	95.48	-2,303.03	-633.04	1,808.18	1,732.24	75.94	23.810			
13,800.00	12,446.00	13,772.07	12,617.00	61.60	50.55	95.48	-2,403.02	-632.05	1,808.54	1,731.32	77.22	23.421			
13,900.00	12,446.00	13,872.07	12,617.00	62.64	51.30	95.48	-2,503.01	-631.07	1,808.89	1,730.35	78.55	23.030			
14,000.00	12,446.00	13,972.07	12,617.00	63.71	52.10	95.48	-2,603.01	-630.08	1,809.25	1,729.33	79.92	22.638			

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Tatanka Fed Com - Tatanka Fed Com 802H - OH - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
14,100.00	12,446.00	14,072.07	12,617.00	64.81	52.93	95.48	-2,703.00	-629.09	1,809.60	1,728.27	81.34	22.249		
14,200.00	12,446.00	14,172.07	12,617.00	65.92	53.81	95.48	-2,803.00	-628.10	1,809.96	1,727.17	82.79	21.861		
14,300.00	12,446.00	14,272.07	12,617.00	67.07	54.72	95.47	-2,902.99	-627.11	1,810.31	1,726.02	84.29	21.477		
14,400.00	12,446.00	14,372.07	12,617.00	68.23	55.66	95.47	-3,002.99	-626.12	1,810.67	1,724.85	85.82	21.098		
14,500.00	12,446.00	14,472.07	12,617.00	69.41	56.63	95.47	-3,102.98	-625.14	1,811.02	1,723.63	87.39	20.723		
14,600.00	12,446.00	14,572.07	12,617.00	70.61	57.64	95.47	-3,202.98	-624.15	1,811.38	1,722.38	88.99	20.354		
14,700.00	12,446.00	14,672.07	12,617.00	71.83	58.68	95.47	-3,302.97	-623.16	1,811.73	1,721.11	90.63	19.991		
14,800.00	12,446.00	14,772.07	12,617.00	73.06	59.74	95.47	-3,402.96	-622.17	1,812.09	1,719.80	92.29	19.635		
14,900.00	12,446.00	14,872.07	12,617.00	74.32	60.83	95.47	-3,502.96	-621.18	1,812.44	1,718.46	93.98	19.285		
15,000.00	12,446.00	14,972.07	12,617.00	75.58	61.94	95.47	-3,602.95	-620.20	1,812.80	1,717.10	95.70	18.943		
15,100.00	12,446.00	15,072.07	12,617.00	76.87	63.08	95.47	-3,702.95	-619.21	1,813.15	1,715.71	97.44	18.607		
15,200.00	12,446.00	15,172.07	12,617.00	78.16	64.24	95.46	-3,802.94	-618.22	1,813.51	1,714.30	99.21	18.279		
15,300.00	12,446.00	15,272.07	12,617.00	79.47	65.42	95.46	-3,902.94	-617.23	1,813.86	1,712.86	101.00	17.959		
15,400.00	12,446.00	15,372.06	12,617.00	80.79	66.62	95.46	-4,002.93	-616.24	1,814.22	1,711.40	102.81	17.646		
15,500.00	12,446.00	15,472.06	12,617.00	82.13	67.84	95.46	-4,102.93	-615.25	1,814.57	1,709.93	104.65	17.340		
15,600.00	12,446.00	15,572.06	12,617.00	83.47	69.08	95.46	-4,202.92	-614.27	1,814.93	1,708.43	106.50	17.042		
15,700.00	12,446.00	15,672.06	12,617.00	84.83	70.34	95.46	-4,302.91	-613.28	1,815.28	1,706.92	108.37	16.751		
15,800.00	12,446.00	15,772.06	12,617.00	86.20	71.61	95.46	-4,402.91	-612.29	1,815.64	1,705.38	110.25	16.468		
15,900.00	12,446.00	15,872.06	12,617.00	87.57	72.90	95.46	-4,502.90	-611.30	1,815.99	1,703.83	112.16	16.192		
16,000.00	12,446.00	15,972.06	12,617.00	88.96	74.20	95.46	-4,602.90	-610.31	1,816.35	1,702.27	114.08	15.922		
16,100.00	12,446.00	16,072.06	12,617.00	90.35	75.51	95.45	-4,702.89	-609.32	1,816.70	1,700.69	116.01	15.660		
16,200.00	12,446.00	16,172.06	12,617.00	91.76	76.84	95.45	-4,802.89	-608.34	1,817.06	1,699.10	117.96	15.404		
16,300.00	12,446.00	16,272.06	12,617.00	93.17	78.18	95.45	-4,902.88	-607.35	1,817.41	1,697.49	119.92	15.155		
16,400.00	12,446.00	16,372.06	12,617.00	94.59	79.53	95.45	-5,002.88	-606.36	1,817.77	1,695.87	121.90	14.912		
16,500.00	12,446.00	16,472.06	12,617.00	96.02	80.89	95.45	-5,102.87	-605.37	1,818.12	1,694.24	123.88	14.676		
16,600.00	12,446.00	16,572.06	12,617.00	97.45	82.27	95.45	-5,202.87	-604.38	1,818.48	1,692.59	125.88	14.446		
16,700.00	12,446.00	16,672.06	12,617.00	98.89	83.65	95.45	-5,302.86	-603.40	1,818.83	1,690.94	127.89	14.222		
16,800.00	12,446.00	16,772.06	12,617.00	100.34	85.04	95.45	-5,402.85	-602.41	1,819.19	1,689.27	129.91	14.003		
16,900.00	12,446.00	16,872.06	12,617.00	101.79	86.45	95.45	-5,502.85	-601.42	1,819.54	1,687.60	131.94	13.790		
17,000.00	12,446.00	16,972.05	12,617.00	103.25	87.86	95.45	-5,602.84	-600.43	1,819.90	1,685.91	133.98	13.583		
17,100.00	12,446.00	17,072.05	12,617.00	104.72	89.28	95.44	-5,702.84	-599.44	1,820.25	1,684.22	136.03	13.381		
17,200.00	12,446.00	17,172.05	12,617.00	106.19	90.70	95.44	-5,802.83	-598.45	1,820.61	1,682.51	138.09	13.184		
17,300.00	12,446.00	17,272.05	12,617.00	107.66	92.14	95.44	-5,902.83	-597.47	1,820.96	1,680.80	140.16	12.992		
17,400.00	12,446.00	17,372.05	12,617.00	109.15	93.58	95.44	-6,002.82	-596.48	1,821.32	1,679.08	142.23	12.805		
17,500.00	12,446.00	17,472.05	12,617.00	110.63	95.03	95.44	-6,102.82	-595.49	1,821.67	1,677.35	144.32	12.623		
17,600.00	12,446.00	17,572.05	12,617.00	112.12	96.48	95.44	-6,202.81	-594.50	1,822.03	1,675.62	146.41	12.445		
17,700.00	12,446.00	17,672.05	12,617.00	113.62	97.94	95.44	-6,302.80	-593.51	1,822.38	1,673.88	148.50	12.272		
17,800.00	12,446.00	17,772.05	12,617.00	115.12	99.41	95.44	-6,402.80	-592.52	1,822.74	1,672.13	150.61	12.103		
17,900.00	12,446.00	17,872.05	12,617.00	116.62	100.88	95.44	-6,502.79	-591.54	1,823.09	1,670.37	152.72	11.938		
18,000.00	12,446.00	17,972.05	12,617.00	118.13	102.36	95.43	-6,602.79	-590.55	1,823.45	1,668.61	154.83	11.777		
18,100.00	12,446.00	18,072.05	12,617.00	119.64	103.85	95.43	-6,702.78	-589.56	1,823.80	1,666.84	156.96	11.620		
18,200.00	12,446.00	18,172.05	12,617.00	121.16	105.33	95.43	-6,802.78	-588.57	1,824.16	1,665.07	159.08	11.467		
18,300.00	12,446.00	18,272.05	12,617.00	122.67	106.83	95.43	-6,902.77	-587.58	1,824.51	1,663.29	161.22	11.317		
18,400.00	12,446.00	18,372.05	12,617.00	124.20	108.33	95.43	-7,002.77	-586.60	1,824.86	1,661.51	163.36	11.171		
18,500.00	12,446.00	18,472.05	12,617.00	125.72	109.83	95.43	-7,102.76	-585.61	1,825.22	1,659.72	165.50	11.028		
18,600.00	12,446.00	18,572.04	12,617.00	127.25	111.33	95.43	-7,202.75	-584.62	1,825.57	1,657.93	167.65	10.889		
18,700.00	12,446.00	18,672.04	12,617.00	128.78	112.84	95.43	-7,302.75	-583.63	1,825.93	1,656.13	169.80	10.753		
18,800.00	12,446.00	18,772.04	12,617.00	130.32	114.36	95.43	-7,402.74	-582.64	1,826.28	1,654.32	171.96	10.620		
18,900.00	12,446.00	18,872.04	12,617.00	131.86	115.88	95.43	-7,502.74	-581.65	1,826.64	1,652.52	174.12	10.490		
19,000.00	12,446.00	18,972.04	12,617.00	133.40	117.40	95.42	-7,602.73	-580.67	1,826.99	1,650.70	176.29	10.364		
19,100.00	12,446.00	19,072.04	12,617.00	134.94	118.92	95.42	-7,702.73	-579.68	1,827.35	1,648.89	178.46	10.239		
19,200.00	12,446.00	19,172.04	12,617.00	136.48	120.45	95.42	-7,802.72	-578.69	1,827.70	1,647.07	180.64	10.118		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 802H - OH - Plan #2		Offset Site Error:		0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:		0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor					
19,300.00	12,446.00	19,272.04	12,617.00	138.03	121.99	95.42	-7,902.72	-577.70	1,828.06	1,645.25	182.81	10.000					
19,400.00	12,446.00	19,372.04	12,617.00	139.58	123.52	95.42	-8,002.71	-576.71	1,828.41	1,643.42	185.00	9.884					
19,500.00	12,446.00	19,472.04	12,617.00	141.14	125.06	95.42	-8,102.71	-575.72	1,828.77	1,641.59	187.18	9.770					
19,600.00	12,446.00	19,572.04	12,617.00	142.69	126.60	95.42	-8,202.70	-574.74	1,829.12	1,639.75	189.37	9.659					
19,700.00	12,446.00	19,672.04	12,617.00	144.25	128.14	95.42	-8,302.69	-573.75	1,829.48	1,637.92	191.56	9.550					
19,800.00	12,446.00	19,772.04	12,617.00	145.81	129.69	95.42	-8,402.69	-572.76	1,829.83	1,636.08	193.76	9.444					
19,900.00	12,446.00	19,872.04	12,617.00	147.37	131.24	95.41	-8,502.68	-571.77	1,830.19	1,634.23	195.95	9.340					
20,000.00	12,446.00	19,972.04	12,617.00	148.93	132.79	95.41	-8,602.68	-570.78	1,830.54	1,632.39	198.16	9.238					
20,100.00	12,446.00	20,072.04	12,617.00	150.50	134.34	95.41	-8,702.67	-569.80	1,830.90	1,630.54	200.36	9.138					
20,200.00	12,446.00	20,172.03	12,617.00	152.06	135.90	95.41	-8,802.67	-568.81	1,831.25	1,628.69	202.57	9.040					
20,300.00	12,446.00	20,272.03	12,617.00	153.63	137.46	95.41	-8,902.66	-567.82	1,831.61	1,626.83	204.78	8.944					
20,400.00	12,446.00	20,372.03	12,617.00	155.20	139.02	95.41	-9,002.66	-566.83	1,831.96	1,624.98	206.99	8.851					
20,500.00	12,446.00	20,472.03	12,617.00	156.77	140.58	95.41	-9,102.65	-565.84	1,832.32	1,623.12	209.20	8.759					
20,600.00	12,446.00	20,572.03	12,617.00	158.35	142.14	95.41	-9,202.64	-564.85	1,832.67	1,621.25	211.42	8.668					
20,700.00	12,446.00	20,672.03	12,617.00	159.92	143.71	95.41	-9,302.64	-563.87	1,833.03	1,619.39	213.64	8.580					
20,800.00	12,446.00	20,772.03	12,617.00	161.50	145.28	95.41	-9,402.63	-562.88	1,833.38	1,617.52	215.86	8.493					
20,900.00	12,446.00	20,872.03	12,617.00	163.08	146.85	95.40	-9,502.63	-561.89	1,833.74	1,615.66	218.08	8.408					
21,000.00	12,446.00	20,972.03	12,617.00	164.66	148.42	95.40	-9,602.62	-560.90	1,834.09	1,613.78	220.31	8.325					
21,100.00	12,446.00	21,072.03	12,617.00	166.24	149.99	95.40	-9,702.62	-559.91	1,834.45	1,611.91	222.54	8.243					
21,200.00	12,446.00	21,172.03	12,617.00	167.82	151.57	95.40	-9,802.61	-558.92	1,834.80	1,610.04	224.77	8.163					
21,300.00	12,446.00	21,272.03	12,617.00	169.41	153.15	95.40	-9,902.61	-557.94	1,835.16	1,608.16	227.00	8.084					
21,400.00	12,446.00	21,372.03	12,617.00	170.99	154.72	95.40	-10,002.60	-556.95	1,835.51	1,606.28	229.23	8.007					
21,500.00	12,446.00	21,472.03	12,617.00	172.58	156.30	95.40	-10,102.60	-555.96	1,835.87	1,604.40	231.47	7.931					
21,600.00	12,446.00	21,572.03	12,617.00	174.17	157.89	95.40	-10,202.59	-554.97	1,836.22	1,602.52	233.71	7.857					
21,700.00	12,446.00	21,672.02	12,617.00	175.76	159.47	95.40	-10,302.58	-553.98	1,836.58	1,600.63	235.94	7.784					
21,800.00	12,446.00	21,772.02	12,617.00	177.35	161.05	95.39	-10,402.58	-553.00	1,836.93	1,598.75	238.19	7.712					
21,900.00	12,446.00	21,872.02	12,617.00	178.94	162.64	95.39	-10,502.57	-552.01	1,837.29	1,596.86	240.43	7.642					
22,000.00	12,446.00	21,972.02	12,617.00	180.53	164.22	95.39	-10,602.57	-551.02	1,837.64	1,594.97	242.67	7.573					
22,100.00	12,446.00	22,072.02	12,617.00	182.12	165.81	95.39	-10,702.56	-550.03	1,838.00	1,593.08	244.92	7.505					
22,200.00	12,446.00	22,172.02	12,617.00	183.72	167.40	95.39	-10,802.56	-549.04	1,838.35	1,591.19	247.17	7.438					
22,300.00	12,446.00	22,272.02	12,617.00	185.31	168.99	95.39	-10,902.55	-548.05	1,838.71	1,589.29	249.41	7.372					
22,400.00	12,446.00	22,372.02	12,617.00	186.91	170.58	95.39	-11,002.55	-547.07	1,839.06	1,587.40	251.66	7.308					
22,500.00	12,446.00	22,472.02	12,617.00	188.51	172.18	95.39	-11,102.54	-546.08	1,839.42	1,585.50	253.92	7.244					
22,600.00	12,446.00	22,572.02	12,617.00	190.11	173.77	95.39	-11,202.53	-545.09	1,839.77	1,583.60	256.17	7.182					
22,700.00	12,446.00	22,672.02	12,617.00	191.71	175.37	95.39	-11,302.53	-544.10	1,840.13	1,581.70	258.42	7.121					
22,800.00	12,446.00	22,772.02	12,617.00	193.31	176.84	95.38	-11,402.52	-543.11	1,840.48	1,579.89	260.59	7.063					
22,817.13	12,446.00	22,787.51	12,617.00	193.58	177.07	95.38	-11,418.01	-542.96	1,840.54	1,579.62	260.92	7.054 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 803H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance						Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
0.00	0.00	0.00	0.00	0.00	0.00	-90.54	-0.47	-49.99	49.99							
100.00	100.00	99.80	99.80	0.13	0.13	-90.54	-0.47	-49.99	49.99	49.81	0.18	282.032				
200.00	200.00	199.80	199.80	0.48	0.48	-90.54	-0.47	-49.99	49.99	49.31	0.68	73.101				
300.00	300.00	299.80	299.80	0.84	0.84	-90.54	-0.47	-49.99	49.99	48.80	1.19	41.981				
400.00	400.00	399.80	399.80	1.20	1.20	-90.54	-0.47	-49.99	49.99	48.29	1.70	29.445				
500.00	500.00	499.80	499.80	1.56	1.56	-90.54	-0.47	-49.99	49.99	47.79	2.20	22.675				
600.00	600.00	599.80	599.80	1.92	1.92	-90.54	-0.47	-49.99	49.99	47.28	2.71	18.436				
700.00	700.00	699.80	699.80	2.28	2.28	-90.54	-0.47	-49.99	49.99	46.77	3.22	15.532				
800.00	800.00	799.80	799.80	2.63	2.63	-90.54	-0.47	-49.99	49.99	46.27	3.73	13.419				
900.00	900.00	899.80	899.80	2.99	2.99	-90.54	-0.47	-49.99	49.99	45.76	4.23	11.811				
1,000.00	1,000.00	999.80	999.80	3.35	3.35	-90.54	-0.47	-49.99	49.99	45.25	4.74	10.548				
1,100.00	1,100.00	1,099.80	1,099.80	3.71	3.71	-90.54	-0.47	-49.99	49.99	44.75	5.25	9.529				
1,200.00	1,200.00	1,199.80	1,199.80	4.07	4.07	-90.54	-0.47	-49.99	49.99	44.24	5.75	8.689				
1,300.00	1,300.00	1,299.80	1,299.80	4.43	4.43	-90.54	-0.47	-49.99	49.99	43.73	6.26	7.985				
1,400.00	1,400.00	1,399.80	1,399.80	4.79	4.78	-90.54	-0.47	-49.99	49.99	43.22	6.77	7.387				
1,500.00	1,500.00	1,499.80	1,499.80	5.14	5.14	-90.54	-0.47	-49.99	49.99	42.72	7.27	6.872				
1,600.00	1,600.00	1,599.80	1,599.80	5.50	5.50	-90.54	-0.47	-49.99	49.99	42.21	7.78	6.425				
1,700.00	1,700.00	1,699.80	1,699.80	5.86	5.86	-90.54	-0.47	-49.99	49.99	41.70	8.29	6.032				
1,800.00	1,800.00	1,799.80	1,799.80	6.22	6.22	-90.54	-0.47	-49.99	49.99	41.20	8.80	5.684				
1,900.00	1,900.00	1,899.80	1,899.80	6.58	6.58	-90.54	-0.47	-49.99	49.99	40.69	9.30	5.374				
2,000.00	2,000.00	1,999.80	1,999.80	6.94	6.94	-90.54	-0.47	-49.99	49.99	40.18	9.81	5.097				
2,100.00	2,100.00	2,099.80	2,099.80	7.29	7.29	-90.54	-0.47	-49.99	49.99	39.68	10.32	4.846				
2,200.00	2,200.00	2,199.80	2,199.80	7.65	7.65	-90.54	-0.47	-49.99	49.99	39.17	10.82	4.619				
2,300.00	2,300.00	2,299.80	2,299.80	8.01	8.01	-90.54	-0.47	-49.99	49.99	38.66	11.33	4.412				
2,400.00	2,400.00	2,399.80	2,399.80	8.37	8.37	-90.54	-0.47	-49.99	49.99	38.16	11.84	4.223				
2,500.00	2,500.00	2,499.80	2,499.80	8.73	8.73	-90.54	-0.47	-49.99	49.99	37.65	12.34	4.050				
2,600.00	2,600.00	2,599.80	2,599.80	9.09	9.09	-90.54	-0.47	-49.99	49.99	37.14	12.85	3.890				
2,700.00	2,700.00	2,699.80	2,699.80	9.45	9.45	-90.54	-0.47	-49.99	49.99	36.63	13.36	3.743				
2,800.00	2,800.00	2,799.80	2,799.80	9.80	9.80	-90.54	-0.47	-49.99	49.99	36.13	13.86	3.606				
2,900.00	2,900.00	2,899.80	2,899.80	10.16	10.16	-90.54	-0.47	-49.99	49.99	35.62	14.37	3.479				
3,000.00	3,000.00	2,999.80	2,999.80	10.52	10.52	-90.54	-0.47	-49.99	49.99	35.11	14.88	3.360				
3,100.00	3,100.00	3,099.80	3,099.80	10.88	10.88	-90.54	-0.47	-49.99	49.99	34.61	15.39	3.249				
3,200.00	3,200.00	3,199.80	3,199.80	11.24	11.24	-90.54	-0.47	-49.99	49.99	34.10	15.89	3.146				
3,300.00	3,300.00	3,299.80	3,299.80	11.60	11.60	-90.54	-0.47	-49.99	49.99	33.59	16.40	3.048 CC, ES				
3,400.00	3,399.99	3,400.17	3,400.16	11.94	11.94	136.99	-1.73	-49.61	50.59	33.70	16.88	2.996 SF				
3,500.00	3,499.91	3,500.50	3,500.41	12.27	12.26	135.76	-5.50	-48.45	52.38	35.04	17.34	3.020				
3,600.00	3,599.69	3,600.78	3,600.47	12.60	12.59	133.89	-11.79	-46.53	55.42	37.61	17.81	3.112				
3,700.00	3,699.27	3,700.97	3,700.24	12.94	12.92	131.58	-20.58	-43.84	59.75	41.48	18.27	3.270				
3,800.00	3,798.57	3,801.05	3,799.61	13.28	13.25	129.07	-31.85	-40.39	65.43	46.69	18.74	3.491				
3,900.00	3,897.54	3,900.97	3,898.50	13.62	13.59	126.52	-45.59	-36.19	72.50	53.28	19.22	3.772				
4,000.00	3,996.09	4,000.73	3,996.80	13.97	13.93	124.09	-61.76	-31.24	80.99	61.28	19.71	4.109				
4,100.00	4,094.16	4,100.28	4,094.44	14.33	14.28	121.84	-80.34	-25.55	90.89	70.69	20.21	4.498				
4,200.00	4,191.70	4,199.61	4,191.32	14.70	14.64	119.82	-101.28	-19.15	102.22	81.50	20.71	4.935				
4,300.00	4,288.62	4,298.79	4,287.86	15.08	15.00	118.85	-123.04	-12.49	114.90	93.66	21.24	5.411				
4,400.00	4,384.86	4,397.81	4,384.23	15.48	15.38	119.06	-144.77	-5.85	128.84	107.08	21.77	5.919				
4,500.00	4,480.36	4,496.59	4,480.38	15.89	15.76	120.08	-166.44	0.79	144.08	121.77	22.31	6.457				
4,600.00	4,575.05	4,595.08	4,576.24	16.33	16.15	121.67	-188.06	7.40	160.72	137.86	22.87	7.029				
4,674.25	4,644.79	4,667.98	4,647.19	16.66	16.44	123.09	-204.05	12.29	174.07	150.79	23.28	7.476				
4,700.00	4,668.90	4,693.22	4,671.76	16.78	16.54	123.65	-209.59	13.99	178.87	155.44	23.43	7.635				
4,800.00	4,762.49	4,791.25	4,767.17	17.26	16.94	125.57	-231.10	20.57	197.62	173.62	24.00	8.236				
4,900.00	4,856.09	4,889.28	4,862.59	17.75	17.35	127.17	-252.61	27.15	216.55	191.98	24.57	8.813				
5,000.00	4,949.69	4,987.31	4,958.00	18.25	17.76	128.50	-274.12	33.73	235.62	210.47	25.15	9.367				

