

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

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

1a. Type of work: ☐ DRILL ☐ REENTER 1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other 1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone		5. Lease Serial No. 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. 8. Lease Name and Well No. [330330]	
2. Name of Operator [373910]		9. API Well No. 30-025-48583	
3a. Address		3b. Phone No. (include area code)	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		10. Field and Pool, or Exploratory 33813 11. Sec., T. R. M. or Blk. and Survey or Area	
14. Distance in miles and direction from nearest town or post office*		12. County or Parish	
13. State		15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	
16. No of acres in lease		17. Spacing Unit dedicated to this well	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.		19. Proposed Depth	
20. BLM/BIA Bond No. in file		21. Elevations (Show whether DF, KDB, RT, GL, etc.)	
22. Approximate date work will start*		23. Estimated duration	
24. Attachments The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)			
1. Well plat certified by a registered surveyor. 2. A Drilling Plan. 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).		4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). 5. Operator certification. 6. Such other site specific information and/or plans as may be requested by the BLM.	
25. Signature		Name (Printed/Typed)	
Title		Date	
Approved by (Signature)		Name (Printed/Typed)	
Title		Office	
Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. Conditions of approval, if any, are attached.			
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.			

GCP Rec 03/29/2021

SL

(Continued on page 2)

APPROVED WITH CONDITIONS

KZ
03/30/2021

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

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

Additional Operator Remarks

Location of Well

0. SHL: SESE / 250 FSL / 707 FEL / TWSP: 25S / RANGE: 35E / SECTION: 24 / LAT: 32.1093 / LONG: -103.315017 (TVD: 0 feet, MD: 0 feet)

PPP: SENE / 2644 FNL / 350 FEL / TWSP: 25S / RANGE: 35E / SECTION: 13 / LAT: 32.130414 / LONG: -103.313854 (TVD: 11693 feet, MD: 19500 feet)

PPP: SENE / 2644 FSL / 350 FEL / TWSP: 25S / RANGE: 35E / SECTION: 24 / LAT: 32.115878 / LONG: -103.31386 (TVD: 11785 feet, MD: 14200 feet)

PPP: SESE / 630 FSL / 350 FEL / TWSP: 25S / RANGE: 35E / SECTION: 24 / LAT: 32.110343 / LONG: -103.313863 (TVD: 11820 feet, MD: 12175 feet)

BHL: NENE / 150 FNL / 350 FEL / TWSP: 25S / RANGE: 35E / SECTION: 13 / LAT: 32.137269 / LONG: -103.313851 (TVD: 11650 feet, MD: 21973 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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Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

**17 OPERATOR
CERTIFICATION**

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

 7/14/2020

Signature _____ Date _____

Shelly Albrecht
Printed Name _____

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 11, 2020

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

Certificate Number: _____

Detail "A"
No Scale

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
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
Santa Fe Fed Com 603H	TBD	P-24-25S-35E	250 FSL 812 FEL	1100 +/-	Flared	New well; expect to tie-in at IP
Santa Fe Fed Com 705H	TBD	P-24-25S-35E	250 FSL 777 FEL	1100 +/-	Flared	New well; expect to tie-in at IP
Zia Fed Com 604H	TBD	P-24-25S-35E	250 FSL 742 FEL	1100 +/-	Flared	New well; expect to tie-in at IP
Zia Fed Com 706H 30-025-48583	TBD	P-24-25S-35E	250 FSL 707 FEL	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 5,500' 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



Zia Fed Com 706H

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)	3,079'	30'	30'	0	Sand/Gravels/unconsolidated
Rustler	2,454'	655'			Carbonates
Salado	1,851'	1,258'			Salt, Carbonate & Clastics
Base Salt	-950'	4,059'			Shaley Carbonate & Shale
Lamar	-1,716'	4,825'			Carbonate & Clastics
Bell Canyon	-1,768'	4,877'			Sandstone - oil/gas/water
Cherry Canyon	-2,801'	5,910'			Sandstone - oil/gas/water
Brushy Canyon	-4,103'	7,212'			Sand/carb/shales - oil/gas/water
Bone Spring Lime	-5,354'	8,463'			Shale/Carbonates - oil/gas
Avalon	-5,377'	8,486'			Shale/Carbonates - oil/gas
First Bone Spring Sand	-6,766'	9,875'			Sandstone - oil/gas/water
Second Bone Spring Carbonates	-6,894'	10,003'			Shale/Carbonates - oil/gas
Second Bone Spring Sand	-7,288'	10,397'			Sandstone - oil/gas/water
Third Bone Spring Carbonates	-7,738'	10,847'			Shale/Carbonates - oil/gas
Third Bone Spring Sand	-8,440'	11,549'			Sandstone - oil/gas/water
Wolfcamp	-8,691'	11,800'			Overpressure shale/sand- Oil/Gas
HZ Target	-8,718'	11,827'			Overpressure shale/sand- Oil/Gas
Wolfcamp A	-8,726'	11,835'			Overpressure Shale - Oil/Gas
Wolfcamp B	-8,918'	12,027'			Overpressure Shale - Oil/Gas

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

Upper Permian Sands	0- 400'	Fresh Water
Delaware Sands	4,877'	Oil
Bone Spring	9,875'	Oil
Wolfcamp	11,800'	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.

Capitan Reef boundary is near surface hole locations, but exact location is unknown. While drilling, FME will be prepared to switch over to fresh water should we encounter the reef and have losses up to 50%.

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	11900	1.12	1.28	1.82	1.24
Long string 5 1/2"	23	P-110	14520	14520	729	Anaconda 656	21973	1.32	1.41	1.2	1.08



Preliminary plan is to set 7 5/8" string before entering Wolfcamp formation at 11,760'TVD/11,900'MD at 63° Inc due too potential overpressure. Safety factors calculated assuming the well is vertical.

Cementing Program:

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

String Type	Hole Size	Casing Size	Setting Depth	Sacks	Type of cmt	Lead Yield ft ³ /sk	Water gal/sk	TOC ft	Sacks	Type of cmt	Tail Yield ft ³ /sk	Water gal/sk	TOC	Excess
Surf	17.5	13.375	1300	795	Extenda Cem, 13.5 ppg Class C, 3lb/sk Kol-Seal	1.747	9.06	0	334	HalCem TM, 14.8 ppg, Class C, 1% CaCl ₂ , 0.125pps Celo-Flake	1.349	6.51	1000	100%
Int1	12.25	9.625	5400	1167	0.125pps Poly-E-Flake Neocem TM, 11.5 ppg, Class C 5% Salt,	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	11900	340	0.125 pps Poly-E-Flake, 3lb/sk Kol-Seal NeoCem, 11 ppg, Class C 3lb/sk Bridgemaker Gel, 5% Salt, 5pps LCM, 0.25pps Cello-Flake NeoCem, 13.5 ppg, Gas Migration Control	2.798	17.15	4400	112	NeoCem 13.2 ppg, Class C 0.25 pps Cello-Flake, 2% CaCl ₂	1.44	7.29	10900	50%
Prod	6.75	5.5	21973	831		1.357	6.65	10900						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' – 11,900'	Brine	8.8-10.2	28-34	N/c
11,900' – 21,973' Lateral	Oil Base	10.0-11.0	58-68	3 - 6

The highest mud weight needed to balance formation is expected to be 10-11 ppg. In order to maintain hole stability, mud weights up to 12.5 ppg may be utilized.

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

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

7. Auxiliary well control and monitoring equipment:

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

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

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

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

8. Logging, testing and coring program:

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

Open-hole logs are not planned for this well.

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

The estimated bottom-hole temperature at 11,820' TVD (deepest point of the well) is 195F with an estimated maximum bottom-hole pressure (BHP) at the same point of 7,683 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: Santa Fe Fed/Zia Fed
Well: Zia Fed Com 706H
Wellbore: OH
Design: Plan #2



Azimuths to Grid North
True North: -0.54°
Magnetic North: 6.02°

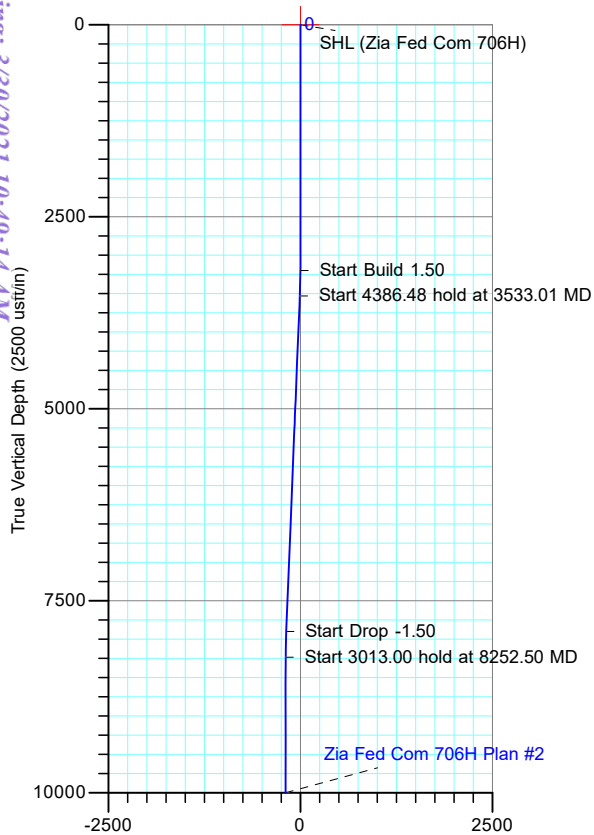
Magnetic Field
Strength: 47586.4nT
Dip Angle: 59.88°
Date: 3/10/2020
Model: IGRF2020

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



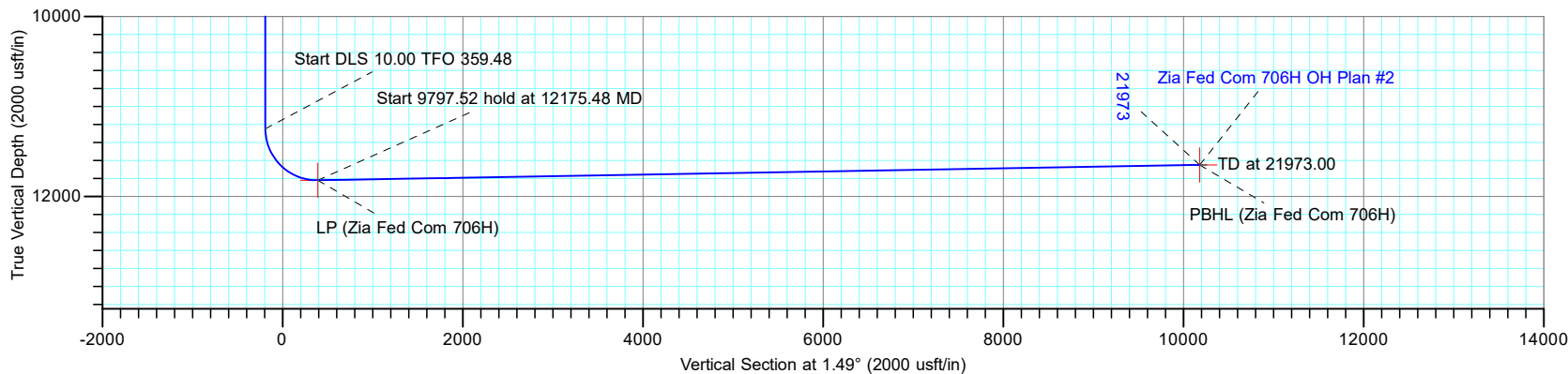
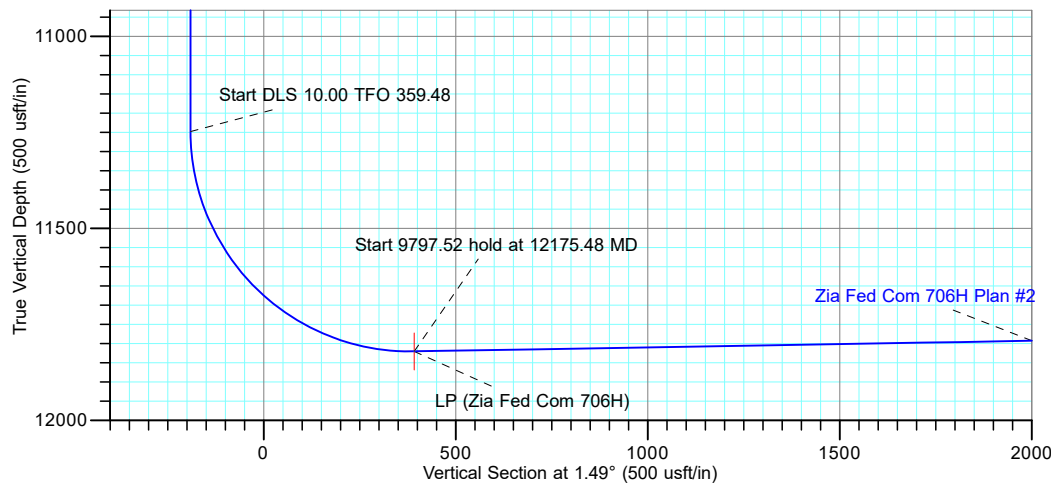
3078.5' GE + 30' KB @ 3108.50usft



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	Start Build 1.50
3200.00	0.00	0.00	3200.00	0.00	0.00	0.00	0.00	0.00	Start 4386.48 hold at 3533.01 MD
3533.01	5.00	119.12	3532.59	-7.06	12.67	1.50	119.12	-6.73	Start Drop -1.50
7919.49	5.00	119.12	7902.41	-192.94	346.33	0.00	0.00	-183.87	Start 3013.00 hold at 8252.50 MD
8252.50	0.00	0.00	8235.00	-200.00	359.00	1.50	180.00	-190.60	Start DLS 10.00 TFO 359.48
11265.50	0.00	0.00	11248.00	-200.00	359.00	0.00	0.00	-190.60	Start 9797.52 hold at 12175.48 MD
12175.48	91.00	359.48	11820.87	382.91	353.71	10.00	359.48	391.98	TD at 21973.00
21973.00	91.00	359.48	11650.27	10178.54	264.78	0.00	0.00	10181.98	

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
LP (Zia Fed Com 706H)	11820.87	382.91	353.71	32.110343	-103.313863
PBHL (Zia Fed Com 706H)	11650.27	10178.54	264.78	32.137269	-103.313851
SHL (Zia Fed Com 706H)	0.00	0.00	0.00	32.109300	-103.315017



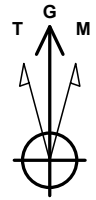
TOTAL DIRECTIONAL SERVICES LLC
671 Academy Ct, Windsor, CO 80550
Phone: (970) 460-9402

Plan: Plan #2 (Zia Fed Com 706H/OH)
Santa Fe Fed/Zia Fed
Created By: Dustin Ault
Date: 23:47, June 21 2020
Approved: _____
Date: _____

Released to Imaging: 3/30/2021 10:49:14 AM

Franklin Mountain Energy

Project: Lea County, NM (NAD83)
Site: Santa Fe Fed/Zia Fed
Well: Zia Fed Com 706H
Wellbore: OH
Design: Plan #2



Azimuths to Grid North
True North: -0.54°
Magnetic North: 6.02°

Magnetic Field
Strength: 47586.4nT
Dip Angle: 59.88°
Date: 3/10/2020
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

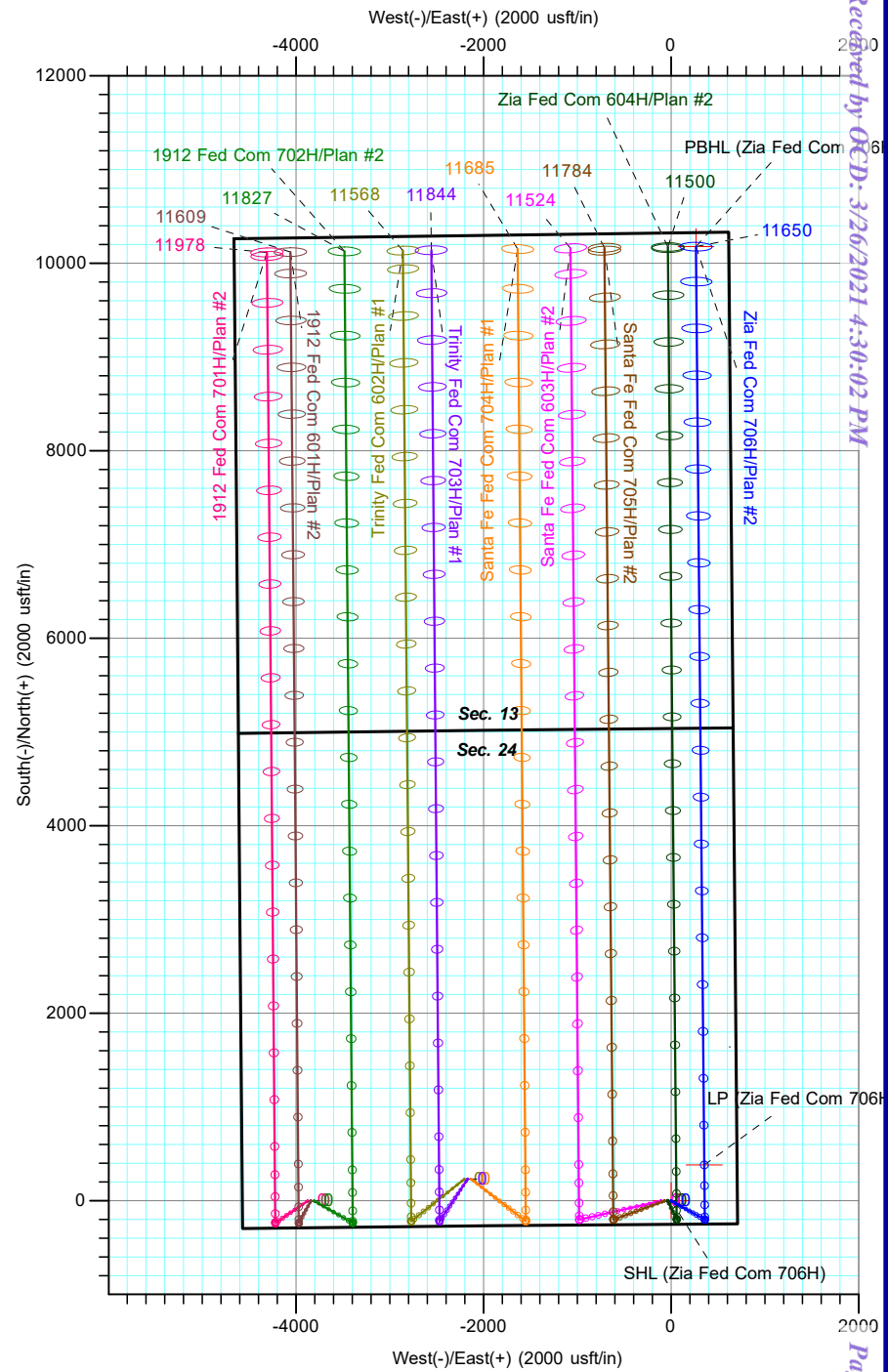
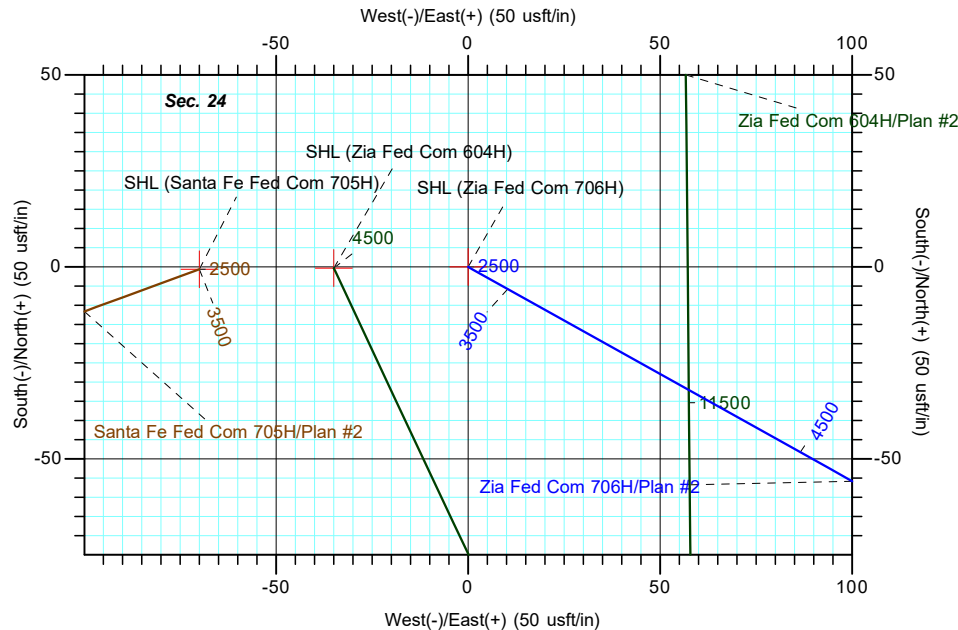


DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
LP (Zia Fed Com 706H)	11820.87	382.91	353.71	405372.11	856989.44	32.110343	-103.313863
PBHL (Zia Fed Com 706H)	11650.27	10178.54	264.78	415167.74	856900.51	32.137269	-103.313851
SHL (Zia Fed Com 706H)	0.00	0.00	0.00	404989.20	856635.73	32.109300	-103.315017

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3200.00	0.00	0.00	3200.00	0.00	0.00	0.00	0.00	0.00	Start Build 1.50
3533.01	5.00	119.12	3532.59	-7.06	12.67	1.50	119.12	-6.73	Start 4386.48 hold at 3533.01 MD
7919.49	5.00	119.12	7902.41	-192.94	346.33	0.00	0.00	-183.87	Start Drop -1.50
8252.50	0.00	0.00	8235.00	-200.00	359.00	1.50	180.00	-190.60	Start 3013.00 hold at 8252.50 MD
11265.50	0.00	0.00	11248.00	-200.00	359.00	0.00	0.00	-190.60	Start DLS 10.00 TFO 359.48
12175.48	91.00	359.48	11820.87	382.91	353.71	10.00	359.48	391.98	Start 9797.52 hold at 12175.48 MD
21973.00	91.00	359.48	11650.27	10178.54	264.78	0.00	0.00	10181.98	TD at 21973.00



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

Plan: Plan #2 (Zia Fed Com 706H/OH)
Santa Fe Fed/Zia Fed
Created By: Dustin Ault
Date: 23:48, June 21 2020
Approved: _____
Date: _____

Received by CED: 3/26/2021 4:30:02 PM
Page 14 of 114



Franklin Mountain Energy

Lea County, NM (NAD83)

Santa Fe Fed/Zia Fed

Zia Fed Com 706H

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 Zia Fed Com 706H
Company:	Franklin Mountain Energy	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Project:	Lea County, NM (NAD83)	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site:	Santa Fe Fed/Zia Fed	North Reference:	Grid
Well:	Zia Fed Com 706H	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	Santa Fe Fed/Zia Fed				
Site Position:		Northing:	404,988.50 usft	Latitude:	32.109301
From:	Lat/Long	Easting:	856,530.67 usft	Longitude:	-103.315356
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.54

Well	Zia Fed Com 706H					
Well Position	+N/-S	0.70 usft	Northing:	404,989.20 usft	Latitude:	32.109300
	+E/-W	105.06 usft	Easting:	856,635.73 usft	Longitude:	-103.315017
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	3,078.50 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	3/10/2020	6.57	59.88	47,586.44413083

Design	Plan #2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	1.49

Plan Survey Tool Program	Date	6/21/2020		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	21,973.00 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	
3,533.01	5.00	119.12	3,532.59	-7.06	12.67	1.50	1.50	0.00	119.12	
7,919.49	5.00	119.12	7,902.41	-192.94	346.33	0.00	0.00	0.00	0.00	
8,252.50	0.00	0.00	8,235.00	-200.00	359.00	1.50	-1.50	0.00	180.00	
11,265.50	0.00	0.00	11,248.00	-200.00	359.00	0.00	0.00	0.00	0.00	
12,175.48	91.00	359.48	11,820.87	382.91	353.71	10.00	10.00	-0.06	359.48	
21,973.00	91.00	359.48	11,650.27	10,178.54	264.78	0.00	0.00	0.00	0.00	PBHL (Zia Fed Com 7



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Company:	Franklin Mountain Energy	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Project:	Lea County, NM (NAD83)	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site:	Santa Fe Fed/Zia Fed	North Reference:	Grid
Well:	Zia Fed Com 706H	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 (Zia Fed Com 706H)									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 1.50									
3,300.00	1.50	119.12	3,299.99	-0.64	1.14	-0.61	1.50	1.50	0.00
3,400.00	3.00	119.12	3,399.91	-2.55	4.57	-2.43	1.50	1.50	0.00
3,500.00	4.50	119.12	3,499.69	-5.73	10.29	-5.46	1.50	1.50	0.00
3,533.01	5.00	119.12	3,532.59	-7.06	12.67	-6.73	1.50	1.50	0.00
Start 4386.48 hold at 3533.01 MD									
3,600.00	5.00	119.12	3,599.32	-9.90	17.77	-9.43	0.00	0.00	0.00
3,700.00	5.00	119.12	3,698.94	-14.14	25.38	-13.47	0.00	0.00	0.00
3,800.00	5.00	119.12	3,798.56	-18.37	32.98	-17.51	0.00	0.00	0.00
3,900.00	5.00	119.12	3,898.18	-22.61	40.59	-21.55	0.00	0.00	0.00
4,000.00	5.00	119.12	3,997.80	-26.85	48.19	-25.59	0.00	0.00	0.00
4,100.00	5.00	119.12	4,097.43	-31.09	55.80	-29.63	0.00	0.00	0.00
4,200.00	5.00	119.12	4,197.05	-35.32	63.41	-33.66	0.00	0.00	0.00
4,300.00	5.00	119.12	4,296.67	-39.56	71.01	-37.70	0.00	0.00	0.00
4,400.00	5.00	119.12	4,396.29	-43.80	78.62	-41.74	0.00	0.00	0.00
4,500.00	5.00	119.12	4,495.91	-48.04	86.23	-45.78	0.00	0.00	0.00
4,600.00	5.00	119.12	4,595.53	-52.27	93.83	-49.82	0.00	0.00	0.00
4,700.00	5.00	119.12	4,695.15	-56.51	101.44	-53.86	0.00	0.00	0.00
4,800.00	5.00	119.12	4,794.77	-60.75	109.05	-57.89	0.00	0.00	0.00



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Company:	Franklin Mountain Energy	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Project:	Lea County, NM (NAD83)	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site:	Santa Fe Fed/Zia Fed	North Reference:	Grid
Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,900.00	5.00	119.12	4,894.39	-64.99	116.65	-61.93	0.00	0.00	0.00
5,000.00	5.00	119.12	4,994.01	-69.22	124.26	-65.97	0.00	0.00	0.00
5,100.00	5.00	119.12	5,093.63	-73.46	131.86	-70.01	0.00	0.00	0.00
5,200.00	5.00	119.12	5,193.25	-77.70	139.47	-74.05	0.00	0.00	0.00
5,300.00	5.00	119.12	5,292.87	-81.94	147.08	-78.08	0.00	0.00	0.00
5,400.00	5.00	119.12	5,392.49	-86.17	154.68	-82.12	0.00	0.00	0.00
5,500.00	5.00	119.12	5,492.11	-90.41	162.29	-86.16	0.00	0.00	0.00
5,600.00	5.00	119.12	5,591.73	-94.65	169.90	-90.20	0.00	0.00	0.00
5,700.00	5.00	119.12	5,691.35	-98.89	177.50	-94.24	0.00	0.00	0.00
5,800.00	5.00	119.12	5,790.97	-103.13	185.11	-98.28	0.00	0.00	0.00
5,900.00	5.00	119.12	5,890.59	-107.36	192.72	-102.31	0.00	0.00	0.00
6,000.00	5.00	119.12	5,990.21	-111.60	200.32	-106.35	0.00	0.00	0.00
6,100.00	5.00	119.12	6,089.83	-115.84	207.93	-110.39	0.00	0.00	0.00
6,200.00	5.00	119.12	6,189.45	-120.08	215.54	-114.43	0.00	0.00	0.00
6,300.00	5.00	119.12	6,289.07	-124.31	223.14	-118.47	0.00	0.00	0.00
6,400.00	5.00	119.12	6,388.69	-128.55	230.75	-122.51	0.00	0.00	0.00
6,500.00	5.00	119.12	6,488.31	-132.79	238.35	-126.54	0.00	0.00	0.00
6,600.00	5.00	119.12	6,587.93	-137.03	245.96	-130.58	0.00	0.00	0.00
6,700.00	5.00	119.12	6,687.55	-141.26	253.57	-134.62	0.00	0.00	0.00
6,800.00	5.00	119.12	6,787.17	-145.50	261.17	-138.66	0.00	0.00	0.00
6,900.00	5.00	119.12	6,886.79	-149.74	268.78	-142.70	0.00	0.00	0.00
7,000.00	5.00	119.12	6,986.41	-153.98	276.39	-146.74	0.00	0.00	0.00
7,100.00	5.00	119.12	7,086.03	-158.21	283.99	-150.77	0.00	0.00	0.00
7,200.00	5.00	119.12	7,185.65	-162.45	291.60	-154.81	0.00	0.00	0.00
7,300.00	5.00	119.12	7,285.27	-166.69	299.21	-158.85	0.00	0.00	0.00
7,400.00	5.00	119.12	7,384.89	-170.93	306.81	-162.89	0.00	0.00	0.00
7,500.00	5.00	119.12	7,484.51	-175.16	314.42	-166.93	0.00	0.00	0.00
7,600.00	5.00	119.12	7,584.13	-179.40	322.02	-170.97	0.00	0.00	0.00
7,700.00	5.00	119.12	7,683.75	-183.64	329.63	-175.00	0.00	0.00	0.00
7,800.00	5.00	119.12	7,783.37	-187.88	337.24	-179.04	0.00	0.00	0.00
7,900.00	5.00	119.12	7,882.99	-192.11	344.84	-183.08	0.00	0.00	0.00
7,919.49	5.00	119.12	7,902.41	-192.94	346.33	-183.87	0.00	0.00	0.00
Start Drop -1.50									
8,000.00	3.79	119.12	7,982.68	-195.94	351.71	-186.73	1.50	-1.50	0.00
8,100.00	2.29	119.12	8,082.54	-198.52	356.34	-189.18	1.50	-1.50	0.00
8,200.00	0.79	119.12	8,182.50	-199.82	358.68	-190.43	1.50	-1.50	0.00
8,252.50	0.00	0.00	8,235.00	-200.00	359.00	-190.60	1.50	-1.50	0.00
Start 3013.00 hold at 8252.50 MD									
8,300.00	0.00	0.00	8,282.50	-200.00	359.00	-190.60	0.00	0.00	0.00
8,400.00	0.00	0.00	8,382.50	-200.00	359.00	-190.60	0.00	0.00	0.00
8,500.00	0.00	0.00	8,482.50	-200.00	359.00	-190.60	0.00	0.00	0.00
8,600.00	0.00	0.00	8,582.50	-200.00	359.00	-190.60	0.00	0.00	0.00
8,700.00	0.00	0.00	8,682.50	-200.00	359.00	-190.60	0.00	0.00	0.00
8,800.00	0.00	0.00	8,782.50	-200.00	359.00	-190.60	0.00	0.00	0.00
8,900.00	0.00	0.00	8,882.50	-200.00	359.00	-190.60	0.00	0.00	0.00
9,000.00	0.00	0.00	8,982.50	-200.00	359.00	-190.60	0.00	0.00	0.00
9,100.00	0.00	0.00	9,082.50	-200.00	359.00	-190.60	0.00	0.00	0.00
9,200.00	0.00	0.00	9,182.50	-200.00	359.00	-190.60	0.00	0.00	0.00
9,300.00	0.00	0.00	9,282.50	-200.00	359.00	-190.60	0.00	0.00	0.00
9,400.00	0.00	0.00	9,382.50	-200.00	359.00	-190.60	0.00	0.00	0.00
9,500.00	0.00	0.00	9,482.50	-200.00	359.00	-190.60	0.00	0.00	0.00
9,600.00	0.00	0.00	9,582.50	-200.00	359.00	-190.60	0.00	0.00	0.00
9,700.00	0.00	0.00	9,682.50	-200.00	359.00	-190.60	0.00	0.00	0.00
9,800.00	0.00	0.00	9,782.50	-200.00	359.00	-190.60	0.00	0.00	0.00



