

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		8. Lease Name and Well No. 1912 FEDERAL [330842] 701H
3a. Address 44 COOK STREET SUITE 1000, DENVER, CO 80206	3b. Phone No. (include area code) (720) 414-7868	9. API Well No. 30-025-48911
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface SWSW / 285 FSL / 695 FWL / LAT 32.109395 / LONG -103.327537 At proposed prod. zone NWNW / 150 FNL / 350 FWL / LAT 32.137219 / LONG -103.328628		10. Field and Pool, or Exploratory UPR WOLFCAMP [98187]/WC-025 G-09
11. Sec., T. R. M. or Blk. and Survey or Area SEC 24/T25S/R35E/NMP		
14. Distance in miles and direction from nearest town or post office*		12. County or Parish LEA
13. State NM		
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 285 feet	16. No of acres in lease	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	19. Proposed Depth 12013 feet / 22238 feet	20. BLM/BIA Bond No. in file FED: NMB001761
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3114 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 / 695 FWL / TWSP: 25S / RANGE: 35E / SECTION: 24 / LAT: 32.109395 / LONG: -103.327537 (TVD: 0 feet, MD: 0 feet)

PPP: SWSW / 632 FSL / 350 FWL / TWSP: 25S / RANGE: 35E / SECTION: 24 / LAT: 32.110348 / LONG: -103.32865 (TVD: 12107 feet, MD: 12461 feet)

BHL: NWNW / 150 FNL / 350 FWL / TWSP: 25S / RANGE: 35E / SECTION: 13 / LAT: 32.137219 / LONG: -103.328628 (TVD: 12013 feet, MD: 22238 feet)

BLM Point of Contact

Name: TENILLE ORTIZ

Title: Legal Instruments Examiner

Phone: (575) 234-2224

Email: tortiz@blm.gov

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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 30-025-48911		2 Pool Code 33813		3 Well Name JAL WOLF CAMP, WEST	
4 Property Code 330842		5 Property Name 1912 FEDERAL		6 Well Number 701H	
7 OGRID No. 373910		8 Operator Name FRANKLIN MOUNTAIN ENERGY LLC		9 Elevation 3114.1	

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	695	WEST	LEA

11 Bottom Hole Location If Different From Surface									
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	13	25S	35E		150	NORTH	350	WEST	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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● = SURFACE HOLE LOCATION
◇ = KICK OFF POINT/PPP
○ = BOTTOM HOLE LOCATION
▲ = SECTION CORNER LOCATED
△ = SECTION CORNER RE-ESTABLISHED.
(Not Set on Ground.)

NAD 83 (SURFACE HOLE LOCATION)	
LATITUDE = 32°06'33.82" (32.109395°)	LONGITUDE = 103°19'39.13" (103.327537°)
NAD 27 (SURFACE HOLE LOCATION)	
LATITUDE = 32°06'33.37" (32.109268°)	LONGITUDE = 103°19'37.47" (103.327074°)
STATE PLANE NAD 83 (N.M. EAST)	
N: 404987.32' E: 852758.67'	
STATE PLANE NAD 27 (N.M. EAST)	
N: 404929.10' E: 811571.43'	
NAD 83 (KICK OFF POINT)	
LATITUDE = 32°06'31.53" (32.108758°)	LONGITUDE = 103°19'43.15" (103.328652°)
NAD 27 (KICK OFF POINT)	
LATITUDE = 32°06'31.07" (32.108631°)	LONGITUDE = 103°19'41.48" (103.328189°)
STATE PLANE NAD 83 (N.M. EAST)	
N: 404752.32' E: 852415.67'	
STATE PLANE NAD 27 (N.M. EAST)	
N: 404694.11' E: 811228.43'	
NAD 83 (PPP #1)	
LATITUDE = 32°06'37.25" (32.110348°)	LONGITUDE = 103°19'43.14" (103.328650°)
NAD 27 (PPP #1)	
LATITUDE = 32°06'36.80" (32.110221°)	LONGITUDE = 103°19'41.48" (103.328188°)
STATE PLANE NAD 83 (N.M. EAST)	
N: 405330.78' E: 852410.68'	
STATE PLANE NAD 27 (N.M. EAST)	
N: 405272.55' E: 811223.47'	
NAD 83 (BOTTOM HOLE LOCATION)	
LATITUDE = 32°08'13.99" (32.137219°)	LONGITUDE = 103°19'43.06" (103.328628°)
NAD 27 (BOTTOM HOLE LOCATION)	
LATITUDE = 32°08'13.53" (32.137093°)	LONGITUDE = 103°19'41.39" (103.328164°)
STATE PLANE NAD 83 (N.M. EAST)	
N: 415106.68' E: 852326.41'	
STATE PLANE NAD 27 (N.M. EAST)	
N: 415048.18' E: 811139.58'	

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

LINE	DIRECTION	LENGTH
L1	S89°36'10"W	2643.00'
L2	N00°15'15"W	2640.00'
L3	S55°49'21"W	415.84'
L4	N00°15'17"W	578.56'

17 OPERATOR CERTIFICATION

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

Signature: *Shelly Albrecht* Date: 7/14/2020

Printed Name: Shelly Albrecht

salbrecht@fmellc.com

E-mail Address

18 SURVEYOR CERTIFICATION

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

February 10, 2020

Date of Survey

Signature and Seal of Professional Surveyor:

Certificate Number:

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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 30-025-48911	M-24-25S-35E	285 FSL 695 FWL	1100 +/-	Flared	New well; expect to tie-in at IP
1912 Federal 702H	TBD	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 701H

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)	3,114'	30'	30'	0	Sand/Gravels/unconsolidated
Rustler	2,328'	816'			Carbonates
Salado	1,725'	1,419'			Salt, Carbonate & Clastics
Base Salt	-1,076'	4,220'			Shaley Carbonate & Shale
Lamar	-1,842'	4,986'			Carbonate & Clastics
Bell Canyon	-1,894'	5,038'			Sandstone - oil/gas/water
Cherry Canyon	-2,927'	6,071'			Sandstone - oil/gas/water
Brushy Canyon	-4,229'	7,373'			Sand/carb/shales - oil/gas/water
Bone Spring Lime	-5,480'	8,624'			Shale/Carbonates - oil/gas
Avalon	-5,503'	8,647'			Shale/Carbonates - oil/gas
First Bone Spring Sand	-6,892'	10,036'			Sandstone - oil/gas/water
Second Bone Spring Carbonates	-7,020'	10,164'			Shale/Carbonates - oil/gas
Second Bone Spring Sand	-7,414'	10,558'			Sandstone - oil/gas/water
Third Bone Spring Carbonates	-7,863'	11,007'			Shale/Carbonates - oil/gas
Third Bone Spring Sand	-8,514'	11,658'			Sandstone - oil/gas/water
Wolfcamp	-8,817'	11,961'			Overpressure shale/sand- Oil/Gas
Wolfcamp A	-8,851'	11,995'			Overpressure Shale - Oil/Gas
HZ Target	-8,966'	12,110'			Overpressure Shale - Oil/Gas
Wolfcamp B	-9,044'	12,188'			Overpressure Shale - Oil/Gas

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

Upper Permian Sands	0- 400'	Fresh Water
Delaware Sands	5,038'	Oil
Bone Spring	10,036'	Oil
Wolfcamp	11,961'	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	12000	1.11	1.27	1.81	1.24
Long string 5 1/2"	23	P-110	14520	14520	729	Anaconda 656	22238	1.32	1.4	1.19	1.07

Preliminary plan is to set 7 5/8" string before entering Wolfcamp formation at 11,935'TVD/12,000'MD at 44° 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 ft3/sk	Water gal/sk	TOC ft	Sacks	Type of cmt	Tail Yield ft3/sk	Water gal/sk	TOC	Excess
Surf	17.5	13.375	1300	795	Extenda Cem, 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	12000	340	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	11000	50%
Prod	6.75	5.5	22238	828	NeoCem, 13.5 ppg, Gas Migration Control	1.357	6.65	11000						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' – 12,000'	Brine	8.8-10.2	28-34	N/c
12,000' – 22,238' 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 12,107' TVD (deepest point of the well) is 195F with an estimated maximum bottom-hole pressure (BHP) at the same point of 7,869 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.

Franklin Mountain Energy

Project: Lea County, NM (NAD83)
Site: 1912 Federal
Well: 1912 Federal 701H
Wellbore: OH
Design: Plan #2



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

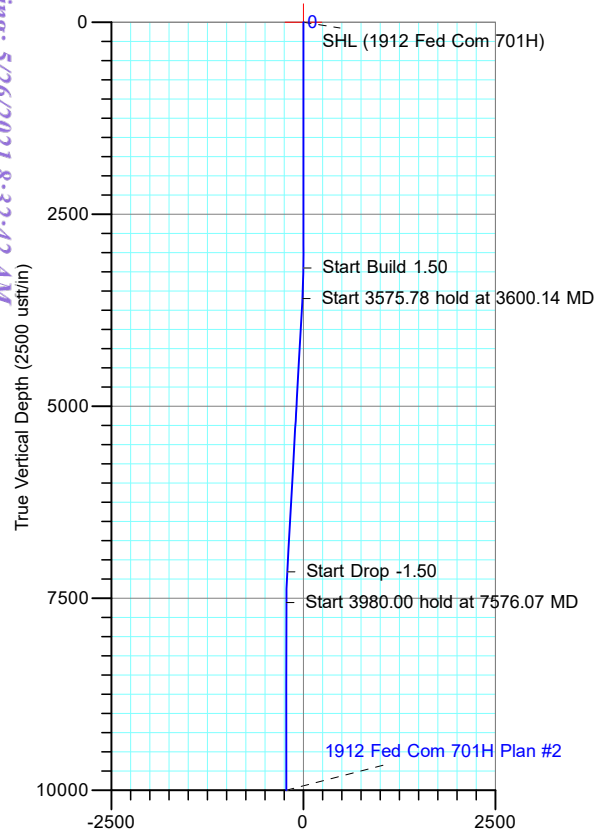
Magnetic Field
Strength: 47586.8nT
Dip Angle: 59.88°
Date: 3/4/2020
Model: IGRF2020

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



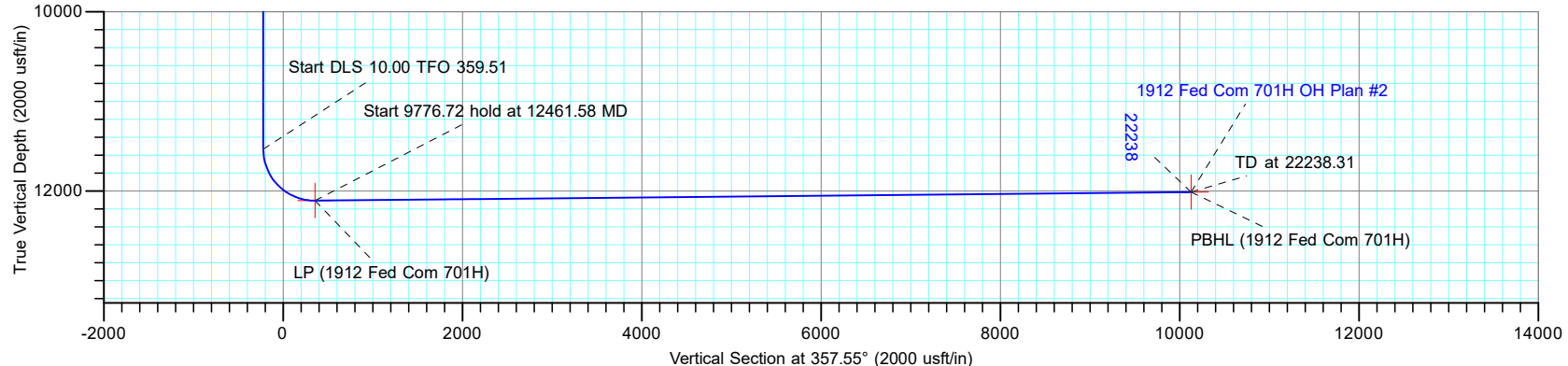
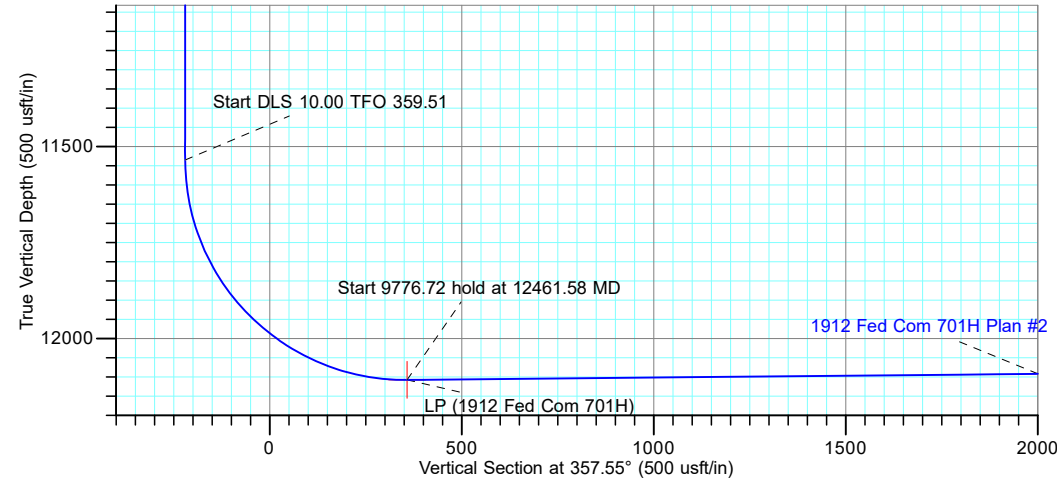
3114.1' GE + 30' KB @ 3144.10usft



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 3575.78 hold at 3600.14 MD
3600.14	6.00	235.58	3599.41	-11.84	-17.27	1.50	235.58	-11.09		Start Drop -1.50
7175.92	6.00	235.58	7155.59	-223.16	-325.73	0.00	0.00	-209.06		Start 3980.00 hold at 7576.07 MD
7576.07	0.00	0.00	7555.00	-235.00	-343.00	1.50	180.00	-220.15		Start DLS 10.00 TFO 359.51
11556.07	0.00	0.00	11535.00	-235.00	-343.00	0.00	0.00	-220.15		Start 9776.72 hold at 12461.58 MD
12461.58	90.55	359.51	12107.93	343.45	-347.99	10.00	359.51	357.99		TD at 22238.31
22238.31	90.55	359.51	12013.77	10119.36	-432.26	0.00	0.00	10128.59		

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
LP (1912 Fed Com 701H)	12107.93	343.45	-347.99	32.110348	-103.328650
PBHL (1912 Fed Com 701H)	12013.77	10119.36	-432.26	32.137220	-103.328628
SHL (1912 Fed Com 701H)	0.00	0.00	0.00	32.109395	-103.327537



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

Plan: Plan #2 (1912 Fed Com 701H/OH)
1912 Fed Com
Created By: Dustin Ault Date: 22:41, June 21 2020
Date: _____
Approved: _____ Date: _____

Franklin Mountain Energy

Project: Lea County, NM (NAD83)
 Site: 1912 Fed Com
 Well: 1912 Fed Com 701H
 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

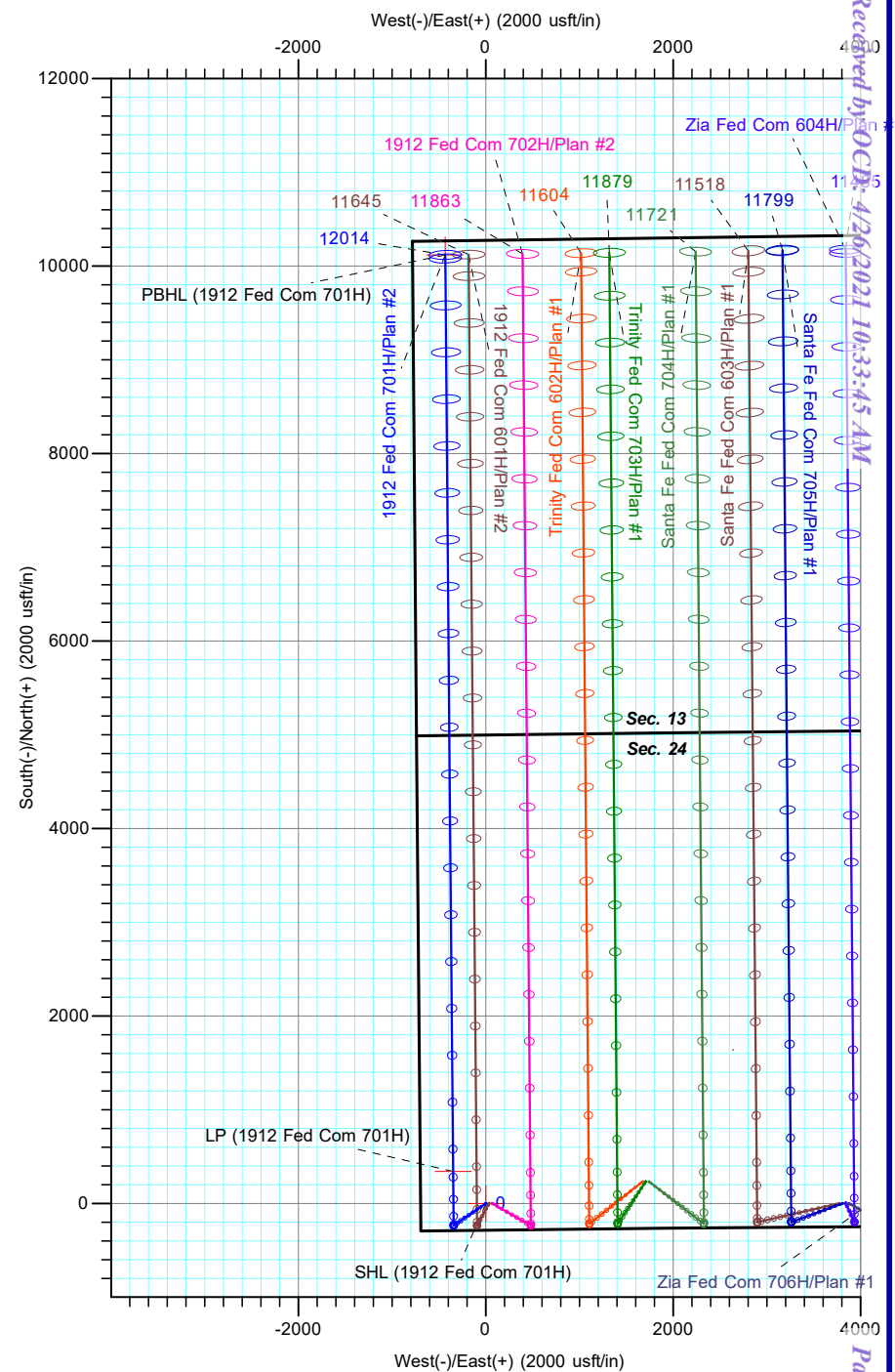
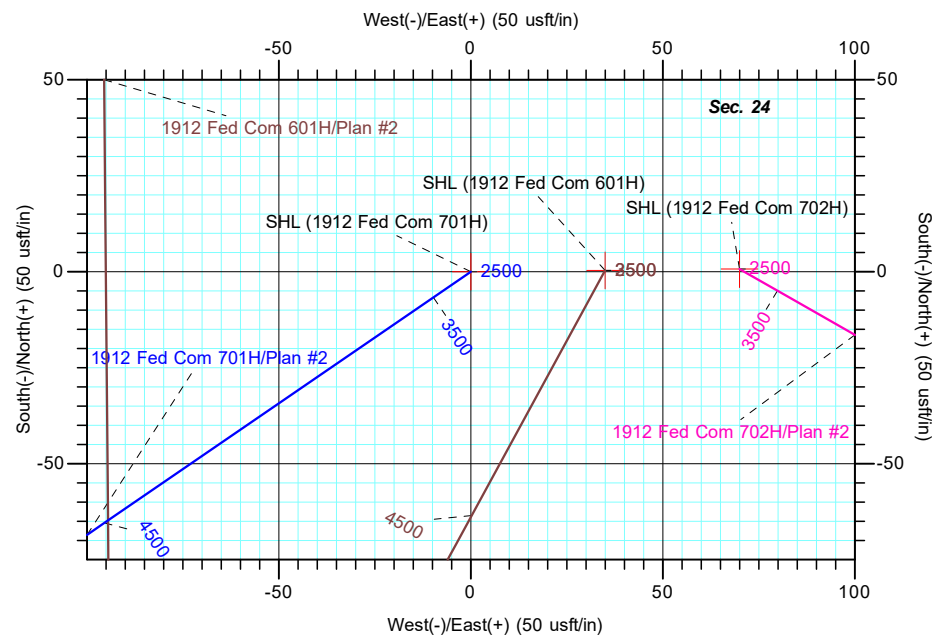


DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
LP (1912 Fed Com 701H)	12107.93	343.45	-347.99	405330.77	852410.68	32.110348	-103.328650
PBHL (1912 Fed Com 701H)	12013.77	10119.36	-432.26	415106.68	852326.41	32.137220	-103.328628
SHL (1912 Fed Com 701H)	0.00	0.00	0.00	404987.32	852758.67	32.109395	-103.327537

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
3600.14	6.00	235.58	3599.41	-11.84	-17.27	1.50	235.58	-11.09	Start 3575.78 hold at 3600.14 MD
7175.92	6.00	235.58	7155.59	-223.16	-325.73	0.00	0.00	-209.06	Start Drop -1.50
7576.07	0.00	0.00	7555.00	-235.00	-343.00	1.50	180.00	-220.15	Start 3980.00 hold at 7576.07 MD
11556.07	0.00	0.00	11535.00	-235.00	-343.00	0.00	0.00	-220.15	Start DLS 10.00 TFO 359.51
12461.58	90.55	359.51	12107.93	343.45	-347.99	10.00	359.51	357.99	Start 9776.72 hold at 12461.58 MD
22238.31	90.55	359.51	12013.77	10119.36	-432.26	0.00	0.00	10128.59	TD at 22238.31



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

Plan: Plan #2 (1912 Fed Com 701H/OH)
 1912 Fed Com
 Created By: Dustin Ault Date: 22:43, June 21 2020
 Date: _____
 Approved: _____ Date: _____



Franklin Mountain Energy

Lea County, NM (NAD83)

1912 Fed Com

1912 Fed Com 701H

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 701H
Company:	Franklin Mountain Energy	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Project:	Lea County, NM (NAD83)	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site:	1912 Fed Com	North Reference:	Grid
Well:	1912 Fed Com 701H	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 701H			
Well Position	+N/-S	0.00 usft	Northing:	404,987.32 usft
	+E/-W	0.00 usft	Easting:	852,758.67 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	Ground Level: 3,114.10 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	3/4/2020	6.57	59.88	47,586.75315180

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	357.55

Plan Survey Tool Program	Date	6/21/2020		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	22,238.22 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	
3,600.14	6.00	235.58	3,599.41	-11.84	-17.27	1.50	1.50	0.00	235.58	
7,175.92	6.00	235.58	7,155.59	-223.16	-325.73	0.00	0.00	0.00	0.00	
7,576.07	0.00	0.00	7,555.00	-235.00	-343.00	1.50	-1.50	0.00	180.00	
11,556.07	0.00	0.00	11,535.00	-235.00	-343.00	0.00	0.00	0.00	0.00	
12,461.58	90.55	359.51	12,107.93	343.45	-347.99	10.00	10.00	-0.05	359.51	
22,238.31	90.55	359.51	12,013.77	10,119.36	-432.26	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 701H
Company:	Franklin Mountain Energy	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Project:	Lea County, NM (NAD83)	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site:	1912 Fed Com	North Reference:	Grid
Well:	1912 Fed Com 701H	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 701H)									
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	235.58	3,299.99	-0.74	-1.08	-0.69	1.50	1.50	0.00
3,400.00	3.00	235.58	3,399.91	-2.96	-4.32	-2.77	1.50	1.50	0.00
3,500.00	4.50	235.58	3,499.69	-6.66	-9.71	-6.23	1.50	1.50	0.00
3,600.14	6.00	235.58	3,599.41	-11.84	-17.27	-11.09	1.50	1.50	0.00
Start 3575.78 hold at 3600.14 MD									
3,700.00	6.00	235.58	3,698.72	-17.74	-25.89	-16.62	0.00	0.00	0.00
3,800.00	6.00	235.58	3,798.17	-23.65	-34.51	-22.15	0.00	0.00	0.00
3,900.00	6.00	235.58	3,897.62	-29.56	-43.14	-27.69	0.00	0.00	0.00
4,000.00	6.00	235.58	3,997.08	-35.47	-51.77	-33.23	0.00	0.00	0.00
4,100.00	6.00	235.58	4,096.53	-41.38	-60.39	-38.76	0.00	0.00	0.00
4,200.00	6.00	235.58	4,195.98	-47.29	-69.02	-44.30	0.00	0.00	0.00
4,300.00	6.00	235.58	4,295.43	-53.20	-77.64	-49.83	0.00	0.00	0.00
4,400.00	6.00	235.58	4,394.88	-59.11	-86.27	-55.37	0.00	0.00	0.00
4,500.00	6.00	235.58	4,494.34	-65.02	-94.90	-60.91	0.00	0.00	0.00
4,600.00	6.00	235.58	4,593.79	-70.93	-103.52	-66.44	0.00	0.00	0.00
4,700.00	6.00	235.58	4,693.24	-76.84	-112.15	-71.98	0.00	0.00	0.00
4,800.00	6.00	235.58	4,792.69	-82.75	-120.78	-77.52	0.00	0.00	0.00
4,900.00	6.00	235.58	4,892.14	-88.66	-129.40	-83.05	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 701H
Company:	Franklin Mountain Energy	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Project:	Lea County, NM (NAD83)	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site:	1912 Fed Com	North Reference:	Grid
Well:	1912 Fed Com 701H	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)
5,000.00	6.00	235.58	4,991.59	-94.57	-138.03	-88.59	0.00	0.00	0.00
5,100.00	6.00	235.58	5,091.05	-100.48	-146.65	-94.13	0.00	0.00	0.00
5,200.00	6.00	235.58	5,190.50	-106.39	-155.28	-99.66	0.00	0.00	0.00
5,300.00	6.00	235.58	5,289.95	-112.30	-163.91	-105.20	0.00	0.00	0.00
5,400.00	6.00	235.58	5,389.40	-118.21	-172.53	-110.74	0.00	0.00	0.00
5,500.00	6.00	235.58	5,488.85	-124.12	-181.16	-116.27	0.00	0.00	0.00
5,600.00	6.00	235.58	5,588.31	-130.03	-189.78	-121.81	0.00	0.00	0.00
5,700.00	6.00	235.58	5,687.76	-135.94	-198.41	-127.35	0.00	0.00	0.00
5,800.00	6.00	235.58	5,787.21	-141.85	-207.04	-132.88	0.00	0.00	0.00
5,900.00	6.00	235.58	5,886.66	-147.76	-215.66	-138.42	0.00	0.00	0.00
6,000.00	6.00	235.58	5,986.11	-153.67	-224.29	-143.96	0.00	0.00	0.00
6,100.00	6.00	235.58	6,085.56	-159.58	-232.92	-149.49	0.00	0.00	0.00
6,200.00	6.00	235.58	6,185.02	-165.49	-241.54	-155.03	0.00	0.00	0.00
6,300.00	6.00	235.58	6,284.47	-171.40	-250.17	-160.56	0.00	0.00	0.00
6,400.00	6.00	235.58	6,383.92	-177.31	-258.79	-166.10	0.00	0.00	0.00
6,500.00	6.00	235.58	6,483.37	-183.22	-267.42	-171.64	0.00	0.00	0.00
6,600.00	6.00	235.58	6,582.82	-189.13	-276.05	-177.17	0.00	0.00	0.00
6,700.00	6.00	235.58	6,682.28	-195.04	-284.67	-182.71	0.00	0.00	0.00
6,800.00	6.00	235.58	6,781.73	-200.95	-293.30	-188.25	0.00	0.00	0.00
6,900.00	6.00	235.58	6,881.18	-206.86	-301.92	-193.78	0.00	0.00	0.00
7,000.00	6.00	235.58	6,980.63	-212.77	-310.55	-199.32	0.00	0.00	0.00
7,100.00	6.00	235.58	7,080.08	-218.68	-319.18	-204.86	0.00	0.00	0.00
7,175.92	6.00	235.58	7,155.59	-223.16	-325.73	-209.06	0.00	0.00	0.00
Start Drop -1.50									
7,200.00	5.64	235.58	7,179.54	-224.55	-327.74	-210.35	1.50	-1.50	0.00
7,300.00	4.14	235.58	7,279.18	-229.36	-334.77	-214.87	1.50	-1.50	0.00
7,400.00	2.64	235.58	7,379.00	-232.71	-339.65	-218.00	1.50	-1.50	0.00
7,500.00	1.14	235.58	7,478.94	-234.57	-342.38	-219.75	1.50	-1.50	0.00
7,576.07	0.00	0.00	7,555.00	-235.00	-343.00	-220.15	1.50	-1.50	0.00
Start 3980.00 hold at 7576.07 MD									
7,600.00	0.00	0.00	7,578.93	-235.00	-343.00	-220.15	0.00	0.00	0.00
7,700.00	0.00	0.00	7,678.93	-235.00	-343.00	-220.15	0.00	0.00	0.00
7,800.00	0.00	0.00	7,778.93	-235.00	-343.00	-220.15	0.00	0.00	0.00
7,900.00	0.00	0.00	7,878.93	-235.00	-343.00	-220.15	0.00	0.00	0.00
8,000.00	0.00	0.00	7,978.93	-235.00	-343.00	-220.15	0.00	0.00	0.00
8,100.00	0.00	0.00	8,078.93	-235.00	-343.00	-220.15	0.00	0.00	0.00
8,200.00	0.00	0.00	8,178.93	-235.00	-343.00	-220.15	0.00	0.00	0.00
8,300.00	0.00	0.00	8,278.93	-235.00	-343.00	-220.15	0.00	0.00	0.00
8,400.00	0.00	0.00	8,378.93	-235.00	-343.00	-220.15	0.00	0.00	0.00
8,500.00	0.00	0.00	8,478.93	-235.00	-343.00	-220.15	0.00	0.00	0.00
8,600.00	0.00	0.00	8,578.93	-235.00	-343.00	-220.15	0.00	0.00	0.00
8,700.00	0.00	0.00	8,678.93	-235.00	-343.00	-220.15	0.00	0.00	0.00
8,800.00	0.00	0.00	8,778.93	-235.00	-343.00	-220.15	0.00	0.00	0.00
8,900.00	0.00	0.00	8,878.93	-235.00	-343.00	-220.15	0.00	0.00	0.00
9,000.00	0.00	0.00	8,978.93	-235.00	-343.00	-220.15	0.00	0.00	0.00
9,100.00	0.00	0.00	9,078.93	-235.00	-343.00	-220.15	0.00	0.00	0.00
9,200.00	0.00	0.00	9,178.93	-235.00	-343.00	-220.15	0.00	0.00	0.00
9,300.00	0.00	0.00	9,278.93	-235.00	-343.00	-220.15	0.00	0.00	0.00
9,400.00	0.00	0.00	9,378.93	-235.00	-343.00	-220.15	0.00	0.00	0.00
9,500.00	0.00	0.00	9,478.93	-235.00	-343.00	-220.15	0.00	0.00	0.00
9,600.00	0.00	0.00	9,578.93	-235.00	-343.00	-220.15	0.00	0.00	0.00
9,700.00	0.00	0.00	9,678.93	-235.00	-343.00	-220.15	0.00	0.00	0.00
9,800.00	0.00	0.00	9,778.93	-235.00	-343.00	-220.15	0.00	0.00	0.00
9,900.00	0.00	0.00	9,878.93	-235.00	-343.00	-220.15	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 701H
Company:	Franklin Mountain Energy	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Project:	Lea County, NM (NAD83)	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site:	1912 Fed Com	North Reference:	Grid
Well:	1912 Fed Com 701H	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)
10,000.00	0.00	0.00	9,978.94	-235.00	-343.00	-220.15	0.00	0.00	0.00
10,100.00	0.00	0.00	10,078.94	-235.00	-343.00	-220.15	0.00	0.00	0.00
10,200.00	0.00	0.00	10,178.94	-235.00	-343.00	-220.15	0.00	0.00	0.00
10,300.00	0.00	0.00	10,278.94	-235.00	-343.00	-220.15	0.00	0.00	0.00
10,400.00	0.00	0.00	10,378.94	-235.00	-343.00	-220.15	0.00	0.00	0.00
10,500.00	0.00	0.00	10,478.94	-235.00	-343.00	-220.15	0.00	0.00	0.00
10,600.00	0.00	0.00	10,578.94	-235.00	-343.00	-220.15	0.00	0.00	0.00
10,700.00	0.00	0.00	10,678.94	-235.00	-343.00	-220.15	0.00	0.00	0.00
10,800.00	0.00	0.00	10,778.94	-235.00	-343.00	-220.15	0.00	0.00	0.00
10,900.00	0.00	0.00	10,878.94	-235.00	-343.00	-220.15	0.00	0.00	0.00
11,000.00	0.00	0.00	10,978.94	-235.00	-343.00	-220.15	0.00	0.00	0.00
11,100.00	0.00	0.00	11,078.94	-235.00	-343.00	-220.15	0.00	0.00	0.00
11,200.00	0.00	0.00	11,178.94	-235.00	-343.00	-220.15	0.00	0.00	0.00
11,300.00	0.00	0.00	11,278.94	-235.00	-343.00	-220.15	0.00	0.00	0.00
11,400.00	0.00	0.00	11,378.94	-235.00	-343.00	-220.15	0.00	0.00	0.00
11,500.00	0.00	0.00	11,478.94	-235.00	-343.00	-220.15	0.00	0.00	0.00
11,556.07	0.00	0.00	11,535.00	-235.00	-343.00	-220.15	0.00	0.00	0.00
Start DLS 10.00 TFO 359.51									
11,600.00	4.39	359.51	11,578.89	-233.32	-343.01	-218.46	10.00	10.00	0.00
11,650.00	9.39	359.51	11,628.51	-227.32	-343.07	-212.47	10.00	10.00	0.00
11,700.00	14.39	359.51	11,677.43	-217.02	-343.16	-202.17	10.00	10.00	0.00
11,750.00	19.39	359.51	11,725.25	-202.49	-343.28	-187.66	10.00	10.00	0.00
11,800.00	24.39	359.51	11,771.63	-183.85	-343.44	-169.03	10.00	10.00	0.00
11,850.00	29.39	359.51	11,816.21	-161.25	-343.64	-146.43	10.00	10.00	0.00
11,900.00	34.39	359.51	11,858.65	-134.84	-343.86	-120.04	10.00	10.00	0.00
11,950.00	39.39	359.51	11,898.62	-104.83	-344.12	-90.05	10.00	10.00	0.00
12,000.00	44.39	359.51	11,935.83	-71.46	-344.41	-56.69	10.00	10.00	0.00
12,050.00	49.39	359.51	11,969.99	-34.97	-344.72	-20.22	10.00	10.00	0.00
12,100.00	54.39	359.51	12,000.83	4.36	-345.06	19.09	10.00	10.00	0.00
12,150.00	59.39	359.51	12,028.14	46.23	-345.42	60.93	10.00	10.00	0.00
12,200.00	64.39	359.51	12,051.68	90.32	-345.80	105.00	10.00	10.00	0.00
12,250.00	69.39	359.51	12,071.30	136.29	-346.20	150.94	10.00	10.00	0.00
12,300.00	74.39	359.51	12,086.83	183.80	-346.61	198.42	10.00	10.00	0.00
12,350.00	79.39	359.51	12,098.17	232.48	-347.03	247.08	10.00	10.00	0.00
12,400.00	84.39	359.51	12,105.22	281.96	-347.46	296.53	10.00	10.00	0.00
12,450.00	89.39	359.51	12,107.93	331.87	-347.89	346.42	10.00	10.00	0.00
12,461.58	90.55	359.51	12,107.93	343.45	-347.99	357.99	10.00	10.00	0.00
Start 9776.72 hold at 12461.58 MD - LP (1912 Fed Com 701H)									
12,500.00	90.55	359.51	12,107.56	381.87	-348.32	396.39	0.00	0.00	0.00
12,600.00	90.55	359.51	12,106.60	481.86	-349.18	496.32	0.00	0.00	0.00
12,700.00	90.55	359.51	12,105.64	581.85	-350.04	596.26	0.00	0.00	0.00
12,800.00	90.55	359.51	12,104.67	681.84	-350.90	696.20	0.00	0.00	0.00
12,900.00	90.55	359.51	12,103.71	781.83	-351.77	796.13	0.00	0.00	0.00
13,000.00	90.55	359.51	12,102.75	881.83	-352.63	896.07	0.00	0.00	0.00
13,100.00	90.55	359.51	12,101.78	981.82	-353.49	996.01	0.00	0.00	0.00
13,200.00	90.55	359.51	12,100.82	1,081.81	-354.35	1,095.95	0.00	0.00	0.00
13,300.00	90.55	359.51	12,099.86	1,181.80	-355.21	1,195.88	0.00	0.00	0.00
13,400.00	90.55	359.51	12,098.89	1,281.79	-356.08	1,295.82	0.00	0.00	0.00
13,500.00	90.55	359.51	12,097.93	1,381.78	-356.94	1,395.76	0.00	0.00	0.00
13,600.00	90.55	359.51	12,096.97	1,481.78	-357.80	1,495.70	0.00	0.00	0.00
13,700.00	90.55	359.51	12,096.00	1,581.77	-358.66	1,595.63	0.00	0.00	0.00
13,800.00	90.55	359.51	12,095.04	1,681.76	-359.52	1,695.57	0.00	0.00	0.00
13,900.00	90.55	359.51	12,094.08	1,781.75	-360.39	1,795.51	0.00	0.00	0.00
14,000.00	90.55	359.51	12,093.11	1,881.74	-361.25	1,895.45	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 701H
Company:	Franklin Mountain Energy	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Project:	Lea County, NM (NAD83)	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site:	1912 Fed Com	North Reference:	Grid
Well:	1912 Fed Com 701H	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	12,092.15	1,981.73	-362.11	1,995.38	0.00	0.00	0.00
14,200.00	90.55	359.51	12,091.19	2,081.73	-362.97	2,095.32	0.00	0.00	0.00
14,300.00	90.55	359.51	12,090.23	2,181.72	-363.83	2,195.26	0.00	0.00	0.00
14,400.00	90.55	359.51	12,089.26	2,281.71	-364.70	2,295.19	0.00	0.00	0.00
14,500.00	90.55	359.51	12,088.30	2,381.70	-365.56	2,395.13	0.00	0.00	0.00
14,600.00	90.55	359.51	12,087.34	2,481.69	-366.42	2,495.07	0.00	0.00	0.00
14,700.00	90.55	359.51	12,086.37	2,581.68	-367.28	2,595.01	0.00	0.00	0.00
14,800.00	90.55	359.51	12,085.41	2,681.68	-368.14	2,694.94	0.00	0.00	0.00
14,900.00	90.55	359.51	12,084.45	2,781.67	-369.01	2,794.88	0.00	0.00	0.00
15,000.00	90.55	359.51	12,083.48	2,881.66	-369.87	2,894.82	0.00	0.00	0.00
15,100.00	90.55	359.51	12,082.52	2,981.65	-370.73	2,994.76	0.00	0.00	0.00
15,200.00	90.55	359.51	12,081.56	3,081.64	-371.59	3,094.69	0.00	0.00	0.00
15,300.00	90.55	359.51	12,080.59	3,181.63	-372.45	3,194.63	0.00	0.00	0.00
15,400.00	90.55	359.51	12,079.63	3,281.63	-373.32	3,294.57	0.00	0.00	0.00
15,500.00	90.55	359.51	12,078.67	3,381.62	-374.18	3,394.51	0.00	0.00	0.00
15,600.00	90.55	359.51	12,077.70	3,481.61	-375.04	3,494.44	0.00	0.00	0.00
15,700.00	90.55	359.51	12,076.74	3,581.60	-375.90	3,594.38	0.00	0.00	0.00
15,800.00	90.55	359.51	12,075.78	3,681.59	-376.76	3,694.32	0.00	0.00	0.00
15,900.00	90.55	359.51	12,074.82	3,781.58	-377.63	3,794.25	0.00	0.00	0.00
16,000.00	90.55	359.51	12,073.85	3,881.58	-378.49	3,894.19	0.00	0.00	0.00
16,100.00	90.55	359.51	12,072.89	3,981.57	-379.35	3,994.13	0.00	0.00	0.00
16,200.00	90.55	359.51	12,071.93	4,081.56	-380.21	4,094.07	0.00	0.00	0.00
16,300.00	90.55	359.51	12,070.96	4,181.55	-381.07	4,194.00	0.00	0.00	0.00
16,400.00	90.55	359.51	12,070.00	4,281.54	-381.93	4,293.94	0.00	0.00	0.00
16,500.00	90.55	359.51	12,069.04	4,381.53	-382.80	4,393.88	0.00	0.00	0.00
16,600.00	90.55	359.51	12,068.07	4,481.53	-383.66	4,493.82	0.00	0.00	0.00
16,700.00	90.55	359.51	12,067.11	4,581.52	-384.52	4,593.75	0.00	0.00	0.00
16,800.00	90.55	359.51	12,066.15	4,681.51	-385.38	4,693.69	0.00	0.00	0.00
16,900.00	90.55	359.51	12,065.18	4,781.50	-386.24	4,793.63	0.00	0.00	0.00
17,000.00	90.55	359.51	12,064.22	4,881.49	-387.11	4,893.57	0.00	0.00	0.00
17,100.00	90.55	359.51	12,063.26	4,981.48	-387.97	4,993.50	0.00	0.00	0.00
17,200.00	90.55	359.51	12,062.30	5,081.48	-388.83	5,093.44	0.00	0.00	0.00
17,300.00	90.55	359.51	12,061.33	5,181.47	-389.69	5,193.38	0.00	0.00	0.00
17,400.00	90.55	359.51	12,060.37	5,281.46	-390.55	5,293.31	0.00	0.00	0.00
17,500.00	90.55	359.51	12,059.41	5,381.45	-391.42	5,393.25	0.00	0.00	0.00
17,600.00	90.55	359.51	12,058.44	5,481.44	-392.28	5,493.19	0.00	0.00	0.00
17,700.00	90.55	359.51	12,057.48	5,581.43	-393.14	5,593.13	0.00	0.00	0.00
17,800.00	90.55	359.51	12,056.52	5,681.43	-394.00	5,693.06	0.00	0.00	0.00
17,900.00	90.55	359.51	12,055.55	5,781.42	-394.86	5,793.00	0.00	0.00	0.00
18,000.00	90.55	359.51	12,054.59	5,881.41	-395.73	5,892.94	0.00	0.00	0.00
18,100.00	90.55	359.51	12,053.63	5,981.40	-396.59	5,992.88	0.00	0.00	0.00
18,200.00	90.55	359.51	12,052.66	6,081.39	-397.45	6,092.81	0.00	0.00	0.00
18,300.00	90.55	359.51	12,051.70	6,181.38	-398.31	6,192.75	0.00	0.00	0.00
18,400.00	90.55	359.51	12,050.74	6,281.38	-399.17	6,292.69	0.00	0.00	0.00
18,500.00	90.55	359.51	12,049.77	6,381.37	-400.04	6,392.63	0.00	0.00	0.00
18,600.00	90.55	359.51	12,048.81	6,481.36	-400.90	6,492.56	0.00	0.00	0.00
18,700.00	90.55	359.51	12,047.85	6,581.35	-401.76	6,592.50	0.00	0.00	0.00
18,800.00	90.55	359.51	12,046.89	6,681.34	-402.62	6,692.44	0.00	0.00	0.00
18,900.00	90.55	359.51	12,045.92	6,781.33	-403.48	6,792.37	0.00	0.00	0.00
19,000.00	90.55	359.51	12,044.96	6,881.32	-404.35	6,892.31	0.00	0.00	0.00
19,100.00	90.55	359.51	12,044.00	6,981.32	-405.21	6,992.25	0.00	0.00	0.00
19,200.00	90.55	359.51	12,043.03	7,081.31	-406.07	7,092.19	0.00	0.00	0.00
19,300.00	90.55	359.51	12,042.07	7,181.30	-406.93	7,192.12	0.00	0.00	0.00
19,400.00	90.55	359.51	12,041.11	7,281.29	-407.79	7,292.06	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 701H
Company:	Franklin Mountain Energy	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Project:	Lea County, NM (NAD83)	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site:	1912 Fed Com	North Reference:	Grid
Well:	1912 Fed Com 701H	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	12,040.14	7,381.28	-408.66	7,392.00	0.00	0.00	0.00	
19,600.00	90.55	359.51	12,039.18	7,481.27	-409.52	7,491.94	0.00	0.00	0.00	
19,700.00	90.55	359.51	12,038.22	7,581.27	-410.38	7,591.87	0.00	0.00	0.00	
19,800.00	90.55	359.51	12,037.25	7,681.26	-411.24	7,691.81	0.00	0.00	0.00	
19,900.00	90.55	359.51	12,036.29	7,781.25	-412.10	7,791.75	0.00	0.00	0.00	
20,000.00	90.55	359.51	12,035.33	7,881.24	-412.97	7,891.69	0.00	0.00	0.00	
20,100.00	90.55	359.51	12,034.36	7,981.23	-413.83	7,991.62	0.00	0.00	0.00	
20,200.00	90.55	359.51	12,033.40	8,081.22	-414.69	8,091.56	0.00	0.00	0.00	
20,300.00	90.55	359.51	12,032.44	8,181.22	-415.55	8,191.50	0.00	0.00	0.00	
20,400.00	90.55	359.51	12,031.48	8,281.21	-416.41	8,291.43	0.00	0.00	0.00	
20,500.00	90.55	359.51	12,030.51	8,381.20	-417.28	8,391.37	0.00	0.00	0.00	
20,600.00	90.55	359.51	12,029.55	8,481.19	-418.14	8,491.31	0.00	0.00	0.00	
20,700.00	90.55	359.51	12,028.59	8,581.18	-419.00	8,591.25	0.00	0.00	0.00	
20,800.00	90.55	359.51	12,027.62	8,681.17	-419.86	8,691.18	0.00	0.00	0.00	
20,900.00	90.55	359.51	12,026.66	8,781.17	-420.72	8,791.12	0.00	0.00	0.00	
21,000.00	90.55	359.51	12,025.70	8,881.16	-421.59	8,891.06	0.00	0.00	0.00	
21,100.00	90.55	359.51	12,024.73	8,981.15	-422.45	8,991.00	0.00	0.00	0.00	
21,200.00	90.55	359.51	12,023.77	9,081.14	-423.31	9,090.93	0.00	0.00	0.00	
21,300.00	90.55	359.51	12,022.81	9,181.13	-424.17	9,190.87	0.00	0.00	0.00	
21,400.00	90.55	359.51	12,021.84	9,281.12	-425.03	9,290.81	0.00	0.00	0.00	
21,500.00	90.55	359.51	12,020.88	9,381.12	-425.90	9,390.75	0.00	0.00	0.00	
21,600.00	90.55	359.51	12,019.92	9,481.11	-426.76	9,490.68	0.00	0.00	0.00	
21,700.00	90.55	359.51	12,018.95	9,581.10	-427.62	9,590.62	0.00	0.00	0.00	
21,800.00	90.55	359.51	12,017.99	9,681.09	-428.48	9,690.56	0.00	0.00	0.00	
21,900.00	90.55	359.51	12,017.03	9,781.08	-429.34	9,790.49	0.00	0.00	0.00	
22,000.00	90.55	359.51	12,016.07	9,881.07	-430.21	9,890.43	0.00	0.00	0.00	
22,100.00	90.55	359.51	12,015.10	9,981.07	-431.07	9,990.37	0.00	0.00	0.00	
22,200.00	90.55	359.51	12,014.14	10,081.06	-431.93	10,090.31	0.00	0.00	0.00	
22,238.31	90.55	359.51	12,013.77	10,119.36	-432.26	10,128.59	0.00	0.00	0.00	
TD at 22238.31 - PBHL (1912 Fed Com 701H)										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude		Longitude
SHL (1912 Fed Com 701H) - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	404,987.32	852,758.67	32.109395		-103.327537
PBHL (1912 Fed Com 701H) - plan hits target center - Point	0.00	0.00	12,013.77	10,119.36	-432.26	415,106.68	852,326.41	32.137220		-103.328628
LP (1912 Fed Com 701H) - plan hits target center - Point	0.00	0.00	12,107.93	343.45	-347.99	405,330.77	852,410.68	32.110348		-103.328651



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well 1912 Fed Com 701H
Company:	Franklin Mountain Energy	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Project:	Lea County, NM (NAD83)	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site:	1912 Fed Com	North Reference:	Grid
Well:	1912 Fed Com 701H	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	
3,600.14	3,599.41	-11.84	-17.27	Start 3575.78 hold at 3600.14 MD	
7,175.92	7,155.59	-223.16	-325.73	Start Drop -1.50	
7,576.07	7,555.00	-235.00	-343.00	Start 3980.00 hold at 7576.07 MD	
11,556.07	11,535.00	-235.00	-343.00	Start DLS 10.00 TFO 359.51	
12,461.58	12,107.93	343.45	-347.99	Start 9776.72 hold at 12461.58 MD	
22,238.31	12,013.77	10,119.36	-432.26	TD at 22238.31	



Franklin Mountain Energy

Lea County, NM (NAD83)

1912 Fed Com

1912 Fed Com 701H

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 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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	22,238.22	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	3,197.20	34.99	19.11	2.203	CC, ES, SF	
1912 Fed Com 702H - OH - Plan #2	3,200.00	3,194.90	69.98	54.10	4.407	CC, ES	
1912 Fed Com 702H - OH - Plan #2	22,238.31	22,093.94	839.55	598.70	3.486	SF	
Santa Fe Fed/Zia Fed							
Santa Fe Fed Com 603H - OH - Plan #1	11,109.81	11,106.68	3,240.21	3,184.78	58.463	CC	
Santa Fe Fed Com 603H - OH - Plan #1	22,238.31	21,801.86	3,273.24	3,031.35	13.532	ES, SF	
Santa Fe Fed Com 705H - OH - Plan #1	11,402.36	11,372.62	3,604.18	3,547.60	63.698	CC	
Santa Fe Fed Com 705H - OH - Plan #1	22,238.31	22,050.87	3,605.04	3,360.66	14.752	ES, SF	
Zia Fed Com 604H - OH - Plan #1	3,200.00	3,155.90	3,841.99	3,826.19	243.272	CC, ES	
Zia Fed Com 604H - OH - Plan #1	22,238.31	21,709.92	4,306.90	4,063.69	17.708	SF	
Zia Fed Com 706H - OH - Plan #1	3,004.41	2,960.31	3,876.98	3,862.17	261.932	CC	
Zia Fed Com 706H - OH - Plan #1	3,100.00	3,029.63	3,877.17	3,861.95	254.793	ES	
Zia Fed Com 706H - OH - Plan #1	22,238.31	21,870.45	4,589.77	4,345.56	18.795	SF	
Trinity Fed/Santa Fe Fed							
Santa Fe Fed Com 704H - OH - Plan #1	2,500.00	2,469.70	1,757.99	1,745.71	143.169	CC	
Santa Fe Fed Com 704H - OH - Plan #1	2,600.00	2,552.62	1,758.33	1,745.59	138.047	ES	
Santa Fe Fed Com 704H - OH - Plan #1	22,238.31	22,005.71	2,688.74	2,446.76	11.111	SF	
Trinity Fed Com 602H - OH - Plan #1	11,205.86	11,197.80	1,448.44	1,392.50	25.892	CC	
Trinity Fed Com 602H - OH - Plan #1	22,238.31	21,883.94	1,506.60	1,272.37	6.432	ES, SF	
Trinity Fed Com 703H - OH - Plan #1	3,494.23	3,581.79	1,711.12	1,693.69	98.176	CC	
Trinity Fed Com 703H - OH - Plan #1	22,238.31	22,147.53	1,756.90	1,514.37	7.244	ES, SF	