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.00	5,043.29	5,085.33	5,053.41	18.76	18.17	129.64	-295.63	40.31	254.79	229.05	25.74	9.897		
5,200.00	5,136.88	5,183.36	5,148.83	19.29	18.59	130.61	-317.14	46.89	274.05	247.71	26.34	10.404		
5,300.00	5,230.48	5,281.39	5,244.24	19.82	19.01	131.46	-338.66	53.47	293.37	266.43	26.94	10.888		
5,400.00	5,324.08	5,379.42	5,339.65	20.37	19.44	132.21	-360.17	60.05	312.75	285.20	27.55	11.350		
5,500.00	5,417.68	5,477.45	5,435.06	20.93	19.87	132.86	-381.68	66.63	332.17	304.00	28.17	11.792		
5,600.00	5,511.27	5,575.48	5,530.48	21.49	20.31	133.45	-403.19	73.21	351.63	322.84	28.79	12.214		
5,700.00	5,604.87	5,673.51	5,625.89	22.06	20.75	133.97	-424.70	79.79	371.12	341.71	29.41	12.617		
5,800.00	5,698.47	5,771.54	5,721.30	22.64	21.19	134.44	-446.21	86.37	390.64	360.60	30.04	13.002		
5,900.00	5,792.07	5,869.56	5,816.72	23.22	21.63	134.87	-467.72	92.95	410.18	379.50	30.68	13.371		
6,000.00	5,885.66	5,967.59	5,912.13	23.81	22.08	135.25	-489.23	99.54	429.74	398.43	31.32	13.723		
6,100.00	5,979.26	6,065.62	6,007.54	24.41	22.53	135.61	-510.74	106.12	449.32	417.36	31.96	14.060		
6,200.00	6,072.86	6,163.65	6,102.95	25.01	22.98	135.93	-532.25	112.70	468.91	436.31	32.60	14.383		
6,300.00	6,166.46	6,261.68	6,198.37	25.61	23.43	136.23	-553.76	119.28	488.52	455.27	33.25	14.692		
6,400.00	6,260.05	6,359.71	6,293.78	26.22	23.89	136.51	-575.27	125.86	508.14	474.23	33.90	14.988		
6,500.00	6,353.65	6,457.74	6,389.19	26.84	24.35	136.76	-596.78	132.44	527.77	493.21	34.56	15.272		
6,600.00	6,447.25	6,555.77	6,484.61	27.45	24.81	137.00	-618.29	139.02	547.40	512.19	35.21	15.545		
6,700.00	6,540.85	6,653.79	6,580.02	28.07	25.27	137.22	-639.81	145.60	567.05	531.17	35.87	15.806		
6,800.00	6,634.44	6,751.82	6,675.43	28.70	25.73	137.42	-661.32	152.18	586.70	550.16	36.54	16.057		
6,900.00	6,728.04	6,849.85	6,770.84	29.33	26.20	137.61	-682.83	158.76	606.36	569.16	37.20	16.299		
7,000.00	6,821.64	6,947.88	6,866.26	29.96	26.67	137.79	-704.34	165.34	626.03	588.16	37.87	16.531		
7,100.00	6,915.24	7,045.91	6,961.67	30.59	27.13	137.96	-725.85	171.92	645.70	607.16	38.54	16.754		
7,200.00	7,008.83	7,143.94	7,057.08	31.23	27.60	138.12	-747.36	178.50	665.38	626.17	39.21	16.969		
7,300.00	7,102.43	7,241.97	7,152.49	31.87	28.07	138.27	-768.87	185.08	685.06	645.18	39.89	17.176		
7,400.00	7,196.03	7,339.99	7,247.91	32.51	28.55	138.41	-790.38	191.67	704.75	664.19	40.56	17.375		
7,500.00	7,289.63	7,438.02	7,343.32	33.15	29.02	138.55	-811.89	198.25	724.44	683.20	41.24	17.567		
7,600.00	7,383.22	7,536.05	7,438.73	33.80	29.49	138.67	-833.40	204.83	744.13	702.21	41.92	17.752		
7,683.32	7,461.21	7,617.73	7,518.23	34.34	29.89	138.77	-851.32	210.31	760.54	718.06	42.48	17.902		
7,700.00	7,476.83	7,634.09	7,534.15	34.44	29.97	138.82	-854.91	211.41	763.80	721.20	42.60	17.930		
7,800.00	7,571.03	7,732.37	7,629.82	35.07	30.45	139.04	-876.48	218.01	782.21	738.93	43.28	18.072		
7,900.00	7,666.07	7,831.00	7,725.81	35.68	30.93	139.10	-898.12	224.63	798.67	754.70	43.97	18.162		
8,000.00	7,761.89	7,929.89	7,822.06	36.25	31.41	139.03	-919.82	231.27	813.18	768.51	44.67	18.204		
8,100.00	7,858.43	8,028.98	7,918.51	36.80	31.90	138.83	-941.57	237.92	825.76	780.39	45.37	18.200		
8,200.00	7,955.62	8,124.04	8,011.14	37.32	32.36	138.55	-961.97	244.16	836.58	790.53	46.05	18.167		
8,300.00	8,053.39	8,217.11	8,102.29	37.81	32.79	138.30	-979.94	249.66	846.19	799.50	46.69	18.124		
8,400.00	8,151.68	8,310.36	8,194.05	38.27	33.21	138.09	-995.81	254.51	854.62	807.32	47.30	18.068		
8,500.00	8,250.41	8,403.76	8,286.33	38.71	33.62	137.90	-1,009.56	258.72	861.87	813.99	47.89	17.999		
8,600.00	8,349.53	8,500.00	8,381.76	39.11	34.01	137.74	-1,021.46	262.36	867.92	819.47	48.45	17.912		
8,700.00	8,448.96	8,590.94	8,472.20	39.49	34.37	137.62	-1,030.59	265.15	872.76	823.79	48.96	17.825		
8,800.00	8,548.63	8,684.69	8,565.64	39.84	34.72	137.51	-1,037.84	267.37	876.38	826.92	49.46	17.720		
8,900.00	8,648.48	8,778.50	8,659.30	40.17	35.05	137.43	-1,042.91	268.92	878.77	828.85	49.92	17.603		
9,000.00	8,748.44	8,872.37	8,753.11	40.46	35.36	137.37	-1,045.77	269.80	879.94	829.59	50.36	17.474		
9,057.57	8,806.00	8,926.41	8,807.16	40.62	35.53	-90.61	-1,046.42	269.99	880.06	829.47	50.59	17.396		
9,087.23	8,835.66	8,954.72	8,835.46	40.70	35.61	-90.62	-1,046.47	270.01	880.04	829.33	50.71	17.355		
9,100.00	8,848.43	8,967.49	8,848.23	40.73	35.65	-90.62	-1,046.47	270.01	880.04	829.28	50.76	17.337		
9,200.00	8,948.43	9,067.49	8,948.23	41.00	35.95	-90.62	-1,046.47	270.01	880.04	828.87	51.17	17.197		
9,300.00	9,048.43	9,167.49	9,048.23	41.26	36.24	-90.62	-1,046.47	270.01	880.04	828.45	51.59	17.059		
9,400.00	9,148.43	9,267.49	9,148.23	41.53	36.54	-90.62	-1,046.47	270.01	880.04	828.04	52.00	16.922		
9,500.00	9,248.43	9,367.49	9,248.23	41.80	36.84	-90.62	-1,046.47	270.01	880.04	827.62	52.42	16.788		
9,600.00	9,348.43	9,467.49	9,348.23	42.06	37.14	-90.62	-1,046.47	270.01	880.04	827.20	52.84	16.654		
9,700.00	9,448.43	9,567.49	9,448.23	42.34	37.44	-90.62	-1,046.47	270.01	880.04	826.78	53.26	16.523		
9,800.00	9,548.43	9,667.49	9,548.23	42.61	37.74	-90.62	-1,046.47	270.01	880.04	826.36	53.68	16.393		
9,900.00	9,648.43	9,767.49	9,648.23	42.88	38.04	-90.62	-1,046.47	270.01	880.04	825.93	54.11	16.264		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 803H - OH - Plan #1		Offset Site Error:		0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD															Offset Well Error:		0.00 usft	
Reference		Offset		Semi Major Axis			Distance											
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning					
10,000.00	9,748.43	9,867.49	9,748.23	43.16	38.34	-90.62	-1,046.47	270.01	880.04	825.51	54.53	16.137						
10,100.00	9,848.43	9,967.49	9,848.23	43.43	38.65	-90.62	-1,046.47	270.01	880.04	825.08	54.96	16.012						
10,200.00	9,948.43	10,067.49	9,948.23	43.71	38.95	-90.62	-1,046.47	270.01	880.04	824.65	55.39	15.888						
10,300.00	10,048.43	10,167.49	10,048.23	43.99	39.26	-90.62	-1,046.47	270.01	880.04	824.22	55.82	15.766						
10,400.00	10,148.43	10,267.49	10,148.23	44.26	39.56	-90.62	-1,046.47	270.01	880.04	823.79	56.25	15.645						
10,500.00	10,248.43	10,367.49	10,248.23	44.55	39.87	-90.62	-1,046.47	270.01	880.04	823.36	56.68	15.526						
10,600.00	10,348.43	10,467.49	10,348.23	44.83	40.18	-90.62	-1,046.47	270.01	880.04	822.93	57.12	15.408						
10,700.00	10,448.43	10,567.49	10,448.23	45.11	40.49	-90.62	-1,046.47	270.01	880.04	822.49	57.55	15.292						
10,800.00	10,548.43	10,667.49	10,548.23	45.39	40.80	-90.62	-1,046.47	270.01	880.04	822.06	57.99	15.177						
10,900.00	10,648.43	10,767.49	10,648.23	45.68	41.11	-90.62	-1,046.47	270.01	880.04	821.62	58.42	15.064						
11,000.00	10,748.43	10,867.49	10,748.23	45.96	41.42	-90.62	-1,046.47	270.01	880.04	821.18	58.86	14.951						
11,100.00	10,848.43	10,967.49	10,848.23	46.25	41.73	-90.62	-1,046.47	270.01	880.04	820.74	59.30	14.841						
11,200.00	10,948.43	11,067.49	10,948.23	46.54	42.05	-90.62	-1,046.47	270.01	880.04	820.30	59.74	14.732						
11,300.00	11,048.43	11,167.49	11,048.23	46.83	42.36	-90.62	-1,046.47	270.01	880.04	819.86	60.18	14.624						
11,400.00	11,148.43	11,267.49	11,148.23	47.12	42.68	-90.62	-1,046.47	270.01	880.04	819.42	60.62	14.517						
11,500.00	11,248.43	11,367.49	11,248.23	47.41	42.99	-90.62	-1,046.47	270.01	880.04	818.98	61.06	14.412						
11,600.00	11,348.43	11,467.49	11,348.23	47.70	43.31	-90.62	-1,046.47	270.01	880.04	818.53	61.51	14.308						
11,700.00	11,448.43	11,567.49	11,448.23	47.99	43.62	-90.62	-1,046.47	270.01	880.04	818.09	61.95	14.205						
11,800.00	11,548.43	11,667.49	11,548.23	48.28	43.94	-90.62	-1,046.47	270.01	880.04	817.64	62.40	14.103						
11,900.00	11,648.43	11,767.49	11,648.23	48.58	44.26	-90.62	-1,046.47	270.01	880.04	817.19	62.85	14.003						
12,000.00	11,748.43	11,867.49	11,748.23	48.87	44.58	-90.62	-1,046.47	270.01	880.04	816.75	63.29	13.904						
12,100.00	11,848.43	11,967.49	11,848.23	49.17	44.90	-90.62	-1,046.47	270.01	880.04	816.30	63.74	13.806						
12,124.61	11,873.04	11,992.10	11,872.84	49.24	44.97	-90.62	-1,046.47	270.01	880.04	816.19	63.85	13.782						
12,150.00	11,898.42	12,017.48	11,898.22	49.32	45.05	90.19	-1,046.47	270.01	880.04	816.08	63.97	13.758						
12,200.00	11,948.22	12,067.27	11,948.02	49.49	45.21	90.47	-1,046.47	270.01	880.07	815.89	64.17	13.714						
12,250.00	11,997.43	12,116.49	11,997.23	49.67	45.37	91.02	-1,046.47	270.01	880.18	815.81	64.37	13.674						
12,300.00	12,045.71	12,164.76	12,045.51	49.88	45.53	91.80	-1,046.47	270.01	880.52	815.97	64.55	13.642						
12,350.00	12,092.66	12,215.37	12,096.05	50.11	45.70	92.74	-1,048.57	270.03	881.15	816.40	64.75	13.609						
12,400.00	12,137.95	12,267.56	12,147.77	50.35	45.91	93.67	-1,055.39	270.11	882.05	817.05	65.00	13.571						
12,450.00	12,181.22	12,321.36	12,200.22	50.62	46.15	94.58	-1,067.32	270.24	883.20	817.90	65.29	13.527						
12,500.00	12,222.15	12,376.91	12,252.94	50.89	46.43	95.48	-1,084.74	270.43	884.56	818.92	65.64	13.477						
12,550.00	12,260.41	12,434.28	12,305.36	51.18	46.74	96.36	-1,108.00	270.68	886.10	820.08	66.03	13.420						
12,600.00	12,295.73	12,493.56	12,356.79	51.49	47.09	97.19	-1,137.41	271.00	887.78	821.32	66.46	13.358						
12,650.00	12,327.84	12,554.80	12,406.45	51.81	47.48	97.98	-1,173.21	271.39	889.53	822.59	66.94	13.288						
12,700.00	12,356.48	12,618.00	12,453.39	52.14	47.91	98.71	-1,215.48	271.85	891.30	823.82	67.48	13.209						
12,750.00	12,381.44	12,683.12	12,496.58	52.48	48.38	99.38	-1,264.17	272.38	893.01	824.96	68.05	13.123						
12,800.00	12,402.53	12,750.05	12,534.92	52.84	48.88	99.95	-1,318.98	272.98	894.60	825.92	68.68	13.026						
12,850.00	12,419.60	12,818.61	12,567.29	53.20	49.43	100.43	-1,379.37	273.64	896.00	826.63	69.36	12.918						
12,900.00	12,432.50	12,888.54	12,592.64	53.57	50.00	100.80	-1,444.48	274.34	897.13	827.03	70.10	12.798						
12,950.00	12,441.15	12,959.50	12,610.07	53.95	50.60	101.05	-1,513.22	275.09	897.96	827.07	70.89	12.666						
13,000.00	12,445.47	13,031.11	12,618.92	54.34	51.20	101.17	-1,584.23	275.87	898.45	826.71	71.74	12.524						
13,024.61	12,446.00	13,066.46	12,620.00	54.53	51.50	101.18	-1,619.55	276.25	898.55	826.38	72.17	12.450						
13,100.00	12,446.00	13,141.80	12,620.00	55.13	52.16	101.18	-1,694.89	277.07	898.74	825.67	73.07	12.300						
13,200.00	12,446.00	13,241.80	12,620.00	55.95	53.05	101.17	-1,794.89	278.16	898.99	824.69	74.31	12.099						
13,300.00	12,446.00	13,341.80	12,620.00	56.81	53.98	101.17	-1,894.88	279.25	899.24	823.65	75.59	11.896						
13,400.00	12,446.00	13,441.80	12,620.00	57.70	54.94	101.17	-1,994.88	280.34	899.50	822.57	76.92	11.694						
13,500.00	12,446.00	13,541.80	12,620.00	58.63	55.94	101.16	-2,094.87	281.43	899.75	821.45	78.30	11.491						
13,600.00	12,446.00	13,641.80	12,620.00	59.59	56.96	101.16	-2,194.86	282.52	900.00	820.28	79.72	11.290						
13,700.00	12,446.00	13,741.80	12,620.00	60.58	58.02	101.16	-2,294.86	283.61	900.25	819.07	81.18	11.090						
13,800.00	12,446.00	13,841.80	12,620.00	61.60	59.10	101.15	-2,394.85	284.69	900.50	817.83	82.67	10.892						
13,900.00	12,446.00	13,941.80	12,620.00	62.64	60.21	101.15	-2,494.84	285.78	900.75	816.54	84.21	10.697						
14,000.00	12,446.00	14,041.80	12,620.00	63.71	61.34	101.15	-2,594.84	286.87	901.00	815.23	85.77	10.504						

