

Form 3160-3
(June 2015)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

1a. Type of work: ☒ DRILL ☐ REENTER		5. Lease Serial No. NMNM138898
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: ☐ Hydraulic Fracturing ☒ Single Zone ☐ Multiple Zone		7. If Unit or CA Agreement, Name and No.
2. Name of Operator FRANKLIN MOUNTAIN ENERGY LLC [373910]		8. Lease Name and Well No. 1912 FEDERAL [330842] 702H
3a. Address 44 COOK STREET SUITE 1000, DENVER, CO 80206	3b. Phone No. (include area code) (720) 414-7868	9. API Well No. 30-025-48912
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface SWSW / 285 FSL / 765 FWL / LAT 32.109395 / LONG -103.327311 At proposed prod. zone NWNW / 150 FNL / 1176 FWL / LAT 32.137229 / LONG -103.32596		10. Field and Pool, or Exploratory UPR WOLFCAMP [98187]/WC-025 G-09
14. Distance in miles and direction from nearest town or post office*		11. Sec., T. R. M. or Blk. and Survey or Area SEC 24/T25S/R35E/NMP
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 285 feet		12. County or Parish LEA
16. No of acres in lease		13. State NM
17. Spacing Unit dedicated to this well 320.0		
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 35 feet		20. BLM/BIA Bond No. in file FED: NMB001761
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3109 feet		22. Approximate date work will start* 09/01/2020
23. Estimated duration 30 days		
24. Attachments		

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

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

25. Signature (Electronic Submission)	Name (Printed/Typed) JENNIFER SUMMERS / Ph: (720) 414-7868	Date 08/27/2020
Title Field Technician		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) Cody Layton / Ph: (575) 234-5959	Date 04/22/2021
Title Assistant Field Manager Lands & Minerals		
Office Carlsbad Field 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.

GCP Rec 04/26/2021

SL

(Continued on page 2)



Approval Date: 04/22/2021

KZ
05/25/2021

*(Instructions on page 2)

INSTRUCTIONS

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

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

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

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

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

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

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

NOTICES

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

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

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

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

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

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

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

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

Additional Operator Remarks

Location of Well

0. SHL: SWSW / 285 FSL / 765 FWL / TWSP: 25S / RANGE: 35E / SECTION: 24 / LAT: 32.109395 / LONG: -103.327311 (TVD: 0 feet, MD: 0 feet)

PPP: SWSW / 624 FSL / 1175 FWL / TWSP: 25S / RANGE: 35E / SECTION: 24 / LAT: 32.110329 / LONG: -103.325986 (TVD: 11951 feet, MD: 12312 feet)

BHL: NWNW / 150 FNL / 1176 FWL / TWSP: 25S / RANGE: 35E / SECTION: 13 / LAT: 32.137229 / LONG: -103.32596 (TVD: 11857 feet, MD: 22099 feet)

BLM Point of Contact

Name: TENILLE ORTIZ

Title: Legal Instruments Examiner

Phone: (575) 234-2224

Email: tortiz@blm.gov

CONFIDENTIAL

Review and Appeal Rights

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

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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

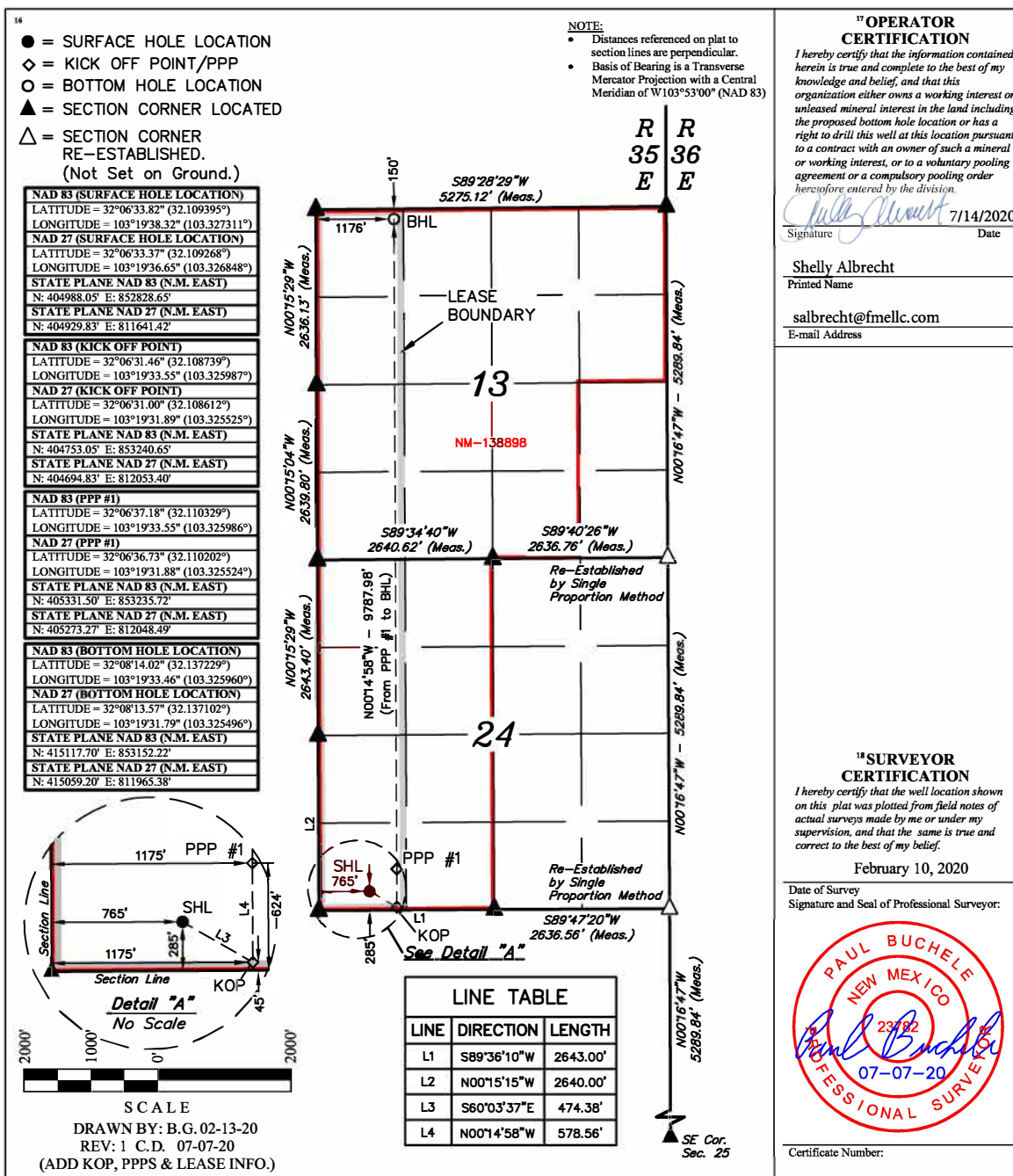
WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-48912	² Pool Code 33813	³ Pool Name JAL WOLF CAMP, WEST
⁴ Property Code 330842	⁵ Property Name 1912 FEDERAL	⁶ Well Number 702H
⁷ OGRID No. 373910	⁸ Operator Name FRANKLIN MOUNTAIN ENERGY LLC	⁹ Elevation 3109.0

10 Surface Location									
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	24	25S	35E		285	SOUTH	765	WEST	LEA

¹¹ Bottom Hole Location If Different From Surface									
UL or lot no. D	Section 13	Township 25S	Range 35E	Lot Idn	Feet from the 150	North/South line NORTH	Feet from the 1176	East/West line WEST	County LEA
¹² Dedicated Acres 320		¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ Order No.			

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



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1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Submit Original
to Appropriate
District Office

GAS CAPTURE PLAN

Date: 12/2/2020

☒ Original

Operator & OGRID No.: Franklin Mountain Energy, LLC 373910

☐ Amended - Reason for Amendment: _____

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomple to new zone, re-frac) activity.

Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).

Well(s)/Production Facility – Name of facility

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
1912 Federal 601H	TBD	M-24-25S-35E	285 FSL 730 FWL	1100 +/-	Flared	New well; expect to tie-in at IP
1912 Federal 701H	TBD	M-24-25S-35E	285 FSL 695 FWL	1100 +/-	Flared	New well; expect to tie-in at IP
1912 Federal 702H	TBD 30-025-48912	M-24-25S-35E	285 FSL 765 FWL	1100 +/-	Flared	New well; expect to tie-in at IP

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to Energy Transfer Company and will be connected to Energy Transfer Company's gathering system located in Lea County, New Mexico. It will require 5,000' of pipeline to connect the facility to low/high pressure gathering system. Franklin Mountain Energy, LLC provides (periodically) to Energy Transfer Company a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, Franklin Mountain Energy, LLC and Energy Transfer Company have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Energy Transfer Company's Keystone Gas Processing Facility located in Sec.5, Block B-2, Kermit, Winkler Co., Texas. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to permanent central tank battery and gas will be sold or flared. Gas sales should start as soon as the wells start producing gas unless there are operational issues on Energy Transfer Company's system at that time. Based on current information, it is Franklin Mountain Energy's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
 - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
 - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
 - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines



1912 Federal 702H

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)	3,109'	30'	30'	0	Sand/Gravels/unconsolidated
Rustler	2,354'	785'			Carbonates
Salado	1,751'	1,388'			Salt, Carbonate & Clastics
Base Salt	-1,050'	4,189'			Shaley Carbonate & Shale
Lamar	-1,816'	4,955'			Carbonate & Clastics
Bell Canyon	-1,868'	5,007'			Sandstone - oil/gas/water
Cherry Canyon	-2,901'	6,040'			Sandstone - oil/gas/water
Brushy Canyon	-4,203'	7,342'			Sand/carb/shales - oil/gas/water
Bone Spring Lime	-5,454'	8,593'			Shale/Carbonates - oil/gas
Avalon	-5,477'	8,616'			Shale/Carbonates - oil/gas
First Bone Spring Sand	-6,866'	10,005'			Sandstone - oil/gas/water
Second Bone Spring Carbonates	-6,994'	10,133'			Shale/Carbonates - oil/gas
Second Bone Spring Sand	-7,388'	10,527'			Sandstone - oil/gas/water
Third Bone Spring Carbonates	-7,917'	11,056'			Shale/Carbonates - oil/gas
Third Bone Spring Sand	-8,540'	11,679'			Sandstone - oil/gas/water
Wolfcamp	-8,791'	11,930'			Overpressure shale/sand- Oil/Gas
HZ Target	-8,818'	11,957'			Overpressure shale/sand- Oil/Gas
Wolfcamp A	-8,826'	11,965'			Overpressure Shale - Oil/Gas
Wolfcamp B	-9,018'	12,157'			Overpressure Shale - Oil/Gas

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

Upper Permian Sands	0- 400'	Fresh Water
Delaware Sands	5,007'	Oil
Bone Spring	10,005'	Oil
Wolfcamp	11,930'	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 casings 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	5400	1.72	1.67	2.90	3.30
Intermediate 7 5/8"	29.7	HCP-110	8280	7150	827	Stinger 564	12050	1.1	1.27	1.81	1.23
Long string 5 1/2"	23	P-110	14520	14520	729	Anaconda 656	22099	1.32	1.4	1.2	1.08

Preliminary plan is to set 7 5/8" string before entering Wolfcamp formation at 11,895'TVD/12,050'MD at 64° Inc due too potential overpressure. Safety factors calculated assuming the well is vertical.



Cementing Program:

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

String Type	Hole Size	Casing Size	Setting Depth	Sacks	Type of cmt	Lead Yield ft ³ /sk	Water gal/sk	TOC ft	Sacks	Type of cmt	Tail Yield ft ³ /sk	Water gal/sk	TOC	Excess
Surf	17.5	13.375	1300	795	Extenda Cem, 13.5 ppg Class C, 3lb/sk Kol-Seal	1.747	9.06	0	334	HalCem TM, 14.8 ppg, Class C, 1% CaCl ₂ , 0.125pps Celo-Flake	1.349	6.51	1000	100%
Int1	12.25	9.625	5400	1167	Neocem TM, 11.5 ppg, Class C 5% Salt, 0.125 pps Poly-E-Flake, 3lb/sk Kol-Seal	2.444	14.32	0	153	HalCem TM, 14.8 ppg, Class C, 0.1% HR 800 .125 pps Poly-E-Flake	1.334	6.42	5100	100%
Int2	8.75	7.625	12050	343	NeoCem, 11 ppg, Class C 3lb/sk Bridgemaker Gel, 5% Salt, 5pps LCM, 0.25pps Cello-Flake	2.798	17.15	4400	112	NeoCem 13.2 ppg, Class C 0.25 pps Cello-Flake, 2% CaCl ₂	1.44	7.29	11050	50%
Prod	6.75	5.5	22099	814	NeoCem, 13.5 ppg, Gas Migration Control	1.357	6.65	11050						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 ½" x 7" variable pipe rams on top. All BOPE will be tested in accordance with Onshore Oil & Gas order No. 2.

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

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

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

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



6. Types and characteristics of the proposed mud system:

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

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 – 1,300'	Fresh - Gel	8.6-8.8	28-34	N/c
1,300' – 12,050'	Brine	8.8-10.2	28-34	N/c
12,050' – 22,099' Lateral	Oil Base	10.0-11.0	58-68	3 - 6

The highest mud weight needed to balance formation is expected to be 10-11 ppg. In order to maintain hole stability, mud weights up to 12.5 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 11,951' TVD (deepest point of the well) is 195F with an estimated maximum bottom-hole pressure (BHP) at the same point of 7,768 psig (based on 12.5 ppg MW). Hydrogen sulfate may be present in the area. All necessary precautions will be taken before drilling operations commence. See Hydrogen Sulfide Plan below:

10. Hydrogen Sulfide Plan:

A. All personnel shall receive proper awareness H₂S training.

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

C. Required Emergency Equipment

a. Well Control Equipment

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

ii. Choke manifold with a remotely operated hydraulic choke.

iii. Mud/gas separator

b. Protective equipment for essential personnel

i. Breathing Apparatus

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

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



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

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

11. Anticipated starting date and duration of operations:

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

**12. Disposal/environmental concerns:**

- (A) Drilled cuttings will be hauled to and disposed of in a state-certified disposal site.
- (B) Non-hazardous waste mud/cement from the drilling process will be 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 Cameron 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.

Released to Imaging: 5/26/2021 8:35:47 AM

Franklin Mountain Energy

Project: Lea County, NM (NAD83)
Site: 1912 Federal
Well: 1912 Federal 702H
Wellbore: OH
Design: Plan #2



Azimuths to Grid North
True North: -0.53°
Magnetic North: 6.04°

Magnetic Field
Strength: 47586.8nT
Dip Angle: 59.88°
Date: 3/4/2020
Model: IGRF2020

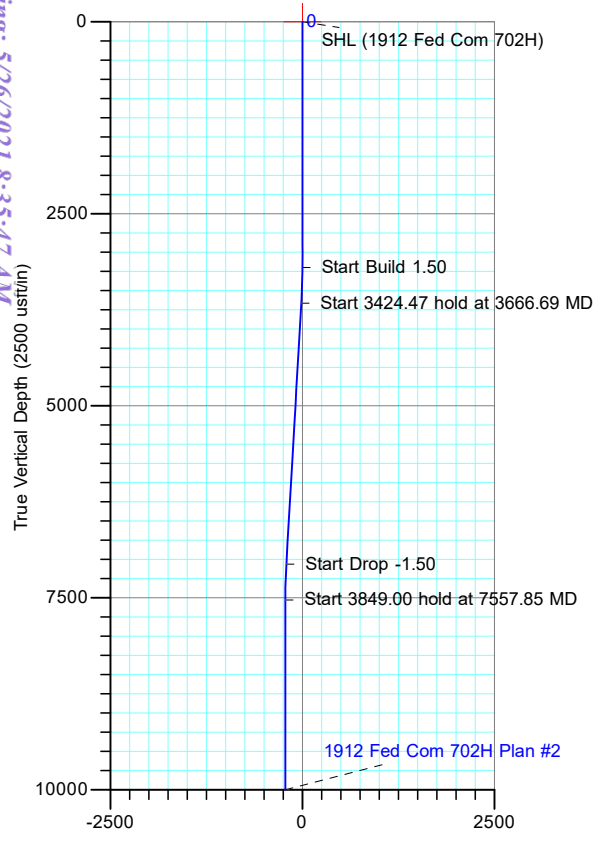
PROJECT DETAILS: Lea County, NM (NAD83)

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



Received by OCD: 4/26/2021 10:38:11 AM

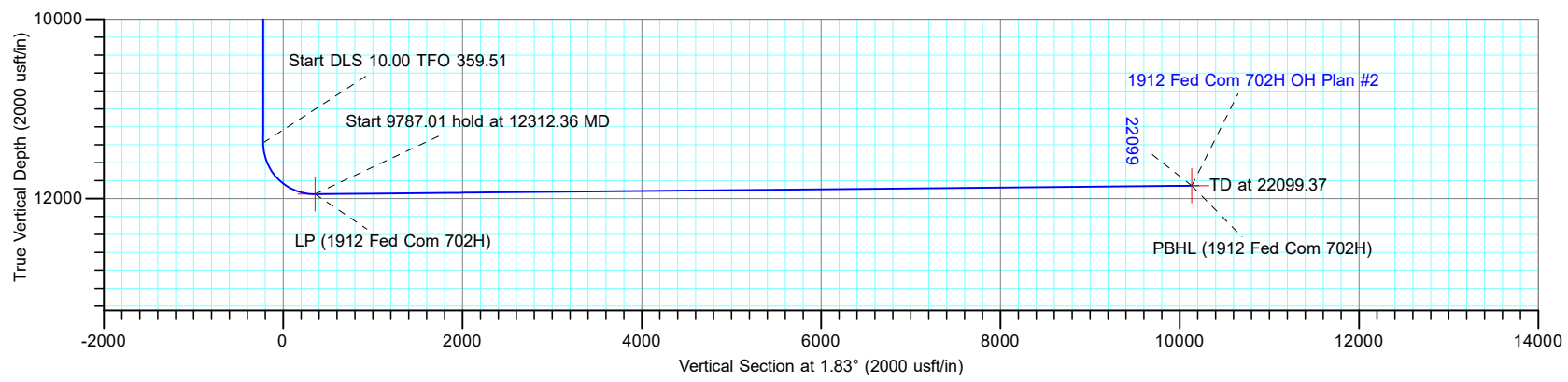
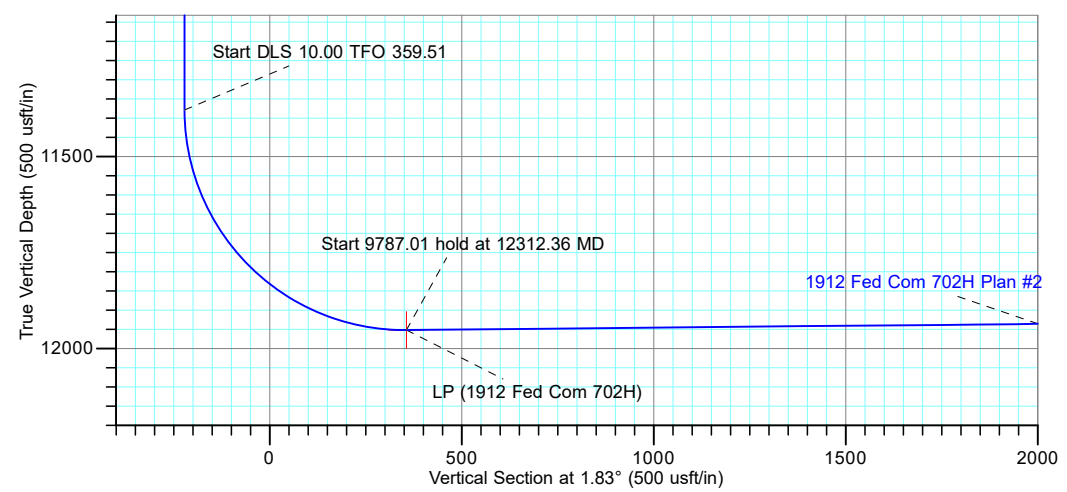
3109.0' GE + 30' KB @ 3139.00usft



SECTION DETAILS										Annotation
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		Start Build 1.50
3200.00	0.00	0.00	3200.00	0.00	0.00	0.00	0.00	0.00		Start 3424.47 hold at 3666.69 MD
3666.69	7.00	119.70	3665.53	-14.11	24.73	1.50	119.70	-13.31		Start Drop -1.50
7091.16	7.00	119.70	7064.47	-220.89	387.27	0.00	0.00	-208.42		Start 3849.00 hold at 7557.85 MD
7557.85	0.00	0.00	7530.00	-235.00	412.00	1.50	180.00	-221.73		Start DLS 10.00 TFO 359.51
11406.85	0.00	0.00	11379.00	-235.00	412.00	0.00	0.00	-221.73		Start 9787.01 hold at 12312.36 MD
12312.36	90.55	359.51	11951.93	343.45	407.06	10.00	359.51	356.27		TD at 22099.37
22099.37	90.55	359.51	11857.71	10129.65	323.57	0.00	0.00	10134.82		

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
LP (1912 Fed Com 702H)	11951.93	343.45	407.06	32.110329	-103.325986
PBHL (1912 Fed Com 702H)	11857.71	10129.65	323.57	32.137229	-103.325960
SHL (1912 Fed Com 702H)	0.00	0.00	0.00	32.109395	-103.327311



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

Plan: Plan #2 (1912 Fed Com 702H/OH)
1912 Fed Com
Created By: Dustin Ault Date: 22:47, June 21 2020
Date: _____
Approved: _____ Date: _____

Page 13 of 109

Franklin Mountain Energy

Project: Lea County, NM (NAD83)
 Site: 1912 Fed Com
 Well: 1912 Fed Com 702H
 Wellbore: OH
 Design: Plan #2



Azimuths to Grid North
 True North: -0.53°
 Magnetic North: 6.04°

Magnetic Field
 Strength: 47586.8nT
 Dip Angle: 59.88°
 Date: 3/4/2020
 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

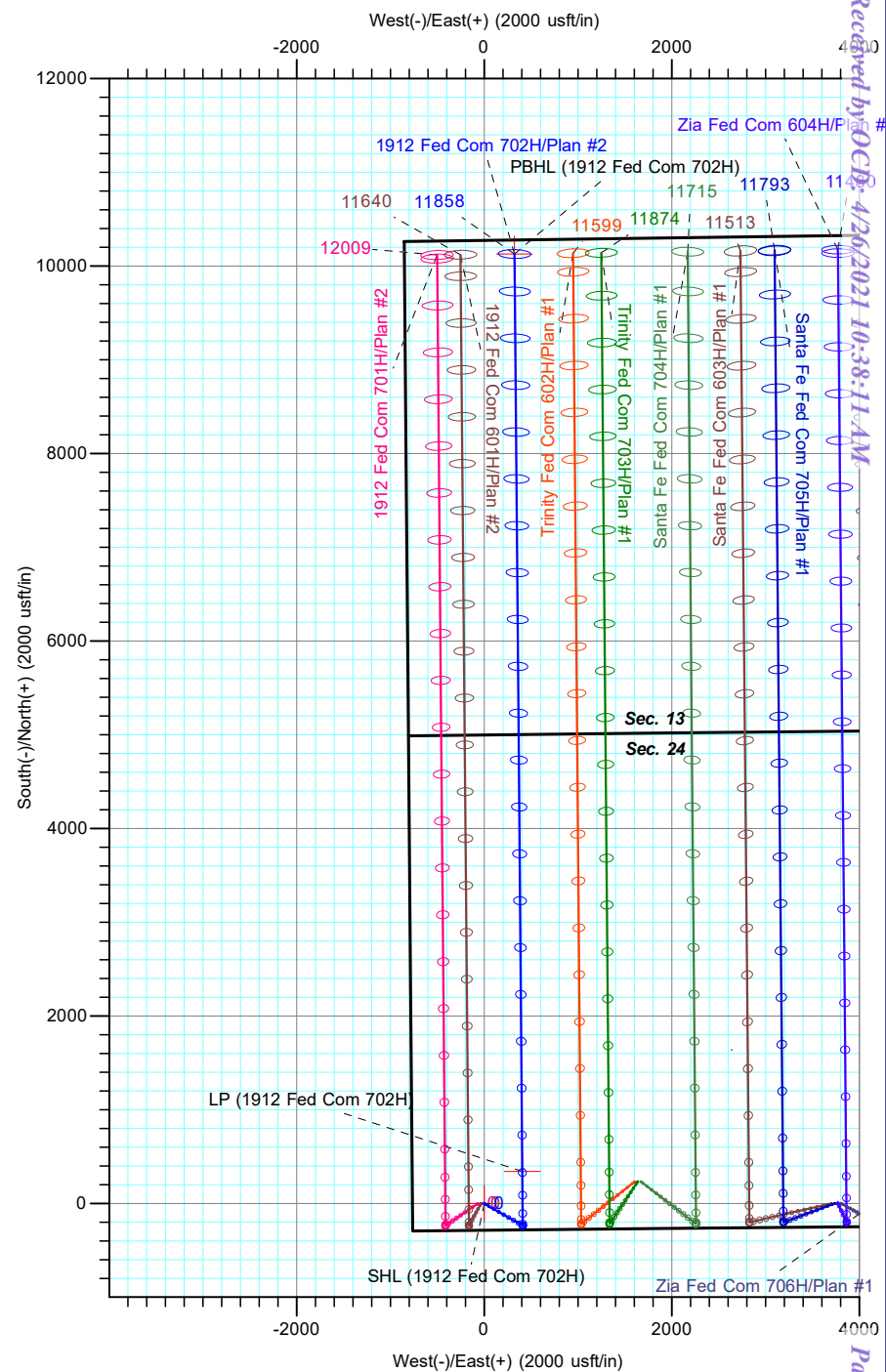
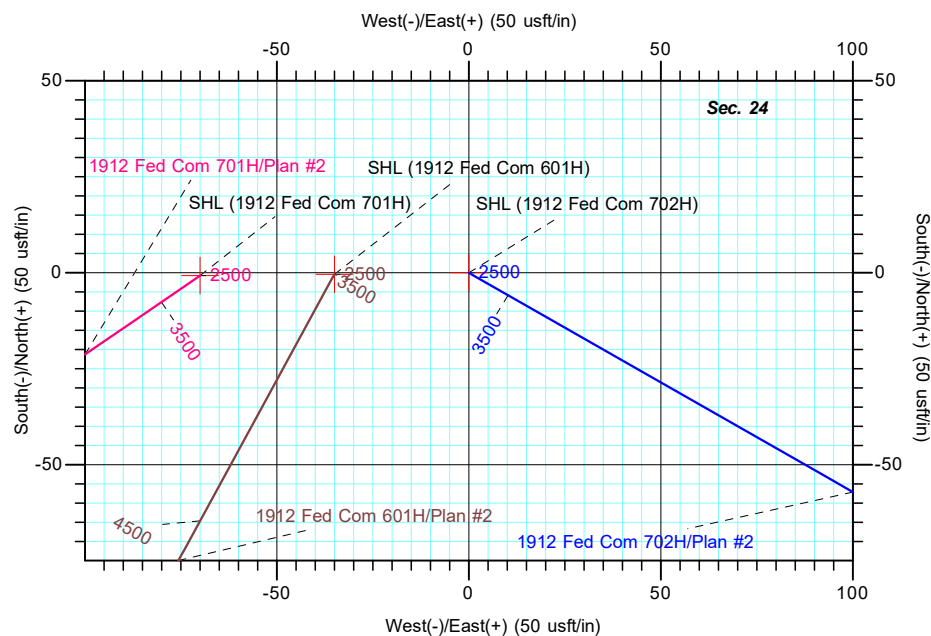


DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
LP (1912 Fed Com 702H)	11951.93	343.45	407.06	405331.50	853235.71	32.110329	-103.325986
PBHL (1912 Fed Com 702H)	11857.71	10129.65	323.57	415117.70	853152.22	32.137229	-103.325960
SHL (1912 Fed Com 702H)	0.00	0.00	0.00	404988.05	852828.65	32.109395	-103.327311

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3200.00	0.00	0.00	3200.00	0.00	0.00	0.00	0.00	0.00	Start Build 1.50
3666.69	7.00	119.70	3665.53	-14.11	24.73	1.50	119.70	-13.31	Start 3424.47 hold at 3666.69 MD
7091.16	7.00	119.70	7064.47	-220.89	387.27	0.00	0.00	-208.42	Start Drop -1.50
7557.85	0.00	0.00	7530.00	-235.00	412.00	1.50	180.00	-221.73	Start 3849.00 hold at 7557.85 MD
11406.85	0.00	0.00	11379.00	-235.00	412.00	0.00	0.00	-221.73	Start DLS 10.00 TFO 359.51
12312.36	90.55	359.51	11951.93	343.45	407.06	10.00	359.51	356.27	Start 9787.01 hold at 12312.36 MD
22099.37	90.55	359.51	11857.71	10129.65	323.57	0.00	0.00	10134.82	TD at 22099.37



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

Plan: Plan #2 (1912 Fed Com 702H/OH)
 1912 Fed Com
 Created By: Dustin Ault Date: 22:48, June 21 2020
 Date: _____
 Approved: _____ Date: _____



Franklin Mountain Energy

Lea County, NM (NAD83)

1912 Fed Com

1912 Fed Com 702H

OH

Plan: Plan #2

Standard Planning Report

21 June, 2020





Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Company:	Franklin Mountain Energy	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Project:	Lea County, NM (NAD83)	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site:	1912 Fed Com	North Reference:	Grid
Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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	1912 Fed Com			
Site Position:		Northing:	404,987.32 usft	Latitude: 32.109395
From: Map		Easting:	852,758.67 usft	Longitude: -103.327537
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.53 °

Well	1912 Fed Com 702H			
Well Position	+N/-S	0.73 usft	Northing:	404,988.05 usft
	+E/-W	69.98 usft	Easting:	852,828.65 usft
Position Uncertainty		0.00 usft	Wellhead Elevation:	Ground Level: 3,109.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	3/4/2020	6.57	59.88	47,586.81334831

Design	Plan #2			
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	1.83

Plan Survey Tool Program	Date	6/21/2020		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	22,099.29 Plan #2 (OH)	OWSG (Rev2) MWD	
			OWSG MWD - Standard	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,666.69	7.00	119.70	3,665.53	-14.11	24.73	1.50	1.50	0.00	119.70	
7,091.16	7.00	119.70	7,064.47	-220.89	387.27	0.00	0.00	0.00	0.00	
7,557.85	0.00	0.00	7,530.00	-235.00	412.00	1.50	-1.50	0.00	180.00	
11,406.85	0.00	0.00	11,379.00	-235.00	412.00	0.00	0.00	0.00	0.00	
12,312.37	90.55	359.51	11,951.93	343.45	407.06	10.00	10.00	-0.05	359.51	
22,099.37	90.55	359.51	11,857.71	10,129.65	323.57	0.00	0.00	0.00	0.00	PBHL (1912 Fed Corr)



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Company:	Franklin Mountain Energy	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Project:	Lea County, NM (NAD83)	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site:	1912 Fed Com	North Reference:	Grid
Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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 (1912 Fed Com 702H)									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 1.50									
3,300.00	1.50	119.70	3,299.99	-0.65	1.14	-0.61	1.50	1.50	0.00
3,400.00	3.00	119.70	3,399.91	-2.59	4.55	-2.45	1.50	1.50	0.00
3,500.00	4.50	119.70	3,499.69	-5.83	10.23	-5.50	1.50	1.50	0.00
3,600.00	6.00	119.70	3,599.27	-10.37	18.18	-9.78	1.50	1.50	0.00
3,666.69	7.00	119.70	3,665.53	-14.11	24.73	-13.31	1.50	1.50	0.00
Start 3424.47 hold at 3666.69 MD									
3,700.00	7.00	119.70	3,698.59	-16.12	28.26	-15.21	0.00	0.00	0.00
3,800.00	7.00	119.70	3,797.85	-22.16	38.85	-20.91	0.00	0.00	0.00
3,900.00	7.00	119.70	3,897.10	-28.20	49.43	-26.60	0.00	0.00	0.00
4,000.00	7.00	119.70	3,996.36	-34.23	60.02	-32.30	0.00	0.00	0.00
4,100.00	7.00	119.70	4,095.61	-40.27	70.61	-38.00	0.00	0.00	0.00
4,200.00	7.00	119.70	4,194.86	-46.31	81.19	-43.70	0.00	0.00	0.00
4,300.00	7.00	119.70	4,294.12	-52.35	91.78	-49.39	0.00	0.00	0.00
4,400.00	7.00	119.70	4,393.37	-58.39	102.37	-55.09	0.00	0.00	0.00
4,500.00	7.00	119.70	4,492.63	-64.43	112.95	-60.79	0.00	0.00	0.00
4,600.00	7.00	119.70	4,591.88	-70.47	123.54	-66.49	0.00	0.00	0.00
4,700.00	7.00	119.70	4,691.14	-76.50	134.13	-72.18	0.00	0.00	0.00
4,800.00	7.00	119.70	4,790.39	-82.54	144.71	-77.88	0.00	0.00	0.00



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Company:	Franklin Mountain Energy	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Project:	Lea County, NM (NAD83)	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site:	1912 Fed Com	North Reference:	Grid
Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,900.00	7.00	119.70	4,889.65	-88.58	155.30	-83.58	0.00	0.00	0.00
5,000.00	7.00	119.70	4,988.90	-94.62	165.89	-89.27	0.00	0.00	0.00
5,100.00	7.00	119.70	5,088.16	-100.66	176.47	-94.97	0.00	0.00	0.00
5,200.00	7.00	119.70	5,187.41	-106.70	187.06	-100.67	0.00	0.00	0.00
5,300.00	7.00	119.70	5,286.66	-112.73	197.64	-106.37	0.00	0.00	0.00
5,400.00	7.00	119.70	5,385.92	-118.77	208.23	-112.06	0.00	0.00	0.00
5,500.00	7.00	119.70	5,485.17	-124.81	218.82	-117.76	0.00	0.00	0.00
5,600.00	7.00	119.70	5,584.43	-130.85	229.40	-123.46	0.00	0.00	0.00
5,700.00	7.00	119.70	5,683.68	-136.89	239.99	-129.16	0.00	0.00	0.00
5,800.00	7.00	119.70	5,782.94	-142.93	250.58	-134.85	0.00	0.00	0.00
5,900.00	7.00	119.70	5,882.19	-148.96	261.16	-140.55	0.00	0.00	0.00
6,000.00	7.00	119.70	5,981.45	-155.00	271.75	-146.25	0.00	0.00	0.00
6,100.00	7.00	119.70	6,080.70	-161.04	282.34	-151.95	0.00	0.00	0.00
6,200.00	7.00	119.70	6,179.95	-167.08	292.92	-157.64	0.00	0.00	0.00
6,300.00	7.00	119.70	6,279.21	-173.12	303.51	-163.34	0.00	0.00	0.00
6,400.00	7.00	119.70	6,378.46	-179.16	314.10	-169.04	0.00	0.00	0.00
6,500.00	7.00	119.70	6,477.72	-185.20	324.68	-174.73	0.00	0.00	0.00
6,600.00	7.00	119.70	6,576.97	-191.23	335.27	-180.43	0.00	0.00	0.00
6,700.00	7.00	119.70	6,676.23	-197.27	345.86	-186.13	0.00	0.00	0.00
6,800.00	7.00	119.70	6,775.48	-203.31	356.44	-191.83	0.00	0.00	0.00
6,900.00	7.00	119.70	6,874.74	-209.35	367.03	-197.52	0.00	0.00	0.00
7,000.00	7.00	119.70	6,973.99	-215.39	377.62	-203.22	0.00	0.00	0.00
7,091.16	7.00	119.70	7,064.47	-220.89	387.27	-208.42	0.00	0.00	0.00
Start Drop -1.50									
7,100.00	6.87	119.70	7,073.25	-221.42	388.19	-208.91	1.50	-1.50	0.00
7,200.00	5.37	119.70	7,172.67	-226.70	397.45	-213.90	1.50	-1.50	0.00
7,300.00	3.87	119.70	7,272.35	-230.69	404.44	-217.66	1.50	-1.50	0.00
7,400.00	2.37	119.70	7,372.20	-233.38	409.17	-220.20	1.50	-1.50	0.00
7,500.00	0.87	119.70	7,472.15	-234.78	411.62	-221.52	1.50	-1.50	0.00
7,557.85	0.00	0.00	7,530.00	-235.00	412.00	-221.73	1.50	-1.50	0.00
Start 3849.00 hold at 7557.85 MD									
7,600.00	0.00	0.00	7,572.15	-235.00	412.00	-221.73	0.00	0.00	0.00
7,700.00	0.00	0.00	7,672.15	-235.00	412.00	-221.73	0.00	0.00	0.00
7,800.00	0.00	0.00	7,772.15	-235.00	412.00	-221.73	0.00	0.00	0.00
7,900.00	0.00	0.00	7,872.15	-235.00	412.00	-221.73	0.00	0.00	0.00
8,000.00	0.00	0.00	7,972.15	-235.00	412.00	-221.73	0.00	0.00	0.00
8,100.00	0.00	0.00	8,072.15	-235.00	412.00	-221.73	0.00	0.00	0.00
8,200.00	0.00	0.00	8,172.15	-235.00	412.00	-221.73	0.00	0.00	0.00
8,300.00	0.00	0.00	8,272.15	-235.00	412.00	-221.73	0.00	0.00	0.00
8,400.00	0.00	0.00	8,372.15	-235.00	412.00	-221.73	0.00	0.00	0.00
8,500.00	0.00	0.00	8,472.15	-235.00	412.00	-221.73	0.00	0.00	0.00
8,600.00	0.00	0.00	8,572.15	-235.00	412.00	-221.73	0.00	0.00	0.00
8,700.00	0.00	0.00	8,672.15	-235.00	412.00	-221.73	0.00	0.00	0.00
8,800.00	0.00	0.00	8,772.15	-235.00	412.00	-221.73	0.00	0.00	0.00
8,900.00	0.00	0.00	8,872.15	-235.00	412.00	-221.73	0.00	0.00	0.00
9,000.00	0.00	0.00	8,972.15	-235.00	412.00	-221.73	0.00	0.00	0.00
9,100.00	0.00	0.00	9,072.15	-235.00	412.00	-221.73	0.00	0.00	0.00
9,200.00	0.00	0.00	9,172.15	-235.00	412.00	-221.73	0.00	0.00	0.00
9,300.00	0.00	0.00	9,272.15	-235.00	412.00	-221.73	0.00	0.00	0.00
9,400.00	0.00	0.00	9,372.15	-235.00	412.00	-221.73	0.00	0.00	0.00
9,500.00	0.00	0.00	9,472.15	-235.00	412.00	-221.73	0.00	0.00	0.00
9,600.00	0.00	0.00	9,572.15	-235.00	412.00	-221.73	0.00	0.00	0.00
9,700.00	0.00	0.00	9,672.15	-235.00	412.00	-221.73	0.00	0.00	0.00
9,800.00	0.00	0.00	9,772.15	-235.00	412.00	-221.73	0.00	0.00	0.00



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Company:	Franklin Mountain Energy	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Project:	Lea County, NM (NAD83)	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site:	1912 Fed Com	North Reference:	Grid
Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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	9,872.15	-235.00	412.00	-221.73	0.00	0.00	0.00
10,000.00	0.00	0.00	9,972.15	-235.00	412.00	-221.73	0.00	0.00	0.00
10,100.00	0.00	0.00	10,072.15	-235.00	412.00	-221.73	0.00	0.00	0.00
10,200.00	0.00	0.00	10,172.15	-235.00	412.00	-221.73	0.00	0.00	0.00
10,300.00	0.00	0.00	10,272.15	-235.00	412.00	-221.73	0.00	0.00	0.00
10,400.00	0.00	0.00	10,372.15	-235.00	412.00	-221.73	0.00	0.00	0.00
10,500.00	0.00	0.00	10,472.15	-235.00	412.00	-221.73	0.00	0.00	0.00
10,600.00	0.00	0.00	10,572.15	-235.00	412.00	-221.73	0.00	0.00	0.00
10,700.00	0.00	0.00	10,672.15	-235.00	412.00	-221.73	0.00	0.00	0.00
10,800.00	0.00	0.00	10,772.15	-235.00	412.00	-221.73	0.00	0.00	0.00
10,900.00	0.00	0.00	10,872.15	-235.00	412.00	-221.73	0.00	0.00	0.00
11,000.00	0.00	0.00	10,972.15	-235.00	412.00	-221.73	0.00	0.00	0.00
11,100.00	0.00	0.00	11,072.15	-235.00	412.00	-221.73	0.00	0.00	0.00
11,200.00	0.00	0.00	11,172.15	-235.00	412.00	-221.73	0.00	0.00	0.00
11,300.00	0.00	0.00	11,272.15	-235.00	412.00	-221.73	0.00	0.00	0.00
11,406.85	0.00	0.00	11,379.00	-235.00	412.00	-221.73	0.00	0.00	0.00
Start DLS 10.00 TFO 359.51									
11,450.00	4.32	359.51	11,422.11	-233.38	411.99	-220.10	10.00	10.00	0.00
11,500.00	9.32	359.51	11,471.74	-227.44	411.94	-214.18	10.00	10.00	0.00
11,550.00	14.32	359.51	11,520.67	-217.21	411.85	-203.95	10.00	10.00	0.00
11,600.00	19.32	359.51	11,568.51	-202.75	411.72	-189.50	10.00	10.00	0.00
11,650.00	24.32	359.51	11,614.92	-184.18	411.57	-170.94	10.00	10.00	0.00
11,700.00	29.32	359.51	11,659.53	-161.63	411.37	-148.41	10.00	10.00	0.00
11,750.00	34.32	359.51	11,702.00	-135.28	411.15	-122.08	10.00	10.00	0.00
11,800.00	39.32	359.51	11,742.02	-105.33	410.89	-92.16	10.00	10.00	0.00
11,850.00	44.32	359.51	11,779.27	-72.00	410.61	-58.86	10.00	10.00	0.00
11,900.00	49.32	359.51	11,813.48	-35.56	410.30	-22.44	10.00	10.00	0.00
11,950.00	54.32	359.51	11,844.38	3.73	409.96	16.81	10.00	10.00	0.00
12,000.00	59.32	359.51	11,871.74	45.56	409.61	58.61	10.00	10.00	0.00
12,050.00	64.32	359.51	11,895.34	89.61	409.23	102.63	10.00	10.00	0.00
12,100.00	69.32	359.51	11,915.02	135.56	408.84	148.54	10.00	10.00	0.00
12,150.00	74.32	359.51	11,930.62	183.05	408.43	195.99	10.00	10.00	0.00
12,200.00	79.32	359.51	11,942.02	231.71	408.02	244.62	10.00	10.00	0.00
12,250.00	84.32	359.51	11,949.14	281.18	407.60	294.05	10.00	10.00	0.00
12,300.00	89.32	359.51	11,951.92	331.09	407.17	343.92	10.00	10.00	0.00
12,312.36	90.55	359.51	11,951.93	343.45	407.06	356.27	10.00	10.00	0.00
Start 9787.01 hold at 12312.36 MD - LP (1912 Fed Com 702H)									
12,400.00	90.55	359.51	11,951.09	431.08	406.32	443.83	0.00	0.00	0.00
12,500.00	90.55	359.51	11,950.13	531.07	405.46	543.75	0.00	0.00	0.00
12,600.00	90.55	359.51	11,949.16	631.06	404.61	643.66	0.00	0.00	0.00
12,700.00	90.55	359.51	11,948.20	731.06	403.76	743.57	0.00	0.00	0.00
12,800.00	90.55	359.51	11,947.24	831.05	402.90	843.49	0.00	0.00	0.00
12,900.00	90.55	359.51	11,946.27	931.04	402.05	943.40	0.00	0.00	0.00
13,000.00	90.55	359.51	11,945.31	1,031.03	401.20	1,043.31	0.00	0.00	0.00
13,100.00	90.55	359.51	11,944.35	1,131.02	400.35	1,143.23	0.00	0.00	0.00
13,200.00	90.55	359.51	11,943.39	1,231.01	399.49	1,243.14	0.00	0.00	0.00
13,300.00	90.55	359.51	11,942.42	1,331.01	398.64	1,343.05	0.00	0.00	0.00
13,400.00	90.55	359.51	11,941.46	1,431.00	397.79	1,442.97	0.00	0.00	0.00
13,500.00	90.55	359.51	11,940.50	1,530.99	396.93	1,542.88	0.00	0.00	0.00
13,600.00	90.55	359.51	11,939.54	1,630.98	396.08	1,642.80	0.00	0.00	0.00
13,700.00	90.55	359.51	11,938.57	1,730.97	395.23	1,742.71	0.00	0.00	0.00
13,800.00	90.55	359.51	11,937.61	1,830.96	394.37	1,842.62	0.00	0.00	0.00
13,900.00	90.55	359.51	11,936.65	1,930.96	393.52	1,942.54	0.00	0.00	0.00
14,000.00	90.55	359.51	11,935.68	2,030.95	392.67	2,042.45	0.00	0.00	0.00



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Company:	Franklin Mountain Energy	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Project:	Lea County, NM (NAD83)	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site:	1912 Fed Com	North Reference:	Grid
Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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)
14,100.00	90.55	359.51	11,934.72	2,130.94	391.81	2,142.36	0.00	0.00	0.00
14,200.00	90.55	359.51	11,933.76	2,230.93	390.96	2,242.28	0.00	0.00	0.00
14,300.00	90.55	359.51	11,932.80	2,330.92	390.11	2,342.19	0.00	0.00	0.00
14,400.00	90.55	359.51	11,931.83	2,430.92	389.25	2,442.10	0.00	0.00	0.00
14,500.00	90.55	359.51	11,930.87	2,530.91	388.40	2,542.02	0.00	0.00	0.00
14,600.00	90.55	359.51	11,929.91	2,630.90	387.55	2,641.93	0.00	0.00	0.00
14,700.00	90.55	359.51	11,928.95	2,730.89	386.70	2,741.84	0.00	0.00	0.00
14,800.00	90.55	359.51	11,927.98	2,830.88	385.84	2,841.76	0.00	0.00	0.00
14,900.00	90.55	359.51	11,927.02	2,930.87	384.99	2,941.67	0.00	0.00	0.00
15,000.00	90.55	359.51	11,926.06	3,030.87	384.14	3,041.58	0.00	0.00	0.00
15,100.00	90.55	359.51	11,925.09	3,130.86	383.28	3,141.50	0.00	0.00	0.00
15,200.00	90.55	359.51	11,924.13	3,230.85	382.43	3,241.41	0.00	0.00	0.00
15,300.00	90.55	359.51	11,923.17	3,330.84	381.58	3,341.33	0.00	0.00	0.00
15,400.00	90.55	359.51	11,922.21	3,430.83	380.72	3,441.24	0.00	0.00	0.00
15,500.00	90.55	359.51	11,921.24	3,530.82	379.87	3,541.15	0.00	0.00	0.00
15,600.00	90.55	359.51	11,920.28	3,630.82	379.02	3,641.07	0.00	0.00	0.00
15,700.00	90.55	359.51	11,919.32	3,730.81	378.16	3,740.98	0.00	0.00	0.00
15,800.00	90.55	359.51	11,918.36	3,830.80	377.31	3,840.89	0.00	0.00	0.00
15,900.00	90.55	359.51	11,917.39	3,930.79	376.46	3,940.81	0.00	0.00	0.00
16,000.00	90.55	359.51	11,916.43	4,030.78	375.60	4,040.72	0.00	0.00	0.00
16,100.00	90.55	359.51	11,915.47	4,130.77	374.75	4,140.63	0.00	0.00	0.00
16,200.00	90.55	359.51	11,914.50	4,230.77	373.90	4,240.55	0.00	0.00	0.00
16,300.00	90.55	359.51	11,913.54	4,330.76	373.05	4,340.46	0.00	0.00	0.00
16,400.00	90.55	359.51	11,912.58	4,430.75	372.19	4,440.37	0.00	0.00	0.00
16,500.00	90.55	359.51	11,911.62	4,530.74	371.34	4,540.29	0.00	0.00	0.00
16,600.00	90.55	359.51	11,910.65	4,630.73	370.49	4,640.20	0.00	0.00	0.00
16,700.00	90.55	359.51	11,909.69	4,730.73	369.63	4,740.11	0.00	0.00	0.00
16,800.00	90.55	359.51	11,908.73	4,830.72	368.78	4,840.03	0.00	0.00	0.00
16,900.00	90.55	359.51	11,907.77	4,930.71	367.93	4,939.94	0.00	0.00	0.00
17,000.00	90.55	359.51	11,906.80	5,030.70	367.07	5,039.86	0.00	0.00	0.00
17,100.00	90.55	359.51	11,905.84	5,130.69	366.22	5,139.77	0.00	0.00	0.00
17,200.00	90.55	359.51	11,904.88	5,230.68	365.37	5,239.68	0.00	0.00	0.00
17,300.00	90.55	359.51	11,903.91	5,330.68	364.51	5,339.60	0.00	0.00	0.00
17,400.00	90.55	359.51	11,902.95	5,430.67	363.66	5,439.51	0.00	0.00	0.00
17,500.00	90.55	359.51	11,901.99	5,530.66	362.81	5,539.42	0.00	0.00	0.00
17,600.00	90.55	359.51	11,901.03	5,630.65	361.95	5,639.34	0.00	0.00	0.00
17,700.00	90.55	359.51	11,900.06	5,730.64	361.10	5,739.25	0.00	0.00	0.00
17,800.00	90.55	359.51	11,899.10	5,830.63	360.25	5,839.16	0.00	0.00	0.00
17,900.00	90.55	359.51	11,898.14	5,930.63	359.40	5,939.08	0.00	0.00	0.00
18,000.00	90.55	359.51	11,897.18	6,030.62	358.54	6,038.99	0.00	0.00	0.00
18,100.00	90.55	359.51	11,896.21	6,130.61	357.69	6,138.90	0.00	0.00	0.00
18,200.00	90.55	359.51	11,895.25	6,230.60	356.84	6,238.82	0.00	0.00	0.00
18,300.00	90.55	359.51	11,894.29	6,330.59	355.98	6,338.73	0.00	0.00	0.00
18,400.00	90.55	359.51	11,893.32	6,430.58	355.13	6,438.64	0.00	0.00	0.00
18,500.00	90.55	359.51	11,892.36	6,530.58	354.28	6,538.56	0.00	0.00	0.00
18,600.00	90.55	359.51	11,891.40	6,630.57	353.42	6,638.47	0.00	0.00	0.00
18,700.00	90.55	359.51	11,890.44	6,730.56	352.57	6,738.38	0.00	0.00	0.00
18,800.00	90.55	359.51	11,889.47	6,830.55	351.72	6,838.30	0.00	0.00	0.00
18,900.00	90.55	359.51	11,888.51	6,930.54	350.86	6,938.21	0.00	0.00	0.00
19,000.00	90.55	359.51	11,887.55	7,030.53	350.01	7,038.13	0.00	0.00	0.00
19,100.00	90.55	359.51	11,886.59	7,130.53	349.16	7,138.04	0.00	0.00	0.00
19,200.00	90.55	359.51	11,885.62	7,230.52	348.31	7,237.95	0.00	0.00	0.00
19,300.00	90.55	359.51	11,884.66	7,330.51	347.45	7,337.87	0.00	0.00	0.00
19,400.00	90.55	359.51	11,883.70	7,430.50	346.60	7,437.78	0.00	0.00	0.00



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Company:	Franklin Mountain Energy	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Project:	Lea County, NM (NAD83)	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site:	1912 Fed Com	North Reference:	Grid
Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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)
19,500.00	90.55	359.51	11,882.73	7,530.49	345.75	7,537.69	0.00	0.00	0.00
19,600.00	90.55	359.51	11,881.77	7,630.49	344.89	7,637.61	0.00	0.00	0.00
19,700.00	90.55	359.51	11,880.81	7,730.48	344.04	7,737.52	0.00	0.00	0.00
19,800.00	90.55	359.51	11,879.85	7,830.47	343.19	7,837.43	0.00	0.00	0.00
19,900.00	90.55	359.51	11,878.88	7,930.46	342.33	7,937.35	0.00	0.00	0.00
20,000.00	90.55	359.51	11,877.92	8,030.45	341.48	8,037.26	0.00	0.00	0.00
20,100.00	90.55	359.51	11,876.96	8,130.44	340.63	8,137.17	0.00	0.00	0.00
20,200.00	90.55	359.51	11,876.00	8,230.44	339.77	8,237.09	0.00	0.00	0.00
20,300.00	90.55	359.51	11,875.03	8,330.43	338.92	8,337.00	0.00	0.00	0.00
20,400.00	90.55	359.51	11,874.07	8,430.42	338.07	8,436.91	0.00	0.00	0.00
20,500.00	90.55	359.51	11,873.11	8,530.41	337.21	8,536.83	0.00	0.00	0.00
20,600.00	90.55	359.51	11,872.14	8,630.40	336.36	8,636.74	0.00	0.00	0.00
20,700.00	90.55	359.51	11,871.18	8,730.39	335.51	8,736.66	0.00	0.00	0.00
20,800.00	90.55	359.51	11,870.22	8,830.39	334.66	8,836.57	0.00	0.00	0.00
20,900.00	90.55	359.51	11,869.26	8,930.38	333.80	8,936.48	0.00	0.00	0.00
21,000.00	90.55	359.51	11,868.29	9,030.37	332.95	9,036.40	0.00	0.00	0.00
21,100.00	90.55	359.51	11,867.33	9,130.36	332.10	9,136.31	0.00	0.00	0.00
21,200.00	90.55	359.51	11,866.37	9,230.35	331.24	9,236.22	0.00	0.00	0.00
21,300.00	90.55	359.51	11,865.41	9,330.34	330.39	9,336.14	0.00	0.00	0.00
21,400.00	90.55	359.51	11,864.44	9,430.34	329.54	9,436.05	0.00	0.00	0.00
21,500.00	90.55	359.51	11,863.48	9,530.33	328.68	9,535.96	0.00	0.00	0.00
21,600.00	90.55	359.51	11,862.52	9,630.32	327.83	9,635.88	0.00	0.00	0.00
21,700.00	90.55	359.51	11,861.56	9,730.31	326.98	9,735.79	0.00	0.00	0.00
21,800.00	90.55	359.51	11,860.59	9,830.30	326.12	9,835.70	0.00	0.00	0.00
21,900.00	90.55	359.51	11,859.63	9,930.29	325.27	9,935.62	0.00	0.00	0.00
22,000.00	90.55	359.51	11,858.67	10,030.29	324.42	10,035.53	0.00	0.00	0.00
22,099.37	90.55	359.51	11,857.71	10,129.65	323.57	10,134.82	0.00	0.00	0.00
TD at 22099.37 - PBHL (1912 Fed Com 702H)									