Offset Design													Offset Site Error:	
1912 Fed Com - 1912 Fed Com 601H - OH - Plan #2													0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis			Distance							
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	+N/-S (usft)	+E/-W (usft)	(usft)	(usft)	(usft)			
0.00	0.00	0.00	0.00	0.00	0.00	89.39	0.37	34.99	35.10					
100.00	100.00	97.20	97.20	0.13	0.12	89.39	0.37	34.99	34.99	34.82	0.17	199.990		
200.00	200.00	197.20	197.20	0.48	0.47	89.39	0.37	34.99	34.99	34.31	0.68	51.662		
300.00	300.00	297.20	297.20	0.84	0.83	89.39	0.37	34.99	34.99	33.81	1.18	29.547		
400.00	400.00	397.20	397.20	1.20	1.19	89.39	0.37	34.99	34.99	33.30	1.69	20.690		
500.00	500.00	497.20	497.20	1.56	1.55	89.39	0.37	34.99	34.99	32.79	2.20	15.919		

CC - Min centre to center distance or 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 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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		
600.00	600.00	597.20	597.20	1.92	1.91	89.39	0.37	34.99	34.99	32.29	2.71	12.935		
700.00	700.00	697.20	697.20	2.28	2.27	89.39	0.37	34.99	34.99	31.78	3.21	10.894		
800.00	800.00	797.20	797.20	2.63	2.62	89.39	0.37	34.99	34.99	31.27	3.72	9.409		
900.00	900.00	897.20	897.20	2.99	2.98	89.39	0.37	34.99	34.99	30.77	4.23	8.280		
1,000.00	1,000.00	997.20	997.20	3.35	3.34	89.39	0.37	34.99	34.99	30.26	4.73	7.393		
1,100.00	1,100.00	1,097.20	1,097.20	3.71	3.70	89.39	0.37	34.99	34.99	29.75	5.24	6.678		
1,200.00	1,200.00	1,197.20	1,197.20	4.07	4.06	89.39	0.37	34.99	34.99	29.25	5.75	6.089		
1,300.00	1,300.00	1,297.20	1,297.20	4.43	4.42	89.39	0.37	34.99	34.99	28.74	6.25	5.595		
1,400.00	1,400.00	1,397.20	1,397.20	4.79	4.78	89.39	0.37	34.99	34.99	28.23	6.76	5.176		
1,500.00	1,500.00	1,497.20	1,497.20	5.14	5.13	89.39	0.37	34.99	34.99	27.72	7.27	4.815		
1,600.00	1,600.00	1,597.20	1,597.20	5.50	5.49	89.39	0.37	34.99	34.99	27.22	7.77	4.501		
1,700.00	1,700.00	1,697.20	1,697.20	5.86	5.85	89.39	0.37	34.99	34.99	26.71	8.28	4.225		
1,800.00	1,800.00	1,797.20	1,797.20	6.22	6.21	89.39	0.37	34.99	34.99	26.20	8.79	3.982		
1,900.00	1,900.00	1,897.20	1,897.20	6.58	6.57	89.39	0.37	34.99	34.99	25.70	9.30	3.764		
2,000.00	2,000.00	1,997.20	1,997.20	6.94	6.93	89.39	0.37	34.99	34.99	25.19	9.80	3.570		
2,100.00	2,100.00	2,097.20	2,097.20	7.29	7.28	89.39	0.37	34.99	34.99	24.68	10.31	3.394		
2,200.00	2,200.00	2,197.20	2,197.20	7.65	7.64	89.39	0.37	34.99	34.99	24.18	10.82	3.235		
2,300.00	2,300.00	2,297.20	2,297.20	8.01	8.00	89.39	0.37	34.99	34.99	23.67	11.32	3.090		
2,400.00	2,400.00	2,397.20	2,397.20	8.37	8.36	89.39	0.37	34.99	34.99	23.16	11.83	2.958		
2,500.00	2,500.00	2,497.20	2,497.20	8.73	8.72	89.39	0.37	34.99	34.99	22.65	12.34	2.836		
2,600.00	2,600.00	2,597.20	2,597.20	9.09	9.08	89.39	0.37	34.99	34.99	22.15	12.84	2.724		
2,700.00	2,700.00	2,697.20	2,697.20	9.45	9.44	89.39	0.37	34.99	34.99	21.64	13.35	2.621		
2,800.00	2,800.00	2,797.20	2,797.20	9.80	9.79	89.39	0.37	34.99	34.99	21.13	13.86	2.525		
2,900.00	2,900.00	2,897.20	2,897.20	10.16	10.15	89.39	0.37	34.99	34.99	20.63	14.37	2.436		
3,000.00	3,000.00	2,997.20	2,997.20	10.52	10.51	89.39	0.37	34.99	34.99	20.12	14.87	2.353		
3,100.00	3,100.00	3,097.20	3,097.20	10.88	10.87	89.39	0.37	34.99	34.99	19.61	15.38	2.275		
3,200.00	3,200.00	3,197.20	3,197.20	11.24	11.23	89.39	0.37	34.99	34.99	19.11	15.89	2.203 CC, ES, SF		
3,300.00	3,299.99	3,297.19	3,297.19	11.58	11.59	-147.34	0.37	34.99	36.09	19.70	16.38	2.203		
3,400.00	3,399.91	3,397.11	3,397.11	11.91	11.94	-150.39	0.37	34.99	39.45	22.58	16.87	2.338		
3,500.00	3,499.69	3,496.89	3,496.89	12.25	12.30	-154.45	0.37	34.99	45.25	27.90	17.36	2.607		
3,600.14	3,599.41	3,597.50	3,597.49	12.59	12.65	-157.65	-0.72	34.39	52.86	35.02	17.83	2.964		
3,700.00	3,698.72	3,698.08	3,697.99	12.93	12.97	-158.65	-4.14	32.53	60.02	41.73	18.29	3.281		
3,800.00	3,798.17	3,799.02	3,798.72	13.27	13.30	-157.73	-9.90	29.39	65.46	46.71	18.75	3.491		
3,900.00	3,897.62	3,899.30	3,898.62	13.62	13.63	-155.64	-17.45	25.29	69.59	50.38	19.22	3.621		
4,000.00	3,997.08	3,999.18	3,998.13	13.96	13.97	-153.69	-25.10	21.12	73.72	54.02	19.69	3.743		
4,100.00	4,096.53	4,099.07	4,097.63	14.32	14.30	-151.96	-32.75	16.95	77.92	57.75	20.17	3.862		
4,200.00	4,195.98	4,198.95	4,197.14	14.67	14.64	-150.40	-40.40	12.78	82.19	61.53	20.66	3.978		
4,300.00	4,295.43	4,298.84	4,296.64	15.03	14.98	-149.00	-48.05	8.62	86.51	65.36	21.14	4.091		
4,400.00	4,394.88	4,398.72	4,396.15	15.38	15.32	-147.73	-55.70	4.45	90.87	69.24	21.63	4.201		
4,500.00	4,494.34	4,498.61	4,495.65	15.74	15.66	-146.58	-63.35	0.28	95.28	73.16	22.12	4.307		
4,600.00	4,593.79	4,598.49	4,595.15	16.10	16.01	-145.53	-71.01	-3.89	99.72	77.11	22.62	4.409		
4,700.00	4,693.24	4,698.38	4,694.66	16.47	16.35	-144.57	-78.66	-8.05	104.20	81.09	23.11	4.508		
4,800.00	4,792.69	4,798.26	4,794.16	16.83	16.70	-143.69	-86.31	-12.22	108.70	85.09	23.61	4.604		
4,900.00	4,892.14	4,898.15	4,893.67	17.20	17.05	-142.88	-93.96	-16.39	113.22	89.11	24.11	4.696		
5,000.00	4,991.59	4,998.04	4,993.17	17.57	17.40	-142.14	-101.61	-20.56	117.76	93.15	24.61	4.785		
5,100.00	5,091.05	5,097.92	5,092.68	17.94	17.76	-141.44	-109.26	-24.72	122.33	97.21	25.11	4.871		
5,200.00	5,190.50	5,197.81	5,192.18	18.31	18.11	-140.80	-116.91	-28.89	126.90	101.29	25.62	4.953		
5,300.00	5,289.95	5,297.69	5,291.69	18.68	18.47	-140.21	-124.56	-33.06	131.50	105.37	26.13	5.033		
5,400.00	5,389.40	5,397.58	5,391.19	19.05	18.83	-139.65	-132.22	-37.23	136.11	109.47	26.64	5.110		
5,500.00	5,488.85	5,497.46	5,490.70	19.42	19.18	-139.13	-139.87	-41.39	140.73	113.58	27.15	5.184		
5,600.00	5,588.31	5,597.35	5,590.20	19.80	19.54	-138.64	-147.52	-45.56	145.36	117.70	27.66	5.256		
5,700.00	5,687.76	5,697.23	5,689.71	20.17	19.90	-138.18	-155.17	-49.73	150.00	121.83	28.17	5.325		

CC - Min centre to center distance or 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 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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		
5,800.00	5,787.21	5,797.12	5,789.21	20.55	20.27	-137.75	-162.82	-53.90	154.64	125.96	28.68	5.391		
5,900.00	5,886.66	5,897.00	5,888.71	20.92	20.63	-137.35	-170.47	-58.06	159.30	130.10	29.20	5.456		
6,000.00	5,986.11	5,996.89	5,988.22	21.30	20.99	-136.97	-178.12	-62.23	163.97	134.25	29.72	5.518		
6,100.00	6,085.56	6,096.77	6,087.72	21.68	21.35	-136.61	-185.77	-66.40	168.64	138.40	30.23	5.578		
6,200.00	6,185.02	6,196.66	6,187.23	22.06	21.72	-136.27	-193.43	-70.57	173.31	142.56	30.75	5.636		
6,300.00	6,284.47	6,296.54	6,286.73	22.44	22.08	-135.94	-201.08	-74.73	178.00	146.73	31.27	5.692		
6,400.00	6,383.92	6,396.43	6,386.24	22.82	22.45	-135.64	-208.73	-78.90	182.69	150.89	31.79	5.746		
6,500.00	6,483.37	6,496.32	6,485.74	23.20	22.82	-135.35	-216.38	-83.07	187.38	155.07	32.31	5.799		
6,600.00	6,582.82	6,595.76	6,584.82	23.58	23.18	-135.10	-223.91	-87.17	192.11	159.28	32.83	5.851		
6,700.00	6,682.28	6,694.04	6,682.87	23.96	23.54	-135.39	-229.69	-90.32	197.45	164.10	33.34	5.922		
6,800.00	6,781.73	6,792.12	6,780.86	24.34	23.89	-136.33	-233.26	-92.26	203.62	169.79	33.84	6.018		
6,900.00	6,881.18	6,889.87	6,878.60	24.72	24.23	-137.86	-234.62	-93.00	210.76	176.44	34.32	6.141		
7,000.00	6,980.63	6,989.10	6,977.83	25.11	24.57	-139.69	-234.63	-93.01	218.64	183.84	34.80	6.283		
7,100.00	7,080.08	7,088.55	7,077.28	25.49	24.91	-141.40	-234.63	-93.01	226.73	191.45	35.28	6.426		
7,175.92	7,155.59	7,164.06	7,152.79	25.78	25.17	-142.61	-234.63	-93.01	233.00	197.35	35.65	6.536		
7,200.00	7,179.54	7,188.01	7,176.74	25.87	25.26	-142.99	-234.63	-93.01	234.95	199.18	35.76	6.569		
7,300.00	7,279.18	7,287.64	7,276.38	26.25	25.60	-144.26	-234.63	-93.01	241.82	205.57	36.25	6.671		
7,400.00	7,379.00	7,387.47	7,376.20	26.62	25.94	-145.11	-234.63	-93.01	246.65	209.91	36.74	6.714		
7,500.00	7,478.94	7,487.41	7,476.14	26.97	26.29	-145.57	-234.63	-93.01	249.37	212.14	37.23	6.698		
7,576.07	7,555.00	7,563.47	7,552.20	27.23	26.55	89.92	-234.63	-93.01	249.99	212.39	37.60	6.649		
7,600.00	7,578.93	7,587.40	7,576.13	27.32	26.64	89.92	-234.63	-93.01	249.99	212.27	37.72	6.628		
7,700.00	7,678.93	7,687.40	7,676.13	27.65	26.98	89.92	-234.63	-93.01	249.99	211.79	38.20	6.543		
7,800.00	7,778.93	7,787.40	7,776.13	27.99	27.33	89.92	-234.63	-93.01	249.99	211.30	38.69	6.461		
7,900.00	7,878.93	7,887.40	7,876.13	28.33	27.68	89.92	-234.63	-93.01	249.99	210.81	39.18	6.380		
8,000.00	7,978.93	7,987.40	7,976.13	28.67	28.02	89.92	-234.63	-93.01	249.99	210.32	39.67	6.302		
8,100.00	8,078.93	8,087.40	8,076.13	29.01	28.37	89.92	-234.63	-93.01	249.99	209.83	40.16	6.225		
8,200.00	8,178.93	8,187.40	8,176.13	29.35	28.72	89.92	-234.63	-93.01	249.99	209.34	40.65	6.150		
8,300.00	8,278.93	8,287.40	8,276.13	29.69	29.07	89.92	-234.63	-93.01	249.99	208.85	41.14	6.076		
8,400.00	8,378.93	8,387.40	8,376.13	30.03	29.42	89.92	-234.63	-93.01	249.99	208.36	41.63	6.005		
8,500.00	8,478.93	8,487.40	8,476.13	30.37	29.76	89.92	-234.63	-93.01	249.99	207.87	42.12	5.935		
8,600.00	8,578.93	8,587.40	8,576.13	30.72	30.11	89.92	-234.63	-93.01	249.99	207.38	42.62	5.866		
8,700.00	8,678.93	8,687.40	8,676.13	31.06	30.46	89.92	-234.63	-93.01	249.99	206.88	43.11	5.799		
8,800.00	8,778.93	8,787.40	8,776.13	31.40	30.81	89.92	-234.63	-93.01	249.99	206.39	43.60	5.734		
8,900.00	8,878.93	8,887.40	8,876.13	31.74	31.16	89.92	-234.63	-93.01	249.99	205.90	44.09	5.670		
9,000.00	8,978.93	8,987.40	8,976.13	32.09	31.51	89.92	-234.63	-93.01	249.99	205.41	44.59	5.607		
9,100.00	9,078.93	9,087.40	9,076.13	32.43	31.86	89.92	-234.63	-93.01	249.99	204.91	45.08	5.546		
9,200.00	9,178.93	9,187.40	9,176.13	32.77	32.21	89.92	-234.63	-93.01	249.99	204.42	45.57	5.486		
9,300.00	9,278.93	9,287.40	9,276.13	33.12	32.56	89.92	-234.63	-93.01	249.99	203.92	46.07	5.427		
9,400.00	9,378.93	9,387.40	9,376.13	33.46	32.91	89.92	-234.63	-93.01	249.99	203.43	46.56	5.369		
9,500.00	9,478.93	9,487.40	9,476.13	33.81	33.26	89.92	-234.63	-93.01	249.99	202.94	47.05	5.313		
9,600.00	9,578.93	9,587.40	9,576.13	34.15	33.61	89.92	-234.63	-93.01	249.99	202.44	47.55	5.258		
9,700.00	9,678.93	9,687.40	9,676.13	34.50	33.96	89.92	-234.63	-93.01	249.99	201.95	48.04	5.203		
9,800.00	9,778.93	9,787.40	9,776.13	34.84	34.31	89.92	-234.63	-93.01	249.99	201.45	48.54	5.150		
9,900.00	9,878.93	9,887.40	9,876.13	35.19	34.67	89.92	-234.63	-93.01	249.99	200.96	49.03	5.098		
10,000.00	9,978.94	9,987.40	9,976.14	35.54	35.02	89.92	-234.63	-93.01	249.99	200.46	49.53	5.047		
10,100.00	10,078.94	10,087.40	10,076.14	35.88	35.37	89.92	-234.63	-93.01	249.99	199.96	50.03	4.997		
10,200.00	10,178.94	10,187.40	10,176.14	36.23	35.72	89.92	-234.63	-93.01	249.99	199.47	50.52	4.948		
10,300.00	10,278.94	10,287.40	10,276.14	36.58	36.07	89.92	-234.63	-93.01	249.99	198.97	51.02	4.900		
10,400.00	10,378.94	10,387.40	10,376.14	36.92	36.42	89.92	-234.63	-93.01	249.99	198.47	51.52	4.853		
10,500.00	10,478.94	10,487.40	10,476.14	37.27	36.78	89.92	-234.63	-93.01	249.99	197.98	52.01	4.806		
10,600.00	10,578.94	10,587.40	10,576.14	37.62	37.13	89.92	-234.63	-93.01	249.99	197.48	52.51	4.761		
10,700.00	10,678.94	10,687.40	10,676.14	37.97	37.48	89.92	-234.63	-93.01	249.99	196.98	53.01	4.716		

CC - Min centre to center distance or 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 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	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	
10,800.00	10,778.94	10,787.40	10,776.14	38.32	37.83	89.92	-234.63	-93.01	249.99	196.49	53.50	4.672		
10,900.00	10,878.94	10,887.40	10,876.14	38.66	38.19	89.92	-234.63	-93.01	249.99	195.99	54.00	4.629		
11,000.00	10,978.94	10,987.40	10,976.14	39.01	38.54	89.92	-234.63	-93.01	249.99	195.49	54.50	4.587		
11,100.00	11,078.94	11,087.40	11,076.14	39.36	38.89	89.92	-234.63	-93.01	249.99	194.99	55.00	4.546		
11,200.00	11,178.94	11,187.40	11,176.14	39.71	39.24	89.92	-234.63	-93.01	249.99	194.50	55.49	4.505		
11,300.00	11,278.94	11,287.45	11,276.14	40.06	39.59	89.52	-232.93	-93.02	249.98	194.00	55.99	4.465		
11,301.07	11,280.00	11,288.52	11,277.20	40.06	39.60	89.51	-232.84	-93.03	249.98	193.99	55.99	4.465		
11,400.00	11,378.94	11,384.90	11,372.19	40.41	39.91	85.93	-217.22	-93.16	250.50	194.09	56.41	4.441		
11,500.00	11,478.94	11,474.70	11,457.19	40.76	40.18	79.45	-188.52	-93.41	254.59	197.96	56.63	4.496		
11,556.07	11,535.00	11,520.53	11,498.56	40.95	40.31	75.15	-168.85	-93.58	260.23	203.70	56.53	4.604		
11,600.00	11,578.89	11,554.68	11,528.30	41.10	40.40	71.73	-152.07	-93.72	266.52	210.22	56.30	4.734		
11,650.00	11,628.51	11,592.69	11,560.16	41.27	40.49	67.56	-131.35	-93.90	274.94	219.05	55.89	4.920		
11,700.00	11,677.43	11,629.91	11,589.96	41.43	40.58	63.70	-109.05	-94.09	284.35	229.03	55.33	5.140		
11,750.00	11,725.25	11,666.45	11,617.74	41.58	40.66	60.19	-85.33	-94.30	294.42	239.78	54.64	5.388		
11,800.00	11,771.63	11,700.00	11,641.87	41.72	40.73	57.15	-62.03	-94.50	304.85	251.09	53.75	5.671		
11,850.00	11,816.21	11,737.79	11,667.37	41.85	40.81	54.16	-34.15	-94.74	315.33	262.32	53.01	5.949		
11,900.00	11,858.65	11,772.74	11,689.27	41.96	40.89	51.64	-6.92	-94.97	325.67	273.55	52.12	6.249		
11,950.00	11,898.62	11,807.30	11,709.24	42.06	40.96	49.41	21.27	-95.22	335.66	284.44	51.22	6.553		
12,000.00	11,935.83	11,841.51	11,727.31	42.15	41.04	47.46	50.31	-95.47	345.14	294.81	50.33	6.857		
12,050.00	11,969.99	11,875.42	11,743.48	42.22	41.11	45.77	80.12	-95.72	353.96	304.48	49.48	7.153		
12,100.00	12,000.83	11,909.08	11,757.76	42.28	41.19	44.32	110.59	-95.99	362.02	313.33	48.69	7.435		
12,150.00	12,028.14	11,950.00	11,772.67	42.33	41.28	42.95	148.69	-96.32	369.31	321.12	48.20	7.663		
12,200.00	12,051.68	11,975.78	11,780.65	42.37	41.34	42.09	173.20	-96.53	375.44	328.10	47.34	7.930		
12,250.00	12,071.30	12,008.89	11,789.27	42.41	41.42	41.27	205.16	-96.80	380.67	333.85	46.83	8.130		
12,300.00	12,086.83	12,050.00	11,797.38	42.51	41.52	40.56	245.45	-97.15	384.97	338.41	46.56	8.268		
12,350.00	12,098.17	12,074.79	11,800.87	42.64	41.58	40.18	270.00	-97.36	387.91	341.75	46.16	8.404		
12,400.00	12,105.22	12,100.00	11,803.33	42.76	41.65	39.92	295.08	-97.58	389.96	343.97	45.99	8.479		
12,450.00	12,107.93	12,140.46	11,804.95	42.89	41.75	39.79	335.50	-97.93	390.64	344.59	46.04	8.484		
12,461.58	12,107.93	12,152.81	11,804.88	42.92	41.78	39.78	347.85	-98.03	390.70	344.63	46.07	8.481		
12,466.69	12,107.88	12,152.81	11,804.88	42.93	41.78	39.78	347.85	-98.03	390.67	344.59	46.08	8.478		
12,500.00	12,107.56	12,183.99	11,804.36	43.03	41.87	39.76	379.02	-98.30	390.84	344.69	46.15	8.469		
12,600.00	12,106.60	12,283.99	11,802.69	43.34	42.18	39.70	479.00	-99.16	391.38	344.99	46.40	8.436		
12,700.00	12,105.64	12,383.99	11,801.03	43.71	42.56	39.63	578.98	-100.03	391.92	345.23	46.70	8.393		
12,800.00	12,104.67	12,483.98	11,799.36	44.14	43.00	39.57	678.96	-100.89	392.46	345.41	47.05	8.341		
12,900.00	12,103.71	12,583.98	11,797.70	44.63	43.49	39.50	778.94	-101.75	393.00	345.54	47.46	8.281		
13,000.00	12,102.75	12,683.98	11,796.04	45.16	44.04	39.44	878.92	-102.61	393.55	345.62	47.92	8.212		
13,100.00	12,101.78	12,783.98	11,794.37	45.75	44.65	39.37	978.90	-103.47	394.09	345.66	48.43	8.137		
13,200.00	12,100.82	12,883.97	11,792.71	46.39	45.31	39.31	1,078.88	-104.34	394.63	345.64	48.99	8.056		
13,300.00	12,099.86	12,983.97	11,791.04	47.08	46.01	39.24	1,178.86	-105.20	395.17	345.58	49.59	7.968		
13,400.00	12,098.89	13,083.97	11,789.38	47.81	46.77	39.18	1,278.84	-106.06	395.72	345.48	50.24	7.877		
13,500.00	12,097.93	13,183.97	11,787.71	48.59	47.57	39.11	1,378.82	-106.92	396.26	345.33	50.93	7.781		
13,600.00	12,096.97	13,283.96	11,786.05	49.41	48.41	39.05	1,478.80	-107.78	396.81	345.15	51.66	7.682		
13,700.00	12,096.00	13,383.96	11,784.38	50.28	49.30	38.99	1,578.78	-108.65	397.35	344.93	52.42	7.580		
13,800.00	12,095.04	13,483.96	11,782.72	51.18	50.22	38.92	1,678.76	-109.51	397.90	344.68	53.22	7.476		
13,900.00	12,094.08	13,583.96	11,781.05	52.12	51.18	38.86	1,778.74	-110.37	398.44	344.39	54.05	7.371		
14,000.00	12,093.11	13,683.95	11,779.39	53.09	52.17	38.80	1,878.72	-111.23	398.99	344.07	54.92	7.265		
14,100.00	12,092.15	13,783.95	11,777.72	54.09	53.20	38.73	1,978.70	-112.10	399.54	343.72	55.81	7.159		
14,200.00	12,091.19	13,883.95	11,776.06	55.13	54.26	38.67	2,078.68	-112.96	400.08	343.35	56.73	7.052		
14,300.00	12,090.23	13,983.95	11,774.39	56.19	55.34	38.61	2,178.66	-113.82	400.63	342.95	57.68	6.946		
14,400.00	12,089.26	14,083.94	11,772.73	57.29	56.46	38.54	2,278.64	-114.68	401.18	342.53	58.65	6.840		
14,500.00	12,088.30	14,183.94	11,771.06	58.41	57.60	38.48	2,378.62	-115.54	401.73	342.09	59.64	6.736		
14,600.00	12,087.34	14,283.94	11,769.40	59.55	58.76	38.42	2,478.60	-116.41	402.28	341.62	60.66	6.632		

CC - Min centre to center distance or 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 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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		
14,700.00	12,086.37	14,383.94	11,767.73	60.72	59.95	38.36	2,578.58	-117.27	402.83	341.14	61.69	6.530		
14,800.00	12,085.41	14,483.93	11,766.07	61.91	61.16	38.30	2,678.56	-118.13	403.38	340.64	62.74	6.429		
14,900.00	12,084.45	14,583.93	11,764.40	63.12	62.39	38.23	2,778.54	-118.99	403.93	340.12	63.81	6.330		
15,000.00	12,083.48	14,683.93	11,762.74	64.34	63.64	38.17	2,878.52	-119.85	404.48	339.59	64.89	6.233		
15,100.00	12,082.52	14,783.93	11,761.07	65.59	64.90	38.11	2,978.50	-120.72	405.03	339.04	65.99	6.138		
15,200.00	12,081.56	14,883.92	11,759.41	66.86	66.19	38.05	3,078.48	-121.58	405.59	338.48	67.10	6.044		
15,300.00	12,080.59	14,983.92	11,757.74	68.14	67.48	37.99	3,178.46	-122.44	406.14	337.91	68.23	5.953		
15,400.00	12,079.63	15,083.92	11,756.08	69.44	68.80	37.93	3,278.44	-123.30	406.69	337.33	69.36	5.863		
15,500.00	12,078.67	15,183.92	11,754.41	70.75	70.13	37.87	3,378.42	-124.16	407.25	336.74	70.51	5.776		
15,600.00	12,077.70	15,283.91	11,752.75	72.08	71.47	37.81	3,478.40	-125.03	407.80	336.14	71.66	5.691		
15,700.00	12,076.74	15,383.91	11,751.08	73.42	72.82	37.75	3,578.38	-125.89	408.35	335.53	72.83	5.607		
15,800.00	12,075.78	15,483.91	11,749.42	74.77	74.19	37.69	3,678.36	-126.75	408.91	334.91	74.00	5.526		
15,900.00	12,074.82	15,583.91	11,747.75	76.13	75.57	37.63	3,778.34	-127.61	409.46	334.28	75.18	5.446		
16,000.00	12,073.85	15,683.90	11,746.09	77.51	76.96	37.57	3,878.32	-128.48	410.02	333.65	76.37	5.369		
16,100.00	12,072.89	15,783.90	11,744.43	78.89	78.36	37.51	3,978.30	-129.34	410.58	333.02	77.56	5.294		
16,200.00	12,071.93	15,883.90	11,742.76	80.29	79.77	37.45	4,078.28	-130.20	411.13	332.38	78.76	5.220		
16,300.00	12,070.96	15,983.90	11,741.10	81.69	81.18	37.39	4,178.26	-131.06	411.69	331.73	79.96	5.148		
16,400.00	12,070.00	16,083.89	11,739.43	83.11	82.61	37.33	4,278.24	-131.92	412.25	331.08	81.17	5.079		
16,500.00	12,069.04	16,183.89	11,737.77	84.53	84.05	37.27	4,378.22	-132.79	412.81	330.42	82.39	5.011		
16,600.00	12,068.07	16,283.89	11,736.10	85.96	85.49	37.21	4,478.20	-133.65	413.37	329.76	83.60	4.944		
16,700.00	12,067.11	16,383.89	11,734.44	87.40	86.94	37.15	4,578.18	-134.51	413.92	329.10	84.82	4.880		
16,800.00	12,066.15	16,483.88	11,732.77	88.85	88.40	37.09	4,678.16	-135.37	414.48	328.44	86.05	4.817		
16,900.00	12,065.18	16,583.88	11,731.11	90.30	89.86	37.03	4,778.14	-136.23	415.04	327.77	87.28	4.756		
17,000.00	12,064.22	16,683.88	11,729.44	91.76	91.33	36.98	4,878.12	-137.10	415.60	327.10	88.51	4.696		
17,100.00	12,063.26	16,783.88	11,727.78	93.23	92.81	36.92	4,978.10	-137.96	416.17	326.43	89.74	4.638		
17,200.00	12,062.30	16,883.87	11,726.11	94.70	94.29	36.86	5,078.08	-138.82	416.73	325.76	90.97	4.581		
17,300.00	12,061.33	16,983.87	11,724.45	96.18	95.78	36.80	5,178.06	-139.68	417.29	325.08	92.21	4.526		
17,400.00	12,060.37	17,083.87	11,722.78	97.66	97.27	36.74	5,278.04	-140.55	417.85	324.41	93.44	4.472		
17,500.00	12,059.41	17,183.87	11,721.12	99.15	98.77	36.69	5,378.02	-141.41	418.41	323.73	94.68	4.419		
17,600.00	12,058.44	17,283.86	11,719.45	100.64	100.27	36.63	5,478.00	-142.27	418.98	323.06	95.92	4.368		
17,700.00	12,057.48	17,383.86	11,717.79	102.14	101.78	36.57	5,577.98	-143.13	419.54	322.38	97.16	4.318		
17,800.00	12,056.52	17,483.86	11,716.12	103.65	103.29	36.51	5,677.96	-143.99	420.10	321.70	98.40	4.269		
17,900.00	12,055.55	17,583.86	11,714.46	105.15	104.81	36.46	5,777.94	-144.86	420.67	321.03	99.64	4.222		
18,000.00	12,054.59	17,683.85	11,712.79	106.67	106.33	36.40	5,877.92	-145.72	421.23	320.35	100.88	4.176		
18,100.00	12,053.63	17,783.85	11,711.13	108.18	107.85	36.34	5,977.90	-146.58	421.80	319.67	102.12	4.130		
18,200.00	12,052.66	17,883.85	11,709.46	109.70	109.38	36.29	6,077.88	-147.44	422.36	319.00	103.36	4.086		
18,300.00	12,051.70	17,983.85	11,707.80	111.23	110.91	36.23	6,177.86	-148.30	422.93	318.32	104.60	4.043		
18,400.00	12,050.74	18,083.84	11,706.13	112.75	112.44	36.18	6,277.84	-149.17	423.49	317.65	105.84	4.001		
18,500.00	12,049.77	18,183.84	11,704.47	114.29	113.98	36.12	6,377.82	-150.03	424.06	316.97	107.09	3.960		
18,600.00	12,048.81	18,283.84	11,702.80	115.82	115.52	36.06	6,477.80	-150.89	424.63	316.30	108.32	3.920		
18,700.00	12,047.85	18,383.84	11,701.14	117.36	117.07	36.01	6,577.78	-151.75	425.19	315.63	109.56	3.881		
18,800.00	12,046.89	18,483.84	11,699.47	118.90	118.62	35.95	6,677.76	-152.61	425.76	314.96	110.80	3.843		
18,900.00	12,045.92	18,583.83	11,697.81	120.44	120.17	35.90	6,777.74	-153.48	426.33	314.29	112.04	3.805		
19,000.00	12,044.96	18,683.83	11,696.14	121.99	121.72	35.84	6,877.72	-154.34	426.90	313.62	113.28	3.769		
19,100.00	12,044.00	18,783.83	11,694.48	123.54	123.27	35.79	6,977.70	-155.20	427.47	312.95	114.51	3.733		
19,200.00	12,043.03	18,883.83	11,692.82	125.09	124.83	35.73	7,077.68	-156.06	428.04	312.29	115.75	3.698		
19,300.00	12,042.07	18,983.82	11,691.15	126.64	126.39	35.68	7,177.66	-156.93	428.61	311.62	116.98	3.664		
19,400.00	12,041.11	19,083.82	11,689.49	128.20	127.95	35.62	7,277.64	-157.79	429.18	310.96	118.22	3.630		
19,500.00	12,040.14	19,183.82	11,687.82	129.76	129.52	35.57	7,377.62	-158.65	429.75	310.30	119.45	3.598		
19,600.00	12,039.18	19,283.82	11,686.16	131.32	131.08	35.51	7,477.60	-159.51	430.32	309.64	120.68	3.566		
19,700.00	12,038.22	19,383.81	11,684.49	132.88	132.65	35.46	7,577.58	-160.37	430.89	308.98	121.91	3.534		
19,800.00	12,037.25	19,483.81	11,682.83	134.45	134.22	35.41	7,677.56	-161.24	431.46	308.32	123.14	3.504		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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		
19,900.00	12,036.29	19,583.81	11,681.16	136.02	135.80	35.35	7,777.54	-162.10	432.03	307.67	124.37	3.474		
20,000.00	12,035.33	19,683.81	11,679.50	137.59	137.37	35.30	7,877.52	-162.96	432.61	307.01	125.59	3.444		
20,100.00	12,034.36	19,783.80	11,677.83	139.16	138.95	35.24	7,977.50	-163.82	433.18	306.36	126.82	3.416		
20,200.00	12,033.40	19,883.80	11,676.17	140.73	140.52	35.19	8,077.48	-164.68	433.75	305.71	128.04	3.388		
20,300.00	12,032.44	19,983.80	11,674.50	142.31	142.10	35.14	8,177.46	-165.55	434.33	305.06	129.27	3.360		
20,400.00	12,031.48	20,083.80	11,672.84	143.88	143.69	35.08	8,277.44	-166.41	434.90	304.41	130.49	3.333		
20,500.00	12,030.51	20,183.79	11,671.17	145.46	145.27	35.03	8,377.42	-167.27	435.47	303.77	131.71	3.306		
20,600.00	12,029.55	20,283.79	11,669.51	147.04	146.85	34.98	8,477.40	-168.13	436.05	303.12	132.92	3.280		
20,700.00	12,028.59	20,383.79	11,667.84	148.62	148.44	34.92	8,577.38	-168.99	436.62	302.48	134.14	3.255		
20,800.00	12,027.62	20,483.79	11,666.18	150.21	150.03	34.87	8,677.36	-169.86	437.20	301.84	135.36	3.230		
20,900.00	12,026.66	20,583.78	11,664.51	151.79	151.61	34.82	8,777.34	-170.72	437.78	301.20	136.57	3.205		
21,000.00	12,025.70	20,683.78	11,662.85	153.38	153.20	34.77	8,877.32	-171.58	438.35	300.57	137.78	3.181		
21,100.00	12,024.73	20,783.78	11,661.18	154.96	154.80	34.71	8,977.30	-172.44	438.93	299.93	138.99	3.158		
21,200.00	12,023.77	20,883.78	11,659.52	156.55	156.39	34.66	9,077.28	-173.31	439.51	299.30	140.20	3.135		
21,300.00	12,022.81	20,983.77	11,657.85	158.14	157.98	34.61	9,177.26	-174.17	440.08	298.67	141.41	3.112		
21,400.00	12,021.84	21,083.77	11,656.19	159.73	159.58	34.56	9,277.24	-175.03	440.66	298.04	142.62	3.090		
21,500.00	12,020.88	21,183.77	11,654.52	161.33	161.17	34.51	9,377.22	-175.89	441.24	297.41	143.82	3.068		
21,600.00	12,019.92	21,283.77	11,652.86	162.92	162.77	34.46	9,477.20	-176.75	441.82	296.79	145.03	3.046		
21,700.00	12,018.95	21,383.76	11,651.19	164.51	164.37	34.40	9,577.18	-177.62	442.40	296.17	146.23	3.025		
21,800.00	12,017.99	21,483.76	11,649.53	166.11	165.97	34.35	9,677.16	-178.48	442.97	295.54	147.43	3.005		
21,900.00	12,017.03	21,583.76	11,647.86	167.71	167.57	34.30	9,777.14	-179.34	443.55	294.92	148.63	2.984		
22,000.00	12,016.07	21,683.76	11,646.20	169.31	169.17	34.25	9,877.12	-180.20	444.13	294.31	149.83	2.964		
22,100.00	12,015.10	21,783.75	11,644.53	170.90	170.77	34.20	9,977.10	-181.06	444.71	293.69	151.02	2.945		
22,200.00	12,014.14	21,883.75	11,642.87	172.50	172.37	34.15	10,077.08	-181.93	445.29	293.07	152.22	2.925		
22,238.31	12,013.77	21,922.06	11,642.23	173.12	172.99	34.13	10,115.38	-182.26	445.52	292.84	152.68	2.918		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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 702H - OH - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance				Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)		Minimum Separation (usft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	89.40	0.73	69.98	70.17					
100.00	100.00	94.90	94.90	0.13	0.12	89.40	0.73	69.98	69.98	69.81		0.17	404.603	
200.00	200.00	194.90	194.90	0.48	0.47	89.40	0.73	69.98	69.98	69.31		0.67	104.207	
300.00	300.00	294.90	294.90	0.84	0.82	89.40	0.73	69.98	69.98	68.81		1.18	59.384	
400.00	400.00	394.90	394.90	1.20	1.18	89.40	0.73	69.98	69.98	68.30		1.69	41.523	
500.00	500.00	494.90	494.90	1.56	1.54	89.40	0.73	69.98	69.98	67.79		2.19	31.922	
600.00	600.00	594.90	594.90	1.92	1.90	89.40	0.73	69.98	69.98	67.28		2.70	25.927	
700.00	700.00	694.90	694.90	2.28	2.26	89.40	0.73	69.98	69.98	66.78		3.21	21.827	
800.00	800.00	794.90	794.90	2.63	2.62	89.40	0.73	69.98	69.98	66.27		3.71	18.847	
900.00	900.00	894.90	894.90	2.99	2.97	89.40	0.73	69.98	69.98	65.76		4.22	16.583	
1,000.00	1,000.00	994.90	994.90	3.35	3.33	89.40	0.73	69.98	69.98	65.26		4.73	14.805	
1,100.00	1,100.00	1,094.90	1,094.90	3.71	3.69	89.40	0.73	69.98	69.98	64.75		5.23	13.371	
1,200.00	1,200.00	1,194.90	1,194.90	4.07	4.05	89.40	0.73	69.98	69.98	64.24		5.74	12.190	
1,300.00	1,300.00	1,294.90	1,294.90	4.43	4.41	89.40	0.73	69.98	69.98	63.74		6.25	11.201	
1,400.00	1,400.00	1,394.90	1,394.90	4.79	4.77	89.40	0.73	69.98	69.98	63.23		6.75	10.360	
1,500.00	1,500.00	1,494.90	1,494.90	5.14	5.13	89.40	0.73	69.98	69.98	62.72		7.26	9.637	
1,600.00	1,600.00	1,594.90	1,594.90	5.50	5.48	89.40	0.73	69.98	69.98	62.21		7.77	9.008	
1,700.00	1,700.00	1,694.90	1,694.90	5.86	5.84	89.40	0.73	69.98	69.98	61.71		8.28	8.456	
1,800.00	1,800.00	1,794.90	1,794.90	6.22	6.20	89.40	0.73	69.98	69.98	61.20		8.78	7.968	
1,900.00	1,900.00	1,894.90	1,894.90	6.58	6.56	89.40	0.73	69.98	69.98	60.69		9.29	7.533	
2,000.00	2,000.00	1,994.90	1,994.90	6.94	6.92	89.40	0.73	69.98	69.98	60.19		9.80	7.144	
2,100.00	2,100.00	2,094.90	2,094.90	7.29	7.28	89.40	0.73	69.98	69.98	59.68		10.30	6.792	
2,200.00	2,200.00	2,194.90	2,194.90	7.65	7.64	89.40	0.73	69.98	69.98	59.17		10.81	6.474	
2,300.00	2,300.00	2,294.90	2,294.90	8.01	7.99	89.40	0.73	69.98	69.98	58.67		11.32	6.184	
2,400.00	2,400.00	2,394.90	2,394.90	8.37	8.35	89.40	0.73	69.98	69.98	58.16		11.82	5.919	
2,500.00	2,500.00	2,494.90	2,494.90	8.73	8.71	89.40	0.73	69.98	69.98	57.65		12.33	5.675	
2,600.00	2,600.00	2,594.90	2,594.90	9.09	9.07	89.40	0.73	69.98	69.98	57.15		12.84	5.451	
2,700.00	2,700.00	2,694.90	2,694.90	9.45	9.43	89.40	0.73	69.98	69.98	56.64		13.35	5.244	
2,800.00	2,800.00	2,794.90	2,794.90	9.80	9.79	89.40	0.73	69.98	69.98	56.13		13.85	5.052	
2,900.00	2,900.00	2,894.90	2,894.90	10.16	10.14	89.40	0.73	69.98	69.98	55.62		14.36	4.874	
3,000.00	3,000.00	2,994.90	2,994.90	10.52	10.50	89.40	0.73	69.98	69.98	55.12		14.87	4.708	
3,100.00	3,100.00	3,094.90	3,094.90	10.88	10.86	89.40	0.73	69.98	69.98	54.61		15.37	4.552	
3,200.00	3,200.00	3,194.90	3,194.90	11.24	11.22	89.40	0.73	69.98	69.98	54.10		15.88	4.407 CC, ES	
3,300.00	3,299.99	3,293.38	3,293.37	11.58	11.56	-146.28	0.16	70.97	72.07	55.71		16.36	4.405	
3,400.00	3,399.91	3,391.50	3,391.42	11.91	11.89	-146.43	-1.65	74.15	78.55	61.74		16.81	4.672	
3,500.00	3,499.69	3,489.07	3,488.79	12.25	12.22	-146.61	-4.69	79.48	89.40	72.14		17.26	5.181	
3,600.14	3,599.41	3,585.94	3,585.28	12.59	12.54	-146.76	-8.92	86.90	104.61	86.91		17.69	5.912	
3,700.00	3,698.72	3,682.07	3,680.79	12.93	12.87	-146.70	-14.31	96.34	122.95	104.82		18.13	6.783	
3,800.00	3,798.17	3,780.22	3,778.22	13.27	13.21	-146.47	-20.23	106.73	142.07	123.47		18.60	7.639	
3,900.00	3,897.62	3,878.38	3,875.64	13.62	13.55	-146.30	-26.16	117.12	161.19	142.12		19.07	8.452	
4,000.00	3,997.08	3,976.53	3,973.06	13.96	13.90	-146.17	-32.09	127.52	180.31	160.76		19.55	9.225	
4,100.00	4,096.53	4,074.68	4,070.48	14.32	14.25	-146.06	-38.01	137.91	199.43	179.41		20.02	9.959	
4,200.00	4,195.98	4,172.84	4,167.90	14.67	14.60	-145.96	-43.94	148.30	218.55	198.05		20.51	10.658	
4,300.00	4,295.43	4,270.99	4,265.33	15.03	14.95	-145.89	-49.87	158.69	237.68	216.69		20.99	11.324	
4,400.00	4,394.88	4,369.15	4,362.75	15.38	15.31	-145.82	-55.80	169.08	256.80	235.33		21.47	11.959	
4,500.00	4,494.34	4,467.30	4,460.17	15.74	15.67	-145.77	-61.72	179.47	275.92	253.96		21.96	12.565	
4,600.00	4,593.79	4,565.45	4,557.59	16.10	16.03	-145.72	-67.65	189.86	295.05	272.60		22.45	13.143	
4,700.00	4,693.24	4,663.61	4,655.02	16.47	16.39	-145.68	-73.58	200.25	314.17	291.23		22.94	13.696	
4,800.00	4,792.69	4,761.76	4,752.44	16.83	16.76	-145.64	-79.50	210.64	333.29	309.86		23.43	14.224	
4,900.00	4,892.14	4,859.92	4,849.86	17.20	17.12	-145.60	-85.43	221.04	352.42	328.49		23.93	14.730	
5,000.00	4,991.59	4,958.07	4,947.28	17.57	17.49	-145.57	-91.36	231.43	371.54	347.12		24.42	15.215	
5,100.00	5,091.05	5,056.22	5,044.71	17.94	17.86	-145.55	-97.28	241.82	390.67	365.75		24.92	15.679	

CC - Min centre to center distance or 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 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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 702H - OH - Plan #2													Offset Site Error: 0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.00	5,190.50	5,154.38	5,142.13	18.31	18.23	-145.52	-103.21	252.21	409.79	384.38	25.41	16.125	
5,300.00	5,289.95	5,252.53	5,239.55	18.68	18.60	-145.50	-109.14	262.60	428.92	403.00	25.91	16.553	
5,400.00	5,389.40	5,350.69	5,336.97	19.05	18.98	-145.48	-115.06	272.99	448.04	421.63	26.41	16.963	
5,500.00	5,488.85	5,448.84	5,434.40	19.42	19.35	-145.46	-120.99	283.38	467.17	440.25	26.91	17.358	
5,600.00	5,588.31	5,547.00	5,531.82	19.80	19.73	-145.44	-126.92	293.77	486.29	458.88	27.41	17.738	
5,700.00	5,687.76	5,645.15	5,629.24	20.17	20.10	-145.43	-132.85	304.16	505.41	477.50	27.92	18.104	
5,800.00	5,787.21	5,743.30	5,726.66	20.55	20.48	-145.41	-138.77	314.56	524.54	496.12	28.42	18.456	
5,900.00	5,886.66	5,841.46	5,824.09	20.92	20.86	-145.40	-144.70	324.95	543.66	514.74	28.93	18.795	
6,000.00	5,986.11	5,939.61	5,921.51	21.30	21.24	-145.39	-150.63	335.34	562.79	533.36	29.43	19.122	
6,100.00	6,085.56	6,037.77	6,018.93	21.68	21.62	-145.37	-156.55	345.73	581.91	551.98	29.94	19.437	
6,200.00	6,185.02	6,135.92	6,116.35	22.06	22.00	-145.36	-162.48	356.12	601.04	570.59	30.45	19.742	
6,300.00	6,284.47	6,234.07	6,213.77	22.44	22.38	-145.35	-168.41	366.51	620.16	589.21	30.95	20.036	
6,400.00	6,383.92	6,332.23	6,311.20	22.82	22.76	-145.34	-174.33	376.90	639.29	607.83	31.46	20.320	
6,500.00	6,483.37	6,430.38	6,408.62	23.20	23.14	-145.33	-180.26	387.29	658.41	626.44	31.97	20.594	
6,600.00	6,582.82	6,528.54	6,506.04	23.58	23.53	-145.32	-186.19	397.68	677.54	645.06	32.48	20.860	
6,700.00	6,682.28	6,626.69	6,603.46	23.96	23.91	-145.31	-192.12	408.08	696.66	663.67	32.99	21.117	
6,800.00	6,781.73	6,724.84	6,700.89	24.34	24.29	-145.31	-198.04	418.47	715.79	682.29	33.50	21.366	
6,900.00	6,881.18	6,823.00	6,798.31	24.72	24.68	-145.30	-203.97	428.86	734.91	700.90	34.01	21.607	
7,000.00	6,980.63	6,921.15	6,896.73	25.11	25.07	-145.29	-209.90	439.25	754.04	719.51	34.53	21.840	
7,100.00	7,080.08	7,019.31	6,993.15	25.49	25.45	-145.29	-215.82	449.64	773.16	738.13	35.04	22.067	
7,175.92	7,155.59	7,094.41	7,067.70	25.78	25.75	-145.28	-220.36	457.59	787.68	752.25	35.43	22.232	
7,200.00	7,179.54	7,123.25	7,096.34	25.87	25.86	-145.32	-222.03	460.53	792.13	756.55	35.59	22.259	
7,300.00	7,279.18	7,244.01	7,216.51	26.25	26.32	-145.45	-227.89	470.79	807.62	771.40	36.22	22.298	
7,400.00	7,379.00	7,365.99	7,338.22	26.62	26.77	-145.55	-231.88	477.80	818.23	781.40	36.83	22.218	
7,500.00	7,478.94	7,488.74	7,460.90	26.97	27.21	-145.61	-233.96	481.44	823.91	786.51	37.41	22.027	
7,576.07	7,555.00	7,577.75	7,549.90	27.23	27.51	89.95	-234.27	481.98	824.98	787.17	37.81	21.818	
7,600.00	7,578.93	7,601.68	7,573.83	27.32	27.59	89.95	-234.27	481.98	824.98	787.05	37.93	21.752	
7,700.00	7,678.93	7,701.68	7,673.83	27.65	27.93	89.95	-234.27	481.98	824.98	786.57	38.41	21.477	
7,800.00	7,778.93	7,801.68	7,773.83	27.99	28.26	89.95	-234.27	481.98	824.98	786.08	38.90	21.210	
7,900.00	7,878.93	7,901.68	7,873.83	28.33	28.60	89.95	-234.27	481.98	824.98	785.60	39.38	20.948	
8,000.00	7,978.93	8,001.68	7,973.83	28.67	28.94	89.95	-234.27	481.98	824.98	785.11	39.87	20.693	
8,100.00	8,078.93	8,101.68	8,073.83	29.01	29.28	89.95	-234.27	481.98	824.98	784.63	40.36	20.443	
8,200.00	8,178.93	8,201.68	8,173.83	29.35	29.61	89.95	-234.27	481.98	824.98	784.14	40.84	20.199	
8,300.00	8,278.93	8,301.68	8,273.83	29.69	29.95	89.95	-234.27	481.98	824.98	783.65	41.33	19.961	
8,400.00	8,378.93	8,401.68	8,373.83	30.03	30.29	89.95	-234.27	481.98	824.98	783.16	41.82	19.728	
8,500.00	8,478.93	8,501.68	8,473.83	30.37	30.63	89.95	-234.27	481.98	824.98	782.67	42.31	19.500	
8,600.00	8,578.93	8,601.68	8,573.83	30.72	30.97	89.95	-234.27	481.98	824.98	782.18	42.80	19.277	
8,700.00	8,678.93	8,701.68	8,673.83	31.06	31.31	89.95	-234.27	481.98	824.98	781.70	43.29	19.059	
8,800.00	8,778.93	8,801.68	8,773.83	31.40	31.65	89.95	-234.27	481.98	824.98	781.21	43.77	18.846	
8,900.00	8,878.93	8,901.68	8,873.83	31.74	32.00	89.95	-234.27	481.98	824.98	780.72	44.27	18.637	
9,000.00	8,978.93	9,001.68	8,973.83	32.09	32.34	89.95	-234.27	481.98	824.98	780.22	44.76	18.433	
9,100.00	9,078.93	9,101.68	9,073.83	32.43	32.68	89.95	-234.27	481.98	824.98	779.73	45.25	18.233	
9,200.00	9,178.93	9,201.68	9,173.83	32.77	33.02	89.95	-234.27	481.98	824.98	779.24	45.74	18.037	
9,300.00	9,278.93	9,301.68	9,273.83	33.12	33.36	89.95	-234.27	481.98	824.98	778.75	46.23	17.845	
9,400.00	9,378.93	9,401.68	9,373.83	33.46	33.71	89.95	-234.27	481.98	824.98	778.26	46.72	17.657	
9,500.00	9,478.93	9,501.68	9,473.83	33.81	34.05	89.95	-234.27	481.98	824.98	777.77	47.21	17.473	
9,600.00	9,578.93	9,601.68	9,573.83	34.15	34.39	89.95	-234.27	481.98	824.98	777.27	47.71	17.293	
9,700.00	9,678.93	9,701.68	9,673.83	34.50	34.74	89.95	-234.27	481.98	824.98	776.78	48.20	17.116	
9,800.00	9,778.93	9,801.68	9,773.83	34.84	35.08	89.95	-234.27	481.98	824.98	776.29	48.69	16.943	
9,900.00	9,878.93	9,901.68	9,873.83	35.19	35.43	89.95	-234.27	481.98	824.98	775.79	49.19	16.773	
10,000.00	9,978.94	10,001.68	9,973.84	35.54	35.77	89.95	-234.27	481.98	824.98	775.30	49.68	16.606	
10,100.00	10,078.94	10,101.68	10,073.84	35.88	36.12	89.95	-234.27	481.98	824.98	774.81	50.17	16.443	