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design		Tatanka Fed Com - Tatanka Fed Com 803H - OH - Plan #1											Offset Site Error:	0.00 usft
Survey Program:		0-OWSG (Rev2) MWD											Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance								Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,100.00	12,446.00	14,141.80	12,620.00	64.81	62.50	101.14	-2,694.83	287.96	901.25	813.88	87.37	10.315		
14,200.00	12,446.00	14,241.80	12,620.00	65.92	63.67	101.14	-2,794.82	289.05	901.50	812.50	89.00	10.129		
14,300.00	12,446.00	14,341.80	12,620.00	67.07	64.87	101.14	-2,894.82	290.14	901.75	811.09	90.66	9.946		
14,400.00	12,446.00	14,441.80	12,620.00	68.23	66.09	101.14	-2,994.81	291.23	902.01	809.65	92.35	9.767		
14,500.00	12,446.00	14,541.80	12,620.00	69.41	67.32	101.13	-3,094.81	292.32	902.26	808.19	94.06	9.592		
14,600.00	12,446.00	14,641.80	12,620.00	70.61	68.58	101.13	-3,194.80	293.41	902.51	806.71	95.80	9.421		
14,700.00	12,446.00	14,741.80	12,620.00	71.83	69.85	101.13	-3,294.79	294.50	902.76	805.20	97.56	9.253		
14,800.00	12,446.00	14,841.80	12,620.00	73.06	71.13	101.12	-3,394.79	295.58	903.01	803.67	99.34	9.090		
14,900.00	12,446.00	14,941.80	12,620.00	74.32	72.43	101.12	-3,494.78	296.67	903.26	802.12	101.14	8.930		
15,000.00	12,446.00	15,041.80	12,620.00	75.58	73.75	101.12	-3,594.77	297.76	903.51	800.54	102.97	8.775		
15,100.00	12,446.00	15,141.80	12,620.00	76.87	75.08	101.11	-3,694.77	298.85	903.76	798.95	104.81	8.623		
15,200.00	12,446.00	15,241.79	12,620.00	78.16	76.42	101.11	-3,794.76	299.94	904.01	797.35	106.67	8.475		
15,300.00	12,446.00	15,341.79	12,620.00	79.47	77.77	101.11	-3,894.76	301.03	904.26	795.72	108.54	8.331		
15,400.00	12,446.00	15,441.79	12,620.00	80.79	79.13	101.10	-3,994.75	302.12	904.51	794.08	110.43	8.191		
15,500.00	12,446.00	15,541.79	12,620.00	82.13	80.51	101.10	-4,094.74	303.21	904.77	792.43	112.34	8.054		
15,600.00	12,446.00	15,641.79	12,620.00	83.47	81.89	101.10	-4,194.74	304.30	905.02	790.76	114.26	7.921		
15,700.00	12,446.00	15,741.79	12,620.00	84.83	83.29	101.09	-4,294.73	305.39	905.27	789.07	116.19	7.791		
15,800.00	12,446.00	15,841.79	12,620.00	86.20	84.69	101.09	-4,394.72	306.47	905.52	787.38	118.14	7.665		
15,900.00	12,446.00	15,941.79	12,620.00	87.57	86.10	101.09	-4,494.72	307.56	905.77	785.67	120.10	7.542		
16,000.00	12,446.00	16,041.79	12,620.00	88.96	87.53	101.09	-4,594.71	308.65	906.02	783.95	122.07	7.422		
16,100.00	12,446.00	16,141.79	12,620.00	90.35	88.95	101.08	-4,694.71	309.74	906.27	782.22	124.05	7.306		
16,200.00	12,446.00	16,241.79	12,620.00	91.76	90.39	101.08	-4,794.70	310.83	906.52	780.48	126.04	7.192		
16,300.00	12,446.00	16,341.79	12,620.00	93.17	91.83	101.08	-4,894.69	311.92	906.77	778.73	128.05	7.082		
16,400.00	12,446.00	16,441.79	12,620.00	94.59	93.29	101.07	-4,994.69	313.01	907.02	776.96	130.06	6.974		
16,500.00	12,446.00	16,541.79	12,620.00	96.02	94.74	101.07	-5,094.68	314.10	907.28	775.19	132.08	6.869		
16,600.00	12,446.00	16,641.79	12,620.00	97.45	96.21	101.07	-5,194.67	315.19	907.53	773.41	134.11	6.767		
16,700.00	12,446.00	16,741.79	12,620.00	98.89	97.68	101.06	-5,294.67	316.28	907.78	771.63	136.15	6.667		
16,800.00	12,446.00	16,841.79	12,620.00	100.34	99.15	101.06	-5,394.66	317.36	908.03	769.83	138.20	6.570		
16,900.00	12,446.00	16,941.79	12,620.00	101.79	100.63	101.06	-5,494.66	318.45	908.28	768.03	140.25	6.476		
17,000.00	12,446.00	17,041.79	12,620.00	103.25	102.12	101.05	-5,594.65	319.54	908.53	766.22	142.31	6.384		
17,100.00	12,446.00	17,141.79	12,620.00	104.72	103.61	101.05	-5,694.64	320.63	908.78	764.40	144.38	6.294		
17,200.00	12,446.00	17,241.79	12,620.00	106.19	105.10	101.05	-5,794.64	321.72	909.03	762.58	146.46	6.207		
17,300.00	12,446.00	17,341.79	12,620.00	107.66	106.60	101.05	-5,894.63	322.81	909.28	760.75	148.54	6.122		
17,400.00	12,446.00	17,441.79	12,620.00	109.15	108.11	101.04	-5,994.62	323.90	909.54	758.91	150.63	6.038		
17,500.00	12,446.00	17,541.79	12,620.00	110.63	109.62	101.04	-6,094.62	324.99	909.79	757.07	152.72	5.957		
17,600.00	12,446.00	17,641.79	12,620.00	112.12	111.13	101.04	-6,194.61	326.08	910.04	755.22	154.82	5.878		
17,700.00	12,446.00	17,741.79	12,620.00	113.62	112.65	101.03	-6,294.61	327.17	910.29	753.36	156.92	5.801		
17,800.00	12,446.00	17,841.79	12,620.00	115.12	114.17	101.03	-6,394.60	328.25	910.54	751.51	159.03	5.725		
17,900.00	12,446.00	17,941.79	12,620.00	116.62	115.69	101.03	-6,494.59	329.34	910.79	749.64	161.15	5.652		
18,000.00	12,446.00	18,041.79	12,620.00	118.13	117.22	101.02	-6,594.59	330.43	911.04	747.78	163.27	5.580		
18,100.00	12,446.00	18,141.79	12,620.00	119.64	118.75	101.02	-6,694.58	331.52	911.29	745.90	165.39	5.510		
18,200.00	12,446.00	18,241.79	12,620.00	121.16	120.29	101.02	-6,794.57	332.61	911.54	744.03	167.52	5.441		
18,300.00	12,446.00	18,341.78	12,620.00	122.67	121.82	101.01	-6,894.57	333.70	911.79	742.14	169.65	5.375		
18,400.00	12,446.00	18,441.78	12,620.00	124.20	123.36	101.01	-6,994.56	334.79	912.05	740.26	171.79	5.309		
18,500.00	12,446.00	18,541.78	12,620.00	125.72	124.91	101.01	-7,094.56	335.88	912.30	738.37	173.93	5.245		
18,600.00	12,446.00	18,641.78	12,620.00	127.25	126.45	101.01	-7,194.55	336.97	912.55	736.48	176.07	5.183		
18,700.00	12,446.00	18,741.78	12,620.00	128.78	128.00	101.00	-7,294.54	338.06	912.80	734.58	178.22	5.122		
18,800.00	12,446.00	18,841.78	12,620.00	130.32	129.55	101.00	-7,394.54	339.14	913.05	732.68	180.37	5.062		
18,900.00	12,446.00	18,941.78	12,620.00	131.86	131.11	101.00	-7,494.53	340.23	913.30	730.78	182.52	5.004		
19,000.00	12,446.00	19,041.78	12,620.00	133.40	132.66	100.99	-7,594.52	341.32	913.55	728.87	184.68	4.947		
19,100.00	12,446.00	19,141.78	12,620.00	134.94	134.22	100.99	-7,694.52	342.41	913.80	726.96	186.84	4.891		
19,200.00	12,446.00	19,241.78	12,620.00	136.48	135.78	100.99	-7,794.51	343.50	914.05	725.05	189.01	4.836		

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design		Tatanka Fed Com - Tatanka Fed Com 803H - OH - Plan #1										Offset Site Error:		0.00 usft	
Survey Program:		0-OWSG (Rev2) MWD										Offset Well Error:		0.00 usft	
Reference		Offset		Semi Major Axis				Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
19,300.00	12,446.00	19,341.78	12,620.00	138.03	137.34	100.98	-7,894.51	344.59	914.31	723.13	191.17	4.783			
19,400.00	12,446.00	19,441.78	12,620.00	139.58	138.91	100.98	-7,994.50	345.68	914.56	721.21	193.34	4.730			
19,500.00	12,446.00	19,541.78	12,620.00	141.14	140.48	100.98	-8,094.49	346.77	914.81	719.29	195.51	4.679			
19,600.00	12,446.00	19,641.78	12,620.00	142.69	142.04	100.97	-8,194.49	347.86	915.06	717.37	197.69	4.629			
19,700.00	12,446.00	19,741.78	12,620.00	144.25	143.61	100.97	-8,294.48	348.95	915.31	715.44	199.87	4.580			
19,800.00	12,446.00	19,841.78	12,620.00	145.81	145.19	100.97	-8,394.47	350.03	915.56	713.52	202.05	4.531			
19,900.00	12,446.00	19,941.78	12,620.00	147.37	146.76	100.97	-8,494.47	351.12	915.81	711.59	204.23	4.484			
20,000.00	12,446.00	20,041.78	12,620.00	148.93	148.34	100.96	-8,594.46	352.21	916.06	709.65	206.41	4.438			
20,100.00	12,446.00	20,141.78	12,620.00	150.50	149.91	100.96	-8,694.46	353.30	916.31	707.72	208.60	4.393			
20,200.00	12,446.00	20,241.78	12,620.00	152.06	151.49	100.96	-8,794.45	354.39	916.57	705.78	210.78	4.348			
20,300.00	12,446.00	20,341.78	12,620.00	153.63	153.07	100.95	-8,894.44	355.48	916.82	703.84	212.98	4.305			
20,400.00	12,446.00	20,441.78	12,620.00	155.20	154.66	100.95	-8,994.44	356.57	917.07	701.90	215.17	4.262			
20,500.00	12,446.00	20,541.78	12,620.00	156.77	156.24	100.95	-9,094.43	357.66	917.32	699.96	217.36	4.220			
20,600.00	12,446.00	20,641.78	12,620.00	158.35	157.82	100.94	-9,194.42	358.75	917.57	698.01	219.56	4.179			
20,700.00	12,446.00	20,741.78	12,620.00	159.92	159.41	100.94	-9,294.42	359.84	917.82	696.06	221.76	4.139			
20,800.00	12,446.00	20,841.78	12,620.00	161.50	161.00	100.94	-9,394.41	360.92	918.07	694.12	223.95	4.099			
20,900.00	12,446.00	20,941.78	12,620.00	163.08	162.59	100.93	-9,494.41	362.01	918.32	692.17	226.16	4.061			
21,000.00	12,446.00	21,041.78	12,620.00	164.66	164.18	100.93	-9,594.40	363.10	918.57	690.22	228.36	4.023			
21,100.00	12,446.00	21,141.78	12,620.00	166.24	165.77	100.93	-9,694.39	364.19	918.83	688.26	230.56	3.985			
21,200.00	12,446.00	21,241.78	12,620.00	167.82	167.36	100.93	-9,794.39	365.28	919.08	686.31	232.77	3.948			
21,300.00	12,446.00	21,341.78	12,620.00	169.41	168.95	100.92	-9,894.38	366.37	919.33	684.35	234.97	3.912			
21,400.00	12,446.00	21,441.77	12,620.00	170.99	170.55	100.92	-9,994.37	367.46	919.58	682.40	237.18	3.877			
21,500.00	12,446.00	21,541.77	12,620.00	172.58	172.14	100.92	-10,094.37	368.55	919.83	680.44	239.39	3.842			
21,600.00	12,446.00	21,641.77	12,620.00	174.17	173.74	100.91	-10,194.36	369.64	920.08	678.48	241.60	3.808			
21,700.00	12,446.00	21,741.77	12,620.00	175.76	175.34	100.91	-10,294.36	370.73	920.33	676.52	243.82	3.775			
21,800.00	12,446.00	21,841.77	12,620.00	177.35	176.94	100.91	-10,394.35	371.81	920.58	674.55	246.03	3.742			
21,900.00	12,446.00	21,941.77	12,620.00	178.94	178.54	100.90	-10,494.34	372.90	920.83	672.59	248.24	3.709			
22,000.00	12,446.00	22,041.77	12,620.00	180.53	180.14	100.90	-10,594.34	373.99	921.09	670.62	250.46	3.678			
22,100.00	12,446.00	22,141.77	12,620.00	182.12	181.74	100.90	-10,694.33	375.08	921.34	668.66	252.68	3.646			
22,200.00	12,446.00	22,241.77	12,620.00	183.72	183.34	100.90	-10,794.32	376.17	921.59	666.69	254.90	3.616			
22,300.00	12,446.00	22,341.77	12,620.00	185.31	184.94	100.89	-10,894.32	377.26	921.84	664.72	257.12	3.585			
22,400.00	12,446.00	22,441.77	12,620.00	186.91	186.55	100.89	-10,994.31	378.35	922.09	662.75	259.34	3.556			
22,500.00	12,446.00	22,541.77	12,620.00	188.51	188.15	100.89	-11,094.31	379.44	922.34	660.78	261.56	3.526			
22,600.00	12,446.00	22,641.77	12,620.00	190.11	189.76	100.88	-11,194.30	380.53	922.59	658.81	263.78	3.498			
22,700.00	12,446.00	22,741.77	12,620.00	191.71	191.37	100.88	-11,294.29	381.62	922.84	656.84	266.00	3.469			
22,800.00	12,446.00	22,841.77	12,620.00	193.31	192.97	100.88	-11,394.29	382.70	923.09	654.87	268.23	3.441			
22,817.13	12,446.00	22,856.94	12,620.00	193.58	193.22	100.88	-11,409.46	382.87	923.14	654.60	268.54	3.438			

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	111.59	-992.86	2,508.59	2,698.27					
100.00	100.00	57.00	57.00	0.13	0.07	111.59	-992.86	2,508.59	2,697.92	2,697.78	0.14	N/A		
200.00	200.00	157.00	157.00	0.48	0.33	111.59	-992.86	2,508.59	2,697.92	2,697.34	0.59	4,606.899		
300.00	300.00	257.00	257.00	0.84	0.69	111.59	-992.86	2,508.59	2,697.92	2,696.84	1.09	2,480.111		
400.00	400.00	357.00	357.00	1.20	1.05	111.59	-992.86	2,508.59	2,697.92	2,696.33	1.59	1,693.571		
500.00	500.00	457.00	457.00	1.56	1.41	111.59	-992.86	2,508.59	2,697.92	2,695.83	2.10	1,285.281		
600.00	600.00	557.00	557.00	1.92	1.76	111.59	-992.86	2,508.59	2,697.92	2,695.32	2.61	1,035.474		
700.00	700.00	657.00	657.00	2.28	2.12	111.59	-992.86	2,508.59	2,697.92	2,694.81	3.11	866.920		
800.00	800.00	757.00	757.00	2.63	2.48	111.59	-992.86	2,508.59	2,697.92	2,694.31	3.62	745.537		
900.00	900.00	857.00	857.00	2.99	2.84	111.59	-992.86	2,508.59	2,697.92	2,693.80	4.13	653.960		
1,000.00	1,000.00	957.00	957.00	3.35	3.20	111.59	-992.86	2,508.59	2,697.92	2,693.29	4.63	582.413		
1,100.00	1,100.00	1,057.00	1,057.00	3.71	3.56	111.59	-992.86	2,508.59	2,697.92	2,692.79	5.14	524.975		
1,200.00	1,200.00	1,157.00	1,157.00	4.07	3.91	111.59	-992.86	2,508.59	2,697.92	2,692.28	5.65	477.847		
1,300.00	1,300.00	1,257.00	1,257.00	4.43	4.27	111.59	-992.86	2,508.59	2,697.92	2,691.77	6.15	438.482		
1,400.00	1,400.00	1,357.00	1,357.00	4.79	4.63	111.59	-992.86	2,508.59	2,697.92	2,691.26	6.66	405.109		
1,500.00	1,500.00	1,457.00	1,457.00	5.14	4.99	111.59	-992.86	2,508.59	2,697.92	2,690.76	7.17	376.456		
1,600.00	1,600.00	1,557.00	1,557.00	5.50	5.35	111.59	-992.86	2,508.59	2,697.92	2,690.25	7.67	351.588		
1,700.00	1,700.00	1,657.00	1,657.00	5.86	5.71	111.59	-992.86	2,508.59	2,697.92	2,689.74	8.18	329.801		
1,800.00	1,800.00	1,757.00	1,757.00	6.22	6.07	111.59	-992.86	2,508.59	2,697.92	2,689.24	8.69	310.557		
1,900.00	1,900.00	1,857.00	1,857.00	6.58	6.42	111.59	-992.86	2,508.59	2,697.92	2,688.73	9.19	293.435		
2,000.00	2,000.00	1,957.00	1,957.00	6.94	6.78	111.59	-992.86	2,508.59	2,697.92	2,688.22	9.70	278.102		
2,100.00	2,100.00	2,057.00	2,057.00	7.29	7.14	111.59	-992.86	2,508.59	2,697.92	2,687.72	10.21	264.292		
2,200.00	2,200.00	2,157.00	2,157.00	7.65	7.50	111.59	-992.86	2,508.59	2,697.92	2,687.21	10.72	251.788		
2,300.00	2,300.00	2,257.00	2,257.00	8.01	7.86	111.59	-992.86	2,508.59	2,697.92	2,686.70	11.22	240.414		
2,400.00	2,400.00	2,357.00	2,357.00	8.37	8.22	111.59	-992.86	2,508.59	2,697.92	2,686.20	11.73	230.023		
2,500.00	2,500.00	2,457.00	2,457.00	8.73	8.57	111.59	-992.86	2,508.59	2,697.92	2,685.69	12.24	220.493		
2,600.00	2,600.00	2,557.00	2,557.00	9.09	8.93	111.59	-992.86	2,508.59	2,697.92	2,685.18	12.74	211.722		
2,700.00	2,700.00	2,657.00	2,657.00	9.45	9.29	111.59	-992.86	2,508.59	2,697.92	2,684.67	13.25	203.621		
2,800.00	2,800.00	2,757.00	2,757.00	9.80	9.65	111.59	-992.86	2,508.59	2,697.92	2,684.17	13.76	196.118		
2,900.00	2,900.00	2,857.00	2,857.00	10.16	10.01	111.59	-992.86	2,508.59	2,697.92	2,683.66	14.26	189.147		
3,000.00	3,000.00	2,957.00	2,957.00	10.52	10.37	111.59	-992.86	2,508.59	2,697.92	2,683.15	14.77	182.656		
3,100.00	3,100.00	3,057.00	3,057.00	10.88	10.73	111.59	-992.86	2,508.59	2,697.92	2,682.65	15.28	176.595		
3,200.00	3,200.00	3,157.00	3,157.00	11.24	11.08	111.59	-992.86	2,508.59	2,697.92	2,682.14	15.78	170.923		
3,300.00	3,300.00	3,257.00	3,257.00	11.60	11.44	111.59	-992.86	2,508.59	2,697.92	2,681.63	16.29	165.604		
3,400.00	3,399.99	3,454.53	3,454.48	11.94	12.13	-20.45	-993.13	2,505.48	2,695.67	2,678.66	17.01	158.465		
3,500.00	3,499.91	3,706.61	3,705.84	12.27	13.00	-20.40	-994.74	2,487.06	2,685.27	2,667.47	17.80	150.826		
3,600.00	3,599.69	3,805.39	3,804.09	12.60	13.34	-20.43	-995.63	2,476.86	2,669.91	2,651.64	18.28	146.093		
3,700.00	3,699.27	3,903.79	3,901.96	12.94	13.69	-20.50	-996.52	2,466.69	2,652.14	2,633.39	18.75	141.467		
3,800.00	3,798.57	4,001.73	3,999.37	13.28	14.03	-20.59	-997.40	2,456.57	2,631.95	2,612.74	19.22	136.944		
3,900.00	3,897.54	4,099.14	4,096.26	13.62	14.38	-20.73	-998.28	2,446.51	2,609.38	2,589.69	19.69	132.518		
4,000.00	3,996.09	4,195.96	4,192.56	13.97	14.73	-20.89	-999.16	2,436.51	2,584.42	2,564.26	20.16	128.185		
4,100.00	4,094.16	4,292.13	4,288.21	14.33	15.07	-21.10	-1,000.02	2,426.57	2,557.11	2,536.48	20.63	123.939		
4,200.00	4,191.70	4,387.58	4,383.14	14.70	15.42	-21.34	-1,000.88	2,416.71	2,527.46	2,506.36	21.10	119.776		
4,300.00	4,288.62	4,482.24	4,477.29	15.08	15.76	-21.63	-1,001.74	2,406.93	2,495.49	2,473.92	21.57	115.691		
4,400.00	4,384.86	4,576.04	4,570.59	15.48	16.10	-21.96	-1,002.59	2,397.24	2,461.24	2,439.20	22.04	111.680		
4,500.00	4,480.36	4,668.93	4,662.98	15.89	16.44	-22.34	-1,003.42	2,387.65	2,424.73	2,402.22	22.51	107.739		
4,600.00	4,575.05	4,760.84	4,754.39	16.33	16.78	-22.76	-1,004.25	2,378.15	2,385.99	2,363.02	22.97	103.863		
4,674.25	4,644.79	4,828.41	4,821.59	16.66	17.03	-23.12	-1,004.86	2,371.17	2,355.81	2,332.50	23.32	101.025		
4,700.00	4,668.90	4,851.74	4,844.80	16.78	17.11	-23.17	-1,005.07	2,368.76	2,345.14	2,321.70	23.44	100.050		
4,800.00	4,762.49	4,942.34	4,934.91	17.26	17.45	-23.41	-1,005.89	2,359.40	2,303.71	2,279.81	23.91	96.359		
4,900.00	4,856.09	5,032.95	5,025.03	17.75	17.78	-23.65	-1,006.71	2,350.04	2,262.32	2,237.94	24.38	92.794		
5,000.00	4,949.69	5,123.55	5,115.15	18.25	18.12	-23.90	-1,007.53	2,340.68	2,220.96	2,196.10	24.86	89.349		