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL (1912 Fed Com 702H) - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	404,988.05	852,828.65	32.109395	-103.327311
PBHL (1912 Fed Com 702H) - plan hits target center - Point	0.00	0.00	11,857.71	10,129.65	323.57	415,117.70	853,152.22	32.137229	-103.325960
LP (1912 Fed Com 702H) - plan hits target center - Point	0.00	0.00	11,951.93	343.45	407.06	405,331.50	853,235.71	32.110329	-103.325986



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Company:	Franklin Mountain Energy	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Project:	Lea County, NM (NAD83)	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site:	1912 Fed Com	North Reference:	Grid
Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
3,200.00	3,200.00	0.00	0.00	Start Build 1.50	
3,666.69	3,665.53	-14.11	24.73	Start 3424.47 hold at 3666.69 MD	
7,091.16	7,064.47	-220.89	387.27	Start Drop -1.50	
7,557.85	7,530.00	-235.00	412.00	Start 3849.00 hold at 7557.85 MD	
11,406.85	11,379.00	-235.00	412.00	Start DLS 10.00 TFO 359.51	
12,312.37	11,951.93	343.45	407.06	Start 9787.01 hold at 12312.36 MD	
22,099.37	11,857.71	10,129.65	323.57	TD at 22099.37	



Franklin Mountain Energy

Lea County, NM (NAD83)

1912 Fed Com

1912 Fed Com 702H

OH

Plan #2

Anticollision Report

21 June, 2020





Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Reference	Plan #2
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	6/21/2020		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	22,099.29	Plan #2 (OH)	OWSG (Rev2) MWD	OWSG MWD - Standard	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
1912 Fed Com						
1912 Fed Com 601H - OH - Plan #2	3,200.00	3,202.30	34.99	19.09	2.201	CC, ES, SF
1912 Fed Com 701H - OH - Plan #2	3,114.88	3,119.98	69.98	54.51	4.523	CC
1912 Fed Com 701H - OH - Plan #2	3,200.00	3,205.02	69.99	54.08	4.400	ES
1912 Fed Com 701H - OH - Plan #2	22,099.37	22,238.31	839.57	598.68	3.485	SF
Santa Fe Fed/Zia Fed						
Santa Fe Fed Com 603H - OH - Plan #1	11,105.12	11,100.30	2,415.28	2,359.85	43.569	CC
Santa Fe Fed Com 603H - OH - Plan #1	22,099.37	21,808.03	2,434.16	2,191.62	10.036	ES, SF
Santa Fe Fed Com 705H - OH - Plan #1	22,099.37	22,056.76	2,773.49	2,528.65	11.327	CC, ES, SF
Zia Fed Com 604H - OH - Plan #1	11,012.54	10,956.54	3,454.19	3,399.63	63.313	CC
Zia Fed Com 604H - OH - Plan #1	22,099.37	21,715.81	3,469.10	3,225.29	14.229	ES, SF
Zia Fed Com 706H - OH - Plan #1	7,222.87	6,891.57	3,702.29	3,667.09	105.183	CC
Zia Fed Com 706H - OH - Plan #1	22,099.37	21,876.28	3,755.22	3,510.57	15.349	ES, SF
Trinity Fed/Santa Fe Fed						
Santa Fe Fed Com 704H - OH - Plan #1	2,500.00	2,474.80	1,688.56	1,676.26	137.370	CC
Santa Fe Fed Com 704H - OH - Plan #1	22,099.37	22,012.23	1,852.32	1,609.59	7.631	ES, SF
Trinity Fed Com 602H - OH - Plan #1	11,202.80	11,193.06	623.59	567.64	11.145	CC
Trinity Fed Com 602H - OH - Plan #1	22,099.37	21,890.58	675.53	451.27	3.012	ES, SF
Trinity Fed Com 703H - OH - Plan #1	11,517.13	11,490.53	925.46	868.15	16.147	CC
Trinity Fed Com 703H - OH - Plan #1	22,099.37	22,154.12	926.02	682.75	3.807	ES, SF

Offset Design 1912 Fed Com - 1912 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		Minimum Separation		Separation Factor		Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	2.30	2.30	0.00	0.00	-90.59	-0.36	-34.99	34.99					
100.00	100.00	102.30	102.30	0.13	0.13	-90.59	-0.36	-34.99	34.99	34.81	0.18	190.840		
200.00	200.00	202.30	202.30	0.48	0.49	-90.59	-0.36	-34.99	34.99	34.30	0.69	50.695		
300.00	300.00	302.30	302.30	0.84	0.85	-90.59	-0.36	-34.99	34.99	33.79	1.20	29.228		
400.00	400.00	402.30	402.30	1.20	1.21	-90.59	-0.36	-34.99	34.99	33.29	1.70	20.533		
500.00	500.00	502.30	502.30	1.56	1.57	-90.59	-0.36	-34.99	34.99	32.78	2.21	15.826		
600.00	600.00	602.30	602.30	1.92	1.93	-90.59	-0.36	-34.99	34.99	32.27	2.72	12.874		
700.00	700.00	702.30	702.30	2.28	2.28	-90.59	-0.36	-34.99	34.99	31.77	3.23	10.850		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design 1912 Fed Com - 1912 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		
800.00	800.00	802.30	802.30	2.63	2.64	-90.59	-0.36	-34.99	34.99	31.26	3.73	9.376		
900.00	900.00	902.30	902.30	2.99	3.00	-90.59	-0.36	-34.99	34.99	30.75	4.24	8.255		
1,000.00	1,000.00	1,002.30	1,002.30	3.35	3.36	-90.59	-0.36	-34.99	34.99	30.25	4.75	7.373		
1,100.00	1,100.00	1,102.30	1,102.30	3.71	3.72	-90.59	-0.36	-34.99	34.99	29.74	5.25	6.662		
1,200.00	1,200.00	1,202.30	1,202.30	4.07	4.08	-90.59	-0.36	-34.99	34.99	29.23	5.76	6.075		
1,300.00	1,300.00	1,302.30	1,302.30	4.43	4.44	-90.59	-0.36	-34.99	34.99	28.73	6.27	5.584		
1,400.00	1,400.00	1,402.30	1,402.30	4.79	4.79	-90.59	-0.36	-34.99	34.99	28.22	6.77	5.166		
1,500.00	1,500.00	1,502.30	1,502.30	5.14	5.15	-90.59	-0.36	-34.99	34.99	27.71	7.28	4.806		
1,600.00	1,600.00	1,602.30	1,602.30	5.50	5.51	-90.59	-0.36	-34.99	34.99	27.20	7.79	4.493		
1,700.00	1,700.00	1,702.30	1,702.30	5.86	5.87	-90.59	-0.36	-34.99	34.99	26.70	8.29	4.219		
1,800.00	1,800.00	1,802.30	1,802.30	6.22	6.23	-90.59	-0.36	-34.99	34.99	26.19	8.80	3.976		
1,900.00	1,900.00	1,902.30	1,902.30	6.58	6.59	-90.59	-0.36	-34.99	34.99	25.68	9.31	3.759		
2,000.00	2,000.00	2,002.30	2,002.30	6.94	6.94	-90.59	-0.36	-34.99	34.99	25.18	9.82	3.565		
2,100.00	2,100.00	2,102.30	2,102.30	7.29	7.30	-90.59	-0.36	-34.99	34.99	24.67	10.32	3.390		
2,200.00	2,200.00	2,202.30	2,202.30	7.65	7.66	-90.59	-0.36	-34.99	34.99	24.16	10.83	3.231		
2,300.00	2,300.00	2,302.30	2,302.30	8.01	8.02	-90.59	-0.36	-34.99	34.99	23.66	11.34	3.087		
2,400.00	2,400.00	2,402.30	2,402.30	8.37	8.38	-90.59	-0.36	-34.99	34.99	23.15	11.84	2.955		
2,500.00	2,500.00	2,502.30	2,502.30	8.73	8.74	-90.59	-0.36	-34.99	34.99	22.64	12.35	2.833		
2,600.00	2,600.00	2,602.30	2,602.30	9.09	9.10	-90.59	-0.36	-34.99	34.99	22.13	12.86	2.722		
2,700.00	2,700.00	2,702.30	2,702.30	9.45	9.45	-90.59	-0.36	-34.99	34.99	21.63	13.36	2.618		
2,800.00	2,800.00	2,802.30	2,802.30	9.80	9.81	-90.59	-0.36	-34.99	34.99	21.12	13.87	2.523		
2,900.00	2,900.00	2,902.30	2,902.30	10.16	10.17	-90.59	-0.36	-34.99	34.99	20.61	14.38	2.434		
3,000.00	3,000.00	3,002.30	3,002.30	10.52	10.53	-90.59	-0.36	-34.99	34.99	20.11	14.88	2.351		
3,100.00	3,100.00	3,102.30	3,102.30	10.88	10.89	-90.59	-0.36	-34.99	34.99	19.60	15.39	2.273		
3,200.00	3,200.00	3,202.30	3,202.30	11.24	11.25	-90.59	-0.36	-34.99	34.99	19.09	15.90	2.201	CC, ES, SF	
3,300.00	3,299.99	3,302.29	3,302.29	11.58	11.60	150.75	-0.36	-34.99	36.13	19.73	16.40	2.203		
3,400.00	3,399.91	3,402.21	3,402.21	11.92	11.96	153.50	-0.36	-34.99	39.60	22.72	16.88	2.345		
3,500.00	3,499.69	3,501.98	3,501.98	12.25	12.32	157.14	-0.36	-34.99	45.55	28.18	17.37	2.622		
3,600.00	3,599.27	3,601.11	3,601.09	12.59	12.66	159.50	-1.54	-35.63	54.53	36.68	17.85	3.055		
3,666.69	3,665.53	3,667.00	3,666.95	12.82	12.87	159.86	-3.57	-36.74	62.37	44.22	18.15	3.436		
3,700.00	3,698.59	3,700.00	3,699.91	12.93	12.98	159.76	-4.96	-37.49	66.70	48.39	18.31	3.643		
3,800.00	3,797.85	3,798.27	3,797.97	13.28	13.30	158.38	-10.58	-40.56	80.27	61.51	18.77	4.278		
3,900.00	3,897.10	3,896.91	3,896.25	13.63	13.63	156.24	-17.99	-44.60	94.63	75.40	19.23	4.921		
4,000.00	3,996.36	3,995.81	3,994.77	13.98	13.95	154.58	-25.57	-48.72	109.16	89.46	19.70	5.541		
4,100.00	4,095.61	4,094.71	4,093.29	14.34	14.29	153.32	-33.15	-52.85	123.75	103.57	20.17	6.134		
4,200.00	4,194.86	4,193.60	4,191.81	14.70	14.62	152.32	-40.72	-56.97	138.38	117.73	20.65	6.701		
4,300.00	4,294.12	4,292.50	4,290.33	15.06	14.95	151.51	-48.30	-61.10	153.05	131.93	21.13	7.244		
4,400.00	4,393.37	4,391.40	4,388.85	15.42	15.29	150.84	-55.87	-65.23	167.75	146.14	21.61	7.762		
4,500.00	4,492.63	4,490.29	4,487.37	15.79	15.63	150.28	-63.45	-69.35	182.46	160.37	22.10	8.258		
4,600.00	4,591.88	4,589.19	4,585.89	16.16	15.97	149.80	-71.02	-73.48	197.19	174.61	22.58	8.732		
4,700.00	4,691.14	4,688.09	4,684.41	16.53	16.32	149.39	-78.60	-77.61	211.93	188.86	23.07	9.185		
4,800.00	4,790.39	4,786.99	4,782.93	16.90	16.66	149.04	-86.17	-81.73	226.68	203.12	23.56	9.620		
4,900.00	4,889.65	4,885.88	4,881.45	17.27	17.01	148.72	-93.75	-85.86	241.44	217.38	24.06	10.036		
5,000.00	4,988.90	4,984.78	4,979.97	17.65	17.36	148.45	-101.33	-89.98	256.20	231.65	24.55	10.435		
5,100.00	5,088.16	5,083.68	5,078.49	18.03	17.71	148.20	-108.90	-94.11	270.97	245.92	25.05	10.817		
5,200.00	5,187.41	5,182.57	5,177.01	18.40	18.06	147.98	-116.48	-98.24	285.74	260.20	25.55	11.185		
5,300.00	5,286.66	5,281.47	5,275.53	18.78	18.41	147.78	-124.05	-102.36	300.52	274.47	26.05	11.537		
5,400.00	5,385.92	5,380.37	5,374.05	19.16	18.76	147.60	-131.63	-106.49	315.30	288.75	26.55	11.876		
5,500.00	5,485.17	5,479.27	5,472.57	19.55	19.12	147.43	-139.20	-110.62	330.08	303.03	27.05	12.202		
5,600.00	5,584.43	5,578.16	5,571.09	19.93	19.47	147.28	-146.78	-114.74	344.87	317.31	27.56	12.515		
5,700.00	5,683.68	5,677.06	5,669.61	20.31	19.83	147.15	-154.35	-118.87	359.66	331.60	28.06	12.817		
5,800.00	5,782.94	5,775.96	5,768.13	20.70	20.19	147.02	-161.93	-122.99	374.45	345.88	28.57	13.108		

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:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design 1912 Fed Com - 1912 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		
5,900.00	5,882.19	5,874.85	5,866.65	21.08	20.55	146.90	-169.51	-127.12	389.24	360.16	29.07	13.388		
6,000.00	5,981.45	5,973.75	5,965.17	21.47	20.91	146.79	-177.08	-131.25	404.03	374.45	29.58	13.657		
6,100.00	6,080.70	6,072.65	6,063.69	21.86	21.27	146.69	-184.66	-135.37	418.82	388.73	30.09	13.918		
6,200.00	6,179.95	6,171.55	6,162.21	22.25	21.63	146.60	-192.23	-139.50	433.62	403.01	30.60	14.169		
6,300.00	6,279.21	6,270.44	6,260.73	22.63	21.99	146.51	-199.81	-143.63	448.41	417.30	31.11	14.412		
6,400.00	6,378.46	6,369.34	6,359.25	23.02	22.35	146.43	-207.38	-147.75	463.21	431.58	31.63	14.647		
6,500.00	6,477.72	6,468.24	6,457.77	23.41	22.71	146.35	-214.96	-151.88	478.01	445.87	32.14	14.873		
6,600.00	6,576.97	6,567.13	6,556.29	23.81	23.08	146.28	-222.53	-156.00	492.81	460.15	32.65	15.093		
6,700.00	6,676.23	6,673.54	6,662.41	24.20	23.46	146.34	-229.40	-159.74	506.88	473.67	33.21	15.265		
6,800.00	6,775.48	6,780.33	6,769.08	24.59	23.85	146.69	-233.68	-162.07	519.48	485.73	33.75	15.392		
6,900.00	6,874.74	6,887.29	6,876.03	24.98	24.22	147.29	-235.34	-162.98	530.64	496.36	34.28	15.479		
7,000.00	6,973.99	6,987.56	6,976.29	25.38	24.57	147.99	-235.36	-162.99	540.97	506.19	34.78	15.553		
7,091.16	7,064.47	7,078.04	7,066.77	25.73	24.88	148.60	-235.36	-162.99	550.45	515.21	35.24	15.621		
7,100.00	7,073.25	7,086.82	7,075.55	25.77	24.91	148.67	-235.36	-162.99	551.36	516.08	35.28	15.627		
7,200.00	7,172.67	7,186.24	7,174.97	26.16	25.25	149.30	-235.36	-162.99	560.51	524.73	35.78	15.666		
7,300.00	7,272.35	7,285.92	7,274.65	26.53	25.59	149.77	-235.36	-162.99	567.45	531.18	36.28	15.643		
7,400.00	7,372.20	7,385.77	7,374.50	26.90	25.94	150.08	-235.36	-162.99	572.16	535.39	36.77	15.560		
7,500.00	7,472.15	7,485.72	7,474.45	27.25	26.28	150.24	-235.36	-162.99	574.61	537.35	37.26	15.420		
7,557.85	7,530.00	7,543.57	7,532.30	27.44	26.48	-90.04	-235.36	-162.99	574.99	537.44	37.55	15.313		
7,600.00	7,572.15	7,585.72	7,574.45	27.59	26.63	-90.04	-235.36	-162.99	574.99	537.24	37.75	15.230		
7,700.00	7,672.15	7,685.72	7,674.45	27.92	26.98	-90.04	-235.36	-162.99	574.99	536.75	38.24	15.036		
7,800.00	7,772.15	7,785.72	7,774.45	28.26	27.32	-90.04	-235.36	-162.99	574.99	536.26	38.73	14.847		
7,900.00	7,872.15	7,885.72	7,874.45	28.59	27.67	-90.04	-235.36	-162.99	574.99	535.77	39.22	14.662		
8,000.00	7,972.15	7,985.72	7,974.45	28.93	28.02	-90.04	-235.36	-162.99	574.99	535.28	39.71	14.481		
8,100.00	8,072.15	8,085.72	8,074.45	29.27	28.37	-90.04	-235.36	-162.99	574.99	534.79	40.20	14.305		
8,200.00	8,172.15	8,185.72	8,174.45	29.61	28.71	-90.04	-235.36	-162.99	574.99	534.30	40.69	14.132		
8,300.00	8,272.15	8,285.72	8,274.45	29.95	29.06	-90.04	-235.36	-162.99	574.99	533.81	41.18	13.964		
8,400.00	8,372.15	8,385.72	8,374.45	30.29	29.41	-90.04	-235.36	-162.99	574.99	533.32	41.67	13.800		
8,500.00	8,472.15	8,485.72	8,474.45	30.63	29.76	-90.04	-235.36	-162.99	574.99	532.83	42.16	13.639		
8,600.00	8,572.15	8,585.72	8,574.45	30.97	30.11	-90.04	-235.36	-162.99	574.99	532.34	42.65	13.482		
8,700.00	8,672.15	8,685.72	8,674.45	31.31	30.46	-90.04	-235.36	-162.99	574.99	531.85	43.14	13.328		
8,800.00	8,772.15	8,785.72	8,774.45	31.65	30.81	-90.04	-235.36	-162.99	574.99	531.36	43.63	13.178		
8,900.00	8,872.15	8,885.72	8,874.45	31.99	31.15	-90.04	-235.36	-162.99	574.99	530.86	44.13	13.031		
9,000.00	8,972.15	8,985.72	8,974.45	32.33	31.50	-90.04	-235.36	-162.99	574.99	530.37	44.62	12.887		
9,100.00	9,072.15	9,085.72	9,074.45	32.67	31.85	-90.04	-235.36	-162.99	574.99	529.88	45.11	12.746		
9,200.00	9,172.15	9,185.72	9,174.45	33.02	32.20	-90.04	-235.36	-162.99	574.99	529.38	45.61	12.608		
9,300.00	9,272.15	9,285.72	9,274.45	33.36	32.55	-90.04	-235.36	-162.99	574.99	528.89	46.10	12.473		
9,400.00	9,372.15	9,385.72	9,374.45	33.70	32.90	-90.04	-235.36	-162.99	574.99	528.40	46.59	12.341		
9,500.00	9,472.15	9,485.72	9,474.45	34.05	33.26	-90.04	-235.36	-162.99	574.99	527.90	47.09	12.211		
9,600.00	9,572.15	9,585.72	9,574.45	34.39	33.61	-90.04	-235.36	-162.99	574.99	527.41	47.58	12.084		
9,700.00	9,672.15	9,685.72	9,674.45	34.73	33.96	-90.04	-235.36	-162.99	574.99	526.91	48.08	11.960		
9,800.00	9,772.15	9,785.72	9,774.45	35.08	34.31	-90.04	-235.36	-162.99	574.99	526.42	48.57	11.838		
9,900.00	9,872.15	9,885.72	9,874.45	35.42	34.66	-90.04	-235.36	-162.99	574.99	525.92	49.07	11.718		
10,000.00	9,972.15	9,985.72	9,974.45	35.77	35.01	-90.04	-235.36	-162.99	574.99	525.43	49.56	11.601		
10,100.00	10,072.15	10,085.72	10,074.45	36.11	35.36	-90.04	-235.36	-162.99	574.99	524.93	50.06	11.486		
10,200.00	10,172.15	10,185.72	10,174.45	36.46	35.71	-90.04	-235.36	-162.99	574.99	524.44	50.55	11.374		
10,300.00	10,272.15	10,285.72	10,274.45	36.80	36.07	-90.04	-235.36	-162.99	574.99	523.94	51.05	11.263		
10,400.00	10,372.15	10,385.72	10,374.45	37.15	36.42	-90.04	-235.36	-162.99	574.99	523.44	51.55	11.155		
10,500.00	10,472.15	10,485.72	10,474.45	37.50	36.77	-90.04	-235.36	-162.99	574.99	522.95	52.04	11.048		
10,600.00	10,572.15	10,585.72	10,574.45	37.84	37.12	-90.04	-235.36	-162.99	574.99	522.45	52.54	10.944		
10,700.00	10,672.15	10,685.72	10,674.45	38.19	37.47	-90.04	-235.36	-162.99	574.99	521.95	53.04	10.841		
10,800.00	10,772.15	10,785.72	10,774.45	38.53	37.83	-90.04	-235.36	-162.99	574.99	521.46	53.53	10.741		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design 1912 Fed Com - 1912 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		
10,900.00	10,872.15	10,885.72	10,874.45	38.88	38.18	-90.04	-235.36	-162.99	574.99	520.96	54.03	10.642		
11,000.00	10,972.15	10,985.72	10,974.45	39.23	38.53	-90.04	-235.36	-162.99	574.99	520.46	54.53	10.545		
11,100.00	11,072.15	11,085.72	11,074.45	39.58	38.88	-90.04	-235.36	-162.99	574.99	519.96	55.03	10.449		
11,200.00	11,172.15	11,185.72	11,174.45	39.92	39.24	-90.04	-235.36	-162.99	574.99	519.46	55.53	10.355		
11,206.98	11,179.13	11,192.70	11,181.43	39.95	39.26	-90.04	-235.36	-162.99	574.99	519.43	55.56	10.349		
11,300.00	11,272.15	11,285.31	11,274.00	40.27	39.59	-89.88	-233.82	-163.00	575.00	518.99	56.02	10.264		
11,406.85	11,379.00	11,388.21	11,375.40	40.64	39.93	-88.22	-217.13	-163.15	575.46	518.95	56.51	10.184		
11,450.00	11,422.11	11,428.01	11,413.55	40.79	40.05	-86.70	-205.84	-163.24	575.99	519.31	56.68	10.161		
11,500.00	11,471.74	11,473.35	11,455.94	40.96	40.18	-85.53	-189.78	-163.38	576.83	519.96	56.87	10.143		
11,550.00	11,520.67	11,517.92	11,496.26	41.12	40.30	-84.40	-170.78	-163.55	577.88	520.85	57.04	10.132		
11,600.00	11,568.51	11,561.81	11,534.38	41.26	40.41	-83.32	-149.07	-163.73	579.10	521.92	57.18	10.128		
11,650.00	11,614.92	11,605.06	11,570.23	41.40	40.52	-82.29	-124.88	-163.94	580.46	523.16	57.30	10.130		
11,700.00	11,659.53	11,650.00	11,605.42	41.53	40.62	-81.27	-96.96	-164.18	581.92	524.51	57.41	10.137		
11,750.00	11,702.00	11,689.93	11,634.78	41.64	40.71	-80.40	-69.90	-164.42	583.42	525.96	57.46	10.153		
11,800.00	11,742.02	11,731.66	11,663.36	41.74	40.80	-79.55	-39.51	-164.68	584.95	527.44	57.51	10.171		
11,850.00	11,779.27	11,772.99	11,689.42	41.82	40.89	-78.78	-7.45	-164.96	586.46	528.92	57.54	10.192		
11,900.00	11,813.48	11,813.96	11,712.90	41.89	40.98	-78.08	26.11	-165.24	587.91	530.34	57.57	10.213		
11,950.00	11,844.38	11,854.63	11,733.78	41.95	41.07	-77.45	61.00	-165.55	589.27	531.69	57.58	10.234		
12,000.00	11,871.74	11,895.03	11,752.02	42.00	41.16	-76.91	97.04	-165.86	590.50	532.91	57.60	10.252		
12,050.00	11,895.34	11,935.21	11,767.60	42.03	41.25	-76.45	134.07	-166.18	591.59	533.97	57.62	10.267		
12,100.00	11,915.02	11,975.21	11,780.49	42.05	41.34	-76.07	171.93	-166.50	592.51	534.85	57.66	10.276		
12,150.00	11,930.62	12,015.08	11,790.68	42.06	41.44	-75.78	210.45	-166.83	593.23	535.51	57.72	10.278		
12,200.00	11,942.02	12,050.00	11,797.38	42.16	41.52	-75.59	244.72	-167.13	593.76	535.99	57.77	10.278		
12,250.00	11,949.14	12,094.53	11,802.89	42.29	41.63	-75.47	288.89	-167.51	594.03	536.14	57.90	10.260		
12,300.00	11,951.92	12,134.19	11,804.89	42.42	41.73	-75.44	328.50	-167.85	594.10	536.07	58.03	10.238		
12,312.37	11,951.93	12,144.00	11,804.96	42.46	41.76	-75.45	338.30	-167.94	594.08	536.02	58.07	10.231		
12,322.36	11,951.84	12,152.81	11,804.88	42.49	41.78	-75.45	347.12	-168.01	594.08	535.98	58.10	10.225		
12,400.00	11,951.09	12,229.34	11,803.60	42.72	42.01	-75.40	423.63	-168.67	594.23	535.84	58.38	10.178		
12,500.00	11,950.13	12,329.33	11,801.94	43.07	42.35	-75.33	523.61	-169.53	594.41	535.59	58.82	10.105		
12,600.00	11,949.16	12,429.33	11,800.27	43.47	42.75	-75.27	623.59	-170.40	594.60	535.26	59.34	10.020		
12,700.00	11,948.20	12,529.33	11,798.61	43.93	43.22	-75.20	723.57	-171.26	594.79	534.84	59.95	9.922		
12,800.00	11,947.24	12,629.33	11,796.95	44.44	43.74	-75.14	823.55	-172.12	594.97	534.35	60.63	9.814		
12,900.00	11,946.27	12,729.32	11,795.28	45.01	44.31	-75.07	923.53	-172.98	595.16	533.78	61.38	9.696		
13,000.00	11,945.31	12,829.32	11,793.62	45.63	44.94	-75.01	1,023.51	-173.85	595.35	533.14	62.21	9.570		
13,100.00	11,944.35	12,929.32	11,791.95	46.30	45.62	-74.94	1,123.49	-174.71	595.54	532.44	63.11	9.437		
13,200.00	11,943.39	13,029.32	11,790.29	47.01	46.35	-74.88	1,223.47	-175.57	595.74	531.66	64.07	9.298		
13,300.00	11,942.42	13,129.31	11,788.62	47.77	47.13	-74.81	1,323.45	-176.43	595.93	530.83	65.10	9.154		
13,400.00	11,941.46	13,229.31	11,786.96	48.58	47.95	-74.75	1,423.43	-177.29	596.12	529.93	66.19	9.006		
13,500.00	11,940.50	13,329.31	11,785.29	49.42	48.81	-74.68	1,523.41	-178.16	596.32	528.98	67.33	8.856		
13,600.00	11,939.54	13,429.31	11,783.63	50.31	49.71	-74.62	1,623.39	-179.02	596.51	527.98	68.53	8.704		
13,700.00	11,938.57	13,529.30	11,781.96	51.23	50.65	-74.55	1,723.37	-179.88	596.71	526.92	69.78	8.551		
13,800.00	11,937.61	13,629.30	11,780.30	52.19	51.63	-74.49	1,823.35	-180.74	596.90	525.82	71.08	8.397		
13,900.00	11,936.65	13,729.30	11,778.63	53.18	52.64	-74.42	1,923.33	-181.60	597.10	524.67	72.43	8.244		
14,000.00	11,935.68	13,829.30	11,776.97	54.21	53.68	-74.36	2,023.31	-182.47	597.30	523.48	73.81	8.092		
14,100.00	11,934.72	13,929.29	11,775.30	55.26	54.75	-74.29	2,123.29	-183.33	597.50	522.26	75.24	7.941		
14,200.00	11,933.76	14,029.29	11,773.64	56.34	55.85	-74.23	2,223.27	-184.19	597.69	520.99	76.70	7.792		
14,300.00	11,932.80	14,129.29	11,771.97	57.45	56.97	-74.17	2,323.25	-185.05	597.89	519.69	78.21	7.645		
14,400.00	11,931.83	14,229.29	11,770.31	58.59	58.12	-74.10	2,423.23	-185.91	598.10	518.36	79.74	7.501		
14,500.00	11,930.87	14,329.28	11,768.64	59.75	59.30	-74.04	2,523.21	-186.78	598.30	516.99	81.30	7.359		
14,600.00	11,929.91	14,429.28	11,766.98	60.93	60.50	-73.97	2,623.19	-187.64	598.50	515.60	82.90	7.220		
14,700.00	11,928.95	14,529.28	11,765.31	62.13	61.71	-73.91	2,723.17	-188.50	598.70	514.18	84.52	7.083		
14,800.00	11,927.98	14,629.28	11,763.65	63.36	62.95	-73.84	2,823.15	-189.36	598.91	512.73	86.17	6.950		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design 1912 Fed Com - 1912 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		
14,900.00	11,927.02	14,729.27	11,761.98	64.60	64.21	-73.78	2,923.13	-190.23	599.11	511.27	87.84	6.820		
15,000.00	11,926.06	14,829.27	11,760.32	65.86	65.48	-73.71	3,023.11	-191.09	599.32	509.78	89.54	6.693		
15,100.00	11,925.09	14,929.27	11,758.65	67.14	66.77	-73.65	3,123.09	-191.95	599.52	508.27	91.26	6.570		
15,200.00	11,924.13	15,029.27	11,756.99	68.43	68.08	-73.59	3,223.07	-192.81	599.73	506.74	92.99	6.449		
15,300.00	11,923.17	15,129.26	11,755.32	69.74	69.40	-73.52	3,323.05	-193.67	599.94	505.19	94.75	6.332		
15,400.00	11,922.21	15,229.26	11,753.66	71.06	70.73	-73.46	3,423.03	-194.54	600.14	503.62	96.52	6.218		
15,500.00	11,921.24	15,329.26	11,751.99	72.40	72.08	-73.39	3,523.01	-195.40	600.35	502.04	98.31	6.107		
15,600.00	11,920.28	15,429.26	11,750.33	73.75	73.44	-73.33	3,622.99	-196.26	600.56	500.45	100.12	5.999		
15,700.00	11,919.32	15,529.25	11,748.66	75.11	74.82	-73.27	3,722.97	-197.12	600.77	498.84	101.93	5.894		
15,800.00	11,918.36	15,629.25	11,747.00	76.48	76.20	-73.20	3,822.95	-197.98	600.98	497.22	103.77	5.792		
15,900.00	11,917.39	15,729.25	11,745.34	77.86	77.59	-73.14	3,922.93	-198.85	601.20	495.58	105.61	5.692		
16,000.00	11,916.43	15,829.25	11,743.67	79.26	79.00	-73.08	4,022.91	-199.71	601.41	493.94	107.47	5.596		
16,100.00	11,915.47	15,929.24	11,742.01	80.66	80.41	-73.01	4,122.89	-200.57	601.62	492.28	109.34	5.502		
16,200.00	11,914.50	16,029.24	11,740.34	82.07	81.83	-72.95	4,222.87	-201.43	601.84	490.62	111.22	5.411		
16,300.00	11,913.54	16,129.24	11,738.68	83.49	83.26	-72.88	4,322.85	-202.29	602.05	488.95	113.11	5.323		
16,400.00	11,912.58	16,229.24	11,737.01	84.92	84.70	-72.82	4,422.83	-203.16	602.27	487.26	115.00	5.237		
16,500.00	11,911.62	16,329.23	11,735.35	86.36	86.15	-72.76	4,522.81	-204.02	602.48	485.57	116.91	5.153		
16,600.00	11,910.65	16,429.23	11,733.68	87.81	87.60	-72.69	4,622.79	-204.88	602.70	483.88	118.83	5.072		
16,700.00	11,909.69	16,529.23	11,732.02	89.26	89.06	-72.63	4,722.77	-205.74	602.92	482.17	120.75	4.993		
16,800.00	11,908.73	16,629.23	11,730.35	90.72	90.53	-72.57	4,822.75	-206.61	603.14	480.46	122.68	4.917		
16,900.00	11,907.77	16,729.22	11,728.69	92.18	92.00	-72.50	4,922.73	-207.47	603.36	478.75	124.61	4.842		
17,000.00	11,906.80	16,829.22	11,727.02	93.65	93.48	-72.44	5,022.71	-208.33	603.58	477.03	126.55	4.769		
17,100.00	11,905.84	16,929.22	11,725.36	95.13	94.96	-72.38	5,122.69	-209.19	603.80	475.30	128.50	4.699		
17,200.00	11,904.88	17,029.22	11,723.69	96.62	96.45	-72.31	5,222.67	-210.05	604.02	473.57	130.45	4.630		
17,300.00	11,903.91	17,129.21	11,722.03	98.10	97.95	-72.25	5,322.65	-210.92	604.24	471.83	132.41	4.563		
17,400.00	11,902.95	17,229.21	11,720.36	99.60	99.45	-72.19	5,422.63	-211.78	604.47	470.10	134.37	4.499		
17,500.00	11,901.99	17,329.21	11,718.70	101.10	100.95	-72.12	5,522.61	-212.64	604.69	468.35	136.34	4.435		
17,600.00	11,901.03	17,429.21	11,717.03	102.60	102.46	-72.06	5,622.59	-213.50	604.91	466.61	138.31	4.374		
17,700.00	11,900.06	17,529.20	11,715.37	104.11	103.98	-72.00	5,722.57	-214.36	605.14	464.86	140.28	4.314		
17,800.00	11,899.10	17,629.20	11,713.70	105.62	105.50	-71.94	5,822.55	-215.23	605.37	463.11	142.25	4.256		
17,900.00	11,898.14	17,729.20	11,712.04	107.14	107.02	-71.87	5,922.53	-216.09	605.59	461.36	144.23	4.199		
18,000.00	11,897.18	17,829.20	11,710.37	108.66	108.54	-71.81	6,022.51	-216.95	605.82	459.60	146.22	4.143		
18,100.00	11,896.21	17,929.19	11,708.71	110.18	110.07	-71.75	6,122.49	-217.81	606.05	457.85	148.20	4.089		
18,200.00	11,895.25	18,029.19	11,707.04	111.71	111.61	-71.68	6,222.47	-218.68	606.28	456.09	150.19	4.037		
18,300.00	11,894.29	18,129.19	11,705.38	113.24	113.14	-71.62	6,322.45	-219.54	606.51	454.33	152.18	3.986		
18,400.00	11,893.32	18,229.19	11,703.71	114.77	114.68	-71.56	6,422.43	-220.40	606.74	452.57	154.17	3.936		
18,500.00	11,892.36	18,329.18	11,702.05	116.31	116.22	-71.50	6,522.41	-221.26	606.97	450.81	156.16	3.887		
18,600.00	11,891.40	18,429.18	11,700.38	117.85	117.77	-71.43	6,622.39	-222.12	607.20	449.05	158.15	3.839		
18,700.00	11,890.44	18,529.18	11,698.72	119.39	119.32	-71.37	6,722.37	-222.99	607.43	447.29	160.15	3.793		
18,800.00	11,889.47	18,629.18	11,697.05	120.94	120.87	-71.31	6,822.35	-223.85	607.67	445.52	162.14	3.748		
18,900.00	11,888.51	18,729.18	11,695.39	122.49	122.42	-71.25	6,922.33	-224.71	607.90	443.76	164.14	3.704		
19,000.00	11,887.55	18,829.17	11,693.72	124.04	123.98	-71.18	7,022.31	-225.57	608.14	442.00	166.14	3.660		
19,100.00	11,886.59	18,929.17	11,692.06	125.60	125.54	-71.12	7,122.29	-226.43	608.37	440.24	168.13	3.618		
19,200.00	11,885.62	19,029.17	11,690.40	127.15	127.10	-71.06	7,222.27	-227.30	608.61	438.48	170.13	3.577		
19,300.00	11,884.66	19,129.17	11,688.73	128.71	128.66	-71.00	7,322.25	-228.16	608.84	436.71	172.13	3.537		
19,400.00	11,883.70	19,229.16	11,687.07	130.27	130.23	-70.93	7,422.23	-229.02	609.08	434.95	174.13	3.498		
19,500.00	11,882.73	19,329.16	11,685.40	131.84	131.79	-70.87	7,522.21	-229.88	609.32	433.19	176.13	3.460		
19,600.00	11,881.77	19,429.16	11,683.74	133.40	133.36	-70.81	7,622.19	-230.74	609.56	431.43	178.12	3.422		
19,700.00	11,880.81	19,529.16	11,682.07	134.97	134.94	-70.75	7,722.17	-231.61	609.80	429.68	180.12	3.385		
19,800.00	11,879.85	19,629.15	11,680.41	136.54	136.51	-70.69	7,822.15	-232.47	610.04	427.92	182.12	3.350		
19,900.00	11,878.88	19,729.15	11,678.74	138.11	138.08	-70.62	7,922.13	-233.33	610.28	426.17	184.12	3.315		
20,000.00	11,877.92	19,829.15	11,677.08	139.69	139.66	-70.56	8,022.11	-234.19	610.52	424.41	186.11	3.280		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design 1912 Fed Com - 1912 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		
20,100.00	11,876.96	19,929.15	11,675.41	141.26	141.24	-70.50	8,122.09	-235.06	610.76	422.66	188.11	3.247		
20,200.00	11,876.00	20,029.14	11,673.75	142.84	142.82	-70.44	8,222.07	-235.92	611.01	420.91	190.10	3.214		
20,300.00	11,875.03	20,129.14	11,672.08	144.42	144.40	-70.38	8,322.05	-236.78	611.25	419.16	192.09	3.182		
20,400.00	11,874.07	20,229.14	11,670.42	146.00	145.99	-70.32	8,422.03	-237.64	611.50	417.41	194.09	3.151		
20,500.00	11,873.11	20,329.14	11,668.75	147.58	147.57	-70.25	8,522.01	-238.50	611.74	415.67	196.08	3.120		
20,600.00	11,872.14	20,429.13	11,667.09	149.16	149.16	-70.19	8,621.99	-239.37	611.99	413.92	198.07	3.090		
20,700.00	11,871.18	20,529.13	11,665.42	150.75	150.75	-70.13	8,721.97	-240.23	612.24	412.18	200.05	3.060		
20,800.00	11,870.22	20,629.13	11,663.76	152.33	152.34	-70.07	8,821.95	-241.09	612.48	410.44	202.04	3.031		
20,900.00	11,869.26	20,729.13	11,662.09	153.92	153.93	-70.01	8,921.93	-241.95	612.73	408.71	204.03	3.003		
21,000.00	11,868.29	20,829.12	11,660.43	155.51	155.52	-69.95	9,021.91	-242.81	612.98	406.97	206.01	2.975		
21,100.00	11,867.33	20,929.12	11,658.76	157.10	157.11	-69.88	9,121.88	-243.68	613.23	405.24	207.99	2.948		
21,200.00	11,866.37	21,029.12	11,657.10	158.69	158.70	-69.82	9,221.86	-244.54	613.48	403.51	209.97	2.922		
21,300.00	11,865.41	21,129.12	11,655.43	160.28	160.30	-69.76	9,321.84	-245.40	613.73	401.78	211.95	2.896		
21,400.00	11,864.44	21,229.11	11,653.77	161.88	161.90	-69.70	9,421.82	-246.26	613.98	400.06	213.93	2.870		
21,500.00	11,863.48	21,329.11	11,652.10	163.47	163.49	-69.64	9,521.80	-247.12	614.24	398.34	215.90	2.845		
21,600.00	11,862.52	21,429.11	11,650.44	165.07	165.09	-69.58	9,621.78	-247.99	614.49	396.62	217.87	2.820		
21,700.00	11,861.56	21,529.11	11,648.77	166.67	166.69	-69.52	9,721.76	-248.85	614.74	394.90	219.84	2.796		
21,800.00	11,860.59	21,629.10	11,647.11	168.27	168.29	-69.46	9,821.74	-249.71	615.00	393.19	221.81	2.773		
21,900.00	11,859.63	21,729.10	11,645.44	169.86	169.90	-69.40	9,921.72	-250.57	615.25	391.48	223.77	2.749		
22,000.00	11,858.67	21,829.10	11,643.78	171.47	171.50	-69.34	10,021.70	-251.44	615.51	389.77	225.73	2.727		
22,099.37	11,857.71	21,928.47	11,642.13	173.06	173.09	-69.27	10,121.06	-252.29	615.76	388.08	227.68	2.704		