CC - Min centre to center distance or 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 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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 702H - OH - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
10,200.00	10,178.94	10,201.68	10,173.84	36.23	36.46	89.95	-234.27	481.98	824.98	774.31	50.67	16.282		
10,300.00	10,278.94	10,301.68	10,273.84	36.58	36.81	89.95	-234.27	481.98	824.98	773.82	51.16	16.125		
10,400.00	10,378.94	10,401.68	10,373.84	36.92	37.15	89.95	-234.27	481.98	824.98	773.32	51.66	15.970		
10,500.00	10,478.94	10,501.68	10,473.84	37.27	37.50	89.95	-234.27	481.98	824.98	772.83	52.15	15.819		
10,600.00	10,578.94	10,601.68	10,573.84	37.62	37.85	89.95	-234.27	481.98	824.98	772.33	52.65	15.670		
10,700.00	10,678.94	10,701.68	10,673.84	37.97	38.19	89.95	-234.27	481.98	824.98	771.84	53.14	15.524		
10,800.00	10,778.94	10,801.68	10,773.84	38.32	38.54	89.95	-234.27	481.98	824.98	771.34	53.64	15.381		
10,900.00	10,878.94	10,901.68	10,873.84	38.66	38.89	89.95	-234.27	481.98	824.98	770.85	54.13	15.240		
11,000.00	10,978.94	11,001.68	10,973.84	39.01	39.24	89.95	-234.27	481.98	824.98	770.35	54.63	15.101		
11,100.00	11,078.94	11,101.68	11,073.84	39.36	39.58	89.95	-234.27	481.98	824.98	769.85	55.13	14.965		
11,200.00	11,178.94	11,201.68	11,173.84	39.71	39.93	89.95	-234.27	481.98	824.98	769.36	55.62	14.832		
11,300.00	11,278.94	11,301.68	11,273.84	40.06	40.28	89.95	-234.27	481.98	824.98	768.86	56.12	14.701		
11,400.00	11,378.94	11,401.68	11,373.84	40.41	40.63	89.95	-234.27	481.98	824.98	768.36	56.62	14.572		
11,490.28	11,469.21	11,492.27	11,464.10	40.72	40.93	89.51	-227.91	481.93	824.96	767.90	57.06	14.458		
11,500.00	11,478.94	11,501.86	11,473.58	40.76	40.96	89.40	-226.41	481.91	824.96	767.85	57.11	14.446		
11,556.07	11,535.00	11,555.97	11,526.44	40.95	41.13	88.61	-214.97	481.82	825.07	767.70	57.37	14.382		
11,600.00	11,578.89	11,597.08	11,565.76	41.10	41.26	88.35	-202.98	481.71	825.32	767.76	57.56	14.338		
11,650.00	11,628.51	11,643.03	11,608.55	41.27	41.38	87.51	-186.28	481.57	825.79	768.02	57.77	14.294		
11,700.00	11,677.43	11,688.15	11,649.13	41.43	41.50	86.69	-166.60	481.40	826.42	768.46	57.97	14.257		
11,750.00	11,725.25	11,732.51	11,687.41	41.58	41.60	85.90	-144.19	481.21	827.20	769.06	58.14	14.227		
11,800.00	11,771.63	11,776.19	11,723.29	41.72	41.69	85.14	-119.30	481.00	828.09	769.79	58.30	14.204		
11,850.00	11,816.21	11,819.25	11,756.71	41.85	41.77	84.41	-92.15	480.77	829.08	770.64	58.44	14.187		
11,900.00	11,858.65	11,861.76	11,787.60	41.96	41.84	83.73	-62.97	480.52	830.13	771.57	58.57	14.174		
11,950.00	11,898.62	11,900.00	11,813.48	42.06	41.89	83.13	-34.83	480.28	831.23	772.57	58.66	14.171		
12,000.00	11,935.83	11,945.33	11,841.64	42.15	41.95	82.49	0.67	479.98	832.32	773.54	58.77	14.161		
12,050.00	11,969.99	11,986.49	11,864.71	42.22	41.98	81.94	34.76	479.68	833.40	774.53	58.86	14.158		
12,100.00	12,000.83	12,027.32	11,885.11	42.28	42.01	81.45	70.10	479.38	834.43	775.48	58.95	14.156		
12,150.00	12,028.14	12,067.84	11,902.83	42.33	42.03	81.01	106.54	479.07	835.39	776.36	59.03	14.152		
12,200.00	12,051.68	12,108.11	11,917.83	42.37	42.04	80.63	143.90	478.75	836.27	777.16	59.11	14.147		
12,250.00	12,071.30	12,150.00	11,930.62	42.41	42.06	80.29	183.78	478.41	837.03	777.83	59.21	14.137		
12,300.00	12,086.83	12,188.05	11,939.69	42.51	42.13	80.04	220.72	478.10	837.67	778.37	59.30	14.126		
12,350.00	12,098.17	12,227.80	11,946.51	42.64	42.23	79.84	259.87	477.76	838.16	778.75	59.41	14.109		
12,400.00	12,105.22	12,267.45	11,950.60	42.76	42.34	79.71	299.30	477.43	838.50	778.98	59.53	14.086		
12,450.00	12,107.93	12,307.04	11,951.96	42.89	42.44	79.64	338.86	477.09	838.69	779.02	59.66	14.057		
12,461.58	12,107.93	12,317.22	11,951.88	42.92	42.47	79.63	349.04	477.00	838.70	779.00	59.70	14.048		
12,500.00	12,107.56	12,355.64	11,951.51	43.03	42.58	79.63	387.45	476.68	838.71	778.87	59.84	14.016		
12,600.00	12,106.60	12,455.64	11,950.55	43.34	42.91	79.63	487.44	475.82	838.72	778.46	60.26	13.918		
12,700.00	12,105.64	12,555.64	11,949.59	43.71	43.29	79.63	587.44	474.97	838.72	777.96	60.76	13.804		
12,800.00	12,104.67	12,655.64	11,948.63	44.14	43.73	79.63	687.43	474.12	838.73	777.39	61.35	13.672		
12,900.00	12,103.71	12,755.64	11,947.66	44.63	44.22	79.63	787.42	473.26	838.74	776.73	62.01	13.526		
13,000.00	12,102.75	12,855.64	11,946.70	45.16	44.76	79.63	887.41	472.41	838.75	776.00	62.75	13.366		
13,100.00	12,101.78	12,955.64	11,945.74	45.75	45.35	79.63	987.40	471.56	838.76	775.19	63.57	13.194		
13,200.00	12,100.82	13,055.64	11,944.78	46.39	46.00	79.63	1,087.40	470.70	838.77	774.31	64.46	13.013		
13,300.00	12,099.86	13,155.64	11,943.81	47.08	46.69	79.63	1,187.39	469.85	838.78	773.36	65.42	12.822		
13,400.00	12,098.89	13,255.64	11,942.85	47.81	47.43	79.63	1,287.38	469.00	838.79	772.35	66.44	12.625		
13,500.00	12,097.93	13,355.64	11,941.89	48.59	48.22	79.63	1,387.37	468.14	838.79	771.27	67.53	12.422		
13,600.00	12,096.97	13,455.64	11,940.93	49.41	49.05	79.63	1,487.36	467.29	838.80	770.13	68.67	12.214		
13,700.00	12,096.00	13,555.64	11,939.96	50.28	49.91	79.63	1,587.35	466.44	838.81	768.93	69.88	12.004		
13,800.00	12,095.04	13,655.64	11,939.00	51.18	50.82	79.63	1,687.35	465.59	838.82	767.68	71.14	11.792		
13,900.00	12,094.08	13,755.64	11,938.04	52.12	51.76	79.63	1,787.34	464.73	838.83	766.38	72.45	11.579		
14,000.00	12,093.11	13,855.64	11,937.07	53.09	52.74	79.63	1,887.33	463.88	838.84	765.03	73.80	11.366		
14,100.00	12,092.15	13,955.64	11,936.11	54.09	53.75	79.63	1,987.32	463.03	838.85	763.64	75.21	11.153		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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 702H - OH - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,200.00	12,091.19	14,055.64	11,935.15	55.13	54.79	79.63	2,087.31	462.17	838.85	762.20	76.66	10.943		
14,300.00	12,090.23	14,155.64	11,934.19	56.19	55.86	79.63	2,187.30	461.32	838.86	760.72	78.15	10.735		
14,400.00	12,089.26	14,255.64	11,933.22	57.29	56.96	79.63	2,287.30	460.47	838.87	759.20	79.67	10.529		
14,500.00	12,088.30	14,355.64	11,932.26	58.41	58.08	79.63	2,387.29	459.61	838.88	757.64	81.24	10.326		
14,600.00	12,087.34	14,455.64	11,931.30	59.55	59.23	79.63	2,487.28	458.76	838.89	756.05	82.84	10.127		
14,700.00	12,086.37	14,555.64	11,930.34	60.72	60.41	79.63	2,587.27	457.91	838.90	754.43	84.47	9.932		
14,800.00	12,085.41	14,655.64	11,929.37	61.91	61.60	79.63	2,687.26	457.05	838.91	752.78	86.13	9.740		
14,900.00	12,084.45	14,755.64	11,928.41	63.12	62.81	79.63	2,787.25	456.20	838.91	751.10	87.82	9.553		
15,000.00	12,083.48	14,855.64	11,927.45	64.34	64.05	79.63	2,887.25	455.35	838.92	749.39	89.54	9.370		
15,100.00	12,082.52	14,955.64	11,926.48	65.59	65.30	79.63	2,987.24	454.49	838.93	747.65	91.28	9.191		
15,200.00	12,081.56	15,055.64	11,925.52	66.86	66.57	79.63	3,087.23	453.64	838.94	745.89	93.05	9.016		
15,300.00	12,080.59	15,155.64	11,924.56	68.14	67.86	79.63	3,187.22	452.79	838.95	744.11	94.84	8.846		
15,400.00	12,079.63	15,255.64	11,923.60	69.44	69.16	79.64	3,287.21	451.94	838.96	742.31	96.65	8.681		
15,500.00	12,078.67	15,355.64	11,922.63	70.75	70.48	79.64	3,387.21	451.08	838.97	740.49	98.48	8.519		
15,600.00	12,077.70	15,455.64	11,921.67	72.08	71.81	79.64	3,487.20	450.23	838.98	738.64	100.33	8.362		
15,700.00	12,076.74	15,555.64	11,920.71	73.42	73.15	79.64	3,587.19	449.38	838.98	736.78	102.20	8.209		
15,800.00	12,075.78	15,655.64	11,919.75	74.77	74.50	79.64	3,687.18	448.52	838.99	734.91	104.09	8.060		
15,900.00	12,074.82	15,755.64	11,918.78	76.13	75.87	79.64	3,787.17	447.67	839.00	733.01	105.99	7.916		
16,000.00	12,073.85	15,855.64	11,917.82	77.51	77.25	79.64	3,887.16	446.82	839.01	731.10	107.91	7.775		
16,100.00	12,072.89	15,955.64	11,916.86	78.89	78.64	79.64	3,987.16	445.96	839.02	729.18	109.84	7.638		
16,200.00	12,071.93	16,055.64	11,915.89	80.29	80.04	79.64	4,087.15	445.11	839.03	727.24	111.79	7.505		
16,300.00	12,070.96	16,155.64	11,914.93	81.69	81.45	79.64	4,187.14	444.26	839.04	725.29	113.75	7.376		
16,400.00	12,070.00	16,255.64	11,913.97	83.11	82.86	79.64	4,287.13	443.40	839.04	723.32	115.72	7.251		
16,500.00	12,069.04	16,355.64	11,913.01	84.53	84.29	79.64	4,387.12	442.55	839.05	721.35	117.70	7.128		
16,600.00	12,068.07	16,455.64	11,912.04	85.96	85.72	79.64	4,487.11	441.70	839.06	719.36	119.70	7.010		
16,700.00	12,067.11	16,555.64	11,911.08	87.40	87.17	79.64	4,587.11	440.84	839.07	717.36	121.71	6.894		
16,800.00	12,066.15	16,655.64	11,910.12	88.85	88.61	79.64	4,687.10	439.99	839.08	715.36	123.72	6.782		
16,900.00	12,065.18	16,755.64	11,909.16	90.30	90.07	79.64	4,787.09	439.14	839.09	713.34	125.75	6.673		
17,000.00	12,064.22	16,855.64	11,908.19	91.76	91.53	79.64	4,887.08	438.29	839.10	711.31	127.78	6.567		
17,100.00	12,063.26	16,955.64	11,907.23	93.23	93.00	79.64	4,987.07	437.43	839.11	709.28	129.83	6.463		
17,200.00	12,062.30	17,055.64	11,906.27	94.70	94.48	79.64	5,087.06	436.58	839.11	707.24	131.88	6.363		
17,300.00	12,061.33	17,155.64	11,905.30	96.18	95.96	79.64	5,187.06	435.73	839.12	705.19	133.94	6.265		
17,400.00	12,060.37	17,255.64	11,904.34	97.66	97.44	79.64	5,287.05	434.87	839.13	703.13	136.00	6.170		
17,500.00	12,059.41	17,355.64	11,903.38	99.15	98.94	79.64	5,387.04	434.02	839.14	701.06	138.08	6.077		
17,600.00	12,058.44	17,455.64	11,902.42	100.64	100.43	79.64	5,487.03	433.17	839.15	698.99	140.16	5.987		
17,700.00	12,057.48	17,555.64	11,901.45	102.14	101.93	79.64	5,587.02	432.31	839.16	696.91	142.25	5.899		
17,800.00	12,056.52	17,655.64	11,900.49	103.65	103.44	79.64	5,687.01	431.46	839.17	694.83	144.34	5.814		
17,900.00	12,055.55	17,755.64	11,899.53	105.15	104.95	79.64	5,787.01	430.61	839.17	692.74	146.44	5.731		
18,000.00	12,054.59	17,855.64	11,898.57	106.67	106.46	79.64	5,887.00	429.75	839.18	690.64	148.54	5.649		
18,100.00	12,053.63	17,955.64	11,897.60	108.18	107.98	79.64	5,986.99	428.90	839.19	688.54	150.66	5.570		
18,200.00	12,052.66	18,055.64	11,896.64	109.70	109.50	79.64	6,086.98	428.05	839.20	686.43	152.77	5.493		
18,300.00	12,051.70	18,155.64	11,895.68	111.23	111.03	79.64	6,186.97	427.19	839.21	684.32	154.89	5.418		
18,400.00	12,050.74	18,255.64	11,894.71	112.75	112.56	79.64	6,286.97	426.34	839.22	682.20	157.02	5.345		
18,500.00	12,049.77	18,355.64	11,893.75	114.29	114.09	79.64	6,386.96	425.49	839.23	680.08	159.15	5.273		
18,600.00	12,048.81	18,455.64	11,892.79	115.82	115.63	79.64	6,486.95	424.64	839.23	677.95	161.28	5.203		
18,700.00	12,047.85	18,555.64	11,891.83	117.36	117.17	79.64	6,586.94	423.78	839.24	675.82	163.42	5.135		
18,800.00	12,046.89	18,655.64	11,890.86	118.90	118.71	79.64	6,686.93	422.93	839.25	673.69	165.57	5.069		
18,900.00	12,045.92	18,755.64	11,889.90	120.44	120.25	79.64	6,786.92	422.08	839.26	671.55	167.71	5.004		
19,000.00	12,044.96	18,855.64	11,888.94	121.99	121.80	79.64	6,886.92	421.22	839.27	669.41	169.86	4.941		
19,100.00	12,044.00	18,955.64	11,887.98	123.54	123.35	79.64	6,986.91	420.37	839.28	667.26	172.02	4.879		
19,200.00	12,043.03	19,055.64	11,887.01	125.09	124.91	79.64	7,086.90	419.52	839.29	665.11	174.18	4.819		
19,300.00	12,042.07	19,155.64	11,886.05	126.64	126.46	79.64	7,186.89	418.66	839.30	662.96	176.34	4.760		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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 702H - OH - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,400.00	12,041.11	19,255.64	11,885.09	128.20	128.02	79.64	7,286.88	417.81	839.30	660.80	178.50	4.702		
19,500.00	12,040.14	19,355.64	11,884.12	129.76	129.58	79.64	7,386.87	416.96	839.31	658.65	180.67	4.646		
19,600.00	12,039.18	19,455.64	11,883.16	131.32	131.14	79.64	7,486.87	416.10	839.32	656.48	182.84	4.591		
19,700.00	12,038.22	19,555.64	11,882.20	132.88	132.71	79.64	7,586.86	415.25	839.33	654.32	185.01	4.537		
19,800.00	12,037.25	19,655.64	11,881.24	134.45	134.28	79.64	7,686.85	414.40	839.34	652.15	187.19	4.484		
19,900.00	12,036.29	19,755.64	11,880.27	136.02	135.84	79.64	7,786.84	413.54	839.35	649.98	189.36	4.432		
20,000.00	12,035.33	19,855.64	11,879.31	137.59	137.42	79.64	7,886.83	412.69	839.36	647.81	191.54	4.382		
20,100.00	12,034.36	19,955.64	11,878.35	139.16	138.99	79.64	7,986.82	411.84	839.36	645.64	193.73	4.333		
20,200.00	12,033.40	20,055.64	11,877.39	140.73	140.56	79.64	8,086.82	410.99	839.37	643.46	195.91	4.284		
20,300.00	12,032.44	20,155.64	11,876.42	142.31	142.14	79.64	8,186.81	410.13	839.38	641.28	198.10	4.237		
20,400.00	12,031.48	20,255.64	11,875.46	143.88	143.72	79.64	8,286.80	409.28	839.39	639.10	200.29	4.191		
20,500.00	12,030.51	20,355.64	11,874.50	145.46	145.30	79.64	8,386.79	408.43	839.40	636.92	202.48	4.146		
20,600.00	12,029.55	20,455.64	11,873.53	147.04	146.88	79.64	8,486.78	407.57	839.41	634.73	204.68	4.101		
20,700.00	12,028.59	20,555.64	11,872.57	148.62	148.46	79.64	8,586.77	406.72	839.42	632.54	206.87	4.058		
20,800.00	12,027.62	20,655.64	11,871.61	150.21	150.04	79.64	8,686.77	405.87	839.42	630.35	209.07	4.015		
20,900.00	12,026.66	20,755.64	11,870.65	151.79	151.63	79.64	8,786.76	405.01	839.43	628.16	211.27	3.973		
21,000.00	12,025.70	20,855.64	11,869.68	153.38	153.22	79.64	8,886.75	404.16	839.44	625.97	213.47	3.932		
21,100.00	12,024.73	20,955.64	11,868.72	154.96	154.81	79.64	8,986.74	403.31	839.45	623.78	215.67	3.892		
21,200.00	12,023.77	21,055.64	11,867.76	156.55	156.40	79.64	9,086.73	402.45	839.46	621.58	217.88	3.853		
21,300.00	12,022.81	21,155.64	11,866.80	158.14	157.99	79.64	9,186.73	401.60	839.47	619.38	220.08	3.814		
21,400.00	12,021.84	21,255.64	11,865.83	159.73	159.58	79.64	9,286.72	400.75	839.48	617.18	222.29	3.776		
21,500.00	12,020.88	21,355.64	11,864.87	161.33	161.17	79.64	9,386.71	399.89	839.49	614.98	224.50	3.739		
21,600.00	12,019.92	21,455.64	11,863.91	162.92	162.77	79.64	9,486.70	399.04	839.49	612.78	226.71	3.703		
21,700.00	12,018.95	21,555.64	11,862.94	164.51	164.36	79.64	9,586.69	398.19	839.50	610.58	228.92	3.667		
21,800.00	12,017.99	21,655.64	11,861.98	166.11	165.96	79.64	9,686.68	397.34	839.51	608.38	231.14	3.632		
21,900.00	12,017.03	21,755.64	11,861.02	167.71	167.56	79.64	9,786.68	396.48	839.52	606.17	233.35	3.598		
22,000.00	12,016.07	21,855.64	11,860.06	169.31	169.16	79.64	9,886.67	395.63	839.53	603.96	235.57	3.564		
22,100.00	12,015.10	21,955.64	11,859.09	170.90	170.76	79.64	9,986.66	394.78	839.54	601.75	237.78	3.531		
22,200.00	12,014.14	22,055.64	11,858.13	172.50	172.36	79.64	10,086.65	393.92	839.55	599.55	240.00	3.498		
22,238.31	12,013.77	22,093.94	11,857.76	173.12	172.97	79.64	10,124.95	393.60	839.55	598.70	240.85	3.486 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 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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	89.98	1.18	3,772.00	3,772.25					
100.00	100.00	56.90	56.90	0.13	0.08	89.98	1.18	3,772.00	3,772.00	3,771.85	0.15	N/A		
200.00	200.00	156.90	156.90	0.48	0.35	89.98	1.18	3,772.00	3,772.00	3,771.41	0.59	6,343.210		
300.00	300.00	256.90	256.90	0.84	0.70	89.98	1.18	3,772.00	3,772.00	3,770.91	1.10	3,435.743		
400.00	400.00	356.90	356.90	1.20	1.06	89.98	1.18	3,772.00	3,772.00	3,770.40	1.60	2,352.436		
500.00	500.00	456.90	456.90	1.56	1.42	89.98	1.18	3,772.00	3,772.00	3,769.89	2.11	1,787.948		
600.00	600.00	556.90	556.90	1.92	1.78	89.98	1.18	3,772.00	3,772.00	3,769.39	2.62	1,441.788		
700.00	700.00	656.90	656.90	2.28	2.14	89.98	1.18	3,772.00	3,772.00	3,768.88	3.12	1,207.869		
800.00	800.00	756.90	756.90	2.63	2.50	89.98	1.18	3,772.00	3,772.00	3,768.37	3.63	1,039.234		
900.00	900.00	856.90	856.90	2.99	2.85	89.98	1.18	3,772.00	3,772.00	3,767.87	4.14	911.907		
1,000.00	1,000.00	956.90	956.90	3.35	3.21	89.98	1.18	3,772.00	3,772.00	3,767.36	4.64	812.368		
1,100.00	1,100.00	1,056.90	1,056.90	3.71	3.57	89.98	1.18	3,772.00	3,772.00	3,766.85	5.15	732.417		
1,200.00	1,200.00	1,156.90	1,156.90	4.07	3.93	89.98	1.18	3,772.00	3,772.00	3,766.35	5.66	666.791		
1,300.00	1,300.00	1,256.90	1,256.90	4.43	4.29	89.98	1.18	3,772.00	3,772.00	3,765.84	6.16	611.958		
1,400.00	1,400.00	1,356.90	1,356.90	4.79	4.65	89.98	1.18	3,772.00	3,772.00	3,765.33	6.67	565.456		
1,500.00	1,500.00	1,456.90	1,456.90	5.14	5.01	89.98	1.18	3,772.00	3,772.00	3,764.83	7.18	525.522		
1,600.00	1,600.00	1,556.90	1,556.90	5.50	5.36	89.98	1.18	3,772.00	3,772.00	3,764.32	7.68	490.856		
1,700.00	1,700.00	1,656.90	1,656.90	5.86	5.72	89.98	1.18	3,772.00	3,772.00	3,763.81	8.19	460.480		
1,800.00	1,800.00	1,756.90	1,756.90	6.22	6.08	89.98	1.18	3,772.00	3,772.00	3,763.31	8.70	433.644		
1,900.00	1,900.00	1,856.90	1,856.90	6.58	6.44	89.98	1.18	3,772.00	3,772.00	3,762.80	9.21	409.764		
2,000.00	2,000.00	1,956.90	1,956.90	6.94	6.80	89.98	1.18	3,772.00	3,772.00	3,762.29	9.71	388.376		
2,100.00	2,100.00	2,056.90	2,056.90	7.29	7.16	89.98	1.18	3,772.00	3,772.00	3,761.78	10.22	369.111		
2,200.00	2,200.00	2,156.90	2,156.90	7.65	7.51	89.98	1.18	3,772.00	3,772.00	3,761.28	10.73	351.666		
2,300.00	2,300.00	2,256.90	2,256.90	8.01	7.87	89.98	1.18	3,772.00	3,772.00	3,760.77	11.23	335.796		
2,400.00	2,400.00	2,356.90	2,356.90	8.37	8.23	89.98	1.18	3,772.00	3,772.00	3,760.26	11.74	321.296		
2,500.00	2,500.00	2,456.90	2,456.90	8.73	8.59	89.98	1.18	3,772.00	3,772.00	3,759.76	12.25	307.996		
2,600.00	2,600.00	3,069.94	3,067.85	9.09	10.72	90.13	-8.24	3,730.80	3,765.63	3,751.71	13.93	270.388		
2,700.00	2,700.00	3,168.97	3,165.91	9.45	11.07	90.17	-11.31	3,717.36	3,752.07	3,737.65	14.42	260.257		
2,800.00	2,800.00	3,267.99	3,263.98	9.80	11.43	90.22	-14.38	3,703.92	3,738.50	3,723.59	14.91	250.764		
2,900.00	2,900.00	3,367.02	3,362.04	10.16	11.80	90.27	-17.45	3,690.49	3,724.94	3,709.54	15.40	241.853		
3,000.00	3,000.00	3,466.05	3,460.10	10.52	12.16	90.32	-20.52	3,677.05	3,711.38	3,695.48	15.90	233.476		
3,100.00	3,100.00	3,565.07	3,558.16	10.88	12.53	90.37	-23.59	3,663.61	3,697.82	3,681.43	16.39	225.587		
3,200.00	3,200.00	3,664.10	3,656.23	11.24	12.91	90.42	-26.67	3,650.18	3,684.27	3,667.38	16.89	218.146		
3,300.00	3,299.99	3,763.28	3,754.45	11.58	13.28	-145.23	-29.74	3,636.72	3,671.78	3,654.40	17.38	211.292		
3,400.00	3,399.91	3,862.74	3,852.93	11.91	13.67	-145.31	-32.83	3,623.22	3,661.43	3,643.57	17.86	205.012		
3,500.00	3,499.69	3,962.40	3,951.62	12.25	14.05	-145.39	-35.92	3,609.70	3,653.23	3,634.88	18.34	199.150		
3,600.14	3,599.41	4,062.33	4,050.58	12.59	14.44	-145.47	-39.02	3,596.14	3,647.16	3,628.33	18.83	193.670		
3,700.00	3,698.72	4,162.03	4,149.31	12.93	14.82	-145.51	-42.11	3,582.61	3,642.20	3,622.88	19.32	188.513		
3,800.00	3,798.17	4,261.87	4,248.18	13.27	15.21	-145.56	-45.21	3,569.06	3,637.22	3,617.41	19.81	183.582		
3,900.00	3,897.62	4,361.70	4,347.04	13.62	15.61	-145.60	-48.30	3,555.52	3,632.25	3,611.95	20.31	178.873		
4,000.00	3,997.08	4,461.54	4,445.91	13.96	16.00	-145.65	-51.40	3,541.97	3,627.29	3,606.48	20.80	174.372		
4,100.00	4,096.53	4,561.38	4,544.77	14.32	16.40	-145.69	-54.50	3,528.42	3,622.32	3,601.02	21.30	170.067		
4,200.00	4,195.98	4,661.22	4,643.64	14.67	16.79	-145.74	-57.59	3,514.88	3,617.36	3,595.56	21.80	165.946		
4,300.00	4,295.43	4,761.05	4,742.50	15.03	17.19	-145.78	-60.69	3,501.33	3,612.39	3,590.09	22.30	162.000		
4,400.00	4,394.88	4,860.89	4,841.37	15.38	17.59	-145.82	-63.78	3,487.78	3,607.43	3,584.63	22.80	158.217		
4,500.00	4,494.34	4,960.73	4,940.23	15.74	17.99	-145.87	-66.88	3,474.24	3,602.48	3,579.17	23.30	154.589		
4,600.00	4,593.79	5,060.57	5,039.10	16.10	18.39	-145.91	-69.98	3,460.69	3,597.52	3,573.71	23.81	151.106		
4,700.00	4,693.24	5,160.40	5,137.97	16.47	18.79	-145.96	-73.07	3,447.14	3,592.57	3,568.25	24.31	147.761		
4,800.00	4,792.69	5,260.24	5,236.83	16.83	19.19	-146.00	-76.17	3,433.60	3,587.62	3,562.80	24.82	144.547		
4,900.00	4,892.14	5,360.08	5,335.70	17.20	19.60	-146.05	-79.27	3,420.05	3,582.67	3,557.34	25.33	141.456		
5,000.00	4,991.59	5,459.92	5,434.56	17.57	20.00	-146.09	-82.36	3,406.50	3,577.72	3,551.89	25.84	138.481		
5,100.00	5,091.05	5,559.75	5,533.43	17.94	20.41	-146.14	-85.46	3,392.95	3,572.78	3,546.43	26.34	135.617		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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		
5,200.00	5,190.50	5,659.59	5,632.29	18.31	20.81	-146.19	-88.56	3,379.41	3,567.84	3,540.98	26.85	132.858		
5,300.00	5,289.95	5,759.43	5,731.16	18.68	21.22	-146.23	-91.65	3,365.86	3,562.90	3,535.53	27.37	130.197		
5,400.00	5,389.40	5,859.27	5,830.03	19.05	21.63	-146.28	-94.75	3,352.31	3,557.96	3,530.08	27.88	127.632		
5,500.00	5,488.85	5,959.10	5,928.89	19.42	22.03	-146.32	-97.85	3,338.77	3,553.02	3,524.64	28.39	125.155		
5,600.00	5,588.31	6,058.94	6,027.76	19.80	22.44	-146.37	-100.94	3,325.22	3,548.09	3,519.19	28.90	122.764		
5,700.00	5,687.76	6,158.78	6,126.62	20.17	22.85	-146.42	-104.04	3,311.67	3,543.16	3,513.75	29.42	120.454		
5,800.00	5,787.21	6,258.62	6,225.49	20.55	23.26	-146.46	-107.13	3,298.13	3,538.23	3,508.30	29.93	118.221		
5,900.00	5,886.66	6,358.45	6,324.35	20.92	23.67	-146.51	-110.23	3,284.58	3,533.31	3,502.86	30.44	116.062		
6,000.00	5,986.11	6,458.29	6,423.22	21.30	24.08	-146.55	-113.33	3,271.03	3,528.38	3,497.43	30.96	113.972		
6,100.00	6,085.56	6,558.13	6,522.09	21.68	24.49	-146.60	-116.42	3,257.48	3,523.46	3,491.99	31.47	111.949		
6,200.00	6,185.02	6,657.97	6,620.95	22.06	24.90	-146.65	-119.52	3,243.94	3,518.54	3,486.55	31.99	109.990		
6,300.00	6,284.47	6,757.80	6,719.82	22.44	25.31	-146.70	-122.62	3,230.39	3,513.63	3,481.12	32.51	108.092		
6,400.00	6,383.92	6,857.64	6,818.68	22.82	25.73	-146.74	-125.71	3,216.84	3,508.71	3,475.69	33.02	106.252		
6,500.00	6,483.37	6,957.48	6,917.55	23.20	26.14	-146.79	-128.81	3,203.30	3,503.80	3,470.26	33.54	104.468		
6,600.00	6,582.82	7,057.32	7,016.41	23.58	26.55	-146.84	-131.91	3,189.75	3,498.89	3,464.83	34.06	102.736		
6,700.00	6,682.28	7,157.15	7,115.28	23.96	26.96	-146.88	-135.00	3,176.20	3,493.98	3,459.41	34.57	101.056		
6,800.00	6,781.73	7,256.99	7,214.14	24.34	27.38	-146.93	-138.10	3,162.66	3,489.08	3,453.99	35.09	99.424		
6,900.00	6,881.18	7,356.83	7,313.01	24.72	27.79	-146.98	-141.20	3,149.11	3,484.18	3,448.57	35.61	97.839		
7,000.00	6,980.63	7,456.67	7,411.88	25.11	28.20	-147.03	-144.29	3,135.56	3,479.28	3,443.15	36.13	96.299		
7,100.00	7,080.08	7,556.50	7,510.74	25.49	28.62	-147.08	-147.39	3,122.01	3,474.38	3,437.73	36.65	94.802		
7,175.92	7,155.59	7,632.30	7,585.81	25.78	28.93	-147.11	-149.74	3,111.73	3,470.66	3,433.62	37.04	93.693		
7,200.00	7,179.54	7,656.34	7,609.61	25.87	29.03	-147.11	-150.49	3,108.47	3,469.42	3,432.25	37.17	93.344		
7,300.00	7,279.18	7,756.11	7,708.40	26.25	29.45	-147.09	-153.58	3,094.93	3,462.90	3,425.22	37.69	91.890		
7,400.00	7,379.00	7,855.72	7,807.05	26.62	29.86	-147.03	-156.67	3,081.41	3,454.19	3,416.00	38.20	90.425		
7,500.00	7,478.94	7,955.12	7,905.48	26.97	30.27	-146.92	-159.75	3,067.93	3,443.30	3,404.59	38.71	88.950		
7,576.07	7,555.00	8,030.54	7,980.16	27.23	30.59	88.77	-162.09	3,057.69	3,433.55	3,394.46	39.09	87.826		
7,600.00	7,578.93	8,054.24	8,003.63	27.32	30.69	88.78	-162.83	3,054.48	3,430.29	3,391.07	39.22	87.474		
7,700.00	7,678.93	8,153.26	8,101.69	27.65	31.10	88.83	-165.90	3,041.04	3,416.65	3,376.94	39.72	86.025		
7,800.00	7,778.93	8,252.29	8,199.76	27.99	31.51	88.88	-168.97	3,027.60	3,403.02	3,362.80	40.22	84.612		
7,900.00	7,878.93	8,351.32	8,297.82	28.33	31.92	88.93	-172.04	3,014.17	3,389.39	3,348.67	40.72	83.233		
8,000.00	7,978.93	8,450.34	8,395.88	28.67	32.34	88.97	-175.11	3,000.73	3,375.76	3,334.53	41.22	81.887		
8,100.00	8,078.93	8,549.37	8,493.95	29.01	32.75	89.02	-178.18	2,987.29	3,362.13	3,320.40	41.73	80.572		
8,200.00	8,178.93	8,648.40	8,592.01	29.35	33.16	89.07	-181.25	2,973.85	3,348.51	3,306.28	42.23	79.289		
8,300.00	8,278.93	8,747.42	8,690.07	29.69	33.57	89.12	-184.33	2,960.42	3,334.89	3,292.15	42.74	78.035		
8,400.00	8,378.93	8,846.45	8,788.13	30.03	33.99	89.17	-187.40	2,946.98	3,321.27	3,278.03	43.24	76.810		
8,500.00	8,478.93	8,945.48	8,886.20	30.37	34.40	89.22	-190.47	2,933.54	3,307.65	3,263.91	43.74	75.612		
8,600.00	8,578.93	9,000.00	8,940.24	30.72	34.63	89.25	-192.08	2,926.49	3,294.69	3,250.53	44.16	74.615		
8,700.00	8,678.93	9,054.09	8,993.94	31.06	34.84	89.27	-193.51	2,920.24	3,283.09	3,238.53	44.56	73.679		
8,800.00	8,778.93	9,100.00	9,039.60	31.40	35.03	89.29	-194.59	2,915.52	3,272.89	3,227.95	44.94	72.831		
8,900.00	8,878.93	9,162.39	9,101.72	31.74	35.27	89.31	-195.86	2,909.95	3,264.04	3,218.69	45.35	71.976		
9,000.00	8,978.93	9,200.00	9,139.22	32.09	35.41	89.32	-196.52	2,907.08	3,256.66	3,210.97	45.69	71.276		
9,100.00	9,078.93	9,271.21	9,210.28	32.43	35.67	89.34	-197.54	2,902.62	3,250.52	3,204.41	46.11	70.490		
9,200.00	9,178.93	9,325.76	9,264.76	32.77	35.86	89.35	-198.12	2,900.08	3,245.85	3,199.37	46.49	69.825		
9,300.00	9,278.93	9,400.00	9,338.97	33.12	36.12	89.36	-198.63	2,897.84	3,242.69	3,195.78	46.91	69.128		
9,400.00	9,378.93	9,435.02	9,373.99	33.46	36.24	89.36	-198.76	2,897.27	3,240.70	3,193.49	47.21	68.649		
9,500.00	9,478.93	9,496.87	9,435.83	33.81	36.44	89.36	-198.82	2,897.00	3,240.21	3,192.63	47.58	68.103		
9,600.00	9,578.93	9,596.87	9,535.83	34.15	36.76	89.36	-198.82	2,897.00	3,240.21	3,192.14	48.06	67.417		
9,700.00	9,678.93	9,696.87	9,635.83	34.50	37.08	89.36	-198.82	2,897.00	3,240.21	3,191.66	48.55	66.744		
9,800.00	9,778.93	9,796.87	9,735.83	34.84	37.40	89.36	-198.82	2,897.00	3,240.21	3,191.17	49.03	66.083		
9,900.00	9,878.93	9,896.87	9,835.83	35.19	37.72	89.36	-198.82	2,897.00	3,240.21	3,190.69	49.52	65.435		
10,000.00	9,978.94	9,996.87	9,935.84	35.54	38.04	89.36	-198.82	2,897.00	3,240.21	3,190.20	50.00	64.799		
10,100.00	10,078.94	10,096.87	10,035.84	35.88	38.36	89.36	-198.82	2,897.00	3,240.21	3,189.72	50.49	64.175		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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	
10,200.00	10,178.94	10,196.87	10,135.84	36.23	38.68	89.36	-198.82	2,897.00	3,240.21	3,189.23	50.98	63.562		
10,300.00	10,278.94	10,296.87	10,235.84	36.58	39.00	89.36	-198.82	2,897.00	3,240.21	3,188.74	51.46	62.960		
10,400.00	10,378.94	10,396.87	10,335.84	36.92	39.33	89.36	-198.82	2,897.00	3,240.21	3,188.25	51.95	62.369		
10,500.00	10,478.94	10,496.87	10,435.84	37.27	39.65	89.36	-198.82	2,897.00	3,240.21	3,187.77	52.44	61.789		
10,600.00	10,578.94	10,596.87	10,535.84	37.62	39.98	89.36	-198.82	2,897.00	3,240.21	3,187.28	52.93	61.218		
10,700.00	10,678.94	10,696.87	10,635.84	37.97	40.30	89.36	-198.82	2,897.00	3,240.21	3,186.79	53.42	60.658		
10,800.00	10,778.94	10,796.87	10,735.84	38.32	40.63	89.36	-198.82	2,897.00	3,240.21	3,186.30	53.91	60.108		
10,900.00	10,878.94	10,896.87	10,835.84	38.66	40.95	89.36	-198.82	2,897.00	3,240.21	3,185.81	54.40	59.567		
11,000.00	10,978.94	10,996.87	10,935.84	39.01	41.28	89.36	-198.82	2,897.00	3,240.21	3,185.32	54.89	59.036		
11,100.00	11,078.94	11,096.87	11,035.84	39.36	41.61	89.36	-198.82	2,897.00	3,240.21	3,184.83	55.38	58.513		
11,109.81	11,088.75	11,106.68	11,045.65	39.39	41.64	89.36	-198.82	2,897.00	3,240.21	3,184.78	55.42	58.463 CC		
11,200.00	11,178.94	11,195.89	11,134.74	39.71	41.93	89.30	-195.48	2,896.97	3,240.21	3,184.36	55.86	58.008		
11,300.00	11,278.94	11,290.92	11,227.93	40.06	42.21	88.98	-177.48	2,896.81	3,240.33	3,184.02	56.31	57.546		
11,400.00	11,378.94	11,377.91	11,309.58	40.41	42.45	88.46	-147.70	2,896.54	3,240.82	3,184.11	56.71	57.143		
11,500.00	11,478.94	11,454.44	11,376.97	40.76	42.62	87.82	-111.55	2,896.21	3,242.10	3,185.02	57.07	56.805		
11,556.07	11,535.00	11,492.54	11,408.57	40.95	42.70	87.44	-90.28	2,896.02	3,243.32	3,186.06	57.26	56.646		
11,600.00	11,578.89	11,520.84	11,431.09	41.10	42.75	87.53	-73.14	2,895.86	3,244.53	3,187.14	57.39	56.534		
11,650.00	11,628.51	11,550.00	11,453.38	41.27	42.80	87.09	-54.35	2,895.69	3,246.06	3,188.53	57.53	56.425		
11,700.00	11,677.43	11,583.82	11,477.99	41.43	42.85	86.61	-31.17	2,895.48	3,247.73	3,190.06	57.67	56.315		
11,750.00	11,725.25	11,614.69	11,499.23	41.58	42.89	86.17	-8.77	2,895.28	3,249.50	3,191.70	57.80	56.222		
11,800.00	11,771.63	11,650.00	11,522.00	41.72	42.94	85.70	18.21	2,895.03	3,251.34	3,193.41	57.93	56.127		
11,850.00	11,816.21	11,675.47	11,537.38	41.85	42.97	85.32	38.51	2,894.85	3,253.19	3,195.17	58.03	56.063		
11,900.00	11,858.65	11,700.00	11,551.31	41.96	42.99	84.96	58.70	2,894.67	3,255.05	3,196.93	58.12	56.007		
11,950.00	11,898.62	11,735.26	11,569.81	42.06	43.02	84.55	88.71	2,894.39	3,256.85	3,198.62	58.23	55.929		
12,000.00	11,935.83	11,764.86	11,583.88	42.15	43.05	84.20	114.74	2,894.16	3,258.59	3,200.26	58.33	55.867		
12,050.00	11,969.99	11,800.00	11,598.82	42.22	43.08	83.85	146.54	2,893.87	3,260.23	3,201.79	58.43	55.793		
12,100.00	12,000.83	11,823.61	11,607.75	42.28	43.10	83.59	168.40	2,893.67	3,261.72	3,203.21	58.51	55.744		
12,150.00	12,028.14	11,850.00	11,616.66	42.33	43.12	83.35	193.24	2,893.45	3,263.07	3,204.47	58.60	55.684		
12,200.00	12,051.68	11,881.91	11,625.88	42.37	43.14	83.12	223.78	2,893.17	3,264.23	3,205.53	58.70	55.607		
12,250.00	12,071.30	11,910.94	11,632.79	42.41	43.17	82.94	251.97	2,892.91	3,265.21	3,206.41	58.80	55.530		
12,300.00	12,086.83	11,950.00	11,639.81	42.51	43.21	82.78	290.38	2,892.56	3,266.00	3,207.08	58.93	55.425		
12,350.00	12,098.17	11,968.83	11,642.25	42.64	43.23	82.71	309.06	2,892.40	3,266.52	3,207.51	59.01	55.352		
12,400.00	12,105.22	12,000.00	11,644.95	42.76	43.27	82.65	340.10	2,892.11	3,266.84	3,207.70	59.13	55.246		
12,450.00	12,107.93	12,026.61	11,645.91	42.89	43.31	82.63	366.69	2,891.87	3,266.92	3,207.67	59.25	55.137		
12,461.58	12,107.93	12,033.30	11,645.96	42.92	43.32	82.63	373.38	2,891.81	3,266.90	3,207.62	59.28	55.109		
12,478.39	12,107.77	12,044.06	11,645.87	42.97	43.34	82.63	384.13	2,891.71	3,266.89	3,207.56	59.33	55.066		
12,500.00	12,107.56	12,063.86	11,645.52	43.03	43.38	82.63	403.94	2,891.53	3,266.90	3,207.50	59.40	54.997		
12,600.00	12,106.60	12,163.86	11,643.78	43.34	43.61	82.62	503.91	2,890.63	3,266.96	3,207.14	59.82	54.615		
12,700.00	12,105.64	12,263.85	11,642.03	43.71	43.92	82.60	603.89	2,889.72	3,267.01	3,206.69	60.32	54.163		
12,800.00	12,104.67	12,363.85	11,640.28	44.14	44.32	82.59	703.87	2,888.81	3,267.07	3,206.17	60.90	53.644		
12,900.00	12,103.71	12,463.85	11,638.53	44.63	44.78	82.58	803.85	2,887.91	3,267.13	3,205.56	61.57	53.064		
13,000.00	12,102.75	12,563.85	11,636.78	45.16	45.31	82.56	903.82	2,887.00	3,267.18	3,204.87	62.31	52.430		
13,100.00	12,101.78	12,663.84	11,635.03	45.75	45.89	82.55	1,003.80	2,886.09	3,267.24	3,204.10	63.14	51.748		
13,200.00	12,100.82	12,763.84	11,633.28	46.39	46.54	82.54	1,103.78	2,885.19	3,267.30	3,203.26	64.03	51.026		
13,300.00	12,099.86	12,863.84	11,631.53	47.08	47.23	82.52	1,203.76	2,884.28	3,267.35	3,202.36	65.00	50.268		
13,400.00	12,098.89	12,963.83	11,629.79	47.81	47.97	82.51	1,303.73	2,883.37	3,267.41	3,201.38	66.03	49.483		
13,500.00	12,097.93	13,063.83	11,628.04	48.59	48.76	82.49	1,403.71	2,882.46	3,267.47	3,200.34	67.13	48.675		
13,600.00	12,096.97	13,163.83	11,626.29	49.41	49.59	82.48	1,503.69	2,881.56	3,267.53	3,199.24	68.29	47.850		
13,700.00	12,096.00	13,263.82	11,624.54	50.28	50.46	82.47	1,603.67	2,880.65	3,267.59	3,198.08	69.50	47.013		
13,800.00	12,095.04	13,363.82	11,622.79	51.18	51.37	82.45	1,703.64	2,879.74	3,267.64	3,196.87	70.77	46.170		
13,900.00	12,094.08	13,463.82	11,621.04	52.12	52.31	82.44	1,803.62	2,878.84	3,267.70	3,195.60	72.10	45.323		
14,000.00	12,093.11	13,563.81	11,619.29	53.09	53.29	82.43	1,903.60	2,877.93	3,267.76	3,194.29	73.47	44.477		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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	
14,100.00	12,092.15	13,663.81	11,617.54	54.09	54.31	82.41	2,003.58	2,877.02	3,267.82	3,192.93	74.89	43.635		
14,200.00	12,091.19	13,763.81	11,615.80	55.13	55.35	82.40	2,103.55	2,876.11	3,267.88	3,191.53	76.35	42.800		
14,300.00	12,090.23	13,863.80	11,614.05	56.19	56.42	82.38	2,203.53	2,875.21	3,267.94	3,190.08	77.86	41.973		
14,400.00	12,089.26	13,963.80	11,612.30	57.29	57.52	82.37	2,303.51	2,874.30	3,268.00	3,188.60	79.40	41.159		
14,500.00	12,088.30	14,063.80	11,610.55	58.41	58.64	82.36	2,403.49	2,873.39	3,268.06	3,187.08	80.98	40.357		
14,600.00	12,087.34	14,163.80	11,608.80	59.55	59.79	82.34	2,503.46	2,872.49	3,268.12	3,185.52	82.59	39.569		
14,700.00	12,086.37	14,263.79	11,607.05	60.72	60.96	82.33	2,603.44	2,871.58	3,268.18	3,183.94	84.24	38.796		
14,800.00	12,085.41	14,363.79	11,605.30	61.91	62.16	82.32	2,703.42	2,870.67	3,268.24	3,182.32	85.92	38.039		
14,900.00	12,084.45	14,463.79	11,603.55	63.12	63.37	82.30	2,803.40	2,869.76	3,268.30	3,180.67	87.63	37.298		
15,000.00	12,083.48	14,563.78	11,601.81	64.34	64.60	82.29	2,903.37	2,868.86	3,268.36	3,179.00	89.36	36.575		
15,100.00	12,082.52	14,663.78	11,600.06	65.59	65.86	82.27	3,003.35	2,867.95	3,268.42	3,177.30	91.12	35.869		
15,200.00	12,081.56	14,763.78	11,598.31	66.86	67.13	82.26	3,103.33	2,867.04	3,268.48	3,175.57	92.90	35.181		
15,300.00	12,080.59	14,863.77	11,596.56	68.14	68.41	82.25	3,203.31	2,866.14	3,268.54	3,173.83	94.71	34.511		
15,400.00	12,079.63	14,963.77	11,594.81	69.44	69.71	82.23	3,303.28	2,865.23	3,268.60	3,172.06	96.54	33.857		
15,500.00	12,078.67	15,063.77	11,593.06	70.75	71.03	82.22	3,403.26	2,864.32	3,268.66	3,170.27	98.39	33.222		
15,600.00	12,077.70	15,163.76	11,591.31	72.08	72.35	82.21	3,503.24	2,863.41	3,268.72	3,168.47	100.26	32.603		
15,700.00	12,076.74	15,263.76	11,589.56	73.42	73.70	82.19	3,603.22	2,862.51	3,268.79	3,166.64	102.14	32.001		
15,800.00	12,075.78	15,363.76	11,587.82	74.77	75.05	82.18	3,703.19	2,861.60	3,268.85	3,164.80	104.05	31.416		
15,900.00	12,074.82	15,463.76	11,586.07	76.13	76.42	82.16	3,803.17	2,860.69	3,268.91	3,162.94	105.97	30.848		
16,000.00	12,073.85	15,563.75	11,584.32	77.51	77.79	82.15	3,903.15	2,859.79	3,268.97	3,161.07	107.91	30.295		
16,100.00	12,072.89	15,663.75	11,582.57	78.89	79.18	82.14	4,003.13	2,858.88	3,269.04	3,159.18	109.86	29.757		
16,200.00	12,071.93	15,763.75	11,580.82	80.29	80.58	82.12	4,103.10	2,857.97	3,269.10	3,157.28	111.82	29.235		
16,300.00	12,070.96	15,863.74	11,579.07	81.69	81.98	82.11	4,203.08	2,857.06	3,269.16	3,155.36	113.80	28.728		
16,400.00	12,070.00	15,963.74	11,577.32	83.11	83.40	82.10	4,303.06	2,856.16	3,269.22	3,153.44	115.79	28.235		
16,500.00	12,069.04	16,063.74	11,575.57	84.53	84.82	82.08	4,403.04	2,855.25	3,269.29	3,151.50	117.79	27.755		
16,600.00	12,068.07	16,163.73	11,573.83	85.96	86.25	82.07	4,503.01	2,854.34	3,269.35	3,149.55	119.80	27.289		
16,700.00	12,067.11	16,263.73	11,572.08	87.40	87.69	82.05	4,602.99	2,853.44	3,269.41	3,147.59	121.83	26.837		
16,800.00	12,066.15	16,363.73	11,570.33	88.85	89.14	82.04	4,702.97	2,852.53	3,269.48	3,145.62	123.86	26.397		
16,900.00	12,065.18	16,463.72	11,568.58	90.30	90.60	82.03	4,802.95	2,851.62	3,269.54	3,143.64	125.90	25.969		
17,000.00	12,064.22	16,563.72	11,566.83	91.76	92.06	82.01	4,902.92	2,850.72	3,269.61	3,141.66	127.95	25.554		
17,100.00	12,063.26	16,663.72	11,565.08	93.23	93.52	82.00	5,002.90	2,849.81	3,269.67	3,139.66	130.01	25.149		
17,200.00	12,062.30	16,763.72	11,563.33	94.70	95.00	81.99	5,102.88	2,848.90	3,269.74	3,137.66	132.08	24.756		
17,300.00	12,061.33	16,863.71	11,561.58	96.18	96.48	81.97	5,202.86	2,847.99	3,269.80	3,135.65	134.16	24.373		
17,400.00	12,060.37	16,963.71	11,559.84	97.66	97.96	81.96	5,302.83	2,847.09	3,269.87	3,133.63	136.24	24.001		
17,500.00	12,059.41	17,063.71	11,558.09	99.15	99.45	81.94	5,402.81	2,846.18	3,269.93	3,131.60	138.33	23.639		
17,600.00	12,058.44	17,163.70	11,556.34	100.64	100.94	81.93	5,502.79	2,845.27	3,270.00	3,129.57	140.43	23.286		
17,700.00	12,057.48	17,263.70	11,554.59	102.14	102.44	81.92	5,602.77	2,844.37	3,270.06	3,127.53	142.53	22.943		
17,800.00	12,056.52	17,363.70	11,552.84	103.65	103.95	81.90	5,702.74	2,843.46	3,270.13	3,125.49	144.64	22.608		
17,900.00	12,055.55	17,463.69	11,551.09	105.15	105.46	81.89	5,802.72	2,842.55	3,270.19	3,123.44	146.76	22.283		
18,000.00	12,054.59	17,563.69	11,549.34	106.67	106.97	81.88	5,902.70	2,841.64	3,270.26	3,121.38	148.88	21.966		
18,100.00	12,053.63	17,663.69	11,547.59	108.18	108.49	81.86	6,002.68	2,840.74	3,270.33	3,119.32	151.01	21.657		
18,200.00	12,052.66	17,763.68	11,545.85	109.70	110.01	81.85	6,102.65	2,839.83	3,270.39	3,117.25	153.14	21.356		
18,300.00	12,051.70	17,863.68	11,544.10	111.23	111.53	81.83	6,202.63	2,838.92	3,270.46	3,115.18	155.28	21.062		
18,400.00	12,050.74	17,963.68	11,542.35	112.75	113.06	81.82	6,302.61	2,838.02	3,270.53	3,113.11	157.42	20.776		
18,500.00	12,049.77	18,063.67	11,540.60	114.29	114.59	81.81	6,402.59	2,837.11	3,270.59	3,111.03	159.57	20.497		
18,600.00	12,048.81	18,163.67	11,538.85	115.82	116.12	81.79	6,502.56	2,836.20	3,270.66	3,108.94	161.72	20.224		
18,700.00	12,047.85	18,263.67	11,537.10	117.36	117.66	81.78	6,602.54	2,835.29	3,270.73	3,106.85	163.87	19.959		
18,800.00	12,046.89	18,363.67	11,535.35	118.90	119.20	81.77	6,702.52	2,834.39	3,270.80	3,104.76	166.03	19.700		
18,900.00	12,045.92	18,463.66	11,533.60	120.44	120.75	81.75	6,802.50	2,833.48	3,270.86	3,102.67	168.20	19.447		
19,000.00	12,044.96	18,563.66	11,531.85	121.99	122.29	81.74	6,902.47	2,832.57	3,270.93	3,100.57	170.37	19.200		
19,100.00	12,044.00	18,663.66	11,530.11	123.54	123.84	81.72	7,002.45	2,831.67	3,271.00	3,098.46	172.54	18.958		
19,200.00	12,043.03	18,763.65	11,528.36	125.09	125.39	81.71	7,102.43	2,830.76	3,271.07	3,096.36	174.71	18.723		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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	12,042.07	18,863.65	11,526.61	126.64	126.95	81.70	7,202.41	2,829.85	3,271.14	3,094.25	176.89	18.493		
19,400.00	12,041.11	18,963.65	11,524.86	128.20	128.50	81.68	7,302.38	2,828.94	3,271.21	3,092.14	179.07	18.268		
19,500.00	12,040.14	19,063.64	11,523.11	129.76	130.06	81.67	7,402.36	2,828.04	3,271.28	3,090.02	181.25	18.048		
19,600.00	12,039.18	19,163.64	11,521.36	131.32	131.63	81.66	7,502.34	2,827.13	3,271.34	3,087.90	183.44	17.833		
19,700.00	12,038.22	19,263.64	11,519.61	132.88	133.19	81.64	7,602.32	2,826.22	3,271.41	3,085.78	185.63	17.623		
19,800.00	12,037.25	19,363.63	11,517.86	134.45	134.75	81.63	7,702.29	2,825.32	3,271.48	3,083.66	187.82	17.418		
19,900.00	12,036.29	19,463.63	11,516.12	136.02	136.32	81.61	7,802.27	2,824.41	3,271.55	3,081.54	190.02	17.217		
20,000.00	12,035.33	19,563.63	11,514.37	137.59	137.89	81.60	7,902.25	2,823.50	3,271.62	3,079.41	192.21	17.021		
20,100.00	12,034.36	19,663.63	11,512.62	139.16	139.46	81.59	8,002.23	2,822.59	3,271.69	3,077.28	194.41	16.828		
20,200.00	12,033.40	19,763.62	11,510.87	140.73	141.04	81.57	8,102.20	2,821.69	3,271.76	3,075.15	196.62	16.640		
20,300.00	12,032.44	19,863.62	11,509.12	142.31	142.61	81.56	8,202.18	2,820.78	3,271.83	3,073.01	198.82	16.456		
20,400.00	12,031.48	19,963.62	11,507.37	143.88	144.19	81.55	8,302.16	2,819.87	3,271.90	3,070.88	201.03	16.276		
20,500.00	12,030.51	20,063.61	11,505.62	145.46	145.77	81.53	8,402.14	2,818.97	3,271.98	3,068.74	203.24	16.099		
20,600.00	12,029.55	20,163.61	11,503.87	147.04	147.35	81.52	8,502.11	2,818.06	3,272.05	3,066.60	205.45	15.926		
20,700.00	12,028.59	20,263.61	11,502.13	148.62	148.93	81.50	8,602.09	2,817.15	3,272.12	3,064.46	207.66	15.757		
20,800.00	12,027.62	20,363.60	11,500.38	150.21	150.51	81.49	8,702.07	2,816.25	3,272.19	3,062.32	209.87	15.591		
20,900.00	12,026.66	20,463.60	11,498.63	151.79	152.10	81.48	8,802.05	2,815.34	3,272.26	3,060.17	212.09	15.429		
21,000.00	12,025.70	20,563.60	11,496.88	153.38	153.68	81.46	8,902.02	2,814.43	3,272.33	3,058.03	214.31	15.269		
21,100.00	12,024.73	20,663.59	11,495.13	154.96	155.27	81.45	9,002.00	2,813.52	3,272.40	3,055.88	216.53	15.113		
21,200.00	12,023.77	20,763.59	11,493.38	156.55	156.86	81.44	9,101.98	2,812.62	3,272.48	3,053.73	218.75	14.960		
21,300.00	12,022.81	20,863.59	11,491.63	158.14	158.45	81.42	9,201.96	2,811.71	3,272.55	3,051.58	220.97	14.810		
21,400.00	12,021.84	20,963.59	11,489.88	159.73	160.04	81.41	9,301.93	2,810.80	3,272.62	3,049.43	223.19	14.663		
21,500.00	12,020.88	21,063.58	11,488.14	161.33	161.63	81.39	9,401.91	2,809.90	3,272.69	3,047.27	225.42	14.518		
21,600.00	12,019.92	21,163.58	11,486.39	162.92	163.23	81.38	9,501.89	2,808.99	3,272.77	3,045.12	227.65	14.377		
21,700.00	12,018.95	21,263.58	11,484.64	164.51	164.82	81.37	9,601.87	2,808.08	3,272.84	3,042.97	229.88	14.237		
21,800.00	12,017.99	21,363.57	11,482.89	166.11	166.42	81.35	9,701.84	2,807.17	3,272.91	3,040.81	232.10	14.101		
21,900.00	12,017.03	21,463.57	11,481.14	167.71	168.01	81.34	9,801.82	2,806.27	3,272.99	3,038.65	234.34	13.967		
22,000.00	12,016.07	21,563.57	11,479.39	169.31	169.61	81.33	9,901.80	2,805.36	3,273.06	3,036.49	236.57	13.836		
22,100.00	12,015.10	21,663.56	11,477.64	170.90	171.21	81.31	10,001.78	2,804.45	3,273.14	3,034.33	238.80	13.707		
22,200.00	12,014.14	21,763.56	11,475.89	172.50	172.81	81.30	10,101.75	2,803.55	3,273.21	3,032.17	241.04	13.580		
22,238.31	12,013.77	21,801.86	11,475.22	173.12	173.42	81.29	10,140.05	2,803.20	3,273.24	3,031.35	241.89	13.532 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 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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	89.98	1.15	3,807.00	3,807.24					
100.00	100.00	56.90	56.90	0.13	0.08	89.98	1.15	3,807.00	3,807.00	3,806.85	0.15	N/A		
200.00	200.00	156.90	156.90	0.48	0.35	89.98	1.15	3,807.00	3,807.00	3,806.40	0.59	6,402.056		
300.00	300.00	256.90	256.90	0.84	0.70	89.98	1.15	3,807.00	3,807.00	3,805.90	1.10	3,467.616		
400.00	400.00	356.90	356.90	1.20	1.06	89.98	1.15	3,807.00	3,807.00	3,805.39	1.60	2,374.259		
500.00	500.00	456.90	456.90	1.56	1.42	89.98	1.15	3,807.00	3,807.00	3,804.89	2.11	1,804.534		
600.00	600.00	556.90	556.90	1.92	1.78	89.98	1.15	3,807.00	3,807.00	3,804.38	2.62	1,455.163		
700.00	700.00	656.90	656.90	2.28	2.14	89.98	1.15	3,807.00	3,807.00	3,803.87	3.12	1,219.075		
800.00	800.00	756.90	756.90	2.63	2.50	89.98	1.15	3,807.00	3,807.00	3,803.37	3.63	1,048.875		
900.00	900.00	856.90	856.90	2.99	2.85	89.98	1.15	3,807.00	3,807.00	3,802.86	4.14	920.366		
1,000.00	1,000.00	956.90	956.90	3.35	3.21	89.98	1.15	3,807.00	3,807.00	3,802.35	4.64	819.904		
1,100.00	1,100.00	1,056.90	1,056.90	3.71	3.57	89.98	1.15	3,807.00	3,807.00	3,801.85	5.15	739.212		
1,200.00	1,200.00	1,156.90	1,156.90	4.07	3.93	89.98	1.15	3,807.00	3,807.00	3,801.34	5.66	672.977		
1,300.00	1,300.00	1,256.90	1,256.90	4.43	4.29	89.98	1.15	3,807.00	3,807.00	3,800.83	6.16	617.635		
1,400.00	1,400.00	1,356.90	1,356.90	4.79	4.65	89.98	1.15	3,807.00	3,807.00	3,800.33	6.67	570.702		
1,500.00	1,500.00	1,456.90	1,456.90	5.14	5.01	89.98	1.15	3,807.00	3,807.00	3,799.82	7.18	530.397		
1,600.00	1,600.00	1,556.90	1,556.90	5.50	5.36	89.98	1.15	3,807.00	3,807.00	3,799.31	7.68	495.410		
1,700.00	1,700.00	1,656.90	1,656.90	5.86	5.72	89.98	1.15	3,807.00	3,807.00	3,798.81	8.19	464.752		
1,800.00	1,800.00	1,756.90	1,756.90	6.22	6.08	89.98	1.15	3,807.00	3,807.00	3,798.30	8.70	437.667		
1,900.00	1,900.00	1,856.90	1,856.90	6.58	6.44	89.98	1.15	3,807.00	3,807.00	3,797.79	9.21	413.565		
2,000.00	2,000.00	1,956.90	1,956.90	6.94	6.80	89.98	1.15	3,807.00	3,807.00	3,797.28	9.71	391.979		
2,100.00	2,100.00	2,056.90	2,056.90	7.29	7.16	89.98	1.15	3,807.00	3,807.00	3,796.78	10.22	372.535		
2,200.00	2,200.00	2,156.90	2,156.90	7.65	7.51	89.98	1.15	3,807.00	3,807.00	3,796.27	10.73	354.928		
2,300.00	2,300.00	2,256.90	2,256.90	8.01	7.87	89.98	1.15	3,807.00	3,807.00	3,795.76	11.23	338.911		
2,400.00	2,400.00	2,356.90	2,356.90	8.37	8.23	89.98	1.15	3,807.00	3,807.00	3,795.26	11.74	324.276		
2,500.00	2,500.00	2,456.90	2,456.90	8.73	8.59	89.98	1.15	3,807.00	3,807.00	3,794.75	12.25	310.854		
2,600.00	2,600.00	2,556.90	2,556.90	9.09	8.95	89.98	1.15	3,807.00	3,807.00	3,794.24	12.75	298.498		
2,700.00	2,700.00	2,656.90	2,656.90	9.45	9.31	89.98	1.15	3,807.00	3,807.00	3,793.74	13.26	287.087		
2,800.00	2,800.00	2,756.90	2,756.90	9.80	9.67	89.98	1.15	3,807.00	3,807.00	3,793.23	13.77	276.516		
2,900.00	2,900.00	2,856.90	2,856.90	10.16	10.02	89.98	1.15	3,807.00	3,807.00	3,792.72	14.27	266.696		
3,000.00	3,000.00	2,956.90	2,956.90	10.52	10.38	89.98	1.15	3,807.00	3,807.00	3,792.22	14.78	257.549		
3,100.00	3,100.00	3,493.64	3,492.28	10.88	12.22	90.15	-9.78	3,777.17	3,802.20	3,785.93	16.27	233.763		
3,200.00	3,200.00	3,592.89	3,590.79	11.24	12.57	90.21	-13.94	3,765.81	3,790.75	3,773.99	16.75	226.253		
3,300.00	3,299.99	3,692.29	3,689.44	11.58	12.92	-145.41	-18.11	3,754.43	3,780.37	3,763.14	17.24	219.331		
3,400.00	3,399.91	3,791.93	3,788.34	11.91	13.28	-145.45	-22.29	3,743.02	3,772.15	3,754.44	17.71	212.988		
3,500.00	3,499.69	3,891.74	3,887.40	12.25	13.64	-145.49	-26.48	3,731.59	3,766.07	3,747.89	18.19	207.060		
3,600.14	3,599.41	3,991.79	3,986.71	12.59	14.00	-145.54	-30.67	3,720.13	3,762.15	3,743.48	18.67	201.514		
3,700.00	3,698.72	4,091.60	4,085.77	12.93	14.36	-145.57	-34.86	3,708.70	3,759.32	3,740.17	19.15	196.290		
3,800.00	3,798.17	4,191.54	4,184.97	13.27	14.73	-145.59	-39.05	3,697.25	3,756.48	3,736.84	19.64	191.290		
3,900.00	3,897.62	4,291.49	4,284.17	13.62	15.10	-145.62	-43.24	3,685.81	3,753.64	3,733.52	20.13	186.511		
4,000.00	3,997.08	4,391.43	4,383.37	13.96	15.47	-145.64	-47.44	3,674.36	3,750.81	3,730.19	20.62	181.938		
4,100.00	4,096.53	4,491.38	4,482.57	14.32	15.84	-145.67	-51.63	3,662.92	3,747.98	3,726.87	21.11	177.562		
4,200.00	4,195.98	4,591.32	4,581.77	14.67	16.21	-145.70	-55.82	3,651.47	3,745.14	3,723.54	21.60	173.370		
4,300.00	4,195.43	4,691.27	4,680.97	15.03	16.59	-145.72	-60.01	3,640.03	3,742.31	3,720.21	22.10	169.352		
4,400.00	4,194.88	4,791.21	4,780.17	15.38	16.97	-145.75	-64.21	3,628.58	3,739.48	3,716.88	22.60	165.498		
4,500.00	4,194.34	4,891.16	4,879.37	15.74	17.35	-145.77	-68.40	3,617.14	3,736.65	3,713.55	23.09	161.801		
4,600.00	4,593.79	4,991.10	4,978.57	16.10	17.73	-145.80	-72.59	3,605.69	3,733.82	3,710.22	23.59	158.250		
4,700.00	4,693.24	5,091.05	5,077.76	16.47	18.11	-145.83	-76.78	3,594.25	3,730.99	3,706.89	24.10	154.838		
4,800.00	4,792.69	5,190.99	5,176.96	16.83	18.49	-145.85	-80.98	3,582.80	3,728.16	3,703.56	24.60	151.558		
4,900.00	4,892.14	5,290.94	5,276.16	17.20	18.88	-145.88	-85.17	3,571.36	3,725.33	3,700.23	25.10	148.402		
5,000.00	4,991.59	5,390.88	5,375.36	17.57	19.26	-145.91	-89.36	3,559.91	3,722.50	3,696.89	25.61	145.364		
5,100.00	5,091.05	5,490.83	5,474.56	17.94	19.65	-145.93	-93.55	3,548.47	3,719.67	3,693.56	26.11	142.439		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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		
5,200.00	5,190.50	5,590.78	5,573.76	18.31	20.04	-145.96	-97.74	3,537.02	3,716.85	3,690.23	26.62	139.620		
5,300.00	5,289.95	5,690.72	5,672.96	18.68	20.42	-145.99	-101.94	3,525.58	3,714.02	3,686.90	27.13	136.901		
5,400.00	5,389.40	5,790.67	5,772.16	19.05	20.81	-146.01	-106.13	3,514.13	3,711.20	3,683.56	27.64	134.278		
5,500.00	5,488.85	5,890.61	5,871.36	19.42	21.20	-146.04	-110.32	3,502.69	3,708.38	3,680.23	28.15	131.747		
5,600.00	5,588.31	5,990.56	5,970.56	19.80	21.59	-146.07	-114.51	3,491.24	3,705.55	3,676.90	28.66	129.302		
5,700.00	5,687.76	6,090.50	6,069.76	20.17	21.98	-146.09	-118.71	3,479.80	3,702.73	3,673.56	29.17	126.939		
5,800.00	5,787.21	6,190.45	6,168.96	20.55	22.37	-146.12	-122.90	3,468.35	3,699.91	3,670.23	29.68	124.656		
5,900.00	5,886.66	6,290.39	6,268.15	20.92	22.77	-146.15	-127.09	3,456.91	3,697.09	3,666.90	30.19	122.446		
6,000.00	5,986.11	6,390.34	6,367.35	21.30	23.16	-146.17	-131.28	3,445.46	3,694.27	3,663.57	30.71	120.309		
6,100.00	6,085.56	6,490.28	6,466.55	21.68	23.55	-146.20	-135.48	3,434.02	3,691.45	3,660.23	31.22	118.239		
6,200.00	6,185.02	6,590.23	6,565.75	22.06	23.95	-146.23	-139.67	3,422.57	3,688.64	3,656.90	31.73	116.235		
6,300.00	6,284.47	6,690.17	6,664.95	22.44	24.34	-146.26	-143.86	3,411.13	3,685.82	3,653.57	32.25	114.292		
6,400.00	6,383.92	6,790.12	6,764.15	22.82	24.73	-146.28	-148.05	3,399.68	3,683.00	3,650.24	32.76	112.409		
6,500.00	6,483.37	6,890.06	6,863.35	23.20	25.13	-146.31	-152.24	3,388.24	3,680.19	3,646.91	33.28	110.583		
6,600.00	6,582.82	6,990.01	6,962.55	23.58	25.53	-146.34	-156.44	3,376.79	3,677.37	3,643.58	33.80	108.811		
6,700.00	6,682.28	7,089.95	7,061.75	23.96	25.92	-146.36	-160.63	3,365.35	3,674.56	3,640.25	34.31	107.091		
6,800.00	6,781.73	7,189.90	7,160.95	24.34	26.32	-146.39	-164.82	3,353.90	3,671.75	3,636.92	34.83	105.421		
6,900.00	6,881.18	7,289.84	7,260.15	24.72	26.72	-146.42	-169.01	3,342.46	3,668.94	3,633.59	35.35	103.799		
7,000.00	6,980.63	7,389.79	7,359.35	25.11	27.11	-146.45	-173.21	3,331.01	3,666.13	3,630.26	35.86	102.222		
7,100.00	7,080.08	7,489.73	7,458.54	25.49	27.51	-146.47	-177.40	3,319.57	3,663.32	3,626.93	36.38	100.689		
7,175.92	7,155.59	7,565.62	7,533.86	25.78	27.81	-146.49	-180.58	3,310.88	3,661.18	3,624.41	36.78	99.554		
7,200.00	7,179.54	7,589.68	7,557.74	25.87	27.91	-146.49	-181.59	3,308.12	3,660.44	3,623.54	36.90	99.197		
7,300.00	7,279.18	7,689.57	7,656.89	26.25	28.31	-146.47	-185.78	3,296.68	3,656.02	3,618.60	37.42	97.710		
7,400.00	7,379.00	7,778.96	7,745.61	26.62	28.66	-146.40	-189.52	3,286.46	3,649.45	3,611.54	37.91	96.272		
7,500.00	7,478.94	7,831.40	7,797.72	26.97	28.87	-146.32	-191.55	3,280.94	3,641.60	3,603.29	38.31	95.055		
7,576.07	7,555.00	7,871.30	7,837.42	27.23	29.02	89.33	-192.92	3,277.19	3,635.04	3,596.43	38.61	94.148		
7,600.00	7,578.93	7,900.00	7,866.00	27.32	29.13	89.35	-193.82	3,274.73	3,633.00	3,594.26	38.74	93.777		
7,700.00	7,678.93	7,936.41	7,902.28	27.65	29.27	89.36	-194.86	3,271.91	3,624.94	3,585.85	39.09	92.740		
7,800.00	7,778.93	8,000.00	7,965.72	27.99	29.51	89.39	-196.38	3,267.75	3,618.27	3,578.77	39.49	91.613		
7,900.00	7,878.93	8,041.83	8,007.48	28.33	29.66	89.40	-197.18	3,265.55	3,612.83	3,572.99	39.84	90.679		
8,000.00	7,978.93	8,100.00	8,065.60	28.67	29.87	89.41	-198.04	3,263.22	3,608.74	3,568.51	40.23	89.711		
8,100.00	8,078.93	8,147.54	8,113.13	29.01	30.04	89.42	-198.51	3,261.92	3,605.94	3,565.36	40.58	88.869		
8,200.00	8,178.93	8,200.00	8,165.58	29.35	30.22	89.42	-198.80	3,261.14	3,604.45	3,563.51	40.93	88.056		
8,295.71	8,274.65	8,265.97	8,231.55	29.68	30.44	89.43	-198.85	3,261.00	3,604.18	3,562.86	41.31	87.237		
8,300.00	8,278.93	8,270.26	8,235.83	29.69	30.45	89.43	-198.85	3,261.00	3,604.18	3,562.84	41.34	87.193		
8,400.00	8,378.93	8,370.26	8,335.83	30.03	30.79	89.43	-198.85	3,261.00	3,604.18	3,562.36	41.82	86.180		
8,500.00	8,478.93	8,470.26	8,435.83	30.37	31.12	89.43	-198.85	3,261.00	3,604.18	3,561.87	42.31	85.189		
8,600.00	8,578.93	8,570.26	8,535.83	30.72	31.45	89.43	-198.85	3,261.00	3,604.18	3,561.38	42.79	84.220		
8,700.00	8,678.93	8,670.26	8,635.83	31.06	31.78	89.43	-198.85	3,261.00	3,604.18	3,560.90	43.28	83.272		
8,800.00	8,778.93	8,770.26	8,735.83	31.40	32.12	89.43	-198.85	3,261.00	3,604.18	3,560.41	43.77	82.344		
8,900.00	8,878.93	8,870.26	8,835.83	31.74	32.45	89.43	-198.85	3,261.00	3,604.18	3,559.92	44.26	81.436		
9,000.00	8,978.93	8,970.26	8,935.83	32.09	32.79	89.43	-198.85	3,261.00	3,604.18	3,559.43	44.75	80.546		
9,100.00	9,078.93	9,070.26	9,035.83	32.43	33.12	89.43	-198.85	3,261.00	3,604.18	3,558.94	45.24	79.675		
9,200.00	9,178.93	9,170.26	9,135.83	32.77	33.46	89.43	-198.85	3,261.00	3,604.18	3,558.45	45.73	78.823		
9,300.00	9,278.93	9,270.26	9,235.83	33.12	33.79	89.43	-198.85	3,261.00	3,604.18	3,557.96	46.21	77.987		
9,400.00	9,378.93	9,370.26	9,335.83	33.46	34.13	89.43	-198.85	3,261.00	3,604.18	3,557.47	46.71	77.169		
9,500.00	9,478.93	9,470.26	9,435.83	33.81	34.47	89.43	-198.85	3,261.00	3,604.18	3,556.98	47.20	76.367		
9,600.00	9,578.93	9,570.26	9,535.83	34.15	34.81	89.43	-198.85	3,261.00	3,604.18	3,556.49	47.69	75.581		
9,700.00	9,678.93	9,670.26	9,635.83	34.50	35.14	89.43	-198.85	3,261.00	3,604.18	3,556.00	48.18	74.810		
9,800.00	9,778.93	9,770.26	9,735.83	34.84	35.48	89.43	-198.85	3,261.00	3,604.18	3,555.51	48.67	74.055		
9,900.00	9,878.93	9,870.26	9,835.83	35.19	35.82	89.43	-198.85	3,261.00	3,604.18	3,555.02	49.16	73.314		
10,000.00	9,978.94	9,970.26	9,935.84	35.54	36.16	89.43	-198.85	3,261.00	3,604.18	3,554.52	49.65	72.587		