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.00	5,043.29	5,214.16	5,205.26	18.76	18.46	-24.16	-1,008.34	2,331.32	2,179.64	2,154.30	25.34	86.021		
5,200.00	5,136.88	5,304.76	5,295.38	19.29	18.79	-24.43	-1,009.16	2,321.96	2,138.35	2,112.53	25.82	82.804		
5,300.00	5,230.48	5,395.37	5,385.49	19.82	19.13	-24.71	-1,009.98	2,312.60	2,097.11	2,070.80	26.31	79.695		
5,400.00	5,324.08	5,485.97	5,475.61	20.37	19.47	-25.00	-1,010.80	2,303.24	2,055.91	2,029.10	26.81	76.689		
5,500.00	5,417.68	5,576.57	5,565.73	20.93	19.81	-25.30	-1,011.61	2,293.88	2,014.76	1,987.45	27.31	73.783		
5,600.00	5,511.27	5,667.18	5,655.84	21.49	20.15	-25.62	-1,012.43	2,284.52	1,973.66	1,945.85	27.81	70.972		
5,700.00	5,604.87	5,757.78	5,745.96	22.06	20.49	-25.95	-1,013.25	2,275.16	1,932.61	1,904.29	28.32	68.252		
5,800.00	5,698.47	5,848.39	5,836.07	22.64	20.84	-26.29	-1,014.07	2,265.79	1,891.61	1,862.79	28.83	65.620		
5,900.00	5,792.07	5,938.99	5,926.19	23.22	21.18	-26.65	-1,014.88	2,256.43	1,850.68	1,821.33	29.34	63.073		
6,000.00	5,885.66	6,029.60	6,016.30	23.81	21.52	-27.02	-1,015.70	2,247.07	1,809.80	1,779.94	29.86	60.609		
6,100.00	5,979.26	6,120.20	6,106.42	24.41	21.86	-27.41	-1,016.52	2,237.71	1,769.00	1,738.62	30.38	58.223		
6,200.00	6,072.86	6,210.80	6,196.54	25.01	22.21	-27.82	-1,017.34	2,228.35	1,728.27	1,697.36	30.91	55.911		
6,300.00	6,166.46	6,301.41	6,286.65	25.61	22.55	-28.25	-1,018.15	2,218.99	1,687.62	1,656.17	31.44	53.672		
6,400.00	6,260.05	6,392.01	6,376.77	26.22	22.90	-28.70	-1,018.97	2,209.63	1,647.05	1,615.07	31.98	51.502		
6,500.00	6,353.65	6,482.62	6,466.88	26.84	23.24	-29.17	-1,019.79	2,200.27	1,606.57	1,574.05	32.52	49.397		
6,600.00	6,447.25	6,573.22	6,557.00	27.45	23.59	-29.66	-1,020.61	2,190.91	1,566.19	1,533.12	33.07	47.357		
6,700.00	6,540.85	6,663.83	6,647.12	28.07	23.93	-30.18	-1,021.42	2,181.55	1,525.91	1,492.29	33.63	45.379		
6,800.00	6,634.44	6,754.43	6,737.23	28.70	24.28	-30.73	-1,022.24	2,172.19	1,485.75	1,451.57	34.19	43.461		
6,900.00	6,728.04	6,845.04	6,827.35	29.33	24.63	-31.31	-1,023.06	2,162.83	1,445.71	1,410.96	34.75	41.602		
7,000.00	6,821.64	6,935.64	6,917.46	29.96	24.97	-31.92	-1,023.88	2,153.47	1,405.80	1,370.48	35.32	39.798		
7,100.00	6,915.24	7,026.24	7,007.58	30.59	25.32	-32.56	-1,024.69	2,144.11	1,366.04	1,330.14	35.90	38.048		
7,200.00	7,008.83	7,116.85	7,097.70	31.23	25.67	-33.25	-1,025.51	2,134.75	1,326.44	1,289.95	36.49	36.349		
7,300.00	7,102.43	7,186.79	7,167.31	31.87	25.93	-33.81	-1,026.10	2,128.05	1,287.69	1,250.58	37.11	34.701		
7,400.00	7,196.03	7,256.06	7,236.36	32.51	26.19	-34.40	-1,026.57	2,122.66	1,250.71	1,212.98	37.73	33.145		
7,500.00	7,289.63	7,326.16	7,306.34	33.15	26.45	-35.05	-1,026.93	2,118.48	1,215.58	1,177.21	38.37	31.681		
7,600.00	7,383.22	7,400.00	7,380.12	33.80	26.72	-35.78	-1,027.20	2,115.46	1,182.37	1,143.35	39.01	30.307		
7,683.32	7,461.21	7,456.75	7,436.86	34.34	26.91	-36.37	-1,027.31	2,114.11	1,156.20	1,116.64	39.56	29.230		
7,700.00	7,476.83	7,468.78	7,448.88	34.44	26.96	-36.45	-1,027.33	2,113.93	1,151.15	1,111.49	39.66	29.023		
7,800.00	7,571.03	7,547.93	7,528.03	35.07	27.23	-37.02	-1,027.36	2,113.59	1,123.23	1,082.92	40.32	27.859		
7,900.00	7,666.07	7,642.97	7,623.07	35.68	27.56	-37.74	-1,027.36	2,113.59	1,098.08	1,057.10	40.98	26.795		
8,000.00	7,761.89	7,738.79	7,718.89	36.25	27.89	-38.44	-1,027.36	2,113.59	1,075.21	1,033.58	41.64	25.823		
8,100.00	7,858.43	7,835.33	7,815.43	36.80	28.22	-39.11	-1,027.36	2,113.59	1,054.61	1,012.32	42.29	24.939		
8,200.00	7,955.62	7,932.52	7,912.62	37.32	28.55	-39.74	-1,027.36	2,113.59	1,036.22	993.29	42.93	24.139		
8,300.00	8,053.39	8,030.29	8,010.39	37.81	28.89	-40.33	-1,027.36	2,113.59	1,020.00	976.45	43.55	23.420		
8,400.00	8,151.68	8,128.58	8,108.68	38.27	29.23	-40.86	-1,027.36	2,113.59	1,005.92	961.75	44.16	22.777		
8,500.00	8,250.41	8,227.31	8,207.41	38.71	29.57	-41.33	-1,027.36	2,113.59	993.91	949.16	44.76	22.207		
8,600.00	8,349.53	8,326.43	8,306.53	39.11	29.91	-41.74	-1,027.36	2,113.59	983.96	938.63	45.33	21.707		
8,700.00	8,448.96	8,425.86	8,405.96	39.49	30.25	-42.08	-1,027.36	2,113.59	976.01	930.13	45.88	21.273		
8,800.00	8,548.63	8,525.53	8,505.63	39.84	30.60	-42.33	-1,027.36	2,113.59	970.04	923.64	46.41	20.903		
8,900.00	8,648.48	8,625.38	8,605.48	40.17	30.94	-42.51	-1,027.36	2,113.59	966.03	919.12	46.91	20.592		
9,000.00	8,748.44	8,725.34	8,705.44	40.46	31.29	-42.60	-1,027.36	2,113.59	963.96	916.56	47.39	20.340		
9,057.57	8,806.00	8,782.90	8,763.00	40.62	31.49	89.43	-1,027.36	2,113.59	963.64	915.98	47.66	20.221		
9,100.00	8,848.43	8,825.33	8,805.43	40.73	31.64	89.43	-1,027.36	2,113.59	963.64	915.79	47.85	20.141		
9,200.00	8,948.43	8,925.33	8,905.43	41.00	31.98	89.43	-1,027.36	2,113.59	963.64	915.35	48.29	19.954		
9,300.00	9,048.43	9,025.33	9,005.43	41.26	32.33	89.43	-1,027.36	2,113.59	963.64	914.90	48.74	19.771		
9,400.00	9,148.43	9,125.33	9,105.43	41.53	32.68	89.43	-1,027.36	2,113.59	963.64	914.45	49.19	19.590		
9,500.00	9,248.43	9,225.33	9,205.43	41.80	33.03	89.43	-1,027.36	2,113.59	963.64	914.00	49.64	19.412		
9,600.00	9,348.43	9,325.33	9,305.43	42.06	33.38	89.43	-1,027.36	2,113.59	963.64	913.55	50.09	19.237		
9,700.00	9,448.43	9,425.33	9,405.43	42.34	33.72	89.43	-1,027.36	2,113.59	963.64	913.09	50.55	19.065		
9,800.00	9,548.43	9,525.33	9,505.43	42.61	34.07	89.43	-1,027.36	2,113.59	963.64	912.64	51.00	18.895		
9,900.00	9,648.43	9,625.33	9,605.43	42.88	34.42	89.43	-1,027.36	2,113.59	963.64	912.18	51.45	18.728		
10,000.00	9,748.43	9,725.33	9,705.43	43.16	34.77	89.43	-1,027.36	2,113.59	963.64	911.73	51.91	18.564		

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design		Tatanka Fed Com - Tatanka Fed Com 805H - OH - Plan #2											Offset Site Error:		0.00 usft
Survey Program:		0-OWSG (Rev2) MWD											Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis		Distance								Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
10,100.00	9,848.43	9,825.33	9,805.43	43.43	35.12	89.43	-1,027.36	2,113.59	963.64	911.27	52.37	18.402			
10,200.00	9,948.43	9,925.33	9,905.43	43.71	35.47	89.43	-1,027.36	2,113.59	963.64	910.81	52.82	18.242			
10,300.00	10,048.43	10,025.33	10,005.43	43.99	35.82	89.43	-1,027.36	2,113.59	963.64	910.35	53.28	18.085			
10,400.00	10,148.43	10,125.33	10,105.43	44.26	36.17	89.43	-1,027.36	2,113.59	963.64	909.90	53.74	17.931			
10,500.00	10,248.43	10,225.33	10,205.43	44.55	36.52	89.43	-1,027.36	2,113.59	963.64	909.44	54.20	17.778			
10,600.00	10,348.43	10,325.33	10,305.43	44.83	36.87	89.43	-1,027.36	2,113.59	963.64	908.97	54.66	17.628			
10,700.00	10,448.43	10,425.33	10,405.43	45.11	37.22	89.43	-1,027.36	2,113.59	963.64	908.51	55.13	17.481			
10,800.00	10,548.43	10,525.33	10,505.43	45.39	37.57	89.43	-1,027.36	2,113.59	963.64	908.05	55.59	17.335			
10,900.00	10,648.43	10,625.33	10,605.43	45.68	37.92	89.43	-1,027.36	2,113.59	963.64	907.59	56.05	17.192			
11,000.00	10,748.43	10,725.33	10,705.43	45.96	38.27	89.43	-1,027.36	2,113.59	963.64	907.12	56.52	17.051			
11,100.00	10,848.43	10,825.33	10,805.43	46.25	38.62	89.43	-1,027.36	2,113.59	963.64	906.66	56.98	16.911			
11,200.00	10,948.43	10,925.33	10,905.43	46.54	38.97	89.43	-1,027.36	2,113.59	963.64	906.19	57.45	16.774			
11,300.00	11,048.43	11,025.33	11,005.43	46.83	39.32	89.43	-1,027.36	2,113.59	963.64	905.72	57.91	16.639			
11,400.00	11,148.43	11,125.33	11,105.43	47.12	39.67	89.43	-1,027.36	2,113.59	963.64	905.26	58.38	16.506			
11,500.00	11,248.43	11,225.33	11,205.43	47.41	40.02	89.43	-1,027.36	2,113.59	963.64	904.79	58.85	16.375			
11,600.00	11,348.43	11,325.33	11,305.43	47.70	40.37	89.43	-1,027.36	2,113.59	963.64	904.32	59.32	16.246			
11,700.00	11,448.43	11,425.33	11,405.43	47.99	40.72	89.43	-1,027.36	2,113.59	963.64	903.85	59.78	16.118			
11,800.00	11,548.43	11,525.33	11,505.43	48.28	41.08	89.43	-1,027.36	2,113.59	963.64	903.38	60.25	15.993			
11,900.00	11,648.43	11,625.33	11,605.43	48.58	41.43	89.43	-1,027.36	2,113.59	963.64	902.91	60.72	15.869			
12,000.00	11,748.43	11,725.33	11,705.43	48.87	41.78	89.43	-1,027.36	2,113.59	963.64	902.44	61.20	15.747			
12,100.00	11,848.43	11,825.33	11,805.43	49.17	42.13	89.43	-1,027.36	2,113.59	963.64	901.97	61.67	15.627			
12,124.61	11,873.04	11,849.94	11,830.04	49.24	42.22	89.43	-1,027.36	2,113.59	963.64	901.86	61.78	15.597			
12,150.00	11,898.42	11,875.33	11,855.42	49.32	42.31	-89.84	-1,027.36	2,113.59	963.64	901.73	61.91	15.566			
12,186.29	11,934.60	11,911.50	11,891.60	49.44	42.44	-90.00	-1,027.36	2,113.59	963.63	901.53	62.10	15.516			
12,200.00	11,948.22	11,925.12	11,905.22	49.49	42.48	-90.10	-1,027.36	2,113.59	963.63	901.45	62.18	15.497			
12,250.00	11,997.43	11,974.95	11,955.04	49.67	42.65	-90.57	-1,027.95	2,113.60	963.68	901.19	62.49	15.422			
12,300.00	12,045.71	12,025.76	12,005.63	49.88	42.82	-91.08	-1,032.50	2,113.64	963.79	900.98	62.81	15.345			
12,350.00	12,092.66	12,077.39	12,056.42	50.11	42.99	-91.59	-1,041.70	2,113.73	963.96	900.82	63.14	15.267			
12,400.00	12,137.95	12,129.86	12,106.97	50.35	43.15	-92.08	-1,055.69	2,113.87	964.18	900.70	63.48	15.189			
12,450.00	12,181.22	12,183.19	12,156.81	50.62	43.31	-92.57	-1,074.58	2,114.05	964.45	900.62	63.82	15.111			
12,500.00	12,222.15	12,237.37	12,205.45	50.89	43.47	-93.04	-1,098.44	2,114.29	964.75	900.58	64.17	15.034			
12,550.00	12,260.41	12,292.43	12,252.32	51.18	43.62	-93.48	-1,127.27	2,114.57	965.07	900.55	64.52	14.957			
12,600.00	12,295.73	12,348.33	12,296.86	51.49	43.77	-93.91	-1,161.01	2,114.90	965.41	900.54	64.87	14.883			
12,650.00	12,327.84	12,405.05	12,338.48	51.81	43.91	-94.30	-1,199.51	2,115.28	965.74	900.53	65.21	14.809			
12,700.00	12,356.48	12,462.55	12,376.57	52.14	44.06	-94.66	-1,242.54	2,115.70	966.05	900.50	65.56	14.736			
12,750.00	12,381.44	12,520.76	12,410.55	52.48	44.20	-94.98	-1,289.78	2,116.16	966.33	900.43	65.90	14.664			
12,800.00	12,402.53	12,579.62	12,439.86	52.84	44.36	-95.25	-1,340.79	2,116.66	966.56	900.31	66.24	14.592			
12,850.00	12,419.60	12,639.02	12,463.97	53.20	44.53	-95.48	-1,395.05	2,117.19	966.72	900.13	66.58	14.519			
12,900.00	12,432.50	12,698.88	12,482.46	53.57	44.72	-95.66	-1,451.94	2,117.75	966.80	899.87	66.93	14.444			
12,950.00	12,441.15	12,759.05	12,494.96	53.95	44.92	-95.79	-1,510.77	2,118.33	966.80	899.51	67.29	14.368			
13,000.00	12,445.47	12,819.43	12,501.24	54.34	45.13	-95.86	-1,570.79	2,118.92	966.71	899.06	67.66	14.289			
13,024.61	12,446.00	12,849.17	12,502.00	54.53	45.23	-95.88	-1,600.52	2,119.21	966.63	898.79	67.84	14.249			
13,100.00	12,446.00	12,924.52	12,502.00	55.13	45.52	-95.88	-1,675.87	2,119.95	966.36	897.87	68.49	14.109			
13,200.00	12,446.00	13,024.52	12,502.00	55.95	45.94	-95.88	-1,775.86	2,120.93	966.00	896.58	69.42	13.916			
13,300.00	12,446.00	13,124.52	12,502.00	56.81	46.42	-95.88	-1,875.86	2,121.91	965.63	895.23	70.40	13.716			
13,400.00	12,446.00	13,224.52	12,502.00	57.70	46.95	-95.89	-1,975.85	2,122.89	965.27	893.82	71.45	13.509			
13,500.00	12,446.00	13,324.52	12,502.00	58.63	47.53	-95.89	-2,075.85	2,123.87	964.91	892.35	72.56	13.298			
13,600.00	12,446.00	13,424.52	12,502.00	59.59	48.16	-95.89	-2,175.84	2,124.85	964.55	890.82	73.73	13.082			
13,700.00	12,446.00	13,524.52	12,502.00	60.58	48.83	-95.89	-2,275.84	2,125.83	964.18	889.24	74.95	12.865			
13,800.00	12,446.00	13,624.52	12,502.00	61.60	49.56	-95.90	-2,375.83	2,126.81	963.82	887.60	76.22	12.645			
13,900.00	12,446.00	13,724.52	12,502.00	62.64	50.32	-95.90	-2,475.82	2,127.79	963.46	885.92	77.54	12.425			
14,000.00	12,446.00	13,824.52	12,502.00	63.71	51.13	-95.90	-2,575.82	2,128.77	963.10	884.19	78.91	12.206			