Total Directional Services

Planning Report



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Company:	Franklin Mountain Energy	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Project:	Lea County, NM (NAD83)	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site:	Santa Fe Fed/Zia Fed	North Reference:	Grid
Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,900.00	0.00	0.00	9,882.50	-200.00	359.00	-190.60	0.00	0.00	0.00
10,000.00	0.00	0.00	9,982.50	-200.00	359.00	-190.60	0.00	0.00	0.00
10,100.00	0.00	0.00	10,082.50	-200.00	359.00	-190.60	0.00	0.00	0.00
10,200.00	0.00	0.00	10,182.50	-200.00	359.00	-190.60	0.00	0.00	0.00
10,300.00	0.00	0.00	10,282.50	-200.00	359.00	-190.60	0.00	0.00	0.00
10,400.00	0.00	0.00	10,382.50	-200.00	359.00	-190.60	0.00	0.00	0.00
10,500.00	0.00	0.00	10,482.50	-200.00	359.00	-190.60	0.00	0.00	0.00
10,600.00	0.00	0.00	10,582.50	-200.00	359.00	-190.60	0.00	0.00	0.00
10,700.00	0.00	0.00	10,682.50	-200.00	359.00	-190.60	0.00	0.00	0.00
10,800.00	0.00	0.00	10,782.50	-200.00	359.00	-190.60	0.00	0.00	0.00
10,900.00	0.00	0.00	10,882.50	-200.00	359.00	-190.60	0.00	0.00	0.00
11,000.00	0.00	0.00	10,982.50	-200.00	359.00	-190.60	0.00	0.00	0.00
11,100.00	0.00	0.00	11,082.50	-200.00	359.00	-190.60	0.00	0.00	0.00
11,200.00	0.00	0.00	11,182.50	-200.00	359.00	-190.60	0.00	0.00	0.00
11,265.50	0.00	0.00	11,248.00	-200.00	359.00	-190.60	0.00	0.00	0.00
Start DLS 10.00 TFO 359.48									
11,300.00	3.45	359.48	11,282.48	-198.96	358.99	-189.56	10.00	10.00	0.00
11,350.00	8.45	359.48	11,332.19	-193.78	358.94	-184.38	10.00	10.00	0.00
11,400.00	13.45	359.48	11,381.27	-184.29	358.86	-174.89	10.00	10.00	0.00
11,450.00	18.45	359.48	11,429.33	-170.55	358.73	-161.17	10.00	10.00	0.00
11,500.00	23.45	359.48	11,476.01	-152.68	358.57	-143.31	10.00	10.00	0.00
11,550.00	28.45	359.48	11,520.95	-130.81	358.37	-121.45	10.00	10.00	0.00
11,600.00	33.45	359.48	11,563.82	-105.10	358.14	-95.76	10.00	10.00	0.00
11,650.00	38.45	359.48	11,604.28	-75.76	357.87	-66.43	10.00	10.00	0.00
11,700.00	43.45	359.48	11,642.03	-43.00	357.57	-33.69	10.00	10.00	0.00
11,750.00	48.45	359.48	11,676.79	-7.08	357.25	2.21	10.00	10.00	0.00
11,800.00	53.45	359.48	11,708.28	31.74	356.90	41.01	10.00	10.00	0.00
11,850.00	58.45	359.48	11,736.26	73.15	356.52	82.39	10.00	10.00	0.00
11,900.00	63.45	359.48	11,760.54	116.84	356.12	126.06	10.00	10.00	0.00
11,950.00	68.45	359.48	11,780.91	162.49	355.71	171.68	10.00	10.00	0.00
12,000.00	73.45	359.48	11,797.22	209.73	355.28	218.90	10.00	10.00	0.00
12,050.00	78.45	359.48	11,809.36	258.22	354.84	267.36	10.00	10.00	0.00
12,100.00	83.45	359.48	11,817.22	307.58	354.39	316.69	10.00	10.00	0.00
12,150.00	88.45	359.48	11,820.75	357.43	353.94	366.52	10.00	10.00	0.00
12,175.48	91.00	359.48	11,820.87	382.91	353.71	391.98	10.00	10.00	0.00
Start 9797.52 hold at 12175.48 MD - LP (Zia Fed Com 706H)									
12,200.00	91.00	359.48	11,820.44	407.43	353.49	416.48	0.00	0.00	0.00
12,300.00	91.00	359.48	11,818.70	507.41	352.58	516.40	0.00	0.00	0.00
12,400.00	91.00	359.48	11,816.96	607.39	351.67	616.33	0.00	0.00	0.00
12,500.00	91.00	359.48	11,815.22	707.37	350.76	716.25	0.00	0.00	0.00
12,600.00	91.00	359.48	11,813.48	807.35	349.85	816.17	0.00	0.00	0.00
12,700.00	91.00	359.48	11,811.74	907.33	348.95	916.10	0.00	0.00	0.00
12,800.00	91.00	359.48	11,810.00	1,007.31	348.04	1,016.02	0.00	0.00	0.00
12,900.00	91.00	359.48	11,808.26	1,107.29	347.13	1,115.94	0.00	0.00	0.00
13,000.00	91.00	359.48	11,806.51	1,207.27	346.22	1,215.87	0.00	0.00	0.00
13,100.00	91.00	359.48	11,804.77	1,307.25	345.32	1,315.79	0.00	0.00	0.00
13,200.00	91.00	359.48	11,803.03	1,407.23	344.41	1,415.71	0.00	0.00	0.00
13,300.00	91.00	359.48	11,801.29	1,507.21	343.50	1,515.64	0.00	0.00	0.00
13,400.00	91.00	359.48	11,799.55	1,607.19	342.59	1,615.56	0.00	0.00	0.00
13,500.00	91.00	359.48	11,797.81	1,707.17	341.69	1,715.48	0.00	0.00	0.00
13,600.00	91.00	359.48	11,796.07	1,807.16	340.78	1,815.41	0.00	0.00	0.00
13,700.00	91.00	359.48	11,794.33	1,907.14	339.87	1,915.33	0.00	0.00	0.00
13,800.00	91.00	359.48	11,792.58	2,007.12	338.96	2,015.25	0.00	0.00	0.00
13,900.00	91.00	359.48	11,790.84	2,107.10	338.06	2,115.18	0.00	0.00	0.00



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Company:	Franklin Mountain Energy	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Project:	Lea County, NM (NAD83)	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site:	Santa Fe Fed/Zia Fed	North Reference:	Grid
Well:	Zia Fed Com 706H	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)
14,000.00	91.00	359.48	11,789.10	2,207.08	337.15	2,215.10	0.00	0.00	0.00
14,100.00	91.00	359.48	11,787.36	2,307.06	336.24	2,315.02	0.00	0.00	0.00
14,200.00	91.00	359.48	11,785.62	2,407.04	335.33	2,414.95	0.00	0.00	0.00
14,300.00	91.00	359.48	11,783.88	2,507.02	334.42	2,514.87	0.00	0.00	0.00
14,400.00	91.00	359.48	11,782.14	2,607.00	333.52	2,614.79	0.00	0.00	0.00
14,500.00	91.00	359.48	11,780.40	2,706.98	332.61	2,714.72	0.00	0.00	0.00
14,600.00	91.00	359.48	11,778.65	2,806.96	331.70	2,814.64	0.00	0.00	0.00
14,700.00	91.00	359.48	11,776.91	2,906.94	330.79	2,914.56	0.00	0.00	0.00
14,800.00	91.00	359.48	11,775.17	3,006.92	329.89	3,014.49	0.00	0.00	0.00
14,900.00	91.00	359.48	11,773.43	3,106.91	328.98	3,114.41	0.00	0.00	0.00
15,000.00	91.00	359.48	11,771.69	3,206.89	328.07	3,214.33	0.00	0.00	0.00
15,100.00	91.00	359.48	11,769.95	3,306.87	327.16	3,314.26	0.00	0.00	0.00
15,200.00	91.00	359.48	11,768.21	3,406.85	326.26	3,414.18	0.00	0.00	0.00
15,300.00	91.00	359.48	11,766.46	3,506.83	325.35	3,514.10	0.00	0.00	0.00
15,400.00	91.00	359.48	11,764.72	3,606.81	324.44	3,614.03	0.00	0.00	0.00
15,500.00	91.00	359.48	11,762.98	3,706.79	323.53	3,713.95	0.00	0.00	0.00
15,600.00	91.00	359.48	11,761.24	3,806.77	322.63	3,813.87	0.00	0.00	0.00
15,700.00	91.00	359.48	11,759.50	3,906.75	321.72	3,913.80	0.00	0.00	0.00
15,800.00	91.00	359.48	11,757.76	4,006.73	320.81	4,013.72	0.00	0.00	0.00
15,900.00	91.00	359.48	11,756.02	4,106.71	319.90	4,113.64	0.00	0.00	0.00
16,000.00	91.00	359.48	11,754.28	4,206.69	318.99	4,213.57	0.00	0.00	0.00
16,100.00	91.00	359.48	11,752.53	4,306.67	318.09	4,313.49	0.00	0.00	0.00
16,200.00	91.00	359.48	11,750.79	4,406.65	317.18	4,413.41	0.00	0.00	0.00
16,300.00	91.00	359.48	11,749.05	4,506.64	316.27	4,513.34	0.00	0.00	0.00
16,400.00	91.00	359.48	11,747.31	4,606.62	315.36	4,613.26	0.00	0.00	0.00
16,500.00	91.00	359.48	11,745.57	4,706.60	314.46	4,713.18	0.00	0.00	0.00
16,600.00	91.00	359.48	11,743.83	4,806.58	313.55	4,813.11	0.00	0.00	0.00
16,700.00	91.00	359.48	11,742.09	4,906.56	312.64	4,913.03	0.00	0.00	0.00
16,800.00	91.00	359.48	11,740.35	5,006.54	311.73	5,012.95	0.00	0.00	0.00
16,900.00	91.00	359.48	11,738.60	5,106.52	310.83	5,112.88	0.00	0.00	0.00
17,000.00	91.00	359.48	11,736.86	5,206.50	309.92	5,212.80	0.00	0.00	0.00
17,100.00	91.00	359.48	11,735.12	5,306.48	309.01	5,312.72	0.00	0.00	0.00
17,200.00	91.00	359.48	11,733.38	5,406.46	308.10	5,412.65	0.00	0.00	0.00
17,300.00	91.00	359.48	11,731.64	5,506.44	307.19	5,512.57	0.00	0.00	0.00
17,400.00	91.00	359.48	11,729.90	5,606.42	306.29	5,612.49	0.00	0.00	0.00
17,500.00	91.00	359.48	11,728.16	5,706.40	305.38	5,712.42	0.00	0.00	0.00
17,600.00	91.00	359.48	11,726.42	5,806.38	304.47	5,812.34	0.00	0.00	0.00
17,700.00	91.00	359.48	11,724.67	5,906.37	303.56	5,912.26	0.00	0.00	0.00
17,800.00	91.00	359.48	11,722.93	6,006.35	302.66	6,012.19	0.00	0.00	0.00
17,900.00	91.00	359.48	11,721.19	6,106.33	301.75	6,112.11	0.00	0.00	0.00
18,000.00	91.00	359.48	11,719.45	6,206.31	300.84	6,212.03	0.00	0.00	0.00
18,100.00	91.00	359.48	11,717.71	6,306.29	299.93	6,311.96	0.00	0.00	0.00
18,200.00	91.00	359.48	11,715.97	6,406.27	299.03	6,411.88	0.00	0.00	0.00
18,300.00	91.00	359.48	11,714.23	6,506.25	298.12	6,511.80	0.00	0.00	0.00
18,400.00	91.00	359.48	11,712.49	6,606.23	297.21	6,611.73	0.00	0.00	0.00
18,500.00	91.00	359.48	11,710.74	6,706.21	296.30	6,711.65	0.00	0.00	0.00
18,600.00	91.00	359.48	11,709.00	6,806.19	295.40	6,811.57	0.00	0.00	0.00
18,700.00	91.00	359.48	11,707.26	6,906.17	294.49	6,911.50	0.00	0.00	0.00
18,800.00	91.00	359.48	11,705.52	7,006.15	293.58	7,011.42	0.00	0.00	0.00
18,900.00	91.00	359.48	11,703.78	7,106.13	292.67	7,111.34	0.00	0.00	0.00
19,000.00	91.00	359.48	11,702.04	7,206.11	291.76	7,211.26	0.00	0.00	0.00
19,100.00	91.00	359.48	11,700.30	7,306.10	290.86	7,311.19	0.00	0.00	0.00
19,200.00	91.00	359.48	11,698.56	7,406.08	289.95	7,411.11	0.00	0.00	0.00
19,300.00	91.00	359.48	11,696.81	7,506.06	289.04	7,511.03	0.00	0.00	0.00



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Company:	Franklin Mountain Energy	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Project:	Lea County, NM (NAD83)	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site:	Santa Fe Fed/Zia Fed	North Reference:	Grid
Well:	Zia Fed Com 706H	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)	
19,400.00	91.00	359.48	11,695.07	7,606.04	288.13	7,610.96	0.00	0.00	0.00	
19,500.00	91.00	359.48	11,693.33	7,706.02	287.23	7,710.88	0.00	0.00	0.00	
19,600.00	91.00	359.48	11,691.59	7,806.00	286.32	7,810.80	0.00	0.00	0.00	
19,700.00	91.00	359.48	11,689.85	7,905.98	285.41	7,910.73	0.00	0.00	0.00	
19,800.00	91.00	359.48	11,688.11	8,005.96	284.50	8,010.65	0.00	0.00	0.00	
19,900.00	91.00	359.48	11,686.37	8,105.94	283.60	8,110.57	0.00	0.00	0.00	
20,000.00	91.00	359.48	11,684.63	8,205.92	282.69	8,210.50	0.00	0.00	0.00	
20,100.00	91.00	359.48	11,682.88	8,305.90	281.78	8,310.42	0.00	0.00	0.00	
20,200.00	91.00	359.48	11,681.14	8,405.88	280.87	8,410.34	0.00	0.00	0.00	
20,300.00	91.00	359.48	11,679.40	8,505.86	279.97	8,510.27	0.00	0.00	0.00	
20,400.00	91.00	359.48	11,677.66	8,605.84	279.06	8,610.19	0.00	0.00	0.00	
20,500.00	91.00	359.48	11,675.92	8,705.83	278.15	8,710.11	0.00	0.00	0.00	
20,600.00	91.00	359.48	11,674.18	8,805.81	277.24	8,810.04	0.00	0.00	0.00	
20,700.00	91.00	359.48	11,672.44	8,905.79	276.33	8,909.96	0.00	0.00	0.00	
20,800.00	91.00	359.48	11,670.70	9,005.77	275.43	9,009.88	0.00	0.00	0.00	
20,900.00	91.00	359.48	11,668.95	9,105.75	274.52	9,109.81	0.00	0.00	0.00	
21,000.00	91.00	359.48	11,667.21	9,205.73	273.61	9,209.73	0.00	0.00	0.00	
21,100.00	91.00	359.48	11,665.47	9,305.71	272.70	9,309.65	0.00	0.00	0.00	
21,200.00	91.00	359.48	11,663.73	9,405.69	271.80	9,409.58	0.00	0.00	0.00	
21,300.00	91.00	359.48	11,661.99	9,505.67	270.89	9,509.50	0.00	0.00	0.00	
21,400.00	91.00	359.48	11,660.25	9,605.65	269.98	9,609.42	0.00	0.00	0.00	
21,500.00	91.00	359.48	11,658.51	9,705.63	269.07	9,709.35	0.00	0.00	0.00	
21,600.00	91.00	359.48	11,656.77	9,805.61	268.17	9,809.27	0.00	0.00	0.00	
21,700.00	91.00	359.48	11,655.02	9,905.59	267.26	9,909.19	0.00	0.00	0.00	
21,800.00	91.00	359.48	11,653.28	10,005.57	266.35	10,009.12	0.00	0.00	0.00	
21,900.00	91.00	359.48	11,651.54	10,105.56	265.44	10,109.04	0.00	0.00	0.00	
21,973.00	91.00	359.48	11,650.27	10,178.54	264.78	10,181.98	0.00	0.00	0.00	
TD at 21973.00 - PBHL (Zia Fed Com 706H)										

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL (Zia Fed Com 706H) - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	404,989.20	856,635.73	32.109300	-103.315017
PBHL (Zia Fed Com 706H) - plan hits target center - Point	0.00	0.00	11,650.27	10,178.54	264.78	415,167.74	856,900.51	32.137269	-103.313851
LP (Zia Fed Com 706H) - plan hits target center - Point	0.00	0.00	11,820.87	382.91	353.71	405,372.11	856,989.44	32.110344	-103.313863



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Company:	Franklin Mountain Energy	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Project:	Lea County, NM (NAD83)	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site:	Santa Fe Fed/Zia Fed	North Reference:	Grid
Well:	Zia Fed Com 706H	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
3,533.01	3,532.59	-7.06	12.67	Start 4386.48 hold at 3533.01 MD
7,919.49	7,902.41	-192.94	346.33	Start Drop -1.50
8,252.50	8,235.00	-200.00	359.00	Start 3013.00 hold at 8252.50 MD
11,265.50	11,248.00	-200.00	359.00	Start DLS 10.00 TFO 359.48
12,175.48	11,820.87	382.91	353.71	Start 9797.52 hold at 12175.48 MD
21,973.00	11,650.27	10,178.54	264.78	TD at 21973.00



Franklin Mountain Energy

Lea County, NM (NAD83)

Santa Fe Fed/Zia Fed

Zia Fed Com 706H

OH

Plan #2

Anticollision Report

21 June, 2020





Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well 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)
0.00	21,973.00	Plan #2 (OH)
		Tool Name
		OWSG (Rev2) MWD
		Description
		OWSG MWD - Standard

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
1912 Fed Com						
1912 Fed Com 601H - OH - Plan #2	3,200.00	3,232.80	3,842.07	3,826.09	240.484	CC, ES
1912 Fed Com 601H - OH - Plan #2	21,973.00	21,929.37	4,324.74	4,079.56	17.639	SF
1912 Fed Com 701H - OH - Plan #2	3,108.24	3,143.84	3,877.06	3,861.54	249.837	CC
1912 Fed Com 701H - OH - Plan #2	3,200.00	3,200.00	3,877.22	3,861.33	243.966	ES
1912 Fed Com 701H - OH - Plan #2	21,973.00	22,238.31	4,586.24	4,341.55	18.742	SF
1912 Fed Com 702H - OH - Plan #2	6,902.05	7,223.55	3,687.97	3,652.77	104.787	CC
1912 Fed Com 702H - OH - Plan #2	21,973.00	22,099.37	3,752.80	3,507.80	15.318	ES, SF
Santa Fe Fed/Zia Fed						
Santa Fe Fed Com 603H - OH - Plan #2	3,116.23	3,117.53	104.98	89.51	6.786	CC
Santa Fe Fed Com 603H - OH - Plan #2	3,200.00	3,200.00	104.99	89.10	6.607	ES
Santa Fe Fed Com 603H - OH - Plan #2	21,973.00	21,874.54	1,344.81	1,100.14	5.496	SF
Santa Fe Fed Com 705H - OH - Plan #2	3,200.00	3,201.00	69.99	54.10	4.403	CC, ES
Santa Fe Fed Com 705H - OH - Plan #2	21,973.00	22,129.79	985.04	741.68	4.048	SF
Zia Fed Com 604H - OH - Plan #2	3,200.00	3,200.30	35.00	19.11	2.202	CC, ES
Zia Fed Com 604H - OH - Plan #2	21,973.00	21,811.30	335.45	126.61	1.606	SF
Trinity Fed/Santa Fe Fed						
Santa Fe Fed Com 704H - OH - Plan #1	21,964.24	22,023.56	1,902.04	1,658.44	7.808	CC
Santa Fe Fed Com 704H - OH - Plan #1	21,973.00	22,023.56	1,902.06	1,658.41	7.806	ES, SF
Trinity Fed Com 602H - OH - Plan #1	2,415.78	2,418.38	2,216.87	2,204.94	185.739	CC
Trinity Fed Com 602H - OH - Plan #1	2,500.00	2,500.00	2,216.87	2,204.52	179.420	ES
Trinity Fed Com 602H - OH - Plan #1	21,973.00	21,898.12	3,125.79	2,882.35	12.840	SF
Trinity Fed Com 703H - OH - Plan #1	2,914.99	2,919.79	2,182.11	2,167.64	150.784	CC
Trinity Fed Com 703H - OH - Plan #1	3,000.00	3,000.00	2,182.11	2,167.22	146.544	ES
Trinity Fed Com 703H - OH - Plan #1	21,973.00	22,158.34	2,829.35	2,585.95	11.624	SF