CC - Min centre to center distance or 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 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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	
10,100.00	10,078.94	10,070.26	10,035.84	35.88	36.50	89.43	-198.85	3,261.00	3,604.18	3,554.03	50.15	71.874		
10,200.00	10,178.94	10,170.26	10,135.84	36.23	36.84	89.43	-198.85	3,261.00	3,604.18	3,553.54	50.64	71.175		
10,300.00	10,278.94	10,270.26	10,235.84	36.58	37.18	89.43	-198.85	3,261.00	3,604.18	3,553.05	51.13	70.489		
10,400.00	10,378.94	10,370.26	10,335.84	36.92	37.52	89.43	-198.85	3,261.00	3,604.18	3,552.55	51.62	69.815		
10,500.00	10,478.94	10,470.26	10,435.84	37.27	37.86	89.43	-198.85	3,261.00	3,604.18	3,552.06	52.12	69.154		
10,600.00	10,578.94	10,570.26	10,535.84	37.62	38.20	89.43	-198.85	3,261.00	3,604.18	3,551.57	52.61	68.505		
10,700.00	10,678.94	10,670.26	10,635.84	37.97	38.55	89.43	-198.85	3,261.00	3,604.18	3,551.07	53.11	67.868		
10,800.00	10,778.94	10,770.26	10,735.84	38.32	38.89	89.43	-198.85	3,261.00	3,604.18	3,550.58	53.60	67.242		
10,900.00	10,878.94	10,870.26	10,835.84	38.66	39.23	89.43	-198.85	3,261.00	3,604.18	3,550.08	54.09	66.627		
11,000.00	10,978.94	10,970.26	10,935.84	39.01	39.57	89.43	-198.85	3,261.00	3,604.18	3,549.59	54.59	66.023		
11,100.00	11,078.94	11,070.26	11,035.84	39.36	39.92	89.43	-198.85	3,261.00	3,604.18	3,549.09	55.08	65.430		
11,200.00	11,178.94	11,170.26	11,135.84	39.71	40.26	89.43	-198.85	3,261.00	3,604.18	3,548.60	55.58	64.847		
11,300.00	11,278.94	11,270.26	11,235.84	40.06	40.60	89.43	-198.85	3,261.00	3,604.18	3,548.10	56.08	64.274		
11,400.00	11,378.94	11,370.26	11,335.84	40.41	40.95	89.43	-198.85	3,261.00	3,604.18	3,547.61	56.57	63.711		
11,402.36	11,381.29	11,372.62	11,338.19	40.42	40.95	89.43	-198.85	3,261.00	3,604.18	3,547.60	56.58	63.698 CC		
11,500.00	11,478.94	11,468.87	11,434.02	40.76	41.28	89.30	-191.09	3,260.93	3,604.19	3,547.14	57.05	63.173		
11,556.07	11,535.00	11,522.13	11,486.08	40.95	41.44	89.12	-179.92	3,260.82	3,604.25	3,546.94	57.31	62.893		
11,600.00	11,578.89	11,562.64	11,524.85	41.10	41.56	89.45	-168.22	3,260.72	3,604.34	3,546.84	57.50	62.685		
11,650.00	11,628.51	11,607.95	11,567.11	41.27	41.69	89.26	-151.92	3,260.57	3,604.47	3,546.76	57.71	62.463		
11,700.00	11,677.43	11,652.47	11,607.26	41.43	41.80	89.07	-132.70	3,260.39	3,604.63	3,546.73	57.90	62.254		
11,750.00	11,725.25	11,696.30	11,645.21	41.58	41.91	88.90	-110.80	3,260.19	3,604.83	3,546.74	58.09	62.059		
11,800.00	11,771.63	11,739.48	11,680.86	41.72	42.00	88.73	-86.44	3,259.97	3,605.04	3,546.78	58.26	61.876		
11,850.00	11,816.21	11,782.09	11,714.13	41.85	42.08	88.57	-59.84	3,259.72	3,605.27	3,546.84	58.43	61.704		
11,900.00	11,858.65	11,824.19	11,744.98	41.96	42.15	88.41	-31.21	3,259.46	3,605.51	3,546.92	58.59	61.541		
11,950.00	11,898.62	11,865.82	11,773.33	42.06	42.21	88.27	-0.74	3,259.18	3,605.74	3,547.01	58.74	61.386		
12,000.00	11,935.83	11,907.05	11,799.16	42.15	42.26	88.14	31.38	3,258.89	3,605.98	3,547.09	58.89	61.238		
12,050.00	11,969.99	11,950.00	11,823.54	42.22	42.31	88.02	66.73	3,258.56	3,606.21	3,547.17	59.03	61.089		
12,100.00	12,000.83	11,988.47	11,843.07	42.28	42.34	87.92	99.86	3,258.26	3,606.41	3,547.25	59.17	60.953		
12,150.00	12,028.14	12,028.76	11,861.09	42.33	42.38	87.83	135.89	3,257.93	3,606.60	3,547.30	59.31	60.814		
12,200.00	12,051.68	12,068.82	11,876.46	42.37	42.41	87.75	172.87	3,257.59	3,606.76	3,547.32	59.44	60.674		
12,250.00	12,071.30	12,108.70	11,889.16	42.41	42.44	87.69	210.67	3,257.25	3,606.90	3,547.31	59.58	60.534		
12,300.00	12,086.83	12,150.00	11,899.50	42.51	42.49	87.64	250.64	3,256.88	3,607.00	3,547.27	59.73	60.389		
12,350.00	12,098.17	12,188.06	11,906.46	42.64	42.55	87.61	288.05	3,256.54	3,607.06	3,547.19	59.87	60.248		
12,400.00	12,105.22	12,227.62	11,911.05	42.76	42.63	87.59	327.33	3,256.18	3,607.09	3,547.07	60.02	60.101		
12,450.00	12,107.93	12,267.14	11,912.91	42.89	42.72	87.59	366.80	3,255.82	3,607.07	3,546.91	60.17	59.952		
12,461.58	12,107.93	12,276.30	11,912.95	42.92	42.74	87.59	375.95	3,255.73	3,607.07	3,546.86	60.20	59.917		
12,500.00	12,107.56	12,312.77	11,912.42	43.03	42.84	87.58	412.42	3,255.40	3,607.05	3,546.71	60.34	59.779		
12,600.00	12,106.60	12,412.77	11,910.81	43.34	43.16	87.57	512.40	3,254.48	3,607.03	3,546.26	60.77	59.357		
12,700.00	12,105.64	12,512.76	11,909.20	43.71	43.54	87.56	612.38	3,253.57	3,607.00	3,545.72	61.28	58.859		
12,800.00	12,104.67	12,612.76	11,907.59	44.14	43.98	87.55	712.36	3,252.65	3,606.97	3,545.09	61.88	58.290		
12,900.00	12,103.71	12,712.76	11,905.98	44.63	44.48	87.54	812.34	3,251.74	3,606.95	3,544.39	62.56	57.657		
13,000.00	12,102.75	12,812.76	11,904.37	45.16	45.04	87.53	912.32	3,250.82	3,606.92	3,543.61	63.32	56.967		
13,100.00	12,101.78	12,912.76	11,902.76	45.75	45.64	87.52	1,012.30	3,249.91	3,606.90	3,542.75	64.15	56.226		
13,200.00	12,100.82	13,012.75	11,901.15	46.39	46.30	87.51	1,112.28	3,248.99	3,606.87	3,541.81	65.06	55.442		
13,300.00	12,099.86	13,112.75	11,899.54	47.08	47.00	87.50	1,212.26	3,248.08	3,606.85	3,540.81	66.03	54.621		
13,400.00	12,098.89	13,212.75	11,897.93	47.81	47.75	87.49	1,312.24	3,247.16	3,606.82	3,539.74	67.08	53.771		
13,500.00	12,097.93	13,312.75	11,896.32	48.59	48.54	87.48	1,412.23	3,246.24	3,606.80	3,538.61	68.19	52.897		
13,600.00	12,096.97	13,412.74	11,894.72	49.41	49.38	87.47	1,512.21	3,245.33	3,606.77	3,537.42	69.35	52.005		
13,700.00	12,096.00	13,512.74	11,893.11	50.28	50.25	87.46	1,612.19	3,244.41	3,606.75	3,536.17	70.58	51.101		
13,800.00	12,095.04	13,612.74	11,891.50	51.18	51.17	87.45	1,712.17	3,243.50	3,606.72	3,534.86	71.86	50.190		
13,900.00	12,094.08	13,712.74	11,889.89	52.12	52.12	87.44	1,812.15	3,242.58	3,606.70	3,533.50	73.19	49.275		
14,000.00	12,093.11	13,812.74	11,888.28	53.09	53.10	87.43	1,912.13	3,241.67	3,606.67	3,532.09	74.58	48.362		

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 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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	12,092.15	13,912.73	11,886.67	54.09	54.11	87.42	2,012.11	3,240.75	3,606.65	3,530.64	76.01	47.452		
14,200.00	12,091.19	14,012.73	11,885.06	55.13	55.16	87.41	2,112.09	3,239.84	3,606.62	3,529.14	77.48	46.550		
14,300.00	12,090.23	14,112.73	11,883.45	56.19	56.24	87.40	2,212.07	3,238.92	3,606.60	3,527.61	78.99	45.657		
14,400.00	12,089.26	14,212.73	11,881.84	57.29	57.34	87.39	2,312.05	3,238.01	3,606.57	3,526.03	80.55	44.777		
14,500.00	12,088.30	14,312.73	11,880.23	58.41	58.47	87.38	2,412.03	3,237.09	3,606.55	3,524.41	82.14	43.910		
14,600.00	12,087.34	14,412.72	11,878.63	59.55	59.62	87.37	2,512.01	3,236.17	3,606.53	3,522.77	83.76	43.058		
14,700.00	12,086.37	14,512.72	11,877.02	60.72	60.79	87.36	2,611.99	3,235.26	3,606.50	3,521.08	85.42	42.222		
14,800.00	12,085.41	14,612.72	11,875.41	61.91	61.99	87.35	2,711.98	3,234.34	3,606.48	3,519.37	87.11	41.403		
14,900.00	12,084.45	14,712.72	11,873.80	63.12	63.21	87.34	2,811.96	3,233.43	3,606.46	3,517.63	88.82	40.603		
15,000.00	12,083.48	14,812.72	11,872.19	64.34	64.44	87.33	2,911.94	3,232.51	3,606.43	3,515.86	90.57	39.820		
15,100.00	12,082.52	14,912.71	11,870.58	65.59	65.70	87.32	3,011.92	3,231.60	3,606.41	3,514.07	92.34	39.056		
15,200.00	12,081.56	15,012.71	11,868.97	66.86	66.97	87.31	3,111.90	3,230.68	3,606.39	3,512.25	94.13	38.311		
15,300.00	12,080.59	15,112.71	11,867.36	68.14	68.26	87.30	3,211.88	3,229.77	3,606.36	3,510.41	95.95	37.585		
15,400.00	12,079.63	15,212.71	11,865.75	69.44	69.56	87.29	3,311.86	3,228.85	3,606.34	3,508.55	97.79	36.877		
15,500.00	12,078.67	15,312.70	11,864.14	70.75	70.88	87.28	3,411.84	3,227.94	3,606.32	3,506.66	99.65	36.188		
15,600.00	12,077.70	15,412.70	11,862.53	72.08	72.21	87.27	3,511.82	3,227.02	3,606.29	3,504.76	101.53	35.518		
15,700.00	12,076.74	15,512.70	11,860.93	73.42	73.56	87.25	3,611.80	3,226.10	3,606.27	3,502.84	103.43	34.865		
15,800.00	12,075.78	15,612.70	11,859.32	74.77	74.91	87.24	3,711.78	3,225.19	3,606.25	3,500.90	105.35	34.231		
15,900.00	12,074.82	15,712.70	11,857.71	76.13	76.28	87.23	3,811.76	3,224.27	3,606.23	3,498.94	107.28	33.614		
16,000.00	12,073.85	15,812.69	11,856.10	77.51	77.66	87.22	3,911.74	3,223.36	3,606.20	3,496.97	109.23	33.014		
16,100.00	12,072.89	15,912.69	11,854.49	78.89	79.05	87.21	4,011.73	3,222.44	3,606.18	3,494.99	111.19	32.431		
16,200.00	12,071.93	16,012.69	11,852.88	80.29	80.45	87.20	4,111.71	3,221.53	3,606.16	3,492.99	113.17	31.864		
16,300.00	12,070.96	16,112.69	11,851.27	81.69	81.86	87.19	4,211.69	3,220.61	3,606.14	3,490.98	115.16	31.314		
16,400.00	12,070.00	16,212.69	11,849.66	83.11	83.28	87.18	4,311.67	3,219.70	3,606.12	3,488.95	117.17	30.778		
16,500.00	12,069.04	16,312.68	11,848.05	84.53	84.71	87.17	4,411.65	3,218.78	3,606.09	3,486.91	119.18	30.258		
16,600.00	12,068.07	16,412.68	11,846.44	85.96	86.14	87.16	4,511.63	3,217.87	3,606.07	3,484.87	121.21	29.752		
16,700.00	12,067.11	16,512.68	11,844.83	87.40	87.58	87.15	4,611.61	3,216.95	3,606.05	3,482.81	123.24	29.260		
16,800.00	12,066.15	16,612.68	11,843.23	88.85	89.03	87.14	4,711.59	3,216.03	3,606.03	3,480.74	125.29	28.781		
16,900.00	12,065.18	16,712.68	11,841.62	90.30	90.49	87.13	4,811.57	3,215.12	3,606.01	3,478.66	127.35	28.316		
17,000.00	12,064.22	16,812.67	11,840.01	91.76	91.95	87.12	4,911.55	3,214.20	3,605.99	3,476.57	129.41	27.864		
17,100.00	12,063.26	16,912.67	11,838.40	93.23	93.42	87.11	5,011.53	3,213.29	3,605.97	3,474.48	131.49	27.424		
17,200.00	12,062.30	17,012.67	11,836.79	94.70	94.90	87.10	5,111.51	3,212.37	3,605.95	3,472.37	133.57	26.996		
17,300.00	12,061.33	17,112.67	11,835.18	96.18	96.38	87.09	5,211.49	3,211.46	3,605.92	3,470.26	135.67	26.580		
17,400.00	12,060.37	17,212.66	11,833.57	97.66	97.86	87.08	5,311.48	3,210.54	3,605.90	3,468.14	137.76	26.174		
17,500.00	12,059.41	17,312.66	11,831.96	99.15	99.35	87.07	5,411.46	3,209.63	3,605.88	3,466.01	139.87	25.780		
17,600.00	12,058.44	17,412.66	11,830.35	100.64	100.85	87.06	5,511.44	3,208.71	3,605.86	3,463.88	141.99	25.396		
17,700.00	12,057.48	17,512.66	11,828.74	102.14	102.35	87.05	5,611.42	3,207.80	3,605.84	3,461.74	144.11	25.022		
17,800.00	12,056.52	17,612.66	11,827.14	103.65	103.86	87.04	5,711.40	3,206.88	3,605.82	3,459.59	146.23	24.658		
17,900.00	12,055.55	17,712.65	11,825.53	105.15	105.37	87.03	5,811.38	3,205.96	3,605.80	3,457.44	148.37	24.303		
18,000.00	12,054.59	17,812.65	11,823.92	106.67	106.88	87.02	5,911.36	3,205.05	3,605.78	3,455.28	150.50	23.958		
18,100.00	12,053.63	17,912.65	11,822.31	108.18	108.40	87.01	6,011.34	3,204.13	3,605.76	3,453.11	152.65	23.621		
18,200.00	12,052.66	18,012.65	11,820.70	109.70	109.92	87.00	6,111.32	3,203.22	3,605.74	3,450.94	154.80	23.293		
18,300.00	12,051.70	18,112.65	11,819.09	111.23	111.45	86.99	6,211.30	3,202.30	3,605.72	3,448.77	156.95	22.973		
18,400.00	12,050.74	18,212.64	11,817.48	112.75	112.98	86.98	6,311.28	3,201.39	3,605.70	3,446.59	159.11	22.661		
18,500.00	12,049.77	18,312.64	11,815.87	114.29	114.51	86.97	6,411.26	3,200.47	3,605.68	3,444.41	161.28	22.357		
18,600.00	12,048.81	18,412.64	11,814.26	115.82	116.05	86.96	6,511.24	3,199.56	3,605.66	3,442.22	163.45	22.060		
18,700.00	12,047.85	18,512.64	11,812.65	117.36	117.59	86.95	6,611.23	3,198.64	3,605.65	3,440.02	165.62	21.770		
18,800.00	12,046.89	18,612.64	11,811.04	118.90	119.13	86.94	6,711.21	3,197.73	3,605.63	3,437.83	167.80	21.488		
18,900.00	12,045.92	18,712.63	11,809.44	120.44	120.67	86.93	6,811.19	3,196.81	3,605.61	3,435.63	169.98	21.212		
19,000.00	12,044.96	18,812.63	11,807.83	121.99	122.22	86.92	6,911.17	3,195.89	3,605.59	3,433.42	172.17	20.942		
19,100.00	12,044.00	18,912.63	11,806.22	123.54	123.77	86.90	7,011.15	3,194.98	3,605.57	3,431.21	174.36	20.679		
19,200.00	12,043.03	19,012.63	11,804.61	125.09	125.33	86.89	7,111.13	3,194.06	3,605.55	3,429.00	176.55	20.422		

CC - Min centre to center distance or 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 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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	12,042.07	19,112.63	11,803.00	126.64	126.88	86.88	7,211.11	3,193.15	3,605.53	3,426.79	178.75	20.171		
19,400.00	12,041.11	19,212.62	11,801.39	128.20	128.44	86.87	7,311.09	3,192.23	3,605.52	3,424.57	180.95	19.926		
19,500.00	12,040.14	19,312.62	11,799.78	129.76	130.00	86.86	7,411.07	3,191.32	3,605.50	3,422.35	183.15	19.686		
19,600.00	12,039.18	19,412.62	11,798.17	131.32	131.56	86.85	7,511.05	3,190.40	3,605.48	3,420.12	185.35	19.452		
19,700.00	12,038.22	19,512.62	11,796.56	132.88	133.13	86.84	7,611.03	3,189.49	3,605.46	3,417.90	187.56	19.223		
19,800.00	12,037.25	19,612.61	11,794.95	134.45	134.70	86.83	7,711.01	3,188.57	3,605.44	3,415.67	189.78	18.998		
19,900.00	12,036.29	19,712.61	11,793.34	136.02	136.26	86.82	7,810.99	3,187.66	3,605.43	3,413.43	191.99	18.779		
20,000.00	12,035.33	19,812.61	11,791.74	137.59	137.83	86.81	7,910.98	3,186.74	3,605.41	3,411.20	194.21	18.565		
20,100.00	12,034.36	19,912.61	11,790.13	139.16	139.41	86.80	8,010.96	3,185.82	3,605.39	3,408.96	196.43	18.355		
20,200.00	12,033.40	20,012.61	11,788.52	140.73	140.98	86.79	8,110.94	3,184.91	3,605.37	3,406.72	198.65	18.149		
20,300.00	12,032.44	20,112.60	11,786.91	142.31	142.56	86.78	8,210.92	3,183.99	3,605.36	3,404.48	200.88	17.948		
20,400.00	12,031.48	20,212.60	11,785.30	143.88	144.14	86.77	8,310.90	3,183.08	3,605.34	3,402.24	203.10	17.751		
20,500.00	12,030.51	20,312.60	11,783.69	145.46	145.72	86.76	8,410.88	3,182.16	3,605.32	3,399.99	205.33	17.558		
20,600.00	12,029.55	20,412.60	11,782.08	147.04	147.30	86.75	8,510.86	3,181.25	3,605.30	3,397.74	207.56	17.370		
20,700.00	12,028.59	20,512.60	11,780.47	148.62	148.88	86.74	8,610.84	3,180.33	3,605.29	3,395.49	209.80	17.185		
20,800.00	12,027.62	20,612.59	11,778.86	150.21	150.46	86.73	8,710.82	3,179.42	3,605.27	3,393.24	212.03	17.003		
20,900.00	12,026.66	20,712.59	11,777.25	151.79	152.05	86.72	8,810.80	3,178.50	3,605.25	3,390.98	214.27	16.826		
21,000.00	12,025.70	20,812.59	11,775.65	153.38	153.64	86.71	8,910.78	3,177.59	3,605.24	3,388.73	216.51	16.652		
21,100.00	12,024.73	20,912.59	11,774.04	154.96	155.22	86.70	9,010.76	3,176.67	3,605.22	3,386.47	218.75	16.481		
21,200.00	12,023.77	21,012.59	11,772.43	156.55	156.81	86.69	9,110.74	3,175.75	3,605.21	3,384.21	220.99	16.314		
21,300.00	12,022.81	21,112.58	11,770.82	158.14	158.41	86.68	9,210.73	3,174.84	3,605.19	3,381.95	223.24	16.149		
21,400.00	12,021.84	21,212.58	11,769.21	159.73	160.00	86.67	9,310.71	3,173.92	3,605.17	3,379.69	225.49	15.988		
21,500.00	12,020.88	21,312.58	11,767.60	161.33	161.59	86.66	9,410.69	3,173.01	3,605.16	3,377.42	227.73	15.831		
21,600.00	12,019.92	21,412.58	11,765.99	162.92	163.19	86.65	9,510.67	3,172.09	3,605.14	3,375.16	229.98	15.676		
21,700.00	12,018.95	21,512.57	11,764.38	164.51	164.78	86.64	9,610.65	3,171.18	3,605.13	3,372.89	232.24	15.524		
21,800.00	12,017.99	21,612.57	11,762.77	166.11	166.38	86.63	9,710.63	3,170.26	3,605.11	3,370.62	234.49	15.374		
21,900.00	12,017.03	21,712.57	11,761.16	167.71	167.98	86.62	9,810.61	3,169.35	3,605.09	3,368.35	236.74	15.228		
22,000.00	12,016.07	21,812.57	11,759.55	169.31	169.57	86.61	9,910.59	3,168.43	3,605.08	3,366.08	239.00	15.084		
22,100.00	12,015.10	21,912.57	11,757.95	170.90	171.17	86.60	10,010.57	3,167.51	3,605.06	3,363.81	241.26	14.943		
22,200.00	12,014.14	22,012.56	11,756.34	172.50	172.77	86.59	10,110.55	3,166.60	3,605.05	3,361.54	243.51	14.804		
22,238.31	12,013.77	22,050.87	11,755.72	173.12	173.39	86.58	10,148.85	3,166.25	3,605.04	3,360.66	244.38	14.752 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 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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	89.98	1.48	3,841.99	3,842.24					
100.00	100.00	55.90	55.90	0.13	0.08	89.98	1.48	3,841.99	3,841.99	3,841.84	0.15	N/A		
200.00	200.00	155.90	155.90	0.48	0.34	89.98	1.48	3,841.99	3,841.99	3,841.39	0.59	6,483.531		
300.00	300.00	255.90	255.90	0.84	0.70	89.98	1.48	3,841.99	3,841.99	3,840.89	1.10	3,506.818		
400.00	400.00	355.90	355.90	1.20	1.06	89.98	1.48	3,841.99	3,841.99	3,840.39	1.60	2,399.632		
500.00	500.00	455.90	455.90	1.56	1.42	89.98	1.48	3,841.99	3,841.99	3,839.88	2.11	1,823.205		
600.00	600.00	555.90	555.90	1.92	1.78	89.98	1.48	3,841.99	3,841.99	3,839.37	2.61	1,469.907		
700.00	700.00	655.90	655.90	2.28	2.13	89.98	1.48	3,841.99	3,841.99	3,838.87	3.12	1,231.246		
800.00	800.00	755.90	755.90	2.63	2.49	89.98	1.48	3,841.99	3,841.99	3,838.36	3.63	1,059.235		
900.00	900.00	855.90	855.90	2.99	2.85	89.98	1.48	3,841.99	3,841.99	3,837.85	4.13	929.381		
1,000.00	1,000.00	955.90	955.90	3.35	3.21	89.98	1.48	3,841.99	3,841.99	3,837.35	4.64	827.882		
1,100.00	1,100.00	1,055.90	1,055.90	3.71	3.57	89.98	1.48	3,841.99	3,841.99	3,836.84	5.15	746.366		
1,200.00	1,200.00	1,155.90	1,155.90	4.07	3.93	89.98	1.48	3,841.99	3,841.99	3,836.33	5.65	679.462		
1,300.00	1,300.00	1,255.90	1,255.90	4.43	4.29	89.98	1.48	3,841.99	3,841.99	3,835.82	6.16	623.564		
1,400.00	1,400.00	1,355.90	1,355.90	4.79	4.64	89.98	1.48	3,841.99	3,841.99	3,835.32	6.67	576.163		
1,500.00	1,500.00	1,455.90	1,455.90	5.14	5.00	89.98	1.48	3,841.99	3,841.99	3,834.81	7.18	535.458		
1,600.00	1,600.00	1,555.90	1,555.90	5.50	5.36	89.98	1.48	3,841.99	3,841.99	3,834.30	7.68	500.126		
1,700.00	1,700.00	1,655.90	1,655.90	5.86	5.72	89.98	1.48	3,841.99	3,841.99	3,833.80	8.19	469.167		
1,800.00	1,800.00	1,755.90	1,755.90	6.22	6.08	89.98	1.48	3,841.99	3,841.99	3,833.29	8.70	441.817		
1,900.00	1,900.00	1,855.90	1,855.90	6.58	6.44	89.98	1.48	3,841.99	3,841.99	3,832.78	9.20	417.480		
2,000.00	2,000.00	1,955.90	1,955.90	6.94	6.79	89.98	1.48	3,841.99	3,841.99	3,832.28	9.71	395.684		
2,100.00	2,100.00	2,055.90	2,055.90	7.29	7.15	89.98	1.48	3,841.99	3,841.99	3,831.77	10.22	376.051		
2,200.00	2,200.00	2,155.90	2,155.90	7.65	7.51	89.98	1.48	3,841.99	3,841.99	3,831.26	10.72	358.274		
2,300.00	2,300.00	2,255.90	2,255.90	8.01	7.87	89.98	1.48	3,841.99	3,841.99	3,830.76	11.23	342.102		
2,400.00	2,400.00	2,355.90	2,355.90	8.37	8.23	89.98	1.48	3,841.99	3,841.99	3,830.25	11.74	327.327		
2,500.00	2,500.00	2,455.90	2,455.90	8.73	8.59	89.98	1.48	3,841.99	3,841.99	3,829.74	12.24	313.775		
2,600.00	2,600.00	2,555.90	2,555.90	9.09	8.95	89.98	1.48	3,841.99	3,841.99	3,829.23	12.75	301.301		
2,700.00	2,700.00	2,655.90	2,655.90	9.45	9.30	89.98	1.48	3,841.99	3,841.99	3,828.73	13.26	289.780		
2,800.00	2,800.00	2,755.90	2,755.90	9.80	9.66	89.98	1.48	3,841.99	3,841.99	3,828.22	13.77	279.108		
2,900.00	2,900.00	2,855.90	2,855.90	10.16	10.02	89.98	1.48	3,841.99	3,841.99	3,827.71	14.27	269.194		
3,000.00	3,000.00	2,955.90	2,955.90	10.52	10.38	89.98	1.48	3,841.99	3,841.99	3,827.21	14.78	259.961		
3,100.00	3,100.00	3,055.90	3,055.90	10.88	10.74	89.98	1.48	3,841.99	3,841.99	3,826.70	15.29	251.339		
3,200.00	3,200.00	3,155.90	3,155.90	11.24	11.10	89.98	1.48	3,841.99	3,841.99	3,826.19	15.79	243.272 CC, ES		
3,300.00	3,299.99	3,255.89	3,255.89	11.58	11.45	-145.61	1.48	3,841.99	3,843.07	3,826.78	16.29	235.921		
3,400.00	3,399.91	3,355.81	3,355.81	11.91	11.81	-145.61	1.48	3,841.99	3,846.31	3,829.53	16.78	229.266		
3,500.00	3,499.69	3,455.59	3,455.59	12.25	12.17	-145.62	1.48	3,841.99	3,851.71	3,834.44	17.26	223.105		
3,600.14	3,599.41	3,555.31	3,555.31	12.59	12.53	-145.63	1.48	3,841.99	3,859.28	3,841.53	17.75	217.392		
3,700.00	3,698.72	3,654.62	3,654.62	12.93	12.88	-145.72	1.48	3,841.99	3,867.92	3,849.68	18.24	212.050		
3,800.00	3,798.17	3,754.07	3,754.07	13.27	13.24	-145.81	1.48	3,841.99	3,876.58	3,857.85	18.73	206.966		
3,900.00	3,897.62	3,853.52	3,853.52	13.62	13.60	-145.90	1.48	3,841.99	3,885.25	3,866.03	19.22	202.125		
4,000.00	3,997.08	3,952.98	3,952.98	13.96	13.95	-145.98	1.48	3,841.99	3,893.93	3,874.21	19.71	197.513		
4,100.00	4,096.53	4,052.43	4,052.43	14.32	14.31	-146.07	1.48	3,841.99	3,902.61	3,882.41	20.21	193.115		
4,200.00	4,195.98	4,151.88	4,151.88	14.67	14.67	-146.15	1.48	3,841.99	3,911.31	3,890.60	20.70	188.916		
4,300.00	4,295.43	4,251.33	4,251.33	15.03	15.02	-146.24	1.48	3,841.99	3,920.01	3,898.81	21.20	184.905		
4,400.00	4,394.88	4,350.78	4,350.78	15.38	15.38	-146.32	1.48	3,841.99	3,928.72	3,907.03	21.70	181.069		
4,500.00	4,494.34	4,450.24	4,450.24	15.74	15.74	-146.41	1.48	3,841.99	3,937.44	3,915.25	22.20	177.398		
4,600.00	4,593.79	4,534.94	4,534.94	16.10	16.03	-146.48	1.33	3,842.05	3,946.27	3,923.61	22.65	174.214		
4,700.00	4,693.24	4,600.00	4,599.99	16.47	16.26	-146.52	0.29	3,842.54	3,955.75	3,932.70	23.05	171.593		
4,800.00	4,792.69	4,674.78	4,674.72	16.83	16.50	-146.54	-2.14	3,843.69	3,965.97	3,942.50	23.47	168.984		
4,900.00	4,892.14	4,744.61	4,744.44	17.20	16.73	-146.55	-5.61	3,845.32	3,976.94	3,953.06	23.87	166.581		
5,000.00	4,991.59	4,800.00	4,799.69	17.57	16.91	-146.54	-9.18	3,846.99	3,988.68	3,964.43	24.24	164.536		
5,100.00	5,091.05	4,883.87	4,883.23	17.94	17.18	-146.51	-15.97	3,850.18	4,001.08	3,976.40	24.68	162.107		