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,100.00	12,446.00	13,924.52	12,502.00	64.81	51.98	-95.90	-2,675.81	2,129.75	962.73	882.42	80.32	11.987		
14,200.00	12,446.00	14,024.52	12,502.00	65.92	52.86	-95.90	-2,775.81	2,130.73	962.37	880.60	81.77	11.769		
14,300.00	12,446.00	14,124.51	12,502.00	67.07	53.78	-95.91	-2,875.80	2,131.71	962.01	878.75	83.26	11.554		
14,400.00	12,446.00	14,224.51	12,502.00	68.23	54.74	-95.91	-2,975.80	2,132.69	961.65	876.86	84.79	11.342		
14,500.00	12,446.00	14,324.51	12,502.00	69.41	55.72	-95.91	-3,075.79	2,133.67	961.28	874.93	86.35	11.132		
14,600.00	12,446.00	14,424.51	12,502.00	70.61	56.74	-95.91	-3,175.79	2,134.65	960.92	872.97	87.95	10.925		
14,700.00	12,446.00	14,524.51	12,502.00	71.83	57.79	-95.92	-3,275.78	2,135.63	960.56	870.98	89.58	10.722		
14,800.00	12,446.00	14,624.51	12,502.00	73.06	58.87	-95.92	-3,375.78	2,136.61	960.20	868.95	91.24	10.523		
14,900.00	12,446.00	14,724.51	12,502.00	74.32	59.97	-95.92	-3,475.77	2,137.59	959.83	866.90	92.93	10.328		
15,000.00	12,446.00	14,824.51	12,502.00	75.58	61.09	-95.92	-3,575.76	2,138.57	959.47	864.82	94.65	10.137		
15,100.00	12,446.00	14,924.51	12,502.00	76.87	62.24	-95.92	-3,675.76	2,139.55	959.11	862.72	96.39	9.951		
15,200.00	12,446.00	15,024.51	12,502.00	78.16	63.42	-95.93	-3,775.75	2,140.53	958.75	860.59	98.15	9.768		
15,300.00	12,446.00	15,124.51	12,502.00	79.47	64.61	-95.93	-3,875.75	2,141.51	958.38	858.44	99.94	9.590		
15,400.00	12,446.00	15,224.51	12,502.00	80.79	65.82	-95.93	-3,975.74	2,142.49	958.02	856.27	101.75	9.415		
15,500.00	12,446.00	15,324.51	12,502.00	82.13	67.05	-95.93	-4,075.74	2,143.48	957.66	854.08	103.58	9.246		
15,600.00	12,446.00	15,424.51	12,502.00	83.47	68.30	-95.94	-4,175.73	2,144.46	957.30	851.87	105.43	9.080		
15,700.00	12,446.00	15,524.51	12,502.00	84.83	69.57	-95.94	-4,275.73	2,145.44	956.93	849.64	107.30	8.919		
15,800.00	12,446.00	15,624.50	12,502.00	86.20	70.85	-95.94	-4,375.72	2,146.42	956.57	847.39	109.18	8.761		
15,900.00	12,446.00	15,724.50	12,502.00	87.57	72.15	-95.94	-4,475.72	2,147.40	956.21	845.12	111.08	8.608		
16,000.00	12,446.00	15,824.50	12,502.00	88.96	73.46	-95.95	-4,575.71	2,148.38	955.85	842.84	113.00	8.459		
16,100.00	12,446.00	15,924.50	12,502.00	90.35	74.78	-95.95	-4,675.70	2,149.36	955.48	840.55	114.93	8.313		
16,200.00	12,446.00	16,024.50	12,502.00	91.76	76.12	-95.95	-4,775.70	2,150.34	955.12	838.24	116.88	8.172		
16,300.00	12,446.00	16,124.50	12,502.00	93.17	77.47	-95.95	-4,875.69	2,151.32	954.76	835.92	118.84	8.034		
16,400.00	12,446.00	16,224.50	12,502.00	94.59	78.83	-95.95	-4,975.69	2,152.30	954.40	833.58	120.81	7.900		
16,500.00	12,446.00	16,324.50	12,502.00	96.02	80.20	-95.96	-5,075.68	2,153.28	954.03	831.24	122.80	7.769		
16,600.00	12,446.00	16,424.50	12,502.00	97.45	81.58	-95.96	-5,175.68	2,154.26	953.67	828.88	124.79	7.642		
16,700.00	12,446.00	16,524.50	12,502.00	98.89	82.97	-95.96	-5,275.67	2,155.24	953.31	826.51	126.80	7.518		
16,800.00	12,446.00	16,624.50	12,502.00	100.34	84.38	-95.96	-5,375.67	2,156.22	952.95	824.13	128.82	7.398		
16,900.00	12,446.00	16,724.50	12,502.00	101.79	85.79	-95.97	-5,475.66	2,157.20	952.58	821.74	130.85	7.280		
17,000.00	12,446.00	16,824.50	12,502.00	103.25	87.20	-95.97	-5,575.66	2,158.18	952.22	819.34	132.89	7.166		
17,100.00	12,446.00	16,924.50	12,502.00	104.72	88.63	-95.97	-5,675.65	2,159.16	951.86	816.93	134.93	7.054		
17,200.00	12,446.00	17,024.50	12,502.00	106.19	90.07	-95.97	-5,775.64	2,160.14	951.50	814.51	136.99	6.946		
17,300.00	12,446.00	17,124.49	12,502.00	107.66	91.51	-95.97	-5,875.64	2,161.12	951.13	812.08	139.05	6.840		
17,400.00	12,446.00	17,224.49	12,502.00	109.15	92.96	-95.98	-5,975.63	2,162.10	950.77	809.65	141.12	6.737		
17,500.00	12,446.00	17,324.49	12,502.00	110.63	94.41	-95.98	-6,075.63	2,163.08	950.41	807.20	143.20	6.637		
17,600.00	12,446.00	17,424.49	12,502.00	112.12	95.87	-95.98	-6,175.62	2,164.06	950.05	804.75	145.29	6.539		
17,700.00	12,446.00	17,524.49	12,502.00	113.62	97.34	-95.98	-6,275.62	2,165.04	949.68	802.30	147.39	6.444		
17,800.00	12,446.00	17,624.49	12,502.00	115.12	98.81	-95.99	-6,375.61	2,166.02	949.32	799.83	149.49	6.351		
17,900.00	12,446.00	17,724.49	12,502.00	116.62	100.29	-95.99	-6,475.61	2,167.00	948.96	797.36	151.59	6.260		
18,000.00	12,446.00	17,824.49	12,502.00	118.13	101.78	-95.99	-6,575.60	2,167.98	948.60	794.89	153.71	6.171		
18,100.00	12,446.00	17,924.49	12,502.00	119.64	103.27	-95.99	-6,675.60	2,168.96	948.23	792.41	155.83	6.085		
18,200.00	12,446.00	18,024.49	12,502.00	121.16	104.76	-96.00	-6,775.59	2,169.94	947.87	789.92	157.95	6.001		
18,300.00	12,446.00	18,124.49	12,502.00	122.67	106.26	-96.00	-6,875.58	2,170.92	947.51	787.43	160.08	5.919		
18,400.00	12,446.00	18,224.49	12,502.00	124.20	107.76	-96.00	-6,975.58	2,171.90	947.15	784.93	162.22	5.839		
18,500.00	12,446.00	18,324.49	12,502.00	125.72	109.27	-96.00	-7,075.57	2,172.88	946.78	782.43	164.36	5.761		
18,600.00	12,446.00	18,424.49	12,502.00	127.25	110.78	-96.00	-7,175.57	2,173.86	946.42	779.92	166.50	5.684		
18,700.00	12,446.00	18,524.49	12,502.00	128.78	112.30	-96.01	-7,275.56	2,174.84	946.06	777.41	168.65	5.610		
18,800.00	12,446.00	18,624.48	12,502.00	130.32	113.82	-96.01	-7,375.56	2,175.82	945.70	774.89	170.80	5.537		
18,900.00	12,446.00	18,724.48	12,502.00	131.86	115.34	-96.01	-7,475.55	2,176.81	945.33	772.37	172.96	5.466		
19,000.00	12,446.00	18,824.48	12,502.00	133.40	116.87	-96.01	-7,575.55	2,177.79	944.97	769.85	175.12	5.396		
19,100.00	12,446.00	18,924.48	12,502.00	134.94	118.40	-96.02	-7,675.54	2,178.77	944.61	767.32	177.29	5.328		
19,200.00	12,446.00	19,024.48	12,502.00	136.48	119.93	-96.02	-7,775.54	2,179.75	944.25	764.79	179.46	5.262		

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 805H - OH - Plan #2		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD															Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
19,300.00	12,446.00	19,124.48	12,502.00	138.03	121.47	-96.02	-7,875.53	2,180.73	943.88	762.25	181.63	5.197				
19,400.00	12,446.00	19,224.48	12,502.00	139.58	123.01	-96.02	-7,975.52	2,181.71	943.52	759.71	183.81	5.133				
19,500.00	12,446.00	19,324.48	12,502.00	141.14	124.55	-96.03	-8,075.52	2,182.69	943.16	757.17	185.99	5.071				
19,600.00	12,446.00	19,424.48	12,502.00	142.69	126.10	-96.03	-8,175.51	2,183.67	942.80	754.62	188.18	5.010				
19,700.00	12,446.00	19,524.48	12,502.00	144.25	127.64	-96.03	-8,275.51	2,184.65	942.43	752.07	190.36	4.951				
19,800.00	12,446.00	19,624.48	12,502.00	145.81	129.19	-96.03	-8,375.50	2,185.63	942.07	749.52	192.55	4.893				
19,900.00	12,446.00	19,724.48	12,502.00	147.37	130.75	-96.03	-8,475.50	2,186.61	941.71	746.96	194.75	4.836				
20,000.00	12,446.00	19,824.48	12,502.00	148.93	132.30	-96.04	-8,575.49	2,187.59	941.35	744.41	196.94	4.780				
20,100.00	12,446.00	19,924.48	12,502.00	150.50	133.86	-96.04	-8,675.49	2,188.57	940.98	741.84	199.14	4.725				
20,200.00	12,446.00	20,024.48	12,502.00	152.06	135.42	-96.04	-8,775.48	2,189.55	940.62	739.28	201.34	4.672				
20,300.00	12,446.00	20,124.48	12,502.00	153.63	136.98	-96.04	-8,875.47	2,190.53	940.26	736.72	203.54	4.619				
20,400.00	12,446.00	20,224.47	12,502.00	155.20	138.54	-96.05	-8,975.47	2,191.51	939.90	734.15	205.75	4.568				
20,500.00	12,446.00	20,324.47	12,502.00	156.77	140.11	-96.05	-9,075.46	2,192.49	939.54	731.58	207.96	4.518				
20,600.00	12,446.00	20,424.47	12,502.00	158.35	141.68	-96.05	-9,175.46	2,193.47	939.17	729.00	210.17	4.469				
20,700.00	12,446.00	20,524.47	12,502.00	159.92	143.25	-96.05	-9,275.45	2,194.45	938.81	726.43	212.38	4.420				
20,800.00	12,446.00	20,624.47	12,502.00	161.50	144.82	-96.06	-9,375.45	2,195.43	938.45	723.85	214.60	4.373				
20,900.00	12,446.00	20,724.47	12,502.00	163.08	146.39	-96.06	-9,475.44	2,196.41	938.09	721.27	216.82	4.327				
21,000.00	12,446.00	20,824.47	12,502.00	164.66	147.97	-96.06	-9,575.44	2,197.39	937.72	718.69	219.04	4.281				
21,100.00	12,446.00	20,924.47	12,502.00	166.24	149.54	-96.06	-9,675.43	2,198.37	937.36	716.10	221.26	4.237				
21,200.00	12,446.00	21,024.47	12,502.00	167.82	151.12	-96.07	-9,775.43	2,199.35	937.00	713.52	223.48	4.193				
21,300.00	12,446.00	21,124.47	12,502.00	169.41	152.70	-96.07	-9,875.42	2,200.33	936.64	710.93	225.70	4.150				
21,400.00	12,446.00	21,224.47	12,502.00	170.99	154.28	-96.07	-9,975.41	2,201.31	936.27	708.34	227.93	4.108				
21,500.00	12,446.00	21,324.47	12,502.00	172.58	155.87	-96.07	-10,075.41	2,202.29	935.91	705.75	230.16	4.066				
21,600.00	12,446.00	21,424.47	12,502.00	174.17	157.45	-96.07	-10,175.40	2,203.27	935.55	703.16	232.39	4.026				
21,700.00	12,446.00	21,524.47	12,502.00	175.76	159.03	-96.08	-10,275.40	2,204.25	935.19	700.56	234.62	3.986				
21,800.00	12,446.00	21,624.47	12,502.00	177.35	160.62	-96.08	-10,375.39	2,205.23	934.82	697.97	236.85	3.947				
21,900.00	12,446.00	21,724.46	12,502.00	178.94	162.21	-96.08	-10,475.39	2,206.21	934.46	695.37	239.09	3.908				
22,000.00	12,446.00	21,824.46	12,502.00	180.53	163.80	-96.08	-10,575.38	2,207.19	934.10	692.77	241.33	3.871				
22,100.00	12,446.00	21,924.46	12,502.00	182.12	165.39	-96.09	-10,675.38	2,208.17	933.74	690.17	243.56	3.834				
22,200.00	12,446.00	22,024.46	12,502.00	183.72	166.98	-96.09	-10,775.37	2,209.16	933.37	687.57	245.80	3.797				
22,300.00	12,446.00	22,124.46	12,502.00	185.31	168.57	-96.09	-10,875.37	2,210.14	933.01	684.97	248.04	3.761				
22,400.00	12,446.00	22,224.46	12,502.00	186.91	170.17	-96.09	-10,975.36	2,211.12	932.65	682.36	250.28	3.726				
22,500.00	12,446.00	22,324.46	12,502.00	188.51	171.76	-96.10	-11,075.35	2,212.10	932.29	679.76	252.53	3.692				
22,600.00	12,446.00	22,424.46	12,502.00	190.11	173.36	-96.10	-11,175.35	2,213.08	931.92	677.15	254.77	3.658				
22,700.00	12,446.00	22,524.46	12,502.00	191.71	174.96	-96.10	-11,275.34	2,214.06	931.56	674.55	257.02	3.625				
22,800.00	12,446.00	22,624.46	12,502.00	193.31	176.51	-96.10	-11,375.34	2,215.04	931.20	671.97	259.23	3.592				
22,817.13	12,446.00	22,641.58	12,502.00	193.58	176.76	-96.10	-11,392.46	2,215.20	931.14	671.54	259.60	3.587 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 806H - OH - Plan #2		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance						Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
0.00	0.00	0.00	0.00	0.00	0.00	111.01	-992.11	2,583.58	2,767.90							
100.00	100.00	54.20	54.20	0.13	0.07	111.01	-992.11	2,583.58	2,767.52	2,767.38	0.14	N/A				
200.00	200.00	154.20	154.20	0.48	0.32	111.01	-992.11	2,583.58	2,767.52	2,766.94	0.58	4,771.308				
300.00	300.00	254.20	254.20	0.84	0.68	111.01	-992.11	2,583.58	2,767.52	2,766.44	1.08	2,558.961				
400.00	400.00	354.20	354.20	1.20	1.04	111.01	-992.11	2,583.58	2,767.52	2,765.93	1.59	1,744.461				
500.00	500.00	454.20	454.20	1.56	1.40	111.01	-992.11	2,583.58	2,767.52	2,765.43	2.09	1,322.662				
600.00	600.00	554.20	554.20	1.92	1.75	111.01	-992.11	2,583.58	2,767.52	2,764.92	2.60	1,064.958				
700.00	700.00	654.20	654.20	2.28	2.11	111.01	-992.11	2,583.58	2,767.52	2,764.41	3.11	891.241				
800.00	800.00	754.20	754.20	2.63	2.47	111.01	-992.11	2,583.58	2,767.52	2,763.91	3.61	766.224				
900.00	900.00	854.20	854.20	2.99	2.83	111.01	-992.11	2,583.58	2,767.52	2,763.40	4.12	671.953				
1,000.00	1,000.00	954.20	954.20	3.35	3.19	111.01	-992.11	2,583.58	2,767.52	2,762.89	4.63	598.331				
1,100.00	1,100.00	1,054.20	1,054.20	3.71	3.55	111.01	-992.11	2,583.58	2,767.52	2,762.39	5.13	539.246				
1,200.00	1,200.00	1,154.20	1,154.20	4.07	3.90	111.01	-992.11	2,583.58	2,767.52	2,761.88	5.64	490.778				
1,300.00	1,300.00	1,254.20	1,254.20	4.43	4.26	111.01	-992.11	2,583.58	2,767.52	2,761.37	6.15	450.303				
1,400.00	1,400.00	1,354.20	1,354.20	4.79	4.62	111.01	-992.11	2,583.58	2,767.52	2,760.87	6.65	415.995				
1,500.00	1,500.00	1,454.20	1,454.20	5.14	4.98	111.01	-992.11	2,583.58	2,767.52	2,760.36	7.16	386.544				
1,600.00	1,600.00	1,554.20	1,554.20	5.50	5.34	111.01	-992.11	2,583.58	2,767.52	2,759.85	7.67	360.986				
1,700.00	1,700.00	1,654.20	1,654.20	5.86	5.70	111.01	-992.11	2,583.58	2,767.52	2,759.35	8.17	338.599				
1,800.00	1,800.00	1,754.20	1,754.20	6.22	6.06	111.01	-992.11	2,583.58	2,767.52	2,758.84	8.68	318.826				
1,900.00	1,900.00	1,854.20	1,854.20	6.58	6.41	111.01	-992.11	2,583.58	2,767.52	2,758.33	9.19	301.234				
2,000.00	2,000.00	1,954.20	1,954.20	6.94	6.77	111.01	-992.11	2,583.58	2,767.52	2,757.83	9.69	285.482				
2,100.00	2,100.00	2,054.20	2,054.20	7.29	7.13	111.01	-992.11	2,583.58	2,767.52	2,757.32	10.20	271.296				
2,200.00	2,200.00	2,154.20	2,154.20	7.65	7.49	111.01	-992.11	2,583.58	2,767.52	2,756.81	10.71	258.453				
2,300.00	2,300.00	2,254.20	2,254.20	8.01	7.85	111.01	-992.11	2,583.58	2,767.52	2,756.31	11.21	246.770				
2,400.00	2,400.00	2,354.20	2,354.20	8.37	8.21	111.01	-992.11	2,583.58	2,767.52	2,755.80	11.72	236.098				
2,500.00	2,500.00	2,454.20	2,454.20	8.73	8.56	111.01	-992.11	2,583.58	2,767.52	2,755.29	12.23	226.311				
2,600.00	2,600.00	2,554.20	2,554.20	9.09	8.92	111.01	-992.11	2,583.58	2,767.52	2,754.78	12.74	217.303				
2,700.00	2,700.00	2,654.20	2,654.20	9.45	9.28	111.01	-992.11	2,583.58	2,767.52	2,754.28	13.24	208.985				
2,800.00	2,800.00	2,754.20	2,754.20	9.80	9.64	111.01	-992.11	2,583.58	2,767.52	2,753.77	13.75	201.280				
2,900.00	2,900.00	2,854.20	2,854.20	10.16	10.00	111.01	-992.11	2,583.58	2,767.52	2,753.26	14.26	194.123				
3,000.00	3,000.00	2,954.20	2,954.20	10.52	10.36	111.01	-992.11	2,583.58	2,767.52	2,752.76	14.76	187.457				
3,100.00	3,100.00	3,054.20	3,054.20	10.88	10.72	111.01	-992.11	2,583.58	2,767.52	2,752.25	15.27	181.234				
3,200.00	3,200.00	3,154.20	3,154.20	11.24	11.07	111.01	-992.11	2,583.58	2,767.52	2,751.74	15.78	175.411				
3,207.22	3,207.22	3,161.42	3,161.42	11.26	11.10	111.01	-992.11	2,583.58	2,767.52	2,751.71	15.81	175.005				
3,300.00	3,300.00	3,232.07	3,232.07	11.60	11.35	111.01	-992.12	2,583.71	2,767.74	2,751.51	16.23	170.573				
3,400.00	3,399.99	3,300.00	3,299.99	11.94	11.59	-21.05	-992.18	2,584.89	2,768.08	2,751.44	16.63	166.402				
3,500.00	3,499.91	3,350.37	3,350.33	12.27	11.76	-21.08	-992.28	2,586.53	2,767.40	2,750.42	16.98	162.951				
3,600.00	3,599.69	3,400.00	3,399.91	12.60	11.93	-21.12	-992.41	2,588.81	2,765.81	2,748.49	17.33	159.633				
3,700.00	3,699.27	3,468.55	3,468.33	12.94	12.16	-21.21	-992.65	2,593.00	2,763.21	2,745.49	17.72	155.964				
3,800.00	3,798.57	3,527.56	3,527.16	13.28	12.37	-21.31	-992.91	2,597.59	2,759.67	2,741.59	18.08	152.627				
3,900.00	3,897.54	3,600.00	3,599.27	13.62	12.62	-21.46	-993.30	2,604.47	2,755.25	2,736.76	18.48	149.081				
4,000.00	3,996.09	3,651.25	3,650.20	13.97	12.80	-21.59	-993.63	2,610.16	2,749.78	2,730.96	18.82	146.102				
4,100.00	4,094.16	3,740.50	3,738.83	14.33	13.11	-21.83	-994.22	2,620.66	2,742.82	2,723.55	19.27	142.330				
4,200.00	4,191.70	3,839.38	3,837.02	14.70	13.46	-22.13	-994.89	2,632.30	2,733.51	2,713.76	19.75	138.393				
4,300.00	4,288.62	3,937.89	3,934.84	15.08	13.81	-22.46	-995.55	2,643.89	2,721.84	2,701.60	20.23	134.513				
4,400.00	4,384.86	4,035.95	4,032.22	15.48	14.17	-22.83	-996.21	2,655.43	2,707.83	2,687.11	20.72	130.687				
4,500.00	4,480.36	4,133.51	4,129.10	15.89	14.52	-23.24	-996.86	2,666.91	2,691.51	2,670.30	21.21	126.912				
4,600.00	4,575.05	4,230.50	4,225.41	16.33	14.87	-23.69	-997.51	2,678.32	2,672.91	2,651.21	21.70	123.185				
4,674.25	4,644.79	4,302.10	4,296.51	16.66	15.13	-24.05	-997.99	2,686.75	2,657.64	2,635.58	22.06	120.447				
4,700.00	4,668.90	4,326.86	4,321.10	16.78	15.22	-24.15	-998.16	2,689.66	2,652.14	2,629.95	22.19	119.505				
4,800.00	4,762.49	4,423.04	4,416.61	17.26	15.58	-24.52	-998.80	2,700.98	2,630.83	2,608.14	22.69	115.942				
4,900.00	4,856.09	4,519.22	4,512.12	17.75	15.93	-24.91	-999.45	2,712.29	2,609.63	2,586.44	23.20	112.508				