Offset Design	1912 Fed Com - 1912 Fed Com 601H - OH - Plan #2												Offset Site Error:	0.00 usft
Survey Program:	0-OWSG (Rev2) MWD												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Warning						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	32.80	32.80	0.00	0.04	-90.02	-1.51	-3,842.07	3,842.07					
100.00	100.00	132.80	132.80	0.13	0.24	-90.02	-1.51	-3,842.07	3,842.07	3,841.80	0.27	N/A		
200.00	200.00	232.80	232.80	0.48	0.60	-90.02	-1.51	-3,842.07	3,842.07	3,841.30	0.77	4,976.643		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well 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		
300.00	300.00	332.80	332.80	0.84	0.96	-90.02	-1.51	-3,842.07	3,842.07	3,840.79	1.28	3,008.210		
400.00	400.00	432.80	432.80	1.20	1.32	-90.02	-1.51	-3,842.07	3,842.07	3,840.29	1.78	2,154.375		
500.00	500.00	532.80	532.80	1.56	1.68	-90.02	-1.51	-3,842.07	3,842.07	3,839.78	2.29	1,677.829		
600.00	600.00	632.80	632.80	1.92	2.04	-90.02	-1.51	-3,842.07	3,842.07	3,839.27	2.80	1,373.842		
700.00	700.00	732.80	732.80	2.28	2.39	-90.02	-1.51	-3,842.07	3,842.07	3,838.77	3.30	1,163.082		
800.00	800.00	832.80	832.80	2.63	2.75	-90.02	-1.51	-3,842.07	3,842.07	3,838.26	3.81	1,008.373		
900.00	900.00	932.80	932.80	2.99	3.11	-90.02	-1.51	-3,842.07	3,842.07	3,837.75	4.32	889.982		
1,000.00	1,000.00	1,032.80	1,032.80	3.35	3.47	-90.02	-1.51	-3,842.07	3,842.07	3,837.25	4.82	796.467		
1,100.00	1,100.00	1,132.80	1,132.80	3.71	3.83	-90.02	-1.51	-3,842.07	3,842.07	3,836.74	5.33	720.734		
1,200.00	1,200.00	1,232.80	1,232.80	4.07	4.19	-90.02	-1.51	-3,842.07	3,842.07	3,836.23	5.84	658.151		
1,300.00	1,300.00	1,332.80	1,332.80	4.43	4.54	-90.02	-1.51	-3,842.07	3,842.07	3,835.73	6.34	605.567		
1,400.00	1,400.00	1,432.80	1,432.80	4.79	4.90	-90.02	-1.51	-3,842.07	3,842.07	3,835.22	6.85	560.763		
1,500.00	1,500.00	1,532.80	1,532.80	5.14	5.26	-90.02	-1.51	-3,842.07	3,842.07	3,834.71	7.36	522.133		
1,600.00	1,600.00	1,632.80	1,632.80	5.50	5.62	-90.02	-1.51	-3,842.07	3,842.07	3,834.21	7.87	488.481		
1,700.00	1,700.00	1,732.80	1,732.80	5.86	5.98	-90.02	-1.51	-3,842.07	3,842.07	3,833.70	8.37	458.904		
1,800.00	1,800.00	1,832.80	1,832.80	6.22	6.34	-90.02	-1.51	-3,842.07	3,842.07	3,833.19	8.88	432.704		
1,900.00	1,900.00	1,932.80	1,932.80	6.58	6.70	-90.02	-1.51	-3,842.07	3,842.07	3,832.68	9.39	409.334		
2,000.00	2,000.00	2,032.80	2,032.80	6.94	7.05	-90.02	-1.51	-3,842.07	3,842.07	3,832.18	9.89	388.360		
2,100.00	2,100.00	2,132.80	2,132.80	7.29	7.41	-90.02	-1.51	-3,842.07	3,842.07	3,831.67	10.40	369.429		
2,200.00	2,200.00	2,232.80	2,232.80	7.65	7.77	-90.02	-1.51	-3,842.07	3,842.07	3,831.16	10.91	352.259		
2,300.00	2,300.00	2,332.80	2,332.80	8.01	8.13	-90.02	-1.51	-3,842.07	3,842.07	3,830.66	11.41	336.613		
2,400.00	2,400.00	2,432.80	2,432.80	8.37	8.49	-90.02	-1.51	-3,842.07	3,842.07	3,830.15	11.92	322.299		
2,500.00	2,500.00	2,532.80	2,532.80	8.73	8.85	-90.02	-1.51	-3,842.07	3,842.07	3,829.64	12.43	309.152		
2,600.00	2,600.00	2,632.80	2,632.80	9.09	9.20	-90.02	-1.51	-3,842.07	3,842.07	3,829.14	12.93	297.035		
2,700.00	2,700.00	2,732.80	2,732.80	9.45	9.56	-90.02	-1.51	-3,842.07	3,842.07	3,828.63	13.44	285.833		
2,800.00	2,800.00	2,832.80	2,832.80	9.80	9.92	-90.02	-1.51	-3,842.07	3,842.07	3,828.12	13.95	275.445		
2,900.00	2,900.00	2,932.80	2,932.80	10.16	10.28	-90.02	-1.51	-3,842.07	3,842.07	3,827.61	14.46	265.785		
3,000.00	3,000.00	3,032.80	3,032.80	10.52	10.64	-90.02	-1.51	-3,842.07	3,842.07	3,827.11	14.96	256.780		
3,100.00	3,100.00	3,132.80	3,132.80	10.88	11.00	-90.02	-1.51	-3,842.07	3,842.07	3,826.60	15.47	248.365		
3,200.00	3,200.00	3,232.80	3,232.80	11.24	11.36	-90.02	-1.51	-3,842.07	3,842.07	3,826.09	15.98	240.484 CC, ES		
3,300.00	3,299.99	3,332.79	3,332.79	11.58	11.71	150.86	-1.51	-3,842.07	3,843.21	3,826.74	16.47	233.294		
3,400.00	3,399.91	3,432.71	3,432.71	11.92	12.07	150.86	-1.51	-3,842.07	3,846.64	3,829.68	16.96	226.780		
3,500.00	3,499.69	3,521.93	3,521.93	12.25	12.39	150.86	-1.57	-3,842.10	3,852.40	3,834.98	17.42	221.135		
3,533.01	3,532.59	3,544.14	3,544.14	12.36	12.46	150.85	-1.73	-3,842.19	3,854.93	3,837.37	17.55	219.624		
3,600.00	3,599.32	3,600.00	3,599.99	12.59	12.65	150.87	-2.66	-3,842.70	3,860.61	3,842.76	17.85	216.341		
3,700.00	3,698.94	3,656.35	3,656.30	12.93	12.84	150.88	-4.32	-3,843.60	3,869.72	3,851.51	18.21	212.518		
3,800.00	3,798.56	3,723.43	3,723.30	13.28	13.06	150.88	-7.25	-3,845.19	3,879.70	3,861.10	18.60	208.604		
3,900.00	3,898.18	3,800.00	3,799.69	13.62	13.31	150.86	-11.85	-3,847.70	3,890.52	3,871.51	19.01	204.640		
4,000.00	3,997.80	3,868.64	3,868.08	13.97	13.53	150.83	-16.98	-3,850.50	3,902.09	3,882.68	19.41	201.072		
4,100.00	4,097.43	3,967.88	3,966.95	14.32	13.86	150.78	-24.58	-3,854.64	3,913.85	3,893.97	19.88	196.881		
4,200.00	4,197.05	4,067.13	4,065.82	14.67	14.19	150.73	-32.18	-3,858.78	3,925.61	3,905.26	20.35	192.861		
4,300.00	4,296.67	4,166.38	4,164.69	15.02	14.53	150.68	-39.79	-3,862.92	3,937.38	3,916.55	20.83	189.001		
4,400.00	4,396.29	4,265.63	4,263.56	15.38	14.86	150.63	-47.39	-3,867.06	3,949.15	3,927.84	21.31	185.293		
4,500.00	4,495.91	4,364.87	4,362.43	15.74	15.20	150.58	-54.99	-3,871.20	3,960.92	3,939.13	21.80	181.731		
4,600.00	4,595.53	4,464.12	4,461.29	16.09	15.54	150.53	-62.59	-3,875.34	3,972.70	3,950.42	22.28	178.306		
4,700.00	4,695.15	4,563.37	4,560.16	16.45	15.88	150.48	-70.20	-3,879.48	3,984.48	3,961.71	22.77	175.012		
4,800.00	4,794.77	4,662.62	4,659.03	16.81	16.23	150.44	-77.80	-3,883.62	3,996.26	3,973.00	23.26	171.843		
4,900.00	4,894.39	4,761.86	4,757.90	17.17	16.57	150.39	-85.40	-3,887.76	4,008.04	3,984.30	23.75	168.792		
5,000.00	4,994.01	4,861.11	4,856.77	17.53	16.92	150.34	-93.00	-3,891.90	4,019.83	3,995.59	24.24	165.853		
5,100.00	5,093.63	4,960.36	4,955.64	17.90	17.27	150.29	-100.60	-3,896.05	4,031.62	4,006.89	24.73	163.022		
5,200.00	5,193.25	5,059.61	5,054.51	18.26	17.62	150.25	-108.21	-3,900.19	4,043.41	4,018.19	25.23	160.292		
5,300.00	5,292.87	5,158.86	5,153.38	18.63	17.97	150.20	-115.81	-3,904.33	4,055.21	4,029.49	25.72	157.659		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well 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		
5,400.00	5,392.49	5,258.10	5,252.25	18.99	18.33	150.15	-123.41	-3,908.47	4,067.01	4,040.79	26.22	155.118		
5,500.00	5,492.11	5,357.35	5,351.12	19.36	18.68	150.11	-131.01	-3,912.61	4,078.81	4,052.09	26.72	152.665		
5,600.00	5,591.73	5,456.60	5,449.99	19.73	19.04	150.06	-138.62	-3,916.75	4,090.61	4,063.39	27.22	150.296		
5,700.00	5,691.35	5,555.85	5,548.86	20.09	19.39	150.01	-146.22	-3,920.89	4,102.41	4,074.70	27.72	148.007		
5,800.00	5,790.97	5,655.09	5,647.73	20.46	19.75	149.97	-153.82	-3,925.03	4,114.22	4,086.00	28.22	145.793		
5,900.00	5,890.59	5,754.34	5,746.60	20.83	20.11	149.92	-161.42	-3,929.17	4,126.03	4,097.31	28.72	143.652		
6,000.00	5,990.21	5,853.59	5,845.47	21.20	20.47	149.88	-169.03	-3,933.31	4,137.85	4,108.62	29.23	141.581		
6,100.00	6,089.83	5,952.84	5,944.34	21.57	20.83	149.83	-176.63	-3,937.45	4,149.66	4,119.93	29.73	139.576		
6,200.00	6,189.45	6,052.09	6,043.21	21.94	21.19	149.79	-184.23	-3,941.59	4,161.48	4,131.24	30.24	137.634		
6,300.00	6,289.07	6,151.33	6,142.08	22.31	21.55	149.75	-191.83	-3,945.74	4,173.30	4,142.56	30.74	135.752		
6,400.00	6,388.69	6,250.58	6,240.95	22.68	21.92	149.70	-199.44	-3,949.88	4,185.12	4,153.87	31.25	133.928		
6,500.00	6,488.31	6,349.83	6,339.81	23.06	22.28	149.66	-207.04	-3,954.02	4,196.95	4,165.19	31.76	132.160		
6,600.00	6,587.93	6,449.08	6,438.68	23.43	22.64	149.62	-214.64	-3,958.16	4,208.77	4,176.51	32.26	130.444		
6,700.00	6,687.55	6,548.32	6,537.55	23.80	23.01	149.57	-222.24	-3,962.30	4,220.60	4,187.83	32.77	128.779		
6,800.00	6,787.17	6,745.46	6,734.24	24.18	23.72	149.54	-233.72	-3,968.55	4,231.51	4,197.96	33.55	126.114		
6,900.00	6,886.79	6,930.86	6,919.59	24.55	24.37	149.61	-236.51	-3,970.07	4,239.74	4,205.46	34.28	123.693		
7,000.00	6,986.41	7,030.48	7,019.21	24.92	24.71	149.67	-236.51	-3,970.07	4,247.26	4,212.48	34.77	122.138		
7,100.00	7,086.03	7,130.10	7,118.83	25.30	25.06	149.73	-236.51	-3,970.07	4,254.78	4,219.51	35.27	120.626		
7,200.00	7,185.65	7,229.72	7,218.45	25.67	25.40	149.79	-236.51	-3,970.07	4,262.31	4,226.54	35.77	119.154		
7,300.00	7,285.27	7,329.34	7,318.07	26.05	25.74	149.85	-236.51	-3,970.07	4,269.85	4,233.58	36.27	117.721		
7,400.00	7,384.89	7,428.96	7,417.69	26.42	26.09	149.90	-236.51	-3,970.07	4,277.39	4,240.61	36.77	116.327		
7,500.00	7,484.51	7,528.58	7,517.31	26.80	26.43	149.96	-236.51	-3,970.07	4,284.93	4,247.66	37.27	114.969		
7,600.00	7,584.13	7,628.20	7,616.93	27.17	26.78	150.02	-236.51	-3,970.07	4,292.47	4,254.70	37.77	113.645		
7,700.00	7,683.75	7,727.82	7,716.55	27.55	27.12	150.08	-236.51	-3,970.07	4,300.03	4,261.76	38.27	112.356		
7,800.00	7,783.37	7,827.44	7,816.17	27.93	27.47	150.14	-236.51	-3,970.07	4,307.58	4,268.81	38.77	111.099		
7,900.00	7,882.99	7,927.06	7,915.79	28.30	27.81	150.19	-236.51	-3,970.07	4,315.14	4,275.87	39.27	109.874		
7,919.49	7,902.41	7,946.48	7,935.21	28.38	27.88	150.21	-236.51	-3,970.07	4,316.62	4,277.25	39.37	109.638		
8,000.00	7,982.68	8,026.75	8,015.48	28.68	28.16	150.29	-236.51	-3,970.07	4,321.97	4,282.20	39.77	108.661		
8,100.00	8,082.54	8,126.61	8,115.34	29.04	28.51	150.35	-236.51	-3,970.07	4,326.58	4,286.30	40.27	107.429		
8,200.00	8,182.50	8,226.57	8,215.30	29.40	28.86	150.39	-236.51	-3,970.07	4,328.91	4,288.14	40.77	106.176		
8,252.50	8,235.00	8,279.07	8,267.80	29.58	29.04	-90.48	-236.51	-3,970.07	4,329.22	4,288.19	41.03	105.515		
8,300.00	8,282.50	8,326.57	8,315.30	29.74	29.20	-90.48	-236.51	-3,970.07	4,329.22	4,287.96	41.26	104.920		
8,400.00	8,382.50	8,426.57	8,415.30	30.08	29.55	-90.48	-236.51	-3,970.07	4,329.22	4,287.47	41.75	103.689		
8,500.00	8,482.50	8,526.57	8,515.30	30.42	29.90	-90.48	-236.51	-3,970.07	4,329.22	4,286.98	42.24	102.485		
8,600.00	8,582.50	8,626.57	8,615.30	30.76	30.25	-90.48	-236.51	-3,970.07	4,329.22	4,286.49	42.73	101.308		
8,700.00	8,682.50	8,726.57	8,715.30	31.10	30.60	-90.48	-236.51	-3,970.07	4,329.22	4,286.00	43.22	100.157		
8,800.00	8,782.50	8,826.57	8,815.30	31.44	30.95	-90.48	-236.51	-3,970.07	4,329.22	4,285.51	43.72	99.031		
8,900.00	8,882.50	8,926.57	8,915.30	31.78	31.30	-90.48	-236.51	-3,970.07	4,329.22	4,285.02	44.21	97.930		
9,000.00	8,982.50	9,026.57	9,015.30	32.13	31.65	-90.48	-236.51	-3,970.07	4,329.22	4,284.52	44.70	96.852		
9,100.00	9,082.50	9,126.57	9,115.30	32.47	32.00	-90.48	-236.51	-3,970.07	4,329.22	4,284.03	45.19	95.796		
9,200.00	9,182.50	9,226.57	9,215.30	32.81	32.35	-90.48	-236.51	-3,970.07	4,329.22	4,283.54	45.68	94.763		
9,300.00	9,282.50	9,326.57	9,315.30	33.15	32.70	-90.48	-236.51	-3,970.07	4,329.22	4,283.05	46.18	93.751		
9,400.00	9,382.50	9,426.57	9,415.30	33.50	33.05	-90.48	-236.51	-3,970.07	4,329.22	4,282.55	46.67	92.760		
9,500.00	9,482.50	9,526.57	9,515.30	33.84	33.40	-90.48	-236.51	-3,970.07	4,329.22	4,282.06	47.16	91.789		
9,600.00	9,582.50	9,626.57	9,615.30	34.19	33.75	-90.48	-236.51	-3,970.07	4,329.22	4,281.57	47.66	90.838		
9,700.00	9,682.50	9,726.57	9,715.30	34.53	34.10	-90.48	-236.51	-3,970.07	4,329.22	4,281.07	48.15	89.905		
9,800.00	9,782.50	9,826.57	9,815.30	34.87	34.45	-90.48	-236.51	-3,970.07	4,329.22	4,280.58	48.65	88.992		
9,900.00	9,882.50	9,926.57	9,915.30	35.22	34.80	-90.48	-236.51	-3,970.07	4,329.22	4,280.08	49.14	88.096		
10,000.00	9,982.50	10,026.57	10,015.30	35.56	35.15	-90.48	-236.51	-3,970.07	4,329.22	4,279.59	49.64	87.217		
10,100.00	10,082.50	10,126.57	10,115.30	35.91	35.51	-90.48	-236.51	-3,970.07	4,329.22	4,279.09	50.13	86.356		
10,200.00	10,182.50	10,226.57	10,215.30	36.26	35.86	-90.48	-236.51	-3,970.07	4,329.22	4,278.60	50.63	85.511		
10,300.00	10,282.50	10,326.57	10,315.30	36.60	36.21	-90.48	-236.51	-3,970.07	4,329.22	4,278.10	51.12	84.681		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design 1912 Fed Com - 1912 Fed Com 601H - OH - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,400.00	10,382.50	10,426.57	10,415.30	36.95	36.56	-90.48	-236.51	-3,970.07	4,329.22	4,277.60	51.62	83.868		
10,500.00	10,482.50	10,526.57	10,515.30	37.29	36.91	-90.48	-236.51	-3,970.07	4,329.22	4,277.11	52.12	83.070		
10,600.00	10,582.50	10,626.57	10,615.30	37.64	37.27	-90.48	-236.51	-3,970.07	4,329.22	4,276.61	52.61	82.286		
10,700.00	10,682.50	10,726.57	10,715.30	37.99	37.62	-90.48	-236.51	-3,970.07	4,329.22	4,276.12	53.11	81.517		
10,800.00	10,782.50	10,826.57	10,815.30	38.34	37.97	-90.48	-236.51	-3,970.07	4,329.22	4,275.62	53.61	80.761		
10,900.00	10,882.50	10,926.57	10,915.30	38.68	38.32	-90.48	-236.51	-3,970.07	4,329.22	4,275.12	54.10	80.019		
11,000.00	10,982.50	11,026.57	11,015.30	39.03	38.68	-90.48	-236.51	-3,970.07	4,329.22	4,274.62	54.60	79.291		
11,100.00	11,082.50	11,126.57	11,115.30	39.38	39.03	-90.48	-236.51	-3,970.07	4,329.22	4,274.13	55.10	78.575		
11,200.00	11,182.50	11,226.57	11,215.30	39.73	39.38	-90.48	-236.51	-3,970.07	4,329.22	4,273.63	55.59	77.872		
11,203.95	11,186.45	11,230.52	11,219.25	39.74	39.40	-90.48	-236.51	-3,970.07	4,329.22	4,273.61	55.61	77.845		
11,265.50	11,248.00	11,291.88	11,280.56	39.95	39.61	-90.46	-234.45	-3,970.09	4,329.22	4,273.31	55.92	77.423		
11,300.00	11,282.48	11,326.00	11,314.44	40.07	39.72	-89.90	-230.55	-3,970.12	4,329.23	4,273.15	56.08	77.195		
11,350.00	11,332.19	11,375.15	11,362.72	40.24	39.88	-89.84	-221.40	-3,970.20	4,329.23	4,272.92	56.31	76.877		
11,400.00	11,381.27	11,423.96	11,409.71	40.40	40.03	-89.79	-208.26	-3,970.31	4,329.24	4,272.71	56.53	76.577		
11,450.00	11,429.33	11,472.44	11,455.11	40.55	40.18	-89.74	-191.29	-3,970.46	4,329.25	4,272.50	56.74	76.293		
11,500.00	11,476.01	11,520.62	11,498.64	40.70	40.31	-89.69	-170.69	-3,970.64	4,329.26	4,272.31	56.94	76.025		
11,550.00	11,520.95	11,568.51	11,540.05	40.83	40.43	-89.64	-146.66	-3,970.84	4,329.27	4,272.13	57.14	75.772		
11,600.00	11,563.82	11,616.12	11,579.09	40.95	40.55	-89.60	-119.42	-3,971.08	4,329.28	4,271.96	57.32	75.532		
11,650.00	11,604.28	11,663.49	11,615.55	41.05	40.65	-89.55	-89.20	-3,971.34	4,329.29	4,271.80	57.49	75.303		
11,700.00	11,642.03	11,710.63	11,649.23	41.14	40.75	-89.52	-56.24	-3,971.62	4,329.30	4,271.64	57.66	75.083		
11,750.00	11,676.79	11,757.56	11,679.96	41.22	40.85	-89.48	-20.79	-3,971.93	4,329.30	4,271.48	57.82	74.870		
11,800.00	11,708.28	11,804.31	11,707.59	41.28	40.96	-89.45	16.91	-3,972.26	4,329.31	4,271.32	57.98	74.663		
11,850.00	11,736.26	11,850.00	11,731.53	41.33	41.06	-89.42	55.81	-3,972.59	4,329.31	4,271.17	58.14	74.460		
11,900.00	11,760.54	11,897.33	11,752.98	41.37	41.16	-89.40	97.98	-3,972.95	4,329.31	4,271.00	58.30	74.254		
11,950.00	11,780.91	11,943.66	11,770.54	41.42	41.27	-89.38	140.84	-3,973.32	4,329.30	4,270.84	58.46	74.050		
12,000.00	11,797.22	11,989.89	11,784.55	41.55	41.38	-89.37	184.87	-3,973.70	4,329.29	4,270.67	58.63	73.845		
12,050.00	11,809.36	12,036.04	11,794.95	41.68	41.49	-89.36	229.83	-3,974.09	4,329.28	4,270.49	58.79	73.638		
12,100.00	11,817.22	12,082.15	11,801.70	41.82	41.60	-89.35	275.42	-3,974.48	4,329.27	4,270.31	58.96	73.429		
12,150.00	11,820.75	12,128.23	11,804.76	41.96	41.72	-89.35	321.39	-3,974.88	4,329.25	4,270.12	59.13	73.216		
12,175.48	11,820.87	12,152.81	11,804.88	42.03	41.78	-89.35	345.97	-3,975.09	4,329.23	4,270.01	59.22	73.104		
12,200.00	11,820.44	12,176.13	11,804.49	42.10	41.84	-89.36	369.29	-3,975.29	4,329.22	4,269.91	59.31	72.990		
12,300.00	11,818.70	12,276.13	11,802.83	42.44	42.16	-89.36	469.27	-3,976.16	4,329.18	4,269.42	59.76	72.447		
12,400.00	11,816.96	12,376.13	11,801.16	42.83	42.53	-89.36	569.25	-3,977.02	4,329.13	4,268.84	60.28	71.812		
12,500.00	11,815.22	12,476.13	11,799.50	43.28	42.96	-89.36	669.23	-3,977.88	4,329.08	4,268.19	60.90	71.088		
12,600.00	11,813.48	12,576.13	11,797.83	43.78	43.45	-89.36	769.22	-3,978.74	4,329.04	4,267.44	61.59	70.284		
12,700.00	11,811.74	12,676.13	11,796.17	44.34	44.00	-89.36	869.20	-3,979.60	4,328.99	4,266.62	62.37	69.410		
12,800.00	11,810.00	12,776.13	11,794.50	44.95	44.60	-89.36	969.18	-3,980.47	4,328.94	4,265.72	63.22	68.473		
12,900.00	11,808.26	12,876.13	11,792.84	45.61	45.26	-89.36	1,069.16	-3,981.33	4,328.90	4,264.75	64.15	67.484		
13,000.00	11,806.51	12,976.13	11,791.17	46.32	45.96	-89.36	1,169.15	-3,982.19	4,328.85	4,263.71	65.14	66.451		
13,100.00	11,804.77	13,076.13	11,789.51	47.08	46.71	-89.36	1,269.13	-3,983.05	4,328.80	4,262.60	66.21	65.382		
13,200.00	11,803.03	13,176.13	11,787.84	47.88	47.51	-89.37	1,369.11	-3,983.92	4,328.76	4,261.42	67.34	64.286		
13,300.00	11,801.29	13,276.13	11,786.18	48.72	48.35	-89.37	1,469.09	-3,984.78	4,328.71	4,260.19	68.53	63.169		
13,400.00	11,799.55	13,376.13	11,784.51	49.60	49.23	-89.37	1,569.08	-3,985.64	4,328.67	4,258.89	69.77	62.039		
13,500.00	11,797.81	13,476.13	11,782.85	50.53	50.15	-89.37	1,669.06	-3,986.50	4,328.62	4,257.54	71.08	60.902		
13,600.00	11,796.07	13,576.13	11,781.18	51.48	51.10	-89.37	1,769.04	-3,987.36	4,328.57	4,256.14	72.43	59.762		
13,700.00	11,794.33	13,676.13	11,779.52	52.48	52.10	-89.37	1,869.02	-3,988.23	4,328.53	4,254.69	73.83	58.626		
13,800.00	11,792.58	13,776.13	11,777.85	53.50	53.12	-89.37	1,969.01	-3,989.09	4,328.48	4,253.20	75.28	57.496		
13,900.00	11,790.84	13,876.13	11,776.19	54.56	54.18	-89.37	2,068.99	-3,989.95	4,328.43	4,251.66	76.78	56.377		
14,000.00	11,789.10	13,976.13	11,774.52	55.64	55.26	-89.37	2,168.97	-3,990.81	4,328.39	4,250.08	78.31	55.272		
14,100.00	11,787.36	14,076.13	11,772.86	56.75	56.37	-89.37	2,268.95	-3,991.67	4,328.34	4,248.46	79.88	54.183		
14,200.00	11,785.62	14,176.13	11,771.19	57.89	57.51	-89.38	2,368.93	-3,992.54	4,328.29	4,246.80	81.49	53.112		
14,300.00	11,783.88	14,276.13	11,769.53	59.05	58.67	-89.38	2,468.92	-3,993.40	4,328.25	4,245.11	83.14	52.061		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well 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		
14,400.00	11,782.14	14,376.13	11,767.86	60.24	59.86	-89.38	2,568.90	-3,994.26	4,328.20	4,243.39	84.82	51.031		
14,500.00	11,780.40	14,476.13	11,766.20	61.44	61.06	-89.38	2,668.88	-3,995.12	4,328.16	4,241.63	86.52	50.023		
14,600.00	11,778.65	14,576.13	11,764.53	62.67	62.29	-89.38	2,768.86	-3,995.99	4,328.11	4,239.85	88.26	49.039		
14,700.00	11,776.91	14,676.13	11,762.87	63.92	63.54	-89.38	2,868.85	-3,996.85	4,328.06	4,238.04	90.02	48.078		
14,800.00	11,775.17	14,776.13	11,761.20	65.18	64.80	-89.38	2,968.83	-3,997.71	4,328.02	4,236.20	91.81	47.140		
14,900.00	11,773.43	14,876.13	11,759.54	66.46	66.09	-89.38	3,068.81	-3,998.57	4,327.97	4,234.35	93.62	46.227		
15,000.00	11,771.69	14,976.13	11,757.87	67.76	67.38	-89.38	3,168.79	-3,999.43	4,327.92	4,232.46	95.46	45.337		
15,100.00	11,769.95	15,076.13	11,756.21	69.07	68.70	-89.38	3,268.78	-4,000.30	4,327.88	4,230.56	97.32	44.472		
15,200.00	11,768.21	15,176.13	11,754.54	70.39	70.02	-89.39	3,368.76	-4,001.16	4,327.83	4,228.64	99.19	43.630		
15,300.00	11,766.46	15,276.13	11,752.88	71.73	71.36	-89.39	3,468.74	-4,002.02	4,327.78	4,226.69	101.09	42.811		
15,400.00	11,764.72	15,376.13	11,751.21	73.09	72.72	-89.39	3,568.72	-4,002.88	4,327.74	4,224.73	103.01	42.014		
15,500.00	11,762.98	15,476.13	11,749.55	74.45	74.08	-89.39	3,668.71	-4,003.74	4,327.69	4,222.75	104.94	41.241		
15,600.00	11,761.24	15,576.13	11,747.88	75.83	75.46	-89.39	3,768.69	-4,004.61	4,327.65	4,220.76	106.89	40.489		
15,700.00	11,759.50	15,676.13	11,746.22	77.21	76.85	-89.39	3,868.67	-4,005.47	4,327.60	4,218.75	108.85	39.758		
15,800.00	11,757.76	15,776.13	11,744.55	78.61	78.25	-89.39	3,968.65	-4,006.33	4,327.55	4,216.73	110.83	39.048		
15,900.00	11,756.02	15,876.13	11,742.89	80.02	79.66	-89.39	4,068.64	-4,007.19	4,327.51	4,214.69	112.82	38.358		
16,000.00	11,754.28	15,976.13	11,741.22	81.43	81.07	-89.39	4,168.62	-4,008.06	4,327.46	4,212.64	114.82	37.689		
16,100.00	11,752.53	16,076.13	11,739.56	82.86	82.50	-89.39	4,268.60	-4,008.92	4,327.41	4,210.58	116.84	37.038		
16,200.00	11,750.79	16,176.13	11,737.89	84.29	83.93	-89.40	4,368.58	-4,009.78	4,327.37	4,208.50	118.87	36.405		
16,300.00	11,749.05	16,276.13	11,736.23	85.73	85.38	-89.40	4,468.56	-4,010.64	4,327.32	4,206.42	120.91	35.791		
16,400.00	11,747.31	16,376.13	11,734.57	87.18	86.83	-89.40	4,568.55	-4,011.50	4,327.27	4,204.32	122.96	35.194		
16,500.00	11,745.57	16,476.13	11,732.90	88.63	88.28	-89.40	4,668.53	-4,012.37	4,327.23	4,202.21	125.02	34.613		
16,600.00	11,743.83	16,576.13	11,731.24	90.09	89.75	-89.40	4,768.51	-4,013.23	4,327.18	4,200.10	127.09	34.049		
16,700.00	11,742.09	16,676.13	11,729.57	91.56	91.22	-89.40	4,868.49	-4,014.09	4,327.14	4,197.97	129.16	33.501		
16,800.00	11,740.35	16,776.13	11,727.91	93.04	92.69	-89.40	4,968.48	-4,014.95	4,327.09	4,195.84	131.25	32.968		
16,900.00	11,738.60	16,876.13	11,726.24	94.52	94.17	-89.40	5,068.46	-4,015.81	4,327.04	4,193.70	133.35	32.450		
17,000.00	11,736.86	16,976.13	11,724.58	96.00	95.66	-89.40	5,168.44	-4,016.68	4,327.00	4,191.55	135.45	31.945		
17,100.00	11,735.12	17,076.13	11,722.91	97.49	97.15	-89.40	5,268.42	-4,017.54	4,326.95	4,189.39	137.56	31.455		
17,200.00	11,733.38	17,176.13	11,721.25	98.99	98.65	-89.41	5,368.41	-4,018.40	4,326.90	4,187.23	139.68	30.978		
17,300.00	11,731.64	17,276.13	11,719.58	100.49	100.15	-89.41	5,468.39	-4,019.26	4,326.86	4,185.05	141.80	30.513		
17,400.00	11,729.90	17,376.13	11,717.92	102.00	101.66	-89.41	5,568.37	-4,020.12	4,326.81	4,182.88	143.93	30.061		
17,500.00	11,728.16	17,476.13	11,716.25	103.51	103.17	-89.41	5,668.35	-4,020.99	4,326.76	4,180.69	146.07	29.621		
17,600.00	11,726.42	17,576.13	11,714.59	105.02	104.69	-89.41	5,768.34	-4,021.85	4,326.72	4,178.50	148.22	29.192		
17,700.00	11,724.67	17,676.13	11,712.92	106.54	106.21	-89.41	5,868.32	-4,022.71	4,326.67	4,176.31	150.37	28.774		
17,800.00	11,722.93	17,776.13	11,711.26	108.06	107.73	-89.41	5,968.30	-4,023.57	4,326.63	4,174.11	152.52	28.368		
17,900.00	11,721.19	17,876.13	11,709.59	109.59	109.26	-89.41	6,068.28	-4,024.44	4,326.58	4,171.90	154.68	27.971		
18,000.00	11,719.45	17,976.13	11,707.93	111.12	110.79	-89.41	6,168.27	-4,025.30	4,326.53	4,169.69	156.85	27.585		
18,100.00	11,717.71	18,076.13	11,706.26	112.65	112.33	-89.41	6,268.25	-4,026.16	4,326.49	4,167.47	159.02	27.208		
18,200.00	11,715.97	18,176.13	11,704.60	114.19	113.86	-89.42	6,368.23	-4,027.02	4,326.44	4,165.25	161.19	26.841		
18,300.00	11,714.23	18,276.13	11,702.93	115.73	115.41	-89.42	6,468.21	-4,027.88	4,326.39	4,163.03	163.37	26.482		
18,400.00	11,712.49	18,376.13	11,701.27	117.27	116.95	-89.42	6,568.20	-4,028.75	4,326.35	4,160.80	165.55	26.133		
18,500.00	11,710.74	18,476.13	11,699.60	118.82	118.50	-89.42	6,668.18	-4,029.61	4,326.30	4,158.56	167.74	25.792		
18,600.00	11,709.00	18,576.13	11,697.94	120.37	120.05	-89.42	6,768.16	-4,030.47	4,326.26	4,156.32	169.93	25.459		
18,700.00	11,707.26	18,676.13	11,696.27	121.92	121.60	-89.42	6,868.14	-4,031.33	4,326.21	4,154.08	172.13	25.134		
18,800.00	11,705.52	18,776.13	11,694.61	123.47	123.15	-89.42	6,968.12	-4,032.19	4,326.16	4,151.84	174.33	24.817		
18,900.00	11,703.78	18,876.13	11,692.94	125.03	124.71	-89.42	7,068.11	-4,033.06	4,326.12	4,149.59	176.53	24.507		
19,000.00	11,702.04	18,976.13	11,691.28	126.59	126.27	-89.42	7,168.09	-4,033.92	4,326.07	4,147.34	178.73	24.204		
19,100.00	11,700.30	19,076.13	11,689.61	128.15	127.83	-89.42	7,268.07	-4,034.78	4,326.02	4,145.08	180.94	23.908		
19,200.00	11,698.56	19,176.13	11,687.95	129.71	129.40	-89.43	7,368.05	-4,035.64	4,325.98	4,142.82	183.15	23.619		
19,300.00	11,696.81	19,276.13	11,686.28	131.28	130.96	-89.43	7,468.04	-4,036.51	4,325.93	4,140.56	185.37	23.337		
19,400.00	11,695.07	19,376.13	11,684.62	132.85	132.53	-89.43	7,568.02	-4,037.37	4,325.89	4,138.30	187.59	23.061		
19,500.00	11,693.33	19,476.13	11,682.95	134.42	134.10	-89.43	7,668.00	-4,038.23	4,325.84	4,136.03	189.81	22.790		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well 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		
19,600.00	11,691.59	19,576.13	11,681.29	135.99	135.67	-89.43	7,767.98	-4,039.09	4,325.79	4,133.76	192.03	22.526		
19,700.00	11,689.85	19,676.13	11,679.62	137.56	137.25	-89.43	7,867.97	-4,039.95	4,325.75	4,131.49	194.26	22.268		
19,800.00	11,688.11	19,776.13	11,677.96	139.14	138.83	-89.43	7,967.95	-4,040.82	4,325.70	4,129.21	196.49	22.015		
19,900.00	11,686.37	19,876.13	11,676.29	140.71	140.40	-89.43	8,067.93	-4,041.68	4,325.65	4,126.93	198.72	21.768		
20,000.00	11,684.63	19,976.13	11,674.63	142.29	141.98	-89.43	8,167.91	-4,042.54	4,325.61	4,124.65	200.95	21.525		
20,100.00	11,682.88	20,076.13	11,672.96	143.87	143.56	-89.43	8,267.90	-4,043.40	4,325.56	4,122.37	203.19	21.288		
20,200.00	11,681.14	20,176.13	11,671.30	145.45	145.15	-89.44	8,367.88	-4,044.26	4,325.51	4,120.09	205.43	21.056		
20,300.00	11,679.40	20,276.13	11,669.63	147.04	146.73	-89.44	8,467.86	-4,045.13	4,325.47	4,117.80	207.67	20.829		
20,400.00	11,677.66	20,376.13	11,667.97	148.62	148.32	-89.44	8,567.84	-4,045.99	4,325.42	4,115.51	209.91	20.606		
20,500.00	11,675.92	20,476.13	11,666.31	150.21	149.90	-89.44	8,667.83	-4,046.85	4,325.38	4,113.22	212.15	20.388		
20,600.00	11,674.18	20,576.13	11,664.64	151.80	151.49	-89.44	8,767.81	-4,047.71	4,325.33	4,110.93	214.40	20.174		
20,700.00	11,672.44	20,676.13	11,662.98	153.39	153.08	-89.44	8,867.79	-4,048.58	4,325.28	4,108.63	216.65	19.964		
20,800.00	11,670.70	20,776.13	11,661.31	154.98	154.67	-89.44	8,967.77	-4,049.44	4,325.24	4,106.34	218.90	19.759		
20,900.00	11,668.95	20,876.13	11,659.65	156.57	156.27	-89.44	9,067.75	-4,050.30	4,325.19	4,104.04	221.15	19.558		
21,000.00	11,667.21	20,976.13	11,657.98	158.16	157.86	-89.44	9,167.74	-4,051.16	4,325.14	4,101.74	223.41	19.360		
21,100.00	11,665.47	21,076.13	11,656.32	159.76	159.45	-89.44	9,267.72	-4,052.02	4,325.10	4,099.44	225.66	19.166		
21,200.00	11,663.73	21,176.13	11,654.65	161.35	161.05	-89.45	9,367.70	-4,052.89	4,325.05	4,097.13	227.92	18.976		
21,300.00	11,661.99	21,276.13	11,652.99	162.95	162.65	-89.45	9,467.68	-4,053.75	4,325.01	4,094.83	230.18	18.790		
21,400.00	11,660.25	21,376.13	11,651.32	164.54	164.25	-89.45	9,567.67	-4,054.61	4,324.96	4,092.52	232.44	18.607		
21,500.00	11,658.51	21,476.13	11,649.66	166.14	165.85	-89.45	9,667.65	-4,055.47	4,324.91	4,090.22	234.70	18.428		
21,600.00	11,656.77	21,576.13	11,647.99	167.74	167.45	-89.45	9,767.63	-4,056.33	4,324.87	4,087.91	236.96	18.251		
21,700.00	11,655.02	21,676.13	11,646.33	169.34	169.05	-89.45	9,867.61	-4,057.20	4,324.82	4,085.60	239.22	18.078		
21,800.00	11,653.28	21,776.13	11,644.66	170.95	170.65	-89.45	9,967.60	-4,058.06	4,324.77	4,083.28	241.49	17.909		
21,900.00	11,651.54	21,876.13	11,643.00	172.55	172.25	-89.45	10,067.58	-4,058.92	4,324.73	4,080.97	243.76	17.742		
21,955.32	11,650.58	21,929.37	11,642.11	173.43	173.11	-89.45	10,120.81	-4,059.38	4,324.70	4,079.72	244.99	17.653		
21,973.00	11,650.27	21,929.37	11,642.11	173.72	173.11	-89.45	10,120.81	-4,059.38	4,324.74	4,079.56	245.18	17.639 SF		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design 1912 Fed Com - 1912 Fed Com 701H - OH - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	35.60	35.60	0.00	0.04	-90.03	-1.88	-3,877.06	3,877.06					
100.00	100.00	135.60	135.60	0.13	0.25	-90.03	-1.88	-3,877.06	3,877.06	3,876.78	0.28	N/A		
200.00	200.00	235.60	235.60	0.48	0.61	-90.03	-1.88	-3,877.06	3,877.06	3,876.28	0.78	4,971.442		
300.00	300.00	335.60	335.60	0.84	0.97	-90.03	-1.88	-3,877.06	3,877.06	3,875.78	1.28	3,017.740		
400.00	400.00	435.60	435.60	1.20	1.33	-90.03	-1.88	-3,877.06	3,877.06	3,875.27	1.79	2,164.972		
500.00	500.00	535.60	535.60	1.56	1.69	-90.03	-1.88	-3,877.06	3,877.06	3,874.76	2.30	1,687.684		
600.00	600.00	635.60	635.60	1.92	2.05	-90.03	-1.88	-3,877.06	3,877.06	3,874.26	2.80	1,382.738		
700.00	700.00	735.60	735.60	2.28	2.40	-90.03	-1.88	-3,877.06	3,877.06	3,873.75	3.31	1,171.093		
800.00	800.00	835.60	835.60	2.63	2.76	-90.03	-1.88	-3,877.06	3,877.06	3,873.24	3.82	1,015.622		
900.00	900.00	935.60	935.60	2.99	3.12	-90.03	-1.88	-3,877.06	3,877.06	3,872.74	4.32	896.584		
1,000.00	1,000.00	1,035.60	1,035.60	3.35	3.48	-90.03	-1.88	-3,877.06	3,877.06	3,872.23	4.83	802.519		
1,100.00	1,100.00	1,135.60	1,135.60	3.71	3.84	-90.03	-1.88	-3,877.06	3,877.06	3,871.72	5.34	726.315		
1,200.00	1,200.00	1,235.60	1,235.60	4.07	4.20	-90.03	-1.88	-3,877.06	3,877.06	3,871.22	5.84	663.326		
1,300.00	1,300.00	1,335.60	1,335.60	4.43	4.55	-90.03	-1.88	-3,877.06	3,877.06	3,870.71	6.35	610.390		
1,400.00	1,400.00	1,435.60	1,435.60	4.79	4.91	-90.03	-1.88	-3,877.06	3,877.06	3,870.20	6.86	565.278		
1,500.00	1,500.00	1,535.60	1,535.60	5.14	5.27	-90.03	-1.88	-3,877.06	3,877.06	3,869.69	7.37	526.374		
1,600.00	1,600.00	1,635.60	1,635.60	5.50	5.63	-90.03	-1.88	-3,877.06	3,877.06	3,869.19	7.87	492.480		
1,700.00	1,700.00	1,735.60	1,735.60	5.86	5.99	-90.03	-1.88	-3,877.06	3,877.06	3,868.68	8.38	462.687		
1,800.00	1,800.00	1,835.60	1,835.60	6.22	6.35	-90.03	-1.88	-3,877.06	3,877.06	3,868.17	8.89	436.293		
1,900.00	1,900.00	1,935.60	1,935.60	6.58	6.71	-90.03	-1.88	-3,877.06	3,877.06	3,867.67	9.39	412.747		
2,000.00	2,000.00	2,035.60	2,035.60	6.94	7.06	-90.03	-1.88	-3,877.06	3,877.06	3,867.16	9.90	391.613		
2,100.00	2,100.00	2,135.60	2,135.60	7.29	7.42	-90.03	-1.88	-3,877.06	3,877.06	3,866.65	10.41	372.537		
2,200.00	2,200.00	2,235.60	2,235.60	7.65	7.78	-90.03	-1.88	-3,877.06	3,877.06	3,866.15	10.91	355.234		
2,300.00	2,300.00	2,335.60	2,335.60	8.01	8.14	-90.03	-1.88	-3,877.06	3,877.06	3,865.64	11.42	339.466		
2,400.00	2,400.00	2,435.60	2,435.60	8.37	8.50	-90.03	-1.88	-3,877.06	3,877.06	3,865.13	11.93	325.039		
2,500.00	2,500.00	2,535.60	2,535.60	8.73	8.86	-90.03	-1.88	-3,877.06	3,877.06	3,864.63	12.43	311.788		
2,600.00	2,600.00	2,635.60	2,635.60	9.09	9.21	-90.03	-1.88	-3,877.06	3,877.06	3,864.12	12.94	299.575		
2,700.00	2,700.00	2,735.60	2,735.60	9.45	9.57	-90.03	-1.88	-3,877.06	3,877.06	3,863.61	13.45	288.283		
2,800.00	2,800.00	2,835.60	2,835.60	9.80	9.93	-90.03	-1.88	-3,877.06	3,877.06	3,863.10	13.96	277.811		
2,900.00	2,900.00	2,935.60	2,935.60	10.16	10.29	-90.03	-1.88	-3,877.06	3,877.06	3,862.60	14.46	268.073		
3,000.00	3,000.00	3,035.60	3,035.60	10.52	10.65	-90.03	-1.88	-3,877.06	3,877.06	3,862.09	14.97	258.995		
3,100.00	3,100.00	3,135.60	3,135.60	10.88	11.01	-90.03	-1.88	-3,877.06	3,877.06	3,861.58	15.48	250.511		
3,108.24	3,108.24	3,143.84	3,143.84	10.91	11.04	-90.03	-1.88	-3,877.06	3,877.06	3,861.54	15.52	249.837 CC		
3,200.00	3,200.00	3,200.00	3,200.00	11.24	11.24	-90.03	-1.88	-3,877.06	3,877.22	3,861.33	15.89	243.966 ES		
3,300.00	3,299.99	3,273.77	3,273.77	11.58	11.49	150.83	-2.28	-3,877.65	3,879.28	3,862.97	16.31	237.779		
3,400.00	3,399.91	3,328.07	3,328.05	11.92	11.68	150.80	-3.09	-3,878.83	3,884.89	3,868.21	16.68	232.961		
3,500.00	3,499.69	3,400.00	3,399.91	12.25	11.91	150.74	-4.84	-3,881.38	3,894.02	3,876.94	17.08	228.022		
3,533.01	3,532.59	3,400.00	3,399.91	12.36	11.91	150.71	-4.84	-3,881.38	3,897.69	3,880.53	17.15	227.245		
3,600.00	3,599.32	3,436.07	3,435.92	12.59	12.03	150.72	-6.00	-3,883.08	3,905.92	3,888.53	17.39	224.602		
3,700.00	3,698.94	3,500.00	3,499.69	12.93	12.25	150.72	-8.54	-3,886.77	3,919.20	3,901.42	17.77	220.537		
3,800.00	3,798.56	3,543.35	3,542.89	13.28	12.39	150.72	-10.60	-3,889.78	3,933.57	3,915.47	18.10	217.329		
3,900.00	3,898.18	3,600.14	3,599.41	13.62	12.59	150.71	-13.72	-3,894.33	3,949.11	3,930.65	18.46	213.911		
4,000.00	3,997.80	3,692.45	3,691.21	13.97	12.90	150.68	-19.17	-3,902.30	3,965.29	3,946.37	18.92	209.611		
4,100.00	4,097.43	3,791.11	3,789.34	14.32	13.24	150.66	-25.00	-3,910.81	3,981.47	3,962.08	19.39	205.311		
4,200.00	4,197.05	3,889.78	3,887.46	14.67	13.58	150.64	-30.83	-3,919.32	3,997.66	3,977.79	19.87	201.192		
4,300.00	4,296.67	3,988.45	3,985.59	15.02	13.92	150.61	-36.66	-3,927.83	4,013.84	3,993.49	20.35	197.245		
4,400.00	4,396.29	4,087.12	4,083.72	15.38	14.27	150.59	-42.50	-3,936.34	4,030.03	4,009.20	20.83	193.460		
4,500.00	4,495.91	4,185.79	4,181.85	15.74	14.62	150.57	-48.33	-3,944.85	4,046.22	4,024.90	21.31	189.830		
4,600.00	4,595.53	4,284.46	4,279.97	16.09	14.97	150.54	-54.16	-3,953.36	4,062.40	4,040.60	21.80	186.345		
4,700.00	4,695.15	4,383.12	4,378.10	16.45	15.32	150.52	-59.99	-3,961.88	4,078.59	4,056.30	22.29	182.999		
4,800.00	4,794.77	4,481.79	4,476.23	16.81	15.68	150.50	-65.82	-3,970.39	4,094.78	4,072.00	22.78	179.783		
4,900.00	4,894.39	4,580.46	4,574.36	17.17	16.03	150.48	-71.65	-3,978.90	4,110.97	4,087.70	23.27	176.691		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design 1912 Fed Com - 1912 Fed Com 701H - OH - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,000.00	4,994.01	4,679.13	4,672.48	17.53	16.39	150.46	-77.48	-3,987.41	4,127.16	4,103.40	23.76	173.717		