CC - Min centre to center distance or 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 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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		
5,200.00	5,190.50	4,976.07	4,974.92	18.31	17.48	-146.46	-24.66	3,854.27	4,014.05	3,988.90	25.14	159.639		
5,300.00	5,289.95	5,075.15	5,073.46	18.68	17.81	-146.41	-34.03	3,858.67	4,027.03	4,001.41	25.63	157.139		
5,400.00	5,389.40	5,174.24	5,172.00	19.05	18.14	-146.36	-43.40	3,863.08	4,040.02	4,013.91	26.11	154.718		
5,500.00	5,488.85	5,273.32	5,270.54	19.42	18.48	-146.30	-52.78	3,867.48	4,053.02	4,026.42	26.60	152.373		
5,600.00	5,588.31	5,372.40	5,369.08	19.80	18.81	-146.25	-62.15	3,871.89	4,066.01	4,038.93	27.09	150.101		
5,700.00	5,687.76	5,471.48	5,467.62	20.17	19.15	-146.20	-71.52	3,876.30	4,079.02	4,051.44	27.58	147.899		
5,800.00	5,787.21	5,570.57	5,566.16	20.55	19.49	-146.15	-80.89	3,880.70	4,092.02	4,063.95	28.07	145.765		
5,900.00	5,886.66	5,669.65	5,664.70	20.92	19.83	-146.10	-90.27	3,885.11	4,105.03	4,076.46	28.57	143.696		
6,000.00	5,986.11	5,768.73	5,763.24	21.30	20.18	-146.04	-99.64	3,889.51	4,118.04	4,088.97	29.06	141.690		
6,100.00	6,085.56	5,867.81	5,861.78	21.68	20.52	-145.99	-109.01	3,893.92	4,131.05	4,101.49	29.56	139.743		
6,200.00	6,185.02	5,966.90	5,960.32	22.06	20.87	-145.94	-118.39	3,898.32	4,144.07	4,114.01	30.06	137.855		
6,300.00	6,284.47	6,065.98	6,058.86	22.44	21.22	-145.89	-127.76	3,902.73	4,157.09	4,126.53	30.56	136.021		
6,400.00	6,383.92	6,165.06	6,157.40	22.82	21.57	-145.84	-137.13	3,907.13	4,170.11	4,139.05	31.06	134.241		
6,500.00	6,483.37	6,264.14	6,255.94	23.20	21.92	-145.79	-146.50	3,911.54	4,183.14	4,151.57	31.57	132.513		
6,600.00	6,582.82	6,363.23	6,354.48	23.58	22.28	-145.74	-155.88	3,915.94	4,196.17	4,164.09	32.07	130.834		
6,700.00	6,682.28	6,462.31	6,453.02	23.96	22.63	-145.69	-165.25	3,920.35	4,209.20	4,176.62	32.58	129.202		
6,800.00	6,781.73	6,561.39	6,551.56	24.34	22.99	-145.65	-174.62	3,924.75	4,222.24	4,189.15	33.09	127.616		
6,900.00	6,881.18	6,701.51	6,691.01	24.72	23.49	-145.59	-186.97	3,930.56	4,235.05	4,201.34	33.71	125.634		
7,000.00	6,980.63	6,888.59	6,877.77	25.11	24.15	-145.61	-196.66	3,935.11	4,246.10	4,211.65	34.45	123.248		
7,100.00	7,080.08	7,046.83	7,035.98	25.49	24.70	-145.71	-198.52	3,935.99	4,255.21	4,220.11	35.10	121.215		
7,175.92	7,155.59	7,122.34	7,111.49	25.78	24.96	-145.77	-198.52	3,935.99	4,261.78	4,226.30	35.49	120.091		
7,200.00	7,179.54	7,146.29	7,135.44	25.87	25.05	-145.80	-198.52	3,935.99	4,263.81	4,228.20	35.61	119.738		
7,300.00	7,279.18	7,245.92	7,235.08	26.25	25.39	-145.93	-198.52	3,935.99	4,270.87	4,234.76	36.11	118.265		
7,400.00	7,379.00	7,345.75	7,334.90	26.62	25.74	-146.01	-198.52	3,935.99	4,275.78	4,239.16	36.61	116.780		
7,500.00	7,478.94	7,445.69	7,434.84	26.97	26.09	-146.06	-198.52	3,935.99	4,278.51	4,241.40	37.11	115.286		
7,576.07	7,555.00	7,521.75	7,510.90	27.23	26.36	-146.09	-198.52	3,935.99	4,279.14	4,241.65	37.49	114.147		
7,600.00	7,578.93	7,545.68	7,534.83	27.32	26.45	-146.09	-198.52	3,935.99	4,279.14	4,241.54	37.61	113.791		
7,700.00	7,678.93	7,645.68	7,634.83	27.65	26.80	-146.09	-198.52	3,935.99	4,279.14	4,241.05	38.10	112.325		
7,800.00	7,778.93	7,745.68	7,734.83	27.99	27.15	-146.09	-198.52	3,935.99	4,279.14	4,240.55	38.59	110.895		
7,900.00	7,878.93	7,845.68	7,834.83	28.33	27.50	-146.09	-198.52	3,935.99	4,279.14	4,240.06	39.08	109.500		
8,000.00	7,978.93	7,945.68	7,934.83	28.67	27.85	-146.09	-198.52	3,935.99	4,279.14	4,239.57	39.57	108.139		
8,100.00	8,078.93	8,045.68	8,034.83	29.01	28.20	-146.09	-198.52	3,935.99	4,279.14	4,239.08	40.06	106.810		
8,200.00	8,178.93	8,145.68	8,134.83	29.35	28.55	-146.09	-198.52	3,935.99	4,279.14	4,238.59	40.56	105.512		
8,300.00	8,278.93	8,245.68	8,234.83	29.69	28.91	-146.09	-198.52	3,935.99	4,279.14	4,238.09	41.05	104.244		
8,400.00	8,378.93	8,345.68	8,334.83	30.03	29.26	-146.09	-198.52	3,935.99	4,279.14	4,237.60	41.54	103.006		
8,500.00	8,478.93	8,445.68	8,434.83	30.37	29.61	-146.09	-198.52	3,935.99	4,279.14	4,237.11	42.04	101.796		
8,600.00	8,578.93	8,545.68	8,534.83	30.72	29.96	-146.09	-198.52	3,935.99	4,279.14	4,236.61	42.53	100.614		
8,700.00	8,678.93	8,645.68	8,634.83	31.06	30.32	-146.09	-198.52	3,935.99	4,279.14	4,236.12	43.02	99.458		
8,800.00	8,778.93	8,745.68	8,734.83	31.40	30.67	-146.09	-198.52	3,935.99	4,279.14	4,235.62	43.52	98.327		
8,900.00	8,878.93	8,845.68	8,834.83	31.74	31.02	-146.09	-198.52	3,935.99	4,279.14	4,235.13	44.01	97.222		
9,000.00	8,978.93	8,945.68	8,934.83	32.09	31.38	-146.09	-198.52	3,935.99	4,279.14	4,234.63	44.51	96.140		
9,100.00	9,078.93	9,045.68	9,034.83	32.43	31.73	-146.09	-198.52	3,935.99	4,279.14	4,234.14	45.00	95.082		
9,200.00	9,178.93	9,145.68	9,134.83	32.77	32.08	-146.09	-198.52	3,935.99	4,279.14	4,233.64	45.50	94.046		
9,300.00	9,278.93	9,245.68	9,234.83	33.12	32.44	-146.09	-198.52	3,935.99	4,279.14	4,233.14	46.00	93.032		
9,400.00	9,378.93	9,345.68	9,334.83	33.46	32.79	-146.09	-198.52	3,935.99	4,279.14	4,232.65	46.49	92.039		
9,500.00	9,478.93	9,445.68	9,434.83	33.81	33.14	-146.09	-198.52	3,935.99	4,279.14	4,232.15	46.99	91.067		
9,600.00	9,578.93	9,545.68	9,534.83	34.15	33.50	-146.09	-198.52	3,935.99	4,279.14	4,231.66	47.49	90.114		
9,700.00	9,678.93	9,645.68	9,634.83	34.50	33.85	-146.09	-198.52	3,935.99	4,279.14	4,231.16	47.98	89.181		
9,800.00	9,778.93	9,745.68	9,734.83	34.84	34.21	-146.09	-198.52	3,935.99	4,279.14	4,230.66	48.48	88.267		
9,900.00	9,878.93	9,845.68	9,834.83	35.19	34.56	-146.09	-198.52	3,935.99	4,279.14	4,230.16	48.98	87.370		
10,000.00	9,978.94	9,945.68	9,934.84	35.54	34.91	-146.09	-198.52	3,935.99	4,279.14	4,229.67	49.47	86.492		
10,100.00	10,078.94	10,045.68	10,034.84	35.88	35.27	-146.09	-198.52	3,935.99	4,279.14	4,229.17	49.97	85.631		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
10,200.00	10,178.94	10,145.68	10,134.84	36.23	35.62	89.51	-198.52	3,935.99	4,279.14	4,228.67	50.47	84.786		
10,300.00	10,278.94	10,245.68	10,234.84	36.58	35.98	89.51	-198.52	3,935.99	4,279.14	4,228.17	50.97	83.957		
10,400.00	10,378.94	10,345.68	10,334.84	36.92	36.33	89.51	-198.52	3,935.99	4,279.14	4,227.68	51.47	83.145		
10,500.00	10,478.94	10,445.68	10,434.84	37.27	36.69	89.51	-198.52	3,935.99	4,279.14	4,227.18	51.96	82.347		
10,600.00	10,578.94	10,545.68	10,534.84	37.62	37.04	89.51	-198.52	3,935.99	4,279.14	4,226.68	52.46	81.565		
10,700.00	10,678.94	10,645.68	10,634.84	37.97	37.39	89.51	-198.52	3,935.99	4,279.14	4,226.18	52.96	80.797		
10,800.00	10,778.94	10,745.68	10,734.84	38.32	37.75	89.51	-198.52	3,935.99	4,279.14	4,225.68	53.46	80.043		
10,900.00	10,878.94	10,845.68	10,834.84	38.66	38.10	89.51	-198.52	3,935.99	4,279.14	4,225.18	53.96	79.303		
11,000.00	10,978.94	10,945.68	10,934.84	39.01	38.46	89.51	-198.52	3,935.99	4,279.14	4,224.68	54.46	78.576		
11,100.00	11,078.94	11,045.74	11,034.89	39.36	38.81	89.51	-198.38	3,935.98	4,279.14	4,224.18	54.96	77.862		
11,139.23	11,118.17	11,084.99	11,074.07	39.50	38.95	89.48	-196.15	3,935.96	4,279.14	4,223.99	55.15	77.589		
11,200.00	11,178.94	11,144.71	11,133.15	39.71	39.15	89.37	-187.64	3,935.89	4,279.15	4,223.71	55.44	77.181		
11,300.00	11,278.94	11,237.41	11,222.24	40.06	39.44	89.03	-162.39	3,935.66	4,279.29	4,223.40	55.89	76.560		
11,400.00	11,378.94	11,320.20	11,297.45	40.41	39.68	88.57	-127.97	3,935.35	4,279.85	4,223.54	56.31	76.009		
11,500.00	11,478.94	11,391.72	11,357.86	40.76	39.87	88.06	-89.77	3,935.00	4,281.16	4,224.47	56.68	75.529		
11,556.07	11,535.00	11,426.98	11,385.77	40.95	39.95	87.77	-68.23	3,934.80	4,282.34	4,225.47	56.88	75.291		
11,600.00	11,578.89	11,450.00	11,403.26	41.10	40.01	87.95	-53.26	3,934.67	4,283.49	4,226.47	57.02	75.126		
11,650.00	11,628.51	11,482.60	11,426.97	41.27	40.08	87.55	-30.89	3,934.46	4,284.93	4,227.75	57.18	74.934		
11,700.00	11,677.43	11,511.73	11,447.04	41.43	40.15	87.17	-9.79	3,934.27	4,286.49	4,229.16	57.33	74.764		
11,750.00	11,725.25	11,540.60	11,465.85	41.58	40.22	86.80	12.10	3,934.07	4,288.14	4,230.67	57.48	74.606		
11,800.00	11,771.63	11,569.23	11,483.40	41.72	40.29	86.44	34.73	3,933.87	4,289.84	4,232.23	57.61	74.460		
11,850.00	11,816.21	11,600.00	11,500.97	41.85	40.36	86.07	59.98	3,933.64	4,291.57	4,233.82	57.75	74.317		
11,900.00	11,858.65	11,625.93	11,514.70	41.96	40.42	85.75	81.98	3,933.44	4,293.28	4,235.41	57.86	74.195		
11,950.00	11,898.62	11,650.00	11,526.55	42.06	40.48	85.45	102.92	3,933.25	4,294.95	4,236.98	57.97	74.083		
12,000.00	11,935.83	11,682.05	11,540.94	42.15	40.56	85.14	131.56	3,932.99	4,296.56	4,238.46	58.10	73.954		
12,050.00	11,969.99	11,700.00	11,548.29	42.22	40.60	84.90	147.93	3,932.84	4,298.09	4,239.90	58.19	73.863		
12,100.00	12,000.83	11,737.74	11,562.06	42.28	40.69	84.61	183.06	3,932.52	4,299.47	4,241.15	58.32	73.721		
12,150.00	12,028.14	11,765.46	11,570.68	42.33	40.76	84.39	209.40	3,932.28	4,300.73	4,242.30	58.43	73.602		
12,200.00	12,051.68	11,800.00	11,579.63	42.37	40.85	84.18	242.75	3,931.98	4,301.84	4,243.28	58.56	73.463		
12,250.00	12,071.30	11,820.71	11,584.02	42.41	40.90	84.04	263.00	3,931.80	4,302.76	4,244.10	58.66	73.352		
12,300.00	12,086.83	11,850.00	11,588.98	42.51	40.98	83.91	291.85	3,931.53	4,303.50	4,244.72	58.78	73.213		
12,350.00	12,098.17	11,875.81	11,592.12	42.64	41.04	83.83	317.47	3,931.30	4,304.04	4,245.14	58.90	73.075		
12,400.00	12,105.22	11,900.00	11,594.02	42.76	41.11	83.77	341.58	3,931.08	4,304.37	4,245.35	59.02	72.932		
12,450.00	12,107.93	11,930.82	11,594.95	42.89	41.19	83.75	372.38	3,930.80	4,304.49	4,245.34	59.16	72.765		
12,461.58	12,107.93	11,941.84	11,594.89	42.92	41.22	83.75	383.40	3,930.70	4,304.50	4,245.30	59.20	72.716		
12,469.15	12,107.86	11,941.84	11,594.89	42.94	41.22	83.75	383.40	3,930.70	4,304.49	4,245.28	59.21	72.700		
12,500.00	12,107.56	11,971.79	11,594.42	43.03	41.31	83.74	413.35	3,930.43	4,304.50	4,245.17	59.32	72.558		
12,600.00	12,106.60	12,071.79	11,592.85	43.34	41.64	83.74	513.33	3,929.52	4,304.52	4,244.75	59.76	72.026		
12,700.00	12,105.64	12,171.79	11,591.28	43.71	42.03	83.73	613.31	3,928.62	4,304.54	4,244.25	60.29	71.402		
12,800.00	12,104.67	12,271.79	11,589.71	44.14	42.48	83.72	713.30	3,927.71	4,304.56	4,243.66	60.89	70.690		
12,900.00	12,103.71	12,371.79	11,588.14	44.63	42.99	83.71	813.28	3,926.80	4,304.58	4,243.00	61.58	69.899		
13,000.00	12,102.75	12,471.79	11,586.57	45.16	43.56	83.70	913.26	3,925.89	4,304.60	4,242.25	62.35	69.039		
13,100.00	12,101.78	12,571.78	11,585.00	45.75	44.18	83.70	1,013.24	3,924.98	4,304.62	4,241.43	63.19	68.117		
13,200.00	12,100.82	12,671.78	11,583.43	46.39	44.85	83.69	1,113.22	3,924.08	4,304.64	4,240.53	64.11	67.142		
13,300.00	12,099.86	12,771.78	11,581.86	47.08	45.57	83.68	1,213.20	3,923.17	4,304.66	4,239.56	65.10	66.124		
13,400.00	12,098.89	12,871.78	11,580.29	47.81	46.34	83.67	1,313.19	3,922.26	4,304.68	4,238.53	66.15	65.070		
13,500.00	12,097.93	12,971.78	11,578.72	48.59	47.16	83.66	1,413.17	3,921.35	4,304.71	4,237.43	67.27	63.989		
13,600.00	12,096.97	13,071.77	11,577.15	49.41	48.02	83.65	1,513.15	3,920.45	4,304.73	4,236.27	68.45	62.887		
13,700.00	12,096.00	13,171.77	11,575.58	50.28	48.92	83.65	1,613.13	3,919.54	4,304.75	4,235.06	69.69	61.771		
13,800.00	12,095.04	13,271.77	11,574.01	51.18	49.86	83.64	1,713.11	3,918.63	4,304.77	4,233.79	70.98	60.648		
13,900.00	12,094.08	13,371.77	11,572.44	52.12	50.83	83.63	1,813.09	3,917.72	4,304.79	4,232.47	72.32	59.522		
14,000.00	12,093.11	13,471.77	11,570.88	53.09	51.84	83.62	1,913.08	3,916.82	4,304.81	4,231.10	73.71	58.399		

CC - Min centre to center distance or 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 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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	12,092.15	13,571.76	11,569.31	54.09	52.88	83.61	2,013.06	3,915.91	4,304.84	4,229.68	75.15	57.282		
14,200.00	12,091.19	13,671.76	11,567.74	55.13	53.95	83.61	2,113.04	3,915.00	4,304.86	4,228.22	76.63	56.175		
14,300.00	12,090.23	13,771.76	11,566.17	56.19	55.05	83.60	2,213.02	3,914.09	4,304.88	4,226.72	78.15	55.081		
14,400.00	12,089.26	13,871.76	11,564.60	57.29	56.18	83.59	2,313.00	3,913.18	4,304.90	4,225.19	79.72	54.003		
14,500.00	12,088.30	13,971.76	11,563.03	58.41	57.33	83.58	2,412.98	3,912.28	4,304.92	4,223.61	81.31	52.943		
14,600.00	12,087.34	14,071.76	11,561.46	59.55	58.51	83.57	2,512.97	3,911.37	4,304.95	4,222.00	82.94	51.901		
14,700.00	12,086.37	14,171.75	11,559.89	60.72	59.71	83.57	2,612.95	3,910.46	4,304.97	4,220.36	84.61	50.881		
14,800.00	12,085.41	14,271.75	11,558.32	61.91	60.93	83.56	2,712.93	3,909.55	4,304.99	4,218.69	86.30	49.882		
14,900.00	12,084.45	14,371.75	11,556.75	63.12	62.17	83.55	2,812.91	3,908.65	4,305.01	4,216.99	88.03	48.906		
15,000.00	12,083.48	14,471.75	11,555.18	64.34	63.42	83.54	2,912.89	3,907.74	4,305.04	4,215.26	89.78	47.953		
15,100.00	12,082.52	14,571.75	11,553.61	65.59	64.70	83.53	3,012.88	3,906.83	4,305.06	4,213.51	91.55	47.023		
15,200.00	12,081.56	14,671.74	11,552.04	66.86	65.99	83.53	3,112.86	3,905.92	4,305.08	4,211.73	93.35	46.117		
15,300.00	12,080.59	14,771.74	11,550.47	68.14	67.30	83.52	3,212.84	3,905.02	4,305.10	4,209.93	95.17	45.234		
15,400.00	12,079.63	14,871.74	11,548.90	69.44	68.63	83.51	3,312.82	3,904.11	4,305.13	4,208.11	97.02	44.375		
15,500.00	12,078.67	14,971.74	11,547.33	70.75	69.96	83.50	3,412.80	3,903.20	4,305.15	4,206.27	98.88	43.539		
15,600.00	12,077.70	15,071.74	11,545.76	72.08	71.32	83.49	3,512.78	3,902.29	4,305.17	4,204.41	100.76	42.726		
15,700.00	12,076.74	15,171.74	11,544.19	73.42	72.68	83.49	3,612.77	3,901.38	4,305.20	4,202.53	102.66	41.936		
15,800.00	12,075.78	15,271.73	11,542.62	74.77	74.05	83.48	3,712.75	3,900.48	4,305.22	4,200.64	104.58	41.167		
15,900.00	12,074.82	15,371.73	11,541.06	76.13	75.44	83.47	3,812.73	3,899.57	4,305.24	4,198.73	106.51	40.420		
16,000.00	12,073.85	15,471.73	11,539.49	77.51	76.84	83.46	3,912.71	3,898.66	4,305.27	4,196.81	108.46	39.694		
16,100.00	12,072.89	15,571.73	11,537.92	78.89	78.24	83.45	4,012.69	3,897.75	4,305.29	4,194.87	110.43	38.988		
16,200.00	12,071.93	15,671.73	11,536.35	80.29	79.66	83.44	4,112.67	3,896.85	4,305.31	4,192.91	112.40	38.303		
16,300.00	12,070.96	15,771.72	11,534.78	81.69	81.08	83.44	4,212.66	3,895.94	4,305.34	4,190.95	114.39	37.637		
16,400.00	12,070.00	15,871.72	11,533.21	83.11	82.52	83.43	4,312.64	3,895.03	4,305.36	4,188.97	116.39	36.990		
16,500.00	12,069.04	15,971.72	11,531.64	84.53	83.96	83.42	4,412.62	3,894.12	4,305.39	4,186.98	118.41	36.361		
16,600.00	12,068.07	16,071.72	11,530.07	85.96	85.41	83.41	4,512.60	3,893.21	4,305.41	4,184.98	120.43	35.750		
16,700.00	12,067.11	16,171.72	11,528.50	87.40	86.86	83.40	4,612.58	3,892.31	4,305.43	4,182.97	122.47	35.156		
16,800.00	12,066.15	16,271.71	11,526.93	88.85	88.33	83.40	4,712.56	3,891.40	4,305.46	4,180.95	124.51	34.579		
16,900.00	12,065.18	16,371.71	11,525.36	90.30	89.80	83.39	4,812.55	3,890.49	4,305.48	4,178.92	126.56	34.018		
17,000.00	12,064.22	16,471.71	11,523.79	91.76	91.27	83.38	4,912.53	3,889.58	4,305.51	4,176.88	128.63	33.473		
17,100.00	12,063.26	16,571.71	11,522.22	93.23	92.75	83.37	5,012.51	3,888.68	4,305.53	4,174.83	130.70	32.942		
17,200.00	12,062.30	16,671.71	11,520.65	94.70	94.24	83.36	5,112.49	3,887.77	4,305.56	4,172.78	132.78	32.426		
17,300.00	12,061.33	16,771.71	11,519.08	96.18	95.73	83.36	5,212.47	3,886.86	4,305.58	4,170.71	134.87	31.924		
17,400.00	12,060.37	16,871.70	11,517.51	97.66	97.23	83.35	5,312.45	3,885.95	4,305.61	4,168.64	136.96	31.436		
17,500.00	12,059.41	16,971.70	11,515.94	99.15	98.74	83.34	5,412.44	3,885.05	4,305.63	4,166.56	139.07	30.961		
17,600.00	12,058.44	17,071.70	11,514.37	100.64	100.24	83.33	5,512.42	3,884.14	4,305.66	4,164.48	141.18	30.499		
17,700.00	12,057.48	17,171.70	11,512.80	102.14	101.76	83.32	5,612.40	3,883.23	4,305.68	4,162.39	143.29	30.049		
17,800.00	12,056.52	17,271.70	11,511.24	103.65	103.27	83.32	5,712.38	3,882.32	4,305.71	4,160.29	145.41	29.610		
17,900.00	12,055.55	17,371.69	11,509.67	105.15	104.79	83.31	5,812.36	3,881.41	4,305.73	4,158.19	147.54	29.183		
18,000.00	12,054.59	17,471.69	11,508.10	106.67	106.32	83.30	5,912.34	3,880.51	4,305.76	4,156.08	149.67	28.767		
18,100.00	12,053.63	17,571.69	11,506.53	108.18	107.84	83.29	6,012.33	3,879.60	4,305.78	4,153.97	151.81	28.362		
18,200.00	12,052.66	17,671.69	11,504.96	109.70	109.38	83.28	6,112.31	3,878.69	4,305.81	4,151.85	153.96	27.967		
18,300.00	12,051.70	17,771.69	11,503.39	111.23	110.91	83.27	6,212.29	3,877.78	4,305.83	4,149.72	156.11	27.583		
18,400.00	12,050.74	17,871.69	11,501.82	112.75	112.45	83.27	6,312.27	3,876.88	4,305.86	4,147.60	158.26	27.207		
18,500.00	12,049.77	17,971.68	11,500.25	114.29	113.99	83.26	6,412.25	3,875.97	4,305.88	4,145.46	160.42	26.841		
18,600.00	12,048.81	18,071.68	11,498.68	115.82	115.54	83.25	6,512.24	3,875.06	4,305.91	4,143.33	162.58	26.484		
18,700.00	12,047.85	18,171.68	11,497.11	117.36	117.08	83.24	6,612.22	3,874.15	4,305.93	4,141.18	164.75	26.136		
18,800.00	12,046.89	18,271.68	11,495.54	118.90	118.63	83.23	6,712.20	3,873.25	4,305.96	4,139.04	166.92	25.796		
18,900.00	12,045.92	18,371.68	11,493.97	120.44	120.19	83.23	6,812.18	3,872.34	4,305.99	4,136.89	169.10	25.465		
19,000.00	12,044.96	18,471.67	11,492.40	121.99	121.74	83.22	6,912.16	3,871.43	4,306.01	4,134.74	171.28	25.141		
19,100.00	12,044.00	18,571.67	11,490.83	123.54	123.30	83.21	7,012.14	3,870.52	4,306.04	4,132.58	173.46	24.825		
19,200.00	12,043.03	18,671.67	11,489.26	125.09	124.86	83.20	7,112.13	3,869.61	4,306.06	4,130.42	175.64	24.516		

CC - Min centre to center distance or 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 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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	12,042.07	18,771.67	11,487.69	126.64	126.42	83.19	7,212.11	3,868.71	4,306.09	4,128.26	177.83	24.214		
19,400.00	12,041.11	18,871.67	11,486.12	128.20	127.99	83.19	7,312.09	3,867.80	4,306.12	4,126.09	180.03	23.919		
19,500.00	12,040.14	18,971.67	11,484.55	129.76	129.56	83.18	7,412.07	3,866.89	4,306.14	4,123.92	182.22	23.631		
19,600.00	12,039.18	19,071.66	11,482.98	131.32	131.13	83.17	7,512.05	3,865.98	4,306.17	4,121.75	184.42	23.350		
19,700.00	12,038.22	19,171.66	11,481.42	132.88	132.70	83.16	7,612.03	3,865.08	4,306.20	4,119.58	186.62	23.074		
19,800.00	12,037.25	19,271.66	11,479.85	134.45	134.27	83.15	7,712.02	3,864.17	4,306.22	4,117.40	188.83	22.805		
19,900.00	12,036.29	19,371.66	11,478.28	136.02	135.85	83.15	7,812.00	3,863.26	4,306.25	4,115.22	191.03	22.542		
20,000.00	12,035.33	19,471.66	11,476.71	137.59	137.42	83.14	7,911.98	3,862.35	4,306.28	4,113.04	193.24	22.284		
20,100.00	12,034.36	19,571.65	11,475.14	139.16	139.00	83.13	8,011.96	3,861.45	4,306.31	4,110.85	195.45	22.032		
20,200.00	12,033.40	19,671.65	11,473.57	140.73	140.58	83.12	8,111.94	3,860.54	4,306.33	4,108.66	197.67	21.786		
20,300.00	12,032.44	19,771.65	11,472.00	142.31	142.16	83.11	8,211.92	3,859.63	4,306.36	4,106.47	199.89	21.544		
20,400.00	12,031.48	19,871.65	11,470.43	143.88	143.75	83.11	8,311.91	3,858.72	4,306.39	4,104.28	202.10	21.308		
20,500.00	12,030.51	19,971.65	11,468.86	145.46	145.33	83.10	8,411.89	3,857.81	4,306.41	4,102.09	204.33	21.076		
20,600.00	12,029.55	20,071.64	11,467.29	147.04	146.92	83.09	8,511.87	3,856.91	4,306.44	4,099.89	206.55	20.849		
20,700.00	12,028.59	20,171.64	11,465.72	148.62	148.51	83.08	8,611.85	3,856.00	4,306.47	4,097.69	208.77	20.627		
20,800.00	12,027.62	20,271.64	11,464.15	150.21	150.10	83.07	8,711.83	3,855.09	4,306.50	4,095.50	211.00	20.410		
20,900.00	12,026.66	20,371.64	11,462.58	151.79	151.69	83.06	8,811.81	3,854.18	4,306.52	4,093.29	213.23	20.197		
21,000.00	12,025.70	20,471.64	11,461.01	153.38	153.28	83.06	8,911.80	3,853.28	4,306.55	4,091.09	215.46	19.988		
21,100.00	12,024.73	20,571.64	11,459.44	154.96	154.87	83.05	9,011.78	3,852.37	4,306.58	4,088.89	217.69	19.783		
21,200.00	12,023.77	20,671.63	11,457.87	156.55	156.47	83.04	9,111.76	3,851.46	4,306.61	4,086.68	219.93	19.582		
21,300.00	12,022.81	20,771.63	11,456.30	158.14	158.06	83.03	9,211.74	3,850.55	4,306.64	4,084.47	222.16	19.385		
21,400.00	12,021.84	20,871.63	11,454.73	159.73	159.66	83.02	9,311.72	3,849.64	4,306.66	4,082.26	224.40	19.192		
21,500.00	12,020.88	20,971.63	11,453.16	161.33	161.26	83.02	9,411.70	3,848.74	4,306.69	4,080.05	226.64	19.002		
21,600.00	12,019.92	21,071.63	11,451.60	162.92	162.86	83.01	9,511.69	3,847.83	4,306.72	4,077.84	228.88	18.816		
21,700.00	12,018.95	21,171.62	11,450.03	164.51	164.46	83.00	9,611.67	3,846.92	4,306.75	4,075.62	231.12	18.634		
21,800.00	12,017.99	21,271.62	11,448.46	166.11	166.06	82.99	9,711.65	3,846.01	4,306.78	4,073.41	233.37	18.455		
21,900.00	12,017.03	21,371.62	11,446.89	167.71	167.66	82.98	9,811.63	3,845.11	4,306.81	4,071.19	235.61	18.279		
22,000.00	12,016.07	21,471.62	11,445.32	169.31	169.26	82.98	9,911.61	3,844.20	4,306.83	4,068.97	237.86	18.107		
22,100.00	12,015.10	21,571.62	11,443.75	170.90	170.87	82.97	10,011.60	3,843.29	4,306.86	4,066.76	240.11	17.937		
22,200.00	12,014.14	21,671.62	11,442.18	172.50	172.47	82.96	10,111.58	3,842.38	4,306.89	4,064.54	242.36	17.771		
22,238.31	12,013.77	21,709.92	11,441.58	173.12	173.09	82.96	10,149.88	3,842.04	4,306.90	4,063.69	243.22	17.708 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 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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	89.97	1.81	3,876.98	3,877.23					
100.00	100.00	55.90	55.90	0.13	0.08	89.97	1.81	3,876.98	3,876.98	3,876.83	0.15	N/A		
200.00	200.00	155.90	155.90	0.48	0.34	89.97	1.81	3,876.98	3,876.98	3,876.38	0.59	6,542.578		
300.00	300.00	255.90	255.90	0.84	0.70	89.97	1.81	3,876.98	3,876.98	3,875.88	1.10	3,538.755		
400.00	400.00	355.90	355.90	1.20	1.06	89.97	1.81	3,876.98	3,876.98	3,875.37	1.60	2,421.486		
500.00	500.00	455.90	455.90	1.56	1.42	89.97	1.81	3,876.98	3,876.98	3,874.87	2.11	1,839.809		
600.00	600.00	555.90	555.90	1.92	1.78	89.97	1.81	3,876.98	3,876.98	3,874.36	2.61	1,483.293		
700.00	700.00	655.90	655.90	2.28	2.13	89.97	1.81	3,876.98	3,876.98	3,873.86	3.12	1,242.459		
800.00	800.00	755.90	755.90	2.63	2.49	89.97	1.81	3,876.98	3,876.98	3,873.35	3.63	1,068.881		
900.00	900.00	855.90	855.90	2.99	2.85	89.97	1.81	3,876.98	3,876.98	3,872.84	4.13	937.845		
1,000.00	1,000.00	955.90	955.90	3.35	3.21	89.97	1.81	3,876.98	3,876.98	3,872.34	4.64	835.422		
1,100.00	1,100.00	1,055.90	1,055.90	3.71	3.57	89.97	1.81	3,876.98	3,876.98	3,871.83	5.15	753.163		
1,200.00	1,200.00	1,155.90	1,155.90	4.07	3.93	89.97	1.81	3,876.98	3,876.98	3,871.32	5.65	685.650		
1,300.00	1,300.00	1,255.90	1,255.90	4.43	4.29	89.97	1.81	3,876.98	3,876.98	3,870.81	6.16	629.242		
1,400.00	1,400.00	1,355.90	1,355.90	4.79	4.64	89.97	1.81	3,876.98	3,876.98	3,870.31	6.67	581.410		
1,500.00	1,500.00	1,455.90	1,455.90	5.14	5.00	89.97	1.81	3,876.98	3,876.98	3,869.80	7.18	540.335		
1,600.00	1,600.00	1,555.90	1,555.90	5.50	5.36	89.97	1.81	3,876.98	3,876.98	3,869.29	7.68	504.680		
1,700.00	1,700.00	1,655.90	1,655.90	5.86	5.72	89.97	1.81	3,876.98	3,876.98	3,868.79	8.19	473.439		
1,800.00	1,800.00	1,755.90	1,755.90	6.22	6.08	89.97	1.81	3,876.98	3,876.98	3,868.28	8.70	445.841		
1,900.00	1,900.00	1,855.90	1,855.90	6.58	6.44	89.97	1.81	3,876.98	3,876.98	3,867.77	9.20	421.282		
2,000.00	2,000.00	1,955.90	1,955.90	6.94	6.79	89.97	1.81	3,876.98	3,876.98	3,867.27	9.71	399.288		
2,100.00	2,100.00	2,055.90	2,055.90	7.29	7.15	89.97	1.81	3,876.98	3,876.98	3,866.76	10.22	379.476		
2,200.00	2,200.00	2,155.90	2,155.90	7.65	7.51	89.97	1.81	3,876.98	3,876.98	3,866.25	10.72	361.537		
2,300.00	2,300.00	2,255.90	2,255.90	8.01	7.87	89.97	1.81	3,876.98	3,876.98	3,865.75	11.23	345.218		
2,400.00	2,400.00	2,355.90	2,355.90	8.37	8.23	89.97	1.81	3,876.98	3,876.98	3,865.24	11.74	330.308		
2,500.00	2,500.00	2,455.90	2,455.90	8.73	8.59	89.97	1.81	3,876.98	3,876.98	3,864.73	12.24	316.633		
2,600.00	2,600.00	2,555.90	2,555.90	9.09	8.95	89.97	1.81	3,876.98	3,876.98	3,864.22	12.75	304.045		
2,700.00	2,700.00	2,655.90	2,655.90	9.45	9.30	89.97	1.81	3,876.98	3,876.98	3,863.72	13.26	292.419		
2,800.00	2,800.00	2,755.90	2,755.90	9.80	9.66	89.97	1.81	3,876.98	3,876.98	3,863.21	13.77	281.650		
2,900.00	2,900.00	2,855.90	2,855.90	10.16	10.02	89.97	1.81	3,876.98	3,876.98	3,862.70	14.27	271.646		
3,000.00	3,000.00	2,955.90	2,955.90	10.52	10.38	89.97	1.81	3,876.98	3,876.98	3,862.20	14.78	262.328		
3,004.41	3,004.41	2,960.31	2,960.31	10.54	10.40	89.97	1.81	3,876.98	3,876.98	3,862.17	14.80	261.932 CC		
3,100.00	3,100.00	3,029.63	3,029.63	10.88	10.64	89.97	1.75	3,877.08	3,877.17	3,861.95	15.22	254.793 ES		
3,200.00	3,200.00	3,100.00	3,099.99	11.24	10.88	89.98	1.17	3,878.12	3,878.52	3,862.88	15.64	247.957		
3,300.00	3,299.99	3,135.58	3,135.55	11.58	11.00	-145.57	0.64	3,879.08	3,882.02	3,866.06	15.97	243.128		
3,400.00	3,399.91	3,200.00	3,199.91	11.91	11.22	-145.51	-0.74	3,881.55	3,888.99	3,872.64	16.35	237.862		
3,500.00	3,499.69	3,241.01	3,240.85	12.25	11.35	-145.43	-1.89	3,883.62	3,899.25	3,882.57	16.68	233.834		
3,600.14	3,599.41	3,300.00	3,299.69	12.59	11.55	-145.33	-3.92	3,887.26	3,912.90	3,895.86	17.04	229.576		
3,700.00	3,698.72	3,356.52	3,356.01	12.93	11.74	-145.34	-6.25	3,891.44	3,928.71	3,911.30	17.41	225.716		
3,800.00	3,798.17	3,455.19	3,454.30	13.27	12.08	-145.37	-10.43	3,898.94	3,944.88	3,927.01	17.88	220.683		
3,900.00	3,897.62	3,553.85	3,552.59	13.62	12.42	-145.39	-14.61	3,906.45	3,961.06	3,942.71	18.35	215.876		
4,000.00	3,997.08	3,652.52	3,650.89	13.96	12.76	-145.42	-18.79	3,913.95	3,977.24	3,958.42	18.82	211.282		
4,100.00	4,096.53	3,751.19	3,749.18	14.32	13.10	-145.44	-22.97	3,921.46	3,993.42	3,974.12	19.30	206.888		
4,200.00	4,195.98	3,849.86	3,847.47	14.67	13.45	-145.47	-27.15	3,928.96	4,009.60	3,989.82	19.78	202.683		
4,300.00	4,295.43	3,948.53	3,945.77	15.03	13.79	-145.49	-31.34	3,936.47	4,025.78	4,005.52	20.26	198.658		
4,400.00	4,394.88	4,047.20	4,044.06	15.38	14.14	-145.51	-35.52	3,943.97	4,041.97	4,021.22	20.75	194.801		
4,500.00	4,494.34	4,145.86	4,142.36	15.74	14.49	-145.54	-39.70	3,951.48	4,058.15	4,036.91	21.24	191.104		
4,600.00	4,593.79	4,244.53	4,240.65	16.10	14.84	-145.56	-43.88	3,958.98	4,074.33	4,052.61	21.72	187.558		
4,700.00	4,693.24	4,343.20	4,338.94	16.47	15.20	-145.58	-48.06	3,966.49	4,090.52	4,068.30	22.21	184.154		
4,800.00	4,792.69	4,441.87	4,437.24	16.83	15.55	-145.61	-52.24	3,973.99	4,106.70	4,084.00	22.70	180.885		
4,900.00	4,892.14	4,540.54	4,535.53	17.20	15.91	-145.63	-56.42	3,981.50	4,122.89	4,099.69	23.20	177.745		
5,000.00	4,991.59	4,639.21	4,633.82	17.57	16.26	-145.65	-60.60	3,989.00	4,139.07	4,115.38	23.69	174.725		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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	
5,100.00	5,091.05	4,737.87	4,732.12	17.94	16.62	-145.67	-64.78	3,996.51	4,155.26	4,131.08	24.18	171.819		
5,200.00	5,190.50	4,836.54	4,830.41	18.31	16.98	-145.70	-68.97	4,004.01	4,171.45	4,146.77	24.68	169.023		
5,300.00	5,289.95	4,935.21	4,928.70	18.68	17.34	-145.72	-73.15	4,011.52	4,187.63	4,162.46	25.18	166.329		
5,400.00	5,389.40	5,033.88	5,027.00	19.05	17.70	-145.74	-77.33	4,019.02	4,203.82	4,178.15	25.67	163.733		
5,500.00	5,488.85	5,132.55	5,125.29	19.42	18.06	-145.76	-81.51	4,026.53	4,220.01	4,193.84	26.17	161.230		
5,600.00	5,588.31	5,231.22	5,223.59	19.80	18.42	-145.78	-85.69	4,034.03	4,236.20	4,209.53	26.67	158.816		
5,700.00	5,687.76	5,329.89	5,321.88	20.17	18.79	-145.80	-89.87	4,041.54	4,252.39	4,225.22	27.17	156.485		
5,800.00	5,787.21	5,428.55	5,420.17	20.55	19.15	-145.83	-94.05	4,049.04	4,268.58	4,240.91	27.68	154.234		
5,900.00	5,886.66	5,527.22	5,518.47	20.92	19.51	-145.85	-98.23	4,056.55	4,284.77	4,256.60	28.18	152.059		
6,000.00	5,986.11	5,625.89	5,616.76	21.30	19.88	-145.87	-102.41	4,064.05	4,300.97	4,272.28	28.68	149.956		
6,100.00	6,085.56	5,724.56	5,715.05	21.68	20.24	-145.89	-106.60	4,071.56	4,317.16	4,287.97	29.19	147.922		
6,200.00	6,185.02	5,823.23	5,813.35	22.06	20.61	-145.91	-110.78	4,079.06	4,333.35	4,303.66	29.69	145.954		
6,300.00	6,284.47	5,921.90	5,911.64	22.44	20.98	-145.93	-114.96	4,086.57	4,349.54	4,319.35	30.19	144.049		
6,400.00	6,383.92	6,020.56	6,009.94	22.82	21.34	-145.95	-119.14	4,094.07	4,365.74	4,335.04	30.70	142.204		
6,500.00	6,483.37	6,119.23	6,108.23	23.20	21.71	-145.97	-123.32	4,101.58	4,381.93	4,350.73	31.21	140.416		
6,600.00	6,582.82	6,217.90	6,206.52	23.58	22.08	-145.99	-127.50	4,109.09	4,398.13	4,366.41	31.71	138.683		
6,700.00	6,682.28	6,316.57	6,304.82	23.96	22.45	-146.01	-131.68	4,116.59	4,414.32	4,382.10	32.22	137.002		
6,800.00	6,781.73	6,415.24	6,403.11	24.34	22.81	-146.03	-135.86	4,124.10	4,430.52	4,397.79	32.73	135.371		
6,900.00	6,881.18	6,513.91	6,501.40	24.72	23.18	-146.05	-140.04	4,131.60	4,446.72	4,413.48	33.24	133.788		
7,000.00	6,980.63	6,612.57	6,599.70	25.11	23.55	-146.07	-144.23	4,139.11	4,462.91	4,429.17	33.75	132.251		
7,100.00	7,080.08	6,711.24	6,697.99	25.49	23.92	-146.09	-148.41	4,146.61	4,479.11	4,444.86	34.26	130.758		
7,175.92	7,155.59	6,786.16	6,772.62	25.78	24.20	-146.10	-151.58	4,152.31	4,491.41	4,456.77	34.64	129.652		
7,200.00	7,179.54	6,809.92	6,796.29	25.87	24.29	-146.14	-152.59	4,154.12	4,495.25	4,460.48	34.76	129.305		
7,300.00	7,279.18	6,908.85	6,894.84	26.25	24.66	-146.27	-156.78	4,161.64	4,509.85	4,474.58	35.27	127.855		
7,400.00	7,379.00	7,008.06	6,993.68	26.62	25.03	-146.36	-160.98	4,169.19	4,522.30	4,486.52	35.78	126.393		
7,500.00	7,478.94	7,107.49	7,092.74	26.97	25.41	-146.41	-165.20	4,176.75	4,532.59	4,496.30	36.28	124.919		
7,576.07	7,555.00	7,183.24	7,168.19	27.23	25.69	89.16	-168.41	4,182.51	4,538.96	4,502.29	36.66	123.796		
7,600.00	7,578.93	7,207.08	7,191.94	27.32	25.78	89.17	-169.42	4,184.33	4,540.77	4,503.98	36.78	123.445		
7,700.00	7,678.93	7,306.70	7,291.19	27.65	26.16	89.22	-173.64	4,191.90	4,548.32	4,511.04	37.28	121.999		
7,800.00	7,778.93	7,406.32	7,390.43	27.99	26.53	89.28	-177.86	4,199.48	4,555.88	4,518.10	37.78	120.591		
7,900.00	7,878.93	7,505.94	7,489.67	28.33	26.91	89.33	-182.08	4,207.06	4,563.44	4,525.16	38.28	119.218		
8,000.00	7,978.93	7,605.56	7,588.91	28.67	27.28	89.39	-186.30	4,214.64	4,571.00	4,532.23	38.78	117.879		
8,100.00	8,078.93	7,705.18	7,688.15	29.01	27.66	89.44	-190.53	4,222.21	4,578.57	4,539.30	39.28	116.574		
8,200.00	8,178.93	8,152.34	8,134.83	29.35	29.25	89.54	-198.19	4,235.98	4,579.12	4,538.41	40.72	112.461		
8,300.00	8,278.93	8,252.34	8,234.83	29.69	29.59	89.54	-198.19	4,235.98	4,579.12	4,537.92	41.20	111.133		
8,400.00	8,378.93	8,352.34	8,334.83	30.03	29.93	89.54	-198.19	4,235.98	4,579.12	4,537.43	41.69	109.834		
8,500.00	8,478.93	8,452.34	8,434.83	30.37	30.27	89.54	-198.19	4,235.98	4,579.12	4,536.94	42.18	108.564		
8,600.00	8,578.93	8,552.34	8,534.83	30.72	30.61	89.54	-198.19	4,235.98	4,579.12	4,536.46	42.67	107.322		
8,700.00	8,678.93	8,652.34	8,634.83	31.06	30.95	89.54	-198.19	4,235.98	4,579.12	4,535.97	43.16	106.107		
8,800.00	8,778.93	8,752.34	8,734.83	31.40	31.29	89.54	-198.19	4,235.98	4,579.12	4,535.48	43.64	104.919		
8,900.00	8,878.93	8,852.34	8,834.83	31.74	31.64	89.54	-198.19	4,235.98	4,579.12	4,534.99	44.13	103.755		
9,000.00	8,978.93	8,952.34	8,934.83	32.09	31.98	89.54	-198.19	4,235.98	4,579.12	4,534.50	44.62	102.616		
9,100.00	9,078.93	9,052.34	9,034.83	32.43	32.32	89.54	-198.19	4,235.98	4,579.12	4,534.01	45.11	101.502		
9,200.00	9,178.93	9,152.34	9,134.83	32.77	32.66	89.54	-198.19	4,235.98	4,579.12	4,533.52	45.60	100.410		
9,300.00	9,278.93	9,252.34	9,234.83	33.12	33.01	89.54	-198.19	4,235.98	4,579.12	4,533.03	46.10	99.341		
9,400.00	9,378.93	9,352.34	9,334.83	33.46	33.35	89.54	-198.19	4,235.98	4,579.12	4,532.54	46.59	98.293		
9,500.00	9,478.93	9,452.34	9,434.83	33.81	33.69	89.54	-198.19	4,235.98	4,579.12	4,532.05	47.08	97.267		
9,600.00	9,578.93	9,552.34	9,534.83	34.15	34.04	89.54	-198.19	4,235.98	4,579.12	4,531.55	47.57	96.261		
9,700.00	9,678.93	9,652.34	9,634.83	34.50	34.38	89.54	-198.19	4,235.98	4,579.12	4,531.06	48.06	95.276		
9,800.00	9,778.93	9,752.34	9,734.83	34.84	34.73	89.54	-198.19	4,235.98	4,579.12	4,530.57	48.55	94.309		
9,900.00	9,878.93	9,852.34	9,834.83	35.19	35.07	89.54	-198.19	4,235.98	4,579.12	4,530.08	49.05	93.362		
10,000.00	9,978.94	9,952.34	9,934.84	35.54	35.42	89.54	-198.19	4,235.98	4,579.12	4,529.58	49.54	92.432		