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design 1912 Fed Com - 1912 Fed Com 701H - 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	5.10	5.10	0.00	0.01	-90.60	-0.73	-69.98	69.98					
100.00	100.00	105.10	105.10	0.13	0.14	-90.60	-0.73	-69.98	69.98	69.79	0.19	366.791		
200.00	200.00	205.10	205.10	0.48	0.50	-90.60	-0.73	-69.98	69.98	69.29	0.70	100.344		
300.00	300.00	305.10	305.10	0.84	0.86	-90.60	-0.73	-69.98	69.98	68.78	1.20	58.110		
400.00	400.00	405.10	405.10	1.20	1.22	-90.60	-0.73	-69.98	69.98	68.27	1.71	40.896		
500.00	500.00	505.10	505.10	1.56	1.58	-90.60	-0.73	-69.98	69.98	67.77	2.22	31.550		
600.00	600.00	605.10	605.10	1.92	1.94	-90.60	-0.73	-69.98	69.98	67.26	2.73	25.681		
700.00	700.00	705.10	705.10	2.28	2.29	-90.60	-0.73	-69.98	69.98	66.75	3.23	21.653		
800.00	800.00	805.10	805.10	2.63	2.65	-90.60	-0.73	-69.98	69.98	66.24	3.74	18.717		
900.00	900.00	905.10	905.10	2.99	3.01	-90.60	-0.73	-69.98	69.98	65.74	4.25	16.482		
1,000.00	1,000.00	1,005.10	1,005.10	3.35	3.37	-90.60	-0.73	-69.98	69.98	65.23	4.75	14.724		
1,100.00	1,100.00	1,105.10	1,105.10	3.71	3.73	-90.60	-0.73	-69.98	69.98	64.72	5.26	13.305		
1,200.00	1,200.00	1,205.10	1,205.10	4.07	4.09	-90.60	-0.73	-69.98	69.98	64.22	5.77	12.135		
1,300.00	1,300.00	1,305.10	1,305.10	4.43	4.45	-90.60	-0.73	-69.98	69.98	63.71	6.27	11.155		
1,400.00	1,400.00	1,405.10	1,405.10	4.79	4.80	-90.60	-0.73	-69.98	69.98	63.20	6.78	10.321		
1,500.00	1,500.00	1,505.10	1,505.10	5.14	5.16	-90.60	-0.73	-69.98	69.98	62.70	7.29	9.603		
1,600.00	1,600.00	1,605.10	1,605.10	5.50	5.52	-90.60	-0.73	-69.98	69.98	62.19	7.79	8.978		
1,700.00	1,700.00	1,705.10	1,705.10	5.86	5.88	-90.60	-0.73	-69.98	69.98	61.68	8.30	8.430		
1,800.00	1,800.00	1,805.10	1,805.10	6.22	6.24	-90.60	-0.73	-69.98	69.98	61.18	8.81	7.945		
1,900.00	1,900.00	1,905.10	1,905.10	6.58	6.60	-90.60	-0.73	-69.98	69.98	60.67	9.32	7.513		
2,000.00	2,000.00	2,005.10	2,005.10	6.94	6.95	-90.60	-0.73	-69.98	69.98	60.16	9.82	7.125		
2,100.00	2,100.00	2,105.10	2,105.10	7.29	7.31	-90.60	-0.73	-69.98	69.98	59.65	10.33	6.775		
2,200.00	2,200.00	2,205.10	2,205.10	7.65	7.67	-90.60	-0.73	-69.98	69.98	59.15	10.84	6.458		
2,300.00	2,300.00	2,305.10	2,305.10	8.01	8.03	-90.60	-0.73	-69.98	69.98	58.64	11.34	6.170		
2,400.00	2,400.00	2,405.10	2,405.10	8.37	8.39	-90.60	-0.73	-69.98	69.98	58.13	11.85	5.906		
2,500.00	2,500.00	2,505.10	2,505.10	8.73	8.75	-90.60	-0.73	-69.98	69.98	57.63	12.36	5.663		
2,600.00	2,600.00	2,605.10	2,605.10	9.09	9.11	-90.60	-0.73	-69.98	69.98	57.12	12.86	5.440		
2,700.00	2,700.00	2,705.10	2,705.10	9.45	9.46	-90.60	-0.73	-69.98	69.98	56.61	13.37	5.234		
2,800.00	2,800.00	2,805.10	2,805.10	9.80	9.82	-90.60	-0.73	-69.98	69.98	56.11	13.88	5.043		
2,900.00	2,900.00	2,905.10	2,905.10	10.16	10.18	-90.60	-0.73	-69.98	69.98	55.60	14.39	4.865		
3,000.00	3,000.00	3,005.10	3,005.10	10.52	10.54	-90.60	-0.73	-69.98	69.98	55.09	14.89	4.699		
3,100.00	3,100.00	3,105.10	3,105.10	10.88	10.90	-90.60	-0.73	-69.98	69.98	54.58	15.40	4.545		
3,114.88	3,114.88	3,119.98	3,119.98	10.93	10.95	-90.60	-0.73	-69.98	69.98	54.51	15.47	4.523 CC		
3,200.00	3,200.00	3,205.02	3,205.02	11.24	11.26	-90.60	-0.73	-69.98	69.99	54.08	15.91	4.400 ES		
3,300.00	3,299.99	3,303.47	3,303.46	11.58	11.59	149.58	-1.52	-71.14	72.30	55.91	16.38	4.413		
3,400.00	3,399.91	3,401.63	3,401.53	11.92	11.92	149.37	-3.74	-74.37	79.00	62.16	16.84	4.692		
3,500.00	3,499.69	3,500.00	3,499.69	12.25	12.25	149.10	-7.39	-79.69	90.08	72.79	17.29	5.210		
3,600.00	3,599.27	3,595.95	3,595.24	12.59	12.57	148.83	-12.32	-86.89	105.48	87.77	17.72	5.954		
3,666.69	3,665.53	3,661.40	3,660.34	12.82	12.79	148.78	-16.19	-92.54	117.74	99.71	18.03	6.531		
3,700.00	3,698.59	3,694.10	3,692.85	12.93	12.91	148.87	-18.12	-95.36	124.11	105.93	18.18	6.825		
3,800.00	3,797.85	3,792.25	3,790.47	13.28	13.24	149.09	-23.92	-103.83	143.23	124.57	18.66	7.678		
3,900.00	3,897.10	3,890.41	3,888.08	13.63	13.58	149.26	-29.72	-112.29	162.35	143.22	19.13	8.487		
4,000.00	3,996.36	3,988.56	3,985.70	13.98	13.92	149.39	-35.52	-120.76	181.47	161.86	19.61	9.256		
4,100.00	4,095.61	4,086.71	4,083.31	14.34	14.27	149.50	-41.32	-129.23	200.59	180.51	20.08	9.988		
4,200.00	4,194.86	4,184.87	4,180.93	14.70	14.62	149.59	-47.12	-137.69	219.71	199.15	20.56	10.684		
4,300.00	4,294.12	4,283.02	4,278.55	15.06	14.96	149.67	-52.92	-146.16	238.84	217.79	21.05	11.347		
4,400.00	4,393.37	4,381.18	4,376.16	15.42	15.32	149.73	-58.72	-154.63	257.96	236.43	21.53	11.980		
4,500.00	4,492.63	4,479.33	4,473.78	15.79	15.67	149.79	-64.53	-163.09	277.08	255.06	22.02	12.583		
4,600.00	4,591.88	4,577.48	4,571.39	16.16	16.02	149.84	-70.33	-171.56	296.21	273.70	22.51	13.160		
4,700.00	4,691.14	4,675.64	4,669.01	16.53	16.38	149.88	-76.13	-180.03	315.33	292.33	23.00	13.711		
4,800.00	4,790.39	4,773.79	4,766.63	16.90	16.74	149.92	-81.93	-188.49	334.46	310.96	23.49	14.238		
4,900.00	4,889.65	4,871.95	4,864.24	17.27	17.10	149.95	-87.73	-196.96	353.58	329.59	23.98	14.742		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design 1912 Fed Com - 1912 Fed Com 701H - 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		
5,000.00	4,988.90	4,970.10	4,961.86	17.65	17.46	149.98	-93.53	-205.43	372.70	348.22	24.48	15.225		
5,100.00	5,088.16	5,068.25	5,059.47	18.03	17.82	150.01	-99.33	-213.90	391.83	366.85	24.98	15.688		
5,200.00	5,187.41	5,166.41	5,157.09	18.40	18.18	150.03	-105.13	-222.36	410.95	385.48	25.47	16.133		
5,300.00	5,286.66	5,264.56	5,254.71	18.78	18.54	150.05	-110.93	-230.83	430.08	404.11	25.97	16.559		
5,400.00	5,385.92	5,362.72	5,352.32	19.16	18.91	150.07	-116.73	-239.30	449.20	422.73	26.47	16.969		
5,500.00	5,485.17	5,460.87	5,449.94	19.55	19.28	150.09	-122.53	-247.76	468.33	441.35	26.97	17.363		
5,600.00	5,584.43	5,559.02	5,547.55	19.93	19.64	150.11	-128.34	-256.23	487.45	459.98	27.48	17.742		
5,700.00	5,683.68	5,657.18	5,645.17	20.31	20.01	150.13	-134.14	-264.70	506.58	478.60	27.98	18.106		
5,800.00	5,782.94	5,755.33	5,742.79	20.70	20.38	150.14	-139.94	-273.16	525.70	497.22	28.48	18.457		
5,900.00	5,882.19	5,853.49	5,840.40	21.08	20.75	150.16	-145.74	-281.63	544.83	515.84	28.99	18.796		
6,000.00	5,981.45	5,951.64	5,938.02	21.47	21.12	150.17	-151.54	-290.10	563.95	534.46	29.49	19.122		
6,100.00	6,080.70	6,049.80	6,035.63	21.86	21.49	150.18	-157.34	-298.56	583.08	553.08	30.00	19.437		
6,200.00	6,179.95	6,147.95	6,133.25	22.25	21.86	150.19	-163.14	-307.03	602.20	571.69	30.51	19.741		
6,300.00	6,279.21	6,246.10	6,230.87	22.63	22.23	150.20	-168.94	-315.50	621.32	590.31	31.01	20.034		
6,400.00	6,378.46	6,344.26	6,328.48	23.02	22.60	150.21	-174.74	-323.97	640.45	608.93	31.52	20.318		
6,500.00	6,477.72	6,442.41	6,426.10	23.41	22.98	150.22	-180.54	-332.43	659.57	627.54	32.03	20.592		
6,600.00	6,576.97	6,540.57	6,523.71	23.81	23.35	150.23	-186.35	-340.90	678.70	646.16	32.54	20.857		
6,700.00	6,676.23	6,638.72	6,621.33	24.20	23.73	150.24	-192.15	-349.37	697.82	664.77	33.05	21.114		
6,800.00	6,775.48	6,736.87	6,718.95	24.59	24.10	150.25	-197.95	-357.83	716.95	683.39	33.56	21.362		
6,900.00	6,874.74	6,835.03	6,816.56	24.98	24.48	150.25	-203.75	-366.30	736.07	702.00	34.07	21.603		
7,000.00	6,973.99	6,933.18	6,914.18	25.38	24.85	150.26	-209.55	-374.77	755.20	720.61	34.59	21.836		
7,091.16	7,064.47	7,022.66	7,003.16	25.73	25.19	150.27	-214.84	-382.48	772.63	737.58	35.05	22.042		
7,100.00	7,073.25	7,031.34	7,011.80	25.77	25.23	150.28	-215.35	-383.23	774.32	739.22	35.10	22.062		
7,200.00	7,172.67	7,129.73	7,109.65	26.16	25.61	150.36	-221.17	-391.72	792.13	756.52	35.61	22.245		
7,300.00	7,272.35	7,239.58	7,218.95	26.53	26.02	150.34	-227.36	-400.76	807.33	771.15	36.18	22.312		
7,400.00	7,372.20	7,360.14	7,339.18	26.90	26.47	150.30	-232.28	-407.95	818.00	781.21	36.79	22.231		
7,500.00	7,472.15	7,481.48	7,460.42	27.25	26.91	150.27	-235.07	-412.01	823.81	786.43	37.38	22.039		
7,557.85	7,530.00	7,551.85	7,530.78	27.44	27.15	-90.05	-235.69	-412.92	824.93	787.23	37.70	21.880		
7,600.00	7,572.15	7,598.32	7,577.25	27.59	27.31	-90.05	-235.73	-412.98	824.98	787.06	37.92	21.756		
7,700.00	7,672.15	7,698.32	7,677.25	27.92	27.65	-90.05	-235.73	-412.98	824.98	786.58	38.40	21.482		
7,800.00	7,772.15	7,798.32	7,777.25	28.26	27.99	-90.05	-235.73	-412.98	824.98	786.09	38.89	21.214		
7,900.00	7,872.15	7,898.32	7,877.25	28.59	28.32	-90.05	-235.73	-412.98	824.98	785.61	39.37	20.952		
8,000.00	7,972.15	7,998.32	7,977.25	28.93	28.66	-90.05	-235.73	-412.98	824.98	785.12	39.86	20.697		
8,100.00	8,072.15	8,098.32	8,077.25	29.27	29.00	-90.05	-235.73	-412.98	824.98	784.63	40.35	20.447		
8,200.00	8,172.15	8,198.32	8,177.25	29.61	29.34	-90.05	-235.73	-412.98	824.98	784.15	40.83	20.203		
8,300.00	8,272.15	8,298.32	8,277.25	29.95	29.69	-90.05	-235.73	-412.98	824.98	783.66	41.32	19.965		
8,400.00	8,372.15	8,398.32	8,377.25	30.29	30.03	-90.05	-235.73	-412.98	824.98	783.17	41.81	19.732		
8,500.00	8,472.15	8,498.32	8,477.25	30.63	30.37	-90.05	-235.73	-412.98	824.98	782.68	42.30	19.504		
8,600.00	8,572.15	8,598.32	8,577.25	30.97	30.71	-90.05	-235.73	-412.98	824.98	782.19	42.79	19.281		
8,700.00	8,672.15	8,698.32	8,677.25	31.31	31.05	-90.05	-235.73	-412.98	824.98	781.70	43.28	19.063		
8,800.00	8,772.15	8,798.32	8,777.25	31.65	31.39	-90.05	-235.73	-412.98	824.98	781.21	43.77	18.849		
8,900.00	8,872.15	8,898.32	8,877.25	31.99	31.74	-90.05	-235.73	-412.98	824.98	780.72	44.26	18.641		
9,000.00	8,972.15	8,998.32	8,977.25	32.33	32.08	-90.05	-235.73	-412.98	824.98	780.23	44.75	18.436		
9,100.00	9,072.15	9,098.32	9,077.25	32.67	32.42	-90.05	-235.73	-412.98	824.98	779.74	45.24	18.236		
9,200.00	9,172.15	9,198.32	9,177.25	33.02	32.77	-90.05	-235.73	-412.98	824.98	779.25	45.73	18.040		
9,300.00	9,272.15	9,298.32	9,277.25	33.36	33.11	-90.05	-235.73	-412.98	824.98	778.76	46.22	17.848		
9,400.00	9,372.15	9,398.32	9,377.25	33.70	33.46	-90.05	-235.73	-412.98	824.98	778.27	46.71	17.661		
9,500.00	9,472.15	9,498.32	9,477.25	34.05	33.80	-90.05	-235.73	-412.98	824.98	777.77	47.21	17.476		
9,600.00	9,572.15	9,598.32	9,577.25	34.39	34.15	-90.05	-235.73	-412.98	824.98	777.28	47.70	17.296		
9,700.00	9,672.15	9,698.32	9,677.25	34.73	34.49	-90.05	-235.73	-412.98	824.98	776.79	48.19	17.119		
9,800.00	9,772.15	9,798.32	9,777.25	35.08	34.84	-90.05	-235.73	-412.98	824.98	776.30	48.68	16.946		
9,900.00	9,872.15	9,898.32	9,877.25	35.42	35.19	-90.05	-235.73	-412.98	824.98	775.80	49.18	16.776		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design 1912 Fed Com - 1912 Fed Com 701H - 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	9,972.15	9,998.32	9,977.25	35.77	35.53	-90.05	-235.73	-412.98	824.98	775.31	49.67	16.609		
10,100.00	10,072.15	10,098.32	10,077.25	36.11	35.88	-90.05	-235.73	-412.98	824.98	774.82	50.17	16.445		
10,200.00	10,172.15	10,198.32	10,177.25	36.46	36.22	-90.05	-235.73	-412.98	824.98	774.32	50.66	16.285		
10,300.00	10,272.15	10,298.32	10,277.25	36.80	36.57	-90.05	-235.73	-412.98	824.98	773.83	51.15	16.127		
10,400.00	10,372.15	10,398.32	10,377.25	37.15	36.92	-90.05	-235.73	-412.98	824.98	773.33	51.65	15.973		
10,500.00	10,472.15	10,498.32	10,477.25	37.50	37.27	-90.05	-235.73	-412.98	824.98	772.84	52.14	15.821		
10,600.00	10,572.15	10,598.32	10,577.25	37.84	37.61	-90.05	-235.73	-412.98	824.98	772.34	52.64	15.673		
10,700.00	10,672.15	10,698.32	10,677.25	38.19	37.96	-90.05	-235.73	-412.98	824.98	771.85	53.13	15.526		
10,800.00	10,772.15	10,798.32	10,777.25	38.53	38.31	-90.05	-235.73	-412.98	824.98	771.35	53.63	15.383		
10,900.00	10,872.15	10,898.32	10,877.25	38.88	38.66	-90.05	-235.73	-412.98	824.98	770.85	54.13	15.242		
11,000.00	10,972.15	10,998.32	10,977.25	39.23	39.01	-90.05	-235.73	-412.98	824.98	770.36	54.62	15.104		
11,100.00	11,072.15	11,098.32	11,077.25	39.58	39.35	-90.05	-235.73	-412.98	824.98	769.86	55.12	14.968		
11,200.00	11,172.15	11,198.32	11,177.25	39.92	39.70	-90.05	-235.73	-412.98	824.98	769.37	55.61	14.834		
11,300.00	11,272.15	11,298.32	11,277.25	40.27	40.05	-90.05	-235.73	-412.98	824.98	768.87	56.11	14.703		
11,406.85	11,379.00	11,405.17	11,384.10	40.64	40.43	-90.05	-235.73	-412.98	824.98	768.34	56.64	14.565		
11,450.00	11,422.11	11,448.28	11,427.21	40.79	40.58	-89.68	-235.73	-412.98	824.97	768.12	56.85	14.510		
11,491.96	11,463.80	11,489.96	11,468.90	40.93	40.72	-90.00	-235.73	-412.98	824.96	767.90	57.06	14.458		
11,500.00	11,471.74	11,497.91	11,476.84	40.96	40.75	-90.09	-235.73	-412.98	824.96	767.86	57.10	14.449		
11,550.00	11,520.67	11,546.83	11,525.77	41.12	40.92	-90.77	-235.73	-412.98	825.04	767.70	57.33	14.391		
11,600.00	11,568.51	11,596.44	11,575.34	41.26	41.09	-91.65	-234.31	-412.99	825.32	767.76	57.56	14.338		
11,650.00	11,614.92	11,647.45	11,626.00	41.40	41.26	-92.53	-228.46	-413.04	825.82	768.03	57.78	14.291		
11,700.00	11,659.53	11,699.77	11,677.20	41.53	41.43	-93.40	-217.80	-413.13	826.52	768.52	58.00	14.251		
11,750.00	11,702.00	11,753.46	11,728.51	41.64	41.59	-94.26	-202.06	-413.27	827.40	769.20	58.20	14.217		
11,800.00	11,742.02	11,808.61	11,779.45	41.74	41.74	-95.10	-180.97	-413.45	828.44	770.06	58.38	14.190		
11,850.00	11,779.27	11,865.27	11,829.41	41.82	41.88	-95.90	-154.31	-413.68	829.61	771.07	58.55	14.170		
11,900.00	11,813.48	11,923.47	11,877.74	41.89	42.01	-96.68	-121.92	-413.96	830.88	772.19	58.69	14.157		
11,950.00	11,844.38	11,983.23	11,923.68	41.95	42.12	-97.40	-83.74	-414.29	832.20	773.38	58.82	14.149		
12,000.00	11,871.74	12,044.53	11,966.40	42.00	42.21	-98.07	-39.83	-414.67	833.51	774.58	58.93	14.144		
12,050.00	11,895.34	12,107.30	12,005.05	42.03	42.29	-98.68	9.60	-415.09	834.78	775.75	59.03	14.142		
12,100.00	11,915.02	12,171.45	12,038.71	42.05	42.34	-99.20	64.17	-415.57	835.94	776.82	59.12	14.139		
12,150.00	11,930.62	12,236.83	12,066.52	42.06	42.39	-99.64	123.29	-416.07	836.95	777.73	59.22	14.133		
12,200.00	11,942.02	12,303.24	12,087.70	42.16	42.52	-99.99	186.19	-416.62	837.77	778.44	59.33	14.120		
12,250.00	11,949.14	12,370.42	12,101.57	42.29	42.69	-100.22	251.89	-417.18	838.35	778.88	59.47	14.097		
12,300.00	11,951.92	12,438.11	12,107.68	42.42	42.86	-100.35	319.25	-417.76	838.66	779.03	59.63	14.063		
12,312.37	11,951.93	12,454.89	12,107.96	42.46	42.90	-100.37	336.03	-417.91	838.70	779.02	59.68	14.053		
12,400.00	11,951.09	12,544.29	12,107.13	42.72	43.17	-100.37	425.42	-418.68	838.71	778.69	60.02	13.975		
12,500.00	11,950.13	12,644.29	12,106.17	43.07	43.51	-100.37	525.41	-419.54	838.72	778.25	60.47	13.870		
12,600.00	11,949.16	12,744.29	12,105.21	43.47	43.90	-100.37	625.41	-420.40	838.73	777.72	61.01	13.747		
12,700.00	11,948.20	12,844.29	12,104.25	43.93	44.36	-100.37	725.40	-421.27	838.74	777.11	61.63	13.609		
12,800.00	11,947.24	12,944.29	12,103.28	44.44	44.86	-100.37	825.39	-422.13	838.75	776.42	62.33	13.457		
12,900.00	11,946.27	13,044.29	12,102.32	45.01	45.42	-100.37	925.38	-422.99	838.75	775.65	63.11	13.291		
13,000.00	11,945.31	13,144.29	12,101.36	45.63	46.03	-100.37	1,025.37	-423.85	838.76	774.81	63.95	13.115		
13,100.00	11,944.35	13,244.29	12,100.39	46.30	46.70	-100.37	1,125.36	-424.71	838.77	773.90	64.87	12.929		
13,200.00	11,943.39	13,344.29	12,099.43	47.01	47.40	-100.37	1,225.36	-425.58	838.78	772.92	65.86	12.736		
13,300.00	11,942.42	13,444.29	12,098.47	47.77	48.16	-100.37	1,325.35	-426.44	838.79	771.88	66.91	12.535		
13,400.00	11,941.46	13,544.29	12,097.50	48.58	48.96	-100.37	1,425.34	-427.30	838.80	770.77	68.03	12.330		
13,500.00	11,940.50	13,644.29	12,096.54	49.42	49.80	-100.37	1,525.33	-428.16	838.81	769.61	69.20	12.121		
13,600.00	11,939.54	13,744.29	12,095.58	50.31	50.68	-100.37	1,625.32	-429.02	838.81	768.39	70.43	11.910		
13,700.00	11,938.57	13,844.29	12,094.61	51.23	51.59	-100.37	1,725.31	-429.89	838.82	767.11	71.71	11.697		
13,800.00	11,937.61	13,944.29	12,093.65	52.19	52.55	-100.37	1,825.31	-430.75	838.83	765.79	73.04	11.484		
13,900.00	11,936.65	14,044.29	12,092.69	53.18	53.53	-100.37	1,925.30	-431.61	838.84	764.42	74.42	11.271		
14,000.00	11,935.68	14,144.29	12,091.73	54.21	54.55	-100.37	2,025.29	-432.47	838.85	763.00	75.85	11.060		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design 1912 Fed Com - 1912 Fed Com 701H - 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	11,934.72	14,244.29	12,090.76	55.26	55.60	-100.37	2,125.28	-433.33	838.86	761.55	77.31	10.850		
14,200.00	11,933.76	14,344.29	12,089.80	56.34	56.68	-100.37	2,225.27	-434.20	838.87	760.05	78.82	10.643		
14,300.00	11,932.80	14,444.29	12,088.84	57.45	57.78	-100.37	2,325.26	-435.06	838.88	758.51	80.36	10.439		
14,400.00	11,931.83	14,544.29	12,087.87	58.59	58.91	-100.37	2,425.26	-435.92	838.88	756.94	81.94	10.238		
14,500.00	11,930.87	14,644.29	12,086.91	59.75	60.07	-100.37	2,525.25	-436.78	838.89	755.34	83.55	10.040		
14,600.00	11,929.91	14,744.29	12,085.95	60.93	61.24	-100.37	2,625.24	-437.64	838.90	753.70	85.20	9.846		
14,700.00	11,928.95	14,844.29	12,084.98	62.13	62.44	-100.37	2,725.23	-438.51	838.91	752.04	86.87	9.657		
14,800.00	11,927.98	14,944.29	12,084.02	63.36	63.66	-100.37	2,825.22	-439.37	838.92	750.34	88.58	9.471		
14,900.00	11,927.02	15,044.29	12,083.06	64.60	64.90	-100.37	2,925.21	-440.23	838.93	748.62	90.31	9.290		
15,000.00	11,926.06	15,144.29	12,082.09	65.86	66.15	-100.37	3,025.21	-441.09	838.94	746.88	92.06	9.113		
15,100.00	11,925.09	15,244.29	12,081.13	67.14	67.43	-100.37	3,125.20	-441.95	838.94	745.11	93.84	8.940		
15,200.00	11,924.13	15,344.29	12,080.17	68.43	68.72	-100.36	3,225.19	-442.81	838.95	743.32	95.64	8.772		
15,300.00	11,923.17	15,444.29	12,079.20	69.74	70.02	-100.36	3,325.18	-443.68	838.96	741.50	97.46	8.608		
15,400.00	11,922.21	15,544.29	12,078.24	71.06	71.34	-100.36	3,425.17	-444.54	838.97	739.67	99.30	8.449		
15,500.00	11,921.24	15,644.29	12,077.28	72.40	72.67	-100.36	3,525.16	-445.40	838.98	737.82	101.16	8.294		
15,600.00	11,920.28	15,744.29	12,076.32	73.75	74.02	-100.36	3,625.16	-446.26	838.99	735.95	103.03	8.143		
15,700.00	11,919.32	15,844.29	12,075.35	75.11	75.37	-100.36	3,725.15	-447.12	839.00	734.07	104.93	7.996		
15,800.00	11,918.36	15,944.29	12,074.39	76.48	76.74	-100.36	3,825.14	-447.99	839.01	732.17	106.84	7.853		
15,900.00	11,917.39	16,044.29	12,073.43	77.86	78.12	-100.36	3,925.13	-448.85	839.01	730.25	108.76	7.714		
16,000.00	11,916.43	16,144.29	12,072.46	79.26	79.51	-100.36	4,025.12	-449.71	839.02	728.32	110.70	7.579		
16,100.00	11,915.47	16,244.29	12,071.50	80.66	80.91	-100.36	4,125.11	-450.57	839.03	726.38	112.66	7.448		
16,200.00	11,914.50	16,344.29	12,070.54	82.07	82.32	-100.36	4,225.11	-451.43	839.04	724.42	114.62	7.320		
16,300.00	11,913.54	16,444.29	12,069.57	83.49	83.74	-100.36	4,325.10	-452.30	839.05	722.45	116.60	7.196		
16,400.00	11,912.58	16,544.29	12,068.61	84.92	85.16	-100.36	4,425.09	-453.16	839.06	720.47	118.59	7.075		
16,500.00	11,911.62	16,644.29	12,067.65	86.36	86.60	-100.36	4,525.08	-454.02	839.07	718.48	120.59	6.958		
16,600.00	11,910.65	16,744.29	12,066.68	87.81	88.04	-100.36	4,625.07	-454.88	839.07	716.48	122.60	6.844		
16,700.00	11,909.69	16,844.29	12,065.72	89.26	89.49	-100.36	4,725.06	-455.74	839.08	714.47	124.62	6.733		
16,800.00	11,908.73	16,944.29	12,064.76	90.72	90.95	-100.36	4,825.06	-456.61	839.09	712.44	126.65	6.625		
16,900.00	11,907.77	17,044.29	12,063.79	92.18	92.41	-100.36	4,925.05	-457.47	839.10	710.41	128.69	6.521		
17,000.00	11,906.80	17,144.29	12,062.83	93.65	93.88	-100.36	5,025.04	-458.33	839.11	708.38	130.73	6.418		
17,100.00	11,905.84	17,244.29	12,061.87	95.13	95.35	-100.36	5,125.03	-459.19	839.12	706.33	132.79	6.319		
17,200.00	11,904.88	17,344.29	12,060.91	96.62	96.83	-100.36	5,225.02	-460.05	839.13	704.28	134.85	6.223		
17,300.00	11,903.91	17,444.29	12,059.94	98.10	98.32	-100.36	5,325.01	-460.92	839.13	702.21	136.92	6.129		
17,400.00	11,902.95	17,544.29	12,058.98	99.60	99.81	-100.36	5,425.01	-461.78	839.14	700.14	139.00	6.037		
17,500.00	11,901.99	17,644.29	12,058.02	101.10	101.31	-100.36	5,525.00	-462.64	839.15	698.07	141.08	5.948		
17,600.00	11,901.03	17,744.29	12,057.05	102.60	102.81	-100.36	5,624.99	-463.50	839.16	695.99	143.17	5.861		
17,700.00	11,900.06	17,844.29	12,056.09	104.11	104.31	-100.36	5,724.98	-464.36	839.17	693.90	145.27	5.777		
17,800.00	11,899.10	17,944.29	12,055.13	105.62	105.82	-100.36	5,824.97	-465.23	839.18	691.81	147.37	5.694		
17,900.00	11,898.14	18,044.29	12,054.16	107.14	107.34	-100.36	5,924.96	-466.09	839.19	689.71	149.48	5.614		
18,000.00	11,897.18	18,144.29	12,053.20	108.66	108.86	-100.36	6,024.96	-466.95	839.20	687.60	151.59	5.536		
18,100.00	11,896.21	18,244.29	12,052.24	110.18	110.38	-100.36	6,124.95	-467.81	839.20	685.49	153.71	5.460		
18,200.00	11,895.25	18,344.29	12,051.27	111.71	111.90	-100.36	6,224.94	-468.67	839.21	683.38	155.83	5.385		
18,300.00	11,894.29	18,444.29	12,050.31	113.24	113.43	-100.36	6,324.93	-469.54	839.22	681.26	157.96	5.313		
18,400.00	11,893.32	18,544.29	12,049.35	114.77	114.96	-100.36	6,424.92	-470.40	839.23	679.14	160.09	5.242		
18,500.00	11,892.36	18,644.29	12,048.38	116.31	116.50	-100.36	6,524.91	-471.26	839.24	677.01	162.23	5.173		
18,600.00	11,891.40	18,744.29	12,047.42	117.85	118.04	-100.36	6,624.90	-472.12	839.25	674.88	164.37	5.106		
18,700.00	11,890.44	18,844.29	12,046.46	119.39	119.58	-100.36	6,724.90	-472.98	839.26	672.74	166.52	5.040		
18,800.00	11,889.47	18,944.29	12,045.50	120.94	121.13	-100.36	6,824.89	-473.85	839.26	670.60	168.67	4.976		
18,900.00	11,888.51	19,044.29	12,044.53	122.49	122.67	-100.36	6,924.88	-474.71	839.27	668.46	170.82	4.913		
19,000.00	11,887.55	19,144.29	12,043.57	124.04	124.22	-100.36	7,024.87	-475.57	839.28	666.31	172.97	4.852		
19,100.00	11,886.59	19,244.29	12,042.61	125.60	125.78	-100.36	7,124.86	-476.43	839.29	664.16	175.13	4.792		
19,200.00	11,885.62	19,344.29	12,041.64	127.15	127.33	-100.36	7,224.85	-477.29	839.30	662.00	177.30	4.734		

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 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design 1912 Fed Com - 1912 Fed Com 701H - OH - Plan #2													Offset Site Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
							+N/-S (usft)	+E/-W (usft)						
19,300.00	11,884.66	19,444.29	12,040.68	128.71	128.89	-100.36	7,324.85	-478.16	839.31	659.85	179.46	4.677		
19,400.00	11,883.70	19,544.29	12,039.72	130.27	130.45	-100.36	7,424.84	-479.02	839.32	657.69	181.63	4.621		
19,500.00	11,882.73	19,644.29	12,038.75	131.84	132.01	-100.36	7,524.83	-479.88	839.33	655.53	183.80	4.567		
19,600.00	11,881.77	19,744.29	12,037.79	133.40	133.58	-100.36	7,624.82	-480.74	839.33	653.36	185.97	4.513		
19,700.00	11,880.81	19,844.29	12,036.83	134.97	135.14	-100.36	7,724.81	-481.60	839.34	651.19	188.15	4.461		
19,800.00	11,879.85	19,944.29	12,035.86	136.54	136.71	-100.36	7,824.80	-482.47	839.35	649.02	190.33	4.410		
19,900.00	11,878.88	20,044.29	12,034.90	138.11	138.28	-100.36	7,924.80	-483.33	839.36	646.85	192.51	4.360		
20,000.00	11,877.92	20,144.29	12,033.94	139.69	139.85	-100.36	8,024.79	-484.19	839.37	644.67	194.70	4.311		
20,100.00	11,876.96	20,244.29	12,032.97	141.26	141.43	-100.36	8,124.78	-485.05	839.38	642.49	196.88	4.263		
20,200.00	11,876.00	20,344.29	12,032.01	142.84	143.00	-100.36	8,224.77	-485.91	839.39	640.31	199.07	4.217		
20,300.00	11,875.03	20,444.29	12,031.05	144.42	144.58	-100.36	8,324.76	-486.78	839.39	638.13	201.26	4.171		
20,400.00	11,874.07	20,544.29	12,030.09	146.00	146.16	-100.36	8,424.75	-487.64	839.40	635.95	203.46	4.126		
20,500.00	11,873.11	20,644.29	12,029.12	147.58	147.74	-100.36	8,524.75	-488.50	839.41	633.76	205.65	4.082		
20,600.00	11,872.14	20,744.29	12,028.16	149.16	149.32	-100.36	8,624.74	-489.36	839.42	631.57	207.85	4.039		
20,700.00	11,871.18	20,844.29	12,027.20	150.75	150.91	-100.36	8,724.73	-490.22	839.43	629.38	210.04	3.996		
20,800.00	11,870.22	20,944.29	12,026.23	152.33	152.49	-100.36	8,824.72	-491.09	839.44	627.19	212.25	3.955		
20,900.00	11,869.26	21,044.29	12,025.27	153.92	154.08	-100.36	8,924.71	-491.95	839.45	625.00	214.45	3.914		
21,000.00	11,868.29	21,144.29	12,024.31	155.51	155.67	-100.36	9,024.70	-492.81	839.45	622.80	216.65	3.875		
21,100.00	11,867.33	21,244.29	12,023.34	157.10	157.26	-100.36	9,124.70	-493.67	839.46	620.61	218.86	3.836		
21,200.00	11,866.37	21,344.29	12,022.38	158.69	158.85	-100.36	9,224.69	-494.53	839.47	618.41	221.06	3.797		
21,300.00	11,865.41	21,444.29	12,021.42	160.28	160.44	-100.36	9,324.68	-495.40	839.48	616.21	223.27	3.760		
21,400.00	11,864.44	21,544.29	12,020.45	161.88	162.03	-100.36	9,424.67	-496.26	839.49	614.01	225.48	3.723		
21,500.00	11,863.48	21,644.29	12,019.49	163.47	163.63	-100.36	9,524.66	-497.12	839.50	611.81	227.69	3.687		
21,600.00	11,862.52	21,744.29	12,018.53	165.07	165.22	-100.36	9,624.65	-497.98	839.51	609.60	229.90	3.652		
21,700.00	11,861.56	21,844.29	12,017.57	166.67	166.82	-100.36	9,724.65	-498.84	839.52	607.40	232.12	3.617		
21,800.00	11,860.59	21,944.29	12,016.60	168.27	168.42	-100.36	9,824.64	-499.71	839.52	605.19	234.33	3.583		
21,900.00	11,859.63	22,044.29	12,015.64	169.86	170.01	-100.36	9,924.63	-500.57	839.53	602.98	236.55	3.549		
22,000.00	11,858.67	22,144.29	12,014.68	171.47	171.61	-100.36	10,024.62	-501.43	839.54	600.78	238.77	3.516		
22,008.47	11,858.59	22,152.76	12,014.59	171.60	171.75	-100.36	10,033.09	-501.50	839.54	600.59	238.95	3.513		
22,099.37	11,857.71	22,238.31	12,013.77	173.06	173.12	-100.36	10,118.63	-502.24	839.57	598.68	240.89	3.485 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 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design Santa Fe Fed/Zia Fed - Santa Fe 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	
0.00	0.00	0.00	0.00	0.00	0.00	89.99	0.45	3,702.02	3,702.22					
100.00	100.00	62.00	62.00	0.13	0.09	89.99	0.45	3,702.02	3,702.02	3,701.87		0.15	N/A	
200.00	200.00	162.00	162.00	0.48	0.36	89.99	0.45	3,702.02	3,702.02	3,701.42		0.61	6,114.407	
300.00	300.00	262.00	262.00	0.84	0.72	89.99	0.45	3,702.02	3,702.02	3,700.91		1.11	3,336.106	
400.00	400.00	362.00	362.00	1.20	1.08	89.99	0.45	3,702.02	3,702.02	3,700.41		1.62	2,291.397	
500.00	500.00	462.00	462.00	1.56	1.44	89.99	0.45	3,702.02	3,702.02	3,699.90		2.12	1,744.558	
600.00	600.00	562.00	562.00	1.92	1.80	89.99	0.45	3,702.02	3,702.02	3,699.39		2.63	1,408.327	
700.00	700.00	662.00	662.00	2.28	2.16	89.99	0.45	3,702.02	3,702.02	3,698.89		3.14	1,180.718	
800.00	800.00	762.00	762.00	2.63	2.51	89.99	0.45	3,702.02	3,702.02	3,698.38		3.64	1,016.426	
900.00	900.00	862.00	862.00	2.99	2.87	89.99	0.45	3,702.02	3,702.02	3,697.87		4.15	892.262	
1,000.00	1,000.00	962.00	962.00	3.35	3.23	89.99	0.45	3,702.02	3,702.02	3,697.37		4.66	795.127	
1,100.00	1,100.00	1,062.00	1,062.00	3.71	3.59	89.99	0.45	3,702.02	3,702.02	3,696.86		5.16	717.061	
1,200.00	1,200.00	1,162.00	1,162.00	4.07	3.95	89.99	0.45	3,702.02	3,702.02	3,696.35		5.67	652.953	
1,300.00	1,300.00	1,262.00	1,262.00	4.43	4.31	89.99	0.45	3,702.02	3,702.02	3,695.85		6.18	599.366	
1,400.00	1,400.00	1,362.00	1,362.00	4.79	4.67	89.99	0.45	3,702.02	3,702.02	3,695.34		6.68	553.907	
1,500.00	1,500.00	1,462.00	1,462.00	5.14	5.02	89.99	0.45	3,702.02	3,702.02	3,694.83		7.19	514.857	
1,600.00	1,600.00	1,562.00	1,562.00	5.50	5.38	89.99	0.45	3,702.02	3,702.02	3,694.33		7.70	480.950	
1,700.00	1,700.00	1,662.00	1,662.00	5.86	5.74	89.99	0.45	3,702.02	3,702.02	3,693.82		8.20	451.233	
1,800.00	1,800.00	1,762.00	1,762.00	6.22	6.10	89.99	0.45	3,702.02	3,702.02	3,693.31		8.71	424.974	
1,900.00	1,900.00	1,862.00	1,862.00	6.58	6.46	89.99	0.45	3,702.02	3,702.02	3,692.81		9.22	401.603	
2,000.00	2,000.00	1,962.00	1,962.00	6.94	6.82	89.99	0.45	3,702.02	3,702.02	3,692.30		9.73	380.669	
2,100.00	2,100.00	2,062.00	2,062.00	7.29	7.17	89.99	0.45	3,702.02	3,702.02	3,691.79		10.23	361.809	
2,200.00	2,200.00	2,162.00	2,162.00	7.65	7.53	89.99	0.45	3,702.02	3,702.02	3,691.28		10.74	344.730	
2,300.00	2,300.00	2,262.00	2,262.00	8.01	7.89	89.99	0.45	3,702.02	3,702.02	3,690.78		11.25	329.190	
2,400.00	2,400.00	2,362.00	2,362.00	8.37	8.25	89.99	0.45	3,702.02	3,702.02	3,690.27		11.75	314.991	
2,500.00	2,500.00	2,462.00	2,462.00	8.73	8.61	89.99	0.45	3,702.02	3,702.02	3,689.76		12.26	301.966	
2,600.00	2,600.00	3,065.47	3,063.43	9.09	10.70	90.14	-8.83	3,661.42	3,695.61	3,681.69		13.92	265.583	
2,700.00	2,700.00	3,164.50	3,161.49	9.45	11.06	90.19	-11.90	3,647.99	3,682.04	3,667.64		14.41	255.607	
2,800.00	2,800.00	3,263.52	3,259.55	9.80	11.42	90.24	-14.97	3,634.55	3,668.48	3,653.58		14.90	246.261	
2,900.00	2,900.00	3,362.55	3,357.62	10.16	11.78	90.29	-18.04	3,621.11	3,654.92	3,639.53		15.39	237.488	
3,000.00	3,000.00	3,461.58	3,455.68	10.52	12.15	90.34	-21.12	3,607.68	3,641.36	3,625.47		15.88	229.241	
3,100.00	3,100.00	3,560.60	3,553.74	10.88	12.52	90.39	-24.19	3,594.24	3,627.80	3,611.42		16.38	221.475	
3,200.00	3,200.00	3,659.63	3,651.80	11.24	12.89	90.44	-27.26	3,580.80	3,614.25	3,597.37		16.88	214.150	
3,300.00	3,299.99	3,758.51	3,749.72	11.58	13.27	-29.33	-30.32	3,567.39	3,599.57	3,582.20		17.37	207.278	
3,400.00	3,399.91	3,857.06	3,847.31	11.92	13.64	-29.44	-33.38	3,554.01	3,582.63	3,564.79		17.85	200.751	
3,500.00	3,499.69	3,955.20	3,944.49	12.25	14.02	-29.58	-36.42	3,540.70	3,563.46	3,545.13		18.33	194.445	
3,600.00	3,599.27	4,052.87	4,041.21	12.59	14.40	-29.77	-39.45	3,527.44	3,542.05	3,523.25		18.81	188.347	
3,666.69	3,665.53	4,117.71	4,105.43	12.82	14.65	-29.91	-41.46	3,518.65	3,526.55	3,507.42		19.13	184.388	
3,700.00	3,698.59	4,150.03	4,137.43	12.93	14.78	-29.93	-42.47	3,514.26	3,518.56	3,499.27		19.29	182.448	
3,800.00	3,797.85	4,247.07	4,233.53	13.28	15.16	-29.98	-45.48	3,501.09	3,494.58	3,474.81		19.76	176.811	
3,900.00	3,897.10	4,344.11	4,329.62	13.63	15.54	-30.03	-48.49	3,487.92	3,470.59	3,450.35		20.25	171.424	
4,000.00	3,996.36	4,441.15	4,425.72	13.98	15.92	-30.08	-51.50	3,474.76	3,446.62	3,425.89		20.73	166.271	
4,100.00	4,095.61	4,538.19	4,521.81	14.34	16.30	-30.13	-54.51	3,461.59	3,422.64	3,401.43		21.21	161.341	
4,200.00	4,194.86	4,635.23	4,617.91	14.70	16.69	-30.18	-57.52	3,448.42	3,398.66	3,376.96		21.70	156.618	
4,300.00	4,294.12	4,732.27	4,714.00	15.06	17.07	-30.23	-60.53	3,435.26	3,374.69	3,352.51		22.19	152.092	
4,400.00	4,393.37	4,829.31	4,810.09	15.42	17.46	-30.28	-63.54	3,422.09	3,350.72	3,328.05		22.68	147.752	
4,500.00	4,492.63	4,926.35	4,906.19	15.79	17.85	-30.33	-66.54	3,408.92	3,326.76	3,303.59		23.17	143.587	
4,600.00	4,491.88	5,023.39	5,002.28	16.16	18.24	-30.39	-69.55	3,395.75	3,302.80	3,279.13		23.66	139.587	
4,700.00	4,491.14	5,120.43	5,098.38	16.53	18.63	-30.44	-72.56	3,382.59	3,278.83	3,254.68		24.15	135.743	
4,800.00	4,790.39	5,217.46	5,194.47	16.90	19.02	-30.50	-75.57	3,369.42	3,254.88	3,230.23		24.65	132.048	
4,900.00	4,889.65	5,314.50	5,290.57	17.27	19.41	-30.55	-78.58	3,356.25	3,230.92	3,205.78		25.14	128.492	
5,000.00	4,988.90	5,411.54	5,386.66	17.65	19.81	-30.61	-81.59	3,343.08	3,206.97	3,181.33		25.64	125.069	

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	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	5,088.16	5,508.58	5,482.76	18.03	20.20	-30.67	-84.60	3,329.92	3,183.02	3,156.88	26.14	121.771		
5,200.00	5,187.41	5,605.62	5,578.85	18.40	20.59	-30.73	-87.61	3,316.75	3,159.08	3,132.44	26.64	118.593		
5,300.00	5,286.66	5,702.66	5,674.95	18.78	20.99	-30.79	-90.62	3,303.58	3,135.13	3,108.00	27.14	115.528		
5,400.00	5,385.92	5,799.70	5,771.04	19.16	21.38	-30.85	-93.63	3,290.42	3,111.19	3,083.56	27.64	112.570		
5,500.00	5,485.17	5,896.74	5,867.13	19.55	21.78	-30.91	-96.64	3,277.25	3,087.26	3,059.12	28.14	109.715		
5,600.00	5,584.43	5,993.78	5,963.23	19.93	22.18	-30.97	-99.65	3,264.08	3,063.33	3,034.68	28.64	106.957		
5,700.00	5,683.68	6,090.82	6,059.32	20.31	22.57	-31.04	-102.66	3,250.91	3,039.40	3,010.25	29.14	104.291		
5,800.00	5,782.94	6,187.86	6,155.42	20.70	22.97	-31.10	-105.67	3,237.75	3,015.47	2,985.82	29.65	101.714		
5,900.00	5,882.19	6,284.90	6,251.51	21.08	23.37	-31.17	-108.68	3,224.58	2,991.55	2,961.40	30.15	99.221		
6,000.00	5,981.45	6,381.93	6,347.61	21.47	23.77	-31.23	-111.69	3,211.41	2,967.63	2,936.98	30.66	96.807		
6,100.00	6,080.70	6,478.97	6,443.70	21.86	24.17	-31.30	-114.70	3,198.24	2,943.72	2,912.56	31.16	94.470		
6,200.00	6,179.95	6,576.01	6,539.80	22.25	24.57	-31.37	-117.71	3,185.08	2,919.81	2,888.14	31.67	92.206		
6,300.00	6,279.21	6,673.05	6,635.89	22.63	24.97	-31.44	-120.72	3,171.91	2,895.90	2,863.73	32.17	90.012		
6,400.00	6,378.46	6,770.09	6,731.99	23.02	25.37	-31.51	-123.73	3,158.74	2,872.00	2,839.32	32.68	87.885		
6,500.00	6,477.72	6,867.13	6,828.08	23.41	25.77	-31.58	-126.74	3,145.58	2,848.10	2,814.91	33.19	85.821		
6,600.00	6,576.97	6,964.17	6,924.17	23.81	26.17	-31.66	-129.75	3,132.41	2,824.21	2,790.51	33.69	83.818		
6,700.00	6,676.23	7,061.21	7,020.27	24.20	26.57	-31.73	-132.76	3,119.24	2,800.32	2,766.12	34.20	81.874		
6,800.00	6,775.48	7,158.25	7,116.36	24.59	26.97	-31.81	-135.77	3,106.07	2,776.43	2,741.72	34.71	79.986		
6,900.00	6,874.74	7,255.29	7,212.46	24.98	27.37	-31.88	-138.78	3,092.91	2,752.55	2,717.33	35.22	78.151		
7,000.00	6,973.99	7,352.33	7,308.55	25.38	27.77	-31.96	-141.79	3,079.74	2,728.68	2,692.95	35.73	76.368		
7,091.16	7,064.47	7,440.78	7,396.15	25.73	28.14	-32.04	-144.53	3,067.74	2,706.92	2,670.72	36.20	74.786		
7,100.00	7,073.25	7,449.37	7,404.65	25.77	28.17	-32.03	-144.80	3,066.57	2,704.82	2,668.58	36.24	74.635		
7,200.00	7,172.67	7,546.74	7,501.07	26.16	28.58	-31.91	-147.82	3,053.36	2,682.22	2,645.47	36.75	72.985		
7,300.00	7,272.35	7,644.61	7,597.99	26.53	28.98	-31.77	-150.85	3,040.08	2,661.80	2,624.54	37.26	71.440		
7,400.00	7,372.20	7,742.93	7,695.36	26.90	29.39	-31.63	-153.90	3,026.74	2,643.56	2,605.80	37.77	69.998		
7,500.00	7,472.15	7,841.63	7,793.09	27.25	29.80	-31.48	-156.96	3,013.35	2,627.52	2,589.25	38.27	68.653		
7,557.85	7,530.00	7,898.87	7,849.77	27.44	30.04	88.32	-158.74	3,005.58	2,619.25	2,580.69	38.56	67.922		
7,600.00	7,572.15	7,940.61	7,891.11	27.59	30.21	88.34	-160.03	2,999.92	2,613.49	2,574.72	38.77	67.404		
7,700.00	7,672.15	8,039.63	7,989.17	27.92	30.63	88.40	-163.10	2,986.48	2,599.84	2,560.56	39.27	66.197		
7,800.00	7,772.15	8,138.66	8,087.23	28.26	31.04	88.46	-166.17	2,973.04	2,586.18	2,546.41	39.78	65.019		
7,900.00	7,872.15	8,237.69	8,185.29	28.59	31.45	88.52	-169.25	2,959.60	2,572.53	2,532.25	40.28	63.870		
8,000.00	7,972.15	8,336.71	8,283.36	28.93	31.86	88.58	-172.32	2,946.17	2,558.88	2,518.10	40.78	62.749		
8,100.00	8,072.15	8,435.74	8,381.42	29.27	32.27	88.65	-175.39	2,932.73	2,545.24	2,503.95	41.28	61.655		
8,200.00	8,172.15	8,534.77	8,479.48	29.61	32.69	88.71	-178.46	2,919.29	2,531.59	2,489.81	41.78	60.586		
8,300.00	8,272.15	8,633.79	8,577.54	29.95	33.10	88.77	-181.53	2,905.86	2,517.96	2,475.67	42.29	59.543		
8,400.00	8,372.15	8,732.82	8,675.61	30.29	33.51	88.84	-184.60	2,892.42	2,504.32	2,461.53	42.79	58.523		
8,500.00	8,472.15	8,831.85	8,773.67	30.63	33.93	88.90	-187.67	2,878.98	2,490.69	2,447.39	43.30	57.527		
8,600.00	8,572.15	8,930.87	8,871.73	30.97	34.34	88.97	-190.74	2,865.55	2,477.06	2,433.26	43.80	56.554		
8,700.00	8,672.15	9,000.00	8,940.24	31.31	34.63	89.01	-192.81	2,856.51	2,463.96	2,419.70	44.27	55.664		
8,800.00	8,772.15	9,058.99	8,998.81	31.65	34.86	89.04	-194.36	2,849.73	2,452.39	2,407.68	44.71	54.852		
8,900.00	8,872.15	9,120.13	9,059.63	31.99	35.10	89.08	-195.75	2,843.63	2,442.38	2,397.23	45.15	54.096		
9,000.00	8,972.15	9,200.00	9,139.22	32.33	35.41	89.11	-197.25	2,837.10	2,434.05	2,388.43	45.61	53.361		
9,100.00	9,072.15	9,242.93	9,182.05	32.67	35.77	89.12	-197.90	2,834.26	2,427.05	2,381.05	46.00	52.759		
9,200.00	9,172.15	9,300.00	9,239.03	33.02	36.01	89.14	-198.59	2,831.20	2,421.75	2,375.34	46.41	52.185		
9,300.00	9,272.15	9,366.24	9,305.22	33.36	36.21	89.15	-199.17	2,828.71	2,418.02	2,371.19	46.82	51.642		
9,400.00	9,372.15	9,427.99	9,366.96	33.70	36.43	89.16	-199.47	2,827.38	2,415.87	2,368.65	47.22	51.165		
9,500.00	9,472.15	9,495.19	9,434.15	34.05	36.63	89.16	-199.55	2,827.02	2,415.28	2,367.67	47.62	50.724		
9,600.00	9,572.15	9,595.19	9,534.15	34.39	36.75	89.16	-199.55	2,827.02	2,415.28	2,367.18	48.10	50.213		
9,700.00	9,672.15	9,695.19	9,634.15	34.73	37.07	89.16	-199.55	2,827.02	2,415.28	2,366.70	48.58	49.713		
9,800.00	9,772.15	9,795.19	9,734.15	35.08	37.39	89.16	-199.55	2,827.02	2,415.28	2,366.21	49.07	49.221		
9,900.00	9,872.15	9,895.19	9,834.15	35.42	37.71	89.16	-199.55	2,827.02	2,415.28	2,365.73	49.56	48.739		
10,000.00	9,972.15	9,995.19	9,934.15	35.77	38.03	89.16	-199.55	2,827.02	2,415.28	2,365.24	50.04	48.266		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design Santa Fe Fed/Zia Fed - Santa Fe 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	
10,100.00	10,072.15	10,095.19	10,034.15	36.11	38.35	89.16	-199.55	2,827.02	2,415.28	2,364.76	50.53	47.801		
10,200.00	10,172.15	10,195.19	10,134.15	36.46	38.67	89.16	-199.55	2,827.02	2,415.28	2,364.27	51.01	47.345		
10,300.00	10,272.15	10,295.19	10,234.15	36.80	39.00	89.16	-199.55	2,827.02	2,415.28	2,363.78	51.50	46.897		
10,400.00	10,372.15	10,395.19	10,334.15	37.15	39.32	89.16	-199.55	2,827.02	2,415.28	2,363.29	51.99	46.458		
10,500.00	10,472.15	10,495.19	10,434.15	37.50	39.65	89.16	-199.55	2,827.02	2,415.28	2,362.81	52.48	46.026		
10,600.00	10,572.15	10,595.19	10,534.15	37.84	39.97	89.16	-199.55	2,827.02	2,415.28	2,362.32	52.97	45.601		
10,700.00	10,672.15	10,695.19	10,634.15	38.19	40.30	89.16	-199.55	2,827.02	2,415.28	2,361.83	53.45	45.185		
10,800.00	10,772.15	10,795.19	10,734.15	38.53	40.62	89.16	-199.55	2,827.02	2,415.28	2,361.34	53.94	44.775		
10,900.00	10,872.15	10,895.19	10,834.15	38.88	40.95	89.16	-199.55	2,827.02	2,415.28	2,360.85	54.43	44.373		
11,000.00	10,972.15	10,995.19	10,934.15	39.23	41.27	89.16	-199.55	2,827.02	2,415.28	2,360.36	54.92	43.977		
11,100.00	11,072.15	11,095.19	11,034.15	39.58	41.60	89.16	-199.55	2,827.02	2,415.28	2,359.87	55.41	43.588		
11,105.12	11,077.27	11,100.30	11,039.27	39.59	41.62	89.16	-199.55	2,827.02	2,415.28	2,359.85	55.44	43.569 CC		
11,200.00	11,172.15	11,193.56	11,132.42	39.92	41.92	89.09	-196.46	2,827.00	2,415.30	2,359.41	55.89	43.213		
11,300.00	11,272.15	11,287.67	11,224.81	40.27	42.20	88.67	-179.07	2,826.84	2,415.50	2,359.16	56.35	42.868		
11,406.85	11,379.00	11,379.62	11,311.13	40.64	42.45	87.93	-147.72	2,826.55	2,416.31	2,359.52	56.79	42.547		
11,450.00	11,422.11	11,414.13	11,342.07	40.79	42.53	88.03	-132.44	2,826.41	2,416.90	2,359.95	56.96	42.434		
11,500.00	11,471.74	11,450.00	11,373.19	40.96	42.61	87.61	-114.62	2,826.25	2,417.71	2,360.58	57.13	42.319		
11,550.00	11,520.67	11,491.71	11,407.89	41.12	42.70	87.15	-91.49	2,826.04	2,418.62	2,361.31	57.31	42.203		
11,600.00	11,568.51	11,529.42	11,437.74	41.26	42.76	86.73	-68.46	2,825.83	2,419.62	2,362.15	57.47	42.103		
11,650.00	11,614.92	11,566.54	11,465.58	41.40	42.82	86.33	-43.92	2,825.61	2,420.68	2,363.06	57.62	42.013		
11,700.00	11,659.53	11,600.00	11,489.27	41.53	42.88	85.97	-20.30	2,825.40	2,421.77	2,364.02	57.75	41.937		
11,750.00	11,702.00	11,639.27	11,515.26	41.64	42.92	85.59	9.14	2,825.13	2,422.87	2,364.98	57.89	41.856		
11,800.00	11,742.02	11,675.01	11,537.11	41.74	42.96	85.26	37.41	2,824.87	2,423.95	2,365.94	58.01	41.786		
11,850.00	11,779.27	11,710.40	11,556.96	41.82	43.00	84.95	66.70	2,824.61	2,424.99	2,366.87	58.13	41.719		
11,900.00	11,813.48	11,750.00	11,576.99	41.89	43.04	84.65	100.85	2,824.30	2,425.98	2,367.73	58.25	41.647		
11,950.00	11,844.38	11,780.34	11,590.70	41.95	43.06	84.43	127.91	2,824.05	2,426.88	2,368.53	58.35	41.591		
12,000.00	11,871.74	11,814.96	11,604.58	42.00	43.09	84.21	159.62	2,823.76	2,427.69	2,369.23	58.46	41.526		
12,050.00	11,895.34	11,850.00	11,616.66	42.03	43.12	84.03	192.51	2,823.47	2,428.38	2,369.81	58.58	41.457		
12,100.00	11,915.02	11,883.71	11,626.35	42.05	43.14	83.88	224.79	2,823.17	2,428.95	2,370.26	58.69	41.386		
12,150.00	11,930.62	11,917.91	11,634.23	42.06	43.18	83.77	258.05	2,822.87	2,429.38	2,370.57	58.81	41.309		
12,200.00	11,942.02	11,950.00	11,639.81	42.16	43.21	83.70	289.65	2,822.58	2,429.67	2,370.74	58.93	41.229		
12,250.00	11,949.14	11,986.09	11,643.95	42.29	43.25	83.66	325.50	2,822.26	2,429.81	2,370.74	59.07	41.137		
12,300.00	11,951.92	12,020.15	11,645.79	42.42	43.30	83.66	359.50	2,821.95	2,429.79	2,370.58	59.20	41.040		
12,312.37	11,951.93	12,028.57	11,645.93	42.46	43.32	83.67	367.92	2,821.87	2,429.76	2,370.52	59.24	41.016		
12,334.27	11,951.72	12,044.06	11,645.87	42.52	43.34	83.67	383.40	2,821.73	2,429.73	2,370.42	59.31	40.968		
12,400.00	11,951.09	12,108.96	11,644.74	42.72	43.47	83.66	448.30	2,821.15	2,429.75	2,370.19	59.56	40.793		
12,500.00	11,950.13	12,208.96	11,642.99	43.07	43.74	83.64	548.27	2,820.24	2,429.79	2,369.76	60.03	40.478		
12,600.00	11,949.16	12,308.95	11,641.24	43.47	44.09	83.62	648.25	2,819.33	2,429.82	2,369.24	60.58	40.111		
12,700.00	11,948.20	12,408.95	11,639.49	43.93	44.52	83.60	748.23	2,818.42	2,429.85	2,368.64	61.21	39.696		
12,800.00	11,947.24	12,508.95	11,637.74	44.44	45.01	83.58	848.21	2,817.52	2,429.89	2,367.96	61.93	39.239		
12,900.00	11,946.27	12,608.95	11,635.99	45.01	45.56	83.57	948.18	2,816.61	2,429.92	2,367.21	62.72	38.744		
13,000.00	11,945.31	12,708.94	11,634.24	45.63	46.18	83.55	1,048.16	2,815.70	2,429.96	2,366.37	63.58	38.216		
13,100.00	11,944.35	12,808.94	11,632.49	46.30	46.84	83.53	1,148.14	2,814.80	2,429.99	2,365.47	64.52	37.660		
13,200.00	11,943.39	12,908.94	11,630.75	47.01	47.56	83.51	1,248.12	2,813.89	2,430.03	2,364.50	65.53	37.082		
13,300.00	11,942.42	13,008.93	11,629.00	47.77	48.32	83.49	1,348.09	2,812.98	2,430.06	2,363.46	66.61	36.484		
13,400.00	11,941.46	13,108.93	11,627.25	48.58	49.13	83.47	1,448.07	2,812.07	2,430.10	2,362.36	67.74	35.873		
13,500.00	11,940.50	13,208.93	11,625.50	49.42	49.97	83.45	1,548.05	2,811.17	2,430.13	2,361.20	68.94	35.251		
13,600.00	11,939.54	13,308.92	11,623.75	50.31	50.86	83.44	1,648.03	2,810.26	2,430.17	2,359.98	70.19	34.623		
13,700.00	11,938.57	13,408.92	11,622.00	51.23	51.79	83.42	1,748.00	2,809.35	2,430.21	2,358.71	71.49	33.991		
13,800.00	11,937.61	13,508.92	11,620.25	52.19	52.75	83.40	1,847.98	2,808.45	2,430.24	2,357.39	72.85	33.359		
13,900.00	11,936.65	13,608.91	11,618.50	53.18	53.74	83.38	1,947.96	2,807.54	2,430.28	2,356.02	74.25	32.729		
14,000.00	11,935.68	13,708.91	11,616.76	54.21	54.77	83.36	2,047.94	2,806.63	2,430.32	2,354.61	75.70	32.103		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	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	11,934.72	13,808.91	11,615.01	55.26	55.83	83.34	2,147.91	2,805.72	2,430.35	2,353.16	77.19	31.483		
14,200.00	11,933.76	13,908.90	11,613.26	56.34	56.91	83.32	2,247.89	2,804.82	2,430.39	2,351.66	78.73	30.871		
14,300.00	11,932.80	14,008.90	11,611.51	57.45	58.02	83.31	2,347.87	2,803.91	2,430.43	2,350.13	80.30	30.269		
14,400.00	11,931.83	14,108.90	11,609.76	58.59	59.16	83.29	2,447.85	2,803.00	2,430.47	2,348.57	81.90	29.676		
14,500.00	11,930.87	14,208.90	11,608.01	59.75	60.32	83.27	2,547.82	2,802.10	2,430.50	2,346.97	83.54	29.094		
14,600.00	11,929.91	14,308.89	11,606.26	60.93	61.50	83.25	2,647.80	2,801.19	2,430.54	2,345.33	85.21	28.525		
14,700.00	11,928.95	14,408.89	11,604.51	62.13	62.70	83.23	2,747.78	2,800.28	2,430.58	2,343.67	86.91	27.967		
14,800.00	11,927.98	14,508.89	11,602.77	63.36	63.92	83.21	2,847.76	2,799.38	2,430.62	2,341.98	88.64	27.422		
14,900.00	11,927.02	14,608.88	11,601.02	64.60	65.17	83.19	2,947.73	2,798.47	2,430.66	2,340.27	90.39	26.891		
15,000.00	11,926.06	14,708.88	11,599.27	65.86	66.43	83.18	3,047.71	2,797.56	2,430.70	2,338.53	92.17	26.372		
15,100.00	11,925.09	14,808.88	11,597.52	67.14	67.70	83.16	3,147.69	2,796.65	2,430.74	2,336.77	93.97	25.867		
15,200.00	11,924.13	14,908.87	11,595.77	68.43	68.99	83.14	3,247.67	2,795.75	2,430.78	2,334.98	95.80	25.374		
15,300.00	11,923.17	15,008.87	11,594.02	69.74	70.30	83.12	3,347.64	2,794.84	2,430.82	2,333.18	97.64	24.895		
15,400.00	11,922.21	15,108.87	11,592.27	71.06	71.62	83.10	3,447.62	2,793.93	2,430.86	2,331.35	99.51	24.429		
15,500.00	11,921.24	15,208.86	11,590.52	72.40	72.96	83.08	3,547.60	2,793.03	2,430.90	2,329.51	101.39	23.975		
15,600.00	11,920.28	15,308.86	11,588.78	73.75	74.30	83.06	3,647.58	2,792.12	2,430.94	2,327.65	103.29	23.534		
15,700.00	11,919.32	15,408.86	11,587.03	75.11	75.66	83.05	3,747.55	2,791.21	2,430.98	2,325.77	105.21	23.106		
15,800.00	11,918.36	15,508.86	11,585.28	76.48	77.03	83.03	3,847.53	2,790.30	2,431.03	2,323.88	107.15	22.689		
15,900.00	11,917.39	15,608.85	11,583.53	77.86	78.42	83.01	3,947.51	2,789.40	2,431.07	2,321.97	109.09	22.284		
16,000.00	11,916.43	15,708.85	11,581.78	79.26	79.81	82.99	4,047.49	2,788.49	2,431.11	2,320.05	111.06	21.891		
16,100.00	11,915.47	15,808.85	11,580.03	80.66	81.21	82.97	4,147.46	2,787.58	2,431.15	2,318.12	113.03	21.508		
16,200.00	11,914.50	15,908.84	11,578.28	82.07	82.62	82.95	4,247.44	2,786.68	2,431.19	2,316.17	115.02	21.137		
16,300.00	11,913.54	16,008.84	11,576.53	83.49	84.04	82.93	4,347.42	2,785.77	2,431.24	2,314.22	117.02	20.776		
16,400.00	11,912.58	16,108.84	11,574.79	84.92	85.47	82.92	4,447.40	2,784.86	2,431.28	2,312.25	119.03	20.425		
16,500.00	11,911.62	16,208.83	11,573.04	86.36	86.90	82.90	4,547.37	2,783.95	2,431.32	2,310.27	121.06	20.084		
16,600.00	11,910.65	16,308.83	11,571.29	87.81	88.35	82.88	4,647.35	2,783.05	2,431.37	2,308.28	123.09	19.753		
16,700.00	11,909.69	16,408.83	11,569.54	89.26	89.80	82.86	4,747.33	2,782.14	2,431.41	2,306.28	125.13	19.431		
16,800.00	11,908.73	16,508.82	11,567.79	90.72	91.25	82.84	4,847.31	2,781.23	2,431.46	2,304.27	127.19	19.117		
16,900.00	11,907.77	16,608.82	11,566.04	92.18	92.72	82.82	4,947.28	2,780.33	2,431.50	2,302.25	129.25	18.813		
17,000.00	11,906.80	16,708.82	11,564.29	93.65	94.19	82.81	5,047.26	2,779.42	2,431.54	2,300.23	131.31	18.517		
17,100.00	11,905.84	16,808.82	11,562.54	95.13	95.66	82.79	5,147.24	2,778.51	2,431.59	2,298.20	133.39	18.229		
17,200.00	11,904.88	16,908.81	11,560.80	96.62	97.14	82.77	5,247.22	2,777.60	2,431.63	2,296.16	135.48	17.949		
17,300.00	11,903.91	17,008.81	11,559.05	98.10	98.63	82.75	5,347.19	2,776.70	2,431.68	2,294.11	137.57	17.676		
17,400.00	11,902.95	17,108.81	11,557.30	99.60	100.12	82.73	5,447.17	2,775.79	2,431.73	2,292.06	139.67	17.411		
17,500.00	11,901.99	17,208.80	11,555.55	101.10	101.62	82.71	5,547.15	2,774.88	2,431.77	2,290.00	141.77	17.153		
17,600.00	11,901.03	17,308.80	11,553.80	102.60	103.12	82.69	5,647.13	2,773.98	2,431.82	2,287.94	143.88	16.901		
17,700.00	11,900.06	17,408.80	11,552.05	104.11	104.63	82.68	5,747.10	2,773.07	2,431.86	2,285.87	146.00	16.657		
17,800.00	11,899.10	17,508.79	11,550.30	105.62	106.14	82.66	5,847.08	2,772.16	2,431.91	2,283.79	148.12	16.418		
17,900.00	11,898.14	17,608.79	11,548.55	107.14	107.65	82.64	5,947.06	2,771.26	2,431.96	2,281.71	150.25	16.186		
18,000.00	11,897.18	17,708.79	11,546.81	108.66	109.17	82.62	6,047.04	2,770.35	2,432.01	2,279.62	152.39	15.960		
18,100.00	11,896.21	17,808.78	11,545.06	110.18	110.69	82.60	6,147.01	2,769.44	2,432.05	2,277.53	154.52	15.739		
18,200.00	11,895.25	17,908.78	11,543.31	111.71	112.22	82.58	6,246.99	2,768.53	2,432.10	2,275.43	156.67	15.524		
18,300.00	11,894.29	18,008.78	11,541.56	113.24	113.75	82.56	6,346.97	2,767.63	2,432.15	2,273.33	158.82	15.314		
18,400.00	11,893.32	18,108.77	11,539.81	114.77	115.28	82.55	6,446.95	2,766.72	2,432.20	2,271.23	160.97	15.110		
18,500.00	11,892.36	18,208.77	11,538.06	116.31	116.82	82.53	6,546.92	2,765.81	2,432.25	2,269.12	163.13	14.910		
18,600.00	11,891.40	18,308.77	11,536.31	117.85	118.36	82.51	6,646.90	2,764.91	2,432.29	2,267.01	165.29	14.715		
18,700.00	11,890.44	18,408.77	11,534.56	119.39	119.90	82.49	6,746.88	2,764.00	2,432.34	2,264.89	167.45	14.526		
18,800.00	11,889.47	18,508.76	11,532.82	120.94	121.44	82.47	6,846.86	2,763.09	2,432.39	2,262.77	169.62	14.340		
18,900.00	11,888.51	18,608.76	11,531.07	122.49	122.99	82.45	6,946.83	2,762.18	2,432.44	2,260.65	171.79	14.159		
19,000.00	11,887.55	18,708.76	11,529.32	124.04	124.54	82.43	7,046.81	2,761.28	2,432.49	2,258.52	173.97	13.982		
19,100.00	11,886.59	18,808.75	11,527.57	125.60	126.09	82.42	7,146.79	2,760.37	2,432.54	2,256.39	176.15	13.810		
19,200.00	11,885.62	18,908.75	11,525.82	127.15	127.65	82.40	7,246.77	2,759.46	2,432.59	2,254.26	178.33	13.641		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	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	11,884.66	19,008.75	11,524.07	128.71	129.21	82.38	7,346.74	2,758.56	2,432.64	2,252.13	180.51	13.476		
19,400.00	11,883.70	19,108.74	11,522.32	130.27	130.77	82.36	7,446.72	2,757.65	2,432.69	2,249.99	182.70	13.315		
19,500.00	11,882.73	19,208.74	11,520.57	131.84	132.33	82.34	7,546.70	2,756.74	2,432.74	2,247.85	184.89	13.158		
19,600.00	11,881.77	19,308.74	11,518.82	133.40	133.89	82.32	7,646.68	2,755.83	2,432.80	2,245.71	187.08	13.004		
19,700.00	11,880.81	19,408.73	11,517.08	134.97	135.46	82.30	7,746.65	2,754.93	2,432.85	2,243.57	189.28	12.853		
19,800.00	11,879.85	19,508.73	11,515.33	136.54	137.03	82.29	7,846.63	2,754.02	2,432.90	2,241.42	191.48	12.706		
19,900.00	11,878.88	19,608.73	11,513.58	138.11	138.60	82.27	7,946.61	2,753.11	2,432.95	2,239.27	193.68	12.562		
20,000.00	11,877.92	19,708.73	11,511.83	139.69	140.17	82.25	8,046.59	2,752.21	2,433.00	2,237.12	195.88	12.421		
20,100.00	11,876.96	19,808.72	11,510.08	141.26	141.75	82.23	8,146.56	2,751.30	2,433.06	2,234.97	198.09	12.283		
20,200.00	11,876.00	19,908.72	11,508.33	142.84	143.32	82.21	8,246.54	2,750.39	2,433.11	2,232.81	200.30	12.147		
20,300.00	11,875.03	20,008.72	11,506.58	144.42	144.90	82.19	8,346.52	2,749.48	2,433.16	2,230.65	202.51	12.015		
20,400.00	11,874.07	20,108.71	11,504.83	146.00	146.48	82.18	8,446.50	2,748.58	2,433.21	2,228.49	204.72	11.886		
20,500.00	11,873.11	20,208.71	11,503.09	147.58	148.06	82.16	8,546.47	2,747.67	2,433.27	2,226.33	206.93	11.759		
20,600.00	11,872.14	20,308.71	11,501.34	149.16	149.64	82.14	8,646.45	2,746.76	2,433.32	2,224.17	209.15	11.634		
20,700.00	11,871.18	20,408.70	11,499.59	150.75	151.23	82.12	8,746.43	2,745.86	2,433.38	2,222.01	211.37	11.513		
20,800.00	11,870.22	20,508.70	11,497.84	152.33	152.81	82.10	8,846.41	2,744.95	2,433.43	2,219.85	213.58	11.393		
20,900.00	11,869.26	20,608.70	11,496.09	153.92	154.40	82.08	8,946.38	2,744.04	2,433.48	2,217.68	215.80	11.276		
21,000.00	11,868.29	20,708.69	11,494.34	155.51	155.99	82.06	9,046.36	2,743.13	2,433.54	2,215.51	218.03	11.162		
21,100.00	11,867.33	20,808.69	11,492.59	157.10	157.58	82.05	9,146.34	2,742.23	2,433.59	2,213.34	220.25	11.049		
21,200.00	11,866.37	20,908.69	11,490.84	158.69	159.17	82.03	9,246.32	2,741.32	2,433.65	2,211.17	222.48	10.939		
21,300.00	11,865.41	21,008.68	11,489.10	160.28	160.76	82.01	9,346.29	2,740.41	2,433.71	2,209.00	224.70	10.831		
21,400.00	11,864.44	21,108.68	11,487.35	161.88	162.35	81.99	9,446.27	2,739.51	2,433.76	2,206.83	226.93	10.725		
21,500.00	11,863.48	21,208.68	11,485.60	163.47	163.95	81.97	9,546.25	2,738.60	2,433.82	2,204.66	229.16	10.621		
21,600.00	11,862.52	21,308.68	11,483.85	165.07	165.54	81.95	9,646.23	2,737.69	2,433.87	2,202.48	231.39	10.518		
21,700.00	11,861.56	21,408.67	11,482.10	166.67	167.14	81.93	9,746.20	2,736.79	2,433.93	2,200.31	233.62	10.418		
21,800.00	11,860.59	21,508.67	11,480.35	168.27	168.73	81.92	9,846.18	2,735.88	2,433.99	2,198.13	235.86	10.320		
21,900.00	11,859.63	21,608.67	11,478.60	169.86	170.33	81.90	9,946.16	2,734.97	2,434.04	2,195.95	238.09	10.223		
22,000.00	11,858.67	21,708.66	11,476.85	171.47	171.93	81.88	10,046.14	2,734.06	2,434.10	2,193.78	240.33	10.128		
22,099.37	11,857.71	21,808.03	11,475.12	173.06	173.51	81.86	10,145.49	2,733.16	2,434.16	2,191.62	242.54	10.036 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 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:		0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
0.00	0.00	0.00	0.00	0.00	0.00	89.99	0.42	3,737.02	3,737.21						
100.00	100.00	62.00	62.00	0.13	0.09	89.99	0.42	3,737.02	3,737.02	3,736.86	0.15	N/A			
200.00	200.00	162.00	162.00	0.48	0.36	89.99	0.42	3,737.02	3,737.02	3,736.41	0.61	6,172.202			
300.00	300.00	262.00	262.00	0.84	0.72	89.99	0.42	3,737.02	3,737.02	3,735.91	1.11	3,367.640			
400.00	400.00	362.00	362.00	1.20	1.08	89.99	0.42	3,737.02	3,737.02	3,735.40	1.62	2,313.056			
500.00	500.00	462.00	462.00	1.56	1.44	89.99	0.42	3,737.02	3,737.02	3,734.89	2.12	1,761.049			
600.00	600.00	562.00	562.00	1.92	1.80	89.99	0.42	3,737.02	3,737.02	3,734.39	2.63	1,421.639			
700.00	700.00	662.00	662.00	2.28	2.16	89.99	0.42	3,737.02	3,737.02	3,733.88	3.14	1,191.878			
800.00	800.00	762.00	762.00	2.63	2.51	89.99	0.42	3,737.02	3,737.02	3,733.37	3.64	1,026.034			
900.00	900.00	862.00	862.00	2.99	2.87	89.99	0.42	3,737.02	3,737.02	3,732.87	4.15	900.696			
1,000.00	1,000.00	962.00	962.00	3.35	3.23	89.99	0.42	3,737.02	3,737.02	3,732.36	4.66	802.642			
1,100.00	1,100.00	1,062.00	1,062.00	3.71	3.59	89.99	0.42	3,737.02	3,737.02	3,731.85	5.16	723.839			
1,200.00	1,200.00	1,162.00	1,162.00	4.07	3.95	89.99	0.42	3,737.02	3,737.02	3,731.35	5.67	659.125			
1,300.00	1,300.00	1,262.00	1,262.00	4.43	4.31	89.99	0.42	3,737.02	3,737.02	3,730.84	6.18	605.031			
1,400.00	1,400.00	1,362.00	1,362.00	4.79	4.67	89.99	0.42	3,737.02	3,737.02	3,730.33	6.68	559.142			
1,500.00	1,500.00	1,462.00	1,462.00	5.14	5.02	89.99	0.42	3,737.02	3,737.02	3,729.83	7.19	519.723			
1,600.00	1,600.00	1,562.00	1,562.00	5.50	5.38	89.99	0.42	3,737.02	3,737.02	3,729.32	7.70	485.496			
1,700.00	1,700.00	1,662.00	1,662.00	5.86	5.74	89.99	0.42	3,737.02	3,737.02	3,728.81	8.20	455.498			
1,800.00	1,800.00	1,762.00	1,762.00	6.22	6.10	89.99	0.42	3,737.02	3,737.02	3,728.31	8.71	428.991			
1,900.00	1,900.00	1,862.00	1,862.00	6.58	6.46	89.99	0.42	3,737.02	3,737.02	3,727.80	9.22	405.400			
2,000.00	2,000.00	1,962.00	1,962.00	6.94	6.82	89.99	0.42	3,737.02	3,737.02	3,727.29	9.73	384.267			
2,100.00	2,100.00	2,062.00	2,062.00	7.29	7.17	89.99	0.42	3,737.02	3,737.02	3,726.78	10.23	365.229			
2,200.00	2,200.00	2,162.00	2,162.00	7.65	7.53	89.99	0.42	3,737.02	3,737.02	3,726.28	10.74	347.988			
2,300.00	2,300.00	2,262.00	2,262.00	8.01	7.89	89.99	0.42	3,737.02	3,737.02	3,725.77	11.25	332.302			
2,400.00	2,400.00	2,362.00	2,362.00	8.37	8.25	89.99	0.42	3,737.02	3,737.02	3,725.26	11.75	317.968			
2,500.00	2,500.00	2,462.00	2,462.00	8.73	8.61	89.99	0.42	3,737.02	3,737.02	3,724.76	12.26	304.820			
2,600.00	2,600.00	2,562.00	2,562.00	9.09	8.97	89.99	0.42	3,737.02	3,737.02	3,724.25	12.77	292.716			
2,700.00	2,700.00	2,662.00	2,662.00	9.45	9.33	89.99	0.42	3,737.02	3,737.02	3,723.74	13.27	281.537			
2,800.00	2,800.00	2,762.00	2,762.00	9.80	9.68	89.99	0.42	3,737.02	3,737.02	3,723.24	13.78	271.180			
2,900.00	2,900.00	2,862.00	2,862.00	10.16	10.04	89.99	0.42	3,737.02	3,737.02	3,722.73	14.29	261.558			
3,000.00	3,000.00	2,962.00	2,962.00	10.52	10.40	89.99	0.42	3,737.02	3,737.02	3,722.22	14.79	252.596			
3,100.00	3,100.00	3,490.65	3,489.32	10.88	12.21	90.16	-10.38	3,707.54	3,732.09	3,715.84	16.26	229.560			
3,200.00	3,200.00	3,589.91	3,587.83	11.24	12.56	90.23	-14.55	3,696.17	3,720.65	3,703.90	16.75	222.169			
3,300.00	3,299.99	3,689.05	3,686.23	11.58	12.91	-29.51	-18.70	3,684.82	3,708.07	3,690.84	17.23	215.230			
3,400.00	3,399.91	3,787.91	3,784.35	11.92	13.26	-29.59	-22.85	3,673.50	3,693.24	3,675.54	17.70	208.633			
3,500.00	3,499.69	3,886.44	3,882.14	12.25	13.62	-29.70	-26.98	3,662.21	3,676.17	3,657.99	18.18	202.251			
3,600.00	3,599.27	3,984.55	3,979.52	12.59	13.97	-29.85	-31.10	3,650.98	3,656.86	3,638.21	18.65	196.071			
3,666.69	3,665.53	4,049.72	4,044.21	12.82	14.21	-29.98	-33.83	3,643.51	3,642.74	3,623.78	18.97	192.053			
3,700.00	3,698.59	4,082.22	4,076.46	12.93	14.33	-29.99	-35.20	3,639.79	3,635.45	3,616.32	19.13	190.084			
3,800.00	3,797.85	4,179.77	4,173.29	13.28	14.68	-30.01	-39.29	3,628.62	3,613.55	3,593.95	19.60	184.359			
3,900.00	3,897.10	4,277.33	4,270.12	13.63	15.04	-30.05	-43.38	3,617.45	3,591.64	3,571.57	20.08	178.883			
4,000.00	3,996.36	4,374.88	4,366.94	13.98	15.41	-30.08	-47.47	3,606.28	3,569.74	3,549.19	20.56	173.644			
4,100.00	4,095.61	4,472.44	4,463.77	14.34	15.77	-30.11	-51.56	3,595.11	3,547.85	3,526.81	21.04	168.627			
4,200.00	4,194.86	4,569.99	4,560.60	14.70	16.13	-30.14	-55.66	3,583.94	3,525.95	3,504.42	21.52	163.820			
4,300.00	4,294.12	4,667.55	4,657.42	15.06	16.50	-30.17	-59.75	3,572.77	3,504.05	3,482.04	22.01	159.211			
4,400.00	4,393.37	4,765.10	4,754.25	15.42	16.87	-30.20	-63.84	3,561.59	3,482.15	3,459.66	22.50	154.790			
4,500.00	4,492.63	4,862.66	4,851.08	15.79	17.24	-30.23	-67.93	3,550.42	3,460.26	3,437.27	22.98	150.546			
4,600.00	4,491.88	4,960.21	4,947.90	16.16	17.61	-30.27	-72.02	3,539.25	3,438.36	3,414.89	23.47	146.469			
4,700.00	4,491.14	5,057.76	5,044.73	16.53	17.98	-30.30	-76.12	3,528.08	3,416.47	3,392.50	23.97	142.551			
4,800.00	4,790.39	5,155.32	5,141.55	16.90	18.36	-30.33	-80.21	3,516.91	3,394.58	3,370.12	24.46	138.783			
4,900.00	4,889.65	5,252.87	5,238.38	17.27	18.73	-30.37	-84.30	3,505.74	3,372.69	3,347.73	24.95	135.158			
5,000.00	4,988.90	5,350.43	5,335.21	17.65	19.11	-30.40	-88.39	3,494.57	3,350.80	3,325.35	25.45	131.667			