5,100.00	5,093.63	4,777.80	4,770.61	17.90	16.75	150.43	-83.31	-3,995.92	4,143.35	4,119.09	24.25	170.854		
5,200.00	5,193.25	4,876.47	4,868.74	18.26	17.11	150.41	-89.15	-4,004.43	4,159.54	4,134.79	24.74	168.097		
5,300.00	5,292.87	4,975.13	4,966.87	18.63	17.48	150.39	-94.98	-4,012.94	4,175.73	4,150.49	25.24	165.440		
5,400.00	5,392.49	5,073.80	5,064.99	18.99	17.84	150.37	-100.81	-4,021.45	4,191.92	4,166.18	25.74	162.879		
5,500.00	5,492.11	5,172.47	5,163.12	19.36	18.20	150.35	-106.64	-4,029.97	4,208.11	4,181.88	26.23	160.408		
5,600.00	5,591.73	5,271.14	5,261.25	19.73	18.57	150.33	-112.47	-4,038.48	4,224.30	4,197.57	26.73	158.024		
5,700.00	5,691.35	5,369.81	5,359.38	20.09	18.94	150.31	-118.30	-4,046.99	4,240.50	4,213.27	27.23	155.722		
5,800.00	5,790.97	5,468.48	5,457.50	20.46	19.30	150.28	-124.13	-4,055.50	4,256.69	4,228.96	27.73	153.497		
5,900.00	5,890.59	5,567.15	5,555.63	20.83	19.67	150.26	-129.97	-4,064.01	4,272.88	4,244.65	28.23	151.347		
6,000.00	5,990.21	5,665.81	5,653.76	21.20	20.04	150.24	-135.80	-4,072.52	4,289.08	4,260.35	28.73	149.268		
6,100.00	6,089.83	5,764.48	5,751.89	21.57	20.41	150.22	-141.63	-4,081.03	4,305.28	4,276.04	29.24	147.257		
6,200.00	6,189.45	5,863.15	5,850.01	21.94	20.78	150.20	-147.46	-4,089.54	4,321.47	4,291.73	29.74	145.310		
6,300.00	6,289.07	5,961.82	5,948.14	22.31	21.16	150.18	-153.29	-4,098.06	4,337.67	4,307.42	30.24	143.425		
6,400.00	6,388.69	6,060.49	6,046.27	22.68	21.53	150.16	-159.12	-4,106.57	4,353.86	4,323.12	30.75	141.598		
6,500.00	6,488.31	6,159.16	6,144.40	23.06	21.90	150.14	-164.95	-4,115.08	4,370.06	4,338.81	31.25	139.828		
6,600.00	6,587.93	6,257.82	6,242.52	23.43	22.28	150.12	-170.78	-4,123.59	4,386.26	4,354.50	31.76	138.112		
6,700.00	6,687.55	6,356.49	6,340.65	23.80	22.65	150.10	-176.62	-4,132.10	4,402.46	4,370.19	32.26	136.447		
6,800.00	6,787.17	6,455.16	6,438.78	24.18	23.03	150.09	-182.45	-4,140.61	4,418.66	4,385.89	32.77	134.831		
6,900.00	6,886.79	6,553.83	6,536.91	24.55	23.40	150.07	-188.28	-4,149.12	4,434.86	4,401.58	33.28	133.263		
7,000.00	6,986.41	6,652.50	6,635.03	24.92	23.78	150.05	-194.11	-4,157.63	4,451.06	4,417.27	33.79	131.740		
7,100.00	7,086.03	6,751.17	6,733.16	25.30	24.16	150.03	-199.94	-4,166.15	4,467.26	4,432.96	34.30	130.260		
7,200.00	7,185.65	6,849.83	6,831.29	25.67	24.53	150.01	-205.77	-4,174.66	4,483.46	4,448.65	34.80	128.821		
7,300.00	7,285.27	6,948.50	6,929.42	26.05	24.91	149.99	-211.60	-4,183.17	4,499.66	4,464.35	35.31	127.423		
7,400.00	7,384.89	7,047.17	7,027.54	26.42	25.29	149.97	-217.44	-4,191.68	4,515.86	4,480.04	35.82	126.063		
7,500.00	7,484.51	7,145.84	7,125.67	26.80	25.67	149.95	-223.27	-4,200.19	4,532.06	4,495.73	36.33	124.739		
7,600.00	7,584.13	7,244.40	7,224.16	27.17	26.05	150.06	-229.10	-4,208.70	4,548.26	4,511.57	36.84	123.419		
7,700.00	7,683.75	7,343.07	7,322.73	27.55	26.43	150.11	-234.93	-4,217.21	4,564.46	4,527.07	37.35	122.100		
7,800.00	7,783.37	7,441.74	7,421.40	27.93	26.81	150.17	-240.76	-4,225.72	4,580.66	4,543.27	37.86	120.781		
7,900.00	7,882.99	7,540.41	7,520.07	28.30	27.19	150.22	-246.59	-4,234.23	4,596.86	4,559.47	38.37	119.462		
7,919.49	7,902.41	7,559.08	7,538.61	28.38	27.53	150.23	-246.88	-4,220.06	4,566.60	4,527.07	39.52	115.540		
8,000.00	7,982.68	8,039.35	8,018.28	28.68	28.80	150.31	-236.88	-4,220.06	4,571.96	4,532.03	39.93	114.513		
8,100.00	8,082.54	8,139.20	8,118.14	29.04	29.14	150.38	-236.88	-4,220.06	4,576.56	4,536.14	40.42	113.220		
8,200.00	8,182.50	8,239.16	8,218.10	29.40	29.48	150.41	-236.88	-4,220.06	4,578.89	4,537.98	40.92	111.909		
8,252.50	8,235.00	8,291.67	8,270.60	29.58	29.66	-90.46	-236.88	-4,220.06	4,579.21	4,538.04	41.17	111.217		
8,300.00	8,282.50	8,339.16	8,318.10	29.74	29.82	-90.46	-236.88	-4,220.06	4,579.21	4,537.80	41.40	110.596		
8,400.00	8,382.50	8,439.16	8,418.10	30.08	30.17	-90.46	-236.88	-4,220.06	4,579.21	4,537.32	41.89	109.309		
8,500.00	8,482.50	8,539.16	8,518.10	30.42	30.51	-90.46	-236.88	-4,220.06	4,579.21	4,536.83	42.38	108.051		
8,600.00	8,582.50	8,639.16	8,618.10	30.76	30.85	-90.46	-236.88	-4,220.06	4,579.21	4,536.34	42.87	106.820		
8,700.00	8,682.50	8,739.16	8,718.10	31.10	31.19	-90.46	-236.88	-4,220.06	4,579.21	4,535.85	43.36	105.616		
8,800.00	8,782.50	8,839.16	8,818.10	31.44	31.53	-90.46	-236.88	-4,220.06	4,579.21	4,535.36	43.85	104.438		
8,900.00	8,882.50	8,939.16	8,918.10	31.78	31.88	-90.46	-236.88	-4,220.06	4,579.21	4,534.87	44.34	103.285		
9,000.00	8,982.50	9,039.16	9,018.10	32.13	32.22	-90.46	-236.88	-4,220.06	4,579.21	4,534.38	44.83	102.156		
9,100.00	9,082.50	9,139.16	9,118.10	32.47	32.57	-90.46	-236.88	-4,220.06	4,579.21	4,533.89	45.32	101.051		
9,200.00	9,182.50	9,239.16	9,218.10	32.81	32.91	-90.46	-236.88	-4,220.06	4,579.21	4,533.40	45.81	99.968		
9,300.00	9,282.50	9,339.16	9,318.10	33.15	33.25	-90.46	-236.88	-4,220.06	4,579.21	4,532.91	46.30	98.908		
9,400.00	9,382.50	9,439.16	9,418.10	33.50	33.60	-90.46	-236.88	-4,220.06	4,579.21	4,532.42	46.79	97.870		
9,500.00	9,482.50	9,539.16	9,518.10	33.84	33.94	-90.46	-236.88	-4,220.06	4,579.21	4,531.93	47.28	96.852		
9,600.00	9,582.50	9,639.16	9,618.10	34.19	34.29	-90.46	-236.88	-4,220.06	4,579.21	4,531.44	47.77	95.854		
9,700.00	9,682.50	9,739.16	9,718.10	34.53	34.63	-90.46	-236.88	-4,220.06	4,579.21	4,530.94	48.26	94.877		
9,800.00	9,782.50	9,839.16	9,818.10	34.87	34.98	-90.46	-236.88	-4,220.06	4,579.21	4,530.45	48.76	93.918		
9,900.00	9,882.50	9,939.16	9,918.10	35.22	35.33	-90.46	-236.88	-4,220.06	4,579.21	4,529.96	49.25	92.978		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design 1912 Fed Com - 1912 Fed Com 701H - OH - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,000.00	9,982.50	10,039.16	10,018.10	35.56	35.67	-90.46	-236.88	-4,220.06	4,579.21	4,529.47	49.74	92.056		
10,100.00	10,082.50	10,139.16	10,118.10	35.91	36.02	-90.46	-236.88	-4,220.06	4,579.21	4,528.97	50.24	91.152		
10,200.00	10,182.50	10,239.16	10,218.10	36.26	36.37	-90.46	-236.88	-4,220.06	4,579.21	4,528.48	50.73	90.265		
10,300.00	10,282.50	10,339.16	10,318.10	36.60	36.71	-90.46	-236.88	-4,220.06	4,579.21	4,527.98	51.22	89.395		
10,400.00	10,382.50	10,439.16	10,418.10	36.95	37.06	-90.46	-236.88	-4,220.06	4,579.21	4,527.49	51.72	88.540		
10,500.00	10,482.50	10,539.16	10,518.10	37.29	37.41	-90.46	-236.88	-4,220.06	4,579.21	4,527.00	52.21	87.702		
10,600.00	10,582.50	10,639.16	10,618.10	37.64	37.76	-90.46	-236.88	-4,220.06	4,579.21	4,526.50	52.71	86.879		
10,700.00	10,682.50	10,739.16	10,718.10	37.99	38.10	-90.46	-236.88	-4,220.06	4,579.21	4,526.01	53.20	86.071		
10,800.00	10,782.50	10,839.16	10,818.10	38.34	38.45	-90.46	-236.88	-4,220.06	4,579.21	4,525.51	53.70	85.277		
10,900.00	10,882.50	10,939.16	10,918.10	38.68	38.80	-90.46	-236.88	-4,220.06	4,579.21	4,525.02	54.19	84.497		
11,000.00	10,982.50	11,039.16	11,018.10	39.03	39.15	-90.46	-236.88	-4,220.06	4,579.21	4,524.52	54.69	83.732		
11,100.00	11,082.50	11,139.16	11,118.10	39.38	39.50	-90.46	-236.88	-4,220.06	4,579.21	4,524.02	55.18	82.979		
11,200.00	11,182.50	11,239.16	11,218.10	39.73	39.85	-90.46	-236.88	-4,220.06	4,579.21	4,523.53	55.68	82.240		
11,265.50	11,248.00	11,304.67	11,283.60	39.95	40.07	-90.46	-236.88	-4,220.06	4,579.21	4,523.20	56.01	81.763		
11,300.00	11,282.48	11,339.14	11,318.08	40.07	40.19	-89.95	-236.88	-4,220.06	4,579.21	4,523.03	56.18	81.515		
11,338.87	11,321.16	11,377.83	11,356.76	40.20	40.33	-90.00	-236.88	-4,220.06	4,579.21	4,522.84	56.36	81.242		
11,350.00	11,332.19	11,388.86	11,367.79	40.24	40.37	-90.02	-236.88	-4,220.06	4,579.21	4,522.79	56.42	81.165		
11,400.00	11,381.27	11,437.93	11,416.87	40.40	40.54	-90.13	-236.88	-4,220.06	4,579.22	4,522.56	56.65	80.826		
11,450.00	11,429.33	11,485.99	11,464.93	40.55	40.71	-90.29	-236.88	-4,220.06	4,579.27	4,522.39	56.88	80.502		
11,500.00	11,476.01	11,532.67	11,511.61	40.70	40.87	-90.49	-236.88	-4,220.06	4,579.40	4,522.30	57.10	80.194		
11,550.00	11,520.95	11,580.43	11,559.36	40.83	41.04	-90.72	-236.36	-4,220.06	4,579.65	4,522.33	57.32	79.894		
11,600.00	11,563.82	11,632.40	11,611.11	40.95	41.21	-90.97	-231.80	-4,220.10	4,580.01	4,522.47	57.54	79.595		
11,650.00	11,604.28	11,686.89	11,664.70	41.05	41.39	-91.22	-222.01	-4,220.19	4,580.46	4,522.71	57.76	79.306		
11,700.00	11,642.03	11,744.25	11,719.82	41.14	41.56	-91.47	-206.26	-4,220.32	4,581.00	4,523.03	57.97	79.025		
11,750.00	11,676.79	11,804.79	11,775.99	41.22	41.73	-91.72	-183.74	-4,220.52	4,581.62	4,523.44	58.18	78.754		
11,800.00	11,708.28	11,868.87	11,832.50	41.28	41.89	-91.96	-153.60	-4,220.78	4,582.28	4,523.90	58.38	78.490		
11,850.00	11,736.26	11,936.78	11,888.31	41.33	42.03	-92.20	-114.98	-4,221.11	4,582.98	4,524.39	58.58	78.233		
11,900.00	11,760.54	12,008.75	11,942.04	41.37	42.16	-92.43	-67.17	-4,221.52	4,583.67	4,524.89	58.78	77.979		
11,950.00	11,780.91	12,084.87	11,991.86	41.42	42.26	-92.64	-9.70	-4,222.02	4,584.32	4,525.34	58.98	77.725		
12,000.00	11,797.22	12,165.01	12,035.61	41.55	42.34	-92.82	57.37	-4,222.60	4,584.90	4,525.71	59.19	77.467		
12,050.00	11,809.36	12,248.75	12,070.86	41.68	42.40	-92.98	133.24	-4,223.25	4,585.36	4,525.97	59.40	77.199		
12,100.00	11,817.22	12,335.38	12,095.29	41.82	42.60	-93.08	216.26	-4,223.97	4,585.68	4,526.07	59.62	76.919		
12,150.00	11,820.75	12,423.84	12,107.05	41.96	42.82	-93.14	303.85	-4,224.72	4,585.83	4,525.98	59.85	76.624		
12,175.48	11,820.87	12,465.87	12,107.89	42.03	42.93	-93.14	345.86	-4,225.08	4,585.84	4,525.87	59.97	76.475		
12,200.00	11,820.44	12,490.39	12,107.65	42.10	43.00	-93.15	370.38	-4,225.29	4,585.84	4,525.78	60.06	76.359		
12,300.00	11,818.70	12,590.39	12,106.69	42.44	43.31	-93.16	470.37	-4,226.16	4,585.84	4,525.35	60.49	75.817		
12,400.00	11,816.96	12,690.38	12,105.73	42.83	43.68	-93.17	570.35	-4,227.02	4,585.83	4,524.83	61.00	75.177		
12,500.00	11,815.22	12,790.38	12,104.76	43.28	44.10	-93.17	670.34	-4,227.88	4,585.83	4,524.23	61.60	74.446		
12,600.00	11,813.48	12,890.38	12,103.80	43.78	44.58	-93.18	770.33	-4,228.74	4,585.83	4,523.55	62.28	73.633		
12,700.00	11,811.74	12,990.37	12,102.84	44.34	45.11	-93.19	870.32	-4,229.60	4,585.82	4,522.79	63.04	72.745		
12,800.00	11,810.00	13,090.37	12,101.88	44.95	45.69	-93.20	970.31	-4,230.47	4,585.82	4,521.95	63.88	71.793		
12,900.00	11,808.26	13,190.37	12,100.91	45.61	46.33	-93.21	1,070.30	-4,231.33	4,585.82	4,521.04	64.78	70.786		
13,000.00	11,806.51	13,290.36	12,099.95	46.32	47.01	-93.22	1,170.29	-4,232.19	4,585.82	4,520.05	65.76	69.732		
13,100.00	11,804.77	13,390.36	12,098.99	47.08	47.74	-93.23	1,270.28	-4,233.05	4,585.82	4,519.01	66.81	68.640		
13,200.00	11,803.03	13,490.36	12,098.02	47.88	48.52	-93.24	1,370.26	-4,233.91	4,585.81	4,517.89	67.92	67.518		
13,300.00	11,801.29	13,590.36	12,097.06	48.72	49.34	-93.25	1,470.25	-4,234.78	4,585.81	4,516.72	69.09	66.373		
13,400.00	11,799.55	13,690.35	12,096.10	49.60	50.19	-93.26	1,570.24	-4,235.64	4,585.81	4,515.49	70.32	65.213		
13,500.00	11,797.81	13,790.35	12,095.13	50.53	51.09	-93.27	1,670.23	-4,236.50	4,585.81	4,514.21	71.60	64.044		
13,600.00	11,796.07	13,890.35	12,094.17	51.48	52.02	-93.28	1,770.22	-4,237.36	4,585.81	4,512.87	72.94	62.870		
13,700.00	11,794.33	13,990.34	12,093.21	52.48	52.99	-93.29	1,870.21	-4,238.22	4,585.81	4,511.48	74.33	61.699		
13,800.00	11,792.58	14,090.34	12,092.24	53.50	53.99	-93.30	1,970.20	-4,239.09	4,585.81	4,510.05	75.76	60.533		
13,900.00	11,790.84	14,190.34	12,091.28	54.56	55.03	-93.31	2,070.18	-4,239.95	4,585.81	4,508.57	77.23	59.376		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design 1912 Fed Com - 1912 Fed Com 701H - OH - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,000.00	11,789.10	14,290.33	12,090.32	55.64	56.09	-93.32	2,170.17	-4,240.81	4,585.81	4,507.06	78.75	58.232		
14,100.00	11,787.36	14,390.33	12,089.36	56.75	57.18	-93.33	2,270.16	-4,241.67	4,585.81	4,505.50	80.31	57.104		
14,200.00	11,785.62	14,490.33	12,088.39	57.89	58.30	-93.34	2,370.15	-4,242.53	4,585.80	4,503.91	81.90	55.993		
14,300.00	11,783.88	14,590.33	12,087.43	59.05	59.44	-93.35	2,470.14	-4,243.40	4,585.80	4,502.28	83.53	54.902		
14,400.00	11,782.14	14,690.32	12,086.47	60.24	60.60	-93.36	2,570.13	-4,244.26	4,585.80	4,500.62	85.19	53.832		
14,466.02	11,780.99	14,756.34	12,085.83	61.03	61.39	-93.37	2,636.14	-4,244.83	4,585.80	4,499.50	86.30	53.136		
14,500.00	11,780.40	14,790.32	12,085.50	61.44	61.79	-93.37	2,670.12	-4,245.12	4,585.80	4,498.93	86.88	52.784		
14,600.00	11,778.65	14,890.32	12,084.54	62.67	63.00	-93.38	2,770.10	-4,245.98	4,585.80	4,497.21	88.60	51.759		
14,700.00	11,776.91	14,990.31	12,083.58	63.92	64.23	-93.39	2,870.09	-4,246.84	4,585.80	4,495.46	90.35	50.758		
14,800.00	11,775.17	15,090.31	12,082.61	65.18	65.47	-93.40	2,970.08	-4,247.71	4,585.80	4,493.68	92.12	49.780		
14,900.00	11,773.43	15,190.31	12,081.65	66.46	66.74	-93.41	3,070.07	-4,248.57	4,585.81	4,491.89	93.92	48.827		
15,000.00	11,771.69	15,290.30	12,080.69	67.76	68.02	-93.42	3,170.06	-4,249.43	4,585.81	4,490.07	95.74	47.899		
15,100.00	11,769.95	15,390.30	12,079.72	69.07	69.31	-93.43	3,270.05	-4,250.29	4,585.81	4,488.22	97.58	46.994		
15,200.00	11,768.21	15,490.30	12,078.76	70.39	70.62	-93.44	3,370.04	-4,251.15	4,585.81	4,486.36	99.45	46.114		
15,300.00	11,766.46	15,590.30	12,077.80	71.73	71.95	-93.45	3,470.02	-4,252.02	4,585.81	4,484.48	101.33	45.257		
15,400.00	11,764.72	15,690.29	12,076.84	73.09	73.29	-93.46	3,570.01	-4,252.88	4,585.81	4,482.58	103.23	44.423		
15,500.00	11,762.98	15,790.29	12,075.87	74.45	74.64	-93.47	3,670.00	-4,253.74	4,585.81	4,480.66	105.15	43.613		
15,600.00	11,761.24	15,890.29	12,074.91	75.83	76.00	-93.48	3,769.99	-4,254.60	4,585.81	4,478.73	107.08	42.825		
15,700.00	11,759.50	15,990.28	12,073.95	77.21	77.37	-93.49	3,869.98	-4,255.46	4,585.81	4,476.78	109.03	42.059		
15,800.00	11,757.76	16,090.28	12,072.98	78.61	78.76	-93.50	3,969.97	-4,256.33	4,585.82	4,474.82	111.00	41.315		
15,900.00	11,756.02	16,190.28	12,072.02	80.02	80.15	-93.51	4,069.96	-4,257.19	4,585.82	4,472.84	112.98	40.591		
16,000.00	11,754.28	16,290.27	12,071.06	81.43	81.56	-93.52	4,169.94	-4,258.05	4,585.82	4,470.85	114.97	39.888		
16,100.00	11,752.53	16,390.27	12,070.09	82.86	82.97	-93.53	4,269.93	-4,258.91	4,585.82	4,468.85	116.97	39.204		
16,200.00	11,750.79	16,490.27	12,069.13	84.29	84.39	-93.54	4,369.92	-4,259.77	4,585.82	4,466.83	118.99	38.540		
16,300.00	11,749.05	16,590.26	12,068.17	85.73	85.82	-93.55	4,469.91	-4,260.64	4,585.83	4,464.81	121.02	37.894		
16,400.00	11,747.31	16,690.26	12,067.20	87.18	87.26	-93.55	4,569.90	-4,261.50	4,585.83	4,462.77	123.06	37.266		
16,500.00	11,745.57	16,790.26	12,066.24	88.63	88.71	-93.56	4,669.89	-4,262.36	4,585.83	4,460.73	125.10	36.656		
16,600.00	11,743.83	16,890.26	12,065.28	90.09	90.16	-93.57	4,769.88	-4,263.22	4,585.83	4,458.67	127.16	36.063		
16,700.00	11,742.09	16,990.25	12,064.32	91.56	91.62	-93.58	4,869.87	-4,264.08	4,585.84	4,456.61	129.23	35.486		
16,800.00	11,740.35	17,090.25	12,063.35	93.04	93.08	-93.59	4,969.85	-4,264.94	4,585.84	4,454.53	131.31	34.925		
16,900.00	11,738.60	17,190.25	12,062.39	94.52	94.55	-93.60	5,069.84	-4,265.81	4,585.84	4,452.45	133.39	34.379		
17,000.00	11,736.86	17,290.24	12,061.43	96.00	96.03	-93.61	5,169.83	-4,266.67	4,585.85	4,450.36	135.48	33.848		
17,100.00	11,735.12	17,390.24	12,060.46	97.49	97.51	-93.62	5,269.82	-4,267.53	4,585.85	4,448.27	137.58	33.331		
17,200.00	11,733.38	17,490.24	12,059.50	98.99	99.00	-93.63	5,369.81	-4,268.39	4,585.85	4,446.16	139.69	32.828		
17,300.00	11,731.64	17,590.23	12,058.54	100.49	100.50	-93.64	5,469.80	-4,269.25	4,585.86	4,444.05	141.81	32.339		
17,400.00	11,729.90	17,690.23	12,057.57	102.00	102.00	-93.65	5,569.79	-4,270.12	4,585.86	4,441.93	143.93	31.862		
17,500.00	11,728.16	17,790.23	12,056.61	103.51	103.50	-93.66	5,669.77	-4,270.98	4,585.87	4,439.81	146.06	31.398		
17,600.00	11,726.42	17,890.23	12,055.65	105.02	105.01	-93.67	5,769.76	-4,271.84	4,585.87	4,437.68	148.19	30.946		
17,700.00	11,724.67	17,990.22	12,054.68	106.54	106.52	-93.68	5,869.75	-4,272.70	4,585.87	4,435.54	150.33	30.505		
17,800.00	11,722.93	18,090.22	12,053.72	108.06	108.03	-93.69	5,969.74	-4,273.56	4,585.88	4,433.40	152.47	30.076		
17,900.00	11,721.19	18,190.22	12,052.76	109.59	109.55	-93.70	6,069.73	-4,274.43	4,585.88	4,431.26	154.63	29.658		
18,000.00	11,719.45	18,290.21	12,051.80	111.12	111.08	-93.71	6,169.72	-4,275.29	4,585.89	4,429.11	156.78	29.250		
18,100.00	11,717.71	18,390.21	12,050.83	112.65	112.60	-93.72	6,269.71	-4,276.15	4,585.89	4,426.95	158.94	28.853		
18,200.00	11,715.97	18,490.21	12,049.87	114.19	114.14	-93.73	6,369.69	-4,277.01	4,585.90	4,424.79	161.11	28.465		
18,300.00	11,714.23	18,590.20	12,048.91	115.73	115.67	-93.74	6,469.68	-4,277.87	4,585.90	4,422.62	163.28	28.087		
18,400.00	11,712.49	18,690.20	12,047.94	117.27	117.21	-93.75	6,569.67	-4,278.74	4,585.91	4,420.46	165.45	27.718		
18,500.00	11,710.74	18,790.20	12,046.98	118.82	118.75	-93.76	6,669.66	-4,279.60	4,585.91	4,418.28	167.63	27.358		
18,600.00	11,709.00	18,890.19	12,046.02	120.37	120.29	-93.77	6,769.65	-4,280.46	4,585.92	4,416.11	169.81	27.006		
18,700.00	11,707.26	18,990.19	12,045.05	121.92	121.84	-93.78	6,869.64	-4,281.32	4,585.92	4,413.93	172.00	26.663		
18,800.00	11,705.52	19,090.19	12,044.09	123.47	123.38	-93.79	6,969.63	-4,282.18	4,585.93	4,411.74	174.19	26.328		
18,900.00	11,703.78	19,190.19	12,043.13	125.03	124.94	-93.80	7,069.61	-4,283.05	4,585.93	4,409.55	176.38	26.000		
19,000.00	11,702.04	19,290.18	12,042.16	126.59	126.49	-93.81	7,169.60	-4,283.91	4,585.94	4,407.36	178.58	25.680		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design 1912 Fed Com - 1912 Fed Com 701H - OH - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,100.00	11,700.30	19,390.18	12,041.20	128.15	128.05	-93.82	7,269.59	-4,284.77	4,585.95	4,405.17	180.78	25.368		
19,200.00	11,698.56	19,490.18	12,040.24	129.71	129.61	-93.83	7,369.58	-4,285.63	4,585.95	4,402.97	182.98	25.062		
19,300.00	11,696.81	19,590.17	12,039.27	131.28	131.17	-93.84	7,469.57	-4,286.49	4,585.96	4,400.77	185.19	24.764		
19,400.00	11,695.07	19,690.17	12,038.31	132.85	132.73	-93.85	7,569.56	-4,287.36	4,585.97	4,398.57	187.40	24.472		
19,500.00	11,693.33	19,790.17	12,037.35	134.42	134.29	-93.86	7,669.55	-4,288.22	4,585.97	4,396.36	189.61	24.186		
19,600.00	11,691.59	19,890.16	12,036.39	135.99	135.86	-93.87	7,769.53	-4,289.08	4,585.98	4,394.16	191.82	23.907		
19,700.00	11,689.85	19,990.16	12,035.42	137.56	137.43	-93.88	7,869.52	-4,289.94	4,585.99	4,391.94	194.04	23.634		
19,800.00	11,688.11	20,090.16	12,034.46	139.14	139.00	-93.89	7,969.51	-4,290.80	4,585.99	4,389.73	196.26	23.367		
19,900.00	11,686.37	20,190.16	12,033.50	140.71	140.58	-93.90	8,069.50	-4,291.67	4,586.00	4,387.52	198.48	23.105		
20,000.00	11,684.63	20,290.15	12,032.53	142.29	142.15	-93.91	8,169.49	-4,292.53	4,586.01	4,385.30	200.71	22.849		
20,100.00	11,682.88	20,390.15	12,031.57	143.87	143.73	-93.92	8,269.48	-4,293.39	4,586.01	4,383.08	202.93	22.599		
20,200.00	11,681.14	20,490.15	12,030.61	145.45	145.31	-93.92	8,369.47	-4,294.25	4,586.02	4,380.86	205.16	22.353		
20,300.00	11,679.40	20,590.14	12,029.64	147.04	146.89	-93.93	8,469.46	-4,295.11	4,586.03	4,378.64	207.39	22.113		
20,400.00	11,677.66	20,690.14	12,028.68	148.62	148.47	-93.94	8,569.44	-4,295.98	4,586.04	4,376.41	209.63	21.877		
20,500.00	11,675.92	20,790.14	12,027.72	150.21	150.05	-93.95	8,669.43	-4,296.84	4,586.05	4,374.18	211.86	21.646		
20,600.00	11,674.18	20,890.13	12,026.75	151.80	151.63	-93.96	8,769.42	-4,297.70	4,586.05	4,371.95	214.10	21.420		
20,700.00	11,672.44	20,990.13	12,025.79	153.39	153.22	-93.97	8,869.41	-4,298.56	4,586.06	4,369.72	216.34	21.199		
20,800.00	11,670.70	21,090.13	12,024.83	154.98	154.81	-93.98	8,969.40	-4,299.42	4,586.07	4,367.49	218.58	20.981		
20,900.00	11,668.95	21,190.13	12,023.87	156.57	156.40	-93.99	9,069.39	-4,300.28	4,586.08	4,365.26	220.82	20.768		
21,000.00	11,667.21	21,290.12	12,022.90	158.16	157.99	-94.00	9,169.38	-4,301.15	4,586.09	4,363.02	223.07	20.559		
21,100.00	11,665.47	21,390.12	12,021.94	159.76	159.58	-94.01	9,269.36	-4,302.01	4,586.10	4,360.78	225.31	20.354		
21,200.00	11,663.73	21,490.12	12,020.98	161.35	161.17	-94.02	9,369.35	-4,302.87	4,586.10	4,358.54	227.56	20.153		
21,300.00	11,661.99	21,590.11	12,020.01	162.95	162.76	-94.03	9,469.34	-4,303.73	4,586.11	4,356.30	229.81	19.956		
21,400.00	11,660.25	21,690.11	12,019.05	164.54	164.36	-94.04	9,569.33	-4,304.59	4,586.12	4,354.06	232.06	19.763		
21,500.00	11,658.51	21,790.11	12,018.09	166.14	165.95	-94.05	9,669.32	-4,305.46	4,586.13	4,351.82	234.31	19.573		
21,600.00	11,656.77	21,890.10	12,017.12	167.74	167.55	-94.06	9,769.31	-4,306.32	4,586.14	4,349.58	236.57	19.386		
21,700.00	11,655.02	21,990.10	12,016.16	169.34	169.15	-94.07	9,869.30	-4,307.18	4,586.15	4,347.33	238.82	19.203		
21,800.00	11,653.28	22,090.10	12,015.20	170.95	170.75	-94.08	9,969.28	-4,308.04	4,586.16	4,345.08	241.08	19.024		
21,900.00	11,651.54	22,190.09	12,014.23	172.55	172.35	-94.09	10,069.27	-4,308.90	4,586.17	4,342.83	243.34	18.847		
21,901.52	11,651.51	22,191.62	12,014.22	172.57	172.37	-94.09	10,070.80	-4,308.92	4,586.17	4,342.80	243.37	18.844		
21,973.00	11,650.27	22,238.31	12,013.77	173.72	173.12	-94.10	10,117.48	-4,309.32	4,586.24	4,341.55	244.70	18.742 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 Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well 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	30.50	30.50	0.00	0.04	-90.02	-1.15	-3,807.08	3,807.08					
100.00	100.00	130.50	130.50	0.13	0.23	-90.02	-1.15	-3,807.08	3,807.08	3,806.81	0.27	N/A		
200.00	200.00	230.50	230.50	0.48	0.59	-90.02	-1.15	-3,807.08	3,807.08	3,806.31	0.77	4,972.584		
300.00	300.00	330.50	330.50	0.84	0.95	-90.02	-1.15	-3,807.08	3,807.08	3,805.81	1.27	2,995.320		
400.00	400.00	430.50	430.50	1.20	1.31	-90.02	-1.15	-3,807.08	3,807.08	3,805.30	1.78	2,142.066		
500.00	500.00	530.50	530.50	1.56	1.67	-90.02	-1.15	-3,807.08	3,807.08	3,804.80	2.28	1,666.939		
600.00	600.00	630.50	630.50	1.92	2.03	-90.02	-1.15	-3,807.08	3,807.08	3,804.29	2.79	1,364.255		
700.00	700.00	730.50	730.50	2.28	2.39	-90.02	-1.15	-3,807.08	3,807.08	3,803.78	3.30	1,154.576		
800.00	800.00	830.50	830.50	2.63	2.74	-90.02	-1.15	-3,807.08	3,807.08	3,803.28	3.80	1,000.752		
900.00	900.00	930.50	930.50	2.99	3.10	-90.02	-1.15	-3,807.08	3,807.08	3,802.77	4.31	883.092		
1,000.00	1,000.00	1,030.50	1,030.50	3.35	3.46	-90.02	-1.15	-3,807.08	3,807.08	3,802.26	4.82	790.185		
1,100.00	1,100.00	1,130.50	1,130.50	3.71	3.82	-90.02	-1.15	-3,807.08	3,807.08	3,801.76	5.32	714.963		
1,200.00	1,200.00	1,230.50	1,230.50	4.07	4.18	-90.02	-1.15	-3,807.08	3,807.08	3,801.25	5.83	652.818		
1,300.00	1,300.00	1,330.50	1,330.50	4.43	4.54	-90.02	-1.15	-3,807.08	3,807.08	3,800.74	6.34	600.611		
1,400.00	1,400.00	1,430.50	1,430.50	4.79	4.89	-90.02	-1.15	-3,807.08	3,807.08	3,800.23	6.85	556.135		
1,500.00	1,500.00	1,530.50	1,530.50	5.14	5.25	-90.02	-1.15	-3,807.08	3,807.08	3,799.73	7.35	517.792		
1,600.00	1,600.00	1,630.50	1,630.50	5.50	5.61	-90.02	-1.15	-3,807.08	3,807.08	3,799.22	7.86	484.395		
1,700.00	1,700.00	1,730.50	1,730.50	5.86	5.97	-90.02	-1.15	-3,807.08	3,807.08	3,798.71	8.37	455.045		
1,800.00	1,800.00	1,830.50	1,830.50	6.22	6.33	-90.02	-1.15	-3,807.08	3,807.08	3,798.21	8.87	429.048		
1,900.00	1,900.00	1,930.50	1,930.50	6.58	6.69	-90.02	-1.15	-3,807.08	3,807.08	3,797.70	9.38	405.861		
2,000.00	2,000.00	2,030.50	2,030.50	6.94	7.05	-90.02	-1.15	-3,807.08	3,807.08	3,797.19	9.89	385.051		
2,100.00	2,100.00	2,130.50	2,130.50	7.29	7.40	-90.02	-1.15	-3,807.08	3,807.08	3,796.69	10.39	366.272		
2,200.00	2,200.00	2,230.50	2,230.50	7.65	7.76	-90.02	-1.15	-3,807.08	3,807.08	3,796.18	10.90	349.239		
2,300.00	2,300.00	2,330.50	2,330.50	8.01	8.12	-90.02	-1.15	-3,807.08	3,807.08	3,795.67	11.41	333.720		
2,400.00	2,400.00	2,430.50	2,430.50	8.37	8.48	-90.02	-1.15	-3,807.08	3,807.08	3,795.17	11.91	319.521		
2,500.00	2,500.00	2,530.50	2,530.50	8.73	8.84	-90.02	-1.15	-3,807.08	3,807.08	3,794.66	12.42	306.481		
2,600.00	2,600.00	2,630.50	2,630.50	9.09	9.20	-90.02	-1.15	-3,807.08	3,807.08	3,794.15	12.93	294.464		
2,700.00	2,700.00	2,730.50	2,730.50	9.45	9.56	-90.02	-1.15	-3,807.08	3,807.08	3,793.64	13.44	283.353		
2,800.00	2,800.00	2,830.50	2,830.50	9.80	9.91	-90.02	-1.15	-3,807.08	3,807.08	3,793.14	13.94	273.051		
2,900.00	2,900.00	2,930.50	2,930.50	10.16	10.27	-90.02	-1.15	-3,807.08	3,807.08	3,792.63	14.45	263.471		
3,000.00	3,000.00	3,030.50	3,030.50	10.52	10.63	-90.02	-1.15	-3,807.08	3,807.08	3,792.12	14.96	254.541		
3,100.00	3,100.00	3,130.50	3,130.50	10.88	10.99	-90.02	-1.15	-3,807.08	3,807.08	3,791.62	15.46	246.196		
3,200.00	3,200.00	3,360.32	3,360.26	11.24	11.78	-90.04	-2.97	-3,803.89	3,806.10	3,789.82	16.28	233.862		
3,300.00	3,299.99	3,733.80	3,732.14	11.58	13.05	150.66	-19.31	-3,775.24	3,797.73	3,780.37	17.36	218.797		
3,400.00	3,399.91	3,833.46	3,831.05	11.92	13.40	150.65	-25.33	-3,764.69	3,790.57	3,772.74	17.83	212.596		
3,500.00	3,499.69	3,933.29	3,930.15	12.25	13.75	150.65	-31.36	-3,754.12	3,785.68	3,767.38	18.31	206.801		
3,533.01	3,532.59	3,966.28	3,962.88	12.36	13.86	150.64	-33.35	-3,750.63	3,784.57	3,766.11	18.46	204.974		
3,600.00	3,599.32	4,033.23	4,029.33	12.59	14.10	150.63	-37.39	-3,743.54	3,782.57	3,763.78	18.78	201.362		
3,700.00	3,698.94	4,133.17	4,128.53	12.93	14.46	150.60	-43.43	-3,732.96	3,779.58	3,760.31	19.27	196.170		
3,800.00	3,798.56	4,233.10	4,227.72	13.28	14.82	150.57	-49.46	-3,722.38	3,776.59	3,756.84	19.75	191.207		
3,900.00	3,898.18	4,333.04	4,326.92	13.62	15.18	150.54	-55.50	-3,711.80	3,773.61	3,753.37	20.24	186.460		
4,000.00	3,997.80	4,432.98	4,426.11	13.97	15.54	150.52	-61.53	-3,701.22	3,770.62	3,749.89	20.73	181.917		
4,100.00	4,097.43	4,532.92	4,525.30	14.32	15.91	150.49	-67.56	-3,690.64	3,767.64	3,746.42	21.22	177.567		
4,200.00	4,197.05	4,632.86	4,624.50	14.67	16.28	150.46	-73.60	-3,680.06	3,764.65	3,742.94	21.71	173.398		
4,300.00	4,296.67	4,732.80	4,723.69	15.02	16.65	150.43	-79.63	-3,669.48	3,761.67	3,739.46	22.21	169.401		
4,400.00	4,396.29	4,832.74	4,822.88	15.38	17.02	150.40	-85.67	-3,658.90	3,758.69	3,735.98	22.70	165.566		
4,500.00	4,495.91	4,932.68	4,922.08	15.74	17.40	150.38	-91.70	-3,648.32	3,755.70	3,732.50	23.20	161.884		
4,600.00	4,495.53	5,032.61	5,021.27	16.09	17.77	150.35	-97.74	-3,637.74	3,752.72	3,729.02	23.70	158.347		
4,700.00	4,495.15	5,132.55	5,120.47	16.45	18.15	150.32	-103.77	-3,627.16	3,749.74	3,725.54	24.20	154.947		
4,800.00	4,794.77	5,232.49	5,219.66	16.81	18.53	150.29	-109.81	-3,616.58	3,746.77	3,722.06	24.70	151.678		
4,900.00	4,894.39	5,332.43	5,318.85	17.17	18.91	150.26	-115.84	-3,606.00	3,743.79	3,718.58	25.21	148.531		
5,000.00	4,994.01	5,432.37	5,418.05	17.53	19.29	150.24	-121.88	-3,595.42	3,740.81	3,715.10	25.71	145.501		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well 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		
5,100.00	5,093.63	5,532.31	5,517.24	17.90	19.67	150.21	-127.91	-3,584.84	3,737.84	3,711.62	26.22	142.582		
5,200.00	5,193.25	5,632.25	5,616.43	18.26	20.05	150.18	-133.95	-3,574.26	3,734.86	3,708.14	26.72	139.768		
5,300.00	5,292.87	5,732.19	5,715.63	18.63	20.44	150.15	-139.98	-3,563.68	3,731.89	3,704.66	27.23	137.054		
5,400.00	5,392.49	5,832.12	5,814.82	18.99	20.82	150.12	-146.02	-3,553.10	3,728.91	3,701.18	27.74	134.434		
5,500.00	5,492.11	5,932.06	5,914.01	19.36	21.21	150.09	-152.05	-3,542.52	3,725.94	3,697.69	28.25	131.905		
5,600.00	5,591.73	6,032.00	6,013.21	19.73	21.59	150.06	-158.09	-3,531.94	3,722.97	3,694.21	28.76	129.462		
5,700.00	5,691.35	6,131.94	6,112.40	20.09	21.98	150.04	-164.12	-3,521.36	3,720.00	3,690.73	29.27	127.101		
5,800.00	5,790.97	6,231.88	6,211.60	20.46	22.37	150.01	-170.16	-3,510.78	3,717.03	3,687.25	29.78	124.817		
5,900.00	5,890.59	6,331.82	6,310.79	20.83	22.76	149.98	-176.19	-3,500.20	3,714.06	3,683.77	30.29	122.608		
6,000.00	5,990.21	6,431.76	6,409.98	21.20	23.15	149.95	-182.22	-3,489.62	3,711.09	3,680.29	30.81	120.469		
6,100.00	6,089.83	6,531.69	6,509.18	21.57	23.54	149.92	-188.26	-3,479.04	3,708.13	3,676.81	31.32	118.399		
6,200.00	6,189.45	6,631.63	6,608.37	21.94	23.93	149.89	-194.29	-3,468.46	3,705.16	3,673.33	31.83	116.392		
6,300.00	6,289.07	6,731.57	6,707.56	22.31	24.32	149.86	-200.33	-3,457.88	3,702.20	3,669.85	32.35	114.448		
6,400.00	6,388.69	6,831.51	6,806.76	22.68	24.71	149.84	-206.36	-3,447.30	3,699.23	3,666.37	32.86	112.562		
6,500.00	6,488.31	6,931.45	6,905.95	23.06	25.11	149.81	-212.40	-3,436.72	3,696.27	3,662.89	33.38	110.733		
6,600.00	6,587.93	7,031.39	7,005.15	23.43	25.50	149.78	-218.43	-3,426.14	3,693.31	3,659.41	33.90	108.959		
6,700.00	6,687.55	7,100.00	7,073.25	23.80	25.77	149.76	-222.57	-3,418.89	3,690.49	3,656.15	34.34	107.465		
6,800.00	6,787.17	7,167.76	7,140.59	24.18	26.03	149.74	-226.29	-3,412.37	3,688.59	3,653.81	34.78	106.051		
6,900.00	6,886.79	7,200.00	7,172.67	24.55	26.16	149.74	-227.85	-3,409.63	3,688.09	3,652.96	35.13	104.978		
6,902.05	6,888.84	7,223.55	7,196.13	24.56	26.25	149.74	-228.91	-3,407.78	3,687.97	3,652.77	35.19	104.787 CC		
7,000.00	6,986.41	7,277.10	7,249.50	24.92	26.45	149.74	-231.04	-3,404.04	3,688.57	3,652.98	35.59	103.648		
7,100.00	7,086.03	7,331.75	7,304.03	25.30	26.65	149.75	-232.84	-3,400.89	3,690.41	3,654.42	35.98	102.560		
7,200.00	7,185.65	7,400.00	7,372.20	25.67	26.90	149.77	-234.53	-3,397.91	3,693.51	3,657.10	36.41	101.443		
7,300.00	7,285.27	7,440.89	7,413.06	26.05	27.04	149.79	-235.26	-3,396.64	3,697.76	3,661.00	36.76	100.595		
7,400.00	7,384.89	7,500.00	7,472.15	26.42	27.25	149.82	-235.93	-3,395.46	3,703.28	3,666.13	37.15	99.679		
7,500.00	7,484.51	7,557.85	7,530.00	26.80	27.44	149.85	-236.15	-3,395.08	3,710.03	3,672.49	37.54	98.841		
7,600.00	7,584.13	7,642.48	7,614.63	27.17	27.73	149.91	-236.15	-3,395.08	3,717.54	3,679.55	37.99	97.857		
7,700.00	7,683.75	7,742.10	7,714.25	27.55	28.06	149.98	-236.15	-3,395.08	3,725.08	3,686.60	38.49	96.791		
7,800.00	7,783.37	7,841.72	7,813.87	27.93	28.40	150.04	-236.15	-3,395.08	3,732.63	3,693.65	38.98	95.751		
7,900.00	7,882.99	7,941.34	7,913.49	28.30	28.73	150.11	-236.15	-3,395.08	3,740.18	3,700.70	39.48	94.737		
7,919.49	7,902.41	7,960.76	7,932.91	28.38	28.80	150.12	-236.15	-3,395.08	3,741.66	3,702.08	39.58	94.542		
8,000.00	7,982.68	8,041.03	8,013.18	28.68	29.07	150.21	-236.15	-3,395.08	3,747.01	3,707.03	39.98	93.730		
8,100.00	8,082.54	8,140.89	8,113.04	29.04	29.41	150.28	-236.15	-3,395.08	3,751.61	3,711.14	40.47	92.696		
8,200.00	8,182.50	8,240.85	8,213.00	29.40	29.75	150.32	-236.15	-3,395.08	3,753.94	3,712.97	40.97	91.635		
8,252.50	8,235.00	8,293.35	8,265.50	29.58	29.92	-90.55	-236.15	-3,395.08	3,754.25	3,713.03	41.22	91.072		
8,300.00	8,282.50	8,340.85	8,313.00	29.74	30.09	-90.55	-236.15	-3,395.08	3,754.25	3,712.80	41.45	90.564		
8,400.00	8,382.50	8,440.85	8,413.00	30.08	30.43	-90.55	-236.15	-3,395.08	3,754.25	3,712.31	41.94	89.512		
8,500.00	8,482.50	8,540.85	8,513.00	30.42	30.77	-90.55	-236.15	-3,395.08	3,754.25	3,711.83	42.43	88.483		
8,600.00	8,582.50	8,640.85	8,613.00	30.76	31.11	-90.55	-236.15	-3,395.08	3,754.25	3,711.34	42.92	87.477		
8,700.00	8,682.50	8,740.85	8,713.00	31.10	31.45	-90.55	-236.15	-3,395.08	3,754.25	3,710.85	43.41	86.492		
8,800.00	8,782.50	8,840.85	8,813.00	31.44	31.79	-90.55	-236.15	-3,395.08	3,754.25	3,710.36	43.89	85.529		
8,900.00	8,882.50	8,940.85	8,913.00	31.78	32.13	-90.55	-236.15	-3,395.08	3,754.25	3,709.87	44.38	84.586		
9,000.00	8,982.50	9,040.85	9,013.00	32.13	32.47	-90.55	-236.15	-3,395.08	3,754.25	3,709.38	44.87	83.663		
9,100.00	9,082.50	9,140.85	9,113.00	32.47	32.81	-90.55	-236.15	-3,395.08	3,754.25	3,708.89	45.36	82.759		
9,200.00	9,182.50	9,240.85	9,213.00	32.81	33.16	-90.55	-236.15	-3,395.08	3,754.25	3,708.40	45.85	81.874		
9,300.00	9,282.50	9,340.85	9,313.00	33.15	33.50	-90.55	-236.15	-3,395.08	3,754.25	3,707.91	46.34	81.007		
9,400.00	9,382.50	9,440.85	9,413.00	33.50	33.84	-90.55	-236.15	-3,395.08	3,754.25	3,707.42	46.84	80.158		
9,500.00	9,482.50	9,540.85	9,513.00	33.84	34.19	-90.55	-236.15	-3,395.08	3,754.25	3,706.93	47.33	79.325		
9,600.00	9,582.50	9,640.85	9,613.00	34.19	34.53	-90.55	-236.15	-3,395.08	3,754.25	3,706.43	47.82	78.509		
9,700.00	9,682.50	9,740.85	9,713.00	34.53	34.87	-90.55	-236.15	-3,395.08	3,754.25	3,705.94	48.31	77.710		
9,800.00	9,782.50	9,840.85	9,813.00	34.87	35.22	-90.55	-236.15	-3,395.08	3,754.25	3,705.45	48.80	76.926		
9,900.00	9,882.50	9,940.85	9,913.00	35.22	35.56	-90.55	-236.15	-3,395.08	3,754.25	3,704.96	49.30	76.157		