CC - Min centre to center distance or 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 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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				
10,100.00	10,078.94	10,052.34	10,034.84	35.88	35.76	89.54	-198.19	4,235.98	4,579.12	4,529.09	50.03	91.521				
10,200.00	10,178.94	10,152.34	10,134.84	36.23	36.11	89.54	-198.19	4,235.98	4,579.12	4,528.60	50.53	90.627				
10,300.00	10,278.94	10,252.34	10,234.84	36.58	36.45	89.54	-198.19	4,235.98	4,579.12	4,528.10	51.02	89.750				
10,400.00	10,378.94	10,352.34	10,334.84	36.92	36.80	89.54	-198.19	4,235.98	4,579.12	4,527.61	51.52	88.889				
10,500.00	10,478.94	10,452.34	10,434.84	37.27	37.15	89.54	-198.19	4,235.98	4,579.12	4,527.11	52.01	88.044				
10,600.00	10,578.94	10,552.34	10,534.84	37.62	37.49	89.54	-198.19	4,235.98	4,579.12	4,526.62	52.50	87.215				
10,700.00	10,678.94	10,652.34	10,634.84	37.97	37.84	89.54	-198.19	4,235.98	4,579.12	4,526.12	53.00	86.400				
10,800.00	10,778.94	10,752.34	10,734.84	38.32	38.19	89.54	-198.19	4,235.98	4,579.12	4,525.63	53.49	85.601				
10,900.00	10,878.94	10,852.34	10,834.84	38.66	38.53	89.54	-198.19	4,235.98	4,579.12	4,525.13	53.99	84.815				
11,000.00	10,978.94	10,952.34	10,934.84	39.01	38.88	89.54	-198.19	4,235.98	4,579.12	4,524.64	54.48	84.044				
11,100.00	11,078.94	11,052.34	11,034.84	39.36	39.23	89.54	-198.19	4,235.98	4,579.12	4,524.14	54.98	83.286				
11,200.00	11,178.94	11,152.34	11,134.84	39.71	39.58	89.54	-198.19	4,235.98	4,579.12	4,523.65	55.48	82.542				
11,300.00	11,278.94	11,252.61	11,234.97	40.06	39.92	89.49	-194.61	4,235.94	4,579.12	4,523.15	55.97	81.814				
11,309.95	11,288.88	11,262.49	11,244.78	40.09	39.95	89.48	-193.42	4,235.93	4,579.12	4,523.10	56.02	81.744				
11,400.00	11,378.94	11,350.00	11,330.37	40.41	40.23	89.26	-175.58	4,235.77	4,579.16	4,522.72	56.44	81.133				
11,500.00	11,478.94	11,437.58	11,412.30	40.76	40.48	88.87	-144.90	4,235.49	4,579.43	4,522.56	56.87	80.522				
11,556.07	11,535.00	11,482.31	11,452.10	40.95	40.60	88.62	-124.50	4,235.31	4,579.80	4,522.71	57.10	80.209				
11,600.00	11,578.89	11,515.58	11,480.60	41.10	40.67	88.87	-107.35	4,235.15	4,580.22	4,522.95	57.27	79.978				
11,650.00	11,628.51	11,550.00	11,508.99	41.27	40.75	88.61	-87.89	4,234.97	4,580.78	4,523.34	57.45	79.738				
11,700.00	11,677.43	11,588.90	11,539.59	41.43	40.83	88.33	-63.90	4,234.76	4,581.43	4,523.80	57.63	79.500				
11,750.00	11,725.25	11,624.52	11,566.14	41.58	40.89	88.07	-40.15	4,234.54	4,582.14	4,524.35	57.79	79.283				
11,800.00	11,771.63	11,659.57	11,590.76	41.72	40.95	87.82	-15.22	4,234.31	4,582.90	4,524.95	57.95	79.080				
11,850.00	11,816.21	11,700.00	11,617.21	41.85	41.00	87.56	15.35	4,234.04	4,583.70	4,525.58	58.11	78.874				
11,900.00	11,858.65	11,728.24	11,634.38	41.96	41.03	87.35	37.76	4,233.83	4,584.49	4,526.24	58.25	78.707				
11,950.00	11,898.62	11,761.98	11,653.41	42.06	41.07	87.14	65.62	4,233.58	4,585.29	4,526.90	58.39	78.534				
12,000.00	11,935.83	11,800.00	11,672.84	42.15	41.10	86.92	98.29	4,233.28	4,586.07	4,527.54	58.53	78.357				
12,050.00	11,969.99	11,828.53	11,685.98	42.22	41.12	86.75	123.61	4,233.05	4,586.80	4,528.15	58.65	78.206				
12,100.00	12,000.83	11,861.42	11,699.54	42.28	41.14	86.59	153.57	4,232.78	4,587.49	4,528.71	58.78	78.047				
12,150.00	12,028.14	11,900.00	11,713.23	42.33	41.24	86.43	189.63	4,232.45	4,588.12	4,529.21	58.92	77.874				
12,200.00	12,051.68	11,926.63	11,721.24	42.37	41.30	86.31	215.02	4,232.22	4,588.67	4,529.63	59.04	77.727				
12,250.00	12,071.30	11,959.00	11,729.39	42.41	41.39	86.21	246.35	4,231.94	4,589.14	4,529.97	59.17	77.565				
12,300.00	12,086.83	12,000.00	11,737.14	42.51	41.50	86.11	286.59	4,231.57	4,589.52	4,530.21	59.31	77.379				
12,350.00	12,098.17	12,023.45	11,740.27	42.64	41.57	86.06	309.83	4,231.36	4,589.79	4,530.35	59.43	77.229				
12,400.00	12,105.22	12,050.00	11,742.66	42.76	41.64	86.02	336.27	4,231.12	4,589.96	4,530.40	59.56	77.067				
12,450.00	12,107.93	12,087.67	11,743.96	42.89	41.75	86.00	373.91	4,230.78	4,590.02	4,530.31	59.71	76.873				
12,461.58	12,107.93	12,097.29	11,743.89	42.92	41.78	86.00	383.53	4,230.69	4,590.02	4,530.27	59.75	76.825				
12,477.61	12,107.78	12,109.91	11,743.70	42.96	41.82	86.00	396.14	4,230.58	4,590.02	4,530.22	59.80	76.755				
12,500.00	12,107.56	12,132.30	11,743.35	43.03	41.89	86.00	418.53	4,230.38	4,590.02	4,530.13	59.89	76.643				
12,600.00	12,106.60	12,232.30	11,741.82	43.34	42.23	85.99	518.52	4,229.47	4,590.01	4,529.68	60.33	76.087				
12,700.00	12,105.64	12,332.30	11,740.29	43.71	42.63	85.99	618.50	4,228.56	4,590.00	4,529.15	60.85	75.432				
12,800.00	12,104.67	12,432.30	11,738.75	44.14	43.08	85.98	718.48	4,227.65	4,590.00	4,528.54	61.46	74.687				
12,900.00	12,103.71	12,532.29	11,737.22	44.63	43.59	85.97	818.46	4,226.74	4,589.99	4,527.85	62.15	73.858				
13,000.00	12,102.75	12,632.29	11,735.68	45.16	44.16	85.97	918.45	4,225.84	4,589.99	4,527.07	62.91	72.957				
13,100.00	12,101.78	12,732.29	11,734.15	45.75	44.78	85.96	1,018.43	4,224.93	4,589.98	4,526.22	63.76	71.991				
13,200.00	12,100.82	12,832.29	11,732.62	46.39	45.45	85.95	1,118.41	4,224.02	4,589.98	4,525.30	64.67	70.970				
13,300.00	12,099.86	12,932.29	11,731.08	47.08	46.16	85.94	1,218.39	4,223.11	4,589.97	4,524.31	65.66	69.903				
13,400.00	12,098.89	13,032.29	11,729.55	47.81	46.93	85.94	1,318.38	4,222.20	4,589.96	4,523.25	66.72	68.799				
13,500.00	12,097.93	13,132.28	11,728.02	48.59	47.74	85.93	1,418.36	4,221.30	4,589.96	4,522.13	67.83	67.666				
13,600.00	12,096.97	13,232.28	11,726.48	49.41	48.59	85.92	1,518.34	4,220.39	4,589.95	4,520.94	69.01	66.510				
13,700.00	12,096.00	13,332.28	11,724.95	50.28	49.48	85.92	1,618.32	4,219.48	4,589.95	4,519.70	70.25	65.340				
13,800.00	12,095.04	13,432.28	11,723.41	51.18	50.41	85.91	1,718.31	4,218.57	4,589.94	4,518.41	71.54	64.161				
13,900.00	12,094.08	13,532.28	11,721.88	52.12	51.37	85.90	1,818.29	4,217.67	4,589.94	4,517.06	72.88	62.980				

CC - Min centre to center distance or 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 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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	12,093.11	13,632.28	11,720.35	53.09	52.37	85.89	1,918.27	4,216.76	4,589.93	4,515.66	74.27	61.800		
14,100.00	12,092.15	13,732.27	11,718.81	54.09	53.40	85.89	2,018.25	4,215.85	4,589.93	4,514.22	75.71	60.627		
14,200.00	12,091.19	13,832.27	11,717.28	55.13	54.46	85.88	2,118.24	4,214.94	4,589.92	4,512.73	77.19	59.463		
14,300.00	12,090.23	13,932.27	11,715.75	56.19	55.55	85.87	2,218.22	4,214.03	4,589.92	4,511.21	78.71	58.313		
14,400.00	12,089.26	14,032.27	11,714.21	57.29	56.67	85.86	2,318.20	4,213.13	4,589.91	4,509.64	80.27	57.179		
14,500.00	12,088.30	14,132.27	11,712.68	58.41	57.81	85.86	2,418.18	4,212.22	4,589.91	4,508.04	81.87	56.064		
14,600.00	12,087.34	14,232.27	11,711.14	59.55	58.98	85.85	2,518.17	4,211.31	4,589.90	4,506.40	83.50	54.968		
14,700.00	12,086.37	14,332.26	11,709.61	60.72	60.17	85.84	2,618.15	4,210.40	4,589.90	4,504.73	85.17	53.894		
14,800.00	12,085.41	14,432.26	11,708.08	61.91	61.38	85.84	2,718.13	4,209.49	4,589.90	4,503.03	86.86	52.842		
14,900.00	12,084.45	14,532.26	11,706.54	63.12	62.61	85.83	2,818.11	4,208.59	4,589.89	4,501.31	88.59	51.813		
15,000.00	12,083.48	14,632.26	11,705.01	64.34	63.86	85.82	2,918.09	4,207.68	4,589.89	4,499.55	90.34	50.809		
15,100.00	12,082.52	14,732.26	11,703.47	65.59	65.13	85.81	3,018.08	4,206.77	4,589.88	4,497.77	92.11	49.829		
15,200.00	12,081.56	14,832.26	11,701.94	66.86	66.42	85.81	3,118.06	4,205.86	4,589.88	4,495.96	93.91	48.873		
15,300.00	12,080.59	14,932.25	11,700.41	68.14	67.72	85.80	3,218.04	4,204.95	4,589.87	4,494.14	95.74	47.942		
15,400.00	12,079.63	15,032.25	11,698.87	69.44	69.03	85.79	3,318.02	4,204.05	4,589.87	4,492.29	97.58	47.035		
15,500.00	12,078.67	15,132.25	11,697.34	70.75	70.36	85.79	3,418.01	4,203.14	4,589.87	4,490.42	99.45	46.153		
15,600.00	12,077.70	15,232.25	11,695.81	72.08	71.70	85.78	3,517.99	4,202.23	4,589.86	4,488.53	101.33	45.294		
15,700.00	12,076.74	15,332.25	11,694.27	73.42	73.06	85.77	3,617.97	4,201.32	4,589.86	4,486.62	103.24	44.459		
15,800.00	12,075.78	15,432.25	11,692.74	74.77	74.43	85.76	3,717.95	4,200.42	4,589.85	4,484.70	105.16	43.647		
15,900.00	12,074.82	15,532.24	11,691.20	76.13	75.81	85.76	3,817.94	4,199.51	4,589.85	4,482.76	107.09	42.858		
16,000.00	12,073.85	15,632.24	11,689.67	77.51	77.20	85.75	3,917.92	4,198.60	4,589.85	4,480.80	109.05	42.091		
16,100.00	12,072.89	15,732.24	11,688.14	78.89	78.60	85.74	4,017.90	4,197.69	4,589.84	4,478.83	111.01	41.345		
16,200.00	12,071.93	15,832.24	11,686.60	80.29	80.01	85.74	4,117.88	4,196.78	4,589.84	4,476.85	112.99	40.621		
16,300.00	12,070.96	15,932.24	11,685.07	81.69	81.42	85.73	4,217.87	4,195.88	4,589.84	4,474.85	114.99	39.916		
16,400.00	12,070.00	16,032.24	11,683.54	83.11	82.85	85.72	4,317.85	4,194.97	4,589.83	4,472.84	116.99	39.232		
16,500.00	12,069.04	16,132.24	11,682.00	84.53	84.29	85.71	4,417.83	4,194.06	4,589.83	4,470.82	119.01	38.567		
16,600.00	12,068.07	16,232.23	11,680.47	85.96	85.73	85.71	4,517.81	4,193.15	4,589.83	4,468.79	121.04	37.920		
16,700.00	12,067.11	16,332.23	11,678.93	87.40	87.18	85.70	4,617.80	4,192.24	4,589.82	4,466.75	123.08	37.292		
16,800.00	12,066.15	16,432.23	11,677.40	88.85	88.64	85.69	4,717.78	4,191.34	4,589.82	4,464.69	125.13	36.681		
16,900.00	12,065.18	16,532.23	11,675.87	90.30	90.10	85.69	4,817.76	4,190.43	4,589.82	4,462.63	127.19	36.087		
17,000.00	12,064.22	16,632.23	11,674.33	91.76	91.57	85.68	4,917.74	4,189.52	4,589.82	4,460.56	129.26	35.510		
17,100.00	12,063.26	16,732.23	11,672.80	93.23	93.05	85.67	5,017.73	4,188.61	4,589.81	4,458.48	131.33	34.948		
17,200.00	12,062.30	16,832.22	11,671.26	94.70	94.53	85.66	5,117.71	4,187.71	4,589.81	4,456.39	133.42	34.402		
17,300.00	12,061.33	16,932.22	11,669.73	96.18	96.02	85.66	5,217.69	4,186.80	4,589.81	4,454.30	135.51	33.870		
17,400.00	12,060.37	17,032.22	11,668.20	97.66	97.51	85.65	5,317.67	4,185.89	4,589.80	4,452.19	137.61	33.353		
17,500.00	12,059.41	17,132.22	11,666.66	99.15	99.01	85.64	5,417.66	4,184.98	4,589.80	4,450.08	139.72	32.850		
17,600.00	12,058.44	17,232.22	11,665.13	100.64	100.52	85.64	5,517.64	4,184.07	4,589.80	4,447.96	141.84	32.360		
17,700.00	12,057.48	17,332.22	11,663.60	102.14	102.02	85.63	5,617.62	4,183.17	4,589.80	4,445.84	143.96	31.883		
17,800.00	12,056.52	17,432.21	11,662.06	103.65	103.54	85.62	5,717.60	4,182.26	4,589.80	4,443.71	146.08	31.419		
17,900.00	12,055.55	17,532.21	11,660.53	105.15	105.05	85.61	5,817.59	4,181.35	4,589.79	4,441.57	148.22	30.966		
18,000.00	12,054.59	17,632.21	11,658.99	106.67	106.57	85.61	5,917.57	4,180.44	4,589.79	4,439.43	150.36	30.526		
18,100.00	12,053.63	17,732.21	11,657.46	108.18	108.10	85.60	6,017.55	4,179.53	4,589.79	4,437.28	152.50	30.096		
18,200.00	12,052.66	17,832.21	11,655.93	109.70	109.62	85.59	6,117.53	4,178.63	4,589.79	4,435.13	154.65	29.678		
18,300.00	12,051.70	17,932.21	11,654.39	111.23	111.16	85.59	6,217.52	4,177.72	4,589.78	4,432.97	156.81	29.270		
18,400.00	12,050.74	18,032.20	11,652.86	112.75	112.69	85.58	6,317.50	4,176.81	4,589.78	4,430.81	158.97	28.872		
18,500.00	12,049.77	18,132.20	11,651.33	114.29	114.23	85.57	6,417.48	4,175.90	4,589.78	4,428.64	161.14	28.484		
18,600.00	12,048.81	18,232.20	11,649.79	115.82	115.77	85.56	6,517.46	4,175.00	4,589.78	4,426.47	163.31	28.105		
18,700.00	12,047.85	18,332.20	11,648.26	117.36	117.31	85.56	6,617.45	4,174.09	4,589.78	4,424.30	165.48	27.736		
18,800.00	12,046.89	18,432.20	11,646.72	118.90	118.86	85.55	6,717.43	4,173.18	4,589.78	4,422.12	167.66	27.376		
18,900.00	12,045.92	18,532.20	11,645.19	120.44	120.41	85.54	6,817.41	4,172.27	4,589.77	4,419.94	169.84	27.024		
19,000.00	12,044.96	18,632.19	11,643.66	121.99	121.96	85.54	6,917.39	4,171.36	4,589.77	4,417.75	172.03	26.681		
19,100.00	12,044.00	18,732.19	11,642.12	123.54	123.52	85.53	7,017.38	4,170.46	4,589.77	4,415.56	174.21	26.346		

CC - Min centre to center distance or 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 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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	12,043.03	18,832.19	11,640.59	125.09	125.08	85.52	7,117.36	4,169.55	4,589.77	4,413.36	176.41	26.018		
19,300.00	12,042.07	18,932.19	11,639.06	126.64	126.64	85.51	7,217.34	4,168.64	4,589.77	4,411.17	178.60	25.698		
19,400.00	12,041.11	19,032.19	11,637.52	128.20	128.20	85.51	7,317.32	4,167.73	4,589.77	4,408.97	180.80	25.386		
19,500.00	12,040.14	19,132.19	11,635.99	129.76	129.76	85.50	7,417.31	4,166.82	4,589.77	4,406.76	183.00	25.080		
19,600.00	12,039.18	19,232.18	11,634.45	131.32	131.33	85.49	7,517.29	4,165.92	4,589.77	4,404.56	185.21	24.781		
19,700.00	12,038.22	19,332.18	11,632.92	132.88	132.90	85.49	7,617.27	4,165.01	4,589.77	4,402.35	187.42	24.489		
19,800.00	12,037.25	19,432.18	11,631.39	134.45	134.47	85.48	7,717.25	4,164.10	4,589.76	4,400.14	189.63	24.204		
19,900.00	12,036.29	19,532.18	11,629.85	136.02	136.04	85.47	7,817.24	4,163.19	4,589.76	4,397.92	191.84	23.925		
20,000.00	12,035.33	19,632.18	11,628.32	137.59	137.62	85.46	7,917.22	4,162.29	4,589.76	4,395.70	194.06	23.651		
20,100.00	12,034.36	19,732.18	11,626.78	139.16	139.19	85.46	8,017.20	4,161.38	4,589.76	4,393.48	196.28	23.384		
20,200.00	12,033.40	19,832.17	11,625.25	140.73	140.77	85.45	8,117.18	4,160.47	4,589.76	4,391.26	198.50	23.122		
20,300.00	12,032.44	19,932.17	11,623.72	142.31	142.35	85.44	8,217.17	4,159.56	4,589.76	4,389.04	200.72	22.866		
20,400.00	12,031.48	20,032.17	11,622.18	143.88	143.93	85.44	8,317.15	4,158.65	4,589.76	4,386.81	202.95	22.615		
20,500.00	12,030.51	20,132.17	11,620.65	145.46	145.51	85.43	8,417.13	4,157.75	4,589.76	4,384.58	205.18	22.370		
20,600.00	12,029.55	20,232.17	11,619.12	147.04	147.10	85.42	8,517.11	4,156.84	4,589.76	4,382.35	207.41	22.129		
20,700.00	12,028.59	20,332.17	11,617.58	148.62	148.68	85.41	8,617.10	4,155.93	4,589.76	4,380.12	209.64	21.893		
20,800.00	12,027.62	20,432.16	11,616.05	150.21	150.27	85.41	8,717.08	4,155.02	4,589.76	4,377.88	211.88	21.662		
20,900.00	12,026.66	20,532.16	11,614.51	151.79	151.86	85.40	8,817.06	4,154.11	4,589.76	4,375.65	214.11	21.436		
20,970.95	12,025.98	20,603.11	11,613.43	152.92	152.99	85.40	8,888.00	4,153.47	4,589.76	4,374.06	215.70	21.278		
21,000.00	12,025.70	20,632.16	11,612.98	153.38	153.45	85.39	8,917.04	4,153.21	4,589.76	4,373.41	216.35	21.214		
21,100.00	12,024.73	20,732.16	11,611.45	154.96	155.04	85.39	9,017.03	4,152.30	4,589.76	4,371.17	218.59	20.997		
21,200.00	12,023.77	20,832.16	11,609.91	156.55	156.63	85.38	9,117.01	4,151.39	4,589.76	4,368.92	220.83	20.784		
21,300.00	12,022.81	20,932.16	11,608.38	158.14	158.23	85.37	9,216.99	4,150.48	4,589.76	4,366.68	223.08	20.575		
21,400.00	12,021.84	21,032.15	11,606.85	159.73	159.82	85.36	9,316.97	4,149.57	4,589.76	4,364.44	225.32	20.370		
21,500.00	12,020.88	21,132.15	11,605.31	161.33	161.42	85.36	9,416.96	4,148.67	4,589.76	4,362.19	227.57	20.168		
21,600.00	12,019.92	21,232.15	11,603.78	162.92	163.02	85.35	9,516.94	4,147.76	4,589.76	4,359.94	229.82	19.971		
21,700.00	12,018.95	21,332.15	11,602.24	164.51	164.61	85.34	9,616.92	4,146.85	4,589.76	4,357.69	232.07	19.777		
21,800.00	12,017.99	21,432.15	11,600.71	166.11	166.21	85.34	9,716.90	4,145.94	4,589.76	4,355.44	234.32	19.587		
21,900.00	12,017.03	21,532.15	11,599.18	167.71	167.81	85.33	9,816.89	4,145.04	4,589.76	4,353.19	236.57	19.401		
22,000.00	12,016.07	21,632.14	11,597.64	169.31	169.41	85.32	9,916.87	4,144.13	4,589.76	4,350.93	238.83	19.218		
22,100.00	12,015.10	21,732.14	11,596.11	170.90	171.02	85.31	10,016.85	4,143.22	4,589.76	4,348.68	241.08	19.038		
22,200.00	12,014.14	21,832.14	11,594.57	172.50	172.62	85.31	10,116.83	4,142.31	4,589.76	4,346.42	243.34	18.861		
22,238.31	12,013.77	21,870.45	11,593.99	173.12	173.23	85.30	10,155.13	4,141.96	4,589.77	4,345.56	244.21	18.795 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 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
							+N/-S (usft)	+E/-W (usft)								
0.00	0.00	0.00	0.00	0.00	0.00	82.34	234.26	1,742.31	1,758.25							
100.00	100.00	69.70	69.70	0.13	0.10	82.34	234.26	1,742.31	1,757.99	1,757.83	0.16	N/A				
200.00	200.00	169.70	169.70	0.48	0.39	82.34	234.26	1,742.31	1,757.99	1,757.37	0.62	2,824.360				
300.00	300.00	269.70	269.70	0.84	0.75	82.34	234.26	1,742.31	1,757.99	1,756.86	1.13	1,558.713				
400.00	400.00	369.70	369.70	1.20	1.11	82.34	234.26	1,742.31	1,757.99	1,756.35	1.63	1,075.740				
500.00	500.00	469.70	469.70	1.56	1.47	82.34	234.26	1,742.31	1,757.99	1,755.85	2.14	821.161				
600.00	600.00	569.70	569.70	1.92	1.83	82.34	234.26	1,742.31	1,757.99	1,755.34	2.65	663.988				
700.00	700.00	669.70	669.70	2.28	2.18	82.34	234.26	1,742.31	1,757.99	1,754.83	3.15	557.305				
800.00	800.00	769.70	769.70	2.63	2.54	82.34	234.26	1,742.31	1,757.99	1,754.33	3.66	480.153				
900.00	900.00	869.70	869.70	2.99	2.90	82.34	234.26	1,742.31	1,757.99	1,753.82	4.17	421.763				
1,000.00	1,000.00	969.70	969.70	3.35	3.26	82.34	234.26	1,742.31	1,757.99	1,753.31	4.68	376.033				
1,100.00	1,100.00	1,069.70	1,069.70	3.71	3.62	82.34	234.26	1,742.31	1,757.99	1,752.81	5.18	339.249				
1,200.00	1,200.00	1,169.70	1,169.70	4.07	3.98	82.34	234.26	1,742.31	1,757.99	1,752.30	5.69	309.020				
1,300.00	1,300.00	1,269.70	1,269.70	4.43	4.33	82.34	234.26	1,742.31	1,757.99	1,751.79	6.20	283.737				
1,400.00	1,400.00	1,369.70	1,369.70	4.79	4.69	82.34	234.26	1,742.31	1,757.99	1,751.29	6.70	262.278				
1,500.00	1,500.00	1,469.70	1,469.70	5.14	5.05	82.34	234.26	1,742.31	1,757.99	1,750.78	7.21	243.836				
1,600.00	1,600.00	1,569.70	1,569.70	5.50	5.41	82.34	234.26	1,742.31	1,757.99	1,750.27	7.72	227.818				
1,700.00	1,700.00	1,669.70	1,669.70	5.86	5.77	82.34	234.26	1,742.31	1,757.99	1,749.76	8.22	213.774				
1,800.00	1,800.00	1,769.70	1,769.70	6.22	6.13	82.34	234.26	1,742.31	1,757.99	1,749.26	8.73	201.361				
1,900.00	1,900.00	1,869.70	1,869.70	6.58	6.49	82.34	234.26	1,742.31	1,757.99	1,748.75	9.24	190.311				
2,000.00	2,000.00	1,969.70	1,969.70	6.94	6.84	82.34	234.26	1,742.31	1,757.99	1,748.24	9.74	180.410				
2,100.00	2,100.00	2,069.70	2,069.70	7.29	7.20	82.34	234.26	1,742.31	1,757.99	1,747.74	10.25	171.488				
2,200.00	2,200.00	2,169.70	2,169.70	7.65	7.56	82.34	234.26	1,742.31	1,757.99	1,747.23	10.76	163.408				
2,300.00	2,300.00	2,269.70	2,269.70	8.01	7.92	82.34	234.26	1,742.31	1,757.99	1,746.72	11.27	156.054				
2,400.00	2,400.00	2,369.70	2,369.70	8.37	8.28	82.34	234.26	1,742.31	1,757.99	1,746.22	11.77	149.334				
2,500.00	2,500.00	2,469.70	2,469.70	8.73	8.64	82.34	234.26	1,742.31	1,757.99	1,745.71	12.28	143.169 CC				
2,600.00	2,600.00	2,552.62	2,552.62	9.09	8.93	82.35	234.04	1,742.60	1,758.33	1,745.59	12.74	138.047 ES				
2,700.00	2,700.00	2,628.08	2,628.06	9.45	9.18	82.39	232.95	1,744.01	1,759.99	1,746.83	13.17	133.640				
2,800.00	2,800.00	2,700.00	2,699.91	9.80	9.42	82.46	231.07	1,746.46	1,763.06	1,749.48	13.59	129.763				
2,900.00	2,900.00	2,778.65	2,778.40	10.16	9.68	82.58	228.07	1,750.37	1,767.52	1,753.50	14.02	126.071				
3,000.00	3,000.00	2,853.63	2,853.13	10.52	9.94	82.72	224.30	1,755.28	1,773.39	1,758.95	14.44	122.792				
3,100.00	3,100.00	2,928.35	2,927.45	10.88	10.19	82.89	219.65	1,761.34	1,780.67	1,765.81	14.86	119.811				
3,200.00	3,200.00	3,014.86	3,013.34	11.24	10.49	83.13	213.34	1,769.55	1,789.21	1,773.89	15.32	116.821				
3,300.00	3,299.99	3,114.05	3,111.79	11.58	10.83	-152.14	205.98	1,779.14	1,799.12	1,783.32	15.80	113.885				
3,400.00	3,399.91	3,213.08	3,210.08	11.91	11.18	-151.84	198.63	1,788.71	1,811.36	1,795.09	16.27	111.321				
3,500.00	3,499.69	3,311.87	3,308.14	12.25	11.54	-151.57	191.30	1,798.26	1,825.91	1,809.16	16.75	109.028				
3,600.14	3,599.41	3,410.50	3,406.03	12.59	11.89	-151.32	183.98	1,807.79	1,842.77	1,825.54	17.22	106.983				
3,700.00	3,698.72	3,508.68	3,503.48	12.93	12.25	-151.22	176.69	1,817.28	1,860.72	1,843.02	17.70	105.109				
3,800.00	3,798.17	3,606.99	3,601.06	13.27	12.61	-151.11	169.39	1,826.78	1,878.70	1,860.52	18.18	103.318				
3,900.00	3,897.62	3,705.31	3,698.64	13.62	12.97	-151.01	162.10	1,836.28	1,896.69	1,878.02	18.67	101.604				
4,000.00	3,997.08	3,803.62	3,796.22	13.96	13.33	-150.92	154.80	1,845.79	1,914.68	1,895.52	19.15	99.964				
4,100.00	4,096.53	3,901.94	3,893.81	14.32	13.70	-150.82	147.50	1,855.29	1,932.68	1,913.03	19.64	98.393				
4,200.00	4,195.98	4,000.25	3,991.39	14.67	14.07	-150.72	140.21	1,864.79	1,950.68	1,930.55	20.13	96.889				
4,300.00	4,295.43	4,098.57	4,088.97	15.03	14.44	-150.63	132.91	1,874.29	1,968.69	1,948.06	20.63	95.446				
4,400.00	4,394.88	4,196.88	4,186.56	15.38	14.81	-150.54	125.61	1,883.80	1,986.70	1,965.58	21.12	94.063				
4,500.00	4,494.34	4,295.20	4,284.14	15.74	15.18	-150.45	118.31	1,893.30	2,004.72	1,983.10	21.62	92.736				
4,600.00	4,593.79	4,393.52	4,381.72	16.10	15.56	-150.36	111.02	1,902.80	2,022.74	2,000.62	22.12	91.462				
4,700.00	4,693.24	4,491.83	4,479.30	16.47	15.93	-150.28	103.72	1,912.30	2,040.77	2,018.15	22.62	90.238				
4,800.00	4,792.69	4,590.15	4,576.89	16.83	16.31	-150.19	96.42	1,921.80	2,058.80	2,035.68	23.12	89.062				
4,900.00	4,892.14	4,688.46	4,674.47	17.20	16.69	-150.11	89.13	1,931.31	2,076.83	2,053.21	23.62	87.930				
5,000.00	4,991.59	4,786.78	4,772.05	17.57	17.07	-150.03	81.83	1,940.81	2,094.87	2,070.75	24.12	86.842				
5,100.00	5,091.05	4,885.09	4,869.63	17.94	17.45	-149.95	74.53	1,950.31	2,112.92	2,088.29	24.63	85.794				

CC - Min centre to center distance or 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 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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		
5,200.00	5,190.50	4,983.41	4,967.22	18.31	17.83	-149.87	67.23	1,959.81	2,130.96	2,105.83	25.13	84.784		
5,300.00	5,289.95	5,081.72	5,064.80	18.68	18.22	-149.79	59.94	1,969.32	2,149.02	2,123.38	25.64	83.811		
5,400.00	5,389.40	5,180.04	5,162.38	19.05	18.60	-149.71	52.64	1,978.82	2,167.07	2,140.92	26.15	82.873		
5,500.00	5,488.85	5,278.35	5,259.97	19.42	18.98	-149.64	45.34	1,988.32	2,185.13	2,158.47	26.66	81.968		
5,600.00	5,588.31	5,376.67	5,357.55	19.80	19.37	-149.56	38.05	1,997.82	2,203.19	2,176.03	27.17	81.094		
5,700.00	5,687.76	5,474.99	5,455.13	20.17	19.76	-149.49	30.75	2,007.33	2,221.26	2,193.58	27.68	80.250		
5,800.00	5,787.21	5,573.30	5,552.71	20.55	20.14	-149.42	23.45	2,016.83	2,239.33	2,211.14	28.19	79.435		
5,900.00	5,886.66	5,671.62	5,650.30	20.92	20.53	-149.35	16.15	2,026.33	2,257.40	2,228.70	28.70	78.646		
6,000.00	5,986.11	5,769.93	5,747.88	21.30	20.92	-149.28	8.86	2,035.83	2,275.48	2,246.26	29.22	77.884		
6,100.00	6,085.56	5,868.25	5,845.46	21.68	21.31	-149.21	1.56	2,045.34	2,293.56	2,263.83	29.73	77.146		
6,200.00	6,185.02	5,966.56	5,943.05	22.06	21.69	-149.14	-5.74	2,054.84	2,311.64	2,281.40	30.24	76.432		
6,300.00	6,284.47	6,064.88	6,040.63	22.44	22.08	-149.08	-13.03	2,064.34	2,329.73	2,298.97	30.76	75.740		
6,400.00	6,383.92	6,163.19	6,138.21	22.82	22.47	-149.01	-20.33	2,073.84	2,347.82	2,316.54	31.28	75.070		
6,500.00	6,483.37	6,261.51	6,235.79	23.20	22.86	-148.95	-27.63	2,083.35	2,365.91	2,334.12	31.79	74.420		
6,600.00	6,582.82	6,359.83	6,333.38	23.58	23.25	-148.88	-34.92	2,092.85	2,384.00	2,351.69	32.31	73.790		
6,700.00	6,682.28	6,458.14	6,430.96	23.96	23.65	-148.82	-42.22	2,102.35	2,402.10	2,369.27	32.83	73.178		
6,800.00	6,781.73	6,556.46	6,528.54	24.34	24.04	-148.76	-49.52	2,111.85	2,420.20	2,386.86	33.34	72.585		
6,900.00	6,881.18	6,654.77	6,626.12	24.72	24.43	-148.70	-56.82	2,121.36	2,438.30	2,404.44	33.86	72.009		
7,000.00	6,980.63	6,753.09	6,723.71	25.11	24.82	-148.64	-64.11	2,130.86	2,456.41	2,422.03	34.38	71.449		
7,100.00	7,080.08	6,851.40	6,821.29	25.49	25.21	-148.58	-71.41	2,140.36	2,474.51	2,439.61	34.90	70.905		
7,175.92	7,155.59	6,926.05	6,895.38	25.78	25.51	-148.54	-76.95	2,147.58	2,488.26	2,452.97	35.29	70.502		
7,200.00	7,179.54	6,949.73	6,918.88	25.87	25.61	-148.56	-78.71	2,149.86	2,492.56	2,457.14	35.42	70.375		
7,300.00	7,279.18	7,048.30	7,016.72	26.25	26.00	-148.61	-86.02	2,159.39	2,509.04	2,473.11	35.94	69.818		
7,400.00	7,379.00	7,147.15	7,114.83	26.62	26.40	-148.61	-93.36	2,168.95	2,523.33	2,486.87	36.45	69.221		
7,500.00	7,478.94	7,246.23	7,213.17	26.97	26.79	-148.56	-100.71	2,178.52	2,535.41	2,498.44	36.97	68.584		
7,576.07	7,555.00	7,321.69	7,288.07	27.23	27.09	87.09	-106.32	2,185.81	2,543.12	2,505.76	37.36	68.078		
7,600.00	7,578.93	7,345.45	7,311.65	27.32	27.19	87.13	-108.08	2,188.11	2,545.35	2,507.87	37.48	67.917		
7,700.00	7,678.93	7,444.70	7,410.17	27.65	27.59	87.31	-115.45	2,197.70	2,554.67	2,516.69	37.98	67.255		
7,800.00	7,778.93	7,543.96	7,508.68	27.99	27.99	87.48	-122.81	2,207.30	2,564.02	2,525.52	38.49	66.611		
7,900.00	7,878.93	7,643.21	7,607.20	28.33	28.38	87.66	-130.18	2,216.89	2,573.39	2,534.39	39.00	65.983		
8,000.00	7,978.93	7,742.46	7,705.71	28.67	28.78	87.83	-137.55	2,226.48	2,582.78	2,543.27	39.51	65.372		
8,100.00	8,078.93	7,841.72	7,804.23	29.01	29.18	88.00	-144.91	2,236.08	2,592.20	2,552.18	40.02	64.776		
8,200.00	8,178.93	7,940.97	7,902.74	29.35	29.58	88.17	-152.28	2,245.67	2,601.64	2,561.11	40.53	64.196		
8,300.00	8,278.93	8,040.23	8,001.26	29.69	29.98	88.34	-159.65	2,255.26	2,611.10	2,570.07	41.04	63.631		
8,400.00	8,378.93	8,139.48	8,099.77	30.03	30.38	88.51	-167.01	2,264.86	2,620.59	2,579.04	41.54	63.079		
8,500.00	8,478.93	8,238.74	8,198.29	30.37	30.78	88.67	-174.38	2,274.45	2,630.09	2,588.04	42.05	62.541		
8,600.00	8,578.93	8,337.99	8,296.80	30.72	31.18	88.84	-181.75	2,284.04	2,639.62	2,597.06	42.56	62.017		
8,700.00	8,678.93	8,437.25	8,395.32	31.06	31.58	89.00	-189.11	2,293.64	2,649.17	2,606.10	43.07	61.505		
8,800.00	8,778.93	8,536.50	8,493.83	31.40	31.98	89.17	-196.48	2,303.23	2,658.75	2,615.17	43.58	61.005		
8,900.00	8,878.93	8,635.75	8,591.84	31.74	32.72	89.43	-208.40	2,318.75	2,667.11	2,622.71	44.40	60.068		
9,000.00	8,978.93	8,735.00	8,690.52	32.09	33.53	89.58	-215.22	2,327.63	2,671.08	2,625.82	45.25	59.025		
9,100.00	9,078.93	9,092.66	9,048.63	32.43	34.00	89.59	-215.74	2,328.31	2,671.38	2,625.54	45.84	58.272		
9,200.00	9,178.93	9,192.66	9,148.63	32.77	34.32	89.59	-215.74	2,328.31	2,671.38	2,625.06	46.32	57.671		
9,300.00	9,278.93	9,292.66	9,248.63	33.12	34.65	89.59	-215.74	2,328.31	2,671.38	2,624.58	46.80	57.081		
9,400.00	9,378.93	9,392.66	9,348.63	33.46	34.97	89.59	-215.74	2,328.31	2,671.38	2,624.10	47.28	56.502		
9,500.00	9,478.93	9,492.66	9,448.63	33.81	35.29	89.59	-215.74	2,328.31	2,671.38	2,623.62	47.76	55.934		
9,600.00	9,578.93	9,592.66	9,548.63	34.15	35.61	89.59	-215.74	2,328.31	2,671.38	2,623.14	48.24	55.377		
9,700.00	9,678.93	9,692.66	9,648.63	34.50	35.94	89.59	-215.74	2,328.31	2,671.38	2,622.66	48.72	54.831		
9,800.00	9,778.93	9,792.66	9,748.63	34.84	36.26	89.59	-215.74	2,328.31	2,671.38	2,622.18	49.20	54.294		
9,900.00	9,878.93	9,892.66	9,848.63	35.19	36.59	89.59	-215.74	2,328.31	2,671.38	2,621.70	49.68	53.767		
10,000.00	9,978.94	9,992.66	9,948.64	35.54	36.91	89.59	-215.74	2,328.31	2,671.38	2,621.21	50.17	53.250		
10,100.00	10,078.94	10,092.66	10,048.64	35.88	37.24	89.59	-215.74	2,328.31	2,671.38	2,620.73	50.65	52.742		



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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			
10,200.00	10,178.94	10,192.66	10,148.64	36.23	37.57	89.59	-215.74	2,328.31	2,671.38	2,620.25	51.13	52.244				
10,300.00	10,278.94	10,292.66	10,248.64	36.58	37.90	89.59	-215.74	2,328.31	2,671.38	2,619.76	51.62	51.754				
10,400.00	10,378.94	10,392.66	10,348.64	36.92	38.22	89.59	-215.74	2,328.31	2,671.38	2,619.28	52.10	51.273				
10,500.00	10,478.94	10,492.66	10,448.64	37.27	38.55	89.59	-215.74	2,328.31	2,671.38	2,618.79	52.59	50.800				
10,600.00	10,578.94	10,592.66	10,548.64	37.62	38.88	89.59	-215.74	2,328.31	2,671.38	2,618.31	53.07	50.336				
10,700.00	10,678.94	10,692.66	10,648.64	37.97	39.21	89.59	-215.74	2,328.31	2,671.38	2,617.82	53.56	49.879				
10,800.00	10,778.94	10,792.66	10,748.64	38.32	39.54	89.59	-215.74	2,328.31	2,671.38	2,617.34	54.04	49.431				
10,900.00	10,878.94	10,892.66	10,848.64	38.66	39.87	89.59	-215.74	2,328.31	2,671.38	2,616.85	54.53	48.990				
11,000.00	10,978.94	10,992.66	10,948.64	39.01	40.21	89.59	-215.74	2,328.31	2,671.38	2,616.36	55.02	48.556				
11,100.00	11,078.94	11,092.66	11,048.64	39.36	40.54	89.59	-215.74	2,328.31	2,671.38	2,615.88	55.50	48.130				
11,200.00	11,178.94	11,192.66	11,148.64	39.71	40.87	89.59	-215.74	2,328.31	2,671.38	2,615.39	55.99	47.711				
11,300.00	11,278.94	11,292.66	11,248.64	40.06	41.20	89.59	-215.74	2,328.31	2,671.38	2,614.90	56.48	47.299				
11,393.85	11,372.78	11,386.63	11,342.48	40.39	41.51	89.51	-212.32	2,328.28	2,671.38	2,614.45	56.93	46.923				
11,400.00	11,378.94	11,392.74	11,348.55	40.41	41.53	89.50	-211.62	2,328.28	2,671.38	2,614.42	56.96	46.899				
11,500.00	11,478.94	11,488.96	11,442.67	40.76	41.80	89.08	-192.16	2,328.11	2,671.46	2,614.05	57.41	46.532				
11,556.07	11,535.00	11,539.33	11,490.28	40.95	41.92	88.73	-175.76	2,327.97	2,671.67	2,614.02	57.65	46.346				
11,600.00	11,578.89	11,577.16	11,524.98	41.10	42.00	88.90	-160.73	2,327.84	2,671.95	2,614.13	57.82	46.212				
11,650.00	11,628.51	11,619.28	11,562.36	41.27	42.09	88.54	-141.34	2,327.68	2,672.37	2,614.36	58.01	46.071				
11,700.00	11,677.43	11,660.51	11,597.47	41.43	42.16	88.19	-119.75	2,327.50	2,672.88	2,614.70	58.18	45.942				
11,750.00	11,725.25	11,700.00	11,629.57	41.58	42.22	87.86	-96.75	2,327.30	2,673.47	2,615.13	58.34	45.827				
11,800.00	11,771.63	11,740.69	11,660.90	41.72	42.27	87.53	-70.80	2,327.08	2,674.12	2,615.63	58.49	45.720				
11,850.00	11,816.21	11,779.82	11,689.22	41.85	42.30	87.22	-43.81	2,326.85	2,674.82	2,616.19	58.63	45.625				
11,900.00	11,858.65	11,818.40	11,715.27	41.96	42.34	86.93	-15.37	2,326.61	2,675.53	2,616.78	58.75	45.537				
11,950.00	11,898.62	11,856.50	11,739.07	42.06	42.36	86.65	14.37	2,326.36	2,676.26	2,617.39	58.88	45.457				
12,000.00	11,935.83	11,894.18	11,760.61	42.15	42.37	86.39	45.28	2,326.09	2,676.98	2,617.99	58.99	45.381				
12,050.00	11,969.99	11,931.49	11,779.89	42.22	42.38	86.16	77.22	2,325.82	2,677.68	2,618.58	59.10	45.310				
12,100.00	12,000.83	11,968.48	11,796.91	42.28	42.38	85.95	110.05	2,325.54	2,678.33	2,619.13	59.20	45.241				
12,150.00	12,028.14	12,000.00	11,809.72	42.33	42.38	85.78	138.84	2,325.30	2,678.94	2,619.65	59.30	45.178				
12,200.00	12,051.68	12,041.71	11,824.20	42.37	42.36	85.60	177.95	2,324.97	2,679.48	2,620.07	59.41	45.103				
12,250.00	12,071.30	12,078.02	11,834.46	42.41	42.35	85.46	212.77	2,324.67	2,679.94	2,620.43	59.51	45.032				
12,300.00	12,086.83	12,114.18	11,842.46	42.51	42.33	85.35	248.03	2,324.37	2,680.32	2,620.70	59.62	44.958				
12,350.00	12,098.17	12,150.00	11,848.18	42.64	42.31	85.27	283.38	2,324.07	2,680.60	2,620.88	59.73	44.881				
12,400.00	12,105.22	12,186.20	11,851.71	42.76	42.28	85.22	319.40	2,323.77	2,680.79	2,620.95	59.84	44.799				
12,450.00	12,107.93	12,222.12	11,852.95	42.89	42.26	85.19	355.30	2,323.46	2,680.88	2,620.93	59.96	44.713				
12,461.58	12,107.93	12,233.54	11,852.88	42.92	42.25	85.19	366.71	2,323.37	2,680.89	2,620.90	59.99	44.690				
12,463.98	12,107.91	12,233.54	11,852.88	42.93	42.25	85.19	366.71	2,323.37	2,680.89	2,620.90	59.99	44.687				
12,500.00	12,107.56	12,267.64	11,852.31	43.03	42.23	85.19	400.81	2,323.08	2,680.92	2,620.81	60.10	44.607				
12,600.00	12,106.60	12,367.64	11,850.65	43.34	42.35	85.17	500.79	2,322.23	2,680.99	2,620.52	60.46	44.340				
12,700.00	12,105.64	12,467.64	11,848.99	43.71	42.68	85.16	600.77	2,321.38	2,681.06	2,620.15	60.91	44.015				
12,800.00	12,104.67	12,567.64	11,847.33	44.14	43.06	85.14	700.75	2,320.53	2,681.13	2,619.68	61.45	43.634				
12,900.00	12,103.71	12,667.63	11,845.67	44.63	43.49	85.13	800.73	2,319.68	2,681.20	2,619.14	62.06	43.202				
13,000.00	12,102.75	12,767.63	11,844.01	45.16	43.98	85.11	900.71	2,318.83	2,681.28	2,618.52	62.76	42.723				
13,100.00	12,101.78	12,867.63	11,842.35	45.75	44.51	85.10	1,000.69	2,317.98	2,681.35	2,617.81	63.53	42.204				
13,200.00	12,100.82	12,967.63	11,840.69	46.39	45.10	85.08	1,100.67	2,317.13	2,681.42	2,617.04	64.38	41.648				
13,300.00	12,099.86	13,067.62	11,839.03	47.08	45.74	85.07	1,200.65	2,316.29	2,681.49	2,616.19	65.30	41.061				
13,400.00	12,098.89	13,167.62	11,837.37	47.81	46.42	85.05	1,300.63	2,315.44	2,681.57	2,615.27	66.30	40.449				
13,500.00	12,097.93	13,267.62	11,835.71	48.59	47.16	85.04	1,400.61	2,314.59	2,681.64	2,614.29	67.35	39.816				
13,600.00	12,096.97	13,367.62	11,834.04	49.41	47.93	85.02	1,500.59	2,313.74	2,681.71	2,613.24	68.47	39.166				
13,700.00	12,096.00	13,467.61	11,832.38	50.28	48.75	85.01	1,600.57	2,312.89	2,681.79	2,612.14	69.65	38.504				
13,800.00	12,095.04	13,567.61	11,830.72	51.18	49.61	84.99	1,700.55	2,312.04	2,681.86	2,610.98	70.89	37.834				
13,900.00	12,094.08	13,667.61	11,829.06	52.12	50.50	84.98	1,800.53	2,311.19	2,681.94	2,609.76	72.18	37.158				
14,000.00	12,093.11	13,767.61	11,827.40	53.09	51.43	84.96	1,900.51	2,310.34	2,682.01	2,608.49	73.52	36.482				

CC - Min centre to center distance or 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 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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				
14,100.00	12,092.15	13,867.61	11,825.74	54.09	52.40	84.95	2,000.49	2,309.50	2,682.08	2,607.18	74.91	35.806				
14,200.00	12,091.19	13,967.60	11,824.08	55.13	53.40	84.93	2,100.47	2,308.65	2,682.16	2,605.82	76.34	35.134				
14,300.00	12,090.23	14,067.60	11,822.42	56.19	54.43	84.92	2,200.45	2,307.80	2,682.23	2,604.41	77.82	34.467				
14,400.00	12,089.26	14,167.60	11,820.76	57.29	55.50	84.90	2,300.43	2,306.95	2,682.31	2,602.97	79.34	33.808				
14,500.00	12,088.30	14,267.60	11,819.10	58.41	56.59	84.89	2,400.41	2,306.10	2,682.38	2,601.49	80.90	33.159				
14,600.00	12,087.34	14,367.59	11,817.44	59.55	57.70	84.87	2,500.39	2,305.25	2,682.46	2,599.97	82.49	32.519				
14,700.00	12,086.37	14,467.59	11,815.78	60.72	58.84	84.86	2,600.37	2,304.40	2,682.53	2,598.42	84.12	31.890				
14,800.00	12,085.41	14,567.59	11,814.12	61.91	60.01	84.85	2,700.35	2,303.55	2,682.61	2,596.83	85.78	31.274				
14,900.00	12,084.45	14,667.59	11,812.46	63.12	61.19	84.83	2,800.33	2,302.71	2,682.69	2,595.22	87.47	30.671				
15,000.00	12,083.48	14,767.58	11,810.79	64.34	62.40	84.82	2,900.31	2,301.86	2,682.76	2,593.58	89.19	30.080				
15,100.00	12,082.52	14,867.58	11,809.13	65.59	63.63	84.80	3,000.29	2,301.01	2,682.84	2,591.91	90.93	29.504				
15,200.00	12,081.56	14,967.58	11,807.47	66.86	64.87	84.79	3,100.27	2,300.16	2,682.91	2,590.21	92.70	28.941				
15,300.00	12,080.59	15,067.58	11,805.81	68.14	66.13	84.77	3,200.25	2,299.31	2,682.99	2,588.49	94.50	28.392				
15,400.00	12,079.63	15,167.57	11,804.15	69.44	67.41	84.76	3,300.23	2,298.46	2,683.07	2,586.75	96.32	27.857				
15,500.00	12,078.67	15,267.57	11,802.49	70.75	68.71	84.74	3,400.21	2,297.61	2,683.14	2,584.99	98.16	27.336				
15,600.00	12,077.70	15,367.57	11,800.83	72.08	70.02	84.73	3,500.19	2,296.76	2,683.22	2,583.21	100.01	26.828				
15,700.00	12,076.74	15,467.57	11,799.17	73.42	71.35	84.71	3,600.17	2,295.92	2,683.30	2,581.41	101.89	26.334				
15,800.00	12,075.78	15,567.56	11,797.51	74.77	72.68	84.70	3,700.16	2,295.07	2,683.38	2,579.59	103.79	25.854				
15,900.00	12,074.82	15,667.56	11,795.85	76.13	74.03	84.68	3,800.14	2,294.22	2,683.45	2,577.75	105.70	25.386				
16,000.00	12,073.85	15,767.56	11,794.19	77.51	75.40	84.67	3,900.12	2,293.37	2,683.53	2,575.90	107.63	24.932				
16,100.00	12,072.89	15,867.56	11,792.53	78.89	76.77	84.65	4,000.10	2,292.52	2,683.61	2,574.03	109.58	24.490				
16,200.00	12,071.93	15,967.55	11,790.87	80.29	78.16	84.64	4,100.08	2,291.67	2,683.69	2,572.15	111.54	24.060				
16,300.00	12,070.96	16,067.55	11,789.21	81.69	79.55	84.62	4,200.06	2,290.82	2,683.77	2,570.25	113.51	23.643				
16,400.00	12,070.00	16,167.55	11,787.54	83.11	80.95	84.61	4,300.04	2,289.97	2,683.85	2,568.35	115.50	23.237				
16,500.00	12,069.04	16,267.55	11,785.88	84.53	82.37	84.59	4,400.02	2,289.13	2,683.92	2,566.43	117.50	22.842				
16,600.00	12,068.07	16,367.54	11,784.22	85.96	83.79	84.58	4,500.00	2,288.28	2,684.00	2,564.49	119.51	22.459				
16,700.00	12,067.11	16,467.54	11,782.56	87.40	85.22	84.56	4,599.98	2,287.43	2,684.08	2,562.55	121.53	22.086				
16,800.00	12,066.15	16,567.54	11,780.90	88.85	86.66	84.55	4,699.96	2,286.58	2,684.16	2,560.60	123.56	21.723				
16,900.00	12,065.18	16,667.54	11,779.24	90.30	88.10	84.53	4,799.94	2,285.73	2,684.24	2,558.64	125.60	21.371				
17,000.00	12,064.22	16,767.53	11,777.58	91.76	89.56	84.52	4,899.92	2,284.88	2,684.32	2,556.66	127.66	21.028				
17,100.00	12,063.26	16,867.53	11,775.92	93.23	91.02	84.50	4,999.90	2,284.03	2,684.40	2,554.68	129.72	20.694				
17,200.00	12,062.30	16,967.53	11,774.26	94.70	92.48	84.49	5,099.88	2,283.18	2,684.48	2,552.69	131.79	20.370				
17,300.00	12,061.33	17,067.53	11,772.60	96.18	93.95	84.48	5,199.86	2,282.34	2,684.56	2,550.70	133.86	20.054				
17,400.00	12,060.37	17,167.52	11,770.94	97.66	95.43	84.46	5,299.84	2,281.49	2,684.64	2,548.69	135.95	19.747				
17,500.00	12,059.41	17,267.52	11,769.28	99.15	96.91	84.45	5,399.82	2,280.64	2,684.72	2,546.68	138.04	19.448				
17,600.00	12,058.44	17,367.52	11,767.62	100.64	98.40	84.43	5,499.80	2,279.79	2,684.80	2,544.66	140.14	19.157				
17,700.00	12,057.48	17,467.52	11,765.96	102.14	99.90	84.42	5,599.78	2,278.94	2,684.88	2,542.63	142.25	18.874				
17,800.00	12,056.52	17,567.52	11,764.29	103.65	101.40	84.40	5,699.76	2,278.09	2,684.96	2,540.60	144.37	18.598				
17,900.00	12,055.55	17,667.51	11,762.63	105.15	102.90	84.39	5,799.74	2,277.24	2,685.04	2,538.56	146.49	18.330				
18,000.00	12,054.59	17,767.51	11,760.97	106.67	104.41	84.37	5,899.72	2,276.39	2,685.13	2,536.51	148.61	18.068				
18,100.00	12,053.63	17,867.51	11,759.31	108.18	105.92	84.36	5,999.70	2,275.55	2,685.21	2,534.46	150.74	17.813				
18,200.00	12,052.66	17,967.51	11,757.65	109.70	107.44	84.34	6,099.68	2,274.70	2,685.29	2,532.41	152.88	17.565				
18,300.00	12,051.70	18,067.50	11,755.99	111.23	108.96	84.33	6,199.66	2,273.85	2,685.37	2,530.35	155.02	17.322				
18,400.00	12,050.74	18,167.50	11,754.33	112.75	110.48	84.31	6,299.64	2,273.00	2,685.45	2,528.28	157.17	17.086				
18,500.00	12,049.77	18,267.50	11,752.67	114.29	112.01	84.30	6,399.62	2,272.15	2,685.54	2,526.21	159.32	16.856				
18,600.00	12,048.81	18,367.50	11,751.01	115.82	113.54	84.28	6,499.60	2,271.30	2,685.62	2,524.14	161.48	16.631				
18,700.00	12,047.85	18,467.49	11,749.35	117.36	115.07	84.27	6,599.58	2,270.45	2,685.70	2,522.06	163.64	16.412				
18,800.00	12,046.89	18,567.49	11,747.69	118.90	116.61	84.25	6,699.56	2,269.60	2,685.78	2,519.97	165.81	16.198				
18,900.00	12,045.92	18,667.49	11,746.03	120.44	118.15	84.24	6,799.54	2,268.76	2,685.87	2,517.89	167.98	15.989				
19,000.00	12,044.96	18,767.49	11,744.37	121.99	119.69	84.22	6,899.52	2,267.91	2,685.95	2,515.80	170.15	15.785				
19,100.00	12,044.00	18,867.48	11,742.71	123.54	121.24	84.21	6,999.50	2,267.06	2,686.03	2,513.70	172.33	15.586				
19,200.00	12,043.03	18,967.48	11,741.04	125.09	122.79	84.19	7,099.48	2,266.21	2,686.12	2,511.60	174.51	15.392				