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	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	5,088.16	5,447.98	5,432.03	18.03	19.48	-30.44	-92.48	3,483.40	3,328.91	3,302.96	25.95	128.304		
5,200.00	5,187.41	5,545.54	5,528.86	18.40	19.86	-30.47	-96.58	3,472.22	3,307.02	3,280.58	26.44	125.062		
5,300.00	5,286.66	5,643.09	5,625.69	18.78	20.24	-30.51	-100.67	3,461.05	3,285.14	3,258.20	26.94	121.936		
5,400.00	5,385.92	5,740.65	5,722.51	19.16	20.62	-30.55	-104.76	3,449.88	3,263.25	3,235.81	27.44	118.919		
5,500.00	5,485.17	5,838.20	5,819.34	19.55	21.00	-30.58	-108.85	3,438.71	3,241.37	3,213.43	27.94	116.006		
5,600.00	5,584.43	5,935.76	5,916.17	19.93	21.38	-30.62	-112.94	3,427.54	3,219.49	3,191.04	28.44	113.193		
5,700.00	5,683.68	6,033.31	6,012.99	20.31	21.76	-30.66	-117.04	3,416.37	3,197.61	3,168.66	28.94	110.474		
5,800.00	5,782.94	6,130.87	6,109.82	20.70	22.14	-30.70	-121.13	3,405.20	3,175.73	3,146.28	29.45	107.845		
5,900.00	5,882.19	6,228.42	6,206.65	21.08	22.52	-30.74	-125.22	3,394.03	3,153.85	3,123.90	29.95	105.301		
6,000.00	5,981.45	6,325.98	6,303.47	21.47	22.91	-30.78	-129.31	3,382.85	3,131.97	3,101.52	30.45	102.839		
6,100.00	6,080.70	6,423.53	6,400.30	21.86	23.29	-30.82	-133.41	3,371.68	3,110.10	3,079.14	30.96	100.456		
6,200.00	6,179.95	6,521.08	6,497.13	22.25	23.67	-30.86	-137.50	3,360.51	3,088.22	3,056.76	31.47	98.147		
6,300.00	6,279.21	6,618.64	6,593.95	22.63	24.06	-30.90	-141.59	3,349.34	3,066.35	3,034.38	31.97	95.909		
6,400.00	6,378.46	6,716.19	6,690.78	23.02	24.44	-30.94	-145.68	3,338.17	3,044.48	3,012.00	32.48	93.739		
6,500.00	6,477.72	6,813.75	6,787.61	23.41	24.83	-30.98	-149.77	3,327.00	3,022.61	2,989.62	32.99	91.635		
6,600.00	6,576.97	6,911.30	6,884.43	23.81	25.21	-31.03	-153.87	3,315.83	3,000.74	2,967.25	33.49	89.592		
6,700.00	6,676.23	7,008.86	6,981.26	24.20	25.60	-31.07	-157.96	3,304.65	2,978.88	2,944.87	34.00	87.610		
6,800.00	6,775.48	7,106.41	7,078.08	24.59	25.99	-31.11	-162.05	3,293.48	2,957.01	2,922.50	34.51	85.684		
6,900.00	6,874.74	7,203.97	7,174.91	24.98	26.37	-31.16	-166.14	3,282.31	2,935.15	2,900.13	35.02	83.814		
7,000.00	6,973.99	7,301.52	7,271.74	25.38	26.76	-31.20	-170.23	3,271.14	2,913.29	2,877.76	35.53	81.996		
7,091.16	7,064.47	7,390.45	7,360.00	25.73	27.12	-31.25	-173.96	3,260.96	2,893.36	2,857.37	35.99	80.383		
7,100.00	7,073.25	7,399.08	7,368.57	25.77	27.15	-31.24	-174.33	3,259.97	2,891.44	2,855.40	36.04	80.229		
7,200.00	7,172.67	7,496.93	7,465.68	26.16	27.54	-31.10	-178.43	3,248.76	2,870.87	2,834.32	36.55	78.547		
7,300.00	7,272.35	7,595.22	7,563.24	26.53	27.93	-30.96	-182.55	3,237.51	2,850.52	2,815.44	37.06	76.973		
7,400.00	7,372.20	7,693.90	7,661.18	26.90	28.32	-30.81	-186.69	3,226.21	2,836.34	2,798.77	37.57	75.504		
7,500.00	7,472.15	7,792.42	7,749.05	27.25	28.68	-30.66	-190.40	3,216.10	2,822.45	2,784.40	38.05	74.169		
7,557.85	7,530.00	7,800.00	7,766.51	27.44	28.75	89.10	-191.10	3,214.19	2,815.94	2,777.66	38.28	73.562		
7,600.00	7,572.15	7,840.97	7,807.25	27.59	28.91	89.13	-192.62	3,210.03	2,811.64	2,773.15	38.49	73.052		
7,700.00	7,672.15	7,900.00	7,866.00	27.92	29.13	89.17	-194.55	3,204.75	2,802.65	2,763.74	38.92	72.018		
7,800.00	7,772.15	7,958.66	7,924.47	28.26	29.35	89.20	-196.16	3,200.36	2,795.12	2,755.78	39.34	71.057		
7,900.00	7,872.15	8,000.00	7,965.72	28.59	29.51	89.22	-197.11	3,197.77	2,789.13	2,749.42	39.71	70.230		
8,000.00	7,972.15	8,076.87	8,042.49	28.93	29.79	89.25	-198.47	3,194.07	2,784.42	2,744.26	40.16	69.333		
8,100.00	8,072.15	8,136.10	8,101.68	29.27	30.00	89.26	-199.15	3,192.20	2,781.26	2,740.69	40.56	68.569		
8,200.00	8,172.15	8,200.00	8,165.58	29.61	30.22	89.27	-199.53	3,191.16	2,779.57	2,738.60	40.97	67.848		
8,278.08	8,250.23	8,246.66	8,212.23	29.87	30.38	89.27	-199.58	3,191.02	2,779.24	2,737.97	41.27	67.342		
8,300.00	8,272.15	8,268.58	8,234.15	29.95	30.45	89.27	-199.58	3,191.02	2,779.24	2,737.87	41.38	67.169		
8,400.00	8,372.15	8,368.58	8,334.15	30.29	30.78	89.27	-199.58	3,191.02	2,779.24	2,737.38	41.86	66.389		
8,500.00	8,472.15	8,468.58	8,434.15	30.63	31.11	89.27	-199.58	3,191.02	2,779.24	2,736.89	42.35	65.627		
8,600.00	8,572.15	8,568.58	8,534.15	30.97	31.44	89.27	-199.58	3,191.02	2,779.24	2,736.41	42.84	64.882		
8,700.00	8,672.15	8,668.58	8,634.15	31.31	31.78	89.27	-199.58	3,191.02	2,779.24	2,735.92	43.32	64.152		
8,800.00	8,772.15	8,768.58	8,734.15	31.65	32.11	89.27	-199.58	3,191.02	2,779.24	2,735.43	43.81	63.438		
8,900.00	8,872.15	8,868.58	8,834.15	31.99	32.45	89.27	-199.58	3,191.02	2,779.24	2,734.94	44.30	62.739		
9,000.00	8,972.15	8,968.58	8,934.15	32.33	32.78	89.27	-199.58	3,191.02	2,779.24	2,734.46	44.79	62.055		
9,100.00	9,072.15	9,068.58	9,034.15	32.67	33.12	89.27	-199.58	3,191.02	2,779.24	2,733.97	45.28	61.385		
9,200.00	9,172.15	9,168.58	9,134.15	33.02	33.45	89.27	-199.58	3,191.02	2,779.24	2,733.48	45.76	60.729		
9,300.00	9,272.15	9,268.58	9,234.15	33.36	33.79	89.27	-199.58	3,191.02	2,779.24	2,732.99	46.25	60.086		
9,400.00	9,372.15	9,368.58	9,334.15	33.70	34.13	89.27	-199.58	3,191.02	2,779.24	2,732.50	46.74	59.456		
9,500.00	9,472.15	9,468.58	9,434.15	34.05	34.46	89.27	-199.58	3,191.02	2,779.24	2,732.01	47.23	58.839		
9,600.00	9,572.15	9,568.58	9,534.15	34.39	34.80	89.27	-199.58	3,191.02	2,779.24	2,731.52	47.73	58.234		
9,700.00	9,672.15	9,668.58	9,634.15	34.73	35.14	89.27	-199.58	3,191.02	2,779.24	2,731.03	48.22	57.641		
9,800.00	9,772.15	9,768.58	9,734.15	35.08	35.48	89.27	-199.58	3,191.02	2,779.24	2,730.53	48.71	57.060		
9,900.00	9,872.15	9,868.58	9,834.15	35.42	35.82	89.27	-199.58	3,191.02	2,779.24	2,730.04	49.20	56.490		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design Santa Fe Fed/Zia Fed - Santa Fe Fed Com 705H - 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	9,972.15	9,968.58	9,934.15	35.77	36.16	89.27	-199.58	3,191.02	2,779.24	2,729.55	49.69	55.930		
10,100.00	10,072.15	10,068.58	10,034.15	36.11	36.50	89.27	-199.58	3,191.02	2,779.24	2,729.06	50.18	55.382		
10,200.00	10,172.15	10,168.58	10,134.15	36.46	36.84	89.27	-199.58	3,191.02	2,779.24	2,728.57	50.68	54.843		
10,300.00	10,272.15	10,268.58	10,234.15	36.80	37.18	89.27	-199.58	3,191.02	2,779.24	2,728.07	51.17	54.315		
10,400.00	10,372.15	10,368.58	10,334.15	37.15	37.52	89.27	-199.58	3,191.02	2,779.24	2,727.58	51.66	53.797		
10,500.00	10,472.15	10,468.58	10,434.15	37.50	37.86	89.27	-199.58	3,191.02	2,779.24	2,727.09	52.16	53.288		
10,600.00	10,572.15	10,568.58	10,534.15	37.84	38.20	89.27	-199.58	3,191.02	2,779.24	2,726.59	52.65	52.788		
10,700.00	10,672.15	10,668.58	10,634.15	38.19	38.54	89.27	-199.58	3,191.02	2,779.24	2,726.10	53.14	52.298		
10,800.00	10,772.15	10,768.58	10,734.15	38.53	38.88	89.27	-199.58	3,191.02	2,779.24	2,725.61	53.64	51.816		
10,900.00	10,872.15	10,868.58	10,834.15	38.88	39.22	89.27	-199.58	3,191.02	2,779.24	2,725.11	54.13	51.343		
11,000.00	10,972.15	10,968.58	10,934.15	39.23	39.57	89.27	-199.58	3,191.02	2,779.24	2,724.62	54.63	50.878		
11,100.00	11,072.15	11,068.58	11,034.15	39.58	39.91	89.27	-199.58	3,191.02	2,779.24	2,724.12	55.12	50.421		
11,200.00	11,172.15	11,168.58	11,134.15	39.92	40.25	89.27	-199.58	3,191.02	2,779.24	2,723.63	55.62	49.972		
11,300.00	11,272.15	11,268.58	11,234.15	40.27	40.60	89.27	-199.58	3,191.02	2,779.24	2,723.13	56.11	49.531		
11,406.85	11,379.00	11,375.41	11,340.98	40.64	40.96	89.27	-199.58	3,191.02	2,779.24	2,722.60	56.64	49.068		
11,424.75	11,396.90	11,393.00	11,358.57	40.71	41.02	89.76	-199.28	3,191.01	2,779.24	2,722.51	56.73	48.993		
11,450.00	11,422.11	11,417.82	11,383.35	40.79	41.11	89.76	-197.94	3,191.00	2,779.24	2,722.39	56.85	48.889		
11,500.00	11,471.74	11,466.96	11,432.13	40.96	41.27	89.76	-192.13	3,190.95	2,779.24	2,722.16	57.08	48.688		
11,550.00	11,520.67	11,516.11	11,480.24	41.12	41.42	89.76	-182.16	3,190.86	2,779.23	2,721.92	57.31	48.498		
11,600.00	11,568.51	11,565.26	11,527.33	41.26	41.57	89.77	-168.10	3,190.73	2,779.22	2,721.70	57.52	48.318		
11,650.00	11,614.92	11,614.43	11,573.05	41.40	41.71	89.77	-150.05	3,190.56	2,779.21	2,721.49	57.72	48.148		
11,700.00	11,659.53	11,663.63	11,617.08	41.53	41.83	89.78	-128.13	3,190.36	2,779.19	2,721.28	57.92	47.986		
11,750.00	11,702.00	11,712.85	11,659.09	41.64	41.94	89.79	-102.51	3,190.13	2,779.18	2,721.08	58.10	47.834		
11,800.00	11,742.02	11,762.11	11,698.77	41.74	42.04	89.80	-73.35	3,189.86	2,779.16	2,720.88	58.28	47.688		
11,850.00	11,779.27	11,811.41	11,735.84	41.82	42.13	89.81	-40.87	3,189.56	2,779.13	2,720.69	58.45	47.549		
11,900.00	11,813.48	11,860.75	11,770.00	41.89	42.20	89.83	-5.29	3,189.24	2,779.11	2,720.50	58.61	47.414		
11,950.00	11,844.38	11,910.15	11,801.01	41.95	42.26	89.84	33.14	3,188.89	2,779.08	2,720.31	58.78	47.283		
12,000.00	11,871.74	11,959.60	11,828.62	42.00	42.32	89.86	74.14	3,188.51	2,779.06	2,720.12	58.94	47.154		
12,050.00	11,895.34	12,009.10	11,852.62	42.03	42.36	89.88	117.42	3,188.11	2,779.03	2,719.93	59.10	47.026		
12,100.00	11,915.02	12,058.67	11,872.81	42.05	42.40	89.89	162.67	3,187.70	2,779.00	2,719.74	59.26	46.898		
12,150.00	11,930.62	12,108.31	11,889.05	42.06	42.44	89.91	209.56	3,187.27	2,778.97	2,719.55	59.42	46.770		
12,200.00	11,942.02	12,158.01	11,901.17	42.16	42.50	89.93	257.74	3,186.83	2,778.93	2,719.35	59.58	46.640		
12,250.00	11,949.14	12,207.79	11,909.09	42.29	42.59	89.95	306.87	3,186.38	2,778.90	2,719.15	59.75	46.508		
12,300.00	11,951.92	12,257.64	11,912.71	42.42	42.69	89.97	356.57	3,185.92	2,778.87	2,718.95	59.92	46.376		
12,312.37	11,951.93	12,269.98	11,912.94	42.46	42.72	89.98	368.90	3,185.81	2,778.86	2,718.90	59.96	46.343		
12,400.00	11,951.09	12,357.59	11,911.69	42.72	42.97	89.97	456.50	3,185.01	2,778.81	2,718.50	60.31	46.076		
12,500.00	11,950.13	12,457.59	11,910.08	43.07	43.32	89.96	556.48	3,184.09	2,778.75	2,717.97	60.78	45.718		
12,600.00	11,949.16	12,557.58	11,908.48	43.47	43.73	89.94	656.46	3,183.18	2,778.68	2,717.35	61.34	45.302		
12,700.00	11,948.20	12,657.58	11,906.87	43.93	44.20	89.93	756.44	3,182.26	2,778.62	2,716.65	61.98	44.833		
12,800.00	11,947.24	12,757.58	11,905.26	44.44	44.73	89.92	856.42	3,181.35	2,778.56	2,715.86	62.70	44.317		
12,900.00	11,946.27	12,857.58	11,903.65	45.01	45.30	89.90	956.40	3,180.43	2,778.50	2,715.00	63.50	43.758		
13,000.00	11,945.31	12,957.58	11,902.04	45.63	45.93	89.89	1,056.39	3,179.52	2,778.44	2,714.07	64.37	43.164		
13,100.00	11,944.35	13,057.57	11,900.43	46.30	46.61	89.88	1,156.37	3,178.60	2,778.38	2,713.06	65.31	42.538		
13,200.00	11,943.39	13,157.57	11,898.82	47.01	47.33	89.86	1,256.35	3,177.69	2,778.32	2,711.99	66.33	41.887		
13,300.00	11,942.42	13,257.57	11,897.21	47.77	48.10	89.85	1,356.33	3,176.77	2,778.26	2,710.85	67.41	41.215		
13,400.00	11,941.46	13,357.57	11,895.60	48.58	48.91	89.84	1,456.31	3,175.85	2,778.19	2,709.64	68.55	40.528		
13,500.00	11,940.50	13,457.57	11,893.99	49.42	49.77	89.82	1,556.29	3,174.94	2,778.13	2,708.38	69.75	39.829		
13,600.00	11,939.54	13,557.56	11,892.39	50.31	50.66	89.81	1,656.27	3,174.02	2,778.07	2,707.06	71.01	39.122		
13,700.00	11,938.57	13,657.56	11,890.78	51.23	51.59	89.80	1,756.25	3,173.11	2,778.01	2,705.69	72.32	38.412		
13,800.00	11,937.61	13,757.56	11,889.17	52.19	52.55	89.78	1,856.23	3,172.19	2,777.95	2,704.27	73.68	37.700		
13,900.00	11,936.65	13,857.56	11,887.56	53.18	53.55	89.77	1,956.21	3,171.28	2,777.89	2,702.80	75.10	36.992		
14,000.00	11,935.68	13,957.56	11,885.95	54.21	54.58	89.76	2,056.19	3,170.36	2,777.83	2,701.28	76.55	36.287		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design Santa Fe Fed/Zia Fed - Santa Fe Fed Com 705H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
14,100.00	11,934.72	14,057.55	11,884.34	55.26	55.64	89.74	2,156.17	3,169.45	2,777.77	2,699.72	78.05	35.590		
14,200.00	11,933.76	14,157.55	11,882.73	56.34	56.73	89.73	2,256.15	3,168.53	2,777.71	2,698.13	79.59	34.901		
14,300.00	11,932.80	14,257.55	11,881.12	57.45	57.84	89.72	2,356.14	3,167.62	2,777.66	2,696.49	81.17	34.222		
14,400.00	11,931.83	14,357.55	11,879.51	58.59	58.98	89.70	2,456.12	3,166.70	2,777.60	2,694.82	82.78	33.555		
14,500.00	11,930.87	14,457.54	11,877.90	59.75	60.14	89.69	2,556.10	3,165.78	2,777.54	2,693.11	84.42	32.900		
14,600.00	11,929.91	14,557.54	11,876.29	60.93	61.33	89.68	2,656.08	3,164.87	2,777.48	2,691.38	86.10	32.258		
14,700.00	11,928.95	14,657.54	11,874.69	62.13	62.54	89.66	2,756.06	3,163.95	2,777.42	2,689.61	87.81	31.629		
14,800.00	11,927.98	14,757.54	11,873.08	63.36	63.76	89.65	2,856.04	3,163.04	2,777.36	2,687.81	89.55	31.015		
14,900.00	11,927.02	14,857.54	11,871.47	64.60	65.01	89.64	2,956.02	3,162.12	2,777.30	2,685.99	91.31	30.415		
15,000.00	11,926.06	14,957.53	11,869.86	65.86	66.27	89.62	3,056.00	3,161.21	2,777.24	2,684.14	93.10	29.830		
15,100.00	11,925.09	15,057.53	11,868.25	67.14	67.55	89.61	3,155.98	3,160.29	2,777.19	2,682.27	94.91	29.260		
15,200.00	11,924.13	15,157.53	11,866.64	68.43	68.84	89.60	3,255.96	3,159.38	2,777.13	2,680.38	96.75	28.705		
15,300.00	11,923.17	15,257.53	11,865.03	69.74	70.15	89.58	3,355.94	3,158.46	2,777.07	2,678.47	98.60	28.164		
15,400.00	11,922.21	15,357.53	11,863.42	71.06	71.48	89.57	3,455.92	3,157.55	2,777.01	2,676.53	100.48	27.637		
15,500.00	11,921.24	15,457.52	11,861.81	72.40	72.81	89.56	3,555.90	3,156.63	2,776.96	2,674.58	102.38	27.125		
15,600.00	11,920.28	15,557.52	11,860.20	73.75	74.16	89.54	3,655.89	3,155.71	2,776.90	2,672.61	104.29	26.627		
15,700.00	11,919.32	15,657.52	11,858.60	75.11	75.53	89.53	3,755.87	3,154.80	2,776.84	2,670.62	106.22	26.143		
15,800.00	11,918.36	15,757.52	11,856.99	76.48	76.90	89.52	3,855.85	3,153.88	2,776.78	2,668.62	108.16	25.672		
15,900.00	11,917.39	15,857.51	11,855.38	77.86	78.28	89.50	3,955.83	3,152.97	2,776.73	2,666.60	110.12	25.214		
16,000.00	11,916.43	15,957.51	11,853.77	79.26	79.68	89.49	4,055.81	3,152.05	2,776.67	2,664.57	112.10	24.770		
16,100.00	11,915.47	16,057.51	11,852.16	80.66	81.08	89.48	4,155.79	3,151.14	2,776.61	2,662.52	114.09	24.337		
16,200.00	11,914.50	16,157.51	11,850.55	82.07	82.50	89.46	4,255.77	3,150.22	2,776.56	2,660.47	116.09	23.917		
16,300.00	11,913.54	16,257.51	11,848.94	83.49	83.92	89.45	4,355.75	3,149.31	2,776.50	2,658.40	118.10	23.509		
16,400.00	11,912.58	16,357.50	11,847.33	84.92	85.35	89.44	4,455.73	3,148.39	2,776.44	2,656.31	120.13	23.112		
16,500.00	11,911.62	16,457.50	11,845.72	86.36	86.79	89.42	4,555.71	3,147.48	2,776.39	2,654.22	122.17	22.726		
16,600.00	11,910.65	16,557.50	11,844.11	87.81	88.23	89.41	4,655.69	3,146.56	2,776.33	2,652.12	124.21	22.351		
16,700.00	11,909.69	16,657.50	11,842.50	89.26	89.68	89.40	4,755.67	3,145.64	2,776.28	2,650.01	126.27	21.987		
16,800.00	11,908.73	16,757.50	11,840.90	90.72	91.14	89.38	4,855.65	3,144.73	2,776.22	2,647.88	128.34	21.632		
16,900.00	11,907.77	16,857.49	11,839.29	92.18	92.61	89.37	4,955.64	3,143.81	2,776.17	2,645.75	130.41	21.287		
17,000.00	11,906.80	16,957.49	11,837.68	93.65	94.08	89.36	5,055.62	3,142.90	2,776.11	2,643.61	132.50	20.952		
17,100.00	11,905.84	17,057.49	11,836.07	95.13	95.56	89.34	5,155.60	3,141.98	2,776.06	2,641.46	134.59	20.626		
17,200.00	11,904.88	17,157.49	11,834.46	96.62	97.04	89.33	5,255.58	3,141.07	2,776.00	2,639.31	136.69	20.309		
17,300.00	11,903.91	17,257.49	11,832.85	98.10	98.53	89.32	5,355.56	3,140.15	2,775.95	2,637.15	138.80	20.000		
17,400.00	11,902.95	17,357.48	11,831.24	99.60	100.02	89.30	5,455.54	3,139.24	2,775.89	2,634.98	140.91	19.699		
17,500.00	11,901.99	17,457.48	11,829.63	101.10	101.52	89.29	5,555.52	3,138.32	2,775.84	2,632.80	143.04	19.406		
17,600.00	11,901.03	17,557.48	11,828.02	102.60	103.03	89.28	5,655.50	3,137.41	2,775.78	2,630.62	145.17	19.122		
17,700.00	11,900.06	17,657.48	11,826.41	104.11	104.53	89.26	5,755.48	3,136.49	2,775.73	2,628.43	147.30	18.844		
17,800.00	11,899.10	17,757.47	11,824.80	105.62	106.05	89.25	5,855.46	3,135.57	2,775.67	2,626.23	149.44	18.574		
17,900.00	11,898.14	17,857.47	11,823.20	107.14	107.56	89.24	5,955.44	3,134.66	2,775.62	2,624.03	151.59	18.310		
18,000.00	11,897.18	17,957.47	11,821.59	108.66	109.08	89.22	6,055.42	3,133.74	2,775.57	2,621.83	153.74	18.054		
18,100.00	11,896.21	18,057.47	11,819.98	110.18	110.61	89.21	6,155.40	3,132.83	2,775.51	2,619.62	155.90	17.804		
18,200.00	11,895.25	18,157.47	11,818.37	111.71	112.13	89.20	6,255.38	3,131.91	2,775.46	2,617.40	158.06	17.560		
18,300.00	11,894.29	18,257.46	11,816.76	113.24	113.67	89.18	6,355.37	3,131.00	2,775.41	2,615.18	160.23	17.322		
18,400.00	11,893.32	18,357.46	11,815.15	114.77	115.20	89.17	6,455.35	3,130.08	2,775.35	2,612.96	162.40	17.090		
18,500.00	11,892.36	18,457.46	11,813.54	116.31	116.74	89.16	6,555.33	3,129.17	2,775.30	2,610.73	164.57	16.864		
18,600.00	11,891.40	18,557.46	11,811.93	117.85	118.28	89.14	6,655.31	3,128.25	2,775.25	2,608.49	166.75	16.643		
18,700.00	11,890.44	18,657.46	11,810.32	119.39	119.82	89.13	6,755.29	3,127.33	2,775.19	2,606.26	168.94	16.427		
18,800.00	11,889.47	18,757.45	11,808.71	120.94	121.37	89.12	6,855.27	3,126.42	2,775.14	2,604.01	171.13	16.217		
18,900.00	11,888.51	18,857.45	11,807.11	122.49	122.92	89.10	6,955.25	3,125.50	2,775.09	2,601.77	173.32	16.011		
19,000.00	11,887.55	18,957.45	11,805.50	124.04	124.47	89.09	7,055.23	3,124.59	2,775.04	2,599.52	175.52	15.811		
19,100.00	11,886.59	19,057.45	11,803.89	125.60	126.02	89.08	7,155.21	3,123.67	2,774.98	2,597.27	177.72	15.615		
19,200.00	11,885.62	19,157.45	11,802.28	127.15	127.58	89.06	7,255.19	3,122.76	2,774.93	2,595.01	179.92	15.423		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Santa Fe Fed/Zia Fed - Santa Fe Fed Com 705H - 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	11,884.66	19,257.44	11,800.67	128.71	129.14	89.05	7,355.17	3,121.84	2,774.88	2,592.76	182.12	15.236				
19,400.00	11,883.70	19,357.44	11,799.06	130.27	130.70	89.04	7,455.15	3,120.93	2,774.83	2,590.50	184.33	15.053				
19,500.00	11,882.73	19,457.44	11,797.45	131.84	132.26	89.02	7,555.13	3,120.01	2,774.78	2,588.23	186.55	14.874				
19,600.00	11,881.77	19,557.44	11,795.84	133.40	133.83	89.01	7,655.12	3,119.10	2,774.73	2,585.96	188.76	14.700				
19,700.00	11,880.81	19,657.43	11,794.23	134.97	135.40	89.00	7,755.10	3,118.18	2,774.68	2,583.70	190.98	14.529				
19,800.00	11,879.85	19,757.43	11,792.62	136.54	136.97	88.98	7,855.08	3,117.26	2,774.62	2,581.42	193.20	14.361				
19,900.00	11,878.88	19,857.43	11,791.01	138.11	138.54	88.97	7,955.06	3,116.35	2,774.57	2,579.15	195.42	14.198				
20,000.00	11,877.92	19,957.43	11,789.41	139.69	140.11	88.96	8,055.04	3,115.43	2,774.52	2,576.87	197.65	14.038				
20,100.00	11,876.96	20,057.43	11,787.80	141.26	141.69	88.94	8,155.02	3,114.52	2,774.47	2,574.59	199.88	13.881				
20,200.00	11,876.00	20,157.42	11,786.19	142.84	143.27	88.93	8,255.00	3,113.60	2,774.42	2,572.31	202.11	13.727				
20,300.00	11,875.03	20,257.42	11,784.58	144.42	144.84	88.92	8,354.98	3,112.69	2,774.37	2,570.03	204.34	13.577				
20,400.00	11,874.07	20,357.42	11,782.97	146.00	146.42	88.90	8,454.96	3,111.77	2,774.32	2,567.74	206.58	13.430				
20,500.00	11,873.11	20,457.42	11,781.36	147.58	148.01	88.89	8,554.94	3,110.86	2,774.27	2,565.45	208.82	13.286				
20,600.00	11,872.14	20,557.42	11,779.75	149.16	149.59	88.88	8,654.92	3,109.94	2,774.22	2,563.17	211.06	13.144				
20,700.00	11,871.18	20,657.41	11,778.14	150.75	151.17	88.86	8,754.90	3,109.03	2,774.17	2,560.87	213.30	13.006				
20,800.00	11,870.22	20,757.41	11,776.53	152.33	152.76	88.85	8,854.88	3,108.11	2,774.12	2,558.58	215.54	12.870				
20,900.00	11,869.26	20,857.41	11,774.92	153.92	154.35	88.84	8,954.87	3,107.19	2,774.07	2,556.29	217.79	12.738				
21,000.00	11,868.29	20,957.41	11,773.32	155.51	155.94	88.82	9,054.85	3,106.28	2,774.02	2,553.99	220.03	12.607				
21,100.00	11,867.33	21,057.41	11,771.71	157.10	157.53	88.81	9,154.83	3,105.36	2,773.97	2,551.69	222.28	12.479				
21,200.00	11,866.37	21,157.40	11,770.10	158.69	159.12	88.80	9,254.81	3,104.45	2,773.93	2,549.39	224.53	12.354				
21,300.00	11,865.41	21,257.40	11,768.49	160.28	160.71	88.78	9,354.79	3,103.53	2,773.88	2,547.09	226.79	12.231				
21,400.00	11,864.44	21,357.40	11,766.88	161.88	162.31	88.77	9,454.77	3,102.62	2,773.83	2,544.79	229.04	12.111				
21,500.00	11,863.48	21,457.40	11,765.27	163.47	163.90	88.76	9,554.75	3,101.70	2,773.78	2,542.48	231.30	11.992				
21,600.00	11,862.52	21,557.39	11,763.66	165.07	165.50	88.74	9,654.73	3,100.79	2,773.73	2,540.18	233.55	11.876				
21,700.00	11,861.56	21,657.39	11,762.05	166.67	167.09	88.73	9,754.71	3,099.87	2,773.68	2,537.87	235.81	11.762				
21,800.00	11,860.59	21,757.39	11,760.44	168.27	168.69	88.72	9,854.69	3,098.96	2,773.64	2,535.56	238.07	11.650				
21,900.00	11,859.63	21,857.39	11,758.83	169.86	170.29	88.70	9,954.67	3,098.04	2,773.59	2,533.25	240.33	11.541				
22,000.00	11,858.67	21,957.39	11,757.22	171.47	171.89	88.69	10,054.65	3,097.12	2,773.54	2,530.94	242.60	11.433				
22,099.37	11,857.71	22,056.76	11,755.63	173.06	173.48	88.68	10,154.01	3,096.21	2,773.49	2,528.65	244.85	11.327 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 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:		0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
0.00	0.00	0.00	0.00	0.00	0.00	89.99	0.75	3,772.01	3,772.21						
100.00	100.00	61.00	61.00	0.13	0.09	89.99	0.75	3,772.01	3,772.01	3,771.85	0.15	N/A			
200.00	200.00	161.00	161.00	0.48	0.36	89.99	0.75	3,772.01	3,772.01	3,771.40	0.60	6,252.167			
300.00	300.00	261.00	261.00	0.84	0.72	89.99	0.75	3,772.01	3,772.01	3,770.90	1.11	3,406.324			
400.00	400.00	361.00	361.00	1.20	1.08	89.99	0.75	3,772.01	3,772.01	3,770.39	1.61	2,338.180			
500.00	500.00	461.00	461.00	1.56	1.44	89.99	0.75	3,772.01	3,772.01	3,769.89	2.12	1,779.575			
600.00	600.00	561.00	561.00	1.92	1.79	89.99	0.75	3,772.01	3,772.01	3,769.38	2.63	1,436.288			
700.00	700.00	661.00	661.00	2.28	2.15	89.99	0.75	3,772.01	3,772.01	3,768.87	3.13	1,203.984			
800.00	800.00	761.00	761.00	2.63	2.51	89.99	0.75	3,772.01	3,772.01	3,768.37	3.64	1,036.344			
900.00	900.00	861.00	861.00	2.99	2.87	89.99	0.75	3,772.01	3,772.01	3,767.86	4.15	909.673			
1,000.00	1,000.00	961.00	961.00	3.35	3.23	89.99	0.75	3,772.01	3,772.01	3,767.35	4.65	810.591			
1,100.00	1,100.00	1,061.00	1,061.00	3.71	3.59	89.99	0.75	3,772.01	3,772.01	3,766.85	5.16	730.969			
1,200.00	1,200.00	1,161.00	1,161.00	4.07	3.94	89.99	0.75	3,772.01	3,772.01	3,766.34	5.67	665.589			
1,300.00	1,300.00	1,261.00	1,261.00	4.43	4.30	89.99	0.75	3,772.01	3,772.01	3,765.83	6.17	610.943			
1,400.00	1,400.00	1,361.00	1,361.00	4.79	4.66	89.99	0.75	3,772.01	3,772.01	3,765.33	6.68	564.589			
1,500.00	1,500.00	1,461.00	1,461.00	5.14	5.02	89.99	0.75	3,772.01	3,772.01	3,764.82	7.19	524.772			
1,600.00	1,600.00	1,561.00	1,561.00	5.50	5.38	89.99	0.75	3,772.01	3,772.01	3,764.31	7.69	490.201			
1,700.00	1,700.00	1,661.00	1,661.00	5.86	5.74	89.99	0.75	3,772.01	3,772.01	3,763.80	8.20	459.903			
1,800.00	1,800.00	1,761.00	1,761.00	6.22	6.10	89.99	0.75	3,772.01	3,772.01	3,763.30	8.71	433.133			
1,900.00	1,900.00	1,861.00	1,861.00	6.58	6.45	89.99	0.75	3,772.01	3,772.01	3,762.79	9.22	409.307			
2,000.00	2,000.00	1,961.00	1,961.00	6.94	6.81	89.99	0.75	3,772.01	3,772.01	3,762.28	9.72	387.966			
2,100.00	2,100.00	2,061.00	2,061.00	7.29	7.17	89.99	0.75	3,772.01	3,772.01	3,761.78	10.23	368.739			
2,200.00	2,200.00	2,161.00	2,161.00	7.65	7.53	89.99	0.75	3,772.01	3,772.01	3,761.27	10.74	351.329			
2,300.00	2,300.00	2,261.00	2,261.00	8.01	7.89	89.99	0.75	3,772.01	3,772.01	3,760.76	11.24	335.488			
2,400.00	2,400.00	2,361.00	2,361.00	8.37	8.25	89.99	0.75	3,772.01	3,772.01	3,760.26	11.75	321.014			
2,500.00	2,500.00	2,461.00	2,461.00	8.73	8.61	89.99	0.75	3,772.01	3,772.01	3,759.75	12.26	307.737			
2,600.00	2,600.00	2,561.00	2,561.00	9.09	8.96	89.99	0.75	3,772.01	3,772.01	3,759.24	12.76	295.515			
2,700.00	2,700.00	2,661.00	2,661.00	9.45	9.32	89.99	0.75	3,772.01	3,772.01	3,758.73	13.27	284.227			
2,800.00	2,800.00	2,761.00	2,761.00	9.80	9.68	89.99	0.75	3,772.01	3,772.01	3,758.23	13.78	273.769			
2,900.00	2,900.00	2,861.00	2,861.00	10.16	10.04	89.99	0.75	3,772.01	3,772.01	3,757.72	14.29	264.054			
3,000.00	3,000.00	2,961.00	2,961.00	10.52	10.40	89.99	0.75	3,772.01	3,772.01	3,757.21	14.79	255.004			
3,100.00	3,100.00	3,061.00	3,061.00	10.88	10.76	89.99	0.75	3,772.01	3,772.01	3,756.71	15.30	246.554			
3,200.00	3,200.00	3,161.00	3,161.00	11.24	11.11	89.99	0.75	3,772.01	3,772.01	3,756.20	15.81	238.646			
3,300.00	3,299.99	3,260.99	3,260.99	11.58	11.47	-29.73	0.75	3,772.01	3,770.87	3,754.57	16.30	231.300			
3,400.00	3,399.91	3,360.91	3,360.91	11.92	11.83	-29.78	0.75	3,772.01	3,767.46	3,750.67	16.79	224.374			
3,500.00	3,499.69	3,460.69	3,460.69	12.25	12.19	-29.88	0.75	3,772.01	3,761.78	3,744.50	17.28	217.702			
3,600.00	3,599.27	3,560.27	3,560.27	12.59	12.55	-30.01	0.75	3,772.01	3,753.85	3,736.08	17.77	211.266			
3,666.69	3,665.53	3,626.53	3,626.53	12.82	12.78	-30.11	0.75	3,772.01	3,747.30	3,729.21	18.09	207.096			
3,700.00	3,698.59	3,659.59	3,659.59	12.93	12.90	-30.14	0.75	3,772.01	3,743.78	3,725.53	18.26	205.054			
3,800.00	3,797.85	3,758.85	3,758.85	13.28	13.26	-30.24	0.75	3,772.01	3,733.23	3,714.48	18.75	199.134			
3,900.00	3,897.10	3,858.10	3,858.10	13.63	13.61	-30.33	0.75	3,772.01	3,722.69	3,703.45	19.24	193.500			
4,000.00	3,996.36	3,957.36	3,957.36	13.98	13.97	-30.43	0.75	3,772.01	3,712.15	3,692.42	19.73	188.132			
4,100.00	4,095.61	4,056.61	4,056.61	14.34	14.32	-30.52	0.75	3,772.01	3,701.63	3,681.40	20.23	183.014			
4,200.00	4,194.86	4,155.86	4,155.86	14.70	14.68	-30.62	0.75	3,772.01	3,691.11	3,670.39	20.72	178.130			
4,300.00	4,294.12	4,255.12	4,255.12	15.06	15.04	-30.71	0.75	3,772.01	3,680.61	3,659.39	21.22	173.464			
4,400.00	4,393.37	4,354.37	4,354.37	15.42	15.39	-30.81	0.75	3,772.01	3,670.12	3,648.40	21.72	169.003			
4,500.00	4,492.63	4,453.63	4,453.63	15.79	15.75	-30.91	0.75	3,772.01	3,659.63	3,637.42	22.22	164.735			
4,600.00	4,491.88	4,453.06	4,453.06	16.16	16.04	-30.99	0.58	3,772.09	3,649.27	3,626.60	22.67	160.947			
4,700.00	4,491.14	4,460.00	4,459.99	16.53	16.26	-31.03	-0.44	3,772.56	3,639.61	3,616.53	23.07	157.741			
4,800.00	4,790.39	4,681.48	4,681.41	16.90	16.52	-31.07	-3.15	3,773.84	3,630.67	3,607.16	23.51	154.429			
4,900.00	4,889.65	4,753.43	4,753.24	17.27	16.75	-31.09	-6.86	3,775.58	3,622.51	3,598.59	23.93	151.404			
5,000.00	4,988.90	4,825.47	4,825.07	17.65	16.99	-31.08	-11.79	3,777.90	3,615.12	3,590.78	24.34	148.509			