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 Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well 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		
10,000.00	9,982.50	10,040.85	10,013.00	35.56	35.91	-90.55	-236.15	-3,395.08	3,754.25	3,704.46	49.79	75.403		
10,100.00	10,082.50	10,140.85	10,113.00	35.91	36.25	-90.55	-236.15	-3,395.08	3,754.25	3,703.97	50.28	74.663		
10,200.00	10,182.50	10,240.85	10,213.00	36.26	36.60	-90.55	-236.15	-3,395.08	3,754.25	3,703.48	50.78	73.937		
10,300.00	10,282.50	10,340.85	10,313.00	36.60	36.94	-90.55	-236.15	-3,395.08	3,754.25	3,702.98	51.27	73.225		
10,400.00	10,382.50	10,440.85	10,413.00	36.95	37.29	-90.55	-236.15	-3,395.08	3,754.25	3,702.49	51.76	72.526		
10,500.00	10,482.50	10,540.85	10,513.00	37.29	37.64	-90.55	-236.15	-3,395.08	3,754.25	3,702.00	52.26	71.840		
10,600.00	10,582.50	10,640.85	10,613.00	37.64	37.98	-90.55	-236.15	-3,395.08	3,754.25	3,701.50	52.75	71.167		
10,700.00	10,682.50	10,740.85	10,713.00	37.99	38.33	-90.55	-236.15	-3,395.08	3,754.25	3,701.01	53.25	70.505		
10,800.00	10,782.50	10,840.85	10,813.00	38.34	38.68	-90.55	-236.15	-3,395.08	3,754.25	3,700.51	53.74	69.856		
10,900.00	10,882.50	10,940.85	10,913.00	38.68	39.02	-90.55	-236.15	-3,395.08	3,754.25	3,700.02	54.24	69.218		
11,000.00	10,982.50	11,040.85	11,013.00	39.03	39.37	-90.55	-236.15	-3,395.08	3,754.25	3,699.52	54.73	68.592		
11,100.00	11,082.50	11,140.85	11,113.00	39.38	39.72	-90.55	-236.15	-3,395.08	3,754.25	3,699.03	55.23	67.976		
11,200.00	11,182.50	11,240.85	11,213.00	39.73	40.07	-90.55	-236.15	-3,395.08	3,754.25	3,698.53	55.72	67.371		
11,265.50	11,248.00	11,306.35	11,278.50	39.95	40.29	-90.55	-236.15	-3,395.08	3,754.25	3,698.20	56.05	66.981		
11,300.00	11,282.48	11,340.83	11,312.98	40.07	40.41	-90.05	-236.15	-3,395.08	3,754.25	3,698.03	56.22	66.778		
11,350.00	11,332.19	11,390.54	11,362.69	40.24	40.59	-90.13	-236.15	-3,395.08	3,754.26	3,697.80	56.46	66.490		
11,400.00	11,381.27	11,440.75	11,412.88	40.40	40.76	-90.25	-235.15	-3,395.09	3,754.29	3,697.59	56.70	66.209		
11,450.00	11,429.33	11,492.07	11,463.91	40.55	40.93	-90.38	-229.82	-3,395.13	3,754.34	3,697.40	56.94	65.938		
11,500.00	11,476.01	11,544.24	11,515.07	40.70	41.10	-90.51	-219.76	-3,395.22	3,754.40	3,697.24	57.16	65.678		
11,550.00	11,520.95	11,597.27	11,565.93	40.83	41.26	-90.64	-204.80	-3,395.35	3,754.48	3,697.10	57.38	65.431		
11,600.00	11,563.82	11,651.18	11,615.99	40.95	41.41	-90.76	-184.84	-3,395.52	3,754.57	3,696.98	57.59	65.196		
11,650.00	11,604.28	11,705.97	11,664.72	41.05	41.54	-90.88	-159.83	-3,395.73	3,754.66	3,696.88	57.79	64.973		
11,700.00	11,642.03	11,761.64	11,711.55	41.14	41.66	-90.99	-129.77	-3,395.99	3,754.77	3,696.79	57.98	64.759		
11,750.00	11,676.79	11,818.16	11,755.88	41.22	41.77	-91.10	-94.75	-3,396.29	3,754.87	3,696.71	58.17	64.554		
11,800.00	11,708.28	11,875.49	11,797.11	41.28	41.86	-91.19	-54.95	-3,396.63	3,754.98	3,696.63	58.35	64.355		
11,850.00	11,736.26	11,933.59	11,834.61	41.33	41.93	-91.28	-10.62	-3,397.00	3,755.07	3,696.55	58.53	64.161		
11,900.00	11,760.54	11,992.37	11,867.80	41.37	41.99	-91.35	37.87	-3,397.42	3,755.16	3,696.45	58.70	63.968		
11,950.00	11,780.91	12,051.75	11,896.10	41.42	42.03	-91.42	90.04	-3,397.86	3,755.23	3,696.35	58.88	63.776		
12,000.00	11,797.22	12,111.63	11,919.02	41.55	42.04	-91.47	145.33	-3,398.33	3,755.28	3,696.22	59.06	63.582		
12,050.00	11,809.36	12,171.90	11,936.14	41.68	42.08	-91.50	203.08	-3,398.83	3,755.31	3,696.06	59.25	63.385		
12,100.00	11,817.22	12,232.41	11,947.13	41.82	42.25	-91.53	262.56	-3,399.34	3,755.31	3,695.88	59.43	63.186		
12,150.00	11,820.75	12,293.04	11,951.79	41.96	42.41	-91.53	322.98	-3,399.85	3,755.29	3,695.67	59.62	62.984		
12,175.48	11,820.87	12,321.91	11,951.84	42.03	42.48	-91.53	351.85	-3,400.10	3,755.28	3,695.56	59.72	62.881		
12,200.00	11,820.44	12,346.43	11,951.60	42.10	42.56	-91.54	376.37	-3,400.31	3,755.27	3,695.45	59.81	62.782		
12,300.00	11,818.70	12,446.43	11,950.64	42.44	42.88	-91.55	476.36	-3,401.16	3,755.24	3,694.99	60.25	62.330		
12,400.00	11,816.96	12,546.43	11,949.68	42.83	43.25	-91.56	576.35	-3,402.01	3,755.20	3,694.44	60.77	61.797		
12,500.00	11,815.22	12,646.42	11,948.72	43.28	43.68	-91.57	676.33	-3,402.87	3,755.17	3,693.80	61.37	61.189		
12,600.00	11,813.48	12,746.42	11,947.75	43.78	44.17	-91.58	776.32	-3,403.72	3,755.14	3,693.08	62.06	60.512		
12,700.00	11,811.74	12,846.42	11,946.79	44.34	44.71	-91.60	876.31	-3,404.57	3,755.10	3,692.28	62.82	59.775		
12,800.00	11,810.00	12,946.41	11,945.83	44.95	45.30	-91.61	976.30	-3,405.42	3,755.07	3,691.41	63.66	58.985		
12,900.00	11,808.26	13,046.41	11,944.86	45.61	45.94	-91.62	1,076.29	-3,406.28	3,755.04	3,690.46	64.58	58.148		
13,000.00	11,806.51	13,146.41	11,943.90	46.32	46.63	-91.63	1,176.28	-3,407.13	3,755.00	3,689.44	65.56	57.274		
13,100.00	11,804.77	13,246.41	11,942.94	47.08	47.36	-91.64	1,276.27	-3,407.98	3,754.97	3,688.36	66.61	56.369		
13,200.00	11,803.03	13,346.40	11,941.98	47.88	48.14	-91.66	1,376.25	-3,408.84	3,754.94	3,687.21	67.73	55.439		
13,300.00	11,801.29	13,446.40	11,941.01	48.72	48.97	-91.67	1,476.24	-3,409.69	3,754.91	3,686.00	68.91	54.491		
13,400.00	11,799.55	13,546.40	11,940.05	49.60	49.83	-91.68	1,576.23	-3,410.54	3,754.88	3,684.73	70.15	53.530		
13,500.00	11,797.81	13,646.39	11,939.09	50.53	50.73	-91.69	1,676.22	-3,411.40	3,754.84	3,683.41	71.44	52.562		
13,600.00	11,796.07	13,746.39	11,938.13	51.48	51.67	-91.70	1,776.21	-3,412.25	3,754.81	3,682.03	72.78	51.592		
13,700.00	11,794.33	13,846.39	11,937.16	52.48	52.65	-91.72	1,876.20	-3,413.10	3,754.78	3,680.61	74.17	50.623		
13,800.00	11,792.58	13,946.38	11,936.20	53.50	53.66	-91.73	1,976.19	-3,413.96	3,754.75	3,679.14	75.61	49.660		
13,900.00	11,790.84	14,046.38	11,935.24	54.56	54.69	-91.74	2,076.18	-3,414.81	3,754.72	3,677.63	77.09	48.704		
14,000.00	11,789.10	14,146.38	11,934.28	55.64	55.76	-91.75	2,176.16	-3,415.66	3,754.69	3,676.07	78.62	47.760		