CC - Min centre to center distance or 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 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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	12,042.07	19,067.48	11,739.38	126.64	124.34	84.18	7,199.46	2,265.36	2,686.20	2,509.50	176.70	15.202		
19,400.00	12,041.11	19,167.48	11,737.72	128.20	125.90	84.16	7,299.44	2,264.51	2,686.28	2,507.40	178.89	15.017		
19,500.00	12,040.14	19,267.47	11,736.06	129.76	127.45	84.15	7,399.42	2,263.66	2,686.37	2,505.29	181.08	14.835		
19,600.00	12,039.18	19,367.47	11,734.40	131.32	129.01	84.14	7,499.40	2,262.81	2,686.45	2,503.18	183.27	14.658		
19,700.00	12,038.22	19,467.47	11,732.74	132.88	130.57	84.12	7,599.38	2,261.97	2,686.54	2,501.07	185.47	14.485		
19,800.00	12,037.25	19,567.47	11,731.08	134.45	132.14	84.11	7,699.36	2,261.12	2,686.62	2,498.95	187.67	14.316		
19,900.00	12,036.29	19,667.46	11,729.42	136.02	133.70	84.09	7,799.34	2,260.27	2,686.71	2,496.83	189.87	14.150		
20,000.00	12,035.33	19,767.46	11,727.76	137.59	135.27	84.08	7,899.32	2,259.42	2,686.79	2,494.71	192.08	13.988		
20,100.00	12,034.36	19,867.46	11,726.10	139.16	136.84	84.06	7,999.30	2,258.57	2,686.88	2,492.59	194.29	13.829		
20,200.00	12,033.40	19,967.46	11,724.44	140.73	138.41	84.05	8,099.28	2,257.72	2,686.96	2,490.46	196.50	13.674		
20,300.00	12,032.44	20,067.45	11,722.78	142.31	139.99	84.03	8,199.26	2,256.87	2,687.05	2,488.33	198.71	13.522		
20,400.00	12,031.48	20,167.45	11,721.12	143.88	141.56	84.02	8,299.24	2,256.02	2,687.13	2,486.20	200.93	13.374		
20,500.00	12,030.51	20,267.45	11,719.46	145.46	143.14	84.00	8,399.22	2,255.18	2,687.22	2,484.07	203.15	13.228		
20,600.00	12,029.55	20,367.45	11,717.79	147.04	144.72	83.99	8,499.20	2,254.33	2,687.31	2,481.94	205.37	13.085		
20,700.00	12,028.59	20,467.44	11,716.13	148.62	146.30	83.97	8,599.18	2,253.48	2,687.39	2,479.80	207.59	12.946		
20,800.00	12,027.62	20,567.44	11,714.47	150.21	147.88	83.96	8,699.16	2,252.63	2,687.48	2,477.66	209.81	12.809		
20,900.00	12,026.66	20,667.44	11,712.81	151.79	149.46	83.94	8,799.14	2,251.78	2,687.56	2,475.53	212.04	12.675		
21,000.00	12,025.70	20,767.44	11,711.15	153.38	151.05	83.93	8,899.12	2,250.93	2,687.65	2,473.39	214.27	12.544		
21,100.00	12,024.73	20,867.43	11,709.49	154.96	152.63	83.91	8,999.10	2,250.08	2,687.74	2,471.24	216.50	12.415		
21,200.00	12,023.77	20,967.43	11,707.83	156.55	154.22	83.90	9,099.08	2,249.23	2,687.83	2,469.10	218.73	12.289		
21,300.00	12,022.81	21,067.43	11,706.17	158.14	155.81	83.88	9,199.06	2,248.39	2,687.91	2,466.95	220.96	12.165		
21,400.00	12,021.84	21,167.43	11,704.51	159.73	157.40	83.87	9,299.04	2,247.54	2,688.00	2,464.81	223.19	12.043		
21,500.00	12,020.88	21,267.43	11,702.85	161.33	158.99	83.85	9,399.03	2,246.69	2,688.09	2,462.66	225.43	11.924		
21,600.00	12,019.92	21,367.42	11,701.19	162.92	160.58	83.84	9,499.01	2,245.84	2,688.18	2,460.51	227.67	11.807		
21,700.00	12,018.95	21,467.42	11,699.53	164.51	162.18	83.83	9,598.99	2,244.99	2,688.26	2,458.36	229.91	11.693		
21,800.00	12,017.99	21,567.42	11,697.87	166.11	163.77	83.81	9,698.97	2,244.14	2,688.35	2,456.20	232.15	11.580		
21,900.00	12,017.03	21,667.42	11,696.21	167.71	165.37	83.80	9,798.95	2,243.29	2,688.44	2,454.05	234.39	11.470		
22,000.00	12,016.07	21,767.41	11,694.54	169.31	166.96	83.78	9,898.93	2,242.44	2,688.53	2,451.90	236.63	11.362		
22,100.00	12,015.10	21,867.41	11,692.88	170.90	168.56	83.77	9,998.91	2,241.60	2,688.62	2,449.74	238.88	11.255		
22,200.00	12,014.14	21,967.41	11,691.22	172.50	170.16	83.75	10,098.89	2,240.75	2,688.71	2,447.58	241.12	11.151		
22,238.31	12,013.77	22,005.71	11,690.59	173.12	170.77	83.75	10,137.18	2,240.42	2,688.74	2,446.76	241.98	11.111 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 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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	82.05	233.49	1,672.32	1,688.86					
100.00	100.00	67.00	67.00	0.13	0.09	82.05	233.49	1,672.32	1,688.54	1,688.38	0.16	N/A		
200.00	200.00	167.00	167.00	0.48	0.38	82.05	233.49	1,672.32	1,688.54	1,687.92	0.62	2,739.374		
300.00	300.00	267.00	267.00	0.84	0.74	82.05	233.49	1,672.32	1,688.54	1,687.42	1.12	1,505.699		
400.00	400.00	367.00	367.00	1.20	1.10	82.05	233.49	1,672.32	1,688.54	1,686.91	1.63	1,037.402		
500.00	500.00	467.00	467.00	1.56	1.46	82.05	233.49	1,672.32	1,688.54	1,686.41	2.13	791.168		
600.00	600.00	567.00	567.00	1.92	1.82	82.05	233.49	1,672.32	1,688.54	1,685.90	2.64	639.367		
700.00	700.00	667.00	667.00	2.28	2.17	82.05	233.49	1,672.32	1,688.54	1,685.39	3.15	536.427		
800.00	800.00	767.00	767.00	2.63	2.53	82.05	233.49	1,672.32	1,688.54	1,684.89	3.65	462.032		
900.00	900.00	867.00	867.00	2.99	2.89	82.05	233.49	1,672.32	1,688.54	1,684.38	4.16	405.757		
1,000.00	1,000.00	967.00	967.00	3.35	3.25	82.05	233.49	1,672.32	1,688.54	1,683.87	4.67	361.700		
1,100.00	1,100.00	1,067.00	1,067.00	3.71	3.61	82.05	233.49	1,672.32	1,688.54	1,683.37	5.18	326.272		
1,200.00	1,200.00	1,167.00	1,167.00	4.07	3.97	82.05	233.49	1,672.32	1,688.54	1,682.86	5.68	297.165		
1,300.00	1,300.00	1,267.00	1,267.00	4.43	4.32	82.05	233.49	1,672.32	1,688.54	1,682.35	6.19	272.826		
1,400.00	1,400.00	1,367.00	1,367.00	4.79	4.68	82.05	233.49	1,672.32	1,688.54	1,681.85	6.70	252.172		
1,500.00	1,500.00	1,467.00	1,467.00	5.14	5.04	82.05	233.49	1,672.32	1,688.54	1,681.34	7.20	234.424		
1,600.00	1,600.00	1,567.00	1,567.00	5.50	5.40	82.05	233.49	1,672.32	1,688.54	1,680.83	7.71	219.011		
1,700.00	1,700.00	1,667.00	1,667.00	5.86	5.76	82.05	233.49	1,672.32	1,688.54	1,680.32	8.22	205.499		
1,800.00	1,800.00	1,767.00	1,767.00	6.22	6.12	82.05	233.49	1,672.32	1,688.54	1,679.82	8.72	193.557		
1,900.00	1,900.00	1,867.00	1,867.00	6.58	6.48	82.05	233.49	1,672.32	1,688.54	1,679.31	9.23	182.927		
2,000.00	2,000.00	1,967.00	1,967.00	6.94	6.83	82.05	233.49	1,672.32	1,688.54	1,678.80	9.74	173.404		
2,100.00	2,100.00	2,067.00	2,067.00	7.29	7.19	82.05	233.49	1,672.32	1,688.54	1,678.30	10.24	164.823		
2,200.00	2,200.00	2,167.00	2,167.00	7.65	7.55	82.05	233.49	1,672.32	1,688.54	1,677.79	10.75	157.052		
2,300.00	2,300.00	2,267.00	2,267.00	8.01	7.91	82.05	233.49	1,672.32	1,688.54	1,677.28	11.26	149.980		
2,400.00	2,400.00	2,367.00	2,367.00	8.37	8.27	82.05	233.49	1,672.32	1,688.54	1,676.78	11.77	143.518		
2,500.00	2,500.00	2,467.00	2,467.00	8.73	8.63	82.05	233.49	1,672.32	1,688.54	1,676.27	12.27	137.589		
2,600.00	2,600.00	2,608.20	2,608.18	9.09	9.12	82.08	232.54	1,671.12	1,687.72	1,674.85	12.87	131.148		
2,700.00	2,700.00	2,769.31	2,769.09	9.45	9.65	82.22	227.59	1,664.89	1,683.47	1,669.99	13.48	124.867		
2,800.00	2,800.00	2,929.48	2,928.57	9.80	10.19	82.47	218.50	1,653.43	1,675.61	1,661.53	14.08	118.986		
2,900.00	2,900.00	3,055.18	3,053.28	10.16	10.63	82.75	208.70	1,641.08	1,664.76	1,650.14	14.62	113.897		
3,000.00	3,000.00	3,154.32	3,151.57	10.52	10.97	82.99	200.66	1,630.95	1,653.58	1,638.47	15.11	109.456		
3,100.00	3,100.00	3,253.47	3,249.87	10.88	11.33	83.22	192.61	1,620.81	1,642.43	1,626.83	15.60	105.282		
3,200.00	3,200.00	3,352.61	3,348.17	11.24	11.68	83.46	184.57	1,610.68	1,631.31	1,615.22	16.10	101.353		
3,300.00	3,299.99	3,451.91	3,446.62	11.58	12.04	-151.97	176.51	1,600.53	1,621.37	1,604.79	16.58	97.776		
3,400.00	3,399.91	3,551.49	3,545.35	11.91	12.41	-151.84	168.43	1,590.35	1,613.75	1,596.69	17.06	94.578		
3,500.00	3,499.69	3,651.27	3,644.28	12.25	12.77	-151.74	160.34	1,580.15	1,608.44	1,590.90	17.55	91.669		
3,600.14	3,599.41	3,751.33	3,743.48	12.59	13.15	-151.67	152.22	1,569.92	1,605.45	1,587.41	18.03	89.027		
3,700.00	3,698.72	3,851.15	3,842.45	12.93	13.52	-151.60	144.12	1,559.72	1,603.61	1,585.09	18.52	86.579		
3,800.00	3,798.17	3,951.11	3,941.55	13.27	13.90	-151.52	136.01	1,549.50	1,601.78	1,582.77	19.01	84.243		
3,900.00	3,897.62	4,051.08	4,040.66	13.62	14.28	-151.45	127.90	1,539.28	1,599.95	1,580.44	19.51	82.014		
4,000.00	3,997.08	4,151.04	4,139.77	13.96	14.66	-151.38	119.79	1,529.06	1,598.12	1,578.12	20.01	79.886		
4,100.00	4,096.53	4,251.00	4,238.88	14.32	15.04	-151.31	111.68	1,518.85	1,596.30	1,575.79	20.50	77.853		
4,200.00	4,195.98	4,350.96	4,337.98	14.67	15.43	-151.23	103.57	1,508.63	1,594.48	1,573.47	21.00	75.910		
4,300.00	4,295.43	4,450.93	4,437.09	15.03	15.81	-151.16	95.47	1,498.41	1,592.66	1,571.15	21.51	74.051		
4,400.00	4,394.88	4,550.89	4,536.20	15.38	16.20	-151.08	87.36	1,488.19	1,590.84	1,568.83	22.01	72.271		
4,500.00	4,494.34	4,650.85	4,635.31	15.74	16.59	-151.01	79.25	1,477.97	1,589.02	1,566.51	22.52	70.566		
4,600.00	4,593.79	4,750.81	4,734.41	16.10	16.98	-150.94	71.14	1,467.75	1,587.21	1,564.19	23.03	68.932		
4,700.00	4,693.24	4,850.78	4,833.52	16.47	17.37	-150.86	63.03	1,457.54	1,585.40	1,561.87	23.53	67.364		
4,800.00	4,792.69	4,950.74	4,932.63	16.83	17.77	-150.79	54.92	1,447.32	1,583.60	1,559.55	24.05	65.859		
4,900.00	4,892.14	5,050.70	5,031.74	17.20	18.16	-150.71	46.81	1,437.10	1,581.79	1,557.23	24.56	64.413		
5,000.00	4,991.59	5,150.66	5,130.85	17.57	18.56	-150.64	38.70	1,426.88	1,579.99	1,554.92	25.07	63.023		
5,100.00	5,091.05	5,250.63	5,229.95	17.94	18.95	-150.56	30.59	1,416.66	1,578.19	1,552.61	25.58	61.686		

CC - Min centre to center distance or 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 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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		
5,200.00	5,190.50	5,350.59	5,329.06	18.31	19.35	-150.49	22.48	1,406.44	1,576.40	1,550.30	26.10	60.399		
5,300.00	5,289.95	5,450.55	5,428.17	18.68	19.75	-150.41	14.37	1,396.23	1,574.60	1,547.99	26.62	59.160		
5,400.00	5,389.40	5,550.51	5,527.28	19.05	20.14	-150.34	6.26	1,386.01	1,572.81	1,545.68	27.13	57.966		
5,500.00	5,488.85	5,650.48	5,626.38	19.42	20.54	-150.26	-1.85	1,375.79	1,571.02	1,543.37	27.65	56.815		
5,600.00	5,588.31	5,750.44	5,725.49	19.80	20.94	-150.19	-9.96	1,365.57	1,569.24	1,541.07	28.17	55.705		
5,700.00	5,687.76	5,850.40	5,824.60	20.17	21.34	-150.11	-18.07	1,355.35	1,567.46	1,538.77	28.69	54.633		
5,800.00	5,787.21	5,950.36	5,923.71	20.55	21.75	-150.04	-26.18	1,345.13	1,565.68	1,536.47	29.21	53.598		
5,900.00	5,886.66	6,050.33	6,022.81	20.92	22.15	-149.96	-34.29	1,334.92	1,563.90	1,534.17	29.73	52.598		
6,000.00	5,986.11	6,150.29	6,121.92	21.30	22.55	-149.88	-42.40	1,324.70	1,562.13	1,531.87	30.26	51.631		
6,100.00	6,085.56	6,250.25	6,221.03	21.68	22.95	-149.81	-50.51	1,314.48	1,560.36	1,529.58	30.78	50.696		
6,200.00	6,185.02	6,350.21	6,320.14	22.06	23.36	-149.73	-58.62	1,304.26	1,558.59	1,527.28	31.30	49.791		
6,300.00	6,284.47	6,450.18	6,419.25	22.44	23.76	-149.65	-66.73	1,294.04	1,556.82	1,524.99	31.83	48.915		
6,400.00	6,383.92	6,550.14	6,518.35	22.82	24.16	-149.58	-74.84	1,283.83	1,555.06	1,522.71	32.35	48.067		
6,500.00	6,483.37	6,650.10	6,617.46	23.20	24.57	-149.50	-82.95	1,273.61	1,553.30	1,520.42	32.88	47.244		
6,600.00	6,582.82	6,750.07	6,716.57	23.58	24.97	-149.42	-91.06	1,263.39	1,551.54	1,518.14	33.40	46.447		
6,700.00	6,682.28	6,850.03	6,815.68	23.96	25.38	-149.34	-99.17	1,253.17	1,549.79	1,515.86	33.93	45.674		
6,800.00	6,781.73	6,949.99	6,914.78	24.34	25.79	-149.27	-107.28	1,242.95	1,548.04	1,513.58	34.46	44.924		
6,900.00	6,881.18	7,049.95	7,013.89	24.72	26.19	-149.19	-115.39	1,232.73	1,546.29	1,511.30	34.99	44.196		
7,000.00	6,980.63	7,149.92	7,113.00	25.11	26.60	-149.11	-123.50	1,222.52	1,544.54	1,509.03	35.52	43.489		
7,100.00	7,080.08	7,249.88	7,212.11	25.49	27.00	-149.03	-131.61	1,212.30	1,542.80	1,506.75	36.04	42.803		
7,175.92	7,155.59	7,325.77	7,287.35	25.78	27.31	-148.97	-137.76	1,204.54	1,541.48	1,505.03	36.45	42.294		
7,200.00	7,179.54	7,349.84	7,311.21	25.87	27.41	-148.95	-139.72	1,202.08	1,540.99	1,504.42	36.57	42.133		
7,300.00	7,279.18	7,449.73	7,410.25	26.25	27.82	-148.81	-147.82	1,191.87	1,537.60	1,500.49	37.10	41.441		
7,400.00	7,379.00	7,549.47	7,509.13	26.62	28.23	-148.59	-155.91	1,181.67	1,531.97	1,494.34	37.63	40.711		
7,500.00	7,478.94	7,648.98	7,607.80	26.97	28.63	-148.31	-163.99	1,171.50	1,524.14	1,485.98	38.16	39.946		
7,576.07	7,555.00	7,724.49	7,682.66	27.23	28.94	87.53	-170.11	1,163.78	1,516.71	1,478.16	38.55	39.342		
7,600.00	7,578.93	7,748.22	7,706.19	27.32	29.04	87.60	-172.04	1,161.36	1,514.18	1,475.50	38.68	39.150		
7,700.00	7,678.93	7,847.37	7,804.49	27.65	29.44	87.90	-180.08	1,151.22	1,503.61	1,464.42	39.19	38.363		
7,800.00	7,778.93	7,946.51	7,902.78	27.99	29.85	88.19	-188.12	1,141.09	1,493.09	1,453.37	39.71	37.596		
7,900.00	7,878.93	8,045.66	8,001.08	28.33	30.25	88.49	-196.17	1,130.95	1,482.60	1,442.37	40.23	36.850		
8,000.00	7,978.93	8,121.56	8,076.43	28.67	30.56	88.71	-201.87	1,123.77	1,472.94	1,432.23	40.71	36.184		
8,100.00	8,078.93	8,200.00	8,154.47	29.01	30.87	88.89	-206.77	1,117.59	1,464.89	1,423.71	41.18	35.577		
8,200.00	8,178.93	8,274.11	8,228.33	29.35	31.15	89.04	-210.50	1,112.90	1,458.43	1,416.81	41.62	35.041		
8,300.00	8,278.93	8,350.74	8,304.82	29.69	31.43	89.15	-213.41	1,109.23	1,453.58	1,411.52	42.06	34.560		
8,400.00	8,378.93	8,427.53	8,381.55	30.03	31.70	89.22	-215.37	1,106.76	1,450.33	1,407.84	42.49	34.135		
8,500.00	8,478.93	8,500.00	8,453.99	30.37	31.95	89.26	-216.34	1,105.54	1,448.68	1,405.79	42.89	33.778		
8,600.00	8,578.93	8,591.94	8,545.93	30.72	32.25	89.27	-216.51	1,105.32	1,448.44	1,405.10	43.34	33.420		
8,700.00	8,678.93	8,691.94	8,645.93	31.06	32.57	89.27	-216.51	1,105.32	1,448.44	1,404.62	43.82	33.056		
8,800.00	8,778.93	8,791.94	8,745.93	31.40	32.89	89.27	-216.51	1,105.32	1,448.44	1,404.14	44.29	32.700		
8,900.00	8,878.93	8,891.94	8,845.93	31.74	33.21	89.27	-216.51	1,105.32	1,448.44	1,403.67	44.77	32.351		
9,000.00	8,978.93	8,991.94	8,945.93	32.09	33.53	89.27	-216.51	1,105.32	1,448.44	1,403.19	45.25	32.008		
9,100.00	9,078.93	9,091.94	9,045.93	32.43	33.85	89.27	-216.51	1,105.32	1,448.44	1,402.71	45.73	31.673		
9,200.00	9,178.93	9,191.94	9,145.93	32.77	34.17	89.27	-216.51	1,105.32	1,448.44	1,402.23	46.21	31.344		
9,300.00	9,278.93	9,291.94	9,245.93	33.12	34.50	89.27	-216.51	1,105.32	1,448.44	1,401.75	46.69	31.021		
9,400.00	9,378.93	9,391.94	9,345.93	33.46	34.82	89.27	-216.51	1,105.32	1,448.44	1,401.26	47.17	30.705		
9,500.00	9,478.93	9,491.94	9,445.93	33.81	35.15	89.27	-216.51	1,105.32	1,448.44	1,400.78	47.65	30.394		
9,600.00	9,578.93	9,591.94	9,545.93	34.15	35.47	89.27	-216.51	1,105.32	1,448.44	1,400.30	48.14	30.090		
9,700.00	9,678.93	9,691.94	9,645.93	34.50	35.80	89.27	-216.51	1,105.32	1,448.44	1,399.82	48.62	29.791		
9,800.00	9,778.93	9,791.94	9,745.93	34.84	36.13	89.27	-216.51	1,105.32	1,448.44	1,399.34	49.10	29.498		
9,900.00	9,878.93	9,891.94	9,845.93	35.19	36.45	89.27	-216.51	1,105.32	1,448.44	1,398.85	49.59	29.210		
10,000.00	9,978.94	9,991.94	9,945.94	35.54	36.78	89.27	-216.51	1,105.32	1,448.44	1,398.37	50.07	28.928		
10,100.00	10,078.94	10,091.94	10,045.94	35.88	37.11	89.27	-216.51	1,105.32	1,448.44	1,397.88	50.56	28.651		

CC - Min centre to center distance or 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 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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				
10,200.00	10,178.94	10,191.94	10,145.94	36.23	37.44	89.27	-216.51	1,105.32	1,448.44	1,397.40	51.04	28.378				
10,300.00	10,278.94	10,291.94	10,245.94	36.58	37.77	89.27	-216.51	1,105.32	1,448.44	1,396.91	51.53	28.111				
10,400.00	10,378.94	10,391.94	10,345.94	36.92	38.10	89.27	-216.51	1,105.32	1,448.44	1,396.43	52.01	27.848				
10,500.00	10,478.94	10,491.94	10,445.94	37.27	38.43	89.27	-216.51	1,105.32	1,448.44	1,395.94	52.50	27.590				
10,600.00	10,578.94	10,591.94	10,545.94	37.62	38.76	89.27	-216.51	1,105.32	1,448.44	1,395.45	52.98	27.337				
10,700.00	10,678.94	10,691.94	10,645.94	37.97	39.09	89.27	-216.51	1,105.32	1,448.44	1,394.97	53.47	27.088				
10,800.00	10,778.94	10,791.94	10,745.94	38.32	39.42	89.27	-216.51	1,105.32	1,448.44	1,394.48	53.96	26.843				
10,900.00	10,878.94	10,891.94	10,845.94	38.66	39.76	89.27	-216.51	1,105.32	1,448.44	1,393.99	54.45	26.603				
11,000.00	10,978.94	10,991.94	10,945.94	39.01	40.09	89.27	-216.51	1,105.32	1,448.44	1,393.50	54.93	26.367				
11,100.00	11,078.94	11,091.94	11,045.94	39.36	40.42	89.27	-216.51	1,105.32	1,448.44	1,393.01	55.42	26.134				
11,200.00	11,178.94	11,191.94	11,145.94	39.71	40.76	89.27	-216.51	1,105.32	1,448.44	1,392.53	55.91	25.906				
11,205.86	11,184.79	11,197.80	11,151.79	39.73	40.78	89.27	-216.51	1,105.32	1,448.44	1,392.50	55.94	25.892 CC				
11,300.00	11,278.94	11,290.65	11,244.41	40.06	41.07	89.07	-211.39	1,105.28	1,448.47	1,392.09	56.38	25.690				
11,400.00	11,378.94	11,384.79	11,336.27	40.41	41.34	88.27	-191.24	1,105.11	1,448.80	1,392.01	56.79	25.511				
11,500.00	11,478.94	11,470.37	11,415.89	40.76	41.54	87.04	-160.11	1,104.84	1,450.09	1,392.96	57.13	25.382				
11,556.07	11,535.00	11,513.73	11,454.24	40.95	41.62	86.24	-139.89	1,104.67	1,451.58	1,394.29	57.29	25.340				
11,600.00	11,578.89	11,550.00	11,485.06	41.10	41.68	85.88	-120.79	1,104.51	1,453.16	1,395.76	57.40	25.315				
11,650.00	11,628.51	11,582.01	11,511.22	41.27	41.73	85.08	-102.34	1,104.35	1,455.25	1,397.75	57.50	25.310				
11,700.00	11,677.43	11,617.32	11,538.82	41.43	41.78	84.22	-80.33	1,104.16	1,457.59	1,400.00	57.59	25.312				
11,750.00	11,725.25	11,650.00	11,563.12	41.58	41.81	83.43	-58.48	1,103.98	1,460.13	1,402.48	57.65	25.326				
11,800.00	11,771.63	11,686.23	11,588.55	41.72	41.84	82.59	-32.69	1,103.76	1,462.79	1,405.08	57.72	25.345				
11,850.00	11,816.21	11,719.98	11,610.72	41.85	41.87	81.83	-7.26	1,103.54	1,465.53	1,407.77	57.76	25.373				
11,900.00	11,858.65	11,750.00	11,629.17	41.96	41.89	81.15	16.43	1,103.34	1,468.30	1,410.51	57.78	25.411				
11,950.00	11,898.62	11,786.36	11,649.80	42.06	41.90	80.43	46.36	1,103.09	1,471.01	1,413.19	57.82	25.442				
12,000.00	11,935.83	11,819.09	11,666.72	42.15	41.90	79.81	74.37	1,102.85	1,473.63	1,415.79	57.84	25.479				
12,050.00	11,969.99	11,850.00	11,681.20	42.22	41.91	79.25	101.67	1,102.62	1,476.11	1,418.26	57.85	25.516				
12,100.00	12,000.83	11,883.84	11,695.35	42.28	41.90	78.72	132.41	1,102.36	1,478.40	1,420.53	57.87	25.546				
12,150.00	12,028.14	11,915.93	11,707.06	42.33	41.89	78.27	162.28	1,102.10	1,480.47	1,422.58	57.89	25.572				
12,200.00	12,051.68	11,950.00	11,717.64	42.37	41.88	77.88	194.66	1,101.83	1,482.28	1,424.35	57.93	25.588				
12,250.00	12,071.30	11,979.69	11,725.29	42.41	41.87	77.57	223.34	1,101.59	1,483.79	1,425.83	57.96	25.599				
12,300.00	12,086.83	12,011.41	11,731.80	42.51	41.85	77.32	254.38	1,101.32	1,484.99	1,426.98	58.02	25.596				
12,350.00	12,098.17	12,050.00	11,737.39	42.64	41.83	77.13	292.56	1,101.00	1,485.88	1,427.79	58.09	25.578				
12,400.00	12,105.22	12,074.67	11,739.61	42.76	41.81	77.04	317.13	1,100.79	1,486.37	1,428.20	58.17	25.553				
12,450.00	12,107.93	12,106.26	11,740.91	42.89	41.79	77.01	348.68	1,100.52	1,486.52	1,428.25	58.27	25.511				
12,461.58	12,107.93	12,113.58	11,740.96	42.92	41.78	77.02	356.00	1,100.46	1,486.50	1,428.21	58.29	25.500				
12,470.48	12,107.85	12,119.20	11,740.93	42.95	41.78	77.02	361.62	1,100.41	1,486.49	1,428.18	58.32	25.490				
12,500.00	12,107.56	12,145.93	11,740.49	43.03	41.75	77.01	388.35	1,100.19	1,486.54	1,428.15	58.40	25.456				
12,600.00	12,106.60	12,245.93	11,738.75	43.34	41.85	76.98	488.33	1,099.34	1,486.73	1,428.00	58.73	25.316				
12,700.00	12,105.64	12,345.93	11,737.01	43.71	42.19	76.95	588.30	1,098.49	1,486.92	1,427.78	59.14	25.142				
12,800.00	12,104.67	12,445.92	11,735.27	44.14	42.57	76.92	688.28	1,097.64	1,487.11	1,427.47	59.64	24.935				
12,900.00	12,103.71	12,545.92	11,733.53	44.63	43.01	76.89	788.26	1,096.79	1,487.30	1,427.07	60.22	24.697				
13,000.00	12,102.75	12,645.92	11,731.79	45.16	43.49	76.87	888.24	1,095.94	1,487.48	1,426.60	60.88	24.432				
13,100.00	12,101.78	12,745.91	11,730.05	45.75	44.03	76.84	988.22	1,095.09	1,487.67	1,426.05	61.62	24.141				
13,200.00	12,100.82	12,845.91	11,728.30	46.39	44.62	76.81	1,088.20	1,094.24	1,487.86	1,425.43	62.44	23.830				
13,300.00	12,099.86	12,945.91	11,726.56	47.08	45.26	76.78	1,188.17	1,093.40	1,488.05	1,424.73	63.32	23.500				
13,400.00	12,098.89	13,045.91	11,724.82	47.81	45.94	76.75	1,288.15	1,092.55	1,488.25	1,423.97	64.28	23.154				
13,500.00	12,097.93	13,145.90	11,723.08	48.59	46.68	76.72	1,388.13	1,091.70	1,488.44	1,423.14	65.30	22.795				
13,600.00	12,096.97	13,245.90	11,721.34	49.41	47.46	76.69	1,488.11	1,090.85	1,488.63	1,422.25	66.38	22.427				
13,700.00	12,096.00	13,345.90	11,719.60	50.28	48.28	76.66	1,588.09	1,090.00	1,488.82	1,421.30	67.52	22.051				
13,800.00	12,095.04	13,445.89	11,717.86	51.18	49.14	76.63	1,688.07	1,089.15	1,489.01	1,420.30	68.72	21.669				
13,900.00	12,094.08	13,545.89	11,716.12	52.12	50.04	76.60	1,788.04	1,088.30	1,489.21	1,419.24	69.97	21.284				
14,000.00	12,093.11	13,645.89	11,714.38	53.09	50.98	76.58	1,888.02	1,087.45	1,489.40	1,418.13	71.27	20.898				

CC - Min centre to center distance or 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 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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						
14,100.00	12,092.15	13,745.88	11,712.64	54.09	51.95	76.55	1,988.00	1,086.60	1,489.59	1,416.97	72.62	20.512						
14,200.00	12,091.19	13,845.88	11,710.90	55.13	52.95	76.52	2,087.98	1,085.76	1,489.79	1,415.77	74.02	20.128						
14,300.00	12,090.23	13,945.88	11,709.16	56.19	53.99	76.49	2,187.96	1,084.91	1,489.98	1,414.53	75.45	19.747						
14,400.00	12,089.26	14,045.88	11,707.42	57.29	55.06	76.46	2,287.93	1,084.06	1,490.17	1,413.24	76.93	19.371						
14,500.00	12,088.30	14,145.87	11,705.68	58.41	56.15	76.43	2,387.91	1,083.21	1,490.37	1,411.92	78.44	18.999						
14,600.00	12,087.34	14,245.87	11,703.93	59.55	57.27	76.40	2,487.89	1,082.36	1,490.57	1,410.57	80.00	18.633						
14,700.00	12,086.37	14,345.87	11,702.19	60.72	58.42	76.37	2,587.87	1,081.51	1,490.76	1,409.18	81.58	18.274						
14,800.00	12,085.41	14,445.86	11,700.45	61.91	59.58	76.34	2,687.85	1,080.66	1,490.96	1,407.76	83.20	17.921						
14,900.00	12,084.45	14,545.86	11,698.71	63.12	60.78	76.32	2,787.83	1,079.81	1,491.15	1,406.31	84.84	17.575						
15,000.00	12,083.48	14,645.86	11,696.97	64.34	61.99	76.29	2,887.80	1,078.97	1,491.35	1,404.83	86.52	17.238						
15,100.00	12,082.52	14,745.85	11,695.23	65.59	63.22	76.26	2,987.78	1,078.12	1,491.55	1,403.33	88.22	16.908						
15,200.00	12,081.56	14,845.85	11,693.49	66.86	64.47	76.23	3,087.76	1,077.27	1,491.75	1,401.80	89.94	16.585						
15,300.00	12,080.59	14,945.85	11,691.75	68.14	65.74	76.20	3,187.74	1,076.42	1,491.94	1,400.25	91.69	16.271						
15,400.00	12,079.63	15,045.85	11,690.01	69.44	67.02	76.17	3,287.72	1,075.57	1,492.14	1,398.68	93.46	15.965						
15,500.00	12,078.67	15,145.84	11,688.27	70.75	68.32	76.14	3,387.70	1,074.72	1,492.34	1,397.09	95.25	15.667						
15,600.00	12,077.70	15,245.84	11,686.53	72.08	69.64	76.11	3,487.67	1,073.87	1,492.54	1,395.48	97.06	15.377						
15,700.00	12,076.74	15,345.84	11,684.79	73.42	70.97	76.08	3,587.65	1,073.02	1,492.74	1,393.85	98.89	15.095						
15,800.00	12,075.78	15,445.83	11,683.05	74.77	72.31	76.06	3,687.63	1,072.18	1,492.94	1,392.20	100.74	14.820						
15,900.00	12,074.82	15,545.83	11,681.31	76.13	73.67	76.03	3,787.61	1,071.33	1,493.14	1,390.54	102.60	14.553						
16,000.00	12,073.85	15,645.83	11,679.57	77.51	75.03	76.00	3,887.59	1,070.48	1,493.34	1,388.86	104.48	14.293						
16,100.00	12,072.89	15,745.82	11,677.82	78.89	76.41	75.97	3,987.56	1,069.63	1,493.54	1,387.17	106.37	14.041						
16,200.00	12,071.93	15,845.82	11,676.08	80.29	77.80	75.94	4,087.54	1,068.78	1,493.74	1,385.46	108.28	13.795						
16,300.00	12,070.96	15,945.82	11,674.34	81.69	79.20	75.91	4,187.52	1,067.93	1,493.94	1,383.75	110.20	13.557						
16,400.00	12,070.00	16,045.82	11,672.60	83.11	80.60	75.88	4,287.50	1,067.08	1,494.15	1,382.02	112.13	13.325						
16,500.00	12,069.04	16,145.81	11,670.86	84.53	82.02	75.85	4,387.48	1,066.23	1,494.35	1,380.27	114.08	13.100						
16,600.00	12,068.07	16,245.81	11,669.12	85.96	83.45	75.82	4,487.46	1,065.39	1,494.55	1,378.52	116.03	12.881						
16,700.00	12,067.11	16,345.81	11,667.38	87.40	84.88	75.80	4,587.43	1,064.54	1,494.76	1,376.76	118.00	12.668						
16,800.00	12,066.15	16,445.80	11,665.64	88.85	86.32	75.77	4,687.41	1,063.69	1,494.96	1,374.99	119.97	12.461						
16,900.00	12,065.18	16,545.80	11,663.90	90.30	87.77	75.74	4,787.39	1,062.84	1,495.16	1,373.21	121.96	12.260						
17,000.00	12,064.22	16,645.80	11,662.16	91.76	89.23	75.71	4,887.37	1,061.99	1,495.37	1,371.42	123.95	12.064						
17,100.00	12,063.26	16,745.79	11,660.42	93.23	90.69	75.68	4,987.35	1,061.14	1,495.57	1,369.62	125.95	11.874						
17,200.00	12,062.30	16,845.79	11,658.68	94.70	92.16	75.65	5,087.32	1,060.29	1,495.78	1,367.82	127.96	11.689						
17,300.00	12,061.33	16,945.79	11,656.94	96.18	93.64	75.62	5,187.30	1,059.44	1,495.98	1,366.01	129.98	11.510						
17,400.00	12,060.37	17,045.79	11,655.20	97.66	95.12	75.59	5,287.28	1,058.60	1,496.19	1,364.19	132.00	11.335						
17,500.00	12,059.41	17,145.78	11,653.46	99.15	96.60	75.57	5,387.26	1,057.75	1,496.40	1,362.36	134.03	11.164						
17,600.00	12,058.44	17,245.78	11,651.71	100.64	98.09	75.54	5,487.24	1,056.90	1,496.60	1,360.53	136.07	10.999						
17,700.00	12,057.48	17,345.78	11,649.97	102.14	99.59	75.51	5,587.22	1,056.05	1,496.81	1,358.69	138.12	10.837						
17,800.00	12,056.52	17,445.77	11,648.23	103.65	101.09	75.48	5,687.19	1,055.20	1,497.02	1,356.85	140.17	10.680						
17,900.00	12,055.55	17,545.77	11,646.49	105.15	102.60	75.45	5,787.17	1,054.35	1,497.23	1,355.00	142.22	10.527						
18,000.00	12,054.59	17,645.77	11,644.75	106.67	104.11	75.42	5,887.15	1,053.50	1,497.43	1,353.15	144.28	10.378						
18,100.00	12,053.63	17,745.76	11,643.01	108.18	105.62	75.39	5,987.13	1,052.65	1,497.64	1,351.29	146.35	10.233						
18,200.00	12,052.66	17,845.76	11,641.27	109.70	107.14	75.37	6,087.11	1,051.81	1,497.85	1,349.43	148.42	10.092						
18,300.00	12,051.70	17,945.76	11,639.53	111.23	108.67	75.34	6,187.09	1,050.96	1,498.06	1,347.57	150.49	9.954						
18,400.00	12,050.74	18,045.75	11,637.79	112.75	110.19	75.31	6,287.06	1,050.11	1,498.27	1,345.70	152.57	9.820						
18,500.00	12,049.77	18,145.75	11,636.05	114.29	111.72	75.28	6,387.04	1,049.26	1,498.48	1,343.82	154.66	9.689						
18,600.00	12,048.81	18,245.75	11,634.31	115.82	113.25	75.25	6,487.02	1,048.41	1,498.69	1,341.95	156.74	9.561						
18,700.00	12,047.85	18,345.75	11,632.57	117.36	114.79	75.22	6,587.00	1,047.56	1,498.90	1,340.07	158.84	9.437						
18,800.00	12,046.89	18,445.74	11,630.83	118.90	116.33	75.19	6,686.98	1,046.71	1,499.11	1,338.18	160.93	9.315						
18,900.00	12,045.92	18,545.74	11,629.09	120.44	117.87	75.16	6,786.95	1,045.86	1,499.32	1,336.30	163.03	9.197						
19,000.00	12,044.96	18,645.74	11,627.35	121.99	119.42	75.14	6,886.93	1,045.02	1,499.54	1,334.41	165.13	9.081						
19,100.00	12,044.00	18,745.73	11,625.60	123.54	120.97	75.11	6,986.91	1,044.17	1,499.75	1,332.51	167.24	8.968						
19,200.00	12,043.03	18,845.73	11,623.86	125.09	122.52	75.08	7,086.89	1,043.32	1,499.96	1,330.62	169.34	8.857						

CC - Min centre to center distance or 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 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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				
19,300.00	12,042.07	18,945.73	11,622.12	126.64	124.07	75.05	7,186.87	1,042.47	1,500.17	1,328.72	171.45	8.750				
19,400.00	12,041.11	19,045.72	11,620.38	128.20	125.63	75.02	7,286.85	1,041.62	1,500.39	1,326.82	173.57	8.644				
19,500.00	12,040.14	19,145.72	11,618.64	129.76	127.19	74.99	7,386.82	1,040.77	1,500.60	1,324.92	175.68	8.542				
19,600.00	12,039.18	19,245.72	11,616.90	131.32	128.75	74.96	7,486.80	1,039.92	1,500.82	1,323.02	177.80	8.441				
19,700.00	12,038.22	19,345.72	11,615.16	132.88	130.31	74.94	7,586.78	1,039.07	1,501.03	1,321.11	179.92	8.343				
19,800.00	12,037.25	19,445.71	11,613.42	134.45	131.88	74.91	7,686.76	1,038.23	1,501.25	1,319.21	182.04	8.247				
19,900.00	12,036.29	19,545.71	11,611.68	136.02	133.44	74.88	7,786.74	1,037.38	1,501.46	1,317.30	184.17	8.153				
20,000.00	12,035.33	19,645.71	11,609.94	137.59	135.01	74.85	7,886.72	1,036.53	1,501.68	1,315.38	186.29	8.061				
20,100.00	12,034.36	19,745.70	11,608.20	139.16	136.59	74.82	7,986.69	1,035.68	1,501.89	1,313.47	188.42	7.971				
20,200.00	12,033.40	19,845.70	11,606.46	140.73	138.16	74.79	8,086.67	1,034.83	1,502.11	1,311.56	190.55	7.883				
20,300.00	12,032.44	19,945.70	11,604.72	142.31	139.73	74.77	8,186.65	1,033.98	1,502.33	1,309.64	192.68	7.797				
20,400.00	12,031.48	20,045.69	11,602.98	143.88	141.31	74.74	8,286.63	1,033.13	1,502.54	1,307.73	194.82	7.713				
20,500.00	12,030.51	20,145.69	11,601.24	145.46	142.89	74.71	8,386.61	1,032.28	1,502.76	1,305.81	196.95	7.630				
20,600.00	12,029.55	20,245.69	11,599.49	147.04	144.47	74.68	8,486.58	1,031.44	1,502.98	1,303.89	199.09	7.549				
20,700.00	12,028.59	20,345.69	11,597.75	148.62	146.05	74.65	8,586.56	1,030.59	1,503.20	1,301.97	201.22	7.470				
20,800.00	12,027.62	20,445.68	11,596.01	150.21	147.63	74.62	8,686.54	1,029.74	1,503.42	1,300.05	203.36	7.393				
20,900.00	12,026.66	20,545.68	11,594.27	151.79	149.22	74.59	8,786.52	1,028.89	1,503.63	1,298.13	205.50	7.317				
21,000.00	12,025.70	20,645.68	11,592.53	153.38	150.80	74.57	8,886.50	1,028.04	1,503.85	1,296.21	207.64	7.242				
21,100.00	12,024.73	20,745.67	11,590.79	154.96	152.39	74.54	8,986.48	1,027.19	1,504.07	1,294.29	209.79	7.170				
21,200.00	12,023.77	20,845.67	11,589.05	156.55	153.98	74.51	9,086.45	1,026.34	1,504.29	1,292.36	211.93	7.098				
21,300.00	12,022.81	20,945.67	11,587.31	158.14	155.57	74.48	9,186.43	1,025.49	1,504.51	1,290.44	214.07	7.028				
21,400.00	12,021.84	21,045.66	11,585.57	159.73	157.16	74.45	9,286.41	1,024.65	1,504.74	1,288.52	216.22	6.959				
21,500.00	12,020.88	21,145.66	11,583.83	161.33	158.75	74.42	9,386.39	1,023.80	1,504.96	1,286.59	218.37	6.892				
21,600.00	12,019.92	21,245.66	11,582.09	162.92	160.35	74.40	9,486.37	1,022.95	1,505.18	1,284.67	220.51	6.826				
21,700.00	12,018.95	21,345.66	11,580.35	164.51	161.94	74.37	9,586.34	1,022.10	1,505.40	1,282.74	222.66	6.761				
21,800.00	12,017.99	21,445.65	11,578.61	166.11	163.54	74.34	9,686.32	1,021.25	1,505.62	1,280.82	224.81	6.697				
21,900.00	12,017.03	21,545.65	11,576.87	167.71	165.14	74.31	9,786.30	1,020.40	1,505.85	1,278.89	226.96	6.635				
22,000.00	12,016.07	21,645.65	11,575.13	169.31	166.74	74.28	9,886.28	1,019.55	1,506.07	1,276.96	229.11	6.574				
22,100.00	12,015.10	21,745.64	11,573.38	170.90	168.33	74.25	9,986.26	1,018.70	1,506.29	1,275.04	231.26	6.514				
22,200.00	12,014.14	21,845.64	11,571.64	172.50	169.93	74.23	10,086.24	1,017.86	1,506.52	1,273.11	233.41	6.454				
22,238.31	12,013.77	21,883.94	11,570.98	173.12	170.55	74.21	10,124.53	1,017.53	1,506.60	1,272.37	234.23	6.432 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 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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	82.20	233.87	1,707.32	1,723.54					
100.00	100.00	69.20	69.20	0.13	0.10	82.20	233.87	1,707.32	1,723.26	1,723.10	0.16	N/A		
200.00	200.00	169.20	169.20	0.48	0.39	82.20	233.87	1,707.32	1,723.26	1,722.64	0.62	2,773.587		
300.00	300.00	269.20	269.20	0.84	0.75	82.20	233.87	1,707.32	1,723.26	1,722.14	1.13	1,529.540		
400.00	400.00	369.20	369.20	1.20	1.11	82.20	233.87	1,707.32	1,723.26	1,721.63	1.63	1,055.276		
500.00	500.00	469.20	469.20	1.56	1.47	82.20	233.87	1,707.32	1,723.26	1,721.12	2.14	805.403		
600.00	600.00	569.20	569.20	1.92	1.82	82.20	233.87	1,707.32	1,723.26	1,720.62	2.65	651.176		
700.00	700.00	669.20	669.20	2.28	2.18	82.20	233.87	1,707.32	1,723.26	1,720.11	3.15	546.511		
800.00	800.00	769.20	769.20	2.63	2.54	82.20	233.87	1,707.32	1,723.26	1,719.60	3.66	470.829		
900.00	900.00	869.20	869.20	2.99	2.90	82.20	233.87	1,707.32	1,723.26	1,719.10	4.17	413.556		
1,000.00	1,000.00	969.20	969.20	3.35	3.26	82.20	233.87	1,707.32	1,723.26	1,718.59	4.67	368.704		
1,100.00	1,100.00	1,069.20	1,069.20	3.71	3.62	82.20	233.87	1,707.32	1,723.26	1,718.08	5.18	332.628		
1,200.00	1,200.00	1,169.20	1,169.20	4.07	3.97	82.20	233.87	1,707.32	1,723.26	1,717.58	5.69	302.982		
1,300.00	1,300.00	1,269.20	1,269.20	4.43	4.33	82.20	233.87	1,707.32	1,723.26	1,717.07	6.19	278.188		
1,400.00	1,400.00	1,369.20	1,369.20	4.79	4.69	82.20	233.87	1,707.32	1,723.26	1,716.56	6.70	257.145		
1,500.00	1,500.00	1,469.20	1,469.20	5.14	5.05	82.20	233.87	1,707.32	1,723.26	1,716.05	7.21	239.061		
1,600.00	1,600.00	1,569.20	1,569.20	5.50	5.41	82.20	233.87	1,707.32	1,723.26	1,715.55	7.72	223.354		
1,700.00	1,700.00	1,669.20	1,669.20	5.86	5.77	82.20	233.87	1,707.32	1,723.26	1,715.04	8.22	209.583		
1,800.00	1,800.00	1,769.20	1,769.20	6.22	6.13	82.20	233.87	1,707.32	1,723.26	1,714.53	8.73	197.412		
1,900.00	1,900.00	1,869.20	1,869.20	6.58	6.48	82.20	233.87	1,707.32	1,723.26	1,714.03	9.24	186.577		
2,000.00	2,000.00	1,969.20	1,969.20	6.94	6.84	82.20	233.87	1,707.32	1,723.26	1,713.52	9.74	176.869		
2,100.00	2,100.00	2,069.20	2,069.20	7.29	7.20	82.20	233.87	1,707.32	1,723.26	1,713.01	10.25	168.122		
2,200.00	2,200.00	2,169.20	2,169.20	7.65	7.56	82.20	233.87	1,707.32	1,723.26	1,712.51	10.76	160.199		
2,300.00	2,300.00	2,269.20	2,269.20	8.01	7.92	82.20	233.87	1,707.32	1,723.26	1,712.00	11.26	152.989		
2,400.00	2,400.00	2,369.20	2,369.20	8.37	8.28	82.20	233.87	1,707.32	1,723.26	1,711.49	11.77	146.400		
2,500.00	2,500.00	2,469.20	2,469.20	8.73	8.63	82.20	233.87	1,707.32	1,723.26	1,710.99	12.28	140.355		
2,600.00	2,600.00	2,569.20	2,569.20	9.09	8.99	82.20	233.87	1,707.32	1,723.26	1,710.48	12.78	134.790		
2,700.00	2,700.00	2,669.20	2,669.20	9.45	9.35	82.20	233.87	1,707.32	1,723.26	1,709.97	13.29	129.649		
2,800.00	2,800.00	2,769.20	2,769.20	9.80	9.71	82.20	233.87	1,707.32	1,723.26	1,709.46	13.80	124.886		
2,900.00	2,900.00	2,869.20	2,869.20	10.16	10.07	82.20	233.87	1,707.32	1,723.26	1,708.96	14.31	120.460		
3,000.00	3,000.00	2,969.20	2,969.20	10.52	10.43	82.20	233.87	1,707.32	1,723.26	1,708.45	14.81	116.337		
3,100.00	3,100.00	3,098.68	3,098.67	10.88	10.87	82.23	232.81	1,706.61	1,722.67	1,707.29	15.38	112.005		
3,200.00	3,200.00	3,241.01	3,240.85	11.24	11.34	82.39	227.55	1,703.10	1,719.73	1,703.78	15.95	107.801		
3,300.00	3,299.99	3,382.83	3,382.19	11.58	11.81	-152.96	217.92	1,696.69	1,715.52	1,699.01	16.51	103.920		
3,400.00	3,399.91	3,487.68	3,486.47	11.91	12.16	-152.77	208.83	1,690.63	1,712.15	1,695.17	16.99	100.804		
3,494.23	3,493.94	3,581.79	3,580.06	12.23	12.48	-152.62	200.65	1,685.17	1,711.12	1,693.69	17.43	98.176 CC		
3,500.00	3,499.69	3,587.56	3,585.80	12.25	12.50	-152.61	200.14	1,684.84	1,711.12	1,693.66	17.46	98.023		
3,600.14	3,599.41	3,687.62	3,685.31	12.59	12.84	-152.48	191.44	1,679.03	1,712.42	1,694.49	17.93	95.498		
3,700.00	3,698.72	3,787.40	3,784.54	12.93	13.18	-152.37	182.76	1,673.25	1,714.89	1,696.48	18.41	93.158		
3,800.00	3,798.17	3,887.32	3,883.92	13.27	13.53	-152.27	174.07	1,667.45	1,717.37	1,698.48	18.89	90.918		
3,900.00	3,897.62	3,987.24	3,983.29	13.62	13.88	-152.17	165.37	1,661.66	1,719.85	1,700.48	19.37	88.777		
4,000.00	3,997.08	4,087.16	4,082.66	13.96	14.23	-152.06	156.68	1,655.86	1,722.34	1,702.48	19.86	86.727		
4,100.00	4,096.53	4,187.08	4,182.04	14.32	14.59	-151.96	147.99	1,650.07	1,724.84	1,704.49	20.35	84.765		
4,200.00	4,195.98	4,287.00	4,281.41	14.67	14.94	-151.86	139.30	1,644.27	1,727.34	1,706.50	20.84	82.886		
4,300.00	4,295.43	4,386.92	4,380.78	15.03	15.30	-151.76	130.61	1,638.48	1,729.84	1,708.51	21.33	81.085		
4,400.00	4,394.88	4,486.84	4,480.16	15.38	15.66	-151.66	121.91	1,632.68	1,732.35	1,710.52	21.83	79.358		
4,500.00	4,494.34	4,586.77	4,579.53	15.74	16.03	-151.55	113.22	1,626.89	1,734.87	1,712.54	22.33	77.701		
4,600.00	4,593.79	4,686.69	4,678.90	16.10	16.39	-151.45	104.53	1,621.09	1,737.39	1,714.56	22.83	76.110		
4,700.00	4,693.24	4,786.61	4,778.28	16.47	16.76	-151.35	95.84	1,615.30	1,739.92	1,716.59	23.33	74.582		
4,800.00	4,792.69	4,886.53	4,877.65	16.83	17.12	-151.25	87.14	1,609.50	1,742.45	1,718.62	23.83	73.113		
4,900.00	4,892.14	4,986.45	4,977.02	17.20	17.49	-151.15	78.45	1,603.71	1,744.99	1,720.65	24.34	71.701		
5,000.00	4,991.59	5,086.37	5,076.40	17.57	17.86	-151.05	69.76	1,597.91	1,747.53	1,722.69	24.84	70.342		