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,000.00	4,949.69	4,615.40	4,607.63	18.25	16.29	-25.29	-1,000.09	2,723.61	2,588.55	2,564.85	23.71	109.198		
5,100.00	5,043.29	4,711.58	4,703.14	18.76	16.65	-25.69	-1,000.74	2,734.93	2,567.59	2,543.37	24.22	106.008		
5,200.00	5,136.88	4,807.76	4,798.65	19.29	17.01	-26.09	-1,001.38	2,746.25	2,546.75	2,522.01	24.74	102.932		
5,300.00	5,230.48	4,903.94	4,894.16	19.82	17.37	-26.49	-1,002.03	2,757.57	2,526.04	2,500.77	25.27	99.966		
5,400.00	5,324.08	5,000.12	4,989.67	20.37	17.73	-26.91	-1,002.68	2,768.88	2,505.45	2,479.65	25.80	97.106		
5,500.00	5,417.68	5,096.30	5,085.18	20.93	18.10	-27.32	-1,003.32	2,780.20	2,484.99	2,458.65	26.34	94.347		
5,600.00	5,511.27	5,192.48	5,180.69	21.49	18.46	-27.75	-1,003.97	2,791.52	2,464.67	2,437.79	26.88	91.685		
5,700.00	5,604.87	5,288.66	5,276.20	22.06	18.83	-28.18	-1,004.61	2,802.84	2,444.49	2,417.05	27.43	89.116		
5,800.00	5,698.47	5,384.84	5,371.71	22.64	19.19	-28.62	-1,005.26	2,814.15	2,424.44	2,396.46	27.98	86.636		
5,900.00	5,792.07	5,481.02	5,467.22	23.22	19.56	-29.07	-1,005.90	2,825.47	2,404.54	2,376.00	28.54	84.242		
6,000.00	5,885.66	5,577.20	5,562.73	23.81	19.93	-29.52	-1,006.55	2,836.79	2,384.79	2,355.69	29.11	81.930		
6,100.00	5,979.26	5,673.38	5,658.24	24.41	20.30	-29.99	-1,007.19	2,848.11	2,365.19	2,335.52	29.68	79.697		
6,200.00	6,072.86	5,769.56	5,753.75	25.01	20.67	-30.45	-1,007.84	2,859.42	2,345.75	2,315.50	30.25	77.539		
6,300.00	6,166.46	5,865.74	5,849.26	25.61	21.04	-30.93	-1,008.48	2,870.74	2,326.47	2,295.64	30.83	75.453		
6,400.00	6,260.05	5,961.92	5,944.77	26.22	21.41	-31.41	-1,009.13	2,882.06	2,307.35	2,275.93	31.42	73.437		
6,500.00	6,353.65	6,058.10	6,040.28	26.84	21.78	-31.90	-1,009.77	2,893.38	2,288.40	2,256.39	32.01	71.487		
6,600.00	6,447.25	6,154.28	6,135.79	27.45	22.15	-32.40	-1,010.42	2,904.69	2,269.62	2,237.01	32.61	69.602		
6,700.00	6,540.85	6,250.46	6,231.30	28.07	22.53	-32.91	-1,011.06	2,916.01	2,251.01	2,217.80	33.21	67.778		
6,800.00	6,634.44	6,346.64	6,326.81	28.70	22.90	-33.43	-1,011.71	2,927.33	2,232.59	2,198.77	33.82	66.013		
6,900.00	6,728.04	6,442.82	6,422.32	29.33	23.27	-33.95	-1,012.35	2,938.65	2,214.35	2,179.92	34.43	64.306		
7,000.00	6,821.64	6,539.00	6,517.82	29.96	23.65	-34.48	-1,013.00	2,949.96	2,196.31	2,161.25	35.06	62.653		
7,100.00	6,915.24	6,635.18	6,613.33	30.59	24.02	-35.02	-1,013.65	2,961.28	2,178.45	2,142.77	35.68	61.052		
7,200.00	7,008.83	6,731.36	6,708.84	31.23	24.40	-35.57	-1,014.29	2,972.60	2,160.80	2,124.48	36.31	59.503		
7,300.00	7,102.43	6,827.54	6,804.35	31.87	24.77	-36.13	-1,014.94	2,983.92	2,143.35	2,106.40	36.95	58.003		
7,400.00	7,196.03	6,923.72	6,899.86	32.51	25.15	-36.69	-1,015.58	2,995.23	2,126.11	2,088.51	37.60	56.551		
7,500.00	7,289.63	7,019.90	6,995.37	33.15	25.53	-37.27	-1,016.23	3,006.55	2,109.08	2,070.83	38.25	55.143		
7,600.00	7,383.22	7,116.14	7,140.71	33.80	26.09	-38.16	-1,017.15	3,022.67	2,091.78	2,052.75	39.03	53.596		
7,683.32	7,461.21	7,340.79	7,314.90	34.34	26.74	-39.25	-1,017.85	3,035.10	2,074.21	2,034.45	39.76	52.162		
7,700.00	7,476.83	7,375.35	7,349.43	34.44	26.87	-39.43	-1,017.94	3,036.62	2,070.31	2,030.40	39.90	51.885		
7,800.00	7,571.03	7,551.19	7,525.23	35.07	27.48	-40.27	-1,018.11	3,039.58	2,045.37	2,004.73	40.64	50.332		
7,900.00	7,666.07	7,646.23	7,620.27	35.68	27.80	-40.59	-1,018.11	3,039.58	2,021.21	1,979.93	41.28	48.969		
8,000.00	7,761.89	7,742.05	7,716.09	36.25	28.13	-40.89	-1,018.11	3,039.58	1,999.16	1,957.25	41.91	47.707		
8,100.00	7,858.43	7,838.59	7,812.63	36.80	28.46	-41.17	-1,018.11	3,039.58	1,979.19	1,936.67	42.52	46.542		
8,200.00	7,955.62	7,935.78	7,909.82	37.32	28.79	-41.44	-1,018.11	3,039.58	1,961.30	1,918.16	43.13	45.471		
8,300.00	8,053.39	8,033.55	8,007.59	37.81	29.13	-41.68	-1,018.11	3,039.58	1,945.44	1,901.71	43.73	44.491		
8,400.00	8,151.68	8,131.84	8,105.88	38.27	29.46	-41.90	-1,018.11	3,039.58	1,931.60	1,887.30	44.31	43.596		
8,500.00	8,250.41	8,230.57	8,204.61	38.71	29.80	-42.10	-1,018.11	3,039.58	1,919.77	1,874.90	44.87	42.785		
8,600.00	8,349.53	8,329.69	8,303.73	39.11	30.14	-42.26	-1,018.11	3,039.58	1,909.91	1,864.49	45.42	42.052		
8,700.00	8,448.96	8,429.11	8,403.16	39.49	30.48	-42.40	-1,018.11	3,039.58	1,902.02	1,856.07	45.95	41.396		
8,800.00	8,548.63	8,528.79	8,502.83	39.84	30.82	-42.50	-1,018.11	3,039.58	1,896.07	1,849.61	46.46	40.813		
8,900.00	8,648.48	8,628.64	8,602.68	40.17	31.17	-42.57	-1,018.11	3,039.58	1,892.07	1,845.12	46.95	40.299		
9,000.00	8,748.44	8,728.59	8,702.64	40.46	31.51	-42.61	-1,018.11	3,039.58	1,889.99	1,842.57	47.42	39.852		
9,057.57	8,806.00	8,786.16	8,760.20	40.62	31.71	-89.43	-1,018.11	3,039.58	1,889.67	1,841.99	47.69	39.627		
9,100.00	8,848.43	8,828.59	8,802.63	40.73	31.86	-89.43	-1,018.11	3,039.58	1,889.67	1,841.80	47.88	39.470		
9,200.00	8,948.43	8,928.59	8,902.63	41.00	32.20	-89.43	-1,018.11	3,039.58	1,889.67	1,841.35	48.32	39.105		
9,300.00	9,048.43	9,028.59	9,002.63	41.26	32.55	-89.43	-1,018.11	3,039.58	1,889.67	1,840.90	48.77	38.746		
9,400.00	9,148.43	9,128.59	9,102.63	41.53	32.89	-89.43	-1,018.11	3,039.58	1,889.67	1,840.45	49.22	38.392		
9,500.00	9,248.43	9,228.59	9,202.63	41.80	33.24	-89.43	-1,018.11	3,039.58	1,889.67	1,840.00	49.67	38.044		
9,600.00	9,348.43	9,328.59	9,302.63	42.06	33.58	-89.43	-1,018.11	3,039.58	1,889.67	1,839.55	50.12	37.702		
9,700.00	9,448.43	9,428.59	9,402.63	42.34	33.93	-89.43	-1,018.11	3,039.58	1,889.67	1,839.10	50.57	37.365		
9,800.00	9,548.43	9,528.59	9,502.63	42.61	34.28	-89.43	-1,018.11	3,039.58	1,889.67	1,838.65	51.03	37.033		
9,900.00	9,648.43	9,628.59	9,602.63	42.88	34.62	-89.43	-1,018.11	3,039.58	1,889.67	1,838.19	51.48	36.706		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Tatanka Fed Com - Tatanka Fed Com 806H - OH - Plan #2		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
10,000.00	9,748.43	9,728.59	9,702.63	43.16	34.97	89.43	-1,018.11	3,039.58	1,889.67	1,837.74	51.94	36.384				
10,100.00	9,848.43	9,828.59	9,802.63	43.43	35.32	89.43	-1,018.11	3,039.58	1,889.67	1,837.28	52.39	36.067				
10,200.00	9,948.43	9,928.59	9,902.63	43.71	35.66	89.43	-1,018.11	3,039.58	1,889.67	1,836.82	52.85	35.755				
10,300.00	10,048.43	10,028.59	10,002.63	43.99	36.01	89.43	-1,018.11	3,039.58	1,889.67	1,836.37	53.31	35.448				
10,400.00	10,148.43	10,128.59	10,102.63	44.26	36.36	89.43	-1,018.11	3,039.58	1,889.67	1,835.91	53.77	35.145				
10,500.00	10,248.43	10,228.59	10,202.63	44.55	36.71	89.43	-1,018.11	3,039.58	1,889.67	1,835.45	54.23	34.847				
10,600.00	10,348.43	10,328.59	10,302.63	44.83	37.06	89.43	-1,018.11	3,039.58	1,889.67	1,834.99	54.69	34.554				
10,700.00	10,448.43	10,428.59	10,402.63	45.11	37.40	89.43	-1,018.11	3,039.58	1,889.67	1,834.52	55.15	34.264				
10,800.00	10,548.43	10,528.59	10,502.63	45.39	37.75	89.43	-1,018.11	3,039.58	1,889.67	1,834.06	55.61	33.980				
10,900.00	10,648.43	10,628.59	10,602.63	45.68	38.10	89.43	-1,018.11	3,039.58	1,889.67	1,833.60	56.08	33.699				
11,000.00	10,748.43	10,728.59	10,702.63	45.96	38.45	89.43	-1,018.11	3,039.58	1,889.67	1,833.14	56.54	33.423				
11,100.00	10,848.43	10,828.59	10,802.63	46.25	38.80	89.43	-1,018.11	3,039.58	1,889.67	1,832.67	57.00	33.150				
11,200.00	10,948.43	10,928.59	10,902.63	46.54	39.15	89.43	-1,018.11	3,039.58	1,889.67	1,832.21	57.47	32.882				
11,300.00	11,048.43	11,028.59	11,002.63	46.83	39.50	89.43	-1,018.11	3,039.58	1,889.67	1,831.74	57.93	32.617				
11,400.00	11,148.43	11,128.59	11,102.63	47.12	39.85	89.43	-1,018.11	3,039.58	1,889.67	1,831.27	58.40	32.357				
11,500.00	11,248.43	11,228.59	11,202.63	47.41	40.20	89.43	-1,018.11	3,039.58	1,889.67	1,830.81	58.87	32.100				
11,600.00	11,348.43	11,328.59	11,302.63	47.70	40.55	89.43	-1,018.11	3,039.58	1,889.67	1,830.34	59.34	31.847				
11,700.00	11,448.43	11,428.59	11,402.63	47.99	40.90	89.43	-1,018.11	3,039.58	1,889.67	1,829.87	59.81	31.597				
11,800.00	11,548.43	11,528.59	11,502.63	48.28	41.25	89.43	-1,018.11	3,039.58	1,889.67	1,829.40	60.27	31.351				
11,900.00	11,648.43	11,628.59	11,602.63	48.58	41.60	89.43	-1,018.11	3,039.58	1,889.67	1,828.93	60.74	31.109				
12,000.00	11,748.43	11,728.59	11,702.63	48.87	41.95	89.43	-1,018.11	3,039.58	1,889.67	1,828.46	61.21	30.870				
12,100.00	11,848.43	11,828.59	11,802.63	49.17	42.30	89.43	-1,018.11	3,039.58	1,889.67	1,827.99	61.69	30.634				
12,124.61	11,873.04	11,853.20	11,827.23	49.24	42.38	89.44	-1,018.66	3,039.59	1,889.67	1,827.88	61.80	30.578				
12,129.71	11,878.14	11,858.30	11,832.32	49.26	42.40	-89.78	-1,018.91	3,039.59	1,889.67	1,827.85	61.82	30.567				
12,150.00	11,898.42	11,878.54	11,852.51	49.32	42.47	-89.75	-1,020.34	3,039.60	1,889.67	1,827.76	61.91	30.522				
12,200.00	11,948.22	11,928.28	11,901.81	49.49	42.63	-89.69	-1,026.86	3,039.67	1,889.66	1,827.51	62.15	30.405				
12,250.00	11,997.43	11,977.85	11,950.18	49.67	42.79	-89.63	-1,037.59	3,039.77	1,889.63	1,827.23	62.40	30.281				
12,300.00	12,045.71	12,027.23	11,997.28	49.88	42.94	-89.57	-1,052.40	3,039.92	1,889.59	1,826.92	62.67	30.150				
12,350.00	12,092.66	12,076.43	12,042.76	50.11	43.09	-89.51	-1,071.13	3,040.10	1,889.54	1,826.58	62.96	30.013				
12,400.00	12,137.95	12,125.47	12,086.33	50.35	43.23	-89.46	-1,093.61	3,040.32	1,889.47	1,826.22	63.26	29.870				
12,450.00	12,181.22	12,174.36	12,127.68	50.62	43.37	-89.41	-1,119.64	3,040.57	1,889.39	1,825.82	63.57	29.722				
12,500.00	12,222.15	12,223.09	12,166.56	50.89	43.50	-89.37	-1,149.01	3,040.86	1,889.30	1,825.41	63.90	29.568				
12,550.00	12,260.41	12,271.69	12,202.69	51.18	43.62	-89.33	-1,181.48	3,041.18	1,889.20	1,824.96	64.24	29.409				
12,600.00	12,295.73	12,320.15	12,235.87	51.49	43.74	-89.30	-1,216.79	3,041.52	1,889.08	1,824.49	64.59	29.246				
12,650.00	12,327.84	12,368.51	12,265.87	51.81	43.86	-89.27	-1,254.69	3,041.90	1,888.96	1,824.00	64.96	29.078				
12,700.00	12,356.48	12,416.76	12,292.52	52.14	43.99	-89.24	-1,294.89	3,042.29	1,888.82	1,823.48	65.34	28.906				
12,750.00	12,381.44	12,464.91	12,315.65	52.48	44.12	-89.23	-1,337.12	3,042.70	1,888.68	1,822.94	65.74	28.731				
12,800.00	12,402.53	12,512.99	12,335.13	52.84	44.25	-89.22	-1,381.06	3,043.13	1,888.52	1,822.38	66.14	28.553				
12,850.00	12,419.60	12,561.01	12,350.84	53.20	44.40	-89.21	-1,426.41	3,043.58	1,888.36	1,821.80	66.56	28.373				
12,900.00	12,432.50	12,608.97	12,362.68	53.57	44.55	-89.21	-1,472.88	3,044.03	1,888.19	1,821.21	66.98	28.192				
12,950.00	12,441.15	12,656.90	12,370.59	53.95	44.71	-89.22	-1,520.13	3,044.49	1,888.01	1,820.61	67.40	28.011				
13,000.00	12,445.47	12,704.80	12,374.53	54.34	44.88	-89.23	-1,567.85	3,044.96	1,887.83	1,820.00	67.83	27.831				
13,024.61	12,446.00	12,728.39	12,375.00	54.53	44.96	-89.24	-1,591.43	3,045.19	1,887.75	1,819.70	68.04	27.743				
13,100.00	12,446.00	12,803.78	12,375.00	55.13	45.24	-89.24	-1,666.82	3,045.93	1,887.47	1,818.76	68.71	27.471				
13,200.00	12,446.00	12,903.78	12,375.00	55.95	45.67	-89.23	-1,766.82	3,046.91	1,887.10	1,817.46	69.64	27.096				
13,300.00	12,446.00	13,003.78	12,375.00	56.81	46.15	-89.23	-1,866.81	3,047.89	1,886.74	1,816.09	70.65	26.706				
13,400.00	12,446.00	13,103.78	12,375.00	57.70	46.68	-89.23	-1,966.80	3,048.87	1,886.37	1,814.66	71.71	26.304				
13,500.00	12,446.00	13,203.78	12,375.00	58.63	47.26	-89.23	-2,066.80	3,049.84	1,886.01	1,813.17	72.84	25.893				
13,600.00	12,446.00	13,303.78	12,375.00	59.59	47.90	-89.23	-2,166.79	3,050.82	1,885.64	1,811.62	74.02	25.475				
13,700.00	12,446.00	13,403.78	12,375.00	60.58	48.58	-89.23	-2,266.79	3,051.80	1,885.27	1,810.02	75.25	25.052				
13,800.00	12,446.00	13,503.78	12,375.00	61.60	49.30	-89.23	-2,366.78	3,052.78	1,884.91	1,808.37	76.54	24.627				
13,900.00	12,446.00	13,603.78	12,375.00	62.64	50.07	-89.23	-2,466.78	3,053.76	1,884.54	1,806.67	77.87	24.200				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,000.00	12,446.00	13,703.78	12,375.00	63.71	50.88	-89.23	-2,566.77	3,054.74	1,884.17	1,804.92	79.25	23.774		
14,100.00	12,446.00	13,803.78	12,375.00	64.81	51.73	-89.23	-2,666.77	3,055.72	1,883.81	1,803.13	80.68	23.349		
14,200.00	12,446.00	13,903.78	12,375.00	65.92	52.62	-89.23	-2,766.76	3,056.69	1,883.44	1,801.30	82.15	22.928		
14,300.00	12,446.00	14,003.78	12,375.00	67.07	53.55	-89.23	-2,866.76	3,057.67	1,883.08	1,799.42	83.65	22.511		
14,400.00	12,446.00	14,103.78	12,375.00	68.23	54.51	-89.23	-2,966.75	3,058.65	1,882.71	1,797.51	85.20	22.098		
14,500.00	12,446.00	14,203.77	12,375.00	69.41	55.50	-89.23	-3,066.74	3,059.63	1,882.34	1,795.57	86.78	21.692		
14,600.00	12,446.00	14,303.77	12,375.00	70.61	56.52	-89.23	-3,166.74	3,060.61	1,881.98	1,793.59	88.39	21.292		
14,700.00	12,446.00	14,403.77	12,375.00	71.83	57.58	-89.23	-3,266.73	3,061.59	1,881.61	1,791.58	90.03	20.899		
14,800.00	12,446.00	14,503.77	12,375.00	73.06	58.66	-89.23	-3,366.73	3,062.57	1,881.25	1,789.54	91.71	20.514		
14,900.00	12,446.00	14,603.77	12,375.00	74.32	59.76	-89.23	-3,466.72	3,063.55	1,880.88	1,787.47	93.41	20.136		
15,000.00	12,446.00	14,703.77	12,375.00	75.58	60.89	-89.23	-3,566.72	3,064.52	1,880.51	1,785.37	95.14	19.766		
15,100.00	12,446.00	14,803.77	12,375.00	76.87	62.05	-89.23	-3,666.71	3,065.50	1,880.15	1,783.25	96.89	19.404		
15,200.00	12,446.00	14,903.77	12,375.00	78.16	63.22	-89.23	-3,766.71	3,066.48	1,879.78	1,781.11	98.67	19.050		
15,300.00	12,446.00	15,003.77	12,375.00	79.47	64.42	-89.23	-3,866.70	3,067.46	1,879.42	1,778.94	100.48	18.705		
15,400.00	12,446.00	15,103.77	12,375.00	80.79	65.64	-89.23	-3,966.70	3,068.44	1,879.05	1,776.75	102.30	18.368		
15,500.00	12,446.00	15,203.77	12,375.00	82.13	66.87	-89.23	-4,066.69	3,069.42	1,878.68	1,774.54	104.14	18.039		
15,600.00	12,446.00	15,303.77	12,375.00	83.47	68.12	-89.23	-4,166.68	3,070.40	1,878.32	1,772.31	106.01	17.719		
15,700.00	12,446.00	15,403.77	12,375.00	84.83	69.39	-89.23	-4,266.68	3,071.38	1,877.95	1,770.06	107.89	17.406		
15,800.00	12,446.00	15,503.77	12,375.00	86.20	70.68	-89.23	-4,366.67	3,072.35	1,877.59	1,767.80	109.79	17.102		
15,900.00	12,446.00	15,603.76	12,375.00	87.57	71.98	-89.23	-4,466.67	3,073.33	1,877.22	1,765.52	111.70	16.805		
16,000.00	12,446.00	15,703.76	12,375.00	88.96	73.29	-89.23	-4,566.66	3,074.31	1,876.85	1,763.22	113.63	16.517		
16,100.00	12,446.00	15,803.76	12,375.00	90.35	74.62	-89.23	-4,666.66	3,075.29	1,876.49	1,760.91	115.58	16.235		
16,200.00	12,446.00	15,903.76	12,375.00	91.76	75.96	-89.23	-4,766.65	3,076.27	1,876.12	1,758.58	117.54	15.961		
16,300.00	12,446.00	16,003.76	12,375.00	93.17	77.31	-89.23	-4,866.65	3,077.25	1,875.76	1,756.24	119.52	15.695		
16,400.00	12,446.00	16,103.76	12,375.00	94.59	78.68	-89.23	-4,966.64	3,078.23	1,875.39	1,753.89	121.50	15.435		
16,500.00	12,446.00	16,203.76	12,375.00	96.02	80.05	-89.23	-5,066.64	3,079.20	1,875.02	1,751.52	123.50	15.182		
16,600.00	12,446.00	16,303.76	12,375.00	97.45	81.44	-89.23	-5,166.63	3,080.18	1,874.66	1,749.15	125.51	14.936		
16,700.00	12,446.00	16,403.76	12,375.00	98.89	82.83	-89.23	-5,266.62	3,081.16	1,874.29	1,746.76	127.53	14.696		
16,800.00	12,446.00	16,503.76	12,375.00	100.34	84.24	-89.23	-5,366.62	3,082.14	1,873.93	1,744.36	129.57	14.463		
16,900.00	12,446.00	16,603.76	12,375.00	101.79	85.65	-89.23	-5,466.61	3,083.12	1,873.56	1,741.95	131.61	14.236		
17,000.00	12,446.00	16,703.76	12,375.00	103.25	87.07	-89.23	-5,566.61	3,084.10	1,873.19	1,739.53	133.66	14.014		
17,100.00	12,446.00	16,803.76	12,375.00	104.72	88.50	-89.23	-5,666.60	3,085.08	1,872.83	1,737.10	135.72	13.799		
17,200.00	12,446.00	16,903.76	12,375.00	106.19	89.94	-89.23	-5,766.60	3,086.06	1,872.46	1,734.67	137.79	13.589		
17,300.00	12,446.00	17,003.76	12,375.00	107.66	91.38	-89.23	-5,866.59	3,087.03	1,872.10	1,732.22	139.87	13.384		
17,400.00	12,446.00	17,103.75	12,375.00	109.15	92.83	-89.23	-5,966.59	3,088.01	1,871.73	1,729.77	141.96	13.185		
17,500.00	12,446.00	17,203.75	12,375.00	110.63	94.29	-89.23	-6,066.58	3,088.99	1,871.36	1,727.31	144.05	12.991		
17,600.00	12,446.00	17,303.75	12,375.00	112.12	95.75	-89.23	-6,166.58	3,089.97	1,871.00	1,724.84	146.15	12.802		
17,700.00	12,446.00	17,403.75	12,375.00	113.62	97.22	-89.23	-6,266.57	3,090.95	1,870.63	1,722.37	148.26	12.617		
17,800.00	12,446.00	17,503.75	12,375.00	115.12	98.70	-89.23	-6,366.56	3,091.93	1,870.27	1,719.89	150.38	12.437		
17,900.00	12,446.00	17,603.75	12,375.00	116.62	100.18	-89.23	-6,466.56	3,092.91	1,869.90	1,717.40	152.50	12.262		
18,000.00	12,446.00	17,703.75	12,375.00	118.13	101.67	-89.23	-6,566.55	3,093.89	1,869.53	1,714.91	154.63	12.091		
18,100.00	12,446.00	17,803.75	12,375.00	119.64	103.16	-89.23	-6,666.55	3,094.86	1,869.17	1,712.41	156.76	11.924		
18,200.00	12,446.00	17,903.75	12,375.00	121.16	104.65	-89.23	-6,766.54	3,095.84	1,868.80	1,709.90	158.90	11.761		
18,300.00	12,446.00	18,003.75	12,375.00	122.67	106.15	-89.23	-6,866.54	3,096.82	1,868.43	1,707.39	161.05	11.602		
18,400.00	12,446.00	18,103.75	12,375.00	124.20	107.66	-89.23	-6,966.53	3,097.80	1,868.07	1,704.87	163.20	11.447		
18,500.00	12,446.00	18,203.75	12,375.00	125.72	109.17	-89.23	-7,066.53	3,098.78	1,867.70	1,702.35	165.35	11.295		
18,600.00	12,446.00	18,303.75	12,375.00	127.25	110.68	-89.23	-7,166.52	3,099.76	1,867.34	1,699.83	167.51	11.148		
18,700.00	12,446.00	18,403.75	12,375.00	128.78	112.20	-89.23	-7,266.52	3,100.74	1,866.97	1,697.30	169.68	11.003		
18,800.00	12,446.00	18,503.75	12,375.00	130.32	113.72	-89.23	-7,366.51	3,101.71	1,866.60	1,694.76	171.84	10.862		
18,900.00	12,446.00	18,603.74	12,375.00	131.86	115.25	-89.23	-7,466.50	3,102.69	1,866.24	1,692.22	174.02	10.724		
19,000.00	12,446.00	18,703.74	12,375.00	133.40	116.77	-89.23	-7,566.50	3,103.67	1,865.87	1,689.68	176.20	10.590		
19,100.00	12,446.00	18,803.74	12,375.00	134.94	118.31	-89.23	-7,666.49	3,104.65	1,865.51	1,687.13	178.38	10.458		