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 Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well 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		
14,100.00	11,787.36	14,246.38	11,933.31	56.75	56.86	-91.76	2,276.15	-3,416.51	3,754.66	3,674.48	80.18	46.828		
14,200.00	11,785.62	14,346.37	11,932.35	57.89	57.98	-91.77	2,376.14	-3,417.37	3,754.63	3,672.85	81.78	45.912		
14,300.00	11,783.88	14,446.37	11,931.39	59.05	59.13	-91.79	2,476.13	-3,418.22	3,754.60	3,671.18	83.41	45.012		
14,400.00	11,782.14	14,546.37	11,930.42	60.24	60.30	-91.80	2,576.12	-3,419.07	3,754.57	3,669.49	85.08	44.130		
14,500.00	11,780.40	14,646.36	11,929.46	61.44	61.49	-91.81	2,676.11	-3,419.93	3,754.54	3,667.76	86.78	43.266		
14,600.00	11,778.65	14,746.36	11,928.50	62.67	62.70	-91.82	2,776.10	-3,420.78	3,754.51	3,666.00	88.51	42.421		
14,700.00	11,776.91	14,846.36	11,927.54	63.92	63.93	-91.83	2,876.08	-3,421.63	3,754.48	3,664.22	90.26	41.596		
14,800.00	11,775.17	14,946.35	11,926.57	65.18	65.18	-91.85	2,976.07	-3,422.49	3,754.45	3,662.41	92.04	40.792		
14,900.00	11,773.43	15,046.35	11,925.61	66.46	66.45	-91.86	3,076.06	-3,423.34	3,754.42	3,660.57	93.84	40.007		
15,000.00	11,771.69	15,146.35	11,924.65	67.76	67.74	-91.87	3,176.05	-3,424.19	3,754.39	3,658.72	95.67	39.243		
15,100.00	11,769.95	15,246.34	11,923.69	69.07	69.04	-91.88	3,276.04	-3,425.05	3,754.36	3,656.84	97.52	38.498		
15,200.00	11,768.21	15,346.34	11,922.72	70.39	70.35	-91.89	3,376.03	-3,425.90	3,754.33	3,654.94	99.39	37.774		
15,300.00	11,766.46	15,446.34	11,921.76	71.73	71.68	-91.91	3,476.02	-3,426.75	3,754.30	3,653.02	101.28	37.069		
15,400.00	11,764.72	15,546.34	11,920.80	73.09	73.02	-91.92	3,576.01	-3,427.60	3,754.27	3,651.09	103.19	36.384		
15,500.00	11,762.98	15,646.33	11,919.83	74.45	74.38	-91.93	3,675.99	-3,428.46	3,754.24	3,649.13	105.11	35.717		
15,600.00	11,761.24	15,746.33	11,918.87	75.83	75.74	-91.94	3,775.98	-3,429.31	3,754.22	3,647.17	107.05	35.070		
15,700.00	11,759.50	15,846.33	11,917.91	77.21	77.12	-91.95	3,875.97	-3,430.16	3,754.19	3,645.18	109.01	34.440		
15,800.00	11,757.76	15,946.32	11,916.95	78.61	78.51	-91.96	3,975.96	-3,431.02	3,754.16	3,643.18	110.98	33.828		
15,900.00	11,756.02	16,046.32	11,915.98	80.02	79.91	-91.98	4,075.95	-3,431.87	3,754.13	3,641.17	112.96	33.234		
16,000.00	11,754.28	16,146.32	11,915.02	81.43	81.32	-91.99	4,175.94	-3,432.72	3,754.10	3,639.15	114.96	32.656		
16,100.00	11,752.53	16,246.31	11,914.06	82.86	82.73	-92.00	4,275.93	-3,433.58	3,754.08	3,637.11	116.97	32.095		
16,200.00	11,750.79	16,346.31	11,913.10	84.29	84.16	-92.01	4,375.92	-3,434.43	3,754.05	3,635.06	118.99	31.549		
16,300.00	11,749.05	16,446.31	11,912.13	85.73	85.59	-92.02	4,475.90	-3,435.28	3,754.02	3,633.00	121.02	31.019		
16,400.00	11,747.31	16,546.31	11,911.17	87.18	87.03	-92.04	4,575.89	-3,436.14	3,754.00	3,630.93	123.07	30.503		
16,500.00	11,745.57	16,646.30	11,910.21	88.63	88.48	-92.05	4,675.88	-3,436.99	3,753.97	3,628.85	125.12	30.003		
16,600.00	11,743.83	16,746.30	11,909.25	90.09	89.93	-92.06	4,775.87	-3,437.84	3,753.94	3,626.76	127.19	29.516		
16,700.00	11,742.09	16,846.30	11,908.28	91.56	91.40	-92.07	4,875.86	-3,438.70	3,753.91	3,624.66	129.26	29.042		
16,800.00	11,740.35	16,946.29	11,907.32	93.04	92.86	-92.08	4,975.85	-3,439.55	3,753.89	3,622.55	131.34	28.582		
16,900.00	11,738.60	17,046.29	11,906.36	94.52	94.34	-92.10	5,075.84	-3,440.40	3,753.86	3,620.43	133.43	28.134		
17,000.00	11,736.86	17,146.29	11,905.39	96.00	95.82	-92.11	5,175.82	-3,441.25	3,753.84	3,618.31	135.53	27.698		
17,100.00	11,735.12	17,246.28	11,904.43	97.49	97.30	-92.12	5,275.81	-3,442.11	3,753.81	3,616.18	137.63	27.274		
17,200.00	11,733.38	17,346.28	11,903.47	98.99	98.80	-92.13	5,375.80	-3,442.96	3,753.78	3,614.04	139.75	26.862		
17,300.00	11,731.64	17,446.28	11,902.51	100.49	100.29	-92.14	5,475.79	-3,443.81	3,753.76	3,611.89	141.86	26.460		
17,400.00	11,729.90	17,546.27	11,901.54	102.00	101.79	-92.16	5,575.78	-3,444.67	3,753.73	3,609.74	143.99	26.069		
17,500.00	11,728.16	17,646.27	11,900.58	103.51	103.30	-92.17	5,675.77	-3,445.52	3,753.71	3,607.58	146.12	25.689		
17,600.00	11,726.42	17,746.27	11,899.62	105.02	104.81	-92.18	5,775.76	-3,446.37	3,753.68	3,605.42	148.26	25.318		
17,700.00	11,724.67	17,846.27	11,898.66	106.54	106.32	-92.19	5,875.75	-3,447.23	3,753.66	3,603.25	150.41	24.957		
17,800.00	11,722.93	17,946.26	11,897.69	108.06	107.84	-92.20	5,975.73	-3,448.08	3,753.63	3,601.08	152.56	24.605		
17,900.00	11,721.19	18,046.26	11,896.73	109.59	109.36	-92.22	6,075.72	-3,448.93	3,753.61	3,598.90	154.71	24.262		
18,000.00	11,719.45	18,146.26	11,895.77	111.12	110.89	-92.23	6,175.71	-3,449.79	3,753.58	3,596.71	156.87	23.928		
18,100.00	11,717.71	18,246.25	11,894.80	112.65	112.42	-92.24	6,275.70	-3,450.64	3,753.56	3,594.52	159.04	23.602		
18,200.00	11,715.97	18,346.25	11,893.84	114.19	113.95	-92.25	6,375.69	-3,451.49	3,753.54	3,592.33	161.21	23.284		
18,300.00	11,714.23	18,446.25	11,892.88	115.73	115.48	-92.26	6,475.68	-3,452.34	3,753.51	3,590.13	163.38	22.974		
18,400.00	11,712.49	18,546.24	11,891.92	117.27	117.02	-92.27	6,575.67	-3,453.20	3,753.49	3,587.93	165.56	22.671		
18,500.00	11,710.74	18,646.24	11,890.95	118.82	118.56	-92.29	6,675.65	-3,454.05	3,753.47	3,585.72	167.74	22.376		
18,600.00	11,709.00	18,746.24	11,889.99	120.37	120.11	-92.30	6,775.64	-3,454.90	3,753.44	3,583.51	169.93	22.088		
18,700.00	11,707.26	18,846.24	11,889.03	121.92	121.66	-92.31	6,875.63	-3,455.76	3,753.42	3,581.30	172.12	21.807		
18,800.00	11,705.52	18,946.23	11,888.07	123.47	123.21	-92.32	6,975.62	-3,456.61	3,753.40	3,579.08	174.31	21.532		
18,900.00	11,703.78	19,046.23	11,887.10	125.03	124.76	-92.33	7,075.61	-3,457.46	3,753.37	3,576.86	176.51	21.264		
19,000.00	11,702.04	19,146.23	11,886.14	126.59	126.32	-92.35	7,175.60	-3,458.32	3,753.35	3,574.64	178.71	21.002		
19,100.00	11,700.30	19,246.22	11,885.18	128.15	127.87	-92.36	7,275.59	-3,459.17	3,753.33	3,572.41	180.92	20.746		
19,200.00	11,698.56	19,346.22	11,884.22	129.71	129.43	-92.37	7,375.58	-3,460.02	3,753.30	3,570.18	183.13	20.496		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well 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		
19,300.00	11,696.81	19,446.22	11,883.25	131.28	131.00	-92.38	7,475.56	-3,460.88	3,753.28	3,567.95	185.34	20.251		
19,400.00	11,695.07	19,546.21	11,882.29	132.85	132.56	-92.39	7,575.55	-3,461.73	3,753.26	3,565.71	187.55	20.012		
19,500.00	11,693.33	19,646.21	11,881.33	134.42	134.13	-92.41	7,675.54	-3,462.58	3,753.24	3,563.47	189.77	19.778		
19,600.00	11,691.59	19,746.21	11,880.36	135.99	135.70	-92.42	7,775.53	-3,463.43	3,753.22	3,561.23	191.99	19.549		
19,700.00	11,689.85	19,846.20	11,879.40	137.56	137.27	-92.43	7,875.52	-3,464.29	3,753.19	3,558.99	194.21	19.326		
19,800.00	11,688.11	19,946.20	11,878.44	139.14	138.84	-92.44	7,975.51	-3,465.14	3,753.17	3,556.74	196.43	19.107		
19,900.00	11,686.37	20,046.20	11,877.48	140.71	140.41	-92.45	8,075.50	-3,465.99	3,753.15	3,554.49	198.66	18.892		
20,000.00	11,684.63	20,146.20	11,876.51	142.29	141.99	-92.47	8,175.49	-3,466.85	3,753.13	3,552.24	200.89	18.683		
20,100.00	11,682.88	20,246.19	11,875.55	143.87	143.57	-92.48	8,275.47	-3,467.70	3,753.11	3,549.99	203.12	18.477		
20,200.00	11,681.14	20,346.19	11,874.59	145.45	145.15	-92.49	8,375.46	-3,468.55	3,753.09	3,547.73	205.35	18.276		
20,300.00	11,679.40	20,446.19	11,873.63	147.04	146.73	-92.50	8,475.45	-3,469.41	3,753.07	3,545.48	207.59	18.079		
20,400.00	11,677.66	20,546.18	11,872.66	148.62	148.31	-92.51	8,575.44	-3,470.26	3,753.05	3,543.22	209.83	17.886		
20,500.00	11,675.92	20,646.18	11,871.70	150.21	149.89	-92.52	8,675.43	-3,471.11	3,753.03	3,540.96	212.07	17.697		
20,600.00	11,674.18	20,746.18	11,870.74	151.80	151.48	-92.54	8,775.42	-3,471.97	3,753.01	3,538.70	214.31	17.512		
20,700.00	11,672.44	20,846.17	11,869.78	153.39	153.07	-92.55	8,875.41	-3,472.82	3,752.99	3,536.43	216.55	17.331		
20,800.00	11,670.70	20,946.17	11,868.81	154.98	154.66	-92.56	8,975.39	-3,473.67	3,752.97	3,534.17	218.80	17.153		
20,900.00	11,668.95	21,046.17	11,867.85	156.57	156.24	-92.57	9,075.38	-3,474.53	3,752.95	3,531.90	221.05	16.978		
21,000.00	11,667.21	21,146.17	11,866.89	158.16	157.84	-92.58	9,175.37	-3,475.38	3,752.93	3,529.63	223.29	16.807		
21,100.00	11,665.47	21,246.16	11,865.92	159.76	159.43	-92.60	9,275.36	-3,476.23	3,752.91	3,527.36	225.54	16.639		
21,200.00	11,663.73	21,346.16	11,864.96	161.35	161.02	-92.61	9,375.35	-3,477.08	3,752.89	3,525.09	227.80	16.475		
21,300.00	11,661.99	21,446.16	11,864.00	162.95	162.62	-92.62	9,475.34	-3,477.94	3,752.87	3,522.82	230.05	16.313		
21,400.00	11,660.25	21,546.15	11,863.04	164.54	164.21	-92.63	9,575.33	-3,478.79	3,752.85	3,520.55	232.31	16.155		
21,500.00	11,658.51	21,646.15	11,862.07	166.14	165.81	-92.64	9,675.32	-3,479.64	3,752.83	3,518.27	234.56	15.999		
21,600.00	11,656.77	21,746.15	11,861.11	167.74	167.40	-92.66	9,775.30	-3,480.50	3,752.81	3,515.99	236.82	15.847		
21,700.00	11,655.02	21,846.14	11,860.15	169.34	169.00	-92.67	9,875.29	-3,481.35	3,752.80	3,513.71	239.08	15.697		
21,800.00	11,653.28	21,946.14	11,859.19	170.95	170.60	-92.68	9,975.28	-3,482.20	3,752.78	3,511.44	241.34	15.550		
21,900.00	11,651.54	22,046.14	11,858.22	172.55	172.20	-92.69	10,075.27	-3,483.06	3,752.76	3,509.16	243.60	15.405		
21,953.89	11,650.60	22,099.37	11,857.71	173.41	173.06	-92.70	10,128.50	-3,483.51	3,752.75	3,507.93	244.81	15.329		
21,973.00	11,650.27	22,099.37	11,857.71	173.72	173.06	-92.70	10,128.50	-3,483.51	3,752.80	3,507.80	244.99	15.318 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 Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well 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	1.30	1.30	0.00	0.00	-90.47	-0.87	-104.98	104.98					
100.00	100.00	101.30	101.30	0.13	0.13	-90.47	-0.87	-104.98	104.98	104.80	0.18	580.790		
200.00	200.00	201.30	201.30	0.48	0.49	-90.47	-0.87	-104.98	104.98	104.30	0.69	152.661		
300.00	300.00	301.30	301.30	0.84	0.85	-90.47	-0.87	-104.98	104.98	103.79	1.19	87.878		
400.00	400.00	401.30	401.30	1.20	1.21	-90.47	-0.87	-104.98	104.98	103.28	1.70	61.697		
500.00	500.00	501.30	501.30	1.56	1.56	-90.47	-0.87	-104.98	104.98	102.78	2.21	47.535		
600.00	600.00	601.30	601.30	1.92	1.92	-90.47	-0.87	-104.98	104.98	102.27	2.72	38.661		
700.00	700.00	701.30	701.30	2.28	2.28	-90.47	-0.87	-104.98	104.98	101.76	3.22	32.579		
800.00	800.00	801.30	801.30	2.63	2.64	-90.47	-0.87	-104.98	104.98	101.25	3.73	28.150		
900.00	900.00	901.30	901.30	2.99	3.00	-90.47	-0.87	-104.98	104.98	100.75	4.24	24.781		
1,000.00	1,000.00	1,001.30	1,001.30	3.35	3.36	-90.47	-0.87	-104.98	104.98	100.24	4.74	22.133		
1,100.00	1,100.00	1,101.30	1,101.30	3.71	3.71	-90.47	-0.87	-104.98	104.98	99.73	5.25	19.996		
1,200.00	1,200.00	1,201.30	1,201.30	4.07	4.07	-90.47	-0.87	-104.98	104.98	99.23	5.76	18.235		
1,300.00	1,300.00	1,301.30	1,301.30	4.43	4.43	-90.47	-0.87	-104.98	104.98	98.72	6.26	16.759		
1,400.00	1,400.00	1,401.30	1,401.30	4.79	4.79	-90.47	-0.87	-104.98	104.98	98.21	6.77	15.505		
1,500.00	1,500.00	1,501.30	1,501.30	5.14	5.15	-90.47	-0.87	-104.98	104.98	97.71	7.28	14.425		
1,600.00	1,600.00	1,601.30	1,601.30	5.50	5.51	-90.47	-0.87	-104.98	104.98	97.20	7.79	13.485		
1,700.00	1,700.00	1,701.30	1,701.30	5.86	5.87	-90.47	-0.87	-104.98	104.98	96.69	8.29	12.661		
1,800.00	1,800.00	1,801.30	1,801.30	6.22	6.22	-90.47	-0.87	-104.98	104.98	96.18	8.80	11.931		
1,900.00	1,900.00	1,901.30	1,901.30	6.58	6.58	-90.47	-0.87	-104.98	104.98	95.68	9.31	11.281		
2,000.00	2,000.00	2,001.30	2,001.30	6.94	6.94	-90.47	-0.87	-104.98	104.98	95.17	9.81	10.699		
2,100.00	2,100.00	2,101.30	2,101.30	7.29	7.30	-90.47	-0.87	-104.98	104.98	94.66	10.32	10.173		
2,200.00	2,200.00	2,201.30	2,201.30	7.65	7.66	-90.47	-0.87	-104.98	104.98	94.16	10.83	9.697		
2,300.00	2,300.00	2,301.30	2,301.30	8.01	8.02	-90.47	-0.87	-104.98	104.98	93.65	11.33	9.263		
2,400.00	2,400.00	2,401.30	2,401.30	8.37	8.37	-90.47	-0.87	-104.98	104.98	93.14	11.84	8.866		
2,500.00	2,500.00	2,501.30	2,501.30	8.73	8.73	-90.47	-0.87	-104.98	104.98	92.64	12.35	8.502		
2,600.00	2,600.00	2,601.30	2,601.30	9.09	9.09	-90.47	-0.87	-104.98	104.98	92.13	12.85	8.167		
2,700.00	2,700.00	2,701.30	2,701.30	9.45	9.45	-90.47	-0.87	-104.98	104.98	91.62	13.36	7.857		
2,800.00	2,800.00	2,801.30	2,801.30	9.80	9.81	-90.47	-0.87	-104.98	104.98	91.12	13.87	7.570		
2,900.00	2,900.00	2,901.30	2,901.30	10.16	10.17	-90.47	-0.87	-104.98	104.98	90.61	14.38	7.303		
3,000.00	3,000.00	3,001.30	3,001.30	10.52	10.53	-90.47	-0.87	-104.98	104.98	90.10	14.88	7.054		
3,100.00	3,100.00	3,101.30	3,101.30	10.88	10.88	-90.47	-0.87	-104.98	104.98	89.59	15.39	6.822		
3,116.23	3,116.23	3,117.53	3,117.53	10.94	10.94	-90.47	-0.87	-104.98	104.98	89.51	15.47	6.786 CC		
3,200.00	3,200.00	3,200.00	3,200.00	11.24	11.24	-90.47	-0.87	-104.98	104.99	89.10	15.89	6.607 ES		
3,300.00	3,299.99	3,298.59	3,298.58	11.58	11.58	150.58	-1.15	-106.22	107.40	91.03	16.37	6.559		
3,400.00	3,399.91	3,395.58	3,395.50	11.92	11.91	151.05	-1.99	-109.86	114.58	97.75	16.83	6.810		
3,500.00	3,499.69	3,491.90	3,491.62	12.25	12.24	151.72	-3.35	-115.85	126.50	109.24	17.27	7.327		
3,533.01	3,532.59	3,523.49	3,523.11	12.36	12.35	151.97	-3.92	-118.33	131.48	114.07	17.41	7.552		
3,600.00	3,599.32	3,587.32	3,586.66	12.59	12.56	152.44	-5.24	-124.11	142.64	124.94	17.70	8.061		
3,700.00	3,698.94	3,681.93	3,680.65	12.93	12.89	152.84	-7.64	-134.58	161.28	143.17	18.11	8.904		
3,800.00	3,798.56	3,777.58	3,775.42	13.28	13.23	152.98	-10.53	-147.22	182.02	163.47	18.55	9.812		
3,900.00	3,898.18	3,875.33	3,872.22	13.62	13.58	153.06	-13.56	-160.49	203.12	184.09	19.03	10.676		
4,000.00	3,997.80	3,973.08	3,969.01	13.97	13.93	153.13	-16.59	-173.75	224.21	204.71	19.50	11.497		
4,100.00	4,097.43	4,070.83	4,065.81	14.32	14.28	153.19	-19.62	-187.01	245.30	225.32	19.98	12.278		
4,200.00	4,197.05	4,168.58	4,162.61	14.67	14.64	153.24	-22.65	-200.28	266.40	245.94	20.46	13.021		
4,300.00	4,296.67	4,266.33	4,259.41	15.02	15.00	153.28	-25.68	-213.54	287.49	266.55	20.94	13.730		
4,400.00	4,396.29	4,364.08	4,356.21	15.38	15.36	153.31	-28.72	-226.80	308.58	287.16	21.42	14.405		
4,500.00	4,495.91	4,461.83	4,453.01	15.74	15.73	153.35	-31.75	-240.07	329.68	307.77	21.91	15.050		
4,600.00	4,595.53	4,559.58	4,549.80	16.09	16.10	153.37	-34.78	-253.33	350.77	328.38	22.39	15.665		
4,700.00	4,695.15	4,657.33	4,646.60	16.45	16.47	153.40	-37.81	-266.60	371.87	348.99	22.88	16.254		
4,800.00	4,794.77	4,755.08	4,743.40	16.81	16.84	153.42	-40.84	-279.86	392.96	369.59	23.37	16.817		
4,900.00	4,894.39	4,852.83	4,840.20	17.17	17.21	153.44	-43.87	-293.12	414.05	390.20	23.86	17.356		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well 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 #2		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD															Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
5,000.00	4,994.01	4,950.58	4,937.00	17.53	17.59	153.46	-46.91	-306.39	435.15	410.80	24.35	17.872				
5,100.00	5,093.63	5,048.33	5,033.80	17.90	17.97	153.47	-49.94	-319.65	456.24	431.40	24.84	18.368				
5,200.00	5,193.25	5,146.08	5,130.59	18.26	18.35	153.49	-52.97	-332.91	477.34	452.00	25.33	18.843				
5,300.00	5,292.87	5,243.83	5,227.39	18.63	18.73	153.50	-56.00	-346.18	498.43	472.60	25.83	19.300				
5,400.00	5,392.49	5,341.58	5,324.19	18.99	19.11	153.51	-59.03	-359.44	519.52	493.20	26.32	19.739				
5,500.00	5,492.11	5,439.33	5,420.99	19.36	19.49	153.52	-62.06	-372.71	540.62	513.80	26.82	20.161				
5,600.00	5,591.73	5,537.08	5,517.79	19.73	19.88	153.53	-65.10	-385.97	561.71	534.40	27.31	20.567				
5,700.00	5,691.35	5,634.83	5,614.58	20.09	20.26	153.54	-68.13	-399.23	582.81	555.00	27.81	20.958				
5,800.00	5,790.97	5,732.58	5,711.38	20.46	20.65	153.55	-71.16	-412.50	603.90	575.59	28.31	21.334				
5,900.00	5,890.59	5,830.33	5,808.18	20.83	21.04	153.56	-74.19	-425.76	625.00	596.19	28.81	21.697				
6,000.00	5,990.21	5,928.08	5,904.98	21.20	21.43	153.57	-77.22	-439.02	646.09	616.79	29.30	22.047				
6,100.00	6,089.83	6,025.83	6,001.78	21.57	21.82	153.58	-80.25	-452.29	667.18	637.38	29.80	22.385				
6,200.00	6,189.45	6,123.57	6,098.58	21.94	22.21	153.58	-83.29	-465.55	688.28	657.97	30.31	22.712				
6,300.00	6,289.07	6,221.32	6,195.37	22.31	22.60	153.59	-86.32	-478.82	709.37	678.57	30.81	23.027				
6,400.00	6,388.69	6,319.07	6,292.17	22.68	22.99	153.60	-89.35	-492.08	730.47	699.16	31.31	23.332				
6,500.00	6,488.31	6,416.82	6,388.97	23.06	23.38	153.60	-92.38	-505.34	751.56	719.75	31.81	23.626				
6,600.00	6,587.93	6,514.57	6,485.77	23.43	23.78	153.61	-95.41	-518.61	772.66	740.34	32.31	23.911				
6,700.00	6,687.55	6,612.32	6,582.57	23.80	24.17	153.61	-98.44	-531.87	793.75	760.93	32.82	24.187				
6,800.00	6,787.17	6,710.07	6,679.37	24.18	24.57	153.62	-101.48	-545.13	814.85	781.53	33.32	24.455				
6,900.00	6,886.79	6,807.82	6,776.16	24.55	24.96	153.62	-104.51	-558.40	835.94	802.12	33.82	24.714				
7,000.00	6,986.41	6,905.57	6,872.96	24.92	25.36	153.63	-107.54	-571.66	857.03	822.71	34.33	24.965				
7,100.00	7,086.03	7,003.32	6,969.76	25.30	25.75	153.63	-110.57	-584.92	878.13	843.29	34.83	25.209				
7,200.00	7,185.65	7,101.07	7,066.56	25.67	26.15	153.63	-113.60	-598.19	899.22	863.88	35.34	25.445				
7,300.00	7,285.27	7,198.82	7,163.36	26.05	26.55	153.64	-116.64	-611.45	920.32	884.47	35.85	25.674				
7,400.00	7,384.89	7,296.57	7,260.16	26.42	26.95	153.64	-119.67	-624.72	941.41	905.06	36.35	25.897				
7,500.00	7,484.51	7,394.32	7,356.95	26.80	27.35	153.64	-122.70	-637.98	962.51	925.65	36.86	26.113				
7,600.00	7,584.13	7,492.07	7,453.75	27.17	27.75	153.65	-125.73	-651.24	983.60	946.24	37.37	26.323				
7,700.00	7,683.75	7,589.82	7,550.55	27.55	28.15	153.65	-128.76	-664.51	1,004.70	966.82	37.87	26.528				
7,800.00	7,783.37	7,687.57	7,647.35	27.93	28.55	153.65	-131.79	-677.77	1,025.79	987.41	38.38	26.726				
7,900.00	7,882.99	7,785.32	7,744.15	28.30	28.95	153.66	-134.83	-691.03	1,046.88	1,008.00	38.89	26.920				
7,919.49	7,902.41	7,804.38	7,763.02	28.38	29.02	153.66	-135.42	-693.62	1,051.00	1,012.01	38.99	26.957				
8,000.00	7,982.68	7,883.23	7,841.10	28.68	29.35	153.75	-137.86	-704.32	1,067.23	1,027.84	39.40	27.089				
8,100.00	8,082.54	7,981.56	7,938.48	29.04	29.75	153.79	-140.91	-717.66	1,085.33	1,045.42	39.90	27.198				
8,200.00	8,182.50	8,080.27	8,036.23	29.40	30.16	153.76	-143.97	-731.06	1,101.11	1,060.69	40.41	27.248				
8,252.50	8,235.00	8,132.23	8,087.67	29.58	30.37	-87.16	-145.58	-738.11	1,108.46	1,067.79	40.67	27.252				
8,300.00	8,282.50	8,179.26	8,134.25	29.74	30.56	-87.25	-147.04	-744.49	1,114.83	1,073.92	40.91	27.250				
8,400.00	8,382.50	8,278.29	8,232.31	30.08	30.97	-87.44	-150.11	-757.93	1,128.25	1,086.84	41.41	27.244				
8,500.00	8,482.50	8,377.31	8,330.38	30.42	31.38	-87.63	-153.19	-771.36	1,141.69	1,099.77	41.91	27.239				
8,600.00	8,582.50	8,476.34	8,428.44	30.76	31.79	-87.81	-156.26	-784.80	1,155.13	1,112.72	42.41	27.234				
8,700.00	8,682.50	8,575.37	8,526.50	31.10	32.20	-87.99	-159.33	-798.24	1,168.59	1,125.67	42.92	27.230				
8,800.00	8,782.50	8,674.39	8,624.56	31.44	32.60	-88.16	-162.40	-811.67	1,182.05	1,138.63	43.42	27.225				
8,900.00	8,882.50	8,773.42	8,722.63	31.78	33.01	-88.33	-165.47	-825.11	1,195.53	1,151.61	43.92	27.221				
9,000.00	8,982.50	8,872.45	8,820.69	32.13	33.42	-88.50	-168.54	-838.55	1,209.01	1,164.59	44.42	27.217				
9,100.00	9,082.50	8,971.47	8,918.75	32.47	33.83	-88.66	-171.61	-851.98	1,222.51	1,177.58	44.92	27.213				
9,200.00	9,182.50	9,070.50	9,016.81	32.81	34.24	-88.82	-174.69	-865.42	1,236.01	1,190.59	45.43	27.209				
9,300.00	9,282.50	9,169.53	9,114.88	33.15	34.65	-88.97	-177.76	-878.86	1,249.53	1,203.60	45.93	27.205				
9,400.00	9,382.50	9,268.55	9,212.94	33.50	35.06	-89.12	-180.83	-892.29	1,263.05	1,216.62	46.43	27.202				
9,500.00	9,482.50	9,367.58	9,311.00	33.84	35.47	-89.27	-183.90	-905.73	1,276.58	1,229.65	46.94	27.198				
9,600.00	9,582.50	9,466.61	9,409.07	34.19	35.88	-89.42	-186.97	-919.17	1,290.12	1,242.68	47.44	27.195				
9,700.00	9,682.50	9,565.63	9,507.13	34.53	36.29	-89.56	-190.04	-932.61	1,303.67	1,255.73	47.94	27.192				
9,800.00	9,782.50	9,673.27	9,613.73	34.87	36.74	-89.71	-193.36	-947.13	1,317.17	1,268.67	48.50	27.161				
9,900.00	9,882.50	9,823.23	9,762.72	35.22	37.34	-89.88	-197.14	-963.66	1,328.19	1,278.94	49.25	26.969				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well 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		
10,000.00	9,982.50	9,974.31	9,913.38	35.56	37.90	-89.98	-199.62	-974.53	1,335.39	1,285.44	49.94	26.738		
10,100.00	10,082.50	10,126.04	10,065.00	35.91	38.43	-90.03	-200.78	-979.59	1,338.73	1,288.15	50.58	26.467		
10,200.00	10,182.50	10,244.83	10,183.80	36.26	38.82	-90.04	-200.87	-979.98	1,338.98	1,287.87	51.11	26.200		
10,300.00	10,282.50	10,344.83	10,283.80	36.60	39.14	-90.04	-200.87	-979.98	1,338.98	1,287.39	51.59	25.953		
10,400.00	10,382.50	10,444.83	10,383.80	36.95	39.47	-90.04	-200.87	-979.98	1,338.98	1,286.90	52.08	25.710		
10,500.00	10,482.50	10,544.83	10,483.80	37.29	39.79	-90.04	-200.87	-979.98	1,338.98	1,286.41	52.57	25.472		
10,600.00	10,582.50	10,644.83	10,583.80	37.64	40.12	-90.04	-200.87	-979.98	1,338.98	1,285.93	53.05	25.238		
10,700.00	10,682.50	10,744.83	10,683.80	37.99	40.44	-90.04	-200.87	-979.98	1,338.98	1,285.44	53.54	25.008		
10,800.00	10,782.50	10,844.83	10,783.80	38.34	40.77	-90.04	-200.87	-979.98	1,338.98	1,284.95	54.03	24.782		
10,900.00	10,882.50	10,944.83	10,883.80	38.68	41.09	-90.04	-200.87	-979.98	1,338.98	1,284.46	54.52	24.560		
11,000.00	10,982.50	11,044.83	10,983.80	39.03	41.42	-90.04	-200.87	-979.98	1,338.98	1,283.97	55.01	24.341		
11,100.00	11,082.50	11,144.83	11,083.80	39.38	41.75	-90.04	-200.87	-979.98	1,338.98	1,283.48	55.50	24.127		
11,107.07	11,089.57	11,151.90	11,090.87	39.40	41.77	-90.04	-200.87	-979.98	1,338.98	1,283.45	55.53	24.112		
11,200.00	11,182.50	11,243.45	11,182.30	39.73	42.07	-89.91	-197.79	-980.01	1,339.01	1,283.03	55.98	23.918		
11,265.50	11,248.00	11,306.02	11,244.07	39.95	42.26	-89.48	-187.93	-980.10	1,339.16	1,282.87	56.29	23.789		
11,300.00	11,282.48	11,338.16	11,275.28	40.07	42.36	-88.66	-180.27	-980.17	1,339.31	1,282.86	56.45	23.725		
11,350.00	11,332.19	11,384.13	11,319.06	40.24	42.48	-88.23	-166.28	-980.29	1,339.60	1,282.93	56.67	23.638		
11,400.00	11,381.27	11,429.43	11,360.97	40.40	42.60	-87.82	-149.12	-980.45	1,339.94	1,283.06	56.88	23.557		
11,450.00	11,429.33	11,474.12	11,400.85	40.55	42.70	-87.42	-128.99	-980.63	1,340.34	1,283.26	57.08	23.483		
11,500.00	11,476.01	11,518.24	11,438.58	40.70	42.80	-87.04	-106.13	-980.84	1,340.78	1,283.51	57.26	23.414		
11,550.00	11,520.95	11,561.86	11,474.03	40.83	42.88	-86.68	-80.75	-981.07	1,341.24	1,283.80	57.44	23.351		
11,600.00	11,563.82	11,605.02	11,507.11	40.95	42.96	-86.34	-53.05	-981.32	1,341.72	1,284.12	57.60	23.292		
11,650.00	11,604.28	11,650.00	11,539.27	41.05	43.03	-86.02	-21.62	-981.61	1,342.21	1,284.44	57.77	23.235		
11,700.00	11,642.03	11,690.15	11,565.82	41.14	43.08	-85.75	8.50	-981.88	1,342.68	1,284.77	57.91	23.186		
11,750.00	11,676.79	11,732.22	11,591.30	41.22	43.12	-85.49	41.96	-982.18	1,343.13	1,285.08	58.05	23.136		
11,800.00	11,708.28	11,774.01	11,614.11	41.28	43.16	-85.27	76.96	-982.50	1,343.55	1,285.36	58.20	23.087		
11,850.00	11,736.26	11,815.57	11,634.20	41.33	43.20	-85.07	113.32	-982.83	1,343.93	1,285.60	58.34	23.038		
11,900.00	11,760.54	11,856.93	11,651.53	41.37	43.23	-84.91	150.87	-983.17	1,344.26	1,285.78	58.48	22.987		
11,950.00	11,780.91	11,900.00	11,666.66	41.42	43.27	-84.77	191.19	-983.53	1,344.53	1,285.90	58.63	22.934		
12,000.00	11,797.22	11,939.21	11,677.75	41.55	43.30	-84.68	228.78	-983.88	1,344.73	1,285.95	58.77	22.881		
12,050.00	11,809.36	11,980.21	11,686.58	41.68	43.34	-84.62	268.81	-984.24	1,344.86	1,285.93	58.92	22.823		
12,100.00	11,817.22	12,021.16	11,692.51	41.82	43.38	-84.59	309.32	-984.61	1,344.91	1,285.83	59.08	22.763		
12,150.00	11,820.75	12,062.10	11,695.54	41.96	43.44	-84.60	350.14	-984.98	1,344.90	1,285.65	59.25	22.699		
12,175.48	11,820.87	12,082.98	11,695.96	42.03	43.47	-84.62	371.01	-985.16	1,344.86	1,285.52	59.34	22.665		
12,200.00	11,820.44	12,105.06	11,695.68	42.10	43.51	-84.62	393.08	-985.36	1,344.85	1,285.42	59.43	22.629		
12,206.15	11,820.34	12,111.20	11,695.57	42.12	43.52	-84.62	399.23	-985.42	1,344.85	1,285.39	59.46	22.619		
12,300.00	11,818.70	12,205.06	11,693.93	42.44	43.73	-84.62	493.06	-986.27	1,344.85	1,284.98	59.87	22.462		
12,400.00	11,816.96	12,305.06	11,692.18	42.83	44.04	-84.62	593.04	-987.18	1,344.85	1,284.44	60.40	22.264		
12,500.00	11,815.22	12,405.06	11,690.43	43.28	44.42	-84.62	693.02	-988.08	1,344.85	1,283.83	61.02	22.040		
12,600.00	11,813.48	12,505.06	11,688.68	43.78	44.88	-84.62	793.00	-988.99	1,344.85	1,283.13	61.71	21.791		
12,700.00	11,811.74	12,605.06	11,686.93	44.34	45.40	-84.62	892.99	-989.90	1,344.85	1,282.36	62.49	21.521		
12,800.00	11,810.00	12,705.06	11,685.18	44.95	45.98	-84.62	992.97	-990.80	1,344.85	1,281.51	63.34	21.232		
12,900.00	11,808.26	12,805.06	11,683.44	45.61	46.62	-84.62	1,092.95	-991.71	1,344.85	1,280.58	64.27	20.926		
13,000.00	11,806.51	12,905.06	11,681.69	46.32	47.30	-84.62	1,192.93	-992.62	1,344.85	1,279.59	65.26	20.607		
13,100.00	11,804.77	13,005.06	11,679.94	47.08	48.04	-84.62	1,292.91	-993.52	1,344.84	1,278.52	66.32	20.278		
13,200.00	11,803.03	13,105.06	11,678.19	47.88	48.82	-84.62	1,392.89	-994.43	1,344.84	1,277.40	67.45	19.939		
13,300.00	11,801.29	13,205.06	11,676.44	48.72	49.64	-84.62	1,492.87	-995.34	1,344.84	1,276.21	68.63	19.595		
13,400.00	11,799.55	13,305.06	11,674.69	49.60	50.51	-84.62	1,592.85	-996.24	1,344.84	1,274.97	69.88	19.246		
13,500.00	11,797.81	13,405.06	11,672.94	50.53	51.41	-84.62	1,692.83	-997.15	1,344.84	1,273.67	71.17	18.896		
13,600.00	11,796.07	13,505.06	11,671.19	51.48	52.35	-84.62	1,792.81	-998.06	1,344.84	1,272.32	72.52	18.544		
13,700.00	11,794.33	13,605.06	11,669.44	52.48	53.33	-84.62	1,892.79	-998.96	1,344.84	1,270.92	73.92	18.194		
13,800.00	11,792.58	13,705.06	11,667.70	53.50	54.33	-84.62	1,992.77	-999.87	1,344.84	1,269.48	75.36	17.845		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well 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		
13,900.00	11,790.84	13,805.06	11,665.95	54.56	55.37	-84.61	2,092.75	-1,000.77	1,344.84	1,267.99	76.85	17.500		
14,000.00	11,789.10	13,905.06	11,664.20	55.64	56.44	-84.61	2,192.73	-1,001.68	1,344.84	1,266.46	78.38	17.159		
14,100.00	11,787.36	14,005.06	11,662.45	56.75	57.53	-84.61	2,292.71	-1,002.59	1,344.84	1,264.90	79.94	16.823		
14,200.00	11,785.62	14,105.06	11,660.70	57.89	58.65	-84.61	2,392.69	-1,003.49	1,344.84	1,263.30	81.54	16.492		
14,300.00	11,783.88	14,205.06	11,658.95	59.05	59.80	-84.61	2,492.67	-1,004.40	1,344.84	1,261.66	83.18	16.168		
14,400.00	11,782.14	14,305.06	11,657.20	60.24	60.97	-84.61	2,592.66	-1,005.31	1,344.84	1,259.99	84.85	15.850		
14,500.00	11,780.40	14,405.06	11,655.45	61.44	62.15	-84.61	2,692.64	-1,006.21	1,344.84	1,258.29	86.55	15.538		
14,600.00	11,778.65	14,505.06	11,653.70	62.67	63.37	-84.61	2,792.62	-1,007.12	1,344.84	1,256.56	88.28	15.234		
14,700.00	11,776.91	14,605.06	11,651.96	63.92	64.60	-84.61	2,892.60	-1,008.03	1,344.84	1,254.80	90.03	14.937		
14,800.00	11,775.17	14,705.06	11,650.21	65.18	65.84	-84.61	2,992.58	-1,008.93	1,344.84	1,253.02	91.81	14.647		
14,900.00	11,773.43	14,805.06	11,648.46	66.46	67.11	-84.61	3,092.56	-1,009.84	1,344.84	1,251.22	93.62	14.365		
15,000.00	11,771.69	14,905.06	11,646.71	67.76	68.39	-84.61	3,192.54	-1,010.75	1,344.84	1,249.39	95.45	14.090		
15,100.00	11,769.95	15,005.06	11,644.96	69.07	69.69	-84.61	3,292.52	-1,011.65	1,344.83	1,247.54	97.29	13.822		
15,200.00	11,768.21	15,105.06	11,643.21	70.39	71.00	-84.61	3,392.50	-1,012.56	1,344.83	1,245.67	99.16	13.562		
15,300.00	11,766.46	15,205.06	11,641.46	71.73	72.33	-84.61	3,492.48	-1,013.46	1,344.83	1,243.78	101.05	13.309		
15,400.00	11,764.72	15,305.06	11,639.71	73.09	73.67	-84.61	3,592.46	-1,014.37	1,344.83	1,241.88	102.96	13.062		
15,500.00	11,762.98	15,405.06	11,637.96	74.45	75.02	-84.61	3,692.44	-1,015.28	1,344.83	1,239.95	104.88	12.823		
15,600.00	11,761.24	15,505.06	11,636.22	75.83	76.38	-84.61	3,792.42	-1,016.18	1,344.83	1,238.02	106.82	12.590		
15,700.00	11,759.50	15,605.06	11,634.47	77.21	77.75	-84.61	3,892.40	-1,017.09	1,344.83	1,236.06	108.77	12.364		
15,800.00	11,757.76	15,705.06	11,632.72	78.61	79.14	-84.61	3,992.38	-1,018.00	1,344.83	1,234.09	110.74	12.144		
15,900.00	11,756.02	15,805.06	11,630.97	80.02	80.53	-84.61	4,092.36	-1,018.90	1,344.83	1,232.11	112.72	11.931		
16,000.00	11,754.28	15,905.06	11,629.22	81.43	81.94	-84.61	4,192.34	-1,019.81	1,344.83	1,230.12	114.72	11.723		
16,100.00	11,752.53	16,005.06	11,627.47	82.86	83.35	-84.61	4,292.33	-1,020.72	1,344.83	1,228.11	116.72	11.522		
16,200.00	11,750.79	16,105.06	11,625.72	84.29	84.77	-84.61	4,392.31	-1,021.62	1,344.83	1,226.09	118.74	11.326		
16,300.00	11,749.05	16,205.06	11,623.97	85.73	86.20	-84.61	4,492.29	-1,022.53	1,344.83	1,224.06	120.77	11.135		
16,400.00	11,747.31	16,305.06	11,622.22	87.18	87.64	-84.61	4,592.27	-1,023.44	1,344.83	1,222.02	122.81	10.950		
16,500.00	11,745.57	16,405.06	11,620.48	88.63	89.09	-84.61	4,692.25	-1,024.34	1,344.83	1,219.97	124.86	10.771		
16,600.00	11,743.83	16,505.06	11,618.73	90.09	90.54	-84.61	4,792.23	-1,025.25	1,344.83	1,217.91	126.92	10.596		
16,700.00	11,742.09	16,605.06	11,616.98	91.56	92.00	-84.61	4,892.21	-1,026.15	1,344.83	1,215.84	128.99	10.426		
16,800.00	11,740.35	16,705.06	11,615.23	93.04	93.46	-84.61	4,992.19	-1,027.06	1,344.83	1,213.76	131.07	10.261		
16,900.00	11,738.60	16,805.06	11,613.48	94.52	94.94	-84.60	5,092.17	-1,027.97	1,344.83	1,211.67	133.15	10.100		
17,000.00	11,736.86	16,905.06	11,611.73	96.00	96.41	-84.60	5,192.15	-1,028.87	1,344.83	1,209.58	135.25	9.944		
17,100.00	11,735.12	17,005.06	11,609.98	97.49	97.90	-84.60	5,292.13	-1,029.78	1,344.83	1,207.48	137.35	9.791		
17,200.00	11,733.38	17,105.06	11,608.23	98.99	99.38	-84.60	5,392.11	-1,030.69	1,344.82	1,205.37	139.46	9.643		
17,300.00	11,731.64	17,205.06	11,606.48	100.49	100.88	-84.60	5,492.09	-1,031.59	1,344.82	1,203.25	141.57	9.499		
17,400.00	11,729.90	17,305.06	11,604.74	102.00	102.38	-84.60	5,592.07	-1,032.50	1,344.82	1,201.13	143.69	9.359		
17,500.00	11,728.16	17,405.06	11,602.99	103.51	103.88	-84.60	5,692.05	-1,033.41	1,344.82	1,199.00	145.82	9.222		
17,600.00	11,726.42	17,505.06	11,601.24	105.02	105.39	-84.60	5,792.03	-1,034.31	1,344.82	1,196.87	147.95	9.089		
17,700.00	11,724.67	17,605.06	11,599.49	106.54	106.90	-84.60	5,892.02	-1,035.22	1,344.82	1,194.73	150.09	8.960		
17,800.00	11,722.93	17,705.06	11,597.74	108.06	108.41	-84.60	5,992.00	-1,036.13	1,344.82	1,192.58	152.24	8.834		
17,900.00	11,721.19	17,805.06	11,595.99	109.59	109.93	-84.60	6,091.98	-1,037.03	1,344.82	1,190.43	154.39	8.711		
18,000.00	11,719.45	17,905.06	11,594.24	111.12	111.45	-84.60	6,191.96	-1,037.94	1,344.82	1,188.28	156.54	8.591		
18,100.00	11,717.71	18,005.06	11,592.49	112.65	112.98	-84.60	6,291.94	-1,038.85	1,344.82	1,186.12	158.70	8.474		
18,200.00	11,715.97	18,105.06	11,590.74	114.19	114.51	-84.60	6,391.92	-1,039.75	1,344.82	1,183.95	160.87	8.360		
18,300.00	11,714.23	18,205.06	11,589.00	115.73	116.05	-84.60	6,491.90	-1,040.66	1,344.82	1,181.78	163.04	8.248		
18,400.00	11,712.49	18,305.06	11,587.25	117.27	117.58	-84.60	6,591.88	-1,041.56	1,344.82	1,179.61	165.21	8.140		
18,500.00	11,710.74	18,405.06	11,585.50	118.82	119.12	-84.60	6,691.86	-1,042.47	1,344.82	1,177.43	167.39	8.034		
18,600.00	11,709.00	18,505.06	11,583.75	120.37	120.67	-84.60	6,791.84	-1,043.38	1,344.82	1,175.25	169.57	7.931		
18,700.00	11,707.26	18,605.06	11,582.00	121.92	122.21	-84.60	6,891.82	-1,044.28	1,344.82	1,173.06	171.76	7.830		
18,800.00	11,705.52	18,705.06	11,580.25	123.47	123.76	-84.60	6,991.80	-1,045.19	1,344.82	1,170.87	173.95	7.731		
18,900.00	11,703.78	18,805.06	11,578.50	125.03	125.31	-84.60	7,091.78	-1,046.10	1,344.82	1,168.68	176.14	7.635		
19,000.00	11,702.04	18,905.06	11,576.75	126.59	126.86	-84.60	7,191.76	-1,047.00	1,344.82	1,166.48	178.33	7.541		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well 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		
19,100.00	11,700.30	19,005.06	11,575.00	128.15	128.42	-84.60	7,291.74	-1,047.91	1,344.82	1,164.28	180.53	7.449		
19,200.00	11,698.56	19,105.06	11,573.26	129.71	129.98	-84.60	7,391.72	-1,048.82	1,344.81	1,162.08	182.73	7.359		
19,300.00	11,696.81	19,205.06	11,571.51	131.28	131.54	-84.60	7,491.70	-1,049.72	1,344.81	1,159.88	184.94	7.272		
19,400.00	11,695.07	19,305.06	11,569.76	132.85	133.10	-84.60	7,591.69	-1,050.63	1,344.81	1,157.67	187.14	7.186		
19,500.00	11,693.33	19,405.06	11,568.01	134.42	134.67	-84.60	7,691.67	-1,051.54	1,344.81	1,155.46	189.36	7.102		
19,600.00	11,691.59	19,505.06	11,566.26	135.99	136.23	-84.60	7,791.65	-1,052.44	1,344.81	1,153.24	191.57	7.020		
19,700.00	11,689.85	19,605.06	11,564.51	137.56	137.80	-84.60	7,891.63	-1,053.35	1,344.81	1,151.03	193.78	6.940		
19,800.00	11,688.11	19,705.06	11,562.76	139.14	139.37	-84.60	7,991.61	-1,054.25	1,344.81	1,148.81	196.00	6.861		
19,900.00	11,686.37	19,805.06	11,561.01	140.71	140.95	-84.60	8,091.59	-1,055.16	1,344.81	1,146.59	198.22	6.784		
20,000.00	11,684.63	19,905.06	11,559.26	142.29	142.52	-84.59	8,191.57	-1,056.07	1,344.81	1,144.36	200.45	6.709		
20,100.00	11,682.88	20,005.06	11,557.52	143.87	144.10	-84.59	8,291.55	-1,056.97	1,344.81	1,142.14	202.67	6.635		
20,200.00	11,681.14	20,105.06	11,555.77	145.45	145.67	-84.59	8,391.53	-1,057.88	1,344.81	1,139.91	204.90	6.563		
20,300.00	11,679.40	20,205.06	11,554.02	147.04	147.25	-84.59	8,491.51	-1,058.79	1,344.81	1,137.68	207.13	6.493		
20,400.00	11,677.66	20,305.06	11,552.27	148.62	148.84	-84.59	8,591.49	-1,059.69	1,344.81	1,135.45	209.36	6.423		
20,500.00	11,675.92	20,405.06	11,550.52	150.21	150.42	-84.59	8,691.47	-1,060.60	1,344.81	1,133.21	211.60	6.356		
20,600.00	11,674.18	20,505.06	11,548.77	151.80	152.00	-84.59	8,791.45	-1,061.51	1,344.81	1,130.98	213.83	6.289		
20,700.00	11,672.44	20,605.06	11,547.02	153.39	153.59	-84.59	8,891.43	-1,062.41	1,344.81	1,128.74	216.07	6.224		
20,800.00	11,670.70	20,705.06	11,545.27	154.98	155.17	-84.59	8,991.41	-1,063.32	1,344.81	1,126.50	218.31	6.160		
20,900.00	11,668.95	20,805.06	11,543.52	156.57	156.76	-84.59	9,091.39	-1,064.23	1,344.81	1,124.26	220.55	6.097		
21,000.00	11,667.21	20,905.06	11,541.78	158.16	158.35	-84.59	9,191.37	-1,065.13	1,344.81	1,122.01	222.79	6.036		
21,100.00	11,665.47	21,005.06	11,540.03	159.76	159.94	-84.59	9,291.36	-1,066.04	1,344.81	1,119.77	225.04	5.976		
21,200.00	11,663.73	21,105.06	11,538.28	161.35	161.54	-84.59	9,391.34	-1,066.95	1,344.80	1,117.52	227.29	5.917		
21,300.00	11,661.99	21,205.06	11,536.53	162.95	163.13	-84.59	9,491.32	-1,067.85	1,344.80	1,115.27	229.53	5.859		
21,400.00	11,660.25	21,305.06	11,534.78	164.54	164.72	-84.59	9,591.30	-1,068.76	1,344.80	1,113.02	231.78	5.802		
21,500.00	11,658.51	21,405.06	11,533.03	166.14	166.32	-84.59	9,691.28	-1,069.66	1,344.80	1,110.77	234.03	5.746		
21,600.00	11,656.77	21,505.06	11,531.28	167.74	167.91	-84.59	9,791.26	-1,070.57	1,344.80	1,108.52	236.29	5.691		
21,700.00	11,655.02	21,605.06	11,529.53	169.34	169.51	-84.59	9,891.24	-1,071.48	1,344.80	1,106.26	238.54	5.638		
21,800.00	11,653.28	21,705.06	11,527.78	170.95	171.11	-84.59	9,991.22	-1,072.38	1,344.80	1,104.01	240.79	5.585		
21,900.00	11,651.54	21,805.06	11,526.04	172.55	172.71	-84.59	10,091.20	-1,073.29	1,344.80	1,101.75	243.05	5.533		
21,969.48	11,650.33	21,874.54	11,524.82	173.66	173.82	-84.59	10,160.67	-1,073.92	1,344.80	1,100.18	244.62	5.498		
21,973.00	11,650.27	21,874.54	11,524.82	173.72	173.82	-84.59	10,160.67	-1,073.92	1,344.81	1,100.14	244.67	5.496 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 Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well 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	1.00	1.00	0.00	0.00	-90.47	-0.58	-69.99	69.99					
100.00	100.00	101.00	101.00	0.13	0.13	-90.47	-0.58	-69.99	69.99	69.81	0.18	388.874		
200.00	200.00	201.00	201.00	0.48	0.49	-90.47	-0.58	-69.99	69.99	69.31	0.69	101.892		
300.00	300.00	301.00	301.00	0.84	0.85	-90.47	-0.58	-69.99	69.99	68.80	1.19	58.626		
400.00	400.00	401.00	401.00	1.20	1.20	-90.47	-0.58	-69.99	69.99	68.29	1.70	41.152		
500.00	500.00	501.00	501.00	1.56	1.56	-90.47	-0.58	-69.99	69.99	67.78	2.21	31.702		
600.00	600.00	601.00	601.00	1.92	1.92	-90.47	-0.58	-69.99	69.99	67.28	2.71	25.782		
700.00	700.00	701.00	701.00	2.28	2.28	-90.47	-0.58	-69.99	69.99	66.77	3.22	21.725		
800.00	800.00	801.00	801.00	2.63	2.64	-90.47	-0.58	-69.99	69.99	66.26	3.73	18.771		
900.00	900.00	901.00	901.00	2.99	3.00	-90.47	-0.58	-69.99	69.99	65.76	4.24	16.525		
1,000.00	1,000.00	1,001.00	1,001.00	3.35	3.36	-90.47	-0.58	-69.99	69.99	65.25	4.74	14.758		
1,100.00	1,100.00	1,101.00	1,101.00	3.71	3.71	-90.47	-0.58	-69.99	69.99	64.74	5.25	13.333		
1,200.00	1,200.00	1,201.00	1,201.00	4.07	4.07	-90.47	-0.58	-69.99	69.99	64.24	5.76	12.159		
1,300.00	1,300.00	1,301.00	1,301.00	4.43	4.43	-90.47	-0.58	-69.99	69.99	63.73	6.26	11.175		
1,400.00	1,400.00	1,401.00	1,401.00	4.79	4.79	-90.47	-0.58	-69.99	69.99	63.22	6.77	10.338		
1,500.00	1,500.00	1,501.00	1,501.00	5.14	5.15	-90.47	-0.58	-69.99	69.99	62.72	7.28	9.618		
1,600.00	1,600.00	1,601.00	1,601.00	5.50	5.51	-90.47	-0.58	-69.99	69.99	62.21	7.78	8.991		
1,700.00	1,700.00	1,701.00	1,701.00	5.86	5.86	-90.47	-0.58	-69.99	69.99	61.70	8.29	8.442		
1,800.00	1,800.00	1,801.00	1,801.00	6.22	6.22	-90.47	-0.58	-69.99	69.99	61.19	8.80	7.955		
1,900.00	1,900.00	1,901.00	1,901.00	6.58	6.58	-90.47	-0.58	-69.99	69.99	60.69	9.31	7.522		
2,000.00	2,000.00	2,001.00	2,001.00	6.94	6.94	-90.47	-0.58	-69.99	69.99	60.18	9.81	7.133		
2,100.00	2,100.00	2,101.00	2,101.00	7.29	7.30	-90.47	-0.58	-69.99	69.99	59.67	10.32	6.783		
2,200.00	2,200.00	2,201.00	2,201.00	7.65	7.66	-90.47	-0.58	-69.99	69.99	59.17	10.83	6.465		
2,300.00	2,300.00	2,301.00	2,301.00	8.01	8.02	-90.47	-0.58	-69.99	69.99	58.66	11.33	6.176		
2,400.00	2,400.00	2,401.00	2,401.00	8.37	8.37	-90.47	-0.58	-69.99	69.99	58.15	11.84	5.912		
2,500.00	2,500.00	2,501.00	2,501.00	8.73	8.73	-90.47	-0.58	-69.99	69.99	57.65	12.35	5.669		
2,600.00	2,600.00	2,601.00	2,601.00	9.09	9.09	-90.47	-0.58	-69.99	69.99	57.14	12.85	5.445		
2,700.00	2,700.00	2,701.00	2,701.00	9.45	9.45	-90.47	-0.58	-69.99	69.99	56.63	13.36	5.239		
2,800.00	2,800.00	2,801.00	2,801.00	9.80	9.81	-90.47	-0.58	-69.99	69.99	56.12	13.87	5.047		
2,900.00	2,900.00	2,901.00	2,901.00	10.16	10.17	-90.47	-0.58	-69.99	69.99	55.62	14.37	4.869		
3,000.00	3,000.00	3,001.00	3,001.00	10.52	10.52	-90.47	-0.58	-69.99	69.99	55.11	14.88	4.703		
3,100.00	3,100.00	3,101.00	3,101.00	10.88	10.88	-90.47	-0.58	-69.99	69.99	54.60	15.39	4.548		
3,200.00	3,200.00	3,201.00	3,201.00	11.24	11.24	-90.47	-0.58	-69.99	69.99	54.10	15.90	4.403	CC, ES	
3,300.00	3,299.99	3,300.99	3,300.99	11.58	11.60	150.92	-0.58	-69.99	71.13	54.74	16.39	4.339		
3,400.00	3,399.91	3,400.91	3,400.91	11.92	11.96	152.36	-0.58	-69.99	74.59	57.71	16.88	4.419		
3,500.00	3,499.69	3,500.00	3,500.00	12.25	12.31	154.46	-0.58	-69.99	80.44	63.08	17.37	4.632		
3,533.01	3,532.59	3,532.94	3,532.94	12.36	12.43	155.22	-0.63	-70.12	83.05	65.52	17.53	4.739		
3,600.00	3,599.32	3,598.26	3,598.25	12.59	12.65	156.46	-1.01	-71.18	89.41	71.57	17.84	5.012		
3,700.00	3,698.94	3,695.43	3,695.34	12.93	12.98	157.46	-2.30	-74.68	100.86	82.57	18.29	5.514		
3,800.00	3,798.56	3,792.06	3,791.77	13.28	13.31	157.68	-4.42	-80.47	114.57	95.84	18.73	6.116		
3,900.00	3,898.18	3,888.03	3,887.37	13.62	13.63	157.37	-7.35	-88.48	130.50	111.34	19.17	6.809		
4,000.00	3,997.80	3,983.81	3,982.52	13.97	13.96	156.70	-11.09	-98.69	148.62	129.02	19.60	7.584		
4,100.00	4,097.43	4,082.00	4,079.97	14.32	14.30	156.04	-15.21	-109.93	167.51	147.44	20.07	8.346		
4,200.00	4,197.05	4,180.18	4,177.43	14.67	14.65	155.52	-19.33	-121.17	186.42	165.87	20.55	9.072		
4,300.00	4,296.67	4,278.36	4,274.88	15.02	15.00	155.09	-23.45	-132.42	205.34	184.31	21.03	9.766		
4,400.00	4,396.29	4,376.55	4,372.33	15.38	15.34	154.73	-27.57	-143.66	224.27	202.76	21.51	10.428		
4,500.00	4,495.91	4,474.73	4,469.78	15.74	15.70	154.43	-31.68	-154.90	243.20	221.21	21.99	11.061		
4,600.00	4,495.53	4,472.91	4,467.23	16.09	16.05	154.17	-35.80	-166.15	262.14	239.67	22.47	11.666		
4,700.00	4,495.15	4,471.10	4,464.68	16.45	16.41	153.95	-39.92	-177.39	281.09	258.13	22.96	12.244		
4,800.00	4,794.77	4,769.28	4,762.13	16.81	16.77	153.76	-44.04	-188.63	300.04	276.60	23.44	12.799		
4,900.00	4,894.39	4,867.46	4,859.58	17.17	17.13	153.58	-48.16	-199.88	318.99	295.06	23.93	13.330		
5,000.00	4,994.01	4,965.65	4,957.03	17.53	17.49	153.43	-52.28	-211.12	337.95	313.53	24.42	13.839		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well 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 #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		
5,100.00	5,093.63	5,063.83	5,054.48	17.90	17.85	153.29	-56.39	-222.36	356.90	331.99	24.91	14.327		
5,200.00	5,193.25	5,162.01	5,151.93	18.26	18.22	153.17	-60.51	-233.61	375.86	350.46	25.40	14.796		
5,300.00	5,292.87	5,260.20	5,249.38	18.63	18.59	153.06	-64.63	-244.85	394.82	368.93	25.89	15.247		
5,400.00	5,392.49	5,358.38	5,346.83	18.99	18.96	152.96	-68.75	-256.09	413.79	387.40	26.39	15.681		
5,500.00	5,492.11	5,456.56	5,444.28	19.36	19.33	152.87	-72.87	-267.34	432.75	405.87	26.88	16.098		
5,600.00	5,591.73	5,554.75	5,541.73	19.73	19.70	152.79	-76.99	-278.58	451.71	424.33	27.38	16.499		
5,700.00	5,691.35	5,652.93	5,639.18	20.09	20.07	152.71	-81.11	-289.82	470.68	442.80	27.87	16.886		
5,800.00	5,790.97	5,751.11	5,736.63	20.46	20.44	152.64	-85.22	-301.07	489.64	461.27	28.37	17.258		
5,900.00	5,890.59	5,849.30	5,834.08	20.83	20.82	152.57	-89.34	-312.31	508.61	479.74	28.87	17.618		
6,000.00	5,990.21	5,947.48	5,931.53	21.20	21.19	152.51	-93.46	-323.55	527.58	498.21	29.37	17.964		
6,100.00	6,089.83	6,045.66	6,028.98	21.57	21.57	152.45	-97.58	-334.80	546.54	516.68	29.87	18.299		
6,200.00	6,189.45	6,143.85	6,126.43	21.94	21.95	152.40	-101.70	-346.04	565.51	535.14	30.37	18.622		
6,300.00	6,289.07	6,242.03	6,223.89	22.31	22.33	152.35	-105.82	-357.28	584.48	553.61	30.87	18.935		
6,400.00	6,388.69	6,340.21	6,321.34	22.68	22.70	152.30	-109.93	-368.53	603.45	572.08	31.37	19.237		
6,500.00	6,488.31	6,438.40	6,418.79	23.06	23.08	152.26	-114.05	-379.77	622.42	590.55	31.87	19.529		
6,600.00	6,587.93	6,536.58	6,516.24	23.43	23.47	152.22	-118.17	-391.01	641.39	609.01	32.37	19.812		
6,700.00	6,687.55	6,634.76	6,613.69	23.80	23.85	152.18	-122.29	-402.26	660.36	627.48	32.88	20.086		
6,800.00	6,787.17	6,732.95	6,711.14	24.18	24.23	152.14	-126.41	-413.50	679.33	645.95	33.38	20.351		
6,900.00	6,886.79	6,831.13	6,808.59	24.55	24.61	152.11	-130.53	-424.74	698.30	664.41	33.88	20.608		
7,000.00	6,986.41	6,929.31	6,906.04	24.92	24.99	152.07	-134.64	-435.99	717.27	682.88	34.39	20.858		
7,100.00	7,086.03	7,027.50	7,003.49	25.30	25.38	152.04	-138.76	-447.23	736.24	701.34	34.89	21.100		
7,200.00	7,185.65	7,125.68	7,100.94	25.67	25.76	152.01	-142.88	-458.47	755.21	719.81	35.40	21.334		
7,300.00	7,285.27	7,223.86	7,198.39	26.05	26.15	151.99	-147.00	-469.72	774.18	738.27	35.90	21.562		
7,400.00	7,384.89	7,322.05	7,295.84	26.42	26.53	151.96	-151.12	-480.96	793.15	756.74	36.41	21.783		
7,500.00	7,484.51	7,420.23	7,393.29	26.80	26.92	151.93	-155.24	-492.20	812.12	775.20	36.92	21.998		
7,600.00	7,584.13	7,518.41	7,490.74	27.17	27.31	151.91	-159.35	-503.45	831.09	793.67	37.42	22.207		
7,700.00	7,683.75	7,616.60	7,588.19	27.55	27.69	151.89	-163.47	-514.69	850.06	812.13	37.93	22.410		
7,800.00	7,783.37	7,714.78	7,685.64	27.93	28.08	151.86	-167.59	-525.93	869.03	830.60	38.44	22.608		
7,900.00	7,882.99	7,812.96	7,783.09	28.30	28.47	151.84	-171.71	-537.18	888.01	849.06	38.95	22.800		
7,919.49	7,902.41	7,832.10	7,802.09	28.38	28.54	151.84	-172.51	-539.37	891.70	852.66	39.05	22.837		
8,000.00	7,982.68	7,911.28	7,880.68	28.68	28.86	151.90	-175.83	-548.43	906.24	866.79	39.46	22.969		
8,100.00	8,082.54	8,009.97	7,978.63	29.04	29.25	151.90	-179.97	-559.74	922.25	882.29	39.96	23.078		
8,200.00	8,182.50	8,108.97	8,076.89	29.40	29.64	151.80	-184.13	-571.07	935.98	895.51	40.47	23.129		
8,252.50	8,235.00	8,161.05	8,128.58	29.58	29.85	-89.16	-186.31	-577.04	942.28	901.55	40.73	23.134		
8,300.00	8,282.50	8,208.19	8,175.37	29.74	30.03	-89.29	-188.29	-582.43	947.70	906.73	40.97	23.133		
8,400.00	8,382.50	8,319.76	8,286.15	30.08	30.47	-89.57	-192.85	-594.88	958.86	917.32	41.54	23.083		
8,500.00	8,482.50	8,450.18	8,416.02	30.42	30.97	-89.82	-196.94	-606.06	967.42	925.23	42.20	22.925		
8,600.00	8,582.50	8,581.27	8,546.88	30.76	31.45	-89.97	-199.52	-613.11	972.80	929.98	42.82	22.719		
8,700.00	8,682.50	8,712.72	8,678.29	31.10	31.91	-90.03	-200.56	-615.93	974.95	931.54	43.40	22.463		
8,800.00	8,782.50	8,817.92	8,783.50	31.44	32.26	-90.03	-200.58	-615.99	974.99	931.09	43.90	22.209		
8,900.00	8,882.50	8,917.92	8,883.50	31.78	32.60	-90.03	-200.58	-615.99	974.99	930.60	44.39	21.965		
9,000.00	8,982.50	9,017.92	8,983.50	32.13	32.93	-90.03	-200.58	-615.99	974.99	930.11	44.88	21.726		
9,100.00	9,082.50	9,117.92	9,083.50	32.47	33.27	-90.03	-200.58	-615.99	974.99	929.63	45.36	21.492		
9,200.00	9,182.50	9,217.92	9,183.50	32.81	33.60	-90.03	-200.58	-615.99	974.99	929.14	45.85	21.263		
9,300.00	9,282.50	9,317.92	9,283.50	33.15	33.94	-90.03	-200.58	-615.99	974.99	928.65	46.34	21.039		
9,400.00	9,382.50	9,417.92	9,383.50	33.50	34.28	-90.03	-200.58	-615.99	974.99	928.16	46.83	20.819		
9,500.00	9,482.50	9,517.92	9,483.50	33.84	34.61	-90.03	-200.58	-615.99	974.99	927.67	47.32	20.604		
9,600.00	9,582.50	9,617.92	9,583.50	34.19	34.95	-90.03	-200.58	-615.99	974.99	927.18	47.81	20.392		
9,700.00	9,682.50	9,717.92	9,683.50	34.53	35.29	-90.03	-200.58	-615.99	974.99	926.69	48.30	20.185		
9,800.00	9,782.50	9,817.92	9,783.50	34.87	35.63	-90.03	-200.58	-615.99	974.99	926.20	48.79	19.982		
9,900.00	9,882.50	9,917.92	9,883.50	35.22	35.97	-90.03	-200.58	-615.99	974.99	925.71	49.28	19.783		
10,000.00	9,982.50	10,017.92	9,983.50	35.56	36.31	-90.03	-200.58	-615.99	974.99	925.22	49.78	19.588		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well 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		
10,100.00	10,082.50	10,117.92	10,083.50	35.91	36.65	-90.03	-200.58	-615.99	974.99	924.72	50.27	19.396		
10,200.00	10,182.50	10,217.92	10,183.50	36.26	36.99	-90.03	-200.58	-615.99	974.99	924.23	50.76	19.208		
10,300.00	10,282.50	10,317.92	10,283.50	36.60	37.33	-90.03	-200.58	-615.99	974.99	923.74	51.25	19.024		
10,400.00	10,382.50	10,417.92	10,383.50	36.95	37.67	-90.03	-200.58	-615.99	974.99	923.25	51.74	18.843		
10,500.00	10,482.50	10,517.92	10,483.50	37.29	38.01	-90.03	-200.58	-615.99	974.99	922.75	52.24	18.665		
10,600.00	10,582.50	10,617.92	10,583.50	37.64	38.35	-90.03	-200.58	-615.99	974.99	922.26	52.73	18.490		
10,700.00	10,682.50	10,717.92	10,683.50	37.99	38.69	-90.03	-200.58	-615.99	974.99	921.77	53.22	18.319		
10,800.00	10,782.50	10,817.92	10,783.50	38.34	39.04	-90.03	-200.58	-615.99	974.99	921.27	53.72	18.151		
10,900.00	10,882.50	10,917.92	10,883.50	38.68	39.38	-90.03	-200.58	-615.99	974.99	920.78	54.21	17.985		
11,000.00	10,982.50	11,017.92	10,983.50	39.03	39.72	-90.03	-200.58	-615.99	974.99	920.29	54.70	17.823		
11,100.00	11,082.50	11,117.92	11,083.50	39.38	40.06	-90.03	-200.58	-615.99	974.99	919.79	55.20	17.663		
11,200.00	11,182.50	11,217.92	11,183.50	39.73	40.41	-90.03	-200.58	-615.99	974.99	919.30	55.69	17.506		
11,265.50	11,248.00	11,283.42	11,249.00	39.95	40.63	-90.03	-200.58	-615.99	974.99	918.97	56.02	17.405		
11,300.00	11,282.48	11,317.90	11,283.48	40.07	40.75	-89.58	-200.58	-615.99	974.98	918.79	56.19	17.352		
11,350.00	11,332.19	11,367.62	11,333.19	40.24	40.92	-89.88	-200.58	-615.99	974.96	918.53	56.43	17.278		
11,362.95	11,344.98	11,380.40	11,345.98	40.28	40.97	-90.00	-200.58	-615.99	974.96	918.47	56.49	17.259		
11,400.00	11,381.27	11,416.69	11,382.27	40.40	41.09	-90.43	-200.58	-615.99	974.98	918.32	56.66	17.207		
11,450.00	11,429.33	11,465.88	11,431.44	40.55	41.26	-91.15	-199.72	-616.00	975.17	918.28	56.89	17.141		
11,500.00	11,476.01	11,516.48	11,481.78	40.70	41.43	-91.90	-194.71	-616.04	975.53	918.42	57.11	17.081		
11,550.00	11,520.95	11,568.37	11,532.73	40.83	41.59	-92.64	-185.00	-616.13	976.07	918.74	57.32	17.027		
11,600.00	11,563.82	11,621.61	11,583.87	40.95	41.75	-93.38	-170.28	-616.27	976.77	919.24	57.53	16.979		
11,650.00	11,604.28	11,676.28	11,634.74	41.05	41.90	-94.09	-150.29	-616.45	977.61	919.89	57.72	16.937		
11,700.00	11,642.03	11,732.45	11,684.77	41.14	42.04	-94.79	-124.80	-616.68	978.58	920.68	57.90	16.902		
11,750.00	11,676.79	11,790.16	11,733.32	41.22	42.17	-95.46	-93.65	-616.97	979.63	921.57	58.06	16.872		
11,800.00	11,708.28	11,849.43	11,779.66	41.28	42.28	-96.09	-56.75	-617.31	980.74	922.53	58.21	16.848		
11,850.00	11,736.26	11,910.25	11,822.99	41.33	42.38	-96.67	-14.11	-617.70	981.87	923.52	58.35	16.828		
11,900.00	11,760.54	11,972.57	11,862.44	41.37	42.46	-97.21	34.10	-618.14	982.97	924.49	58.47	16.810		
11,950.00	11,780.91	12,036.32	11,897.14	41.42	42.52	-97.68	87.53	-618.63	983.99	925.39	58.60	16.792		
12,000.00	11,797.22	12,101.34	11,926.20	41.55	42.58	-98.08	145.66	-619.16	984.90	926.17	58.72	16.771		
12,050.00	11,809.36	12,167.47	11,948.80	41.68	42.63	-98.40	207.76	-619.73	985.65	926.79	58.86	16.745		
12,100.00	11,817.22	12,234.46	11,964.26	41.82	42.72	-98.63	272.90	-620.33	986.21	927.20	59.02	16.711		
12,150.00	11,820.75	12,302.05	11,972.04	41.96	42.85	-98.77	340.00	-620.94	986.56	927.36	59.19	16.667		
12,175.48	11,820.87	12,336.63	11,972.95	42.03	42.93	-98.81	374.55	-621.26	986.64	927.35	59.29	16.640		
12,200.00	11,820.44	12,363.46	11,972.51	42.10	43.00	-98.81	401.38	-621.51	986.64	927.26	59.39	16.613		
12,300.00	11,818.70	12,463.46	11,970.59	42.44	43.31	-98.80	501.36	-622.42	986.63	926.80	59.83	16.492		
12,400.00	11,816.96	12,563.46	11,968.68	42.83	43.69	-98.79	601.34	-623.34	986.61	926.26	60.35	16.349		
12,500.00	11,815.22	12,663.46	11,966.76	43.28	44.13	-98.78	701.32	-624.26	986.59	925.64	60.95	16.187		
12,600.00	11,813.48	12,763.46	11,964.84	43.78	44.62	-98.77	801.29	-625.17	986.57	924.94	61.63	16.008		
12,700.00	11,811.74	12,863.46	11,962.93	44.34	45.17	-98.76	901.27	-626.09	986.55	924.16	62.39	15.812		
12,800.00	11,810.00	12,963.46	11,961.01	44.95	45.77	-98.75	1,001.25	-627.01	986.54	923.30	63.23	15.602		
12,900.00	11,808.26	13,063.46	11,959.10	45.61	46.42	-98.74	1,101.23	-627.92	986.52	922.38	64.14	15.380		
13,000.00	11,806.51	13,163.46	11,957.18	46.32	47.12	-98.73	1,201.20	-628.84	986.50	921.38	65.12	15.149		
13,100.00	11,804.77	13,263.46	11,955.27	47.08	47.86	-98.72	1,301.18	-629.75	986.48	920.31	66.17	14.909		
13,200.00	11,803.03	13,363.46	11,953.35	47.88	48.65	-98.71	1,401.16	-630.67	986.46	919.19	67.28	14.663		
13,300.00	11,801.29	13,463.46	11,951.43	48.72	49.47	-98.70	1,501.13	-631.59	986.45	918.00	68.45	14.412		
13,400.00	11,799.55	13,563.46	11,949.52	49.60	50.34	-98.69	1,601.11	-632.50	986.43	916.75	69.68	14.157		
13,500.00	11,797.81	13,663.46	11,947.60	50.53	51.25	-98.68	1,701.09	-633.42	986.41	915.45	70.96	13.901		
13,600.00	11,796.07	13,763.46	11,945.69	51.48	52.20	-98.67	1,801.07	-634.34	986.39	914.10	72.29	13.645		
13,700.00	11,794.33	13,863.46	11,943.77	52.48	53.17	-98.66	1,901.04	-635.25	986.38	912.70	73.67	13.389		
13,800.00	11,792.58	13,963.46	11,941.86	53.50	54.18	-98.65	2,001.02	-636.17	986.36	911.26	75.10	13.134		
13,900.00	11,790.84	14,063.46	11,939.94	54.56	55.22	-98.64	2,101.00	-637.09	986.34	909.77	76.57	12.881		
14,000.00	11,789.10	14,163.46	11,938.02	55.64	56.29	-98.63	2,200.98	-638.00	986.32	908.24	78.08	12.632		