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 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	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	5,088.16	4,899.98	4,899.25	18.03	17.23	-31.05	-18.19	3,780.91	3,608.49	3,583.73	24.77	145.705		
5,200.00	5,187.41	4,996.36	4,995.10	18.40	17.55	-31.00	-27.31	3,785.19	3,602.27	3,577.03	25.24	142.704		
5,300.00	5,286.66	5,096.12	5,094.31	18.78	17.88	-30.95	-36.74	3,789.63	3,596.06	3,570.33	25.73	139.757		
5,400.00	5,385.92	5,195.87	5,193.52	19.16	18.22	-30.89	-46.18	3,794.06	3,589.84	3,563.62	26.22	136.907		
5,500.00	5,485.17	5,295.62	5,292.72	19.55	18.55	-30.84	-55.61	3,798.50	3,583.63	3,556.92	26.71	134.152		
5,600.00	5,584.43	5,395.37	5,391.93	19.93	18.89	-30.79	-65.05	3,802.93	3,577.43	3,550.22	27.21	131.487		
5,700.00	5,683.68	5,495.13	5,491.14	20.31	19.23	-30.74	-74.49	3,807.37	3,571.22	3,543.52	27.70	128.908		
5,800.00	5,782.94	5,594.88	5,590.34	20.70	19.57	-30.68	-83.92	3,811.80	3,565.02	3,536.82	28.20	126.412		
5,900.00	5,882.19	5,694.63	5,689.55	21.08	19.92	-30.63	-93.36	3,816.24	3,558.83	3,530.12	28.70	123.995		
6,000.00	5,981.45	5,794.39	5,788.76	21.47	20.27	-30.58	-102.80	3,820.67	3,552.63	3,523.43	29.20	121.654		
6,100.00	6,080.70	5,894.14	5,887.96	21.86	20.62	-30.52	-112.23	3,825.11	3,546.44	3,516.73	29.71	119.386		
6,200.00	6,179.95	5,993.89	5,987.17	22.25	20.97	-30.47	-121.67	3,829.54	3,540.25	3,510.04	30.21	117.189		
6,300.00	6,279.21	6,093.64	6,086.37	22.63	21.32	-30.41	-131.11	3,833.98	3,534.07	3,503.35	30.72	115.058		
6,400.00	6,378.46	6,193.40	6,185.58	23.02	21.67	-30.36	-140.54	3,838.41	3,527.88	3,496.66	31.22	112.992		
6,500.00	6,477.72	6,293.15	6,284.79	23.41	22.03	-30.31	-149.98	3,842.85	3,521.71	3,489.98	31.73	110.987		
6,600.00	6,576.97	6,392.90	6,383.99	23.81	22.38	-30.25	-159.41	3,847.28	3,515.53	3,483.29	32.24	109.042		
6,700.00	6,676.23	6,492.65	6,483.20	24.20	22.74	-30.20	-168.85	3,851.72	3,509.36	3,476.61	32.75	107.154		
6,800.00	6,775.48	6,592.41	6,582.41	24.59	23.10	-30.14	-178.29	3,856.15	3,503.19	3,469.93	33.26	105.320		
6,900.00	6,874.74	6,691.34	6,679.72	24.98	23.63	-30.09	-187.72	3,860.58	3,496.47	3,462.58	33.77	103.544		
7,000.00	6,973.99	6,790.36	6,776.53	25.38	24.20	-30.13	-197.15	3,865.01	3,488.01	3,453.46	34.28	101.825		
7,091.16	7,064.47	7,036.32	7,025.47	25.73	24.66	-30.24	-199.25	3,866.01	3,478.81	3,443.70	35.10	99.103		
7,100.00	7,073.25	7,045.10	7,034.25	25.77	24.69	-30.24	-199.25	3,866.01	3,477.88	3,442.74	35.15	98.951		
7,200.00	7,172.67	7,144.52	7,133.67	26.16	25.04	-30.26	-199.25	3,866.01	3,468.66	3,433.01	35.65	97.287		
7,300.00	7,272.35	7,244.20	7,233.35	26.53	25.39	-30.28	-199.25	3,866.01	3,461.71	3,425.55	36.16	95.738		
7,400.00	7,372.20	7,344.05	7,333.20	26.90	25.74	-30.29	-199.25	3,866.01	3,457.01	3,420.35	36.66	94.301		
7,500.00	7,472.15	7,444.00	7,433.15	27.25	26.09	-30.29	-199.25	3,866.01	3,454.57	3,417.41	37.16	92.972		
7,557.85	7,530.00	7,501.85	7,491.00	27.44	26.29	89.41	-199.25	3,866.01	3,454.19	3,416.75	37.44	92.254		
7,600.00	7,572.15	7,544.00	7,533.15	27.59	26.44	89.41	-199.25	3,866.01	3,454.19	3,416.54	37.65	91.747		
7,700.00	7,672.15	7,644.00	7,633.15	27.92	26.79	89.41	-199.25	3,866.01	3,454.19	3,416.05	38.14	90.568		
7,800.00	7,772.15	7,744.00	7,733.15	28.26	27.14	89.41	-199.25	3,866.01	3,454.19	3,415.56	38.63	89.417		
7,900.00	7,872.15	7,844.00	7,833.15	28.59	27.49	89.41	-199.25	3,866.01	3,454.19	3,415.07	39.12	88.294		
8,000.00	7,972.15	7,944.00	7,933.15	28.93	27.85	89.41	-199.25	3,866.01	3,454.19	3,414.58	39.61	87.198		
8,100.00	8,072.15	8,044.00	8,033.15	29.27	28.20	89.41	-199.25	3,866.01	3,454.19	3,414.09	40.11	86.128		
8,200.00	8,172.15	8,144.00	8,133.15	29.61	28.55	89.41	-199.25	3,866.01	3,454.19	3,413.59	40.60	85.083		
8,300.00	8,272.15	8,244.00	8,233.15	29.95	28.90	89.41	-199.25	3,866.01	3,454.19	3,413.10	41.09	84.063		
8,400.00	8,372.15	8,344.00	8,333.15	30.29	29.25	89.41	-199.25	3,866.01	3,454.19	3,412.61	41.58	83.066		
8,500.00	8,472.15	8,444.00	8,433.15	30.63	29.61	89.41	-199.25	3,866.01	3,454.19	3,412.11	42.08	82.091		
8,600.00	8,572.15	8,544.00	8,533.15	30.97	29.96	89.41	-199.25	3,866.01	3,454.19	3,411.62	42.57	81.139		
8,700.00	8,672.15	8,644.00	8,633.15	31.31	30.31	89.41	-199.25	3,866.01	3,454.19	3,411.13	43.07	80.208		
8,800.00	8,772.15	8,744.00	8,733.15	31.65	30.66	89.41	-199.25	3,866.01	3,454.19	3,410.63	43.56	79.298		
8,900.00	8,872.15	8,844.00	8,833.15	31.99	31.02	89.41	-199.25	3,866.01	3,454.19	3,410.14	44.05	78.407		
9,000.00	8,972.15	8,944.00	8,933.15	32.33	31.37	89.41	-199.25	3,866.01	3,454.19	3,409.64	44.55	77.536		
9,100.00	9,072.15	9,044.00	9,033.15	32.67	31.72	89.41	-199.25	3,866.01	3,454.19	3,409.15	45.04	76.684		
9,200.00	9,172.15	9,144.00	9,133.15	33.02	32.08	89.41	-199.25	3,866.01	3,454.19	3,408.65	45.54	75.850		
9,300.00	9,272.15	9,244.00	9,233.15	33.36	32.43	89.41	-199.25	3,866.01	3,454.19	3,408.16	46.04	75.033		
9,400.00	9,372.15	9,344.00	9,333.15	33.70	32.78	89.41	-199.25	3,866.01	3,454.19	3,407.66	46.53	74.233		
9,500.00	9,472.15	9,444.00	9,433.15	34.05	33.14	89.41	-199.25	3,866.01	3,454.19	3,407.16	47.03	73.450		
9,600.00	9,572.15	9,544.00	9,533.15	34.39	33.49	89.41	-199.25	3,866.01	3,454.19	3,406.67	47.52	72.682		
9,700.00	9,672.15	9,644.00	9,633.15	34.73	33.85	89.41	-199.25	3,866.01	3,454.19	3,406.17	48.02	71.931		
9,800.00	9,772.15	9,744.00	9,733.15	35.08	34.20	89.41	-199.25	3,866.01	3,454.19	3,405.67	48.52	71.194		
9,900.00	9,872.15	9,844.00	9,833.15	35.42	34.55	89.41	-199.25	3,866.01	3,454.19	3,405.18	49.02	70.472		
10,000.00	9,972.15	9,944.00	9,933.15	35.77	34.91	89.41	-199.25	3,866.01	3,454.19	3,404.68	49.51	69.764		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	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							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
10,100.00	10,072.15	10,044.00	10,033.15	36.11	35.26	89.41	-199.25	3,866.01	3,454.19	3,404.18	50.01	69.070		
10,200.00	10,172.15	10,144.00	10,133.15	36.46	35.62	89.41	-199.25	3,866.01	3,454.19	3,403.68	50.51	68.390		
10,300.00	10,272.15	10,244.00	10,233.15	36.80	35.97	89.41	-199.25	3,866.01	3,454.19	3,403.19	51.01	67.722		
10,400.00	10,372.15	10,344.00	10,333.15	37.15	36.32	89.41	-199.25	3,866.01	3,454.19	3,402.69	51.50	67.067		
10,500.00	10,472.15	10,444.00	10,433.15	37.50	36.68	89.41	-199.25	3,866.01	3,454.19	3,402.19	52.00	66.425		
10,600.00	10,572.15	10,544.00	10,533.15	37.84	37.03	89.41	-199.25	3,866.01	3,454.19	3,401.69	52.50	65.794		
10,700.00	10,672.15	10,644.00	10,633.15	38.19	37.39	89.41	-199.25	3,866.01	3,454.19	3,401.19	53.00	65.175		
10,800.00	10,772.15	10,744.00	10,733.15	38.53	37.74	89.41	-199.25	3,866.01	3,454.19	3,400.69	53.50	64.568		
10,900.00	10,872.15	10,844.00	10,833.15	38.88	38.10	89.41	-199.25	3,866.01	3,454.19	3,400.19	54.00	63.971		
11,000.00	10,972.15	10,944.00	10,933.15	39.23	38.45	89.41	-199.25	3,866.01	3,454.19	3,399.70	54.49	63.386		
11,012.54	10,984.69	10,956.54	10,945.69	39.27	38.50	89.41	-199.25	3,866.01	3,454.19	3,399.63	54.56	63.313 CC		
11,100.00	11,072.15	11,043.91	11,033.06	39.58	38.81	89.41	-199.15	3,866.00	3,454.19	3,399.20	54.99	62.811		
11,200.00	11,172.15	11,141.82	11,130.32	39.92	39.14	89.24	-188.92	3,865.91	3,454.22	3,398.74	55.48	62.261		
11,300.00	11,272.15	11,233.74	11,218.80	40.27	39.43	88.83	-164.40	3,865.69	3,454.44	3,398.50	55.94	61.754		
11,406.85	11,379.00	11,321.31	11,298.43	40.64	39.68	88.23	-128.16	3,865.36	3,455.26	3,398.87	56.39	61.270		
11,450.00	11,422.11	11,350.00	11,323.20	40.79	39.76	88.43	-113.70	3,865.23	3,455.84	3,399.28	56.56	61.100		
11,500.00	11,471.74	11,390.71	11,357.05	40.96	39.86	88.05	-91.08	3,865.02	3,456.61	3,399.85	56.76	60.901		
11,550.00	11,520.67	11,426.87	11,385.69	41.12	39.95	87.70	-69.03	3,864.82	3,457.49	3,400.55	56.94	60.724		
11,600.00	11,568.51	11,462.40	11,412.43	41.26	40.04	87.36	-45.64	3,864.61	3,458.44	3,401.33	57.11	60.559		
11,650.00	11,614.92	11,500.00	11,439.09	41.40	40.13	87.02	-19.14	3,864.37	3,459.45	3,402.18	57.27	60.401		
11,700.00	11,659.53	11,531.87	11,460.28	41.53	40.20	86.72	4.66	3,864.15	3,460.49	3,403.07	57.42	60.265		
11,750.00	11,702.00	11,565.94	11,481.44	41.64	40.28	86.43	31.36	3,863.91	3,461.55	3,403.98	57.57	60.133		
11,800.00	11,742.02	11,600.00	11,500.97	41.74	40.36	86.15	59.25	3,863.66	3,462.59	3,404.88	57.70	60.006		
11,850.00	11,779.27	11,633.06	11,518.30	41.82	40.44	85.89	87.40	3,863.40	3,463.59	3,405.76	57.84	59.887		
11,900.00	11,813.48	11,666.19	11,534.02	41.89	40.52	85.66	116.55	3,863.14	3,464.54	3,406.58	57.96	59.770		
11,950.00	11,844.38	11,700.00	11,548.29	41.95	40.60	85.44	147.20	3,862.86	3,465.43	3,407.33	58.09	59.653		
12,000.00	11,871.74	11,731.79	11,560.04	42.00	40.68	85.26	176.73	3,862.59	3,466.22	3,408.00	58.22	59.539		
12,050.00	11,895.34	11,764.34	11,570.36	42.03	40.76	85.10	207.59	3,862.31	3,466.91	3,408.57	58.34	59.421		
12,100.00	11,915.02	11,800.00	11,579.63	42.05	40.85	84.96	242.02	3,862.00	3,467.49	3,409.01	58.48	59.293		
12,150.00	11,930.62	11,829.05	11,585.58	42.06	40.92	84.87	270.46	3,861.74	3,467.94	3,409.34	58.61	59.174		
12,200.00	11,942.02	11,861.28	11,590.49	42.16	41.01	84.79	302.31	3,861.45	3,468.27	3,409.52	58.74	59.043		
12,250.00	11,949.14	11,900.00	11,594.02	42.29	41.11	84.75	340.85	3,861.10	3,468.46	3,409.57	58.89	58.894		
12,300.00	11,951.92	11,925.62	11,594.91	42.42	41.18	84.74	366.46	3,860.87	3,468.49	3,409.46	59.03	58.763		
12,312.37	11,951.93	11,933.57	11,594.96	42.46	41.20	84.74	374.41	3,860.80	3,468.48	3,409.42	59.06	58.726		
12,325.15	11,951.81	11,941.84	11,594.89	42.49	41.22	84.74	382.67	3,860.72	3,468.47	3,409.37	59.10	58.686		
12,400.00	11,951.09	12,016.62	11,593.71	42.72	41.45	84.73	457.44	3,860.04	3,468.47	3,409.06	59.41	58.385		
12,500.00	11,950.13	12,116.62	11,592.14	43.07	41.80	84.72	557.42	3,859.14	3,468.47	3,408.58	59.89	57.913		
12,600.00	11,949.16	12,216.62	11,590.57	43.47	42.22	84.71	657.40	3,858.23	3,468.47	3,408.01	60.46	57.368		
12,700.00	11,948.20	12,316.61	11,589.01	43.93	42.70	84.70	757.38	3,857.32	3,468.47	3,407.36	61.11	56.755		
12,800.00	11,947.24	12,416.61	11,587.44	44.44	43.24	84.69	857.37	3,856.41	3,468.48	3,406.63	61.85	56.081		
12,900.00	11,946.27	12,516.61	11,585.87	45.01	43.83	84.68	957.35	3,855.51	3,468.48	3,405.82	62.66	55.355		
13,000.00	11,945.31	12,616.61	11,584.30	45.63	44.47	84.67	1,057.33	3,854.60	3,468.48	3,404.93	63.55	54.582		
13,100.00	11,944.35	12,716.61	11,582.73	46.30	45.17	84.66	1,157.31	3,853.69	3,468.48	3,403.98	64.50	53.771		
13,200.00	11,943.39	12,816.60	11,581.16	47.01	45.91	84.65	1,257.29	3,852.78	3,468.48	3,402.95	65.53	52.928		
13,300.00	11,942.42	12,916.60	11,579.59	47.77	46.70	84.64	1,357.27	3,851.87	3,468.49	3,401.86	66.62	52.060		
13,400.00	11,941.46	13,016.60	11,578.02	48.58	47.54	84.63	1,457.26	3,850.97	3,468.49	3,400.71	67.78	51.173		
13,500.00	11,940.50	13,116.60	11,576.45	49.42	48.42	84.62	1,557.24	3,850.06	3,468.49	3,399.50	68.99	50.272		
13,600.00	11,939.54	13,216.60	11,574.88	50.31	49.33	84.61	1,657.22	3,849.15	3,468.49	3,398.23	70.26	49.363		
13,700.00	11,938.57	13,316.60	11,573.31	51.23	50.29	84.60	1,757.20	3,848.24	3,468.50	3,396.91	71.59	48.451		
13,800.00	11,937.61	13,416.59	11,571.74	52.19	51.28	84.59	1,857.18	3,847.34	3,468.50	3,395.54	72.96	47.539		
13,900.00	11,936.65	13,516.59	11,570.17	53.18	52.30	84.58	1,957.16	3,846.43	3,468.50	3,394.12	74.38	46.630		
14,000.00	11,935.68	13,616.59	11,568.60	54.21	53.35	84.57	2,057.15	3,845.52	3,468.50	3,392.66	75.85	45.729		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Santa Fe Fed/Zia Fed - Zia Fed Com 604H - 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	11,934.72	13,716.59	11,567.03	55.26	54.44	84.56	2,157.13	3,844.61	3,468.51	3,391.15	77.36	44.838				
14,200.00	11,933.76	13,816.59	11,565.46	56.34	55.55	84.55	2,257.11	3,843.71	3,468.51	3,389.61	78.91	43.958				
14,300.00	11,932.80	13,916.58	11,563.89	57.45	56.69	84.54	2,357.09	3,842.80	3,468.51	3,388.02	80.49	43.092				
14,400.00	11,931.83	14,016.58	11,562.32	58.59	57.85	84.53	2,457.07	3,841.89	3,468.52	3,386.41	82.11	42.242				
14,500.00	11,930.87	14,116.58	11,560.75	59.75	59.04	84.52	2,557.05	3,840.98	3,468.52	3,384.75	83.77	41.407				
14,600.00	11,929.91	14,216.58	11,559.19	60.93	60.25	84.51	2,657.04	3,840.07	3,468.52	3,383.07	85.45	40.591				
14,700.00	11,928.95	14,316.58	11,557.62	62.13	61.48	84.50	2,757.02	3,839.17	3,468.53	3,381.36	87.17	39.792				
14,800.00	11,927.98	14,416.58	11,556.05	63.36	62.73	84.49	2,857.00	3,838.26	3,468.53	3,379.62	88.91	39.012				
14,900.00	11,927.02	14,516.57	11,554.48	64.60	63.99	84.48	2,956.98	3,837.35	3,468.54	3,377.86	90.68	38.251				
15,000.00	11,926.06	14,616.57	11,552.91	65.86	65.28	84.47	3,056.96	3,836.44	3,468.54	3,376.07	92.47	37.510				
15,100.00	11,925.09	14,716.57	11,551.34	67.14	66.58	84.46	3,156.94	3,835.54	3,468.54	3,374.26	94.29	36.787				
15,200.00	11,924.13	14,816.57	11,549.77	68.43	67.89	84.45	3,256.93	3,834.63	3,468.55	3,372.42	96.13	36.083				
15,300.00	11,923.17	14,916.57	11,548.20	69.74	69.22	84.44	3,356.91	3,833.72	3,468.55	3,370.57	97.99	35.398				
15,400.00	11,922.21	15,016.56	11,546.63	71.06	70.57	84.43	3,456.89	3,832.81	3,468.56	3,368.69	99.86	34.732				
15,500.00	11,921.24	15,116.56	11,545.06	72.40	71.92	84.42	3,556.87	3,831.91	3,468.56	3,366.80	101.76	34.085				
15,600.00	11,920.28	15,216.56	11,543.49	73.75	73.29	84.41	3,656.85	3,831.00	3,468.57	3,364.89	103.68	33.456				
15,700.00	11,919.32	15,316.56	11,541.92	75.11	74.67	84.40	3,756.83	3,830.09	3,468.57	3,362.96	105.61	32.844				
15,800.00	11,918.36	15,416.56	11,540.35	76.48	76.06	84.39	3,856.82	3,829.18	3,468.58	3,361.02	107.55	32.250				
15,900.00	11,917.39	15,516.55	11,538.78	77.86	77.47	84.38	3,956.80	3,828.27	3,468.58	3,359.07	109.51	31.672				
16,000.00	11,916.43	15,616.55	11,537.21	79.26	78.88	84.37	4,056.78	3,827.37	3,468.59	3,357.10	111.49	31.111				
16,100.00	11,915.47	15,716.55	11,535.64	80.66	80.30	84.36	4,156.76	3,826.46	3,468.59	3,355.11	113.48	30.566				
16,200.00	11,914.50	15,816.55	11,534.07	82.07	81.73	84.35	4,256.74	3,825.55	3,468.60	3,353.12	115.48	30.037				
16,300.00	11,913.54	15,916.55	11,532.50	83.49	83.16	84.34	4,356.73	3,824.64	3,468.60	3,351.11	117.49	29.522				
16,400.00	11,912.58	16,016.55	11,530.93	84.92	84.61	84.33	4,456.71	3,823.74	3,468.61	3,349.09	119.52	29.022				
16,500.00	11,911.62	16,116.54	11,529.37	86.36	86.06	84.32	4,556.69	3,822.83	3,468.61	3,347.06	121.55	28.536				
16,600.00	11,910.65	16,216.54	11,527.80	87.81	87.52	84.31	4,656.67	3,821.92	3,468.62	3,345.02	123.60	28.064				
16,700.00	11,909.69	16,316.54	11,526.23	89.26	88.99	84.30	4,756.65	3,821.01	3,468.62	3,342.97	125.65	27.605				
16,800.00	11,908.73	16,416.54	11,524.66	90.72	90.46	84.29	4,856.63	3,820.10	3,468.63	3,340.92	127.71	27.159				
16,900.00	11,907.77	16,516.54	11,523.09	92.18	91.94	84.28	4,956.62	3,819.20	3,468.64	3,338.85	129.79	26.726				
17,000.00	11,906.80	16,616.53	11,521.52	93.65	93.42	84.27	5,056.60	3,818.29	3,468.64	3,336.77	131.87	26.304				
17,100.00	11,905.84	16,716.53	11,519.95	95.13	94.91	84.26	5,156.58	3,817.38	3,468.65	3,334.69	133.96	25.894				
17,200.00	11,904.88	16,816.53	11,518.38	96.62	96.41	84.25	5,256.56	3,816.47	3,468.65	3,332.60	136.06	25.494				
17,300.00	11,903.91	16,916.53	11,516.81	98.10	97.91	84.24	5,356.54	3,815.57	3,468.66	3,330.50	138.16	25.106				
17,400.00	11,902.95	17,016.53	11,515.24	99.60	99.41	84.23	5,456.52	3,814.66	3,468.67	3,328.40	140.27	24.728				
17,500.00	11,901.99	17,116.53	11,513.67	101.10	100.92	84.22	5,556.51	3,813.75	3,468.67	3,326.29	142.39	24.361				
17,600.00	11,901.03	17,216.52	11,512.10	102.60	102.43	84.21	5,656.49	3,812.84	3,468.68	3,324.17	144.51	24.003				
17,700.00	11,900.06	17,316.52	11,510.53	104.11	103.95	84.20	5,756.47	3,811.94	3,468.69	3,322.05	146.64	23.654				
17,800.00	11,899.10	17,416.52	11,508.96	105.62	105.47	84.19	5,856.45	3,811.03	3,468.69	3,319.92	148.78	23.315				
17,900.00	11,898.14	17,516.52	11,507.39	107.14	107.00	84.18	5,956.43	3,810.12	3,468.70	3,317.78	150.92	22.984				
18,000.00	11,897.18	17,616.52	11,505.82	108.66	108.53	84.17	6,056.41	3,809.21	3,468.71	3,315.64	153.06	22.662				
18,100.00	11,896.21	17,716.51	11,504.25	110.18	110.06	84.16	6,156.40	3,808.30	3,468.72	3,313.50	155.22	22.348				
18,200.00	11,895.25	17,816.51	11,502.68	111.71	111.60	84.15	6,256.38	3,807.40	3,468.72	3,311.35	157.37	22.042				
18,300.00	11,894.29	17,916.51	11,501.11	113.24	113.14	84.14	6,356.36	3,806.49	3,468.73	3,309.20	159.53	21.743				
18,400.00	11,893.32	18,016.51	11,499.55	114.77	114.68	84.13	6,456.34	3,805.58	3,468.74	3,307.04	161.70	21.452				
18,500.00	11,892.36	18,116.51	11,497.98	116.31	116.23	84.12	6,556.32	3,804.67	3,468.75	3,304.88	163.87	21.168				
18,600.00	11,891.40	18,216.50	11,496.41	117.85	117.78	84.11	6,656.30	3,803.77	3,468.75	3,302.71	166.04	20.891				
18,700.00	11,890.44	18,316.50	11,494.84	119.39	119.33	84.10	6,756.29	3,802.86	3,468.76	3,300.54	168.22	20.621				
18,800.00	11,889.47	18,416.50	11,493.27	120.94	120.88	84.09	6,856.27	3,801.95	3,468.77	3,298.37	170.40	20.357				
18,900.00	11,888.51	18,516.50	11,491.70	122.49	122.44	84.08	6,956.25	3,801.04	3,468.78	3,296.20	172.58	20.099				
19,000.00	11,887.55	18,616.50	11,490.13	124.04	124.00	84.07	7,056.23	3,800.14	3,468.79	3,294.02	174.77	19.848				
19,100.00	11,886.59	18,716.50	11,488.56	125.60	125.56	84.06	7,156.21	3,799.23	3,468.80	3,291.83	176.96	19.602				
19,200.00	11,885.62	18,816.49	11,486.99	127.15	127.13	84.05	7,256.19	3,798.32	3,468.80	3,289.65	179.16	19.362				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	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	11,884.66	18,916.49	11,485.42	128.71	128.69	84.04	7,356.18	3,797.41	3,468.81	3,287.46	181.36	19.127		
19,400.00	11,883.70	19,016.49	11,483.85	130.27	130.26	84.03	7,456.16	3,796.50	3,468.82	3,285.26	183.56	18.898		
19,500.00	11,882.73	19,116.49	11,482.28	131.84	131.83	84.02	7,556.14	3,795.60	3,468.83	3,283.07	185.76	18.674		
19,600.00	11,881.77	19,216.49	11,480.71	133.40	133.40	84.01	7,656.12	3,794.69	3,468.84	3,280.87	187.97	18.454		
19,700.00	11,880.81	19,316.48	11,479.14	134.97	134.98	84.00	7,756.10	3,793.78	3,468.85	3,278.67	190.18	18.240		
19,800.00	11,879.85	19,416.48	11,477.57	136.54	136.55	83.99	7,856.08	3,792.87	3,468.86	3,276.47	192.39	18.030		
19,900.00	11,878.88	19,516.48	11,476.00	138.11	138.13	83.98	7,956.07	3,791.97	3,468.87	3,274.26	194.60	17.825		
20,000.00	11,877.92	19,616.48	11,474.43	139.69	139.71	83.97	8,056.05	3,791.06	3,468.88	3,272.05	196.82	17.624		
20,100.00	11,876.96	19,716.48	11,472.86	141.26	141.29	83.96	8,156.03	3,790.15	3,468.88	3,269.84	199.04	17.428		
20,200.00	11,876.00	19,816.48	11,471.29	142.84	142.87	83.95	8,256.01	3,789.24	3,468.89	3,267.63	201.26	17.236		
20,300.00	11,875.03	19,916.47	11,469.73	144.42	144.46	83.94	8,355.99	3,788.34	3,468.90	3,265.42	203.49	17.047		
20,400.00	11,874.07	20,016.47	11,468.16	146.00	146.04	83.93	8,455.98	3,787.43	3,468.91	3,263.20	205.71	16.863		
20,500.00	11,873.11	20,116.47	11,466.59	147.58	147.63	83.92	8,555.96	3,786.52	3,468.92	3,260.98	207.94	16.682		
20,600.00	11,872.14	20,216.47	11,465.02	149.16	149.22	83.91	8,655.94	3,785.61	3,468.93	3,258.76	210.17	16.505		
20,700.00	11,871.18	20,316.47	11,463.45	150.75	150.81	83.90	8,755.92	3,784.70	3,468.94	3,256.54	212.40	16.332		
20,800.00	11,870.22	20,416.46	11,461.88	152.33	152.40	83.89	8,855.90	3,783.80	3,468.95	3,254.32	214.64	16.162		
20,900.00	11,869.26	20,516.46	11,460.31	153.92	153.99	83.88	8,955.88	3,782.89	3,468.96	3,252.09	216.87	15.996		
21,000.00	11,868.29	20,616.46	11,458.74	155.51	155.59	83.87	9,055.87	3,781.98	3,468.97	3,249.87	219.11	15.832		
21,100.00	11,867.33	20,716.46	11,457.17	157.10	157.18	83.86	9,155.85	3,781.07	3,468.99	3,247.64	221.35	15.672		
21,200.00	11,866.37	20,816.46	11,455.60	158.69	158.78	83.85	9,255.83	3,780.17	3,469.00	3,245.41	223.59	15.515		
21,300.00	11,865.41	20,916.45	11,454.03	160.28	160.38	83.84	9,355.81	3,779.26	3,469.01	3,243.18	225.83	15.361		
21,400.00	11,864.44	21,016.45	11,452.46	161.88	161.97	83.83	9,455.79	3,778.35	3,469.02	3,240.94	228.07	15.210		
21,500.00	11,863.48	21,116.45	11,450.89	163.47	163.57	83.82	9,555.77	3,777.44	3,469.03	3,238.71	230.32	15.062		
21,600.00	11,862.52	21,216.45	11,449.32	165.07	165.17	83.81	9,655.76	3,776.53	3,469.04	3,236.47	232.56	14.916		
21,700.00	11,861.56	21,316.45	11,447.75	166.67	166.78	83.80	9,755.74	3,775.63	3,469.05	3,234.24	234.81	14.774		
21,800.00	11,860.59	21,416.45	11,446.18	168.27	168.38	83.79	9,855.72	3,774.72	3,469.06	3,232.00	237.06	14.634		
21,900.00	11,859.63	21,516.44	11,444.61	169.86	169.98	83.78	9,955.70	3,773.81	3,469.07	3,229.76	239.31	14.496		
22,000.00	11,858.67	21,616.44	11,443.04	171.47	171.59	83.77	10,055.68	3,772.90	3,469.08	3,227.52	241.56	14.361		
22,099.37	11,857.71	21,715.81	11,441.48	173.06	173.18	83.76	10,155.04	3,772.00	3,469.10	3,225.29	243.80	14.229 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 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design Santa Fe Fed/Zia Fed - Zia Fed Com 706H - 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	89.98	1.08	3,807.00	3,807.20					
100.00	100.00	61.00	61.00	0.13	0.09	89.98	1.08	3,807.00	3,807.00	3,806.84		0.15	N/A	
200.00	200.00	161.00	161.00	0.48	0.36	89.98	1.08	3,807.00	3,807.00	3,806.39	0.60	6,310.163		
300.00	300.00	261.00	261.00	0.84	0.72	89.98	1.08	3,807.00	3,807.00	3,805.89	1.11	3,437.921		
400.00	400.00	361.00	361.00	1.20	1.08	89.98	1.08	3,807.00	3,807.00	3,805.38	1.61	2,359.870		
500.00	500.00	461.00	461.00	1.56	1.44	89.98	1.08	3,807.00	3,807.00	3,804.88	2.12	1,796.082		
600.00	600.00	561.00	561.00	1.92	1.79	89.98	1.08	3,807.00	3,807.00	3,804.37	2.63	1,449.612		
700.00	700.00	661.00	661.00	2.28	2.15	89.98	1.08	3,807.00	3,807.00	3,803.86	3.13	1,215.152		
800.00	800.00	761.00	761.00	2.63	2.51	89.98	1.08	3,807.00	3,807.00	3,803.36	3.64	1,045.958		
900.00	900.00	861.00	861.00	2.99	2.87	89.98	1.08	3,807.00	3,807.00	3,802.85	4.15	918.112		
1,000.00	1,000.00	961.00	961.00	3.35	3.23	89.98	1.08	3,807.00	3,807.00	3,802.34	4.65	818.110		
1,100.00	1,100.00	1,061.00	1,061.00	3.71	3.59	89.98	1.08	3,807.00	3,807.00	3,801.84	5.16	737.750		
1,200.00	1,200.00	1,161.00	1,161.00	4.07	3.94	89.98	1.08	3,807.00	3,807.00	3,801.33	5.67	671.763		
1,300.00	1,300.00	1,261.00	1,261.00	4.43	4.30	89.98	1.08	3,807.00	3,807.00	3,800.82	6.17	616.611		
1,400.00	1,400.00	1,361.00	1,361.00	4.79	4.66	89.98	1.08	3,807.00	3,807.00	3,800.31	6.68	569.826		
1,500.00	1,500.00	1,461.00	1,461.00	5.14	5.02	89.98	1.08	3,807.00	3,807.00	3,799.81	7.19	529.640		
1,600.00	1,600.00	1,561.00	1,561.00	5.50	5.38	89.98	1.08	3,807.00	3,807.00	3,799.30	7.69	494.748		
1,700.00	1,700.00	1,661.00	1,661.00	5.86	5.74	89.98	1.08	3,807.00	3,807.00	3,798.79	8.20	464.169		
1,800.00	1,800.00	1,761.00	1,761.00	6.22	6.10	89.98	1.08	3,807.00	3,807.00	3,798.29	8.71	437.150		
1,900.00	1,900.00	1,861.00	1,861.00	6.58	6.45	89.98	1.08	3,807.00	3,807.00	3,797.78	9.22	413.104		
2,000.00	2,000.00	1,961.00	1,961.00	6.94	6.81	89.98	1.08	3,807.00	3,807.00	3,797.27	9.72	391.564		
2,100.00	2,100.00	2,061.00	2,061.00	7.29	7.17	89.98	1.08	3,807.00	3,807.00	3,796.77	10.23	372.160		
2,200.00	2,200.00	2,161.00	2,161.00	7.65	7.53	89.98	1.08	3,807.00	3,807.00	3,796.26	10.74	354.588		
2,300.00	2,300.00	2,261.00	2,261.00	8.01	7.89	89.98	1.08	3,807.00	3,807.00	3,795.75	11.24	338.600		
2,400.00	2,400.00	2,361.00	2,361.00	8.37	8.25	89.98	1.08	3,807.00	3,807.00	3,795.25	11.75	323.992		
2,500.00	2,500.00	2,461.00	2,461.00	8.73	8.61	89.98	1.08	3,807.00	3,807.00	3,794.74	12.26	310.592		
2,600.00	2,600.00	2,561.00	2,561.00	9.09	8.96	89.98	1.08	3,807.00	3,807.00	3,794.23	12.76	298.256		
2,700.00	2,700.00	2,661.00	2,661.00	9.45	9.32	89.98	1.08	3,807.00	3,807.00	3,793.72	13.27	286.863		
2,800.00	2,800.00	2,761.00	2,761.00	9.80	9.68	89.98	1.08	3,807.00	3,807.00	3,793.22	13.78	276.309		
2,900.00	2,900.00	2,861.00	2,861.00	10.16	10.04	89.98	1.08	3,807.00	3,807.00	3,792.71	14.29	266.503		
3,000.00	3,000.00	2,961.00	2,961.00	10.52	10.40	89.98	1.08	3,807.00	3,807.00	3,792.20	14.79	257.369		
3,004.53	3,004.53	2,965.53	2,965.53	10.54	10.41	89.98	1.08	3,807.00	3,807.00	3,792.18	14.81	256.971		
3,100.00	3,100.00	3,032.61	3,032.61	10.88	10.65	89.98	1.01	3,807.12	3,807.22	3,792.00	15.22	250.080		
3,200.00	3,200.00	3,100.00	3,099.99	11.24	10.88	89.99	0.44	3,808.14	3,808.63	3,792.99	15.64	243.493		
3,300.00	3,299.99	3,139.49	3,139.46	11.58	11.01	-29.69	-0.16	3,809.22	3,810.02	3,794.05	15.98	238.484		
3,400.00	3,399.91	3,200.00	3,199.91	11.92	11.22	-29.69	-1.47	3,811.57	3,810.42	3,794.07	16.35	233.054		
3,500.00	3,499.69	3,246.35	3,246.18	12.25	11.37	-29.70	-2.79	3,813.93	3,809.75	3,793.06	16.69	228.273		
3,600.00	3,599.27	3,300.00	3,299.69	12.59	11.55	-29.72	-4.65	3,817.28	3,808.04	3,790.99	17.05	223.396		
3,666.69	3,665.53	3,337.52	3,337.08	12.82	11.68	-29.74	-6.17	3,820.01	3,806.31	3,789.02	17.29	220.163		
3,700.00	3,698.59	3,370.81	3,370.25	12.93	11.79	-29.75	-7.58	3,822.54	3,805.31	3,787.86	17.45	218.110		
3,800.00	3,797.85	3,470.75	3,469.80	13.28	12.13	-29.78	-11.82	3,830.15	3,802.31	3,784.39	17.92	212.140		
3,900.00	3,897.10	3,570.69	3,569.36	13.63	12.48	-29.80	-16.05	3,837.75	3,799.32	3,780.92	18.40	206.446		
4,000.00	3,996.36	3,670.63	3,668.92	13.98	12.82	-29.83	-20.29	3,845.35	3,796.33	3,777.44	18.89	201.013		
4,100.00	4,095.61	3,770.57	3,768.48	14.34	13.17	-29.86	-24.52	3,852.95	3,793.34	3,773.96	19.37	195.826		
4,200.00	4,194.86	3,870.50	3,868.04	14.70	13.52	-29.89	-28.76	3,860.55	3,790.34	3,770.49	19.86	190.869		
4,300.00	4,294.12	3,970.44	3,967.60	15.06	13.87	-29.91	-32.99	3,868.15	3,787.35	3,767.01	20.35	186.129		
4,400.00	4,393.37	4,070.38	4,067.16	15.42	14.22	-29.94	-37.23	3,875.76	3,784.36	3,763.52	20.84	181.595		
4,500.00	4,492.63	4,170.32	4,166.72	15.79	14.58	-29.97	-41.46	3,883.36	3,781.38	3,760.04	21.33	177.254		
4,600.00	4,591.88	4,270.26	4,266.28	16.16	14.94	-30.00	-45.70	3,890.96	3,778.39	3,756.56	21.83	173.095		
4,700.00	4,691.14	4,370.20	4,365.84	16.53	15.29	-30.02	-49.93	3,898.56	3,775.40	3,753.08	22.33	169.109		
4,800.00	4,790.39	4,470.14	4,465.40	16.90	15.65	-30.05	-54.17	3,906.16	3,772.41	3,749.59	22.82	165.284		
4,900.00	4,889.65	4,570.08	4,564.96	17.27	16.01	-30.08	-58.40	3,913.76	3,769.43	3,746.11	23.32	161.613		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	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	4,988.90	4,670.01	4,664.51	17.65	16.38	-30.11	-62.64	3,921.37	3,766.45	3,742.62	23.83	158.088		
5,100.00	5,088.16	4,769.95	4,764.07	18.03	16.74	-30.13	-66.87	3,928.97	3,763.46	3,739.13	24.33	154.699		
5,200.00	5,187.41	4,869.89	4,863.63	18.40	17.10	-30.16	-71.11	3,936.57	3,760.48	3,735.65	24.83	151.440		
5,300.00	5,286.66	4,969.83	4,963.19	18.78	17.47	-30.19	-75.34	3,944.17	3,757.50	3,732.16	25.34	148.304		
5,400.00	5,385.92	5,069.77	5,062.75	19.16	17.83	-30.22	-79.58	3,951.77	3,754.52	3,728.67	25.84	145.285		
5,500.00	5,485.17	5,169.71	5,162.31	19.55	18.20	-30.25	-83.81	3,959.38	3,751.54	3,725.19	26.35	142.376		
5,600.00	5,584.43	5,269.65	5,261.87	19.93	18.56	-30.27	-88.05	3,966.98	3,748.56	3,721.70	26.86	139.572		
5,700.00	5,683.68	5,369.59	5,361.43	20.31	18.93	-30.30	-92.28	3,974.58	3,745.58	3,718.21	27.37	136.868		
5,800.00	5,782.94	5,469.52	5,460.99	20.70	19.30	-30.33	-96.52	3,982.18	3,742.60	3,714.73	27.88	134.258		
5,900.00	5,882.19	5,569.46	5,560.55	21.08	19.67	-30.36	-100.75	3,989.78	3,739.63	3,711.24	28.39	131.739		
6,000.00	5,981.45	5,669.40	5,660.11	21.47	20.04	-30.39	-104.99	3,997.38	3,736.65	3,707.75	28.90	129.304		
6,100.00	6,080.70	5,769.34	5,759.67	21.86	20.41	-30.42	-109.22	4,004.99	3,733.68	3,704.27	29.41	126.952		
6,200.00	6,179.95	5,869.28	5,859.22	22.25	20.78	-30.44	-113.46	4,012.59	3,730.70	3,700.78	29.92	124.677		
6,300.00	6,279.21	5,969.22	5,958.78	22.63	21.15	-30.47	-117.69	4,020.19	3,727.73	3,697.29	30.44	122.476		
6,400.00	6,378.46	6,069.16	6,058.34	23.02	21.52	-30.50	-121.93	4,027.79	3,724.76	3,693.81	30.95	120.345		
6,500.00	6,477.72	6,169.09	6,157.90	23.41	21.90	-30.53	-126.16	4,035.39	3,721.79	3,690.32	31.47	118.282		
6,600.00	6,576.97	6,269.03	6,257.46	23.81	22.27	-30.56	-130.40	4,042.99	3,718.82	3,686.84	31.98	116.283		
6,700.00	6,676.23	6,368.97	6,357.02	24.20	22.64	-30.59	-134.63	4,050.60	3,715.85	3,683.35	32.50	114.346		
6,800.00	6,775.48	6,468.91	6,456.58	24.59	23.01	-30.62	-138.87	4,058.20	3,712.88	3,679.87	33.01	112.468		
6,900.00	6,874.74	6,568.85	6,556.14	24.98	23.39	-30.64	-143.10	4,065.80	3,709.91	3,676.38	33.53	110.645		
7,000.00	6,973.99	6,668.79	6,655.70	25.38	23.76	-30.67	-147.34	4,073.40	3,706.95	3,672.90	34.05	108.877		
7,091.16	7,064.47	6,759.89	6,746.45	25.73	24.10	-30.70	-151.20	4,080.33	3,704.25	3,669.73	34.52	107.309		
7,100.00	7,073.25	6,768.73	6,755.26	25.77	24.14	-30.70	-151.57	4,081.00	3,703.99	3,669.43	34.57	107.160		
7,200.00	7,172.67	6,868.71	6,854.86	26.16	24.51	-30.70	-155.81	4,088.61	3,702.35	3,667.27	35.08	105.536		
7,222.87	7,195.45	6,891.57	6,877.63	26.24	24.60	-30.70	-156.78	4,090.35	3,702.29	3,667.09	35.20	105.183 CC		
7,300.00	7,272.35	6,968.70	6,954.47	26.53	24.89	-30.70	-160.05	4,096.21	3,702.96	3,667.37	35.59	104.033		
7,400.00	7,372.20	7,068.64	7,054.03	26.90	25.26	-30.70	-164.28	4,103.82	3,705.82	3,669.72	36.10	102.645		
7,500.00	7,472.15	7,168.47	7,153.48	27.25	25.64	-30.70	-168.51	4,111.41	3,710.94	3,674.33	36.61	101.370		
7,557.85	7,530.00	7,226.13	7,210.92	27.44	25.85	89.01	-170.96	4,115.80	3,714.92	3,678.03	36.90	100.685		
7,600.00	7,572.15	7,268.12	7,252.76	27.59	26.01	89.04	-172.73	4,118.99	3,718.10	3,680.99	37.11	100.204		
7,700.00	7,672.15	7,367.74	7,352.00	27.92	26.39	89.10	-176.96	4,126.57	3,725.64	3,688.04	37.60	99.083		
7,800.00	7,772.15	7,467.36	7,451.24	28.26	26.76	89.17	-181.18	4,134.14	3,733.19	3,695.10	38.10	97.991		
7,900.00	7,872.15	7,566.98	7,550.48	28.59	27.14	89.24	-185.40	4,141.72	3,740.75	3,702.15	38.59	96.925		
8,000.00	7,972.15	7,666.60	7,649.72	28.93	27.51	89.30	-189.62	4,149.30	3,748.31	3,709.21	39.09	95.886		
8,100.00	8,072.15	8,039.84	8,022.34	29.27	28.87	89.45	-198.91	4,165.98	3,754.17	3,713.92	40.25	93.270		
8,200.00	8,172.15	8,150.65	8,133.15	29.61	29.25	89.45	-198.92	4,166.00	3,754.17	3,713.41	40.76	92.106		
8,300.00	8,272.15	8,250.65	8,233.15	29.95	29.59	89.45	-198.92	4,166.00	3,754.17	3,712.92	41.25	91.020		
8,400.00	8,372.15	8,350.65	8,333.15	30.29	29.93	89.45	-198.92	4,166.00	3,754.17	3,712.44	41.73	89.958		
8,500.00	8,472.15	8,450.65	8,433.15	30.63	30.27	89.45	-198.92	4,166.00	3,754.17	3,711.95	42.22	88.920		
8,600.00	8,572.15	8,550.65	8,533.15	30.97	30.61	89.45	-198.92	4,166.00	3,754.17	3,711.46	42.71	87.904		
8,700.00	8,672.15	8,650.65	8,633.15	31.31	30.95	89.45	-198.92	4,166.00	3,754.17	3,710.97	43.20	86.910		
8,800.00	8,772.15	8,750.65	8,733.15	31.65	31.29	89.45	-198.92	4,166.00	3,754.17	3,710.48	43.68	85.938		
8,900.00	8,872.15	8,850.65	8,833.15	31.99	31.63	89.45	-198.92	4,166.00	3,754.17	3,709.99	44.17	84.986		
9,000.00	8,972.15	8,950.65	8,933.15	32.33	31.97	89.45	-198.92	4,166.00	3,754.17	3,709.51	44.66	84.055		
9,100.00	9,072.15	9,050.65	9,033.15	32.67	32.31	89.45	-198.92	4,166.00	3,754.17	3,709.02	45.15	83.143		
9,200.00	9,172.15	9,150.65	9,133.15	33.02	32.66	89.45	-198.92	4,166.00	3,754.17	3,708.53	45.64	82.250		
9,300.00	9,272.15	9,250.65	9,233.15	33.36	33.00	89.45	-198.92	4,166.00	3,754.17	3,708.03	46.13	81.375		
9,400.00	9,372.15	9,350.65	9,333.15	33.70	33.34	89.45	-198.92	4,166.00	3,754.17	3,707.54	46.63	80.518		
9,500.00	9,472.15	9,450.65	9,433.15	34.05	33.69	89.45	-198.92	4,166.00	3,754.17	3,707.05	47.12	79.678		
9,600.00	9,572.15	9,550.65	9,533.15	34.39	34.03	89.45	-198.92	4,166.00	3,754.17	3,706.56	47.61	78.856		
9,700.00	9,672.15	9,650.65	9,633.15	34.73	34.38	89.45	-198.92	4,166.00	3,754.17	3,706.07	48.10	78.049		
9,800.00	9,772.15	9,750.65	9,733.15	35.08	34.72	89.45	-198.92	4,166.00	3,754.17	3,705.58	48.59	77.258		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design Santa Fe Fed/Zia Fed - Zia Fed Com 706H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
9,900.00	9,872.15	9,850.65	9,833.15	35.42	35.06	89.45	-198.92	4,166.00	3,754.17	3,705.08	49.09	76.483		
10,000.00	9,972.15	9,950.65	9,933.15	35.77	35.41	89.45	-198.92	4,166.00	3,754.17	3,704.59	49.58	75.723		
10,100.00	10,072.15	10,050.65	10,033.15	36.11	35.76	89.45	-198.92	4,166.00	3,754.17	3,704.10	50.07	74.977		
10,200.00	10,172.15	10,150.65	10,133.15	36.46	36.10	89.45	-198.92	4,166.00	3,754.17	3,703.60	50.56	74.245		
10,300.00	10,272.15	10,250.65	10,233.15	36.80	36.45	89.45	-198.92	4,166.00	3,754.17	3,703.11	51.06	73.527		
10,400.00	10,372.15	10,350.65	10,333.15	37.15	36.79	89.45	-198.92	4,166.00	3,754.17	3,702.62	51.55	72.823		
10,500.00	10,472.15	10,450.65	10,433.15	37.50	37.14	89.45	-198.92	4,166.00	3,754.17	3,702.12	52.05	72.131		
10,600.00	10,572.15	10,550.65	10,533.15	37.84	37.49	89.45	-198.92	4,166.00	3,754.17	3,701.63	52.54	71.453		
10,700.00	10,672.15	10,650.65	10,633.15	38.19	37.83	89.45	-198.92	4,166.00	3,754.17	3,701.13	53.04	70.786		
10,800.00	10,772.15	10,750.65	10,733.15	38.53	38.18	89.45	-198.92	4,166.00	3,754.17	3,700.64	53.53	70.132		
10,900.00	10,872.15	10,850.65	10,833.15	38.88	38.53	89.45	-198.92	4,166.00	3,754.17	3,700.14	54.03	69.489		
11,000.00	10,972.15	10,950.65	10,933.15	39.23	38.87	89.45	-198.92	4,166.00	3,754.17	3,699.65	54.52	68.858		
11,100.00	11,072.15	11,050.65	11,033.15	39.58	39.22	89.45	-198.92	4,166.00	3,754.17	3,699.15	55.02	68.237		
11,200.00	11,172.15	11,150.65	11,133.15	39.92	39.57	89.45	-198.92	4,166.00	3,754.17	3,698.66	55.51	67.628		
11,201.09	11,173.24	11,151.75	11,134.24	39.93	39.57	89.45	-198.92	4,166.00	3,754.17	3,698.65	55.52	67.621		
11,300.00	11,272.15	11,250.00	11,232.38	40.27	39.91	89.40	-195.63	4,165.97	3,754.17	3,698.17	56.00	67.034		
11,406.85	11,379.00	11,352.30	11,332.58	40.64	40.24	89.09	-175.67	4,165.78	3,754.26	3,697.75	56.51	66.436		
11,450.00	11,422.11	11,391.53	11,369.81	40.79	40.35	89.41	-163.33	4,165.67	3,754.36	3,697.66	56.70	66.211		
11,500.00	11,471.74	11,436.14	11,411.00	40.96	40.48	89.21	-146.24	4,165.52	3,754.52	3,697.61	56.92	65.965		
11,550.00	11,520.67	11,479.94	11,450.03	41.12	40.59	89.01	-126.39	4,165.34	3,754.72	3,697.60	57.12	65.733		
11,600.00	11,568.51	11,523.00	11,486.81	41.26	40.69	88.82	-104.03	4,165.13	3,754.95	3,697.64	57.31	65.516		
11,650.00	11,614.92	11,565.39	11,521.29	41.40	40.78	88.64	-79.38	4,164.91	3,755.20	3,697.71	57.50	65.312		
11,700.00	11,659.53	11,607.18	11,553.40	41.53	40.86	88.47	-52.65	4,164.67	3,755.48	3,697.80	57.67	65.119		
11,750.00	11,702.00	11,650.00	11,584.19	41.64	40.93	88.31	-22.90	4,164.40	3,755.76	3,697.92	57.84	64.935		
11,800.00	11,742.02	11,689.23	11,610.38	41.74	40.99	88.16	6.29	4,164.13	3,756.04	3,698.05	57.99	64.765		
11,850.00	11,779.27	11,729.59	11,635.17	41.82	41.04	88.03	38.13	4,163.84	3,756.32	3,698.17	58.15	64.600		
11,900.00	11,813.48	11,769.59	11,657.47	41.89	41.08	87.90	71.33	4,163.54	3,756.59	3,698.29	58.30	64.439		
11,950.00	11,844.38	11,809.27	11,677.25	41.95	41.11	87.79	105.72	4,163.23	3,756.84	3,698.39	58.44	64.283		
12,000.00	11,871.74	11,850.00	11,695.03	42.00	41.14	87.69	142.35	4,162.90	3,757.06	3,698.47	58.59	64.125		
12,050.00	11,895.34	11,887.86	11,709.18	42.03	41.20	87.61	177.45	4,162.58	3,757.26	3,698.53	58.73	63.973		
12,100.00	11,915.02	11,926.84	11,721.30	42.05	41.31	87.54	214.49	4,162.24	3,757.42	3,698.54	58.88	63.818		
12,150.00	11,930.62	11,965.68	11,730.84	42.06	41.41	87.49	252.13	4,161.90	3,757.54	3,698.52	59.02	63.661		
12,200.00	11,942.02	12,000.00	11,737.14	42.16	41.50	87.45	285.86	4,161.59	3,757.63	3,698.46	59.17	63.510		
12,250.00	11,949.14	12,043.06	11,742.16	42.29	41.62	87.43	328.62	4,161.21	3,757.67	3,698.34	59.33	63.340		
12,300.00	11,951.92	12,081.68	11,743.92	42.42	41.73	87.42	367.19	4,160.85	3,757.66	3,698.18	59.48	63.175		
12,312.37	11,951.93	12,091.23	11,743.95	42.46	41.76	87.42	376.73	4,160.77	3,757.65	3,698.13	59.52	63.134		
12,400.00	11,951.09	12,177.07	11,742.67	42.72	42.03	87.42	462.57	4,159.99	3,757.63	3,697.76	59.87	62.765		
12,500.00	11,950.13	12,277.07	11,741.13	43.07	42.40	87.41	562.55	4,159.08	3,757.60	3,697.25	60.35	62.264		
12,600.00	11,949.16	12,377.07	11,739.60	43.47	42.82	87.40	662.53	4,158.17	3,757.57	3,696.65	60.92	61.685		
12,700.00	11,948.20	12,477.07	11,738.07	43.93	43.30	87.39	762.51	4,157.27	3,757.54	3,695.97	61.57	61.033		
12,800.00	11,947.24	12,577.06	11,736.53	44.44	43.84	87.38	862.50	4,156.36	3,757.51	3,695.21	62.30	60.317		
12,900.00	11,946.27	12,677.06	11,735.00	45.01	44.43	87.37	962.48	4,155.45	3,757.48	3,694.38	63.10	59.544		
13,000.00	11,945.31	12,777.06	11,733.46	45.63	45.07	87.36	1,062.46	4,154.54	3,757.45	3,693.46	63.99	58.721		
13,100.00	11,944.35	12,877.06	11,731.93	46.30	45.76	87.35	1,162.44	4,153.63	3,757.42	3,692.48	64.94	57.857		
13,200.00	11,943.39	12,977.06	11,730.40	47.01	46.50	87.35	1,262.43	4,152.73	3,757.40	3,691.43	65.97	56.958		
13,300.00	11,942.42	13,077.06	11,728.86	47.77	47.28	87.34	1,362.41	4,151.82	3,757.37	3,690.31	67.06	56.032		
13,400.00	11,941.46	13,177.05	11,727.33	48.58	48.11	87.33	1,462.39	4,150.91	3,757.34	3,689.13	68.21	55.085		
13,500.00	11,940.50	13,277.05	11,725.80	49.42	48.98	87.32	1,562.37	4,150.00	3,757.31	3,687.89	69.42	54.123		
13,600.00	11,939.54	13,377.05	11,724.26	50.31	49.89	87.31	1,662.36	4,149.09	3,757.28	3,686.59	70.69	53.152		
13,700.00	11,938.57	13,477.05	11,722.73	51.23	50.83	87.30	1,762.34	4,148.19	3,757.26	3,685.24	72.01	52.177		
13,800.00	11,937.61	13,577.05	11,721.19	52.19	51.81	87.29	1,862.32	4,147.28	3,757.23	3,683.85	73.38	51.201		
13,900.00	11,936.65	13,677.05	11,719.66	53.18	52.83	87.28	1,962.30	4,146.37	3,757.20	3,682.40	74.80	50.229		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	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	11,935.68	13,777.04	11,718.13	54.21	53.87	87.28	2,062.29	4,145.46	3,757.17	3,680.91	76.27	49.264		
14,100.00	11,934.72	13,877.04	11,716.59	55.26	54.95	87.27	2,162.27	4,144.56	3,757.14	3,679.37	77.77	48.309		
14,200.00	11,933.76	13,977.04	11,715.06	56.34	56.05	87.26	2,262.25	4,143.65	3,757.12	3,677.80	79.32	47.367		
14,300.00	11,932.80	14,077.04	11,713.52	57.45	57.18	87.25	2,362.23	4,142.74	3,757.09	3,676.19	80.90	46.439		
14,400.00	11,931.83	14,177.04	11,711.99	58.59	58.33	87.24	2,462.22	4,141.83	3,757.06	3,674.54	82.52	45.527		
14,500.00	11,930.87	14,277.04	11,710.46	59.75	59.51	87.23	2,562.20	4,140.92	3,757.03	3,672.86	84.18	44.632		
14,600.00	11,929.91	14,377.03	11,708.92	60.93	60.71	87.22	2,662.18	4,140.02	3,757.01	3,671.14	85.86	43.756		
14,700.00	11,928.95	14,477.03	11,707.39	62.13	61.93	87.21	2,762.16	4,139.11	3,756.98	3,669.40	87.58	42.899		
14,800.00	11,927.98	14,577.03	11,705.86	63.36	63.17	87.21	2,862.15	4,138.20	3,756.95	3,667.63	89.32	42.061		
14,900.00	11,927.02	14,677.03	11,704.32	64.60	64.43	87.20	2,962.13	4,137.29	3,756.93	3,665.84	91.09	41.244		
15,000.00	11,926.06	14,777.03	11,702.79	65.86	65.70	87.19	3,062.11	4,136.38	3,756.90	3,664.02	92.88	40.447		
15,100.00	11,925.09	14,877.03	11,701.25	67.14	67.00	87.18	3,162.09	4,135.48	3,756.87	3,662.17	94.70	39.670		
15,200.00	11,924.13	14,977.02	11,699.72	68.43	68.30	87.17	3,262.08	4,134.57	3,756.85	3,660.30	96.54	38.914		
15,300.00	11,923.17	15,077.02	11,698.19	69.74	69.62	87.16	3,362.06	4,133.66	3,756.82	3,658.42	98.40	38.178		
15,400.00	11,922.21	15,177.02	11,696.65	71.06	70.96	87.15	3,462.04	4,132.75	3,756.79	3,656.51	100.28	37.461		
15,500.00	11,921.24	15,277.02	11,695.12	72.40	72.31	87.14	3,562.02	4,131.84	3,756.77	3,654.58	102.18	36.765		
15,600.00	11,920.28	15,377.02	11,693.59	73.75	73.67	87.14	3,662.01	4,130.94	3,756.74	3,652.64	104.10	36.088		
15,700.00	11,919.32	15,477.02	11,692.05	75.11	75.04	87.13	3,761.99	4,130.03	3,756.71	3,650.68	106.03	35.429		
15,800.00	11,918.36	15,577.01	11,690.52	76.48	76.43	87.12	3,861.97	4,129.12	3,756.69	3,648.71	107.98	34.789		
15,900.00	11,917.39	15,677.01	11,688.98	77.86	77.82	87.11	3,961.95	4,128.21	3,756.66	3,646.71	109.95	34.168		
16,000.00	11,916.43	15,777.01	11,687.45	79.26	79.23	87.10	4,061.94	4,127.31	3,756.64	3,644.71	111.93	33.563		
16,100.00	11,915.47	15,877.01	11,685.92	80.66	80.64	87.09	4,161.92	4,126.40	3,756.61	3,642.69	113.92	32.976		
16,200.00	11,914.50	15,977.01	11,684.38	82.07	82.06	87.08	4,261.90	4,125.49	3,756.59	3,640.66	115.92	32.406		
16,300.00	11,913.54	16,077.01	11,682.85	83.49	83.49	87.07	4,361.88	4,124.58	3,756.56	3,638.62	117.94	31.852		
16,400.00	11,912.58	16,177.00	11,681.31	84.92	84.93	87.07	4,461.86	4,123.67	3,756.53	3,636.57	119.97	31.313		
16,500.00	11,911.62	16,277.00	11,679.78	86.36	86.38	87.06	4,561.85	4,122.77	3,756.51	3,634.50	122.01	30.789		
16,600.00	11,910.65	16,377.00	11,678.25	87.81	87.83	87.05	4,661.83	4,121.86	3,756.48	3,632.43	124.06	30.281		
16,700.00	11,909.69	16,477.00	11,676.71	89.26	89.29	87.04	4,761.81	4,120.95	3,756.46	3,630.34	126.12	29.786		
16,800.00	11,908.73	16,577.00	11,675.18	90.72	90.76	87.03	4,861.79	4,120.04	3,756.43	3,628.25	128.18	29.305		
16,900.00	11,907.77	16,677.00	11,673.65	92.18	92.23	87.02	4,961.78	4,119.13	3,756.41	3,626.15	130.26	28.837		
17,000.00	11,906.80	16,777.00	11,672.11	93.65	93.71	87.01	5,061.76	4,118.23	3,756.38	3,624.04	132.35	28.383		
17,100.00	11,905.84	16,876.99	11,670.58	95.13	95.20	87.01	5,161.74	4,117.32	3,756.36	3,621.92	134.44	27.940		
17,200.00	11,904.88	16,976.99	11,669.04	96.62	96.69	87.00	5,261.72	4,116.41	3,756.33	3,619.79	136.54	27.510		
17,300.00	11,903.91	17,076.99	11,667.51	98.10	98.18	86.99	5,361.71	4,115.50	3,756.31	3,617.66	138.65	27.092		
17,400.00	11,902.95	17,176.99	11,665.98	99.60	99.68	86.98	5,461.69	4,114.60	3,756.28	3,615.51	140.77	26.684		
17,500.00	11,901.99	17,276.99	11,664.44	101.10	101.19	86.97	5,561.67	4,113.69	3,756.26	3,613.37	142.89	26.288		
17,600.00	11,901.03	17,376.99	11,662.91	102.60	102.70	86.96	5,661.65	4,112.78	3,756.23	3,611.21	145.02	25.901		
17,700.00	11,900.06	17,476.98	11,661.38	104.11	104.21	86.95	5,761.64	4,111.87	3,756.21	3,609.05	147.16	25.525		
17,800.00	11,899.10	17,576.98	11,659.84	105.62	105.73	86.94	5,861.62	4,110.96	3,756.19	3,606.89	149.30	25.159		
17,900.00	11,898.14	17,676.98	11,658.31	107.14	107.25	86.94	5,961.60	4,110.06	3,756.16	3,604.72	151.44	24.802		
18,000.00	11,897.18	17,776.98	11,656.77	108.66	108.78	86.93	6,061.58	4,109.15	3,756.14	3,602.54	153.60	24.455		
18,100.00	11,896.21	17,876.98	11,655.24	110.18	110.31	86.92	6,161.57	4,108.24	3,756.11	3,600.36	155.75	24.116		
18,200.00	11,895.25	17,976.98	11,653.71	111.71	111.84	86.91	6,261.55	4,107.33	3,756.09	3,598.17	157.92	23.785		
18,300.00	11,894.29	18,076.97	11,652.17	113.24	113.38	86.90	6,361.53	4,106.42	3,756.06	3,595.98	160.08	23.463		
18,400.00	11,893.32	18,176.97	11,650.64	114.77	114.92	86.89	6,461.51	4,105.52	3,756.04	3,593.79	162.26	23.149		
18,500.00	11,892.36	18,276.97	11,649.10	116.31	116.46	86.88	6,561.50	4,104.61	3,756.02	3,591.59	164.43	22.842		
18,600.00	11,891.40	18,376.97	11,647.57	117.85	118.01	86.87	6,661.48	4,103.70	3,755.99	3,589.38	166.61	22.543		
18,700.00	11,890.44	18,476.97	11,646.04	119.39	119.55	86.87	6,761.46	4,102.79	3,755.97	3,587.17	168.80	22.251		
18,800.00	11,889.47	18,576.97	11,644.50	120.94	121.11	86.86	6,861.44	4,101.89	3,755.95	3,584.96	170.98	21.967		
18,900.00	11,888.51	18,676.96	11,642.97	122.49	122.66	86.85	6,961.43	4,100.98	3,755.92	3,582.75	173.18	21.688		
19,000.00	11,887.55	18,776.96	11,641.44	124.04	124.22	86.84	7,061.41	4,100.07	3,755.90	3,580.53	175.37	21.417		
19,100.00	11,886.59	18,876.96	11,639.90	125.60	125.77	86.83	7,161.39	4,099.16	3,755.88	3,578.31	177.57	21.152		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	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	11,885.62	18,976.96	11,638.37	127.15	127.34	86.82	7,261.37	4,098.25	3,755.85	3,576.08	179.77	20.892		
19,300.00	11,884.66	19,076.96	11,636.83	128.71	128.90	86.81	7,361.36	4,097.35	3,755.83	3,573.85	181.98	20.639		
19,400.00	11,883.70	19,176.96	11,635.30	130.27	130.46	86.80	7,461.34	4,096.44	3,755.81	3,571.62	184.19	20.391		
19,500.00	11,882.73	19,276.95	11,633.77	131.84	132.03	86.80	7,561.32	4,095.53	3,755.78	3,569.39	186.40	20.149		
19,600.00	11,881.77	19,376.95	11,632.23	133.40	133.60	86.79	7,661.30	4,094.62	3,755.76	3,567.15	188.61	19.913		
19,700.00	11,880.81	19,476.95	11,630.70	134.97	135.17	86.78	7,761.29	4,093.71	3,755.74	3,564.91	190.83	19.681		
19,800.00	11,879.85	19,576.95	11,629.17	136.54	136.75	86.77	7,861.27	4,092.81	3,755.72	3,562.67	193.05	19.455		
19,900.00	11,878.88	19,676.95	11,627.63	138.11	138.32	86.76	7,961.25	4,091.90	3,755.69	3,560.42	195.27	19.233		
20,000.00	11,877.92	19,776.95	11,626.10	139.69	139.90	86.75	8,061.23	4,090.99	3,755.67	3,558.18	197.49	19.017		
20,100.00	11,876.96	19,876.94	11,624.56	141.26	141.48	86.74	8,161.22	4,090.08	3,755.65	3,555.93	199.72	18.804		
20,200.00	11,876.00	19,976.94	11,623.03	142.84	143.06	86.73	8,261.20	4,089.17	3,755.63	3,553.68	201.95	18.597		
20,300.00	11,875.03	20,076.94	11,621.50	144.42	144.64	86.73	8,361.18	4,088.27	3,755.61	3,551.42	204.18	18.393		
20,400.00	11,874.07	20,176.94	11,619.96	146.00	146.22	86.72	8,461.16	4,087.36	3,755.58	3,549.17	206.42	18.194		
20,500.00	11,873.11	20,276.94	11,618.43	147.58	147.81	86.71	8,561.15	4,086.45	3,755.56	3,546.91	208.65	17.999		
20,600.00	11,872.14	20,376.94	11,616.90	149.16	149.39	86.70	8,661.13	4,085.54	3,755.54	3,544.65	210.89	17.808		
20,700.00	11,871.18	20,476.93	11,615.36	150.75	150.98	86.69	8,761.11	4,084.64	3,755.52	3,542.39	213.13	17.621		
20,800.00	11,870.22	20,576.93	11,613.83	152.33	152.57	86.68	8,861.09	4,083.73	3,755.50	3,540.12	215.37	17.437		
20,900.00	11,869.26	20,676.93	11,612.29	153.92	154.16	86.67	8,961.08	4,082.82	3,755.47	3,537.86	217.62	17.257		
21,000.00	11,868.29	20,776.93	11,610.76	155.51	155.75	86.66	9,061.06	4,081.91	3,755.45	3,535.59	219.86	17.081		
21,100.00	11,867.33	20,876.93	11,609.23	157.10	157.35	86.66	9,161.04	4,081.00	3,755.43	3,533.32	222.11	16.908		
21,200.00	11,866.37	20,976.93	11,607.69	158.69	158.94	86.65	9,261.02	4,080.10	3,755.41	3,531.05	224.36	16.738		
21,300.00	11,865.41	21,076.92	11,606.16	160.28	160.54	86.64	9,361.01	4,079.19	3,755.39	3,528.78	226.61	16.572		
21,400.00	11,864.44	21,176.92	11,604.62	161.88	162.13	86.63	9,460.99	4,078.28	3,755.37	3,526.51	228.86	16.409		
21,500.00	11,863.48	21,276.92	11,603.09	163.47	163.73	86.62	9,560.97	4,077.37	3,755.35	3,524.23	231.12	16.249		
21,600.00	11,862.52	21,376.92	11,601.56	165.07	165.33	86.61	9,660.95	4,076.46	3,755.32	3,521.95	233.37	16.092		
21,700.00	11,861.56	21,476.92	11,600.02	166.67	166.93	86.60	9,760.94	4,075.56	3,755.30	3,519.68	235.63	15.937		
21,800.00	11,860.59	21,576.92	11,598.49	168.27	168.53	86.59	9,860.92	4,074.65	3,755.28	3,517.40	237.89	15.786		
21,900.00	11,859.63	21,676.91	11,596.96	169.86	170.13	86.59	9,960.90	4,073.74	3,755.26	3,515.12	240.15	15.637		
22,000.00	11,858.67	21,776.91	11,595.42	171.47	171.73	86.58	10,060.88	4,072.83	3,755.24	3,512.84	242.41	15.492		
22,099.37	11,857.71	21,876.28	11,593.90	173.06	173.33	86.57	10,160.24	4,071.93	3,755.22	3,510.57	244.65	15.349 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 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design		Trinity Fed/Santa Fe Fed - Santa Fe Fed Com 704H - 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	82.05	233.53	1,672.33	1,688.74					
100.00	100.00	74.80	74.80	0.13	0.11	82.05	233.53	1,672.33	1,688.56	1,688.39	0.16	N/A		
200.00	200.00	174.80	174.80	0.48	0.41	82.05	233.53	1,672.33	1,688.56	1,687.92	0.63	2,662.941		
300.00	300.00	274.80	274.80	0.84	0.77	82.05	233.53	1,672.33	1,688.56	1,687.42	1.14	1,481.082		
400.00	400.00	374.80	374.80	1.20	1.13	82.05	233.53	1,672.33	1,688.56	1,686.91	1.65	1,025.439		
500.00	500.00	474.80	474.80	1.56	1.49	82.05	233.53	1,672.33	1,688.56	1,686.40	2.15	784.126		
600.00	600.00	574.80	574.80	1.92	1.84	82.05	233.53	1,672.33	1,688.56	1,685.90	2.66	634.734		
700.00	700.00	674.80	674.80	2.28	2.20	82.05	233.53	1,672.33	1,688.56	1,685.39	3.17	533.150		
800.00	800.00	774.80	774.80	2.63	2.56	82.05	233.53	1,672.33	1,688.56	1,684.88	3.67	459.593		
900.00	900.00	874.80	874.80	2.99	2.92	82.05	233.53	1,672.33	1,688.56	1,684.38	4.18	403.870		
1,000.00	1,000.00	974.80	974.80	3.35	3.28	82.05	233.53	1,672.33	1,688.56	1,683.87	4.69	360.198		
1,100.00	1,100.00	1,074.80	1,074.80	3.71	3.64	82.05	233.53	1,672.33	1,688.56	1,683.36	5.19	325.049		
1,200.00	1,200.00	1,174.80	1,174.80	4.07	3.99	82.05	233.53	1,672.33	1,688.56	1,682.86	5.70	296.149		
1,300.00	1,300.00	1,274.80	1,274.80	4.43	4.35	82.05	233.53	1,672.33	1,688.56	1,682.35	6.21	271.968		
1,400.00	1,400.00	1,374.80	1,374.80	4.79	4.71	82.05	233.53	1,672.33	1,688.56	1,681.84	6.72	251.438		
1,500.00	1,500.00	1,474.80	1,474.80	5.14	5.07	82.05	233.53	1,672.33	1,688.56	1,681.33	7.22	233.790		
1,600.00	1,600.00	1,574.80	1,574.80	5.50	5.43	82.05	233.53	1,672.33	1,688.56	1,680.83	7.73	218.457		
1,700.00	1,700.00	1,674.80	1,674.80	5.86	5.79	82.05	233.53	1,672.33	1,688.56	1,680.32	8.24	205.011		
1,800.00	1,800.00	1,774.80	1,774.80	6.22	6.15	82.05	233.53	1,672.33	1,688.56	1,679.81	8.74	193.124		
1,900.00	1,900.00	1,874.80	1,874.80	6.58	6.50	82.05	233.53	1,672.33	1,688.56	1,679.31	9.25	182.541		
2,000.00	2,000.00	1,974.80	1,974.80	6.94	6.86	82.05	233.53	1,672.33	1,688.56	1,678.80	9.76	173.057		
2,100.00	2,100.00	2,074.80	2,074.80	7.29	7.22	82.05	233.53	1,672.33	1,688.56	1,678.29	10.26	164.509		
2,200.00	2,200.00	2,174.80	2,174.80	7.65	7.58	82.05	233.53	1,672.33	1,688.56	1,677.79	10.77	156.767		
2,300.00	2,300.00	2,274.80	2,274.80	8.01	7.94	82.05	233.53	1,672.33	1,688.56	1,677.28	11.28	149.720		
2,400.00	2,400.00	2,374.80	2,374.80	8.37	8.30	82.05	233.53	1,672.33	1,688.56	1,676.77	11.79	143.280		
2,500.00	2,500.00	2,474.80	2,474.80	8.73	8.65	82.05	233.53	1,672.33	1,688.56	1,676.26	12.29	137.370 CC		
2,600.00	2,600.00	2,557.09	2,557.09	9.09	8.94	82.06	233.27	1,672.67	1,688.95	1,676.20	12.75	132.489		
2,700.00	2,700.00	2,633.38	2,633.35	9.45	9.20	82.11	232.11	1,674.18	1,690.70	1,677.52	13.18	128.262		
2,800.00	2,800.00	2,700.00	2,699.91	9.80	9.42	82.18	230.34	1,676.48	1,693.89	1,680.30	13.58	124.692		
2,900.00	2,900.00	2,785.57	2,785.31	10.16	9.71	82.31	227.03	1,680.79	1,698.42	1,684.38	14.04	121.010		
3,000.00	3,000.00	2,861.36	2,860.82	10.52	9.96	82.46	223.13	1,685.88	1,704.39	1,689.93	14.46	117.876		
3,100.00	3,100.00	2,936.86	2,935.91	10.88	10.22	82.65	218.33	1,692.12	1,711.79	1,696.91	14.88	115.033		
3,200.00	3,200.00	3,026.63	3,025.02	11.24	10.53	82.90	211.74	1,700.71	1,720.37	1,705.03	15.34	112.122		
3,300.00	3,299.99	3,126.03	3,123.68	11.58	10.88	-36.47	204.36	1,710.31	1,728.05	1,712.22	15.83	109.186		
3,400.00	3,399.91	3,225.68	3,222.59	11.92	11.23	-36.22	196.96	1,719.95	1,733.65	1,717.35	16.30	106.338		
3,500.00	3,499.69	3,325.51	3,321.67	12.25	11.58	-36.03	189.56	1,729.59	1,737.17	1,720.38	16.78	103.502		
3,600.00	3,599.27	3,425.45	3,420.87	12.59	11.94	-35.92	182.14	1,739.25	1,738.57	1,721.31	17.27	100.682		
3,666.69	3,665.53	3,492.13	3,487.05	12.82	12.19	-35.88	177.19	1,745.70	1,738.34	1,720.74	17.59	98.810		
3,700.00	3,698.59	3,525.43	3,520.11	12.93	12.31	-35.87	174.72	1,748.92	1,737.98	1,720.23	17.76	97.884		
3,800.00	3,797.85	3,625.42	3,619.35	13.28	12.67	-35.83	167.30	1,758.58	1,736.92	1,718.67	18.25	95.193		
3,900.00	3,897.10	3,725.40	3,718.59	13.63	13.04	-35.78	159.87	1,768.25	1,735.85	1,717.11	18.74	92.627		
4,000.00	3,996.36	3,825.39	3,817.83	13.98	13.41	-35.74	152.45	1,777.91	1,734.79	1,715.56	19.24	90.179		
4,100.00	4,095.61	3,925.38	3,917.07	14.34	13.79	-35.70	145.03	1,787.57	1,733.73	1,714.00	19.74	87.843		
4,200.00	4,194.86	4,025.36	4,016.31	14.70	14.16	-35.66	137.61	1,797.24	1,732.67	1,712.43	20.24	85.612		
4,300.00	4,294.12	4,125.35	4,115.55	15.06	14.54	-35.62	130.19	1,806.90	1,731.61	1,710.87	20.74	83.479		
4,400.00	4,393.37	4,225.34	4,214.79	15.42	14.92	-35.57	122.77	1,816.56	1,730.56	1,709.31	21.25	81.440		
4,500.00	4,492.63	4,325.32	4,314.04	15.79	15.30	-35.53	115.35	1,826.23	1,729.50	1,707.74	21.76	79.489		
4,600.00	4,491.88	4,425.31	4,413.28	16.16	15.68	-35.49	107.93	1,835.89	1,728.44	1,706.17	22.27	77.621		
4,700.00	4,491.14	4,525.29	4,512.52	16.53	16.06	-35.45	100.51	1,845.56	1,727.39	1,704.61	22.78	75.830		
4,800.00	4,790.39	4,625.28	4,611.76	16.90	16.45	-35.40	93.09	1,855.22	1,726.33	1,703.04	23.29	74.114		
4,900.00	4,889.65	4,725.27	4,711.00	17.27	16.83	-35.36	85.66	1,864.88	1,725.28	1,701.47	23.81	72.467		
5,000.00	4,988.90	4,825.25	4,810.24	17.65	17.22	-35.32	78.24	1,874.55	1,724.23	1,699.90	24.32	70.886		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	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	5,088.16	4,925.24	4,909.48	18.03	17.61	-35.27	70.82	1,884.21	1,723.18	1,698.34	24.84	69.367		
5,200.00	5,187.41	5,025.22	5,008.72	18.40	18.00	-35.23	63.40	1,893.88	1,722.13	1,696.77	25.36	67.907		
5,300.00	5,286.66	5,125.21	5,107.96	18.78	18.39	-35.19	55.98	1,903.54	1,721.08	1,695.20	25.88	66.503		
5,400.00	5,385.92	5,225.20	5,207.20	19.16	18.78	-35.15	48.56	1,913.20	1,720.03	1,693.63	26.40	65.151		
5,500.00	5,485.17	5,325.18	5,306.45	19.55	19.17	-35.10	41.14	1,922.87	1,718.98	1,692.06	26.92	63.850		
5,600.00	5,584.43	5,425.17	5,405.69	19.93	19.56	-35.06	33.72	1,932.53	1,717.93	1,690.49	27.45	62.596		
5,700.00	5,683.68	5,525.16	5,504.93	20.31	19.95	-35.02	26.30	1,942.20	1,716.89	1,688.92	27.97	61.386		
5,800.00	5,782.94	5,625.14	5,604.17	20.70	20.35	-34.97	18.87	1,951.86	1,715.84	1,687.35	28.49	60.220		
5,900.00	5,882.19	5,725.13	5,703.41	21.08	20.74	-34.93	11.45	1,961.52	1,714.80	1,685.78	29.02	59.095		
6,000.00	5,981.45	5,825.11	5,802.65	21.47	21.13	-34.89	4.03	1,971.19	1,713.76	1,684.22	29.54	58.008		
6,100.00	6,080.70	5,925.10	5,901.89	21.86	21.53	-34.84	-3.39	1,980.85	1,712.72	1,682.65	30.07	56.957		
6,200.00	6,179.95	6,025.09	6,001.13	22.25	21.93	-34.80	-10.81	1,990.52	1,711.68	1,681.08	30.60	55.942		
6,300.00	6,279.21	6,125.07	6,100.37	22.63	22.32	-34.76	-18.23	2,000.18	1,710.64	1,679.51	31.12	54.960		
6,400.00	6,378.46	6,225.06	6,199.61	23.02	22.72	-34.71	-25.65	2,009.84	1,709.60	1,677.95	31.65	54.010		
6,500.00	6,477.72	6,325.05	6,298.86	23.41	23.12	-34.67	-33.07	2,019.51	1,708.56	1,676.38	32.18	53.091		
6,600.00	6,576.97	6,425.03	6,398.10	23.81	23.51	-34.63	-40.49	2,029.17	1,707.52	1,674.81	32.71	52.200		
6,700.00	6,676.23	6,525.02	6,497.34	24.20	23.91	-34.58	-47.92	2,038.83	1,706.49	1,673.25	33.24	51.337		
6,800.00	6,775.48	6,625.00	6,596.58	24.59	24.31	-34.54	-55.34	2,048.50	1,705.45	1,671.68	33.77	50.501		
6,900.00	6,874.74	6,724.99	6,695.82	24.98	24.71	-34.49	-62.76	2,058.16	1,704.42	1,670.12	34.30	49.689		
7,000.00	6,973.99	6,824.98	6,795.06	25.38	25.11	-34.45	-70.18	2,067.83	1,703.39	1,668.56	34.83	48.902		
7,091.16	7,064.47	6,916.12	6,885.53	25.73	25.47	-34.41	-76.94	2,076.64	1,702.45	1,667.13	35.32	48.205		
7,100.00	7,073.25	6,924.96	6,894.30	25.77	25.51	-34.41	-77.60	2,077.49	1,702.36	1,667.00	35.36	48.139		
7,138.86	7,111.85	6,963.82	6,932.87	25.92	25.66	-34.38	-80.48	2,081.25	1,702.20	1,666.63	35.57	47.856		
7,200.00	7,172.67	7,024.94	6,993.53	26.16	25.91	-34.34	-85.02	2,087.15	1,702.61	1,666.71	35.89	47.436		
7,300.00	7,272.35	7,124.84	7,092.69	26.53	26.31	-34.23	-92.43	2,096.81	1,705.01	1,668.60	36.42	46.820		
7,400.00	7,372.20	7,224.60	7,191.70	26.90	26.71	-34.10	-99.84	2,106.45	1,709.60	1,672.66	36.93	46.288		
7,500.00	7,472.15	7,324.15	7,290.52	27.25	27.10	-33.94	-107.23	2,116.07	1,716.36	1,678.92	37.45	45.836		
7,557.85	7,530.00	7,381.62	7,347.56	27.44	27.34	85.87	-111.49	2,121.63	1,721.28	1,683.54	37.74	45.612		
7,600.00	7,572.15	7,423.46	7,389.08	27.59	27.50	85.98	-114.60	2,125.67	1,725.13	1,687.19	37.95	45.460		
7,700.00	7,672.15	7,522.71	7,487.60	27.92	27.90	86.25	-121.97	2,135.26	1,734.30	1,695.85	38.45	45.106		
7,800.00	7,772.15	7,621.97	7,586.11	28.26	28.30	86.51	-129.33	2,144.86	1,743.51	1,704.56	38.95	44.762		
7,900.00	7,872.15	7,721.22	7,684.63	28.59	28.70	86.77	-136.70	2,154.45	1,752.75	1,713.30	39.45	44.427		
8,000.00	7,972.15	7,820.48	7,783.14	28.93	29.10	87.03	-144.07	2,164.04	1,762.03	1,722.08	39.95	44.101		
8,100.00	8,072.15	7,919.73	7,881.66	29.27	29.50	87.28	-151.43	2,173.64	1,771.35	1,730.89	40.46	43.783		
8,200.00	8,172.15	8,018.99	7,980.17	29.61	29.90	87.54	-158.80	2,183.23	1,780.70	1,739.74	40.96	43.474		
8,300.00	8,272.15	8,118.24	8,078.69	29.95	30.29	87.79	-166.17	2,192.82	1,790.08	1,748.62	41.46	43.173		
8,400.00	8,372.15	8,217.49	8,177.20	30.29	30.69	88.03	-173.53	2,202.42	1,799.50	1,757.53	41.97	42.880		
8,500.00	8,472.15	8,316.75	8,275.72	30.63	31.09	88.28	-180.90	2,212.01	1,808.95	1,766.48	42.47	42.594		
8,600.00	8,572.15	8,416.00	8,374.23	30.97	31.49	88.52	-188.27	2,221.60	1,818.43	1,775.45	42.97	42.315		
8,700.00	8,672.15	8,515.26	8,472.75	31.31	31.89	88.76	-195.63	2,231.20	1,827.94	1,784.46	43.48	42.044		
8,800.00	8,772.15	8,616.10	8,602.72	31.65	32.42	89.05	-204.79	2,243.12	1,837.04	1,792.96	44.08	41.674		
8,900.00	8,872.15	8,806.47	8,762.57	31.99	33.02	89.30	-212.52	2,253.19	1,843.26	1,798.51	44.75	41.193		
9,000.00	8,972.15	8,967.62	8,923.60	32.33	33.59	89.42	-216.17	2,257.94	1,846.18	1,800.82	45.37	40.695		
9,100.00	9,072.15	9,090.98	9,046.95	32.67	34.00	89.42	-216.47	2,258.33	1,846.42	1,800.54	45.88	40.240		
9,200.00	9,172.15	9,190.98	9,146.95	33.02	34.32	89.42	-216.47	2,258.33	1,846.42	1,800.06	46.36	39.825		
9,300.00	9,272.15	9,290.98	9,246.95	33.36	34.64	89.42	-216.47	2,258.33	1,846.42	1,799.58	46.84	39.419		
9,400.00	9,372.15	9,390.98	9,346.95	33.70	34.96	89.42	-216.47	2,258.33	1,846.42	1,799.10	47.32	39.019		
9,500.00	9,472.15	9,490.98	9,446.95	34.05	35.29	89.42	-216.47	2,258.33	1,846.42	1,798.62	47.80	38.628		
9,600.00	9,572.15	9,590.98	9,546.95	34.39	35.61	89.42	-216.47	2,258.33	1,846.42	1,798.14	48.28	38.244		
9,700.00	9,672.15	9,690.98	9,646.95	34.73	35.93	89.42	-216.47	2,258.33	1,846.42	1,797.66	48.76	37.867		
9,800.00	9,772.15	9,790.98	9,746.95	35.08	36.26	89.42	-216.47	2,258.33	1,846.42	1,797.18	49.24	37.496		
9,900.00	9,872.15	9,890.98	9,846.95	35.42	36.58	89.42	-216.47	2,258.33	1,846.42	1,796.70	49.72	37.133		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Trinity Fed/Santa Fe Fed - Santa Fe Fed Com 704H - 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	9,972.15	9,990.98	9,946.95	35.77	36.91	89.42	-216.47	2,258.33	1,846.42	1,796.22	50.21	36.776				
10,100.00	10,072.15	10,090.98	10,046.95	36.11	37.24	89.42	-216.47	2,258.33	1,846.42	1,795.73	50.69	36.426				
10,200.00	10,172.15	10,190.98	10,146.95	36.46	37.56	89.42	-216.47	2,258.33	1,846.42	1,795.25	51.17	36.082				
10,300.00	10,272.15	10,290.98	10,246.95	36.80	37.89	89.42	-216.47	2,258.33	1,846.42	1,794.77	51.66	35.744				
10,400.00	10,372.15	10,390.98	10,346.95	37.15	38.22	89.42	-216.47	2,258.33	1,846.42	1,794.28	52.14	35.412				
10,500.00	10,472.15	10,490.98	10,446.95	37.50	38.55	89.42	-216.47	2,258.33	1,846.42	1,793.80	52.63	35.086				
10,600.00	10,572.15	10,590.98	10,546.95	37.84	38.88	89.42	-216.47	2,258.33	1,846.42	1,793.31	53.11	34.766				
10,700.00	10,672.15	10,690.98	10,646.95	38.19	39.21	89.42	-216.47	2,258.33	1,846.42	1,792.83	53.60	34.451				
10,800.00	10,772.15	10,790.98	10,746.95	38.53	39.54	89.42	-216.47	2,258.33	1,846.42	1,792.34	54.08	34.141				
10,900.00	10,872.15	10,890.98	10,846.95	38.88	39.87	89.42	-216.47	2,258.33	1,846.42	1,791.86	54.57	33.837				
11,000.00	10,972.15	10,990.98	10,946.95	39.23	40.20	89.42	-216.47	2,258.33	1,846.42	1,791.37	55.05	33.538				
11,100.00	11,072.15	11,090.98	11,046.95	39.58	40.53	89.42	-216.47	2,258.33	1,846.42	1,790.88	55.54	33.244				
11,200.00	11,172.15	11,190.98	11,146.95	39.92	40.86	89.42	-216.47	2,258.33	1,846.42	1,790.39	56.03	32.955				
11,300.00	11,272.15	11,290.98	11,246.95	40.27	41.20	89.42	-216.47	2,258.33	1,846.42	1,789.91	56.52	32.671				
11,306.61	11,278.76	11,297.59	11,253.56	40.30	41.22	89.42	-216.47	2,258.33	1,846.42	1,789.87	56.55	32.652				
11,406.85	11,379.00	11,397.06	11,352.84	40.64	41.54	89.28	-211.82	2,258.29	1,846.44	1,789.40	57.03	32.375				
11,450.00	11,422.11	11,439.11	11,394.31	40.79	41.66	89.60	-204.95	2,258.23	1,846.47	1,789.23	57.23	32.263				
11,500.00	11,471.74	11,487.37	11,441.14	40.96	41.79	89.41	-193.34	2,258.13	1,846.52	1,789.07	57.45	32.141				
11,550.00	11,520.67	11,535.15	11,486.38	41.12	41.91	89.23	-178.01	2,258.00	1,846.59	1,788.94	57.66	32.027				
11,600.00	11,568.51	11,582.49	11,529.79	41.26	42.01	89.05	-159.16	2,257.84	1,846.68	1,788.83	57.85	31.922				
11,650.00	11,614.92	11,629.41	11,571.13	41.40	42.10	88.87	-137.00	2,257.66	1,846.79	1,788.76	58.03	31.825				
11,700.00	11,659.53	11,675.94	11,610.21	41.53	42.18	88.71	-111.75	2,257.44	1,846.90	1,788.70	58.20	31.736				
11,750.00	11,702.00	11,722.12	11,646.83	41.64	42.24	88.56	-83.65	2,257.20	1,847.02	1,788.67	58.35	31.654				
11,800.00	11,742.02	11,767.98	11,680.84	41.74	42.29	88.41	-52.91	2,256.94	1,847.14	1,788.65	58.50	31.577				
11,850.00	11,779.27	11,813.54	11,712.10	41.82	42.33	88.28	-19.78	2,256.66	1,847.27	1,788.63	58.63	31.506				
11,900.00	11,813.48	11,858.84	11,740.46	41.89	42.36	88.16	15.52	2,256.36	1,847.39	1,788.62	58.76	31.438				
11,950.00	11,844.38	11,903.90	11,765.83	41.95	42.37	88.05	52.75	2,256.04	1,847.50	1,788.61	58.89	31.373				
12,000.00	11,871.74	11,950.00	11,788.67	42.00	42.38	87.96	92.78	2,255.70	1,847.61	1,788.60	59.01	31.309				
12,050.00	11,895.34	11,993.46	11,807.19	42.03	42.38	87.88	132.08	2,255.37	1,847.70	1,788.57	59.13	31.247				
12,100.00	11,915.02	12,038.01	11,823.03	42.05	42.36	87.82	173.71	2,255.02	1,847.78	1,788.53	59.25	31.185				
12,150.00	11,930.62	12,082.46	11,835.56	42.06	42.35	87.77	216.34	2,254.66	1,847.84	1,788.47	59.37	31.122				
12,200.00	11,942.02	12,126.82	11,844.73	42.16	42.32	87.73	259.73	2,254.29	1,847.89	1,788.39	59.50	31.058				
12,250.00	11,949.14	12,171.14	11,850.52	42.29	42.29	87.71	303.65	2,253.91	1,847.91	1,788.29	59.62	30.993				
12,300.00	11,951.92	12,215.43	11,852.89	42.42	42.27	87.71	347.87	2,253.54	1,847.92	1,788.17	59.75	30.926				
12,312.37	11,951.93	12,226.38	11,852.95	42.46	42.26	87.71	358.82	2,253.45	1,847.92	1,788.13	59.78	30.910				
12,315.28	11,951.90	12,228.97	11,852.94	42.47	42.26	87.71	361.41	2,253.42	1,847.92	1,788.13	59.79	30.905				
12,400.00	11,951.09	12,313.09	11,851.56	42.72	42.23	87.69	445.52	2,252.71	1,847.95	1,787.88	60.07	30.765				
12,500.00	11,950.13	12,413.09	11,849.90	43.07	42.49	87.67	545.50	2,251.86	1,847.98	1,787.51	60.47	30.559				
12,600.00	11,949.16	12,513.09	11,848.24	43.47	42.84	87.65	645.48	2,251.01	1,848.01	1,787.05	60.96	30.313				
12,700.00	11,948.20	12,613.09	11,846.58	43.93	43.25	87.63	745.46	2,250.16	1,848.04	1,786.50	61.54	30.030				
12,800.00	11,947.24	12,713.08	11,844.91	44.44	43.70	87.61	845.44	2,249.32	1,848.08	1,785.88	62.20	29.712				
12,900.00	11,946.27	12,813.08	11,843.25	45.01	44.21	87.59	945.42	2,248.47	1,848.11	1,785.17	62.94	29.364				
13,000.00	11,945.31	12,913.08	11,841.59	45.63	44.77	87.56	1,045.40	2,247.62	1,848.14	1,784.39	63.75	28.989				
13,100.00	11,944.35	13,013.08	11,839.93	46.30	45.38	87.54	1,145.38	2,246.77	1,848.18	1,783.53	64.64	28.590				
13,200.00	11,943.39	13,113.07	11,838.27	47.01	46.04	87.52	1,245.36	2,245.92	1,848.21	1,782.61	65.60	28.172				
13,300.00	11,942.42	13,213.07	11,836.61	47.77	46.75	87.50	1,345.34	2,245.07	1,848.25	1,781.61	66.63	27.738				
13,400.00	11,941.46	13,313.07	11,834.95	48.58	47.50	87.48	1,445.32	2,244.22	1,848.28	1,780.56	67.73	27.290				
13,500.00	11,940.50	13,413.07	11,833.29	49.42	48.30	87.46	1,545.30	2,243.37	1,848.32	1,779.43	68.88	26.833				
13,600.00	11,939.54	13,513.06	11,831.63	50.31	49.13	87.44	1,645.28	2,242.53	1,848.35	1,778.26	70.10	26.369				
13,700.00	11,938.57	13,613.06	11,829.97	51.23	50.01	87.41	1,745.26	2,241.68	1,848.39	1,777.02	71.36	25.901				
13,800.00	11,937.61	13,713.06	11,828.31	52.19	50.92	87.39	1,845.24	2,240.83	1,848.42	1,775.74	72.69	25.430				
13,900.00	11,936.65	13,813.06	11,826.65	53.18	51.87	87.37	1,945.22	2,239.98	1,848.46	1,774.40	74.06	24.960				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	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	11,935.68	13,913.05	11,824.99	54.21	52.85	87.35	2,045.20	2,239.13	1,848.50	1,773.02	75.48	24.491		
14,100.00	11,934.72	14,013.05	11,823.33	55.26	53.87	87.33	2,145.18	2,238.28	1,848.53	1,771.59	76.94	24.025		
14,200.00	11,933.76	14,113.05	11,821.66	56.34	54.91	87.31	2,245.16	2,237.43	1,848.57	1,770.12	78.45	23.565		
14,300.00	11,932.80	14,213.05	11,820.00	57.45	55.99	87.28	2,345.14	2,236.58	1,848.61	1,768.61	79.99	23.110		
14,400.00	11,931.83	14,313.04	11,818.34	58.59	57.09	87.26	2,445.12	2,235.74	1,848.64	1,767.07	81.58	22.662		
14,500.00	11,930.87	14,413.04	11,816.68	59.75	58.21	87.24	2,545.10	2,234.89	1,848.68	1,765.49	83.19	22.221		
14,600.00	11,929.91	14,513.04	11,815.02	60.93	59.37	87.22	2,645.08	2,234.04	1,848.72	1,763.87	84.85	21.789		
14,700.00	11,928.95	14,613.04	11,813.36	62.13	60.54	87.20	2,745.06	2,233.19	1,848.76	1,762.23	86.53	21.366		
14,800.00	11,927.98	14,713.03	11,811.70	63.36	61.74	87.18	2,845.04	2,232.34	1,848.80	1,760.56	88.24	20.951		
14,900.00	11,927.02	14,813.03	11,810.04	64.60	62.95	87.15	2,945.02	2,231.49	1,848.84	1,758.85	89.98	20.547		
15,000.00	11,926.06	14,913.03	11,808.38	65.86	64.19	87.13	3,045.00	2,230.64	1,848.87	1,757.13	91.75	20.151		
15,100.00	11,925.09	15,013.03	11,806.72	67.14	65.44	87.11	3,144.99	2,229.79	1,848.91	1,755.37	93.54	19.766		
15,200.00	11,924.13	15,113.02	11,805.06	68.43	66.71	87.09	3,244.97	2,228.95	1,848.95	1,753.60	95.36	19.390		
15,300.00	11,923.17	15,213.02	11,803.40	69.74	68.00	87.07	3,344.95	2,228.10	1,848.99	1,751.80	97.19	19.024		
15,400.00	11,922.21	15,313.02	11,801.74	71.06	69.30	87.05	3,444.93	2,227.25	1,849.03	1,749.98	99.05	18.667		
15,500.00	11,921.24	15,413.02	11,800.08	72.40	70.62	87.02	3,544.91	2,226.40	1,849.07	1,748.15	100.93	18.321		
15,600.00	11,920.28	15,513.02	11,798.41	73.75	71.95	87.00	3,644.89	2,225.55	1,849.11	1,746.29	102.82	17.983		
15,700.00	11,919.32	15,613.01	11,796.75	75.11	73.30	86.98	3,744.87	2,224.70	1,849.16	1,744.42	104.74	17.655		
15,800.00	11,918.36	15,713.01	11,795.09	76.48	74.65	86.96	3,844.85	2,223.85	1,849.20	1,742.53	106.67	17.336		
15,900.00	11,917.39	15,813.01	11,793.43	77.86	76.02	86.94	3,944.83	2,223.00	1,849.24	1,740.62	108.61	17.026		
16,000.00	11,916.43	15,913.01	11,791.77	79.26	77.40	86.92	4,044.81	2,222.16	1,849.28	1,738.71	110.57	16.724		
16,100.00	11,915.47	16,013.00	11,790.11	80.66	78.79	86.90	4,144.79	2,221.31	1,849.32	1,736.77	112.55	16.431		
16,200.00	11,914.50	16,113.00	11,788.45	82.07	80.19	86.87	4,244.77	2,220.46	1,849.36	1,734.83	114.54	16.146		
16,300.00	11,913.54	16,213.00	11,786.79	83.49	81.59	86.85	4,344.75	2,219.61	1,849.41	1,732.87	116.54	15.869		
16,400.00	11,912.58	16,313.00	11,785.13	84.92	83.01	86.83	4,444.73	2,218.76	1,849.45	1,730.90	118.55	15.600		
16,500.00	11,911.62	16,412.99	11,783.47	86.36	84.44	86.81	4,544.71	2,217.91	1,849.49	1,728.92	120.58	15.339		
16,600.00	11,910.65	16,512.99	11,781.81	87.81	85.87	86.79	4,644.69	2,217.06	1,849.54	1,726.92	122.61	15.085		
16,700.00	11,909.69	16,612.99	11,780.15	89.26	87.31	86.77	4,744.67	2,216.21	1,849.58	1,724.92	124.66	14.837		
16,800.00	11,908.73	16,712.99	11,778.49	90.72	88.76	86.74	4,844.65	2,215.36	1,849.62	1,722.91	126.71	14.597		
16,900.00	11,907.77	16,812.98	11,776.83	92.18	90.22	86.72	4,944.63	2,214.52	1,849.67	1,720.89	128.78	14.363		
17,000.00	11,906.80	16,912.98	11,775.16	93.65	91.68	86.70	5,044.61	2,213.67	1,849.71	1,718.86	130.85	14.136		
17,100.00	11,905.84	17,012.98	11,773.50	95.13	93.15	86.68	5,144.59	2,212.82	1,849.76	1,716.82	132.93	13.915		
17,200.00	11,904.88	17,112.98	11,771.84	96.62	94.62	86.66	5,244.57	2,211.97	1,849.80	1,714.78	135.02	13.700		
17,300.00	11,903.91	17,212.97	11,770.18	98.10	96.10	86.64	5,344.55	2,211.12	1,849.85	1,712.73	137.12	13.491		
17,400.00	11,902.95	17,312.97	11,768.52	99.60	97.59	86.61	5,444.53	2,210.27	1,849.89	1,710.67	139.23	13.287		
17,500.00	11,901.99	17,412.97	11,766.86	101.10	99.08	86.59	5,544.51	2,209.42	1,849.94	1,708.60	141.34	13.089		
17,600.00	11,901.03	17,512.97	11,765.20	102.60	100.58	86.57	5,644.49	2,208.57	1,849.98	1,706.53	143.46	12.896		
17,700.00	11,900.06	17,612.96	11,763.54	104.11	102.08	86.55	5,744.47	2,207.73	1,850.03	1,704.45	145.58	12.708		
17,800.00	11,899.10	17,712.96	11,761.88	105.62	103.58	86.53	5,844.45	2,206.88	1,850.07	1,702.36	147.71	12.525		
17,900.00	11,898.14	17,812.96	11,760.22	107.14	105.09	86.51	5,944.43	2,206.03	1,850.12	1,700.27	149.85	12.346		
18,000.00	11,897.18	17,912.96	11,758.56	108.66	106.61	86.49	6,044.41	2,205.18	1,850.17	1,698.18	151.99	12.173		
18,100.00	11,896.21	18,012.95	11,756.90	110.18	108.13	86.46	6,144.39	2,204.33	1,850.22	1,696.07	154.14	12.003		
18,200.00	11,895.25	18,112.95	11,755.24	111.71	109.65	86.44	6,244.37	2,203.48	1,850.26	1,693.97	156.29	11.838		
18,300.00	11,894.29	18,212.95	11,753.58	113.24	111.17	86.42	6,344.35	2,202.63	1,850.31	1,691.86	158.45	11.677		
18,400.00	11,893.32	18,312.95	11,751.91	114.77	112.70	86.40	6,444.33	2,201.78	1,850.36	1,689.74	160.62	11.520		
18,500.00	11,892.36	18,412.94	11,750.25	116.31	114.24	86.38	6,544.31	2,200.94	1,850.41	1,687.62	162.78	11.367		
18,600.00	11,891.40	18,512.94	11,748.59	117.85	115.77	86.36	6,644.29	2,200.09	1,850.46	1,685.50	164.96	11.218		
18,700.00	11,890.44	18,612.94	11,746.93	119.39	117.31	86.33	6,744.27	2,199.24	1,850.50	1,683.37	167.13	11.072		
18,800.00	11,889.47	18,712.94	11,745.27	120.94	118.85	86.31	6,844.25	2,198.39	1,850.55	1,681.24	169.31	10.930		
18,900.00	11,888.51	18,812.93	11,743.61	122.49	120.40	86.29	6,944.23	2,197.54	1,850.60	1,679.11	171.50	10.791		
19,000.00	11,887.55	18,912.93	11,741.95	124.04	121.94	86.27	7,044.21	2,196.69	1,850.65	1,676.97	173.68	10.655		
19,100.00	11,886.59	19,012.93	11,740.29	125.60	123.50	86.25	7,144.19	2,195.84	1,850.70	1,674.83	175.87	10.523		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Trinity Fed/Santa Fe Fed - Santa Fe Fed Com 704H - OH - Plan #1		Offset Site Error:		0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:		0.00 usft			
Reference		Offset		Semi Major Axis			Distance						Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor						
19,200.00	11,885.62	19,112.93	11,738.63	127.15	125.05	86.23	7,244.17	2,194.99	1,850.75	1,672.68	178.07	10.394						
19,300.00	11,884.66	19,212.93	11,736.97	128.71	126.60	86.20	7,344.15	2,194.15	1,850.80	1,670.54	180.27	10.267						
19,400.00	11,883.70	19,312.92	11,735.31	130.27	128.16	86.18	7,444.13	2,193.30	1,850.85	1,668.39	182.47	10.144						
19,500.00	11,882.73	19,412.92	11,733.65	131.84	129.72	86.16	7,544.11	2,192.45	1,850.90	1,666.23	184.67	10.023						
19,600.00	11,881.77	19,512.92	11,731.99	133.40	131.28	86.14	7,644.09	2,191.60	1,850.96	1,664.08	186.88	9.905						
19,700.00	11,880.81	19,612.92	11,730.33	134.97	132.85	86.12	7,744.07	2,190.75	1,851.01	1,661.92	189.09	9.789						
19,800.00	11,879.85	19,712.91	11,728.66	136.54	134.42	86.10	7,844.05	2,189.90	1,851.06	1,659.76	191.30	9.676						
19,900.00	11,878.88	19,812.91	11,727.00	138.11	135.98	86.08	7,944.03	2,189.05	1,851.11	1,657.60	193.51	9.566						
20,000.00	11,877.92	19,912.91	11,725.34	139.69	137.55	86.05	8,044.01	2,188.20	1,851.16	1,655.43	195.73	9.458						
20,100.00	11,876.96	20,012.91	11,723.68	141.26	139.13	86.03	8,143.99	2,187.36	1,851.21	1,653.26	197.95	9.352						
20,200.00	11,876.00	20,112.90	11,722.02	142.84	140.70	86.01	8,243.97	2,186.51	1,851.27	1,651.09	200.17	9.248						
20,300.00	11,875.03	20,212.90	11,720.36	144.42	142.28	85.99	8,343.95	2,185.66	1,851.32	1,648.92	202.40	9.147						
20,400.00	11,874.07	20,312.90	11,718.70	146.00	143.85	85.97	8,443.93	2,184.81	1,851.37	1,646.75	204.62	9.048						
20,500.00	11,873.11	20,412.90	11,717.04	147.58	145.43	85.95	8,543.91	2,183.96	1,851.43	1,644.57	206.85	8.950						
20,600.00	11,872.14	20,512.89	11,715.38	149.16	147.02	85.92	8,643.89	2,183.11	1,851.48	1,642.40	209.08	8.855						
20,700.00	11,871.18	20,612.89	11,713.72	150.75	148.60	85.90	8,743.87	2,182.26	1,851.53	1,640.22	211.32	8.762						
20,800.00	11,870.22	20,712.89	11,712.06	152.33	150.18	85.88	8,843.85	2,181.41	1,851.59	1,638.04	213.55	8.671						
20,900.00	11,869.26	20,812.89	11,710.40	153.92	151.77	85.86	8,943.84	2,180.57	1,851.64	1,635.86	215.79	8.581						
21,000.00	11,868.29	20,912.88	11,708.74	155.51	153.35	85.84	9,043.82	2,179.72	1,851.70	1,633.68	218.02	8.493						
21,100.00	11,867.33	21,012.88	11,707.08	157.10	154.94	85.82	9,143.80	2,178.87	1,851.75	1,631.49	220.26	8.407						
21,200.00	11,866.37	21,112.88	11,705.41	158.69	156.53	85.80	9,243.78	2,178.02	1,851.81	1,629.31	222.50	8.323						
21,300.00	11,865.41	21,212.88	11,703.75	160.28	158.12	85.77	9,343.76	2,177.17	1,851.86	1,627.12	224.75	8.240						
21,400.00	11,864.44	21,312.87	11,702.09	161.88	159.71	85.75	9,443.74	2,176.32	1,851.92	1,624.93	226.99	8.159						
21,500.00	11,863.48	21,412.87	11,700.43	163.47	161.31	85.73	9,543.72	2,175.47	1,851.98	1,622.74	229.24	8.079						
21,600.00	11,862.52	21,512.87	11,698.77	165.07	162.90	85.71	9,643.70	2,174.62	1,852.03	1,620.55	231.48	8.001						
21,700.00	11,861.56	21,612.87	11,697.11	166.67	164.50	85.69	9,743.68	2,173.78	1,852.09	1,618.36	233.73	7.924						
21,800.00	11,860.59	21,712.86	11,695.45	168.27	166.09	85.67	9,843.66	2,172.93	1,852.15	1,616.16	235.98	7.849						
21,900.00	11,859.63	21,812.86	11,693.79	169.86	167.69	85.64	9,943.64	2,172.08	1,852.20	1,613.97	238.23	7.775						
22,000.00	11,858.67	21,912.86	11,692.13	171.47	169.29	85.62	10,043.62	2,171.23	1,852.26	1,611.78	240.48	7.702						
22,099.37	11,857.71	22,012.23	11,690.48	173.06	170.88	85.60	10,142.97	2,170.39	1,852.32	1,609.59	242.72	7.631 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 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Trinity Fed/Santa Fe Fed - Trinity 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				
0.00	0.00	0.00	0.00	0.00	0.00	81.73	232.76	1,602.34	1,619.40							
100.00	100.00	72.10	72.10	0.13	0.10	81.73	232.76	1,602.34	1,619.16	1,619.00	0.16	N/A				
200.00	200.00	172.10	172.10	0.48	0.40	81.73	232.76	1,602.34	1,619.16	1,618.53	0.63	2,578.752				
300.00	300.00	272.10	272.10	0.84	0.76	81.73	232.76	1,602.34	1,619.16	1,618.02	1.13	1,428.352				
400.00	400.00	372.10	372.10	1.20	1.12	81.73	232.76	1,602.34	1,619.16	1,617.52	1.64	987.255				
500.00	500.00	472.10	472.10	1.56	1.48	81.73	232.76	1,602.34	1,619.16	1,617.01	2.15	754.233				
600.00	600.00	572.10	572.10	1.92	1.83	81.73	232.76	1,602.34	1,619.16	1,616.50	2.65	610.183				
700.00	700.00	672.10	672.10	2.28	2.19	81.73	232.76	1,602.34	1,619.16	1,616.00	3.16	512.325				
800.00	800.00	772.10	772.10	2.63	2.55	81.73	232.76	1,602.34	1,619.16	1,615.49	3.67	441.514				
900.00	900.00	872.10	872.10	2.99	2.91	81.73	232.76	1,602.34	1,619.16	1,614.98	4.17	387.898				
1,000.00	1,000.00	972.10	972.10	3.35	3.27	81.73	232.76	1,602.34	1,619.16	1,614.48	4.68	345.893				
1,100.00	1,100.00	1,072.10	1,072.10	3.71	3.63	81.73	232.76	1,602.34	1,619.16	1,613.97	5.19	312.096				
1,200.00	1,200.00	1,172.10	1,172.10	4.07	3.98	81.73	232.76	1,602.34	1,619.16	1,613.46	5.69	284.315				
1,300.00	1,300.00	1,272.10	1,272.10	4.43	4.34	81.73	232.76	1,602.34	1,619.16	1,612.96	6.20	261.076				
1,400.00	1,400.00	1,372.10	1,372.10	4.79	4.70	81.73	232.76	1,602.34	1,619.16	1,612.45	6.71	241.348				
1,500.00	1,500.00	1,472.10	1,472.10	5.14	5.06	81.73	232.76	1,602.34	1,619.16	1,611.94	7.22	224.392				
1,600.00	1,600.00	1,572.10	1,572.10	5.50	5.42	81.73	232.76	1,602.34	1,619.16	1,611.43	7.72	209.663				
1,700.00	1,700.00	1,672.10	1,672.10	5.86	5.78	81.73	232.76	1,602.34	1,619.16	1,610.93	8.23	196.748				
1,800.00	1,800.00	1,772.10	1,772.10	6.22	6.14	81.73	232.76	1,602.34	1,619.16	1,610.42	8.74	185.331				
1,900.00	1,900.00	1,872.10	1,872.10	6.58	6.49	81.73	232.76	1,602.34	1,619.16	1,609.91	9.24	175.167				
2,000.00	2,000.00	1,972.10	1,972.10	6.94	6.85	81.73	232.76	1,602.34	1,619.16	1,609.41	9.75	166.060				
2,100.00	2,100.00	2,072.10	2,072.10	7.29	7.21	81.73	232.76	1,602.34	1,619.16	1,608.90	10.26	157.853				
2,200.00	2,200.00	2,172.10	2,172.10	7.65	7.57	81.73	232.76	1,602.34	1,619.16	1,608.39	10.76	150.419				
2,300.00	2,300.00	2,272.10	2,272.10	8.01	7.93	81.73	232.76	1,602.34	1,619.16	1,607.89	11.27	143.653				
2,400.00	2,400.00	2,372.10	2,372.10	8.37	8.29	81.73	232.76	1,602.34	1,619.16	1,607.38	11.78	137.470				
2,500.00	2,500.00	2,472.10	2,472.10	8.73	8.64	81.73	232.76	1,602.34	1,619.16	1,606.87	12.29	131.797				
2,600.00	2,600.00	2,613.77	2,613.76	9.09	9.14	81.77	231.71	1,601.01	1,618.23	1,605.35	12.88	125.619				
2,700.00	2,700.00	2,771.19	2,770.97	9.45	9.66	81.91	226.78	1,594.80	1,613.88	1,600.39	13.49	119.670				
2,800.00	2,800.00	2,927.70	2,926.81	9.80	10.19	82.17	217.89	1,583.60	1,605.99	1,591.91	14.08	114.077				
2,900.00	2,900.00	3,053.02	3,051.14	10.16	10.62	82.45	208.14	1,571.32	1,595.13	1,580.52	14.61	109.177				
3,000.00	3,000.00	3,152.16	3,149.44	10.52	10.97	82.70	200.10	1,561.19	1,583.92	1,568.82	15.10	104.886				
3,100.00	3,100.00	3,251.31	3,247.73	10.88	11.32	82.94	192.06	1,551.05	1,572.74	1,557.14	15.59	100.853				
3,200.00	3,200.00	3,350.45	3,346.03	11.24	11.67	83.19	184.01	1,540.92	1,561.58	1,545.50	16.09	97.057				
3,300.00	3,299.99	3,449.52	3,444.25	11.58	12.03	-36.40	175.98	1,530.79	1,549.41	1,532.84	16.58	93.471				
3,400.00	3,399.91	3,548.40	3,542.28	11.92	12.40	-36.35	167.96	1,520.69	1,535.17	1,518.12	17.06	90.009				
3,500.00	3,499.69	3,647.01	3,640.05	12.25	12.76	-36.39	159.95	1,510.61	1,518.86	1,501.32	17.54	86.613				
3,600.00	3,599.27	3,745.29	3,737.49	12.59	13.12	-36.50	151.98	1,500.56	1,500.47	1,482.45	18.02	83.279				
3,666.69	3,665.53	3,810.62	3,802.26	12.82	13.37	-36.62	146.68	1,493.88	1,487.06	1,468.72	18.34	81.089				
3,700.00	3,698.59	3,843.20	3,834.56	12.93	13.49	-36.62	144.04	1,490.55	1,480.13	1,461.64	18.50	80.010				
3,800.00	3,797.85	3,941.01	3,931.54	13.28	13.86	-36.63	136.10	1,480.55	1,459.34	1,440.36	18.98	76.879				
3,900.00	3,897.10	4,038.83	4,028.52	13.63	14.23	-36.65	128.17	1,470.55	1,438.55	1,419.08	19.47	73.894				
4,000.00	3,996.36	4,136.64	4,125.49	13.98	14.60	-36.66	120.23	1,460.56	1,417.75	1,397.80	19.96	71.045				
4,100.00	4,095.61	4,234.45	4,222.47	14.34	14.98	-36.68	112.30	1,450.56	1,396.96	1,376.51	20.45	68.324				
4,200.00	4,194.86	4,332.27	4,319.45	14.70	15.35	-36.70	104.36	1,440.56	1,376.16	1,355.23	20.94	65.724				
4,300.00	4,294.12	4,430.08	4,416.42	15.06	15.73	-36.71	96.43	1,430.56	1,355.37	1,333.94	21.43	63.237				
4,400.00	4,393.37	4,527.89	4,513.40	15.42	16.11	-36.73	88.49	1,420.56	1,334.58	1,312.65	21.93	60.858				
4,500.00	4,492.63	4,625.71	4,610.38	15.79	16.49	-36.75	80.56	1,410.56	1,313.78	1,291.36	22.43	58.579				
4,600.00	4,491.88	4,723.52	4,707.36	16.16	16.87	-36.77	72.62	1,400.56	1,292.99	1,270.06	22.93	56.395				
4,700.00	4,491.14	4,821.33	4,804.33	16.53	17.26	-36.78	64.68	1,390.57	1,272.20	1,248.77	23.43	54.301				
4,800.00	4,790.39	4,919.15	4,901.31	16.90	17.64	-36.80	56.75	1,380.57	1,251.40	1,227.47	23.93	52.292				
4,900.00	4,889.65	5,016.96	4,998.29	17.27	18.03	-36.82	48.81	1,370.57	1,230.61	1,206.17	24.44	50.362				
5,000.00	4,988.90	5,114.78	5,095.26	17.65	18.41	-36.84	40.88	1,360.57	1,209.82	1,184.88	24.94	48.508				