CC - Min centre to center distance or 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Tatanka Fed Com - Tatanka Fed Com 806H - OH - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
19,200.00	12,446.00	18,903.74	12,375.00	136.48	119.84	-89.23	-7,766.49	3,105.63	1,865.14	1,684.58	180.56	10.330		
19,300.00	12,446.00	19,003.74	12,375.00	138.03	121.38	-89.23	-7,866.48	3,106.61	1,864.77	1,682.02	182.75	10.204		
19,400.00	12,446.00	19,103.74	12,375.00	139.58	122.92	-89.23	-7,966.48	3,107.59	1,864.41	1,679.46	184.94	10.081		
19,500.00	12,446.00	19,203.74	12,375.00	141.14	124.46	-89.23	-8,066.47	3,108.57	1,864.04	1,676.90	187.14	9.961		
19,600.00	12,446.00	19,303.74	12,375.00	142.69	126.01	-89.23	-8,166.47	3,109.54	1,863.68	1,674.34	189.34	9.843		
19,700.00	12,446.00	19,403.74	12,375.00	144.25	127.56	-89.23	-8,266.46	3,110.52	1,863.31	1,671.77	191.54	9.728		
19,800.00	12,446.00	19,503.74	12,375.00	145.81	129.11	-89.22	-8,366.46	3,111.50	1,862.94	1,669.20	193.75	9.615		
19,900.00	12,446.00	19,603.74	12,375.00	147.37	130.66	-89.22	-8,466.45	3,112.48	1,862.58	1,666.62	195.96	9.505		
20,000.00	12,446.00	19,703.74	12,375.00	148.93	132.22	-89.22	-8,566.44	3,113.46	1,862.21	1,664.04	198.17	9.397		
20,100.00	12,446.00	19,803.74	12,375.00	150.50	133.78	-89.22	-8,666.44	3,114.44	1,861.85	1,661.46	200.38	9.291		
20,200.00	12,446.00	19,903.74	12,375.00	152.06	135.34	-89.22	-8,766.43	3,115.42	1,861.48	1,658.88	202.60	9.188		
20,300.00	12,446.00	20,003.74	12,375.00	153.63	136.90	-89.22	-8,866.43	3,116.40	1,861.11	1,656.29	204.82	9.087		
20,400.00	12,446.00	20,103.73	12,375.00	155.20	138.47	-89.22	-8,966.42	3,117.37	1,860.75	1,653.70	207.04	8.987		
20,500.00	12,446.00	20,203.73	12,375.00	156.77	140.03	-89.22	-9,066.42	3,118.35	1,860.38	1,651.11	209.27	8.890		
20,600.00	12,446.00	20,303.73	12,375.00	158.35	141.60	-89.22	-9,166.41	3,119.33	1,860.02	1,648.52	211.50	8.795		
20,700.00	12,446.00	20,403.73	12,375.00	159.92	143.17	-89.22	-9,266.41	3,120.31	1,859.65	1,645.92	213.73	8.701		
20,800.00	12,446.00	20,503.73	12,375.00	161.50	144.75	-89.22	-9,366.40	3,121.29	1,859.28	1,643.33	215.96	8.609		
20,900.00	12,446.00	20,603.73	12,375.00	163.08	146.32	-89.22	-9,466.40	3,122.27	1,858.92	1,640.73	218.19	8.520		
21,000.00	12,446.00	20,703.73	12,375.00	164.66	147.90	-89.22	-9,566.39	3,123.25	1,858.55	1,638.12	220.43	8.432		
21,100.00	12,446.00	20,803.73	12,375.00	166.24	149.47	-89.22	-9,666.38	3,124.22	1,858.19	1,635.52	222.67	8.345		
21,200.00	12,446.00	20,903.73	12,375.00	167.82	151.05	-89.22	-9,766.38	3,125.20	1,857.82	1,632.91	224.91	8.260		
21,300.00	12,446.00	21,003.73	12,375.00	169.41	152.63	-89.22	-9,866.37	3,126.18	1,857.45	1,630.30	227.15	8.177		
21,400.00	12,446.00	21,103.73	12,375.00	170.99	154.22	-89.22	-9,966.37	3,127.16	1,857.09	1,627.69	229.39	8.096		
21,500.00	12,446.00	21,203.73	12,375.00	172.58	155.80	-89.22	-10,066.36	3,128.14	1,856.72	1,625.08	231.64	8.016		
21,600.00	12,446.00	21,303.73	12,375.00	174.17	157.38	-89.22	-10,166.36	3,129.12	1,856.36	1,622.47	233.89	7.937		
21,700.00	12,446.00	21,403.73	12,375.00	175.76	158.97	-89.22	-10,266.35	3,130.10	1,855.99	1,619.85	236.14	7.860		
21,800.00	12,446.00	21,503.73	12,375.00	177.35	160.56	-89.22	-10,366.35	3,131.08	1,855.62	1,617.24	238.39	7.784		
21,900.00	12,446.00	21,603.72	12,375.00	178.94	162.15	-89.22	-10,466.34	3,132.05	1,855.26	1,614.62	240.64	7.710		
22,000.00	12,446.00	21,703.72	12,375.00	180.53	163.74	-89.22	-10,566.34	3,133.03	1,854.89	1,612.00	242.89	7.637		
22,100.00	12,446.00	21,803.72	12,375.00	182.12	165.33	-89.22	-10,666.33	3,134.01	1,854.53	1,609.37	245.15	7.565		
22,200.00	12,446.00	21,903.72	12,375.00	183.72	166.92	-89.22	-10,766.32	3,134.99	1,854.16	1,606.75	247.41	7.494		
22,300.00	12,446.00	22,003.72	12,375.00	185.31	168.51	-89.22	-10,866.32	3,135.97	1,853.79	1,604.13	249.67	7.425		
22,400.00	12,446.00	22,103.72	12,375.00	186.91	170.11	-89.22	-10,966.31	3,136.95	1,853.43	1,601.50	251.93	7.357		
22,500.00	12,446.00	22,203.72	12,375.00	188.51	171.70	-89.22	-11,066.31	3,137.93	1,853.06	1,598.87	254.19	7.290		
22,600.00	12,446.00	22,303.72	12,375.00	190.11	173.30	-89.22	-11,166.30	3,138.91	1,852.70	1,596.24	256.45	7.224		
22,700.00	12,446.00	22,403.72	12,375.00	191.71	174.90	-89.22	-11,266.30	3,139.88	1,852.33	1,593.61	258.72	7.160		
22,800.00	12,446.00	22,503.72	12,375.00	193.31	176.49	-89.22	-11,366.29	3,140.86	1,851.96	1,590.99	260.98	7.096		
22,817.13	12,446.00	22,520.85	12,375.00	193.58	176.74	-89.22	-11,383.42	3,141.03	1,851.90	1,590.56	261.34	7.086	CC, ES, SF	

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



Total Directional Services

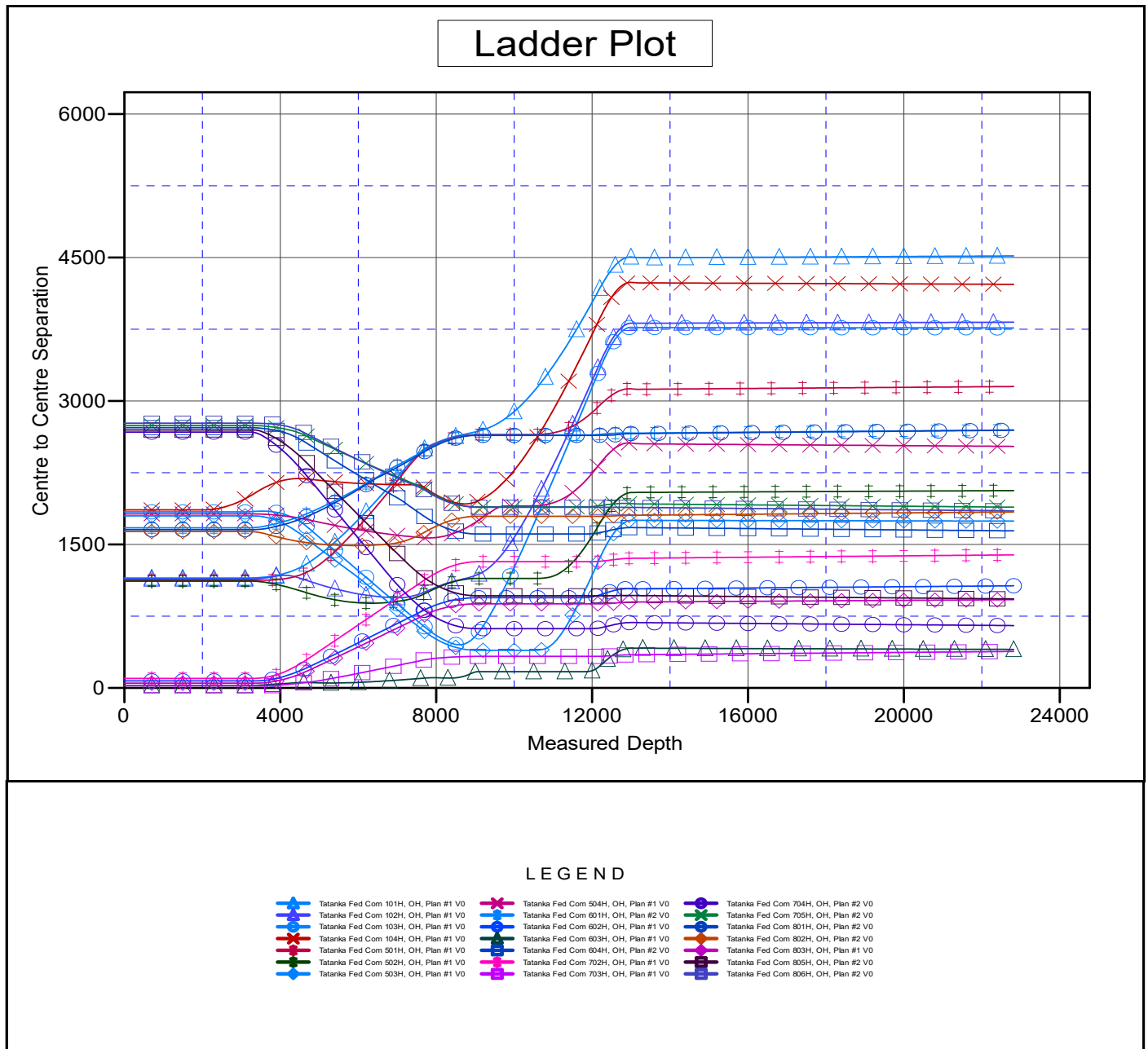
Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