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 Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,100.00	11,787.36	14,263.46	11,936.11	56.75	57.39	-98.62	2,300.95	-638.92	986.31	906.67	79.63	12.385		
14,200.00	11,785.62	14,363.46	11,934.19	57.89	58.52	-98.61	2,400.93	-639.83	986.29	905.07	81.22	12.143		
14,300.00	11,783.88	14,463.46	11,932.28	59.05	59.66	-98.60	2,500.91	-640.75	986.27	903.43	82.84	11.905		
14,400.00	11,782.14	14,563.46	11,930.36	60.24	60.83	-98.59	2,600.88	-641.67	986.25	901.76	84.50	11.672		
14,500.00	11,780.40	14,663.46	11,928.45	61.44	62.03	-98.58	2,700.86	-642.58	986.24	900.06	86.18	11.444		
14,600.00	11,778.65	14,763.46	11,926.53	62.67	63.24	-98.57	2,800.84	-643.50	986.22	898.33	87.89	11.221		
14,700.00	11,776.91	14,863.46	11,924.61	63.92	64.47	-98.56	2,900.82	-644.42	986.20	896.57	89.63	11.003		
14,800.00	11,775.17	14,963.46	11,922.70	65.18	65.72	-98.55	3,000.79	-645.33	986.18	894.79	91.40	10.790		
14,900.00	11,773.43	15,063.46	11,920.78	66.46	66.99	-98.54	3,100.77	-646.25	986.17	892.98	93.19	10.583		
15,000.00	11,771.69	15,163.46	11,918.87	67.76	68.28	-98.53	3,200.75	-647.16	986.15	891.15	95.00	10.380		
15,100.00	11,769.95	15,263.46	11,916.95	69.07	69.58	-98.52	3,300.73	-648.08	986.13	889.30	96.83	10.184		
15,200.00	11,768.21	15,363.46	11,915.04	70.39	70.89	-98.51	3,400.70	-649.00	986.11	887.43	98.69	9.992		
15,300.00	11,766.46	15,463.46	11,913.12	71.73	72.22	-98.50	3,500.68	-649.91	986.10	885.54	100.56	9.806		
15,400.00	11,764.72	15,563.46	11,911.20	73.09	73.56	-98.49	3,600.66	-650.83	986.08	883.63	102.45	9.625		
15,500.00	11,762.98	15,663.46	11,909.29	74.45	74.92	-98.48	3,700.63	-651.75	986.06	881.70	104.36	9.449		
15,600.00	11,761.24	15,763.46	11,907.37	75.83	76.28	-98.47	3,800.61	-652.66	986.05	879.76	106.28	9.277		
15,700.00	11,759.50	15,863.45	11,905.46	77.21	77.66	-98.46	3,900.59	-653.58	986.03	877.80	108.22	9.111		
15,800.00	11,757.76	15,963.45	11,903.54	78.61	79.05	-98.45	4,000.57	-654.50	986.01	875.83	110.18	8.949		
15,900.00	11,756.02	16,063.45	11,901.62	80.02	80.44	-98.43	4,100.54	-655.41	986.00	873.85	112.15	8.792		
16,000.00	11,754.28	16,163.45	11,899.71	81.43	81.85	-98.42	4,200.52	-656.33	985.98	871.85	114.13	8.639		
16,100.00	11,752.53	16,263.45	11,897.79	82.86	83.27	-98.41	4,300.50	-657.24	985.96	869.84	116.12	8.491		
16,200.00	11,750.79	16,363.45	11,895.88	84.29	84.69	-98.40	4,400.48	-658.16	985.94	867.82	118.13	8.346		
16,300.00	11,749.05	16,463.45	11,893.96	85.73	86.12	-98.39	4,500.45	-659.08	985.93	865.78	120.14	8.206		
16,400.00	11,747.31	16,563.45	11,892.05	87.18	87.56	-98.38	4,600.43	-659.99	985.91	863.74	122.17	8.070		
16,500.00	11,745.57	16,663.45	11,890.13	88.63	89.01	-98.37	4,700.41	-660.91	985.89	861.69	124.21	7.937		
16,600.00	11,743.83	16,763.45	11,888.21	90.09	90.46	-98.36	4,800.39	-661.83	985.88	859.62	126.26	7.809		
16,700.00	11,742.09	16,863.45	11,886.30	91.56	91.92	-98.35	4,900.36	-662.74	985.86	857.55	128.31	7.683		
16,800.00	11,740.35	16,963.45	11,884.38	93.04	93.39	-98.34	5,000.34	-663.66	985.84	855.47	130.38	7.562		
16,900.00	11,738.60	17,063.45	11,882.47	94.52	94.87	-98.33	5,100.32	-664.58	985.83	853.38	132.45	7.443		
17,000.00	11,736.86	17,163.45	11,880.55	96.00	96.34	-98.32	5,200.29	-665.49	985.81	851.28	134.53	7.328		
17,100.00	11,735.12	17,263.45	11,878.64	97.49	97.83	-98.31	5,300.27	-666.41	985.79	849.18	136.62	7.216		
17,200.00	11,733.38	17,363.45	11,876.72	98.99	99.32	-98.30	5,400.25	-667.32	985.78	847.06	138.71	7.107		
17,300.00	11,731.64	17,463.45	11,874.80	100.49	100.81	-98.29	5,500.23	-668.24	985.76	844.94	140.82	7.000		
17,400.00	11,729.90	17,563.45	11,872.89	102.00	102.31	-98.28	5,600.20	-669.16	985.74	842.82	142.93	6.897		
17,500.00	11,728.16	17,663.45	11,870.97	103.51	103.82	-98.27	5,700.18	-670.07	985.73	840.69	145.04	6.796		
17,600.00	11,726.42	17,763.45	11,869.06	105.02	105.33	-98.26	5,800.16	-670.99	985.71	838.55	147.16	6.698		
17,700.00	11,724.67	17,863.45	11,867.14	106.54	106.84	-98.25	5,900.14	-671.91	985.69	836.40	149.29	6.603		
17,800.00	11,722.93	17,963.45	11,865.23	108.06	108.36	-98.24	6,000.11	-672.82	985.68	834.26	151.42	6.509		
17,900.00	11,721.19	18,063.45	11,863.31	109.59	109.88	-98.23	6,100.09	-673.74	985.66	832.10	153.56	6.419		
18,000.00	11,719.45	18,163.45	11,861.39	111.12	111.40	-98.22	6,200.07	-674.65	985.65	829.94	155.70	6.330		
18,100.00	11,717.71	18,263.45	11,859.48	112.65	112.93	-98.21	6,300.04	-675.57	985.63	827.78	157.85	6.244		
18,200.00	11,715.97	18,363.45	11,857.56	114.19	114.46	-98.20	6,400.02	-676.49	985.61	825.61	160.01	6.160		
18,300.00	11,714.23	18,463.45	11,855.65	115.73	116.00	-98.19	6,500.00	-677.40	985.60	823.43	162.16	6.078		
18,400.00	11,712.49	18,563.45	11,853.73	117.27	117.54	-98.18	6,599.98	-678.32	985.58	821.26	164.32	5.998		
18,500.00	11,710.74	18,663.45	11,851.82	118.82	119.08	-98.17	6,699.95	-679.24	985.56	819.07	166.49	5.920		
18,600.00	11,709.00	18,763.45	11,849.90	120.37	120.62	-98.16	6,799.93	-680.15	985.55	816.89	168.66	5.843		
18,700.00	11,707.26	18,863.45	11,847.98	121.92	122.17	-98.15	6,899.91	-681.07	985.53	814.70	170.83	5.769		
18,800.00	11,705.52	18,963.45	11,846.07	123.47	123.72	-98.14	6,999.89	-681.99	985.52	812.50	173.01	5.696		
18,900.00	11,703.78	19,063.45	11,844.15	125.03	125.27	-98.13	7,099.86	-682.90	985.50	810.31	175.19	5.625		
19,000.00	11,702.04	19,163.45	11,842.24	126.59	126.83	-98.12	7,199.84	-683.82	985.48	808.11	177.38	5.556		
19,100.00	11,700.30	19,263.45	11,840.32	128.15	128.38	-98.11	7,299.82	-684.73	985.47	805.90	179.56	5.488		
19,200.00	11,698.56	19,363.45	11,838.41	129.71	129.94	-98.10	7,399.79	-685.65	985.45	803.70	181.75	5.422		