CC - Min centre to center distance or 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 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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	5,091.05	5,186.29	5,175.77	17.94	18.23	-150.95	61.07	1,592.12	1,750.08	1,724.73	25.35	69.034		
5,200.00	5,190.50	5,286.21	5,275.15	18.31	18.60	-150.85	52.37	1,586.32	1,752.63	1,726.77	25.86	67.774		
5,300.00	5,289.95	5,386.13	5,374.52	18.68	18.98	-150.75	43.68	1,580.53	1,755.19	1,728.82	26.37	66.560		
5,400.00	5,389.40	5,486.06	5,473.89	19.05	19.35	-150.65	34.99	1,574.73	1,757.75	1,730.87	26.88	65.389		
5,500.00	5,488.85	5,585.98	5,573.27	19.42	19.73	-150.55	26.30	1,568.94	1,760.32	1,732.93	27.39	64.259		
5,600.00	5,588.31	5,685.90	5,672.64	19.80	20.10	-150.46	17.60	1,563.14	1,762.90	1,734.99	27.91	63.169		
5,700.00	5,687.76	5,785.82	5,772.01	20.17	20.48	-150.36	8.91	1,557.35	1,765.48	1,737.05	28.42	62.115		
5,800.00	5,787.21	5,885.74	5,871.39	20.55	20.86	-150.26	0.22	1,551.55	1,768.06	1,739.12	28.94	61.098		
5,900.00	5,886.66	5,985.66	5,970.76	20.92	21.23	-150.16	-8.47	1,545.76	1,770.65	1,741.20	29.45	60.114		
6,000.00	5,986.11	6,085.58	6,070.13	21.30	21.61	-150.07	-17.16	1,539.96	1,773.25	1,743.27	29.97	59.163		
6,100.00	6,085.56	6,185.50	6,169.51	21.68	21.99	-149.97	-25.86	1,534.17	1,775.85	1,745.36	30.49	58.242		
6,200.00	6,185.02	6,285.43	6,268.88	22.06	22.37	-149.87	-34.55	1,528.37	1,778.45	1,747.44	31.01	57.351		
6,300.00	6,284.47	6,385.35	6,368.25	22.44	22.75	-149.78	-43.24	1,522.58	1,781.06	1,749.53	31.53	56.488		
6,400.00	6,383.92	6,485.27	6,467.63	22.82	23.13	-149.68	-51.93	1,516.78	1,783.68	1,751.63	32.05	55.652		
6,500.00	6,483.37	6,585.19	6,567.00	23.20	23.52	-149.58	-60.63	1,510.99	1,786.30	1,753.73	32.57	54.841		
6,600.00	6,582.82	6,685.11	6,666.38	23.58	23.90	-149.49	-69.32	1,505.19	1,788.92	1,755.83	33.09	54.055		
6,700.00	6,682.28	6,785.03	6,765.75	23.96	24.28	-149.39	-78.01	1,499.40	1,791.55	1,757.94	33.62	53.293		
6,800.00	6,781.73	6,884.95	6,865.12	24.34	24.66	-149.30	-86.70	1,493.60	1,794.19	1,760.05	34.14	52.553		
6,900.00	6,881.18	6,984.87	6,964.50	24.72	25.05	-149.20	-95.40	1,487.81	1,796.83	1,762.16	34.66	51.835		
7,000.00	6,980.63	7,084.79	7,063.87	25.11	25.43	-149.11	-104.09	1,482.01	1,799.47	1,764.28	35.19	51.137		
7,100.00	7,080.08	7,184.72	7,163.24	25.49	25.82	-149.02	-112.78	1,476.22	1,802.12	1,766.41	35.71	50.459		
7,175.92	7,155.59	7,260.58	7,238.69	25.78	26.11	-148.94	-119.38	1,471.82	1,804.14	1,768.02	36.11	49.957		
7,200.00	7,179.54	7,284.64	7,262.62	25.87	26.20	-148.93	-121.47	1,470.43	1,804.71	1,768.47	36.24	49.798		
7,300.00	7,279.18	7,384.55	7,361.98	26.25	26.59	-148.81	-130.16	1,464.63	1,805.71	1,768.95	36.77	49.115		
7,400.00	7,379.00	7,484.40	7,461.28	26.62	26.97	-148.63	-138.85	1,458.84	1,804.49	1,767.20	37.29	48.393		
7,500.00	7,478.94	7,584.11	7,560.45	26.97	27.36	-148.39	-147.52	1,453.06	1,801.05	1,763.24	37.81	47.636		
7,576.07	7,555.00	7,659.83	7,635.76	27.23	27.65	87.42	-154.11	1,448.67	1,796.96	1,758.76	38.20	47.039		
7,600.00	7,578.93	7,683.64	7,659.43	27.32	27.74	87.48	-156.18	1,447.29	1,795.47	1,757.15	38.32	46.849		
7,700.00	7,678.93	7,783.09	7,758.34	27.65	28.13	87.75	-164.83	1,441.52	1,789.29	1,750.46	38.84	46.071		
7,800.00	7,778.93	7,882.54	7,857.24	27.99	28.51	88.02	-173.49	1,435.75	1,783.15	1,743.80	39.35	45.313		
7,900.00	7,878.93	7,981.99	7,956.15	28.33	28.90	88.29	-182.14	1,429.98	1,777.06	1,737.19	39.87	44.575		
8,000.00	7,978.93	8,081.44	8,055.06	28.67	29.28	88.57	-190.79	1,424.21	1,771.00	1,730.62	40.38	43.856		
8,100.00	8,078.93	8,179.14	8,152.22	29.01	29.66	88.84	-199.28	1,418.55	1,764.99	1,724.09	40.89	43.161		
8,200.00	8,178.93	8,275.93	8,230.67	29.35	29.96	89.03	-205.35	1,414.51	1,759.69	1,718.34	41.35	42.551		
8,300.00	8,278.93	8,336.99	8,309.52	29.69	30.26	89.19	-210.08	1,411.35	1,755.60	1,713.79	41.81	41.991		
8,400.00	8,378.93	8,416.25	8,388.68	30.03	30.54	89.30	-213.47	1,409.10	1,752.70	1,710.44	42.25	41.480		
8,500.00	8,478.93	8,500.00	8,472.39	30.37	30.84	89.36	-215.56	1,407.70	1,750.98	1,708.27	42.70	41.002		
8,600.00	8,578.93	8,575.75	8,548.13	30.72	31.10	89.38	-216.13	1,407.32	1,750.42	1,707.30	43.12	40.596		
8,700.00	8,678.93	8,675.75	8,648.13	31.06	31.43	89.38	-216.13	1,407.32	1,750.42	1,706.82	43.60	40.150		
8,800.00	8,778.93	8,775.75	8,748.13	31.40	31.76	89.38	-216.13	1,407.32	1,750.42	1,706.35	44.08	39.713		
8,900.00	8,878.93	8,875.75	8,848.13	31.74	32.09	89.38	-216.13	1,407.32	1,750.42	1,705.86	44.56	39.285		
9,000.00	8,978.93	8,975.75	8,948.13	32.09	32.42	89.38	-216.13	1,407.32	1,750.42	1,705.38	45.04	38.865		
9,100.00	9,078.93	9,075.75	9,048.13	32.43	32.75	89.38	-216.13	1,407.32	1,750.42	1,704.90	45.52	38.454		
9,200.00	9,178.93	9,175.75	9,148.13	32.77	33.08	89.38	-216.13	1,407.32	1,750.42	1,704.42	46.00	38.051		
9,300.00	9,278.93	9,275.75	9,248.13	33.12	33.41	89.38	-216.13	1,407.32	1,750.42	1,703.94	46.48	37.656		
9,400.00	9,378.93	9,375.75	9,348.13	33.46	33.75	89.38	-216.13	1,407.32	1,750.42	1,703.45	46.97	37.269		
9,500.00	9,478.93	9,475.75	9,448.13	33.81	34.08	89.38	-216.13	1,407.32	1,750.42	1,702.97	47.45	36.889		
9,600.00	9,578.93	9,575.75	9,548.13	34.15	34.41	89.38	-216.13	1,407.32	1,750.42	1,702.49	47.93	36.517		
9,700.00	9,678.93	9,675.75	9,648.13	34.50	34.75	89.38	-216.13	1,407.32	1,750.42	1,702.00	48.42	36.151		
9,800.00	9,778.93	9,775.75	9,748.13	34.84	35.08	89.38	-216.13	1,407.32	1,750.42	1,701.52	48.90	35.793		
9,900.00	9,878.93	9,875.75	9,848.13	35.19	35.42	89.38	-216.13	1,407.32	1,750.42	1,701.03	49.39	35.441		
10,000.00	9,978.94	9,975.75	9,948.14	35.54	35.75	89.38	-216.13	1,407.32	1,750.42	1,700.55	49.88	35.096		

CC - Min centre to center distance or 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 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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	10,078.94	10,075.75	10,048.14	35.88	36.09	89.38	-216.13	1,407.32	1,750.42	1,700.06	50.36	34.757				
10,200.00	10,178.94	10,175.75	10,148.14	36.23	36.43	89.38	-216.13	1,407.32	1,750.42	1,699.57	50.85	34.424				
10,300.00	10,278.94	10,275.75	10,248.14	36.58	36.76	89.38	-216.13	1,407.32	1,750.42	1,699.09	51.34	34.097				
10,400.00	10,378.94	10,375.75	10,348.14	36.92	37.10	89.38	-216.13	1,407.32	1,750.42	1,698.60	51.82	33.777				
10,500.00	10,478.94	10,475.75	10,448.14	37.27	37.44	89.38	-216.13	1,407.32	1,750.42	1,698.11	52.31	33.462				
10,600.00	10,578.94	10,575.75	10,548.14	37.62	37.78	89.38	-216.13	1,407.32	1,750.42	1,697.62	52.80	33.152				
10,700.00	10,678.94	10,675.75	10,648.14	37.97	38.11	89.38	-216.13	1,407.32	1,750.42	1,697.13	53.29	32.848				
10,800.00	10,778.94	10,775.75	10,748.14	38.32	38.45	89.38	-216.13	1,407.32	1,750.42	1,696.64	53.78	32.550				
10,900.00	10,878.94	10,875.75	10,848.14	38.66	38.79	89.38	-216.13	1,407.32	1,750.42	1,696.16	54.27	32.256				
11,000.00	10,978.94	10,975.75	10,948.14	39.01	39.13	89.38	-216.13	1,407.32	1,750.42	1,695.67	54.76	31.968				
11,100.00	11,078.94	11,075.75	11,048.14	39.36	39.47	89.38	-216.13	1,407.32	1,750.42	1,695.18	55.25	31.684				
11,200.00	11,178.94	11,175.75	11,148.14	39.71	39.81	89.38	-216.13	1,407.32	1,750.42	1,694.69	55.74	31.406				
11,300.00	11,278.94	11,275.75	11,248.14	40.06	40.15	89.38	-216.13	1,407.32	1,750.42	1,694.20	56.23	31.132				
11,400.00	11,378.94	11,375.75	11,348.14	40.41	40.49	89.38	-216.13	1,407.32	1,750.42	1,693.70	56.72	30.862				
11,414.87	11,393.80	11,390.62	11,363.00	40.46	40.54	89.38	-216.13	1,407.32	1,750.42	1,693.63	56.79	30.823				
11,500.00	11,478.94	11,475.72	11,448.10	40.76	40.83	89.38	-216.11	1,407.32	1,750.42	1,693.21	57.21	30.598				
11,556.07	11,535.00	11,531.17	11,503.44	40.95	41.02	89.28	-212.93	1,407.29	1,750.43	1,692.96	57.47	30.456				
11,600.00	11,578.89	11,574.14	11,545.96	41.10	41.15	89.62	-206.80	1,407.24	1,750.46	1,692.79	57.67	30.352				
11,650.00	11,628.51	11,622.66	11,593.26	41.27	41.29	89.45	-196.08	1,407.15	1,750.50	1,692.62	57.88	30.241				
11,700.00	11,677.43	11,670.78	11,639.11	41.43	41.41	89.29	-181.52	1,407.03	1,750.56	1,692.47	58.08	30.138				
11,750.00	11,725.25	11,718.51	11,683.23	41.58	41.53	89.14	-163.34	1,406.87	1,750.63	1,692.36	58.27	30.043				
11,800.00	11,771.63	11,765.90	11,725.38	41.72	41.63	88.98	-141.71	1,406.69	1,750.70	1,692.26	58.44	29.955				
11,850.00	11,816.21	11,812.95	11,765.33	41.85	41.72	88.84	-116.87	1,406.48	1,750.79	1,692.18	58.61	29.874				
11,900.00	11,858.65	11,859.71	11,802.87	41.96	41.80	88.71	-89.02	1,406.24	1,750.88	1,692.12	58.76	29.799				
11,950.00	11,898.62	11,906.18	11,837.81	42.06	41.87	88.58	-58.40	1,405.98	1,750.98	1,692.08	58.90	29.728				
12,000.00	11,935.83	11,952.40	11,869.98	42.15	41.93	88.47	-25.23	1,405.70	1,751.07	1,692.04	59.03	29.662				
12,050.00	11,969.99	12,000.00	11,900.21	42.22	41.99	88.36	11.51	1,405.39	1,751.16	1,692.00	59.16	29.598				
12,100.00	12,000.83	12,044.20	11,925.47	42.28	42.03	88.27	47.78	1,405.08	1,751.25	1,691.96	59.29	29.539				
12,150.00	12,028.14	12,089.83	11,948.52	42.33	42.07	88.20	87.14	1,404.74	1,751.33	1,691.92	59.41	29.479				
12,200.00	12,051.68	12,135.32	11,968.32	42.37	42.10	88.13	128.07	1,404.40	1,751.40	1,691.87	59.53	29.420				
12,250.00	12,071.30	12,180.69	11,984.76	42.41	42.14	88.07	170.34	1,404.04	1,751.46	1,691.80	59.65	29.361				
12,300.00	12,086.83	12,225.96	11,997.79	42.51	42.18	88.03	213.69	1,403.67	1,751.50	1,691.73	59.78	29.301				
12,350.00	12,098.17	12,271.18	12,007.35	42.64	42.23	88.01	257.87	1,403.29	1,751.54	1,691.63	59.90	29.240				
12,400.00	12,105.22	12,316.35	12,013.39	42.76	42.28	88.00	302.62	1,402.91	1,751.56	1,691.52	60.03	29.177				
12,450.00	12,107.93	12,361.52	12,015.89	42.89	42.34	88.00	347.71	1,402.53	1,751.56	1,691.40	60.16	29.113				
12,461.58	12,107.93	12,371.98	12,015.96	42.92	42.35	88.00	358.17	1,402.44	1,751.56	1,691.37	60.19	29.098				
12,463.87	12,107.91	12,374.05	12,015.95	42.93	42.36	88.00	360.24	1,402.43	1,751.56	1,691.36	60.20	29.095				
12,500.00	12,107.56	12,409.50	12,015.38	43.03	42.42	87.99	395.68	1,402.12	1,751.57	1,691.26	60.31	29.042				
12,600.00	12,106.60	12,509.50	12,013.66	43.34	42.63	87.97	495.66	1,401.28	1,751.61	1,690.94	60.68	28.869				
12,700.00	12,105.64	12,609.49	12,011.95	43.71	42.92	87.94	595.64	1,400.43	1,751.65	1,690.52	61.13	28.656				
12,800.00	12,104.67	12,709.49	12,010.24	44.14	43.27	87.92	695.62	1,399.58	1,751.69	1,690.03	61.66	28.407				
12,900.00	12,103.71	12,809.49	12,008.52	44.63	43.69	87.89	795.60	1,398.73	1,751.73	1,689.45	62.28	28.125				
13,000.00	12,102.75	12,909.48	12,006.81	45.16	44.16	87.87	895.58	1,397.88	1,751.77	1,688.79	62.98	27.814				
13,100.00	12,101.78	13,009.48	12,005.10	45.75	44.68	87.84	995.55	1,397.03	1,751.81	1,688.05	63.76	27.475				
13,200.00	12,100.82	13,109.48	12,003.38	46.39	45.26	87.82	1,095.53	1,396.18	1,751.85	1,687.24	64.61	27.114				
13,300.00	12,099.86	13,209.48	12,001.67	47.08	45.90	87.80	1,195.51	1,395.33	1,751.90	1,686.36	65.54	26.732				
13,400.00	12,098.89	13,309.47	11,999.96	47.81	46.58	87.77	1,295.49	1,394.48	1,751.94	1,685.41	66.53	26.334				
13,500.00	12,097.93	13,409.47	11,998.25	48.59	47.30	87.75	1,395.47	1,393.63	1,751.98	1,684.39	67.59	25.922				
13,600.00	12,096.97	13,509.47	11,996.53	49.41	48.08	87.72	1,495.45	1,392.78	1,752.02	1,683.31	68.71	25.499				
13,700.00	12,096.00	13,609.46	11,994.82	50.28	48.89	87.70	1,595.43	1,391.94	1,752.06	1,682.17	69.89	25.069				
13,800.00	12,095.04	13,709.46	11,993.11	51.18	49.75	87.67	1,695.41	1,391.09	1,752.11	1,680.98	71.13	24.633				
13,900.00	12,094.08	13,809.46	11,991.39	52.12	50.65	87.65	1,795.39	1,390.24	1,752.15	1,679.73	72.42	24.194				

CC - Min centre to center distance or 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 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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				
14,000.00	12,093.11	13,909.46	11,989.68	53.09	51.58	87.62	1,895.36	1,389.39	1,752.20	1,678.43	73.77	23.754				
14,100.00	12,092.15	14,009.45	11,987.97	54.09	52.55	87.60	1,995.34	1,388.54	1,752.24	1,677.08	75.16	23.314				
14,200.00	12,091.19	14,109.45	11,986.25	55.13	53.55	87.57	2,095.32	1,387.69	1,752.28	1,675.69	76.60	22.877				
14,300.00	12,090.23	14,209.45	11,984.54	56.19	54.59	87.55	2,195.30	1,386.84	1,752.33	1,674.25	78.08	22.444				
14,400.00	12,089.26	14,309.44	11,982.83	57.29	55.65	87.53	2,295.28	1,385.99	1,752.37	1,672.77	79.60	22.015				
14,500.00	12,088.30	14,409.44	11,981.12	58.41	56.74	87.50	2,395.26	1,385.14	1,752.42	1,671.26	81.16	21.592				
14,600.00	12,087.34	14,509.44	11,979.40	59.55	57.86	87.48	2,495.24	1,384.29	1,752.46	1,669.71	82.76	21.176				
14,700.00	12,086.37	14,609.44	11,977.69	60.72	59.00	87.45	2,595.22	1,383.45	1,752.51	1,668.12	84.39	20.768				
14,800.00	12,085.41	14,709.43	11,975.98	61.91	60.17	87.43	2,695.20	1,382.60	1,752.56	1,666.51	86.05	20.367				
14,900.00	12,084.45	14,809.43	11,974.26	63.12	61.36	87.40	2,795.18	1,381.75	1,752.60	1,664.86	87.74	19.974				
15,000.00	12,083.48	14,909.43	11,972.55	64.34	62.57	87.38	2,895.15	1,380.90	1,752.65	1,663.19	89.46	19.590				
15,100.00	12,082.52	15,009.43	11,970.84	65.59	63.80	87.35	2,995.13	1,380.05	1,752.70	1,661.48	91.21	19.215				
15,200.00	12,081.56	15,109.42	11,969.12	66.86	65.05	87.33	3,095.11	1,379.20	1,752.75	1,659.76	92.99	18.849				
15,300.00	12,080.59	15,209.42	11,967.41	68.14	66.31	87.31	3,195.09	1,378.35	1,752.79	1,658.01	94.79	18.492				
15,400.00	12,079.63	15,309.42	11,965.70	69.44	67.59	87.28	3,295.07	1,377.50	1,752.84	1,656.23	96.61	18.144				
15,500.00	12,078.67	15,409.41	11,963.99	70.75	68.89	87.26	3,395.05	1,376.65	1,752.89	1,654.44	98.45	17.805				
15,600.00	12,077.70	15,509.41	11,962.27	72.08	70.21	87.23	3,495.03	1,375.80	1,752.94	1,652.63	100.31	17.475				
15,700.00	12,076.74	15,609.41	11,960.56	73.42	71.53	87.21	3,595.01	1,374.95	1,752.99	1,650.79	102.20	17.153				
15,800.00	12,075.78	15,709.41	11,958.85	74.77	72.87	87.18	3,694.99	1,374.11	1,753.04	1,648.94	104.10	16.841				
15,900.00	12,074.82	15,809.40	11,957.13	76.13	74.22	87.16	3,794.96	1,373.26	1,753.09	1,647.07	106.01	16.536				
16,000.00	12,073.85	15,909.40	11,955.42	77.51	75.59	87.13	3,894.94	1,372.41	1,753.14	1,645.19	107.95	16.241				
16,100.00	12,072.89	16,009.40	11,953.71	78.89	76.97	87.11	3,994.92	1,371.56	1,753.19	1,643.29	109.90	15.953				
16,200.00	12,071.93	16,109.39	11,951.99	80.29	78.35	87.09	4,094.90	1,370.71	1,753.24	1,641.38	111.86	15.674				
16,300.00	12,070.96	16,209.39	11,950.28	81.69	79.75	87.06	4,194.88	1,369.86	1,753.29	1,639.45	113.84	15.402				
16,400.00	12,070.00	16,309.39	11,948.57	83.11	81.15	87.04	4,294.86	1,369.01	1,753.34	1,637.52	115.83	15.138				
16,500.00	12,069.04	16,409.39	11,946.85	84.53	82.57	87.01	4,394.84	1,368.16	1,753.39	1,635.56	117.83	14.881				
16,600.00	12,068.07	16,509.38	11,945.14	85.96	83.99	86.99	4,494.82	1,367.31	1,753.45	1,633.60	119.84	14.631				
16,700.00	12,067.11	16,609.38	11,943.43	87.40	85.42	86.96	4,594.80	1,366.46	1,753.50	1,631.63	121.87	14.389				
16,800.00	12,066.15	16,709.38	11,941.72	88.85	86.86	86.94	4,694.77	1,365.62	1,753.55	1,629.65	123.90	14.153				
16,900.00	12,065.18	16,809.37	11,940.00	90.30	88.31	86.91	4,794.75	1,364.77	1,753.60	1,627.65	125.95	13.923				
17,000.00	12,064.22	16,909.37	11,938.29	91.76	89.77	86.89	4,894.73	1,363.92	1,753.66	1,625.65	128.01	13.700				
17,100.00	12,063.26	17,009.37	11,936.58	93.23	91.23	86.87	4,994.71	1,363.07	1,753.71	1,623.64	130.07	13.483				
17,200.00	12,062.30	17,109.37	11,934.86	94.70	92.69	86.84	5,094.69	1,362.22	1,753.76	1,621.62	132.14	13.272				
17,300.00	12,061.33	17,209.36	11,933.15	96.18	94.17	86.82	5,194.67	1,361.37	1,753.82	1,619.59	134.23	13.066				
17,400.00	12,060.37	17,309.36	11,931.44	97.66	95.65	86.79	5,294.65	1,360.52	1,753.87	1,617.56	136.32	12.866				
17,500.00	12,059.41	17,409.36	11,929.72	99.15	97.13	86.77	5,394.63	1,359.67	1,753.93	1,615.51	138.41	12.672				
17,600.00	12,058.44	17,509.35	11,928.01	100.64	98.62	86.74	5,494.61	1,358.82	1,753.98	1,613.46	140.52	12.482				
17,700.00	12,057.48	17,609.35	11,926.30	102.14	100.12	86.72	5,594.58	1,357.97	1,754.04	1,611.41	142.63	12.298				
17,800.00	12,056.52	17,709.35	11,924.59	103.65	101.62	86.69	5,694.56	1,357.13	1,754.09	1,609.35	144.75	12.118				
17,900.00	12,055.55	17,809.35	11,922.87	105.15	103.12	86.67	5,794.54	1,356.28	1,754.15	1,607.28	146.87	11.943				
18,000.00	12,054.59	17,909.34	11,921.16	106.67	104.63	86.65	5,894.52	1,355.43	1,754.21	1,605.20	149.00	11.773				
18,100.00	12,053.63	18,009.34	11,919.45	108.18	106.14	86.62	5,994.50	1,354.58	1,754.26	1,603.13	151.14	11.607				
18,200.00	12,052.66	18,109.34	11,917.73	109.70	107.66	86.60	6,094.48	1,353.73	1,754.32	1,601.04	153.28	11.445				
18,300.00	12,051.70	18,209.34	11,916.02	111.23	109.18	86.57	6,194.46	1,352.88	1,754.38	1,598.95	155.43	11.287				
18,400.00	12,050.74	18,309.33	11,914.31	112.75	110.71	86.55	6,294.44	1,352.03	1,754.44	1,596.86	157.58	11.134				
18,500.00	12,049.77	18,409.33	11,912.59	114.29	112.24	86.52	6,394.42	1,351.18	1,754.49	1,594.76	159.73	10.984				
18,600.00	12,048.81	18,509.33	11,910.88	115.82	113.77	86.50	6,494.39	1,350.33	1,754.55	1,592.66	161.90	10.838				
18,700.00	12,047.85	18,609.32	11,909.17	117.36	115.30	86.47	6,594.37	1,349.48	1,754.61	1,590.55	164.06	10.695				
18,800.00	12,046.89	18,709.32	11,907.45	118.90	116.84	86.45	6,694.35	1,348.63	1,754.67	1,588.44	166.23	10.556				
18,900.00	12,045.92	18,809.32	11,905.74	120.44	118.38	86.43	6,794.33	1,347.79	1,754.73	1,586.33	168.40	10.420				
19,000.00	12,044.96	18,909.32	11,904.03	121.99	119.93	86.40	6,894.31	1,346.94	1,754.79	1,584.21	170.58	10.287				
19,100.00	12,044.00	19,009.31	11,902.32	123.54	121.47	86.38	6,994.29	1,346.09	1,754.85	1,582.09	172.76	10.157				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well 1912 Fed Com 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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	12,043.03	19,109.31	11,900.60	125.09	123.02	86.35	7,094.27	1,345.24	1,754.91	1,579.96	174.95	10.031		
19,300.00	12,042.07	19,209.31	11,898.89	126.64	124.58	86.33	7,194.25	1,344.39	1,754.97	1,577.83	177.14	9.907		
19,400.00	12,041.11	19,309.30	11,897.18	128.20	126.13	86.30	7,294.23	1,343.54	1,755.03	1,575.70	179.33	9.787		
19,500.00	12,040.14	19,409.30	11,895.46	129.76	127.69	86.28	7,394.20	1,342.69	1,755.09	1,573.57	181.53	9.669		
19,600.00	12,039.18	19,509.30	11,893.75	131.32	129.25	86.25	7,494.18	1,341.84	1,755.16	1,571.43	183.72	9.553		
19,700.00	12,038.22	19,609.30	11,892.04	132.88	130.81	86.23	7,594.16	1,340.99	1,755.22	1,569.29	185.92	9.440		
19,800.00	12,037.25	19,709.29	11,890.32	134.45	132.38	86.21	7,694.14	1,340.14	1,755.28	1,567.15	188.13	9.330		
19,900.00	12,036.29	19,809.29	11,888.61	136.02	133.94	86.18	7,794.12	1,339.30	1,755.34	1,565.01	190.34	9.222		
20,000.00	12,035.33	19,909.29	11,886.90	137.59	135.51	86.16	7,894.10	1,338.45	1,755.41	1,562.86	192.55	9.117		
20,100.00	12,034.36	20,009.28	11,885.19	139.16	137.08	86.13	7,994.08	1,337.60	1,755.47	1,560.71	194.76	9.014		
20,200.00	12,033.40	20,109.28	11,883.47	140.73	138.65	86.11	8,094.06	1,336.75	1,755.53	1,558.56	196.97	8.913		
20,300.00	12,032.44	20,209.28	11,881.76	142.31	140.23	86.08	8,194.04	1,335.90	1,755.60	1,556.41	199.19	8.814		
20,400.00	12,031.48	20,309.28	11,880.05	143.88	141.80	86.06	8,294.02	1,335.05	1,755.66	1,554.25	201.41	8.717		
20,500.00	12,030.51	20,409.27	11,878.33	145.46	143.38	86.04	8,393.99	1,334.20	1,755.72	1,552.09	203.63	8.622		
20,600.00	12,029.55	20,509.27	11,876.62	147.04	144.96	86.01	8,493.97	1,333.35	1,755.79	1,549.93	205.85	8.529		
20,700.00	12,028.59	20,609.27	11,874.91	148.62	146.54	85.99	8,593.95	1,332.50	1,755.85	1,547.77	208.08	8.438		
20,800.00	12,027.62	20,709.26	11,873.19	150.21	148.12	85.96	8,693.93	1,331.65	1,755.92	1,545.61	210.31	8.349		
20,900.00	12,026.66	20,809.26	11,871.48	151.79	149.71	85.94	8,793.91	1,330.80	1,755.99	1,543.45	212.54	8.262		
21,000.00	12,025.70	20,909.26	11,869.77	153.38	151.29	85.91	8,893.89	1,329.96	1,756.05	1,541.28	214.77	8.176		
21,100.00	12,024.73	21,009.26	11,868.06	154.96	152.88	85.89	8,993.87	1,329.11	1,756.12	1,539.12	217.00	8.093		
21,200.00	12,023.77	21,109.25	11,866.34	156.55	154.47	85.86	9,093.85	1,328.26	1,756.18	1,536.95	219.24	8.010		
21,300.00	12,022.81	21,209.25	11,864.63	158.14	156.06	85.84	9,193.83	1,327.41	1,756.25	1,534.78	221.47	7.930		
21,400.00	12,021.84	21,309.25	11,862.92	159.73	157.65	85.82	9,293.80	1,326.56	1,756.32	1,532.61	223.71	7.851		
21,500.00	12,020.88	21,409.25	11,861.20	161.33	159.24	85.79	9,393.78	1,325.71	1,756.39	1,530.44	225.95	7.773		
21,600.00	12,019.92	21,509.24	11,859.49	162.92	160.83	85.77	9,493.76	1,324.86	1,756.45	1,528.26	228.19	7.697		
21,700.00	12,018.95	21,609.24	11,857.78	164.51	162.43	85.74	9,593.74	1,324.01	1,756.52	1,526.09	230.43	7.623		
21,800.00	12,017.99	21,709.24	11,856.06	166.11	164.02	85.72	9,693.72	1,323.16	1,756.59	1,523.91	232.68	7.549		
21,900.00	12,017.03	21,809.23	11,854.35	167.71	165.62	85.69	9,793.70	1,322.31	1,756.66	1,521.74	234.92	7.478		
22,000.00	12,016.07	21,909.23	11,852.64	169.31	167.22	85.67	9,893.68	1,321.47	1,756.73	1,519.56	237.17	7.407		
22,100.00	12,015.10	22,009.23	11,850.92	170.90	168.81	85.65	9,993.66	1,320.62	1,756.80	1,517.38	239.42	7.338		
22,200.00	12,014.14	22,109.23	11,849.21	172.50	170.41	85.62	10,093.64	1,319.77	1,756.87	1,515.20	241.67	7.270		
22,238.31	12,013.77	22,147.53	11,848.56	173.12	171.03	85.61	10,131.93	1,319.44	1,756.90	1,514.37	242.53	7.244 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 701H
Project:	Lea County, NM (NAD83)	TVD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Reference Site:	1912 Fed Com	MD Reference:	3114.1' GE + 30' KB @ 3144.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1912 Fed Com 701H	Survey Calculation Method:	Minimum Curvature
Well 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 3114.1' GE + 30' KB @ 3144.10usft

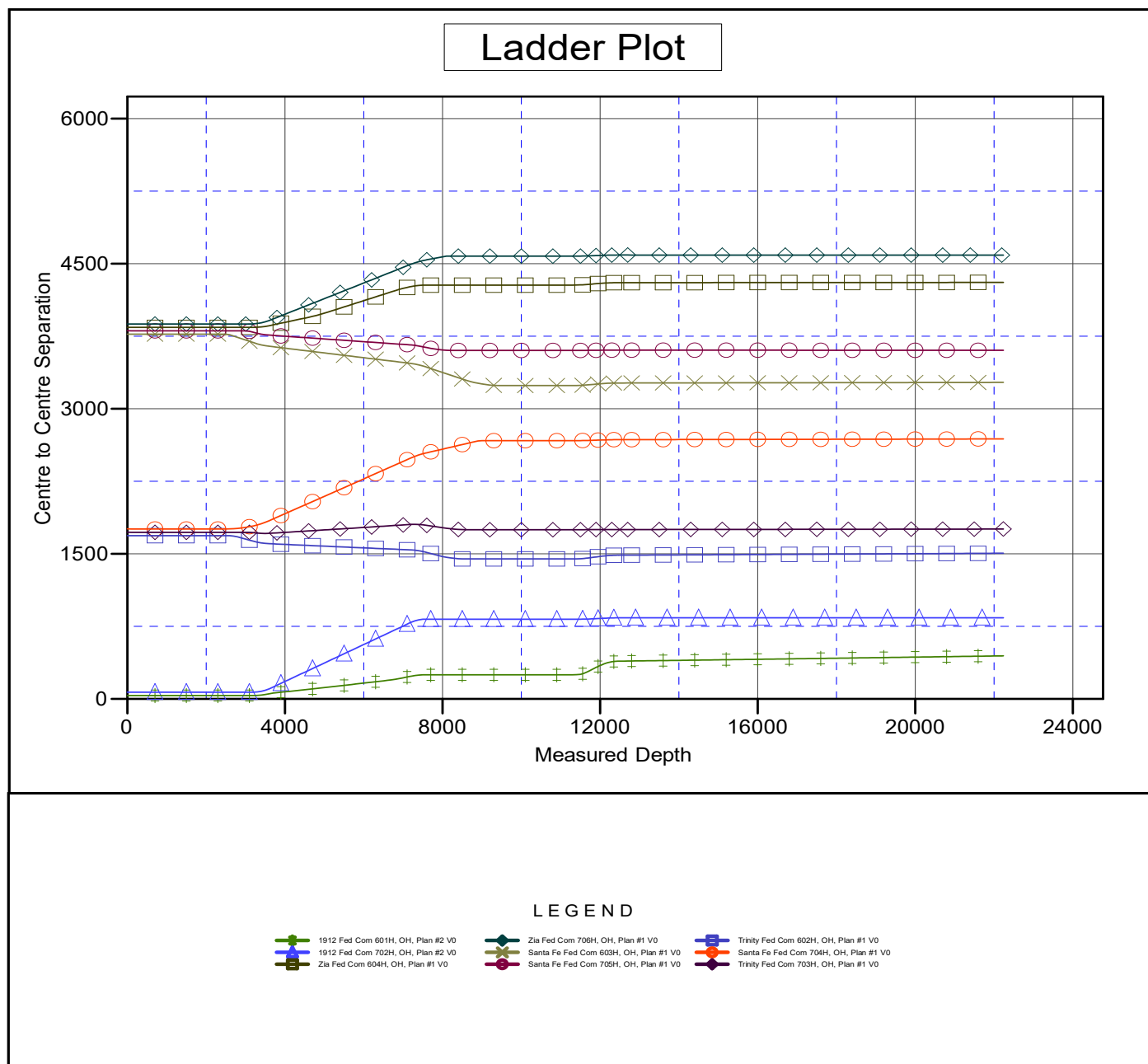
Coordinates are relative to: 1912 Fed Com 701H

Offset Depths are relative to Offset Datum

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

Central Meridian is -104.333334

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 701H
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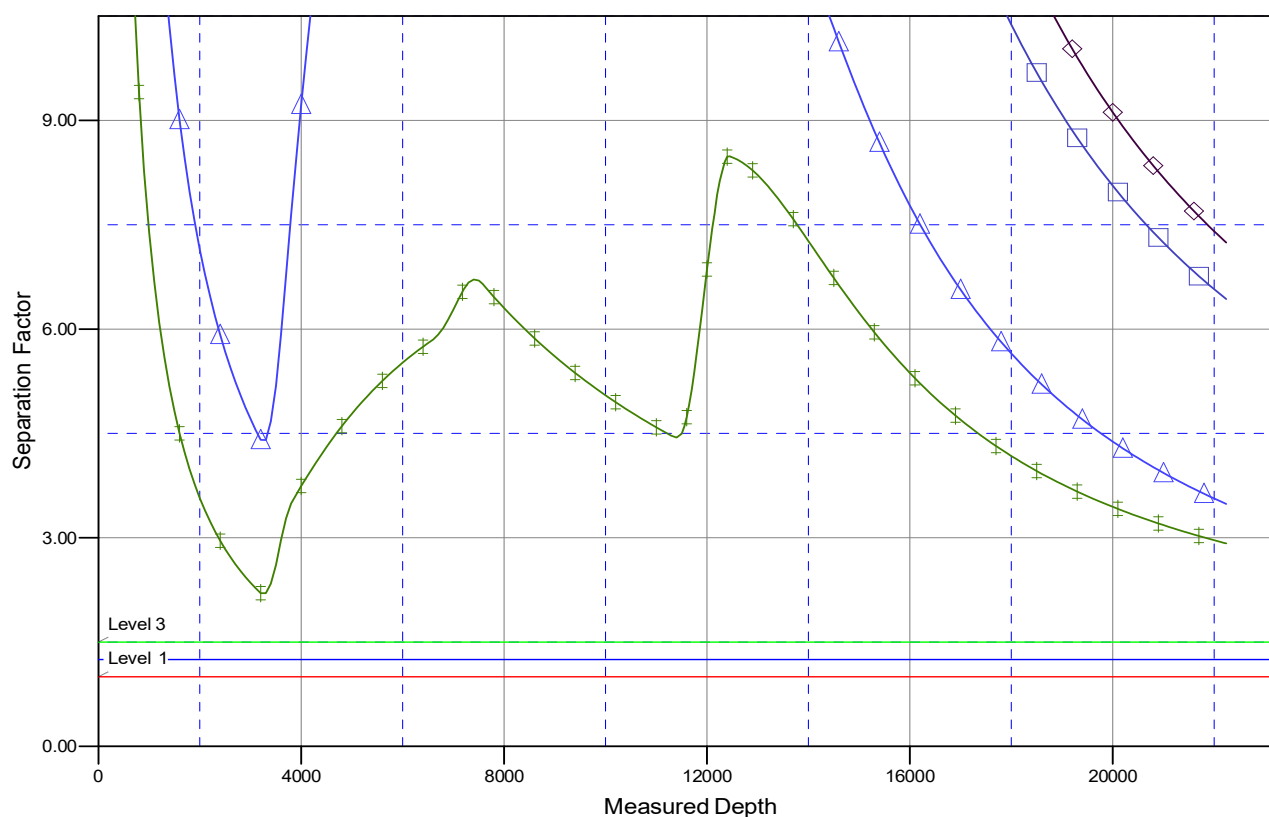
Offset Depths are relative to Offset Datum

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

Central Meridian is -104.333334

Grid Convergence at Surface is: 0.53°

Separation Factor Plot



LEGEND

1912 Fed Com 601H, OH, Plan #2 V0	Zia Fed Com 706H, OH, Plan #1 V0	Trinity Fed Com 602H, OH, Plan #1 V0
1912 Fed Com 702H, 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

TABLE OF CONTENTS

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

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
 - Lesser Prairie-Chicken Timing Stipulations
 - Ground-level Abandoned Well Marker
- ☐ **Construction**
 - Notification
 - Topsoil
 - Closed Loop System
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
- ☒ **Production (Post Drilling)**
 - Well Structures & Facilities
 - Pipelines
 - Electric Lines
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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

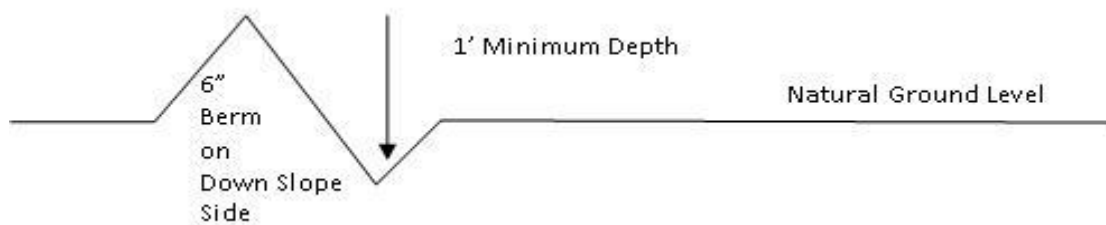
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

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

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

Cross Section of a Typical Lead-off Ditch



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

Formula for Spacing Interval of Lead-off Ditches

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

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

Cattle guards

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

Fence Requirement

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

Public Access

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

Construction Steps

1. Salvage topsoil
2. Construct road

3. Redistribute topsoil
4. Revegetate slopes

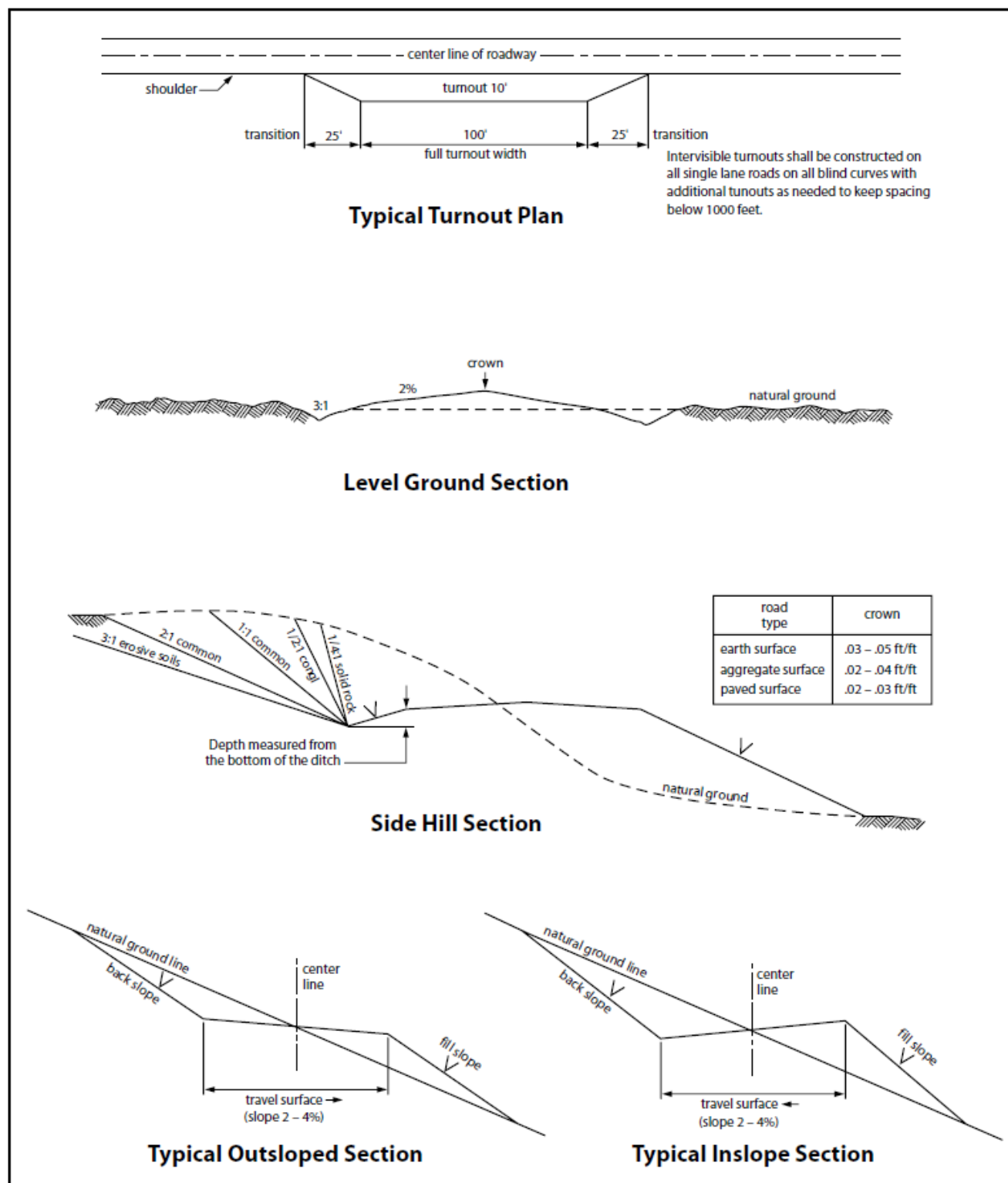


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities

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

Exclosure Netting (Open-top Tanks)

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

Chemical and Fuel Secondary Containment and Exclosure Screening

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

Open-Vent Exhaust Stack Exclosures

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

Containment Structures

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

Painting Requirement

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

B. 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 701H
Operator	Franklin Mountain Energy, LLC
Project Area	LOE Unit
Well Type	10,000' Upper Wolfcamp Lateral
API	
Permit Number	
Rig	

State	NM	County	Lea						
SHL	Township	25S/35E	Section	24	695'	FWL	285'	FSL	
BHL	Township	25S/35E	Section	13	350'	FWL	150'	FNL	
Surface Latitude	NAD 83		32.109395						
Surface Longitude	NAD 83		103.327537						
Bottom Hole Latitude	NAD 83		32.137219						
Bottom Hole Longitude	NAD 83		103.328628						
Ground Level	3,114'		Rig KB	21'	KB	3,135'			

Formations	PROG SS	PROG TVD	Picked TVD	delta	Potential/Issues
Cenozoic Alluvium (surface)	3,114'	21'	21'	0	Sand/Gravels/unconsolidated
Rustler	2,328'	807'			Carbonates
Salado	1,725'	1,410'			Salt, Carbonate & Clastics
Base Salt	-1,076'	4,211'			Shaley Carbonate & Shale
Lamar	-1,842'	4,977'			Carbonate & Clastics
Bell Canyon	-1,894'	5,029'			Sandstone - oil/gas/water
Cherry Canyon	-2,927'	6,062'			Sandstone - oil/gas/water
Brushy Canyon	-4,229'	7,364'			Sand/carb/shales - oil/gas/water
Bone Spring Lime	-5,480'	8,615'			Shale/Carbonates - oil/gas
Avalon	-5,503'	8,638'			Shale/Carbonates - oil/gas
First Bone Spring Sand	-6,892'	10,027'			Sandstone - oil/gas/water
Second Bone Spring Carbonates	-7,020'	10,155'			Shale/Carbonates - oil/gas
Second Bone Spring Sand	-7,414'	10,549'			Sandstone - oil/gas/water
Third Bone Spring Carbonates	-7,943'	11,078'			Shale/Carbonates - oil/gas
Third Bone Spring Sand	-8,566'	11,701'			Sandstone - oil/gas/water
Wolfcamp	-8,817'	11,952'			Overpressure shale/sand- Oil/Gas
Wolfcamp A	-8,882'	12,017'			Overpressure Shale - Oil/Gas
HZ Target	-8,966'	12,101'			Overpressure Shale - Oil/Gas
Wolfcamp B	-9,044'	12,179'			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: 12102' KBTVD @ 0' VS w/ 90.95° 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				
	n/a			
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				



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 25518

CONDITIONS

Operator: Franklin Mountain Energy LLC 44 Cook Street Denver, CO 80206	OGRID: 373910
	Action Number: 25518
	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