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 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	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	5,088.16	5,212.59	5,192.24	18.03	18.80	-36.87	32.94	1,350.57	1,189.02	1,163.58	25.45	46.726		
5,200.00	5,187.41	5,310.40	5,289.22	18.40	19.19	-36.89	25.01	1,340.57	1,168.23	1,142.28	25.95	45.011		
5,300.00	5,286.66	5,408.22	5,386.19	18.78	19.58	-36.91	17.07	1,330.57	1,147.44	1,120.98	26.46	43.360		
5,400.00	5,385.92	5,506.03	5,483.17	19.16	19.97	-36.94	9.14	1,320.58	1,126.65	1,099.67	26.97	41.770		
5,500.00	5,485.17	5,603.84	5,580.15	19.55	20.36	-36.96	1.20	1,310.58	1,105.85	1,078.37	27.48	40.237		
5,600.00	5,584.43	5,701.66	5,677.12	19.93	20.75	-36.99	-6.73	1,300.58	1,085.06	1,057.07	27.99	38.760		
5,700.00	5,683.68	5,799.47	5,774.10	20.31	21.14	-37.01	-14.67	1,290.58	1,064.27	1,035.76	28.51	37.334		
5,800.00	5,782.94	5,897.28	5,871.08	20.70	21.53	-37.04	-22.60	1,280.58	1,043.48	1,014.46	29.02	35.958		
5,900.00	5,882.19	5,995.10	5,968.06	21.08	21.93	-37.07	-30.54	1,270.58	1,022.69	993.16	29.53	34.628		
6,000.00	5,981.45	6,092.91	6,065.03	21.47	22.32	-37.10	-38.48	1,260.58	1,001.90	971.85	30.05	33.344		
6,100.00	6,080.70	6,190.72	6,162.01	21.86	22.71	-37.13	-46.41	1,250.59	981.11	950.54	30.56	32.102		
6,200.00	6,179.95	6,288.54	6,258.99	22.25	23.11	-37.16	-54.35	1,240.59	960.32	929.24	31.08	30.900		
6,300.00	6,279.21	6,386.35	6,355.96	22.63	23.50	-37.20	-62.28	1,230.59	939.53	907.93	31.59	29.737		
6,400.00	6,378.46	6,484.16	6,452.94	23.02	23.90	-37.23	-70.22	1,220.59	918.74	886.63	32.11	28.611		
6,500.00	6,477.72	6,581.98	6,549.92	23.41	24.29	-37.27	-78.15	1,210.59	897.95	865.32	32.63	27.520		
6,600.00	6,576.97	6,679.79	6,646.89	23.81	24.69	-37.31	-86.09	1,200.59	877.16	844.01	33.15	26.463		
6,700.00	6,676.23	6,777.60	6,743.87	24.20	25.09	-37.35	-94.02	1,190.59	856.37	822.71	33.67	25.438		
6,800.00	6,775.48	6,875.42	6,840.85	24.59	25.48	-37.40	-101.96	1,180.60	835.58	801.40	34.18	24.444		
6,900.00	6,874.74	6,973.23	6,937.82	24.98	25.88	-37.44	-109.89	1,170.60	814.80	780.09	34.70	23.479		
7,000.00	6,973.99	7,071.04	7,034.80	25.38	26.28	-37.49	-117.83	1,160.60	794.01	758.78	35.22	22.542		
7,091.16	7,064.47	7,160.21	7,123.20	25.73	26.64	-37.53	-125.06	1,151.48	775.06	739.36	35.70	21.712		
7,100.00	7,073.25	7,168.86	7,131.78	25.77	26.67	-37.52	-125.76	1,150.60	773.23	737.49	35.74	21.633		
7,200.00	7,172.67	7,266.92	7,229.00	26.16	27.07	-37.32	-133.72	1,140.58	753.64	717.38	36.26	20.782		
7,300.00	7,272.35	7,365.35	7,326.59	26.53	27.47	-37.01	-141.71	1,130.51	736.10	699.32	36.78	20.012		
7,400.00	7,372.20	7,464.08	7,424.47	26.90	27.88	-36.59	-149.71	1,120.42	720.63	683.33	37.30	19.320		
7,500.00	7,472.15	7,563.04	7,522.59	27.25	28.28	-36.05	-157.74	1,110.31	707.27	669.46	37.82	18.703		
7,557.85	7,530.00	7,620.37	7,579.43	27.44	28.51	84.01	-162.39	1,104.45	700.52	662.41	38.11	18.380		
7,600.00	7,572.15	7,662.16	7,620.87	27.59	28.69	84.26	-165.79	1,100.17	695.88	657.55	38.33	18.156		
7,700.00	7,672.15	7,761.31	7,719.16	27.92	29.09	84.84	-173.83	1,090.04	684.90	646.06	38.84	17.633		
7,800.00	7,772.15	7,860.45	7,817.46	28.26	29.50	85.45	-181.87	1,079.90	674.00	634.64	39.36	17.126		
7,900.00	7,872.15	7,959.60	7,915.76	28.59	29.90	86.08	-189.92	1,069.77	663.18	623.31	39.87	16.632		
8,000.00	7,972.15	8,057.19	8,012.52	28.93	30.30	86.72	-197.82	1,059.81	652.45	612.06	40.39	16.152		
8,100.00	8,072.15	8,144.43	8,099.16	29.27	30.65	87.24	-204.13	1,051.86	642.95	602.03	40.93	15.709		
8,200.00	8,172.15	8,232.09	8,186.44	29.61	30.99	87.67	-209.23	1,045.44	635.36	593.92	41.45	15.329		
8,300.00	8,272.15	8,320.09	8,274.21	29.95	31.32	88.00	-213.09	1,040.57	629.67	587.72	41.95	15.010		
8,400.00	8,372.15	8,408.32	8,362.35	30.29	31.63	88.23	-215.70	1,037.28	625.84	583.40	42.44	14.747		
8,500.00	8,472.15	8,500.00	8,453.99	30.63	31.95	88.35	-217.07	1,035.56	623.89	580.97	42.92	14.537		
8,553.90	8,526.05	8,546.01	8,500.00	30.81	32.10	88.37	-217.24	1,035.34	623.60	580.44	43.16	14.450		
8,600.00	8,572.15	8,590.26	8,544.25	30.97	32.24	88.37	-217.24	1,035.34	623.59	580.22	43.37	14.378		
8,700.00	8,672.15	8,690.26	8,644.25	31.31	32.56	88.37	-217.24	1,035.34	623.59	579.75	43.85	14.222		
8,800.00	8,772.15	8,790.26	8,744.25	31.65	32.88	88.37	-217.24	1,035.34	623.59	579.27	44.33	14.069		
8,900.00	8,872.15	8,890.26	8,844.25	31.99	33.20	88.37	-217.24	1,035.34	623.59	578.79	44.80	13.918		
9,000.00	8,972.15	8,990.26	8,944.25	32.33	33.52	88.37	-217.24	1,035.34	623.59	578.31	45.28	13.771		
9,100.00	9,072.15	9,090.26	9,044.25	32.67	33.85	88.37	-217.24	1,035.34	623.59	577.83	45.76	13.627		
9,200.00	9,172.15	9,190.26	9,144.25	33.02	34.17	88.37	-217.24	1,035.34	623.59	577.35	46.24	13.486		
9,300.00	9,272.15	9,290.26	9,244.25	33.36	34.49	88.37	-217.24	1,035.34	623.59	576.87	46.72	13.347		
9,400.00	9,372.15	9,390.26	9,344.25	33.70	34.82	88.37	-217.24	1,035.34	623.59	576.39	47.20	13.211		
9,500.00	9,472.15	9,490.26	9,444.25	34.05	35.14	88.37	-217.24	1,035.34	623.59	575.91	47.68	13.077		
9,600.00	9,572.15	9,590.26	9,544.25	34.39	35.47	88.37	-217.24	1,035.34	623.59	575.43	48.17	12.947		
9,700.00	9,672.15	9,690.26	9,644.25	34.73	35.79	88.37	-217.24	1,035.34	623.59	574.94	48.65	12.818		
9,800.00	9,772.15	9,790.26	9,744.25	35.08	36.12	88.37	-217.24	1,035.34	623.59	574.46	49.13	12.692		
9,900.00	9,872.15	9,890.26	9,844.25	35.42	36.45	88.37	-217.24	1,035.34	623.59	573.98	49.62	12.568		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design Trinity Fed/Santa Fe Fed - Trinity 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		
10,000.00	9,972.15	9,990.26	9,944.25	35.77	36.78	88.37	-217.24	1,035.34	623.59	573.49	50.10	12.447		
10,100.00	10,072.15	10,090.26	10,044.25	36.11	37.10	88.37	-217.24	1,035.34	623.59	573.01	50.58	12.328		
10,200.00	10,172.15	10,190.26	10,144.25	36.46	37.43	88.37	-217.24	1,035.34	623.59	572.52	51.07	12.211		
10,300.00	10,272.15	10,290.26	10,244.25	36.80	37.76	88.37	-217.24	1,035.34	623.59	572.04	51.55	12.096		
10,400.00	10,372.15	10,390.26	10,344.25	37.15	38.09	88.37	-217.24	1,035.34	623.59	571.55	52.04	11.983		
10,500.00	10,472.15	10,490.26	10,444.25	37.50	38.42	88.37	-217.24	1,035.34	623.59	571.07	52.53	11.872		
10,600.00	10,572.15	10,590.26	10,544.25	37.84	38.75	88.37	-217.24	1,035.34	623.59	570.58	53.01	11.763		
10,700.00	10,672.15	10,690.26	10,644.25	38.19	39.09	88.37	-217.24	1,035.34	623.59	570.09	53.50	11.656		
10,800.00	10,772.15	10,790.26	10,744.25	38.53	39.42	88.37	-217.24	1,035.34	623.59	569.61	53.99	11.551		
10,900.00	10,872.15	10,890.26	10,844.25	38.88	39.75	88.37	-217.24	1,035.34	623.59	569.12	54.48	11.447		
11,000.00	10,972.15	10,990.26	10,944.25	39.23	40.08	88.37	-217.24	1,035.34	623.59	568.63	54.96	11.346		
11,100.00	11,072.15	11,090.26	11,044.25	39.58	40.42	88.37	-217.24	1,035.34	623.59	568.14	55.45	11.246		
11,200.00	11,172.15	11,190.26	11,144.25	39.92	40.75	88.37	-217.24	1,035.34	623.59	567.65	55.94	11.147		
11,202.80	11,174.95	11,193.06	11,147.05	39.93	40.76	88.37	-217.24	1,035.34	623.59	567.64	55.95	11.145 CC		
11,300.00	11,272.15	11,288.22	11,242.00	40.27	41.07	87.93	-212.44	1,035.30	623.71	567.30	56.41	11.057		
11,406.85	11,379.00	11,387.68	11,339.03	40.64	41.34	85.97	-191.12	1,035.12	624.78	567.93	56.84	10.991		
11,450.00	11,422.11	11,425.81	11,375.01	40.79	41.44	85.34	-178.54	1,035.01	625.73	568.73	56.99	10.979		
11,500.00	11,471.74	11,469.18	11,414.82	40.96	41.53	84.08	-161.35	1,034.87	627.10	569.95	57.15	10.974		
11,550.00	11,520.67	11,511.76	11,452.53	41.12	41.62	82.86	-141.60	1,034.70	628.71	571.44	57.27	10.977		
11,600.00	11,568.51	11,553.64	11,488.09	41.26	41.69	81.70	-119.49	1,034.51	630.52	573.15	57.37	10.990		
11,650.00	11,614.92	11,594.90	11,521.45	41.40	41.75	80.60	-95.23	1,034.30	632.47	575.03	57.44	11.011		
11,700.00	11,659.53	11,635.59	11,552.56	41.53	41.80	79.56	-69.02	1,034.08	634.50	577.02	57.48	11.038		
11,750.00	11,702.00	11,675.79	11,581.39	41.64	41.84	78.60	-41.01	1,033.84	636.58	579.08	57.50	11.072		
11,800.00	11,742.02	11,715.55	11,607.90	41.74	41.87	77.71	-11.40	1,033.59	638.64	581.15	57.49	11.108		
11,850.00	11,779.27	11,750.00	11,629.17	41.82	41.89	76.97	15.70	1,033.36	640.66	583.23	57.43	11.155		
11,900.00	11,813.48	11,793.96	11,653.87	41.89	41.90	76.17	52.05	1,033.05	642.53	585.09	57.44	11.187		
11,950.00	11,844.38	11,832.71	11,673.28	41.95	41.90	75.53	85.57	1,032.77	644.28	586.87	57.40	11.224		
12,000.00	11,871.74	11,871.21	11,690.28	42.00	41.90	74.97	120.11	1,032.48	645.84	588.46	57.37	11.257		
12,050.00	11,895.34	11,909.52	11,704.85	42.03	41.89	74.51	155.53	1,032.18	647.18	589.82	57.36	11.284		
12,100.00	11,915.02	11,950.00	11,717.64	42.05	41.88	74.13	193.93	1,031.85	648.28	590.92	57.37	11.300		
12,150.00	11,930.62	11,985.68	11,726.65	42.06	41.86	73.87	228.45	1,031.56	649.11	591.73	57.38	11.312		
12,200.00	11,942.02	12,023.61	11,733.84	42.16	41.84	73.69	265.68	1,031.24	649.66	592.23	57.44	11.311		
12,250.00	11,949.14	12,061.50	11,738.55	42.29	41.82	73.60	303.26	1,030.92	649.92	592.40	57.52	11.299		
12,300.00	11,951.92	12,100.00	11,740.79	42.42	41.79	73.62	341.69	1,030.60	649.88	592.24	57.64	11.274		
12,312.37	11,951.93	12,108.74	11,740.93	42.46	41.79	73.64	350.43	1,030.52	649.82	592.15	57.68	11.267		
12,326.45	11,951.80	12,119.41	11,740.93	42.50	41.78	73.65	361.10	1,030.43	649.79	592.07	57.72	11.258		
12,400.00	11,951.09	12,191.50	11,739.70	42.72	41.73	73.60	433.18	1,029.82	649.94	592.01	57.94	11.218		
12,500.00	11,950.13	12,291.50	11,737.96	43.07	42.00	73.53	533.16	1,028.97	650.17	591.86	58.31	11.150		
12,600.00	11,949.16	12,391.50	11,736.21	43.47	42.36	73.47	633.14	1,028.12	650.39	591.63	58.76	11.068		
12,700.00	11,948.20	12,491.49	11,734.47	43.93	42.76	73.40	733.11	1,027.27	650.62	591.32	59.30	10.972		
12,800.00	11,947.24	12,591.49	11,732.73	44.44	43.22	73.34	833.09	1,026.42	650.85	590.93	59.91	10.863		
12,900.00	11,946.27	12,691.49	11,730.99	45.01	43.73	73.27	933.07	1,025.57	651.07	590.47	60.61	10.743		
13,000.00	11,945.31	12,791.48	11,729.25	45.63	44.29	73.21	1,033.05	1,024.73	651.30	589.93	61.37	10.612		
13,100.00	11,944.35	12,891.48	11,727.51	46.30	44.90	73.14	1,133.03	1,023.88	651.53	589.32	62.21	10.473		
13,200.00	11,943.39	12,991.48	11,725.77	47.01	45.56	73.08	1,233.00	1,023.03	651.76	588.65	63.12	10.326		
13,300.00	11,942.42	13,091.48	11,724.03	47.77	46.27	73.01	1,332.98	1,022.18	651.99	587.91	64.09	10.174		
13,400.00	11,941.46	13,191.47	11,722.29	48.58	47.02	72.94	1,432.96	1,021.33	652.22	587.11	65.12	10.016		
13,500.00	11,940.50	13,291.47	11,720.55	49.42	47.82	72.88	1,532.94	1,020.48	652.46	586.25	66.21	9.855		
13,600.00	11,939.54	13,391.47	11,718.81	50.31	48.66	72.81	1,632.92	1,019.63	652.69	585.34	67.36	9.690		
13,700.00	11,938.57	13,491.46	11,717.07	51.23	49.54	72.75	1,732.90	1,018.78	652.93	584.37	68.56	9.524		
13,800.00	11,937.61	13,591.46	11,715.33	52.19	50.46	72.68	1,832.87	1,017.94	653.16	583.36	69.81	9.357		
13,900.00	11,936.65	13,691.46	11,713.59	53.18	51.41	72.62	1,932.85	1,017.09	653.40	582.30	71.10	9.190		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Trinity Fed/Santa Fe Fed - Trinity Fed Com 602H - OH - Plan #1		Offset Site Error:		0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:		0.00 usft			
Reference		Offset		Semi Major Axis			Distance											
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning					
14,000.00	11,935.68	13,791.45	11,711.85	54.21	52.40	72.55	2,032.83	1,016.24	653.63	581.19	72.44	9.023						
14,100.00	11,934.72	13,891.45	11,710.10	55.26	53.42	72.49	2,132.81	1,015.39	653.87	580.05	73.83	8.857						
14,200.00	11,933.76	13,991.45	11,708.36	56.34	54.47	72.42	2,232.79	1,014.54	654.11	578.86	75.25	8.693						
14,300.00	11,932.80	14,091.44	11,706.62	57.45	55.55	72.36	2,332.77	1,013.69	654.35	577.64	76.71	8.531						
14,400.00	11,931.83	14,191.44	11,704.88	58.59	56.66	72.29	2,432.74	1,012.84	654.59	576.39	78.20	8.371						
14,500.00	11,930.87	14,291.44	11,703.14	59.75	57.79	72.23	2,532.72	1,011.99	654.83	575.10	79.73	8.213						
14,600.00	11,929.91	14,391.44	11,701.40	60.93	58.94	72.17	2,632.70	1,011.15	655.07	573.79	81.28	8.059						
14,700.00	11,928.95	14,491.43	11,699.66	62.13	60.12	72.10	2,732.68	1,010.30	655.32	572.45	82.87	7.908						
14,800.00	11,927.98	14,591.43	11,697.92	63.36	61.32	72.04	2,832.66	1,009.45	655.56	571.08	84.48	7.760						
14,900.00	11,927.02	14,691.43	11,696.18	64.60	62.55	71.97	2,932.63	1,008.60	655.80	569.68	86.12	7.615						
15,000.00	11,926.06	14,791.42	11,694.44	65.86	63.79	71.91	3,032.61	1,007.75	656.05	568.27	87.78	7.474						
15,100.00	11,925.09	14,891.42	11,692.70	67.14	65.04	71.84	3,132.59	1,006.90	656.29	566.83	89.47	7.336						
15,200.00	11,924.13	14,991.42	11,690.96	68.43	66.32	71.78	3,232.57	1,006.05	656.54	565.37	91.17	7.201						
15,300.00	11,923.17	15,091.41	11,689.22	69.74	67.61	71.71	3,332.55	1,005.20	656.79	563.89	92.89	7.070						
15,400.00	11,922.21	15,191.41	11,687.48	71.06	68.92	71.65	3,432.53	1,004.36	657.04	562.40	94.64	6.943						
15,500.00	11,921.24	15,291.41	11,685.74	72.40	70.24	71.59	3,532.50	1,003.51	657.29	560.89	96.40	6.819						
15,600.00	11,920.28	15,391.41	11,683.99	73.75	71.58	71.52	3,632.48	1,002.66	657.54	559.37	98.17	6.698						
15,700.00	11,919.32	15,491.40	11,682.25	75.11	72.93	71.46	3,732.46	1,001.81	657.79	557.83	99.96	6.580						
15,800.00	11,918.36	15,591.40	11,680.51	76.48	74.29	71.39	3,832.44	1,000.96	658.04	556.27	101.77	6.466						
15,900.00	11,917.39	15,691.40	11,678.77	77.86	75.66	71.33	3,932.42	1,000.11	658.29	554.71	103.58	6.355						
16,000.00	11,916.43	15,791.39	11,677.03	79.26	77.04	71.26	4,032.40	999.26	658.55	553.13	105.41	6.247						
16,100.00	11,915.47	15,891.39	11,675.29	80.66	78.43	71.20	4,132.37	998.41	658.80	551.55	107.25	6.142						
16,200.00	11,914.50	15,991.39	11,673.55	82.07	79.84	71.14	4,232.35	997.57	659.06	549.95	109.11	6.040						
16,300.00	11,913.54	16,091.38	11,671.81	83.49	81.25	71.07	4,332.33	996.72	659.31	548.34	110.97	5.941						
16,400.00	11,912.58	16,191.38	11,670.07	84.92	82.67	71.01	4,432.31	995.87	659.57	546.73	112.84	5.845						
16,500.00	11,911.62	16,291.38	11,668.33	86.36	84.10	70.95	4,532.29	995.02	659.83	545.11	114.72	5.752						
16,600.00	11,910.65	16,391.38	11,666.59	87.81	85.54	70.88	4,632.26	994.17	660.09	543.47	116.61	5.661						
16,700.00	11,909.69	16,491.37	11,664.85	89.26	86.98	70.82	4,732.24	993.32	660.34	541.84	118.51	5.572						
16,800.00	11,908.73	16,591.37	11,663.11	90.72	88.43	70.75	4,832.22	992.47	660.60	540.19	120.41	5.486						
16,900.00	11,907.77	16,691.37	11,661.37	92.18	89.89	70.69	4,932.20	991.62	660.87	538.54	122.32	5.403						
17,000.00	11,906.80	16,791.36	11,659.62	93.65	91.36	70.63	5,032.18	990.78	661.13	536.89	124.24	5.321						
17,100.00	11,905.84	16,891.36	11,657.88	95.13	92.83	70.56	5,132.16	989.93	661.39	535.23	126.16	5.242						
17,200.00	11,904.88	16,991.36	11,656.14	96.62	94.31	70.50	5,232.13	989.08	661.65	533.57	128.09	5.166						
17,300.00	11,903.91	17,091.35	11,654.40	98.10	95.79	70.44	5,332.11	988.23	661.92	531.90	130.02	5.091						
17,400.00	11,902.95	17,191.35	11,652.66	99.60	97.28	70.37	5,432.09	987.38	662.18	530.22	131.96	5.018						
17,500.00	11,901.99	17,291.35	11,650.92	101.10	98.78	70.31	5,532.07	986.53	662.45	528.55	133.90	4.947						
17,600.00	11,901.03	17,391.35	11,649.18	102.60	100.27	70.25	5,632.05	985.68	662.71	526.87	135.85	4.878						
17,700.00	11,900.06	17,491.34	11,647.44	104.11	101.78	70.18	5,732.02	984.83	662.98	525.19	137.80	4.811						
17,800.00	11,899.10	17,591.34	11,645.70	105.62	103.29	70.12	5,832.00	983.99	663.25	523.50	139.75	4.746						
17,900.00	11,898.14	17,691.34	11,643.96	107.14	104.80	70.06	5,931.98	983.14	663.52	521.81	141.70	4.682						
18,000.00	11,897.18	17,791.33	11,642.22	108.66	106.32	69.99	6,031.96	982.29	663.79	520.13	143.66	4.620						
18,100.00	11,896.21	17,891.33	11,640.48	110.18	107.84	69.93	6,131.94	981.44	664.06	518.43	145.62	4.560						
18,200.00	11,895.25	17,991.33	11,638.74	111.71	109.36	69.87	6,231.92	980.59	664.33	516.74	147.59	4.501						
18,300.00	11,894.29	18,091.32	11,637.00	113.24	110.89	69.81	6,331.89	979.74	664.60	515.05	149.55	4.444						
18,400.00	11,893.32	18,191.32	11,635.26	114.77	112.42	69.74	6,431.87	978.89	664.88	513.35	151.52	4.388						
18,500.00	11,892.36	18,291.32	11,633.51	116.31	113.95	69.68	6,531.85	978.04	665.15	511.66	153.49	4.333						
18,600.00	11,891.40	18,391.31	11,631.77	117.85	115.49	69.62	6,631.83	977.20	665.42	509.96	155.46	4.280						
18,700.00	11,890.44	18,491.31	11,630.03	119.39	117.03	69.56	6,731.81	976.35	665.70	508.27	157.43	4.228						
18,800.00	11,889.47	18,591.31	11,628.29	120.94	118.58	69.49	6,831.79	975.50	665.98	506.57	159.41	4.178						
18,900.00	11,888.51	18,691.31	11,626.55	122.49	120.12	69.43	6,931.76	974.65	666.25	504.87	161.38	4.128						
19,000.00	11,887.55	18,791.30	11,624.81	124.04	121.67	69.37	7,031.74	973.80	666.53	503.17	163.36	4.080						
19,100.00	11,886.59	18,891.30	11,623.07	125.60	123.23	69.31	7,131.72	972.95	666.81	501.48	165.33	4.033						