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

Coordinates are relative to: Tatanka Fed Com 804H
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.53°



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



Total Directional Services

Anticollision Report

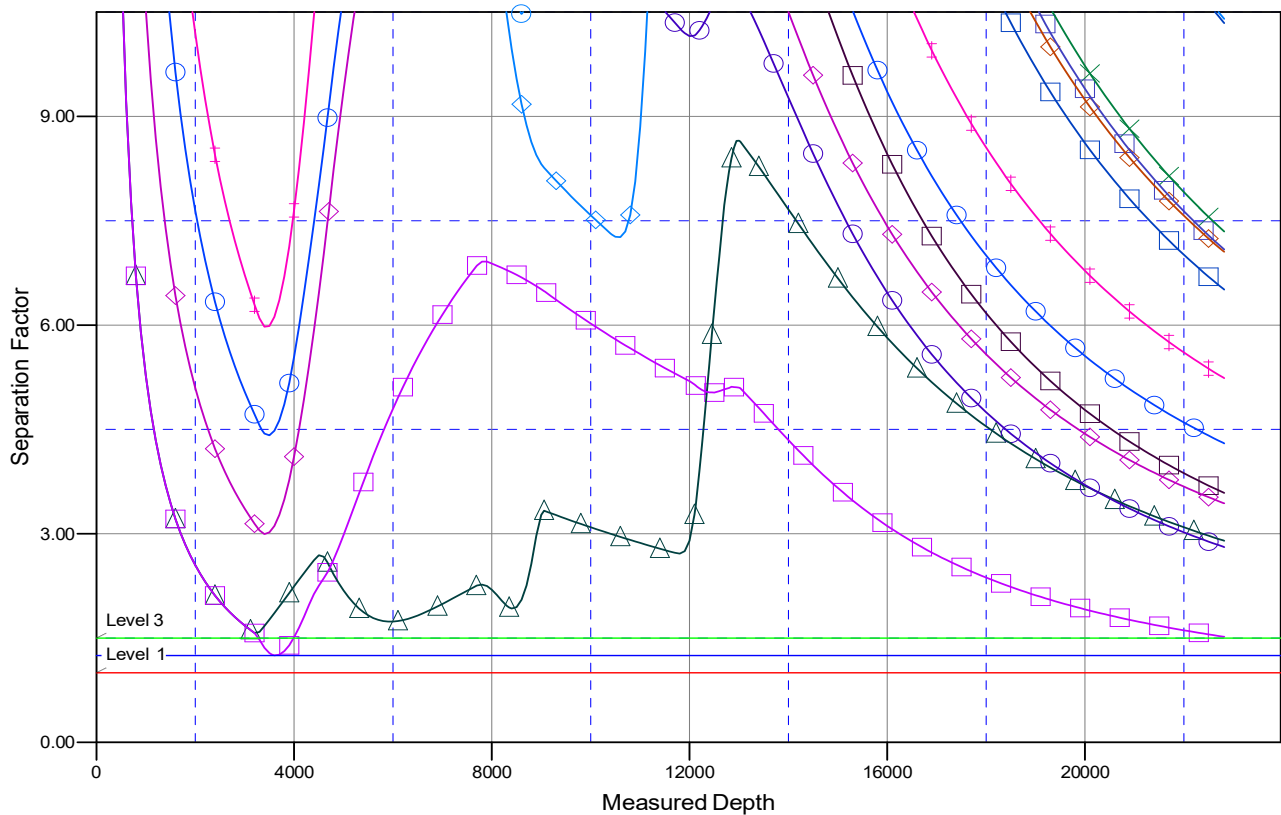


Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Tatanka Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3136' GE + 30' KB @ 3166.00usft
Reference Site:	Tatanka Fed Com	MD Reference:	3136' GE + 30' KB @ 3166.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Tatanka Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

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

Coordinates are relative to: Tatanka Fed Com 804H
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.53°

Separation Factor Plot



LEGEND

Tatanka Fed Com 101H, OH, Plan #1 V0	Tatanka Fed Com 504H, OH, Plan #1 V0	Tatanka Fed Com 704H, OH, Plan #2 V0
Tatanka Fed Com 102H, OH, Plan #1 V0	Tatanka Fed Com 601H, OH, Plan #2 V0	Tatanka Fed Com 705H, OH, Plan #2 V0
Tatanka Fed Com 103H, OH, Plan #1 V0	Tatanka Fed Com 602H, OH, Plan #1 V0	Tatanka Fed Com 801H, OH, Plan #2 V0
Tatanka Fed Com 104H, OH, Plan #1 V0	Tatanka Fed Com 603H, OH, Plan #1 V0	Tatanka Fed Com 802H, OH, Plan #2 V0
Tatanka Fed Com 501H, OH, Plan #1 V0	Tatanka Fed Com 604H, OH, Plan #2 V0	Tatanka Fed Com 803H, OH, Plan #1 V0
Tatanka Fed Com 502H, OH, Plan #1 V0	Tatanka Fed Com 702H, OH, Plan #1 V0	Tatanka Fed Com 805H, OH, Plan #2 V0
Tatanka Fed Com 503H, OH, Plan #1 V0	Tatanka Fed Com 703H, OH, Plan #1 V0	Tatanka Fed Com 806H, OH, Plan #2 V0

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

**PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL**

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

Wells:

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

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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.

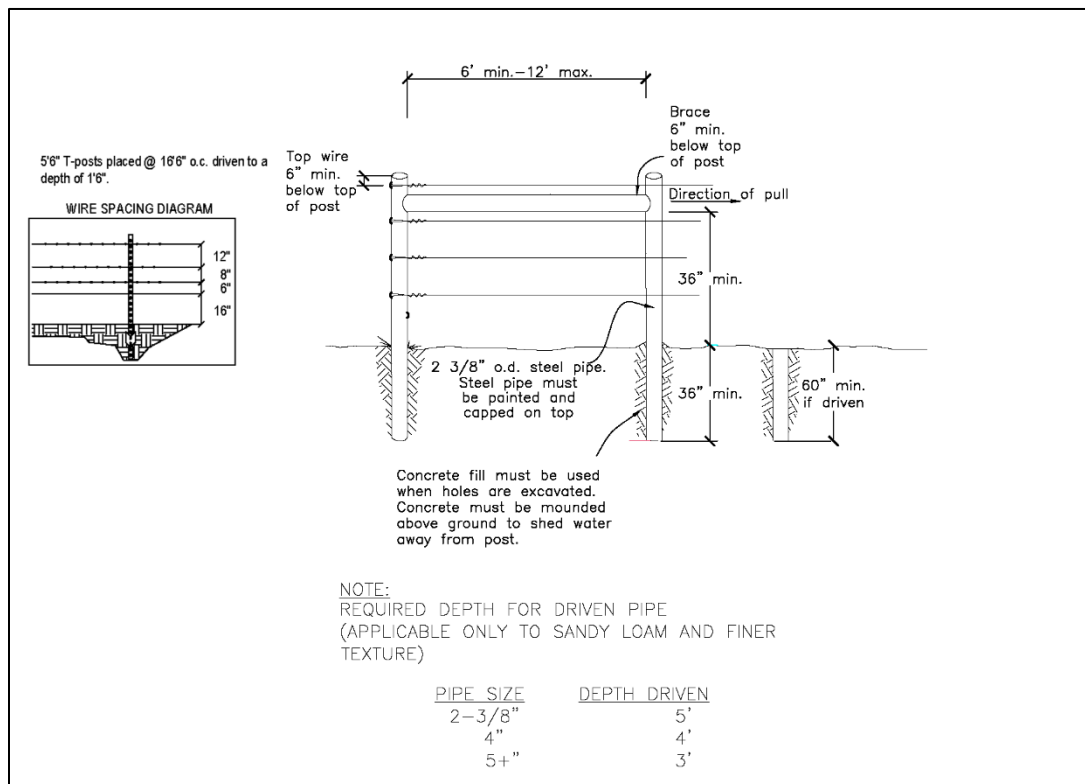
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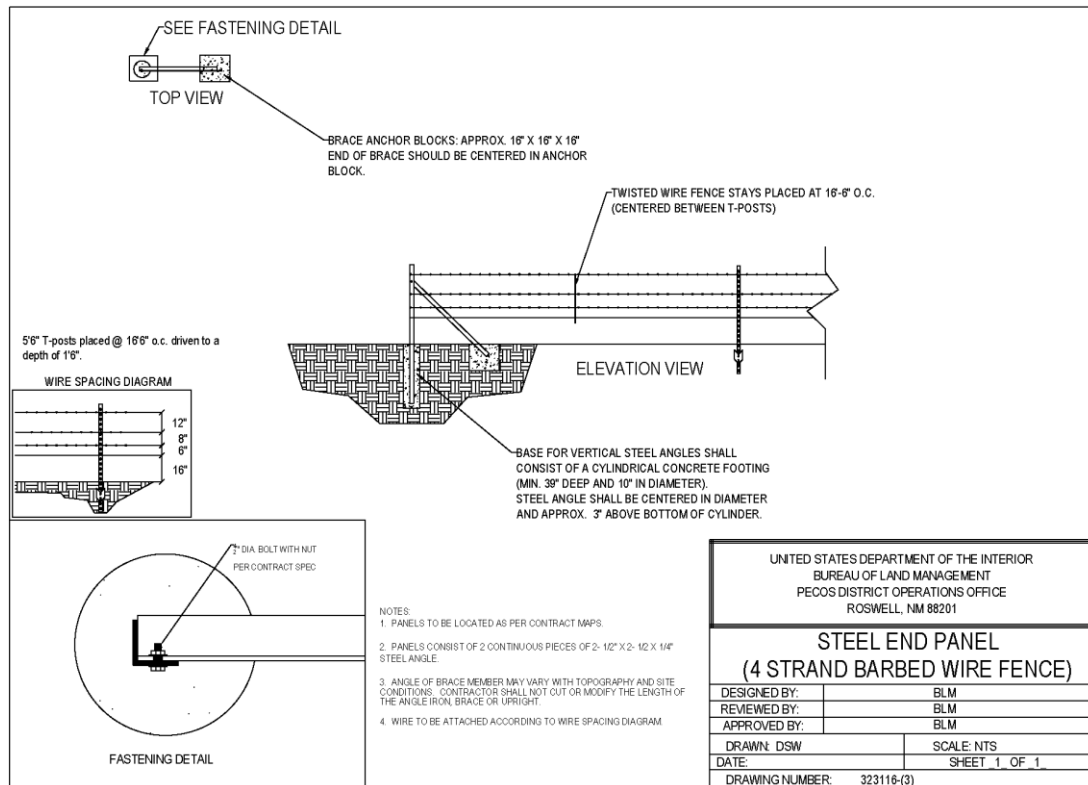
Cattleguards

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

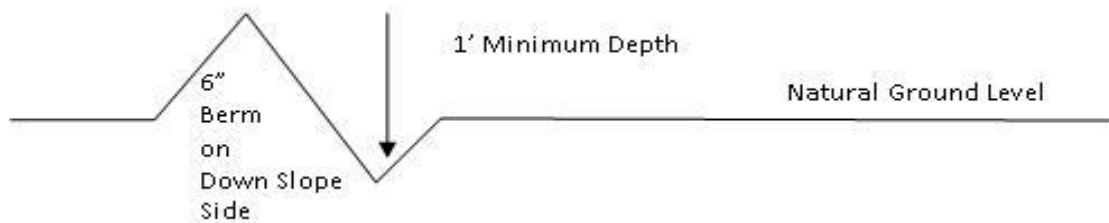
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

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

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

Cross Section of a Typical Lead-off Ditch



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

Formula for Spacing Interval of Lead-off Ditches

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

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

Cattle guards

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

Fence Requirement

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

Public Access

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

Construction Steps

1. Salvage topsoil
2. Construct road

3. Redistribute topsoil
4. Revegetate slopes

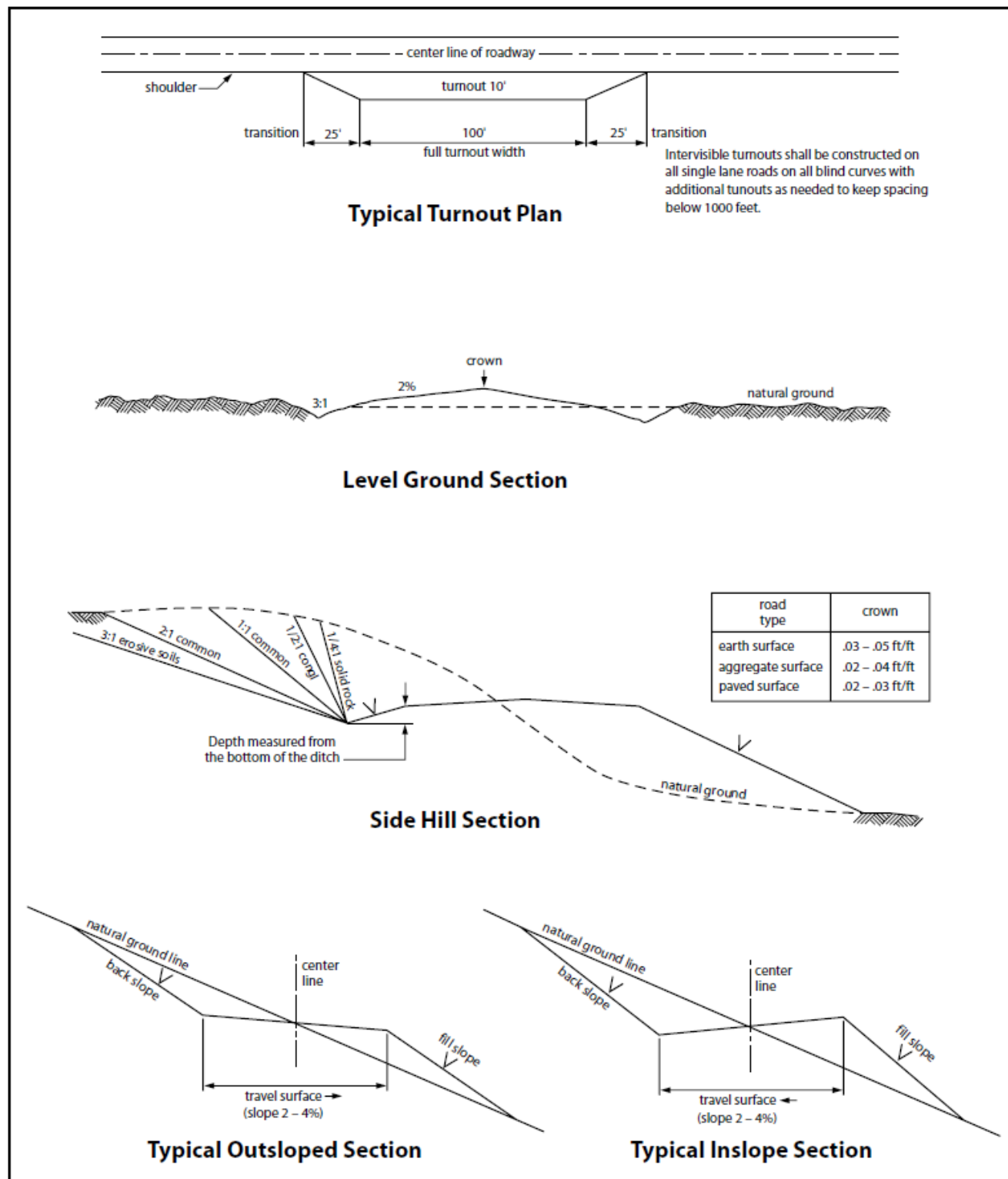


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities

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

Exclosure Netting (Open-top Tanks)

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

Chemical and Fuel Secondary Containment and Exclosure Screening

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

Open-Vent Exhaust Stack Exclosures

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

Containment Structures

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

Painting Requirement

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

B. PIPELINES

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

BURIED PIPELINE STIPULATIONS

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

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

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

9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C.6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

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

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

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

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

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

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

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

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

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

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

☐ Seed Mixture 1

☒ Seed Mixture 2

☐ Seed Mixture 2/LPC

☐ Seed Mixture 3

☐ Seed Mixture 4

☐ Seed Mixture Aplomado Falcon Mixture

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

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

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

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

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

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

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

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

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

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

STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

A copy of the Grant and attachments, including stipulations, survey plat(s) and/or map(s), shall be on location during construction. BLM personnel may request to review a copy of your permit during construction to ensure compliance with all stipulations.

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

1. Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
2. Holder shall comply with all applicable Federal laws and regulations existing or hereafter

enacted or promulgated. In any event, Holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC § 2601 *et seq.* (1982) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant (see 40 CFR, Part 702-799 and in particular, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193). Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. Holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. § 9601, *et seq.* or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, *et seq.*) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way Holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way Holder on the Right-of-Way. This provision applies without regard to whether a release is caused by Holder, its agent, or unrelated third parties.

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

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

c. Acts of God.

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

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

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

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

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

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

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

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

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

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

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

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

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See Stipulation 16 for more information.

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

16. The holder is hereby obligated to comply with procedures established in the Native American

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

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

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

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

C. ELECTRIC LINES

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

STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES

A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

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

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-

way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.

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

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

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

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

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

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

10. The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See Stipulation 11 for more information.

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

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

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

13. Special Stipulations:

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

VIII. INTERIM RECLAMATION

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

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

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

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

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

IX. FINAL ABANDONMENT & RECLAMATION

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

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

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

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

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

Seed Mixture 2, for Sandy Sites

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

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

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

Species

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

*Pounds of pure live seed:

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

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Franklin Mountain Energy LLC
LEASE NO.:	NMNM12280
LOCATION:	Section 35, T.25 S., R.35 E., NMPM
COUNTY:	Lea County, New Mexico

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

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

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

WELL NAME & NO.:	Tatanka Fed Com 804H
SURFACE HOLE FOOTAGE:	998'/S & 1882'/W
BOTTOM HOLE FOOTAGE:	150'/S & 2232'/E

COA

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

A. HYDROGEN SULFIDE

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

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **1150 feet** (a minimum of **25 feet (Lea County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

Option 1 (Single Stage):

- Cement to surface. If cement does not circulate see B.1.a, c-d above.

Option 2:

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

- a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
- b. Second stage above DV tool:
 - Cement to surface. If cement does not circulate, contact the appropriate BLM office.

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

3. The minimum required fill of cement behind the **7-5/8** inch intermediate casing is:
 - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.
4. The minimum required fill of cement behind the **5-1/2** inch production casing is:
 - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.
Cement excess is less than 25%, more cement might be required.

C. PRESSURE CONTROL

1.

Option 1:

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

Option 2:

1. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M) psi**. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.**
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.

- d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
- e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

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

GENERAL REQUIREMENTS

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

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

☒ Eddy County

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

☒ Lea County

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

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

A. CASING

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

B. PRESSURE CONTROL

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

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

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

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

District I

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

District II

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

District III

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

District IV

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

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

CONDITIONS

Action 88327

CONDITIONS

Operator: Franklin Mountain Energy LLC 44 Cook Street Denver, CO 80206	OGRID: 373910
	Action Number: 88327
	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