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	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	11,885.62	18,991.30	11,621.33	127.15	124.78	69.24	7,231.70	972.10	667.09	499.78	167.31	3.987		
19,300.00	11,884.66	19,091.29	11,619.59	128.71	126.34	69.18	7,331.68	971.25	667.37	498.08	169.28	3.942		
19,400.00	11,883.70	19,191.29	11,617.85	130.27	127.90	69.12	7,431.65	970.41	667.65	496.39	171.26	3.898		
19,500.00	11,882.73	19,291.29	11,616.11	131.84	129.46	69.06	7,531.63	969.56	667.93	494.69	173.24	3.856		
19,600.00	11,881.77	19,391.28	11,614.37	133.40	131.02	68.99	7,631.61	968.71	668.21	493.00	175.21	3.814		
19,700.00	11,880.81	19,491.28	11,612.63	134.97	132.59	68.93	7,731.59	967.86	668.50	491.31	177.19	3.773		
19,800.00	11,879.85	19,591.28	11,610.89	136.54	134.16	68.87	7,831.57	967.01	668.78	489.62	179.16	3.733		
19,900.00	11,878.88	19,691.28	11,609.15	138.11	135.73	68.81	7,931.55	966.16	669.07	487.93	181.14	3.694		
20,000.00	11,877.92	19,791.27	11,607.40	139.69	137.30	68.75	8,031.52	965.31	669.35	486.24	183.11	3.655		
20,100.00	11,876.96	19,891.27	11,605.66	141.26	138.88	68.68	8,131.50	964.46	669.64	484.55	185.09	3.618		
20,200.00	11,876.00	19,991.27	11,603.92	142.84	140.45	68.62	8,231.48	963.62	669.92	482.86	187.06	3.581		
20,300.00	11,875.03	20,091.26	11,602.18	144.42	142.03	68.56	8,331.46	962.77	670.21	481.18	189.03	3.545		
20,400.00	11,874.07	20,191.26	11,600.44	146.00	143.61	68.50	8,431.44	961.92	670.50	479.50	191.00	3.510		
20,500.00	11,873.11	20,291.26	11,598.70	147.58	145.19	68.44	8,531.42	961.07	670.79	477.82	192.97	3.476		
20,600.00	11,872.14	20,391.25	11,596.96	149.16	146.77	68.37	8,631.39	960.22	671.08	476.14	194.94	3.442		
20,700.00	11,871.18	20,491.25	11,595.22	150.75	148.36	68.31	8,731.37	959.37	671.37	474.46	196.91	3.410		
20,800.00	11,870.22	20,591.25	11,593.48	152.33	149.94	68.25	8,831.35	958.52	671.66	472.79	198.88	3.377		
20,900.00	11,869.26	20,691.25	11,591.74	153.92	151.53	68.19	8,931.33	957.67	671.96	471.12	200.84	3.346		
21,000.00	11,868.29	20,791.24	11,590.00	155.51	153.12	68.13	9,031.31	956.83	672.25	469.45	202.80	3.315		
21,100.00	11,867.33	20,891.24	11,588.26	157.10	154.70	68.07	9,131.28	955.98	672.54	467.78	204.76	3.284		
21,200.00	11,866.37	20,991.24	11,586.52	158.69	156.30	68.01	9,231.26	955.13	672.84	466.12	206.72	3.255		
21,300.00	11,865.41	21,091.23	11,584.78	160.28	157.89	67.94	9,331.24	954.28	673.14	464.45	208.68	3.226		
21,400.00	11,864.44	21,191.23	11,583.04	161.88	159.48	67.88	9,431.22	953.43	673.43	462.79	210.64	3.197		
21,500.00	11,863.48	21,291.23	11,581.29	163.47	161.08	67.82	9,531.20	952.58	673.73	461.14	212.59	3.169		
21,600.00	11,862.52	21,391.22	11,579.55	165.07	162.67	67.76	9,631.18	951.73	674.03	459.48	214.54	3.142		
21,700.00	11,861.56	21,491.22	11,577.81	166.67	164.27	67.70	9,731.15	950.88	674.33	457.83	216.49	3.115		
21,800.00	11,860.59	21,591.22	11,576.07	168.27	165.86	67.64	9,831.13	950.03	674.63	456.18	218.44	3.088		
21,900.00	11,859.63	21,691.22	11,574.33	169.86	167.46	67.58	9,931.11	949.19	674.93	454.54	220.39	3.062		
22,000.00	11,858.67	21,791.21	11,572.59	171.47	169.06	67.52	10,031.09	948.34	675.23	452.90	222.33	3.037		
22,099.37	11,857.71	21,890.58	11,570.86	173.06	170.65	67.46	10,130.44	947.49	675.53	451.27	224.26	3.012 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 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Trinity Fed/Santa Fe Fed - Trinity 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				
0.00	0.00	0.00	0.00	0.00	0.00	81.90	233.14	1,637.34	1,654.05							
100.00	100.00	74.30	74.30	0.13	0.11	81.90	233.14	1,637.34	1,653.86	1,653.69	0.16	N/A				
200.00	200.00	174.30	174.30	0.48	0.41	81.90	233.14	1,637.34	1,653.86	1,653.22	0.63	2,612.981				
300.00	300.00	274.30	274.30	0.84	0.77	81.90	233.14	1,637.34	1,653.86	1,652.72	1.14	1,452.181				
400.00	400.00	374.30	374.30	1.20	1.12	81.90	233.14	1,637.34	1,653.86	1,652.21	1.65	1,005.114				
500.00	500.00	474.30	474.30	1.56	1.48	81.90	233.14	1,637.34	1,653.86	1,651.70	2.15	768.452				
600.00	600.00	574.30	574.30	1.92	1.84	81.90	233.14	1,637.34	1,653.86	1,651.20	2.66	621.980				
700.00	700.00	674.30	674.30	2.28	2.20	81.90	233.14	1,637.34	1,653.86	1,650.69	3.17	522.399				
800.00	800.00	774.30	774.30	2.63	2.56	81.90	233.14	1,637.34	1,653.86	1,650.18	3.67	450.301				
900.00	900.00	874.30	874.30	2.99	2.92	81.90	233.14	1,637.34	1,653.86	1,649.68	4.18	395.689				
1,000.00	1,000.00	974.30	974.30	3.35	3.28	81.90	233.14	1,637.34	1,653.86	1,649.17	4.69	352.890				
1,100.00	1,100.00	1,074.30	1,074.30	3.71	3.63	81.90	233.14	1,637.34	1,653.86	1,648.66	5.19	318.445				
1,200.00	1,200.00	1,174.30	1,174.30	4.07	3.99	81.90	233.14	1,637.34	1,653.86	1,648.15	5.70	290.127				
1,300.00	1,300.00	1,274.30	1,274.30	4.43	4.35	81.90	233.14	1,637.34	1,653.86	1,647.65	6.21	266.433				
1,400.00	1,400.00	1,374.30	1,374.30	4.79	4.71	81.90	233.14	1,637.34	1,653.86	1,647.14	6.71	246.317				
1,500.00	1,500.00	1,474.30	1,474.30	5.14	5.07	81.90	233.14	1,637.34	1,653.86	1,646.63	7.22	229.025				
1,600.00	1,600.00	1,574.30	1,574.30	5.50	5.43	81.90	233.14	1,637.34	1,653.86	1,646.13	7.73	214.002				
1,700.00	1,700.00	1,674.30	1,674.30	5.86	5.79	81.90	233.14	1,637.34	1,653.86	1,645.62	8.24	200.829				
1,800.00	1,800.00	1,774.30	1,774.30	6.22	6.14	81.90	233.14	1,637.34	1,653.86	1,645.11	8.74	189.183				
1,900.00	1,900.00	1,874.30	1,874.30	6.58	6.50	81.90	233.14	1,637.34	1,653.86	1,644.61	9.25	178.814				
2,000.00	2,000.00	1,974.30	1,974.30	6.94	6.86	81.90	233.14	1,637.34	1,653.86	1,644.10	9.76	169.522				
2,100.00	2,100.00	2,074.30	2,074.30	7.29	7.22	81.90	233.14	1,637.34	1,653.86	1,643.59	10.26	161.148				
2,200.00	2,200.00	2,174.30	2,174.30	7.65	7.58	81.90	233.14	1,637.34	1,653.86	1,643.09	10.77	153.563				
2,300.00	2,300.00	2,274.30	2,274.30	8.01	7.94	81.90	233.14	1,637.34	1,653.86	1,642.58	11.28	146.659				
2,400.00	2,400.00	2,374.30	2,374.30	8.37	8.29	81.90	233.14	1,637.34	1,653.86	1,642.07	11.78	140.350				
2,500.00	2,500.00	2,474.30	2,474.30	8.73	8.65	81.90	233.14	1,637.34	1,653.86	1,641.56	12.29	134.561				
2,600.00	2,600.00	2,574.30	2,574.30	9.09	9.01	81.90	233.14	1,637.34	1,653.86	1,641.06	12.80	129.231				
2,700.00	2,700.00	2,674.30	2,674.30	9.45	9.37	81.90	233.14	1,637.34	1,653.86	1,640.55	13.30	124.307				
2,800.00	2,800.00	2,774.30	2,774.30	9.80	9.73	81.90	233.14	1,637.34	1,653.86	1,640.04	13.81	119.744				
2,900.00	2,900.00	2,874.30	2,874.30	10.16	10.09	81.90	233.14	1,637.34	1,653.86	1,639.54	14.32	115.504				
3,000.00	3,000.00	2,974.30	2,974.30	10.52	10.45	81.90	233.14	1,637.34	1,653.86	1,639.03	14.83	111.555				
3,100.00	3,100.00	3,104.41	3,104.40	10.88	10.89	81.93	231.95	1,636.55	1,653.18	1,637.79	15.39	107.395				
3,200.00	3,200.00	3,244.66	3,244.49	11.24	11.35	82.10	226.62	1,633.00	1,650.14	1,634.18	15.96	103.387				
3,300.00	3,299.99	3,384.23	3,383.58	11.58	11.81	-37.40	217.07	1,626.63	1,643.65	1,627.14	16.51	99.546				
3,400.00	3,399.91	3,488.09	3,486.88	11.92	12.16	-37.29	208.07	1,620.62	1,633.64	1,616.65	16.99	96.169				
3,500.00	3,499.69	3,587.28	3,585.52	12.25	12.50	-37.26	199.44	1,614.87	1,621.56	1,604.10	17.46	92.887				
3,600.00	3,599.27	3,686.24	3,683.94	12.59	12.83	-37.31	190.83	1,609.13	1,607.42	1,589.49	17.93	89.653				
3,666.69	3,665.53	3,752.09	3,749.43	12.82	13.06	-37.38	185.10	1,605.31	1,596.85	1,578.60	18.25	87.520				
3,700.00	3,698.59	3,784.94	3,782.10	12.93	13.17	-37.38	182.24	1,603.41	1,591.34	1,572.94	18.40	86.469				
3,800.00	3,797.85	3,883.56	3,880.18	13.28	13.52	-37.36	173.66	1,597.69	1,574.80	1,555.92	18.88	83.412				
3,900.00	3,897.10	3,982.18	3,978.26	13.63	13.86	-37.34	165.08	1,591.97	1,558.27	1,538.91	19.36	80.492				
4,000.00	3,996.36	4,080.80	4,076.34	13.98	14.21	-37.32	156.51	1,586.25	1,541.73	1,521.89	19.84	77.701				
4,100.00	4,095.61	4,179.42	4,174.42	14.34	14.56	-37.30	147.93	1,580.53	1,525.19	1,504.87	20.33	75.033				
4,200.00	4,194.86	4,278.05	4,272.50	14.70	14.91	-37.28	139.35	1,574.81	1,508.66	1,487.84	20.81	72.479				
4,300.00	4,294.12	4,376.67	4,370.58	15.06	15.27	-37.26	130.77	1,569.09	1,492.12	1,470.81	21.31	70.035				
4,400.00	4,393.37	4,475.29	4,468.67	15.42	15.62	-37.24	122.19	1,563.37	1,475.58	1,453.79	21.80	67.694				
4,500.00	4,492.63	4,573.91	4,566.75	15.79	15.98	-37.22	113.61	1,557.65	1,459.05	1,436.75	22.29	65.450				
4,600.00	4,491.88	4,672.53	4,664.83	16.16	16.34	-37.20	105.03	1,551.93	1,442.51	1,419.72	22.79	63.298				
4,700.00	4,491.14	4,771.16	4,762.91	16.53	16.70	-37.18	96.45	1,546.21	1,425.98	1,402.69	23.29	61.232				
4,800.00	4,790.39	4,869.78	4,860.99	16.90	17.06	-37.16	87.87	1,540.49	1,409.44	1,385.65	23.79	59.249				
4,900.00	4,889.65	4,968.40	4,959.07	17.27	17.43	-37.13	79.29	1,534.77	1,392.90	1,368.61	24.29	57.344				
5,000.00	4,988.90	5,067.02	5,057.15	17.65	17.79	-37.11	70.71	1,529.05	1,376.37	1,351.58	24.79	55.513				

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Total Directional Services

Anticollision Report



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Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	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	5,088.16	5,165.64	5,155.24	18.03	18.16	-37.09	62.13	1,523.34	1,359.83	1,334.54	25.30	53.751		
5,200.00	5,187.41	5,264.26	5,253.32	18.40	18.52	-37.06	53.55	1,517.62	1,343.30	1,317.50	25.81	52.056		
5,300.00	5,286.66	5,362.89	5,351.40	18.78	18.89	-37.04	44.97	1,511.90	1,326.77	1,300.45	26.31	50.423		
5,400.00	5,385.92	5,461.51	5,449.48	19.16	19.26	-37.01	36.39	1,506.18	1,310.23	1,283.41	26.82	48.850		
5,500.00	5,485.17	5,560.13	5,547.56	19.55	19.63	-36.98	27.82	1,500.46	1,293.70	1,266.37	27.33	47.333		
5,600.00	5,584.43	5,658.75	5,645.64	19.93	20.00	-36.96	19.24	1,494.74	1,277.16	1,249.32	27.84	45.871		
5,700.00	5,683.68	5,757.37	5,743.72	20.31	20.37	-36.93	10.66	1,489.02	1,260.63	1,232.28	28.35	44.459		
5,800.00	5,782.94	5,856.00	5,841.81	20.70	20.74	-36.90	2.08	1,483.30	1,244.10	1,215.23	28.87	43.096		
5,900.00	5,882.19	5,954.62	5,939.89	21.08	21.12	-36.87	-6.50	1,477.58	1,227.57	1,198.18	29.38	41.780		
6,000.00	5,981.45	6,053.24	6,037.97	21.47	21.49	-36.84	-15.08	1,471.86	1,211.03	1,181.14	29.90	40.507		
6,100.00	6,080.70	6,151.86	6,136.05	21.86	21.86	-36.81	-23.66	1,466.14	1,194.50	1,164.09	30.41	39.277		
6,200.00	6,179.95	6,250.48	6,234.13	22.25	22.24	-36.78	-32.24	1,460.42	1,177.97	1,147.04	30.93	38.086		
6,300.00	6,279.21	6,349.11	6,332.21	22.63	22.61	-36.75	-40.82	1,454.70	1,161.44	1,129.99	31.45	36.934		
6,400.00	6,378.46	6,447.73	6,430.29	23.02	22.99	-36.71	-49.40	1,448.98	1,144.91	1,112.94	31.96	35.818		
6,500.00	6,477.72	6,546.35	6,528.38	23.41	23.37	-36.68	-57.98	1,443.26	1,128.38	1,095.89	32.48	34.737		
6,600.00	6,576.97	6,644.97	6,626.46	23.81	23.74	-36.64	-66.56	1,437.54	1,111.85	1,078.84	33.00	33.690		
6,700.00	6,676.23	6,743.59	6,724.54	24.20	24.12	-36.60	-75.14	1,431.82	1,095.32	1,061.79	33.52	32.674		
6,800.00	6,775.48	6,842.22	6,822.62	24.59	24.50	-36.57	-83.72	1,426.10	1,078.79	1,044.74	34.04	31.689		
6,900.00	6,874.74	6,940.84	6,920.70	24.98	24.88	-36.53	-92.29	1,420.38	1,062.26	1,027.69	34.56	30.733		
7,000.00	6,973.99	7,039.46	7,018.78	25.38	25.26	-36.49	-100.87	1,414.66	1,045.73	1,010.64	35.09	29.805		
7,091.16	7,064.47	7,129.36	7,108.19	25.73	25.60	-36.45	-108.69	1,409.45	1,030.66	995.10	35.56	28.982		
7,100.00	7,073.25	7,138.08	7,116.87	25.77	25.64	-36.43	-109.45	1,408.94	1,029.21	993.60	35.61	28.904		
7,200.00	7,172.67	7,236.89	7,215.13	26.16	26.02	-36.20	-118.05	1,403.21	1,013.91	977.78	36.13	28.064		
7,300.00	7,272.35	7,335.96	7,313.65	26.53	26.40	-35.89	-126.67	1,397.47	1,000.71	964.06	36.65	27.306		
7,400.00	7,372.20	7,435.22	7,412.37	26.90	26.78	-35.52	-135.30	1,391.71	989.62	952.46	37.16	26.629		
7,500.00	7,472.15	7,534.61	7,511.22	27.25	27.16	-35.06	-143.95	1,385.95	980.69	943.02	37.68	26.030		
7,557.85	7,530.00	7,592.13	7,568.43	27.44	27.39	84.93	-148.95	1,382.61	976.53	938.56	37.97	25.718		
7,600.00	7,572.15	7,634.05	7,610.12	27.59	27.55	85.14	-152.60	1,380.18	973.76	935.58	38.18	25.502		
7,700.00	7,672.15	7,733.51	7,709.02	27.92	27.93	85.62	-161.25	1,374.41	967.26	928.57	38.69	25.000		
7,800.00	7,772.15	7,832.96	7,807.93	28.26	28.32	86.11	-169.90	1,368.65	960.83	921.63	39.20	24.511		
7,900.00	7,872.15	7,932.41	7,906.84	28.59	28.70	86.60	-178.55	1,362.88	954.46	914.76	39.71	24.037		
8,000.00	7,972.15	8,031.86	8,005.75	28.93	29.09	87.10	-187.20	1,357.11	948.17	907.96	40.22	23.576		
8,100.00	8,072.15	8,131.31	8,104.65	29.27	29.47	87.61	-195.86	1,351.34	941.96	901.23	40.73	23.127		
8,200.00	8,172.15	8,223.48	8,196.34	29.61	29.83	88.07	-203.59	1,346.19	936.04	894.81	41.24	22.699		
8,300.00	8,272.15	8,310.76	8,283.35	29.95	30.16	88.42	-209.39	1,342.32	931.40	889.67	41.73	22.318		
8,400.00	8,372.15	8,400.00	8,372.44	30.29	30.49	88.68	-213.62	1,339.50	928.11	885.89	42.22	21.982		
8,500.00	8,472.15	8,486.06	8,458.45	30.63	30.79	88.83	-216.04	1,337.88	926.16	883.46	42.69	21.692		
8,600.00	8,572.15	8,574.07	8,546.45	30.97	31.09	88.88	-216.86	1,337.34	925.52	882.36	43.16	21.445		
8,700.00	8,672.15	8,674.07	8,646.45	31.31	31.42	88.88	-216.86	1,337.34	925.52	881.88	43.64	21.210		
8,800.00	8,772.15	8,774.07	8,746.45	31.65	31.75	88.88	-216.86	1,337.34	925.52	881.40	44.12	20.979		
8,900.00	8,872.15	8,874.07	8,846.45	31.99	32.08	88.88	-216.86	1,337.34	925.52	880.92	44.60	20.753		
9,000.00	8,972.15	8,974.07	8,946.45	32.33	32.41	88.88	-216.86	1,337.34	925.52	880.44	45.08	20.532		
9,100.00	9,072.15	9,074.07	9,046.45	32.67	32.74	88.88	-216.86	1,337.34	925.52	879.96	45.56	20.315		
9,200.00	9,172.15	9,174.07	9,146.45	33.02	33.07	88.88	-216.86	1,337.34	925.52	879.48	46.04	20.102		
9,300.00	9,272.15	9,274.07	9,246.45	33.36	33.41	88.88	-216.86	1,337.34	925.52	879.00	46.52	19.894		
9,400.00	9,372.15	9,374.07	9,346.45	33.70	33.74	88.88	-216.86	1,337.34	925.52	878.51	47.01	19.689		
9,500.00	9,472.15	9,474.07	9,446.45	34.05	34.07	88.88	-216.86	1,337.34	925.52	878.03	47.49	19.489		
9,600.00	9,572.15	9,574.07	9,546.45	34.39	34.41	88.88	-216.86	1,337.34	925.52	877.54	47.97	19.292		
9,700.00	9,672.15	9,674.07	9,646.45	34.73	34.74	88.88	-216.86	1,337.34	925.52	877.06	48.46	19.100		
9,800.00	9,772.15	9,774.07	9,746.45	35.08	35.08	88.88	-216.86	1,337.34	925.52	876.58	48.94	18.910		
9,900.00	9,872.15	9,874.07	9,846.45	35.42	35.41	88.88	-216.86	1,337.34	925.52	876.09	49.43	18.725		
10,000.00	9,972.15	9,974.07	9,946.45	35.77	35.75	88.88	-216.86	1,337.34	925.52	875.60	49.91	18.543		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Trinity Fed/Santa Fe Fed - Trinity 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						
10,100.00	10,072.15	10,074.07	10,046.45	36.11	36.08	88.88	-216.86	1,337.34	925.52	875.12	50.40	18.364						
10,200.00	10,172.15	10,174.07	10,146.45	36.46	36.42	88.88	-216.86	1,337.34	925.52	874.63	50.89	18.188						
10,300.00	10,272.15	10,274.07	10,246.45	36.80	36.76	88.88	-216.86	1,337.34	925.52	874.15	51.37	18.016						
10,400.00	10,372.15	10,374.07	10,346.45	37.15	37.09	88.88	-216.86	1,337.34	925.52	873.66	51.86	17.846						
10,500.00	10,472.15	10,474.07	10,446.45	37.50	37.43	88.88	-216.86	1,337.34	925.52	873.17	52.35	17.680						
10,600.00	10,572.15	10,574.07	10,546.45	37.84	37.77	88.88	-216.86	1,337.34	925.52	872.68	52.84	17.517						
10,700.00	10,672.15	10,674.07	10,646.45	38.19	38.11	88.88	-216.86	1,337.34	925.52	872.19	53.32	17.356						
10,800.00	10,772.15	10,774.07	10,746.45	38.53	38.45	88.88	-216.86	1,337.34	925.52	871.70	53.81	17.199						
10,900.00	10,872.15	10,874.07	10,846.45	38.88	38.79	88.88	-216.86	1,337.34	925.52	871.22	54.30	17.044						
11,000.00	10,972.15	10,974.07	10,946.45	39.23	39.13	88.88	-216.86	1,337.34	925.52	870.73	54.79	16.892						
11,100.00	11,072.15	11,074.07	11,046.45	39.58	39.47	88.88	-216.86	1,337.34	925.52	870.24	55.28	16.742						
11,200.00	11,172.15	11,174.07	11,146.45	39.92	39.81	88.88	-216.86	1,337.34	925.52	869.75	55.77	16.595						
11,300.00	11,272.15	11,274.07	11,246.45	40.27	40.15	88.88	-216.86	1,337.34	925.52	869.26	56.26	16.450						
11,406.85	11,379.00	11,380.92	11,353.30	40.64	40.51	88.88	-216.86	1,337.34	925.52	868.73	56.79	16.298						
11,450.00	11,422.11	11,424.03	11,396.41	40.79	40.66	89.47	-216.86	1,337.34	925.50	868.51	57.00	16.238						
11,500.00	11,471.74	11,473.65	11,446.03	40.96	40.83	89.84	-216.85	1,337.34	925.47	868.23	57.23	16.170						
11,517.13	11,488.60	11,490.53	11,462.90	41.01	40.88	90.00	-216.51	1,337.34	925.46	868.15	57.31	16.147 CC						
11,550.00	11,520.67	11,523.13	11,495.44	41.12	40.99	90.32	-214.46	1,337.32	925.48	868.01	57.46	16.105						
11,600.00	11,568.51	11,573.30	11,545.13	41.26	41.15	90.80	-207.68	1,337.26	925.55	867.87	57.68	16.046						
11,650.00	11,614.92	11,624.18	11,594.73	41.40	41.29	91.28	-196.40	1,337.17	925.70	867.81	57.89	15.991						
11,700.00	11,659.53	11,675.81	11,643.84	41.53	41.43	91.75	-180.51	1,337.03	925.90	867.82	58.08	15.942						
11,750.00	11,702.00	11,728.20	11,691.99	41.64	41.55	92.21	-159.93	1,336.86	926.17	867.91	58.26	15.898						
11,800.00	11,742.02	11,781.35	11,738.72	41.74	41.66	92.66	-134.65	1,336.64	926.48	868.06	58.42	15.858						
11,850.00	11,779.27	11,835.28	11,783.53	41.82	41.76	93.09	-104.69	1,336.39	926.84	868.27	58.57	15.823						
11,900.00	11,813.48	11,889.97	11,825.90	41.89	41.85	93.50	-70.13	1,336.09	927.22	868.51	58.71	15.792						
11,950.00	11,844.38	11,945.40	11,865.28	41.95	41.92	93.88	-31.15	1,335.76	927.63	868.79	58.84	15.765						
12,000.00	11,871.74	12,001.56	11,901.15	42.00	41.99	94.24	12.03	1,335.40	928.03	869.07	58.96	15.740						
12,050.00	11,895.34	12,058.39	11,932.97	42.03	42.04	94.55	59.09	1,335.00	928.43	869.36	59.07	15.716						
12,100.00	11,915.02	12,115.85	11,960.24	42.05	42.09	94.84	109.63	1,334.57	928.80	869.62	59.19	15.693						
12,150.00	11,930.62	12,173.85	11,982.50	42.06	42.14	95.08	163.16	1,334.11	929.14	869.84	59.30	15.669						
12,200.00	11,942.02	12,232.33	11,999.35	42.16	42.19	95.27	219.13	1,333.64	929.42	870.00	59.42	15.643						
12,250.00	11,949.14	12,291.18	12,010.46	42.29	42.25	95.42	276.90	1,333.15	929.64	870.10	59.54	15.613						
12,300.00	11,951.92	12,350.32	12,015.60	42.42	42.32	95.52	335.78	1,332.65	929.79	870.12	59.67	15.581						
12,312.37	11,951.93	12,364.97	12,015.93	42.46	42.34	95.54	350.43	1,332.52	929.82	870.11	59.71	15.572						
12,400.00	11,951.09	12,455.02	12,014.60	42.72	42.51	95.51	440.47	1,331.76	929.78	869.78	60.00	15.496						
12,500.00	11,950.13	12,555.02	12,012.88	43.07	42.76	95.46	540.45	1,330.91	929.71	869.30	60.41	15.390						
12,600.00	11,949.16	12,655.02	12,011.17	43.47	43.08	95.41	640.43	1,330.06	929.64	868.74	60.91	15.264						
12,700.00	11,948.20	12,755.02	12,009.46	43.93	43.46	95.37	740.40	1,329.21	929.58	868.09	61.49	15.119						
12,800.00	11,947.24	12,855.01	12,007.74	44.44	43.90	95.32	840.38	1,328.36	929.51	867.36	62.15	14.957						
12,900.00	11,946.27	12,955.01	12,006.03	45.01	44.40	95.28	940.36	1,327.51	929.45	866.56	62.89	14.780						
13,000.00	11,945.31	13,055.01	12,004.32	45.63	44.95	95.23	1,040.34	1,326.66	929.38	865.68	63.70	14.589						
13,100.00	11,944.35	13,155.00	12,002.60	46.30	45.55	95.18	1,140.32	1,325.81	929.32	864.72	64.59	14.387						
13,200.00	11,943.39	13,255.00	12,000.89	47.01	46.20	95.14	1,240.30	1,324.97	929.25	863.70	65.56	14.175						
13,300.00	11,942.42	13,355.00	11,999.18	47.77	46.91	95.09	1,340.28	1,324.12	929.19	862.60	66.59	13.955						
13,400.00	11,941.46	13,455.00	11,997.47	48.58	47.65	95.05	1,440.26	1,323.27	929.13	861.45	67.68	13.728						
13,500.00	11,940.50	13,554.99	11,995.75	49.42	48.45	95.00	1,540.24	1,322.42	929.07	860.23	68.84	13.497						
13,600.00	11,939.54	13,654.99	11,994.04	50.31	49.28	94.95	1,640.22	1,321.57	929.00	858.95	70.05	13.262						
13,700.00	11,938.57	13,754.99	11,992.33	51.23	50.16	94.91	1,740.19	1,320.72	928.94	857.62	71.32	13.025						
13,800.00	11,937.61	13,854.98	11,990.61	52.19	51.07	94.86	1,840.17	1,319.87	928.88	856.24	72.64	12.787						
13,900.00	11,936.65	13,954.98	11,988.90	53.18	52.02	94.81	1,940.15	1,319.02	928.82	854.81	74.02	12.549						
14,000.00	11,935.68	14,054.98	11,987.19	54.21	53.01	94.77	2,040.13	1,318.17	928.77	853.33	75.43	12.312						
14,100.00	11,934.72	14,154.98	11,985.47	55.26	54.02	94.72	2,140.11	1,317.32	928.71	851.81	76.90	12.077						

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 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,200.00	11,933.76	14,254.97	11,983.76	56.34	55.07	94.68	2,240.09	1,316.48	928.65	850.24	78.41	11.844		
14,300.00	11,932.80	14,354.97	11,982.05	57.45	56.15	94.63	2,340.07	1,315.63	928.59	848.64	79.95	11.614		
14,400.00	11,931.83	14,454.97	11,980.34	58.59	57.25	94.58	2,440.05	1,314.78	928.54	847.00	81.54	11.388		
14,500.00	11,930.87	14,554.96	11,978.62	59.75	58.38	94.54	2,540.03	1,313.93	928.48	845.33	83.15	11.166		
14,600.00	11,929.91	14,654.96	11,976.91	60.93	59.53	94.49	2,640.00	1,313.08	928.43	843.62	84.81	10.947		
14,700.00	11,928.95	14,754.96	11,975.20	62.13	60.71	94.45	2,739.98	1,312.23	928.37	841.88	86.49	10.734		
14,800.00	11,927.98	14,854.96	11,973.48	63.36	61.91	94.40	2,839.96	1,311.38	928.32	840.11	88.20	10.525		
14,900.00	11,927.02	14,954.95	11,971.77	64.60	63.13	94.35	2,939.94	1,310.53	928.26	838.32	89.95	10.320		
15,000.00	11,926.06	15,054.95	11,970.06	65.86	64.37	94.31	3,039.92	1,309.68	928.21	836.50	91.71	10.121		
15,100.00	11,925.09	15,154.95	11,968.34	67.14	65.62	94.26	3,139.90	1,308.83	928.16	834.65	93.51	9.926		
15,200.00	11,924.13	15,254.94	11,966.63	68.43	66.90	94.21	3,239.88	1,307.98	928.11	832.78	95.32	9.736		
15,300.00	11,923.17	15,354.94	11,964.92	69.74	68.18	94.17	3,339.86	1,307.14	928.06	830.89	97.16	9.552		
15,400.00	11,922.21	15,454.94	11,963.21	71.06	69.49	94.12	3,439.84	1,306.29	928.01	828.98	99.02	9.372		
15,500.00	11,921.24	15,554.94	11,961.49	72.40	70.81	94.08	3,539.81	1,305.44	927.96	827.05	100.90	9.197		
15,600.00	11,920.28	15,654.93	11,959.78	73.75	72.14	94.03	3,639.79	1,304.59	927.91	825.11	102.80	9.026		
15,700.00	11,919.32	15,754.93	11,958.07	75.11	73.49	93.98	3,739.77	1,303.74	927.86	823.14	104.72	8.861		
15,800.00	11,918.36	15,854.93	11,956.35	76.48	74.85	93.94	3,839.75	1,302.89	927.81	821.16	106.65	8.700		
15,900.00	11,917.39	15,954.93	11,954.64	77.86	76.22	93.89	3,939.73	1,302.04	927.76	819.17	108.60	8.543		
16,000.00	11,916.43	16,054.92	11,952.93	79.26	77.60	93.84	4,039.71	1,301.19	927.72	817.16	110.56	8.391		
16,100.00	11,915.47	16,154.92	11,951.21	80.66	78.99	93.80	4,139.69	1,300.34	927.67	815.13	112.54	8.243		
16,200.00	11,914.50	16,254.92	11,949.50	82.07	80.39	93.75	4,239.67	1,299.49	927.63	813.09	114.53	8.099		
16,300.00	11,913.54	16,354.91	11,947.79	83.49	81.80	93.71	4,339.65	1,298.65	927.58	811.04	116.54	7.960		
16,400.00	11,912.58	16,454.91	11,946.07	84.92	83.22	93.66	4,439.62	1,297.80	927.54	808.98	118.55	7.824		
16,500.00	11,911.62	16,554.91	11,944.36	86.36	84.64	93.61	4,539.60	1,296.95	927.49	806.91	120.58	7.692		
16,600.00	11,910.65	16,654.91	11,942.65	87.81	86.08	93.57	4,639.58	1,296.10	927.45	804.83	122.62	7.563		
16,700.00	11,909.69	16,754.90	11,940.94	89.26	87.52	93.52	4,739.56	1,295.25	927.41	802.74	124.67	7.439		
16,800.00	11,908.73	16,854.90	11,939.22	90.72	88.97	93.47	4,839.54	1,294.40	927.37	800.63	126.73	7.317		
16,900.00	11,907.77	16,954.90	11,937.51	92.18	90.43	93.43	4,939.52	1,293.55	927.32	798.52	128.80	7.200		
17,000.00	11,906.80	17,054.89	11,935.80	93.65	91.89	93.38	5,039.50	1,292.70	927.28	796.40	130.88	7.085		
17,100.00	11,905.84	17,154.89	11,934.08	95.13	93.36	93.34	5,139.48	1,291.85	927.24	794.27	132.97	6.973		
17,200.00	11,904.88	17,254.89	11,932.37	96.62	94.84	93.29	5,239.46	1,291.00	927.20	792.14	135.07	6.865		
17,300.00	11,903.91	17,354.89	11,930.66	98.10	96.32	93.24	5,339.43	1,290.15	927.17	790.00	137.17	6.759		
17,400.00	11,902.95	17,454.88	11,928.94	99.60	97.81	93.20	5,439.41	1,289.31	927.13	787.85	139.28	6.657		
17,500.00	11,901.99	17,554.88	11,927.23	101.10	99.30	93.15	5,539.39	1,288.46	927.09	785.69	141.40	6.557		
17,600.00	11,901.03	17,654.88	11,925.52	102.60	100.80	93.10	5,639.37	1,287.61	927.05	783.53	143.52	6.459		
17,700.00	11,900.06	17,754.87	11,923.81	104.11	102.30	93.06	5,739.35	1,286.76	927.02	781.36	145.66	6.364		
17,800.00	11,899.10	17,854.87	11,922.09	105.62	103.81	93.01	5,839.33	1,285.91	926.98	779.19	147.79	6.272		
17,900.00	11,898.14	17,954.87	11,920.38	107.14	105.32	92.96	5,939.31	1,285.06	926.95	777.01	149.94	6.182		
18,000.00	11,897.18	18,054.87	11,918.67	108.66	106.83	92.92	6,039.29	1,284.21	926.91	774.82	152.09	6.095		
18,100.00	11,896.21	18,154.86	11,916.95	110.18	108.35	92.87	6,139.27	1,283.36	926.88	772.63	154.24	6.009		
18,200.00	11,895.25	18,254.86	11,915.24	111.71	109.88	92.83	6,239.24	1,282.51	926.84	770.44	156.41	5.926		
18,300.00	11,894.29	18,354.86	11,913.53	113.24	111.40	92.78	6,339.22	1,281.66	926.81	768.24	158.57	5.845		
18,400.00	11,893.32	18,454.85	11,911.81	114.77	112.93	92.73	6,439.20	1,280.82	926.78	766.04	160.74	5.766		
18,500.00	11,892.36	18,554.85	11,910.10	116.31	114.47	92.69	6,539.18	1,279.97	926.75	763.83	162.92	5.688		
18,600.00	11,891.40	18,654.85	11,908.39	117.85	116.00	92.64	6,639.16	1,279.12	926.72	761.62	165.10	5.613		
18,700.00	11,890.44	18,754.85	11,906.67	119.39	117.54	92.59	6,739.14	1,278.27	926.69	759.40	167.28	5.540		
18,800.00	11,889.47	18,854.84	11,904.96	120.94	119.09	92.55	6,839.12	1,277.42	926.66	757.18	169.47	5.468		
18,900.00	11,888.51	18,954.84	11,903.25	122.49	120.63	92.50	6,939.10	1,276.57	926.63	754.96	171.67	5.398		
19,000.00	11,887.55	19,054.84	11,901.54	124.04	122.18	92.46	7,039.08	1,275.72	926.60	752.74	173.86	5.330		
19,100.00	11,886.59	19,154.84	11,899.82	125.60	123.73	92.41	7,139.06	1,274.87	926.57	750.51	176.06	5.263		
19,200.00	11,885.62	19,254.83	11,898.11	127.15	125.29	92.36	7,239.03	1,274.02	926.54	748.28	178.27	5.198		
19,300.00	11,884.66	19,354.83	11,896.40	128.71	126.84	92.32	7,339.01	1,273.17	926.52	746.04	180.47	5.134		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,400.00	11,883.70	19,454.83	11,894.68	130.27	128.40	92.27	7,438.99	1,272.32	926.49	743.81	182.68	5.072		
19,500.00	11,882.73	19,554.82	11,892.97	131.84	129.96	92.22	7,538.97	1,271.48	926.47	741.57	184.90	5.011		
19,600.00	11,881.77	19,654.82	11,891.26	133.40	131.52	92.18	7,638.95	1,270.63	926.44	739.33	187.11	4.951		
19,700.00	11,880.81	19,754.82	11,889.54	134.97	133.09	92.13	7,738.93	1,269.78	926.42	737.08	189.33	4.893		
19,800.00	11,879.85	19,854.82	11,887.83	136.54	134.66	92.08	7,838.91	1,268.93	926.39	734.84	191.56	4.836		
19,900.00	11,878.88	19,954.81	11,886.12	138.11	136.23	92.04	7,938.89	1,268.08	926.37	732.59	193.78	4.780		
20,000.00	11,877.92	20,054.81	11,884.41	139.69	137.80	91.99	8,038.87	1,267.23	926.35	730.34	196.01	4.726		
20,100.00	11,876.96	20,154.81	11,882.69	141.26	139.37	91.94	8,138.84	1,266.38	926.33	728.08	198.24	4.673		
20,200.00	11,876.00	20,254.80	11,880.98	142.84	140.95	91.90	8,238.82	1,265.53	926.30	725.83	200.48	4.621		
20,300.00	11,875.03	20,354.80	11,879.27	144.42	142.52	91.85	8,338.80	1,264.68	926.28	723.57	202.71	4.569		
20,400.00	11,874.07	20,454.80	11,877.55	146.00	144.10	91.81	8,438.78	1,263.83	926.26	721.32	204.95	4.519		
20,500.00	11,873.11	20,554.80	11,875.84	147.58	145.68	91.76	8,538.76	1,262.99	926.24	719.06	207.19	4.471		
20,600.00	11,872.14	20,654.79	11,874.13	149.16	147.26	91.71	8,638.74	1,262.14	926.23	716.79	209.43	4.423		
20,700.00	11,871.18	20,754.79	11,872.41	150.75	148.84	91.67	8,738.72	1,261.29	926.21	714.53	211.68	4.376		
20,800.00	11,870.22	20,854.79	11,870.70	152.33	150.43	91.62	8,838.70	1,260.44	926.19	712.27	213.92	4.330		
20,900.00	11,869.26	20,954.78	11,868.99	153.92	152.01	91.57	8,938.68	1,259.59	926.17	710.00	216.17	4.284		
21,000.00	11,868.29	21,054.78	11,867.28	155.51	153.60	91.53	9,038.65	1,258.74	926.16	707.74	218.42	4.240		
21,100.00	11,867.33	21,154.78	11,865.56	157.10	155.19	91.48	9,138.63	1,257.89	926.14	705.47	220.67	4.197		
21,200.00	11,866.37	21,254.78	11,863.85	158.69	156.78	91.43	9,238.61	1,257.04	926.13	703.20	222.93	4.154		
21,300.00	11,865.41	21,354.77	11,862.14	160.28	158.37	91.39	9,338.59	1,256.19	926.11	700.93	225.18	4.113		
21,400.00	11,864.44	21,454.77	11,860.42	161.88	159.96	91.34	9,438.57	1,255.34	926.10	698.66	227.44	4.072		
21,500.00	11,863.48	21,554.77	11,858.71	163.47	161.56	91.30	9,538.55	1,254.49	926.08	696.38	229.70	4.032		
21,600.00	11,862.52	21,654.76	11,857.00	165.07	163.15	91.25	9,638.53	1,253.65	926.07	694.11	231.96	3.992		
21,700.00	11,861.56	21,754.76	11,855.28	166.67	164.75	91.20	9,738.51	1,252.80	926.06	691.84	234.22	3.954		
21,800.00	11,860.59	21,854.76	11,853.57	168.27	166.35	91.16	9,838.49	1,251.95	926.05	689.56	236.49	3.916		
21,900.00	11,859.63	21,954.76	11,851.86	169.86	167.94	91.11	9,938.46	1,251.10	926.04	687.29	238.75	3.879		
22,000.00	11,858.67	22,054.75	11,850.14	171.47	169.54	91.06	10,038.44	1,250.25	926.03	685.01	241.02	3.842		
22,099.37	11,857.71	22,154.12	11,848.44	173.06	171.13	91.02	10,137.79	1,249.41	926.02	682.75	243.27	3.807 ES, SF		

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



Total Directional Services

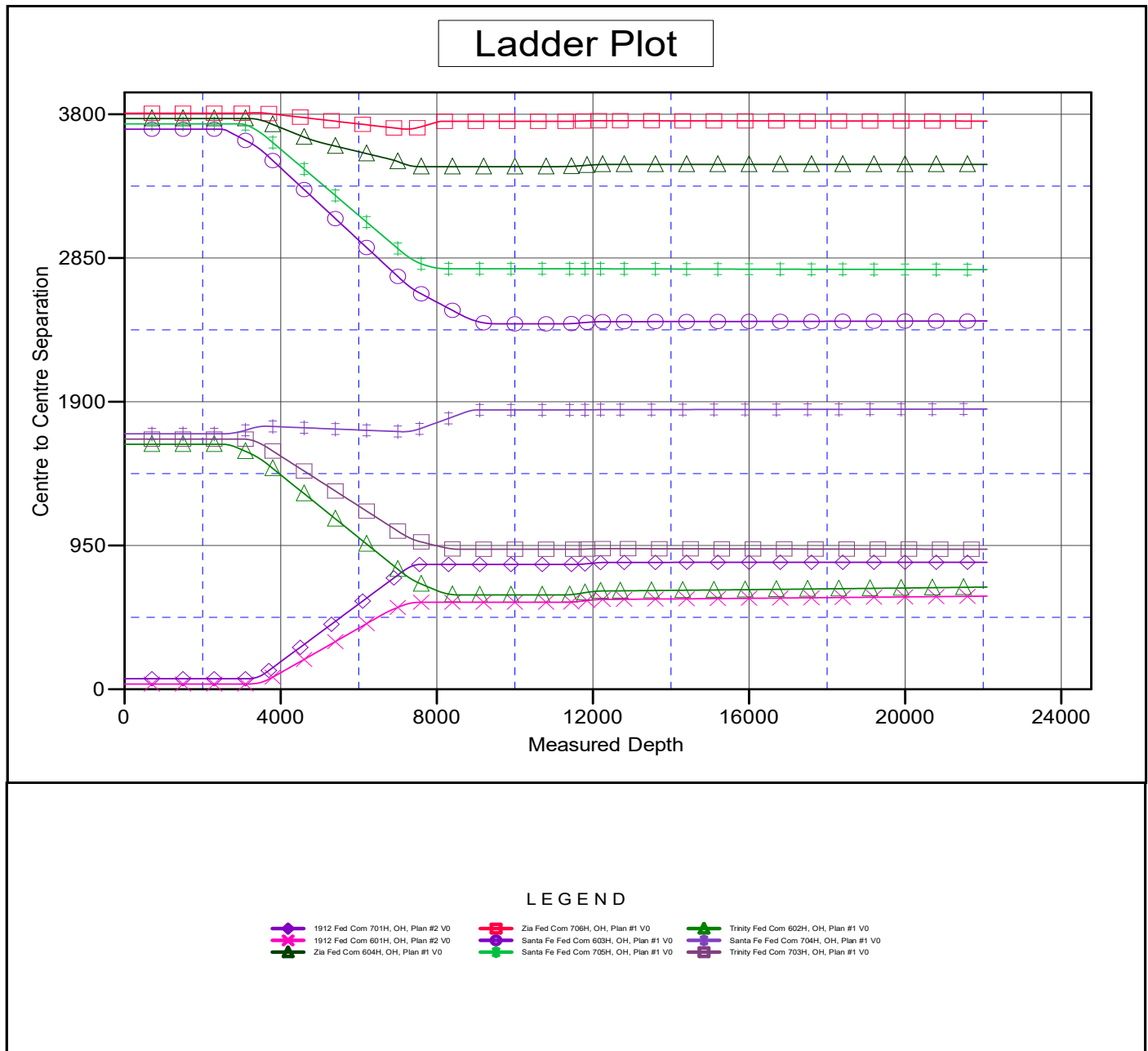
Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to 3109.0' GE + 30' KB @ 3139.00usft
 Offset Depths are relative to Offset Datum
 Central Meridian is -104.333334

Coordinates are relative to: 1912 Fed Com 702H
 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 1912 Fed Com 702H
Project:	Lea County, NM (NAD83)	TVD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Reference Site:	1912 Fed Com	MD Reference:	3109.0' GE + 30' KB @ 3139.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 702H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to 3109.0' GE + 30' KB @ 3139.00usft

Offset Depths are relative to Offset Datum

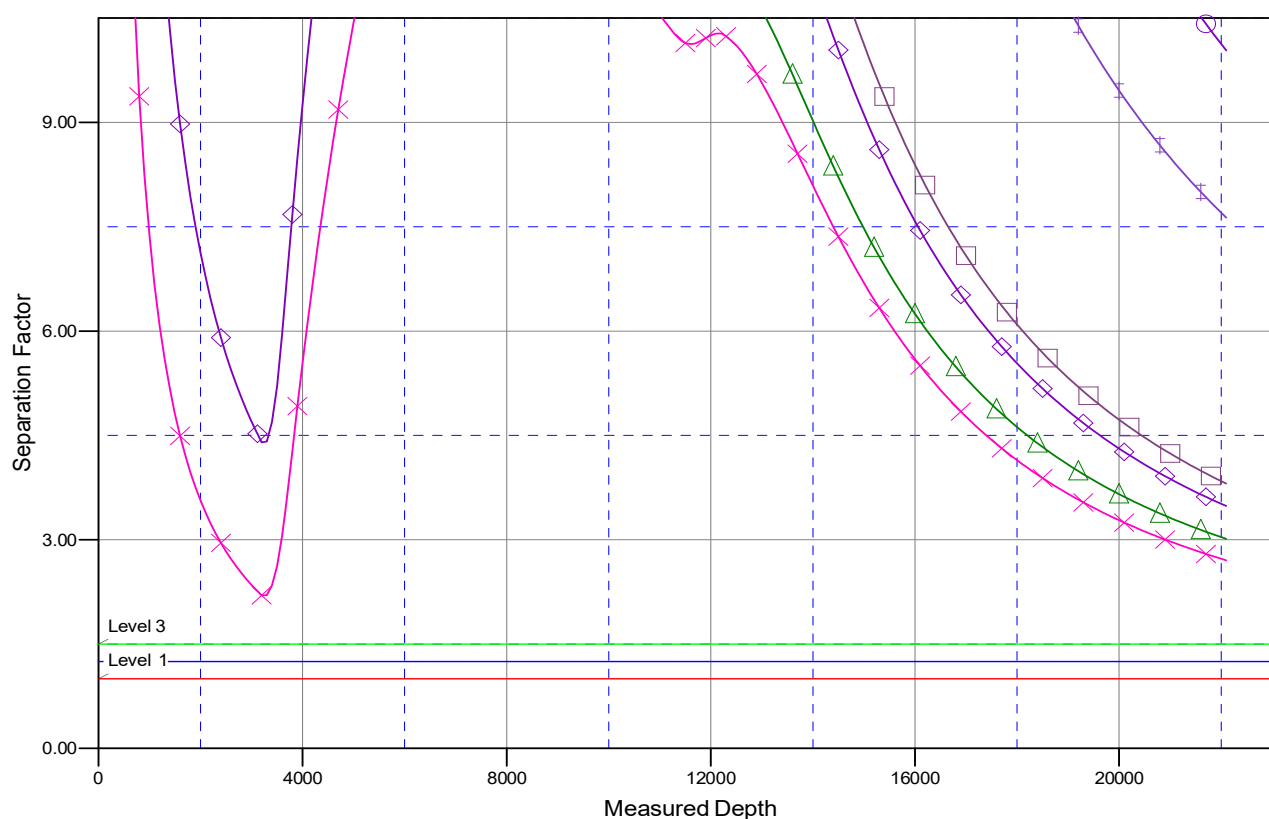
Central Meridian is -104.333334

Coordinates are relative to: 1912 Fed Com 702H

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

Grid Convergence at Surface is: 0.53°

Separation Factor Plot



LEGEND

1912 Fed Com 701H, OH, Plan #2 V0	Zia Fed Com 706H, OH, Plan #1 V0	Trinity Fed Com 602H, OH, Plan #1 V0
1912 Fed Com 601H, OH, Plan #2 V0	Santa Fe Fed Com 603H, OH, Plan #1 V0	Santa Fe Fed Com 704H, OH, Plan #1 V0
Zia Fed Com 604H, OH, Plan #1 V0	Santa Fe Fed Com 705H, OH, Plan #1 V0	Trinity Fed Com 703H, OH, Plan #1 V0

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

**PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL**

OPERATOR'S NAME: WELL NAME & NO.: SURFACE HOLE FOOTAGE: BOTTOM HOLE FOOTAGE LOCATION: COUNTY:	FRANKLIN MOUNTAIN ENERGY LLC 1912 FEDERAL 601H 285'/S & 730'/W 150'/N & 600'/W Section 24, T.25 S., R.35 E., NMP Lea County, New Mexico
OPERATOR'S NAME: WELL NAME & NO.: SURFACE HOLE FOOTAGE: BOTTOM HOLE FOOTAGE LOCATION: COUNTY:	FRANKLIN MOUNTAIN ENERGY LLC 1912 FEDERAL 701H 285'/S & 695'/W 150'/N & 350'/W Section 24, T.25 S., R.35 E., NMP Lea County, New Mexico
OPERATOR'S NAME: WELL NAME & NO.: SURFACE HOLE FOOTAGE: BOTTOM HOLE FOOTAGE LOCATION: COUNTY:	FRANKLIN MOUNTAIN ENERGY LLC 1912 FEDERAL 702H 285'/S & 765'/W 150'/N & 1176'/W Section 24, T.25 S., R.35 E., NMP Lea County, New Mexico
OPERATOR'S NAME: WELL NAME & NO.: SURFACE HOLE FOOTAGE: BOTTOM HOLE FOOTAGE LOCATION: COUNTY:	FRANKLIN MOUNTAIN ENERGY LLC SANTA FE FED COM 704H 710'/S & 2626'/W 150'/N & 2252'/E Section 24, T.25 S., R.35 E., NMP Lea County, New Mexico
OPERATOR'S NAME: WELL NAME & NO.: SURFACE HOLE FOOTAGE: BOTTOM HOLE FOOTAGE LOCATION: COUNTY:	FRANKLIN MOUNTAIN ENERGY LLC SANTA FE FED COM 603H 250'/S & 812'/E 150'/N & 1689'/E Section 24, T.25 S., R.35 E., NMP Lea County, New Mexico
OPERATOR'S NAME: WELL NAME & NO.: SURFACE HOLE FOOTAGE: BOTTOM HOLE FOOTAGE LOCATION: COUNTY:	FRANKLIN MOUNTAIN ENERGY LLC SANTA FE FED COM 705H 250'/S & 777'/E 150'/N & 1326'/E Section 24, T.25 S., R.35 E., NMP Lea County, New Mexico
OPERATOR'S NAME: WELL NAME & NO.: SURFACE HOLE FOOTAGE: BOTTOM HOLE FOOTAGE LOCATION: COUNTY:	FRANKLIN MOUNTAIN ENERGY LLC TRINITY FEDERAL 602H 710'/S & 2584'/W 150'/N & 1800'/W Section 24, T.25 S., R.35 E., NMP Lea County, New Mexico

OPERATOR'S NAME:	FRANKLIN MOUNTAIN ENERGY LLC
WELL NAME & NO.:	TRINITY FEDERAL 703H
SURFACE HOLE FOOTAGE:	710'/S & 2619'/W
BOTTOM HOLE FOOTAGE:	150'/N & 2102'/W
LOCATION:	Section 24, T.25 S., R.35 E., NMP
COUNTY:	Lea County, New Mexico
OPERATOR'S NAME:	FRANKLIN MOUNTAIN ENERGY LLC
WELL NAME & NO.:	ZIA FED COM 604H
SURFACE HOLE FOOTAGE:	250'/S & 742'/E
BOTTOM HOLE FOOTAGE:	150'/N & 650'/E
LOCATION:	Section 24, T.25 S., R.35 E., NMP
COUNTY:	Lea County, New Mexico
OPERATOR'S NAME:	FRANKLIN MOUNTAIN ENERGY LLC
WELL NAME & NO.:	ZIA FED COM 706H
SURFACE HOLE FOOTAGE:	250'/S & 707'/E
BOTTOM HOLE FOOTAGE:	150'/N & 350'/E
LOCATION:	Section 24, T.25 S., R.35 E., NMP
COUNTY:	Lea County, New Mexico

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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.

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- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
 - Lesser Prairie-Chicken Timing Stipulations
 - Ground-level Abandoned Well Marker
- ☐ **Construction**
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 - Topsoil
 - Closed Loop System
 - Federal Mineral Material Pits
 - Well Pads
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- ☒ **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 and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator 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 shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

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)

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, 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 feet from the source of the noise.

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.

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.

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 thirty (30) 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

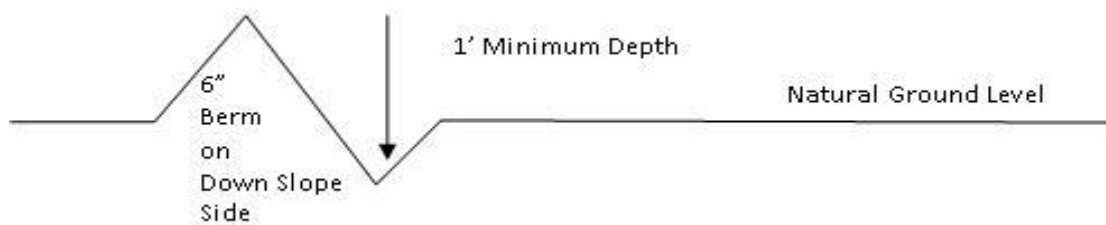
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

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

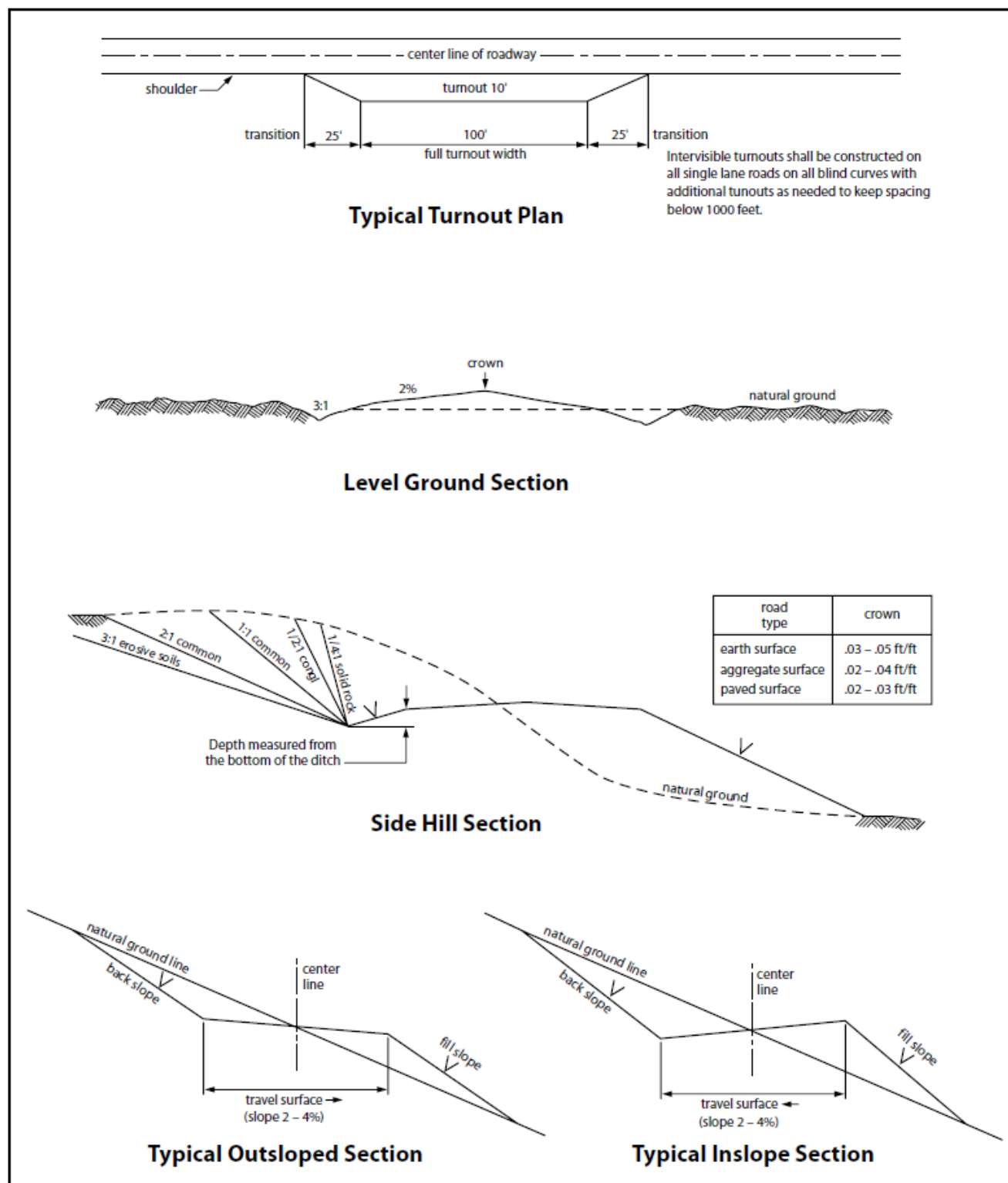


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

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. 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 3
☒ seed mixture 2	☐ seed mixture 4
☐ seed mixture 2/LPC	☐ Aplomado Falcon Mixture

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

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

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

16. Any cultural and/or paleontological resources (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. 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 proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

17. 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.

18. 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.

19. Special Stipulations:

Wildlife:

Lesser Prairie-Chicken

Oil and gas activities 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. 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.

This authorization is subject to your Certificate of Participation and/or Certificate of Inclusion under the New Mexico Candidate Conservation Agreement. Because it involves surface disturbing activities covered under your Certificate, your Habitat Conservation Fund Account with the Center of Excellence for Hazardous Materials Management (CEHMM) will be debited according to Exhibit B Part 2 of the Certificate of Participation.

Hydrology:

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.

Range:

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 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 notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Livestock Watering Requirement

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.

C. STIPULATIONS FOR OVERHEAD ELECTRIC 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. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. 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 proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

11. Special Stipulations:

Wildlife:

Lesser Prairie-Chicken

Oil and gas activities 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. 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.

This authorization is subject to your Certificate of Participation and/or Certificate of Inclusion under the New Mexico Candidate Conservation Agreement. Because it involves surface disturbing activities covered under your Certificate, your Habitat Conservation Fund Account with the Center of Excellence for Hazardous Materials Management (CEHMM) will be debited according to Exhibit B Part 2 of the Certificate of Participation.

Hydrology:

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.

Range:

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 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 notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Livestock Watering Requirement

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.

D. STIPULATIONS FOR OIL AND GAS RELATED SITES

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

The holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer, BLM.

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 and for all response costs, penalties, damages, claims, and other costs arising from the provisions of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. Chap. 82, Section 6901 et. seq., from the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. Chap. 109, Section 9601 et. seq., and from other applicable environmental statutes.
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 U.S.C. 2601, et. seq.) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized by this 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). 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 site or related pipeline(s), any oil or other pollutant should be discharged from site facilities, the pipeline(s) or from containers or vehicles impacting Federal lands, the control and total removal, disposal, and cleanup of such oil or other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages to Federal lands resulting therefrom, the Authorized Officer may take such measures as deemed necessary to control and cleanup 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 the holder of any liability or responsibility.

5. Sites shall be maintained in an orderly, sanitary condition at all times. Waste materials, both liquid and solid, shall be disposed of promptly at an appropriate, authorized waste disposal facility in accordance with all applicable State and Federal laws. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, petroleum products, brines, chemicals, oil drums, ashes, and equipment.

6. The operator will notify the Bureau of Land Management (BLM) authorized officer and nearest Fish and Wildlife Service (FWS) Law Enforcement office within 24 hours, if the operator discovers a dead or injured federally protected species (i.e., migratory bird species, bald or golden eagle, or species listed by the FWS as threatened or endangered) in or adjacent to a pit, trench, tank, exhaust stack, or fence. (If the operator is unable to contact the FWS Law Enforcement office, the operator must contact the nearest FWS Ecological Services office.)

7. 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 a color which simulates "Standard Environmental Colors" designated by the Rocky Mountain Five-State Interagency Committee. The color selected for this project is **Shale Green**, Munsell Soil Color Chart Number 5Y 4/2.

8. Any cultural and/or 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.

9. A sales contract for removal of mineral material (caliche, sand, gravel, fill dirt) from an authorized pit, site, or on location must be obtained from the BLM prior to commencing construction. There are several options available for purchasing mineral material: contact the BLM office (575-234-5972).

10. 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.

11. Once the site is no longer in service or use, the site must undergo final abandonment. At final abandonment, the site 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 the abandonment of the site. All pads and 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. 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).

12. The holder shall stockpile an adequate amount of topsoil where blading occurs. The topsoil to be stripped is approximately 6 inches in depth. The topsoil will be segregated from other spoil piles. The topsoil will be used for final reclamation.

13. 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

(X) seed mixture 3

- (X) seed mixture 2 () seed mixture 4
() seed mixture 2/LPC () Aplomado Falcon Mixture

14. In those areas where erosion control structures are required to stabilize soil conditions, the holder shall install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound management practices. Any earth work will require prior approval by the Authorized Officer.

15. Open-topped Tanks - 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

16. 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 exposure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

17. Open-Vent Exhaust Stack Enclosures – 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 enclosure 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.

18. 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.

19. Special Stipulations:

Wildlife:

Lesser Prairie-Chicken

Oil and gas activities 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. 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.

This authorization is subject to your Certificate of Participation and/or Certificate of Inclusion under the New Mexico Candidate Conservation Agreement. Because it involves surface disturbing activities covered under your Certificate, your Habitat Conservation Fund Account with the Center of Excellence for Hazardous Materials Management (CEHMM) will be debited according to Exhibit B Part 2 of the Certificate of Participation.

Hydrology:

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 top soil 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 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.

Range:

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 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 notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Livestock Watering Requirement

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.

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:

<u>Species</u>	<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

Seed Mixture 3, for Shallow 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:

<u>Species</u>	<u>lb/acre</u>
Plains Bristlegrass (<i>Setaria macrostachya</i>)	1.0
Green Sprangletop (<i>Leptochloa dubia</i>)	2.0
Sideoats Grama (<i>Bouteloua curtipendula</i>)	5.0

*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.:	NMNM138898
LOCATION:	Section 24, T.25 S., R.35 E., NMPM
COUNTY:	Lea County, New Mexico

WELL NAME & NO.:	1912 Federal 601H
SURFACE HOLE FOOTAGE:	285'/S & 730'/W
BOTTOM HOLE FOOTAGE:	150'/N & 600'/W

WELL NAME & NO.:	1912 Federal 701H
SURFACE HOLE FOOTAGE:	285'/S & 695'/W
BOTTOM HOLE FOOTAGE:	150'/N & 350'/W

WELL NAME & NO.:	1912 Federal 702H
SURFACE HOLE FOOTAGE:	285'/S & 765'/W
BOTTOM HOLE FOOTAGE:	150'/N & 1176'/W

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

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

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **1225 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:
 - Cement to surface. If cement does not circulate see B.1.a, c-d above.
Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

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.
Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.
4. The minimum required fill of cement behind the **5-1/2** inch production casing is:
 - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

C. PRESSURE CONTROL

1.

Option 1:

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

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.

FRANKLIN MOUNTAIN ENERGY



Geologic Prognosis

Well Name	1912 Federal 702H
Operator	Franklin Mountain Energy, LLC
Project Area	LOE Unit
Well Type	10,000' Upper Wolfcamp Lateral + Pilot Vertical Well
API	
Permit Number	
Rig	

State	NM	County	Lea						
SHL	Township	25S/35E	Section	24	765'	FWL	285'	FSL	
BHL	Township	25S/35E	Section	13	1,176'	FWL	150'	FNL	
Surface Latitude	NAD 83		32.109395						
Surface Longitude	NAD 83		103.327311						
Bottom Hole Latitude	NAD 83		32.137229						
Bottom Hole Longitude	NAD 83		103.32596						
Ground Level	3,109'		Rig KB	21'	KB	3,130'			

Formations	PROG SS	PROG TVD	Picked TVD	delta	Potential/Issues
Cenozoic Alluvium (surface)	3,109'	21'	21'	0	Sand/Gravels/unconsolidated
Rustler	2,354'	776'			Carbonates
Salado	1,751'	1,379'			Salt, Carbonate & Clastics
Base Salt	-1,050'	4,180'			Shaley Carbonate & Shale
Lamar	-1,816'	4,946'			Carbonate & Clastics
Bell Canyon	-1,868'	4,998'			Sandstone - oil/gas/water
Cherry Canyon	-2,901'	6,031'			Sandstone - oil/gas/water
Brushy Canyon	-4,203'	7,333'			Sand/carb/shales - oil/gas/water
Bone Spring Lime	-5,454'	8,584'			Shale/Carbonates - oil/gas
Avalon	-5,477'	8,607'			Shale/Carbonates - oil/gas
First Bone Spring Sand	-6,866'	9,996'			Sandstone - oil/gas/water
Second Bone Spring Carbonates	-6,994'	10,124'			Shale/Carbonates - oil/gas
Second Bone Spring Sand	-7,388'	10,518'			Sandstone - oil/gas/water
Third Bone Spring Carbonates	-7,917'	11,047'			Shale/Carbonates - oil/gas
Third Bone Spring Sand	-8,540'	11,670'			Sandstone - oil/gas/water
Wolfcamp	-8,791'	11,921'			Overpressure shale/sand- Oil/Gas
HZ Target	-8,843'	11,973'			Overpressure shale/sand- Oil/Gas
Wolfcamp A	-8,856'	11,986'			Overpressure Shale - Oil/Gas
Wolfcamp B	-9,018'	12,148'			Overpressure Shale - Oil/Gas

Target interval is expected to have an average apparent dip of ~1.0 degrees up along the lateral based on the Wolfcamp A structure

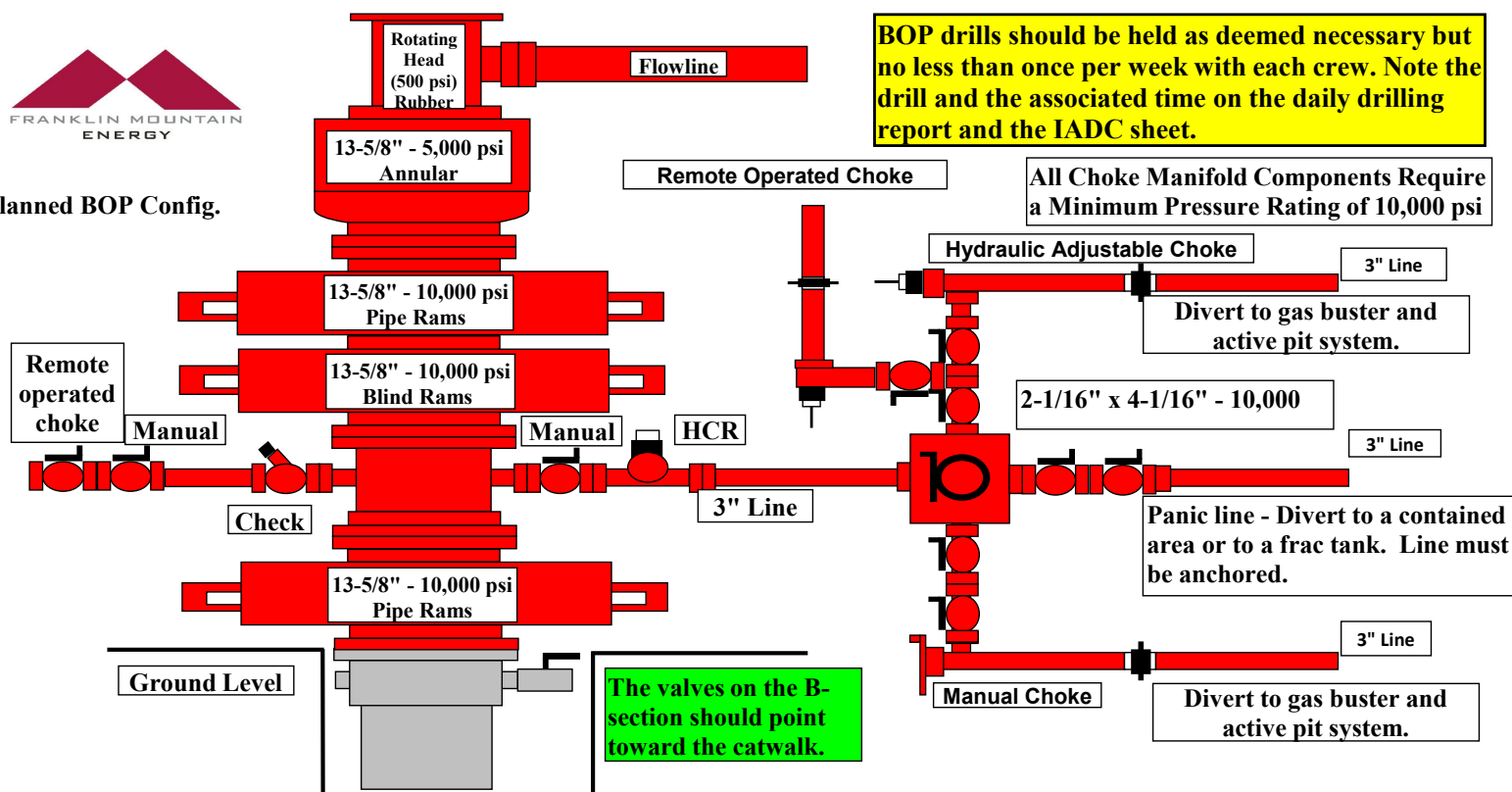
Target window tolerance is set at +/- 10'

Target Line: 11970' KBTVD @ 0' VS w/ 90.98° inc.
Offset Log: Talco Unit 25 25 35 Federal 1H (300254254800)

FME Geologist	Ben Kessel		bkessel@fmellc.com	
	Office	720-414-7868	Cell	303.868.9946
FME Engineer				
Electric Logs			From	To
Open-Hole				
	PILOT WELL			
MWD/LWD				
	MWD GR		Int. 1 Csg. Point	TD
Mud Log:				
Start logging at drill out of surface casing				
Sampling:	10' samples in vertical and through curve, 30' samples in lateral			
Samples:	1 set dry samples at footage frequency noted above			
Mud Gas:	Continuous			
Daily Contact:	Email distribution of mud log/daily report at 7:30am and 4:30 pm CST			
Daily Mud Log Email Distribution List				
Final Mud Log Distribution				
	Ben Kessel (bkessel@fmellc.com)		email	
Cuttings/Samples Shipment Information				



Planned BOP Config.



Note - Actual BOP configuration subject to change given wellsite requirements.

Lower BOP outlet can be used in place of mud cross if necessary.

Choke manifold configuration may vary but must have 1 manual and 1 adjustable choke with at least a 10,000 psi rating.

BOP Description:

Use contractor's 13-5/8", 10K double BOP (drill pipe rams on top and blind rams on bottom), single 13-5/8", 10K pipe rams beneath the double and 13-5/8", 5K annular. RU 10K psi choke manifold equipped with one manual adjustable choke and one hydraulically adjustable choke. Kill line and choke line should be located below blind ram chamber.

Install two (2) full opening gate valves and a check valve on the kill line with the gate valve nearest to the wellhead. The choke line shall be equipped with a manual full opening gate valve and an HCR valve. The manual valve should be open and the HCR valve should be closed during drilling operations. Chokes should be closed at all times as well. All lines should be flushed on a regular basis to avoid blockage (barite plugging). The pressure rating of the choke and kill lines and all valves should be equal to or greater than the BOP rams. RU contractor's accumulator system.

Test the accumulator system noting the initial pressure, final pressure and the amount of time required to close the various BOP components. Prior to drilling out, pressure test the casing and BOP equipment, using test plug, as follows and record test information on the daily report. Ensure casing head valves are open while testing BOPs. Test BOPs, choke manifold and lines, HCR, standpipe, mud line and all safety valves to 5,000 psig (high) and 250 psig (low) for 5 min. Test the annular to 5,000 psig (high) and 250 (low) for 5 minutes.

Drillpipe safety valves (TIW) should be full opening and have a rated working pressure of at least 5,000 psi. Safety valves for each size of drillpipe in use with the proper connection should be available on the rig floor in front of the drawworks at all times in the open position. Safety valves with the proper crossover should also be available if drill collars have a different connection than the drillpipe. The appropriate wrench for all manually operated valves should be marked and readily available on the rig floor at all times.

Ensure pressure gauge on choke manifold is operational. All BOP connections subjected to well pressure will be flanged, welded or clamped. All choke lines will be straight, turns will have tee blocks or targeted and shall be anchored.



Well Control Procedure

BOP & related components will be tested to required BLM specifications. Should a well-control situation arise, a contingency plan will be implemented. The plan is as follows.

Preparation:

- Sufficient kill mud volume will be prepared in the pre-mix tank prior to testing BOP components.
- Kill mud weight will be adequate to combat Maximum Anticipated Surface Pressure
- Choke manifold system is operable set up according to the BLM requirements and connected to the kill mud storage

Execution:

During any well control issues if the annular preventer should become inoperable or a wash out occurs

- well control will continue using the upper pipe rams in place of the annular preventer.
 - Close pipe rams
 - Pump kill mud to neutralize the well control situation
- Constantly monitor situation using choke manifold
- Use Kill lines of manifold if necessary

This additional well control procedure, as required by the BLM, is applicable to testing Annular Preventor to 100% of the rating.

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 25520

CONDITIONS

Operator: Franklin Mountain Energy LLC 44 Cook Street Denver, CO 80206	OGRID: 373910
	Action Number: 25520
	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	5/26/2021
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	5/26/2021