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 Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,300.00	11,696.81	19,463.45	11,836.49	131.28	131.50	-98.09	7,499.77	-686.57	985.44	801.49	183.95	5.357		
19,400.00	11,695.07	19,563.45	11,834.57	132.85	133.07	-98.08	7,599.75	-687.48	985.42	799.27	186.15	5.294		
19,500.00	11,693.33	19,663.45	11,832.66	134.42	134.63	-98.07	7,699.73	-688.40	985.40	797.06	188.35	5.232		
19,600.00	11,691.59	19,763.45	11,830.74	135.99	136.20	-98.06	7,799.70	-689.32	985.39	794.84	190.55	5.171		
19,700.00	11,689.85	19,863.45	11,828.83	137.56	137.77	-98.05	7,899.68	-690.23	985.37	792.62	192.75	5.112		
19,800.00	11,688.11	19,963.45	11,826.91	139.14	139.34	-98.04	7,999.66	-691.15	985.36	790.39	194.96	5.054		
19,900.00	11,686.37	20,063.45	11,825.00	140.71	140.92	-98.03	8,099.64	-692.07	985.34	788.17	197.17	4.997		
20,000.00	11,684.63	20,163.45	11,823.08	142.29	142.49	-98.02	8,199.61	-692.98	985.32	785.94	199.38	4.942		
20,100.00	11,682.88	20,263.45	11,821.16	143.87	144.07	-98.01	8,299.59	-693.90	985.31	783.71	201.60	4.887		
20,200.00	11,681.14	20,363.45	11,819.25	145.45	145.65	-98.00	8,399.57	-694.81	985.29	781.48	203.82	4.834		
20,300.00	11,679.40	20,463.45	11,817.33	147.04	147.23	-97.99	8,499.55	-695.73	985.28	779.24	206.04	4.782		
20,400.00	11,677.66	20,563.45	11,815.42	148.62	148.81	-97.98	8,599.52	-696.65	985.26	777.00	208.26	4.731		
20,500.00	11,675.92	20,663.45	11,813.50	150.21	150.40	-97.97	8,699.50	-697.56	985.25	774.77	210.48	4.681		
20,600.00	11,674.18	20,763.45	11,811.59	151.80	151.98	-97.96	8,799.48	-698.48	985.23	772.52	212.71	4.632		
20,700.00	11,672.44	20,863.45	11,809.67	153.39	153.57	-97.95	8,899.45	-699.40	985.22	770.28	214.93	4.584		
20,800.00	11,670.70	20,963.45	11,807.75	154.98	155.16	-97.94	8,999.43	-700.31	985.20	768.04	217.16	4.537		
20,900.00	11,668.95	21,063.45	11,805.84	156.57	156.74	-97.93	9,099.41	-701.23	985.18	765.79	219.39	4.490		
21,000.00	11,667.21	21,163.45	11,803.92	158.16	158.33	-97.92	9,199.39	-702.15	985.17	763.54	221.63	4.445		
21,100.00	11,665.47	21,263.45	11,802.01	159.76	159.93	-97.91	9,299.36	-703.06	985.15	761.29	223.86	4.401		
21,200.00	11,663.73	21,363.45	11,800.09	161.35	161.52	-97.90	9,399.34	-703.98	985.14	759.04	226.10	4.357		
21,300.00	11,661.99	21,463.45	11,798.18	162.95	163.11	-97.89	9,499.32	-704.89	985.12	756.79	228.34	4.314		
21,400.00	11,660.25	21,563.45	11,796.26	164.54	164.71	-97.88	9,599.30	-705.81	985.11	754.53	230.58	4.272		
21,500.00	11,658.51	21,663.45	11,794.34	166.14	166.30	-97.87	9,699.27	-706.73	985.09	752.28	232.82	4.231		
21,600.00	11,656.77	21,763.45	11,792.43	167.74	167.90	-97.86	9,799.25	-707.64	985.08	750.02	235.06	4.191		
21,700.00	11,655.02	21,863.45	11,790.51	169.34	169.50	-97.85	9,899.23	-708.56	985.06	747.76	237.30	4.151		
21,800.00	11,653.28	21,963.45	11,788.60	170.95	171.10	-97.84	9,999.20	-709.48	985.05	745.50	239.55	4.112		
21,900.00	11,651.54	22,063.45	11,786.68	172.55	172.70	-97.83	10,099.18	-710.39	985.03	743.24	241.80	4.074		
21,964.67	11,650.42	22,128.12	11,785.44	173.58	173.74	-97.82	10,163.84	-710.98	985.02	741.77	243.25	4.049		
21,973.00	11,650.27	22,129.79	11,785.41	173.72	173.76	-97.82	10,165.51	-711.00	985.04	741.68	243.36	4.048 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 Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well 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	0.30	0.30	0.00	0.00	-90.47	-0.29	-35.00	35.00					
100.00	100.00	100.30	100.30	0.13	0.13	-90.47	-0.29	-35.00	35.00	34.82	0.18	196.419		
200.00	200.00	200.30	200.30	0.48	0.49	-90.47	-0.29	-35.00	35.00	34.32	0.69	51.085		
300.00	300.00	300.30	300.30	0.84	0.84	-90.47	-0.29	-35.00	35.00	33.81	1.19	29.361		
400.00	400.00	400.30	400.30	1.20	1.20	-90.47	-0.29	-35.00	35.00	33.30	1.70	20.600		
500.00	500.00	500.30	500.30	1.56	1.56	-90.47	-0.29	-35.00	35.00	32.80	2.21	15.866		
600.00	600.00	600.30	600.30	1.92	1.92	-90.47	-0.29	-35.00	35.00	32.29	2.71	12.901		
700.00	700.00	700.30	700.30	2.28	2.28	-90.47	-0.29	-35.00	35.00	31.78	3.22	10.870		
800.00	800.00	800.30	800.30	2.63	2.64	-90.47	-0.29	-35.00	35.00	31.27	3.73	9.392		
900.00	900.00	900.30	900.30	2.99	2.99	-90.47	-0.29	-35.00	35.00	30.77	4.23	8.267		
1,000.00	1,000.00	1,000.30	1,000.30	3.35	3.35	-90.47	-0.29	-35.00	35.00	30.26	4.74	7.383		
1,100.00	1,100.00	1,100.30	1,100.30	3.71	3.71	-90.47	-0.29	-35.00	35.00	29.75	5.25	6.670		
1,200.00	1,200.00	1,200.30	1,200.30	4.07	4.07	-90.47	-0.29	-35.00	35.00	29.25	5.75	6.082		
1,300.00	1,300.00	1,300.30	1,300.30	4.43	4.43	-90.47	-0.29	-35.00	35.00	28.74	6.26	5.590		
1,400.00	1,400.00	1,400.30	1,400.30	4.79	4.79	-90.47	-0.29	-35.00	35.00	28.23	6.77	5.171		
1,500.00	1,500.00	1,500.30	1,500.30	5.14	5.15	-90.47	-0.29	-35.00	35.00	27.73	7.28	4.811		
1,600.00	1,600.00	1,600.30	1,600.30	5.50	5.50	-90.47	-0.29	-35.00	35.00	27.22	7.78	4.497		
1,700.00	1,700.00	1,700.30	1,700.30	5.86	5.86	-90.47	-0.29	-35.00	35.00	26.71	8.29	4.222		
1,800.00	1,800.00	1,800.30	1,800.30	6.22	6.22	-90.47	-0.29	-35.00	35.00	26.20	8.80	3.979		
1,900.00	1,900.00	1,900.30	1,900.30	6.58	6.58	-90.47	-0.29	-35.00	35.00	25.70	9.30	3.762		
2,000.00	2,000.00	2,000.30	2,000.30	6.94	6.94	-90.47	-0.29	-35.00	35.00	25.19	9.81	3.568		
2,100.00	2,100.00	2,100.30	2,100.30	7.29	7.30	-90.47	-0.29	-35.00	35.00	24.68	10.32	3.392		
2,200.00	2,200.00	2,200.30	2,200.30	7.65	7.65	-90.47	-0.29	-35.00	35.00	24.18	10.82	3.234		
2,300.00	2,300.00	2,300.30	2,300.30	8.01	8.01	-90.47	-0.29	-35.00	35.00	23.67	11.33	3.089		
2,400.00	2,400.00	2,400.30	2,400.30	8.37	8.37	-90.47	-0.29	-35.00	35.00	23.16	11.84	2.957		
2,500.00	2,500.00	2,500.30	2,500.30	8.73	8.73	-90.47	-0.29	-35.00	35.00	22.66	12.35	2.835		
2,600.00	2,600.00	2,600.30	2,600.30	9.09	9.09	-90.47	-0.29	-35.00	35.00	22.15	12.85	2.723		
2,700.00	2,700.00	2,700.30	2,700.30	9.45	9.45	-90.47	-0.29	-35.00	35.00	21.64	13.36	2.620		
2,800.00	2,800.00	2,800.30	2,800.30	9.80	9.81	-90.47	-0.29	-35.00	35.00	21.14	13.87	2.524		
2,900.00	2,900.00	2,900.30	2,900.30	10.16	10.16	-90.47	-0.29	-35.00	35.00	20.63	14.37	2.435		
3,000.00	3,000.00	3,000.30	3,000.30	10.52	10.52	-90.47	-0.29	-35.00	35.00	20.12	14.88	2.352		
3,100.00	3,100.00	3,100.30	3,100.30	10.88	10.88	-90.47	-0.29	-35.00	35.00	19.61	15.39	2.275		
3,200.00	3,200.00	3,200.30	3,200.30	11.24	11.24	-90.47	-0.29	-35.00	35.00	19.11	15.89	2.202 CC, ES		
3,300.00	3,299.99	3,300.29	3,300.29	11.58	11.60	151.42	-0.29	-35.00	36.15	19.75	16.39	2.205		
3,400.00	3,399.91	3,400.21	3,400.21	11.92	11.96	154.11	-0.29	-35.00	39.64	22.76	16.88	2.348		
3,500.00	3,499.69	3,499.99	3,499.99	12.25	12.31	157.67	-0.29	-35.00	45.61	28.24	17.37	2.626		
3,533.01	3,532.59	3,532.89	3,532.89	12.36	12.43	158.89	-0.29	-35.00	48.15	30.62	17.53	2.747		
3,600.00	3,599.32	3,599.62	3,599.62	12.59	12.67	161.13	-0.29	-35.00	53.64	35.78	17.86	3.004		
3,700.00	3,698.94	3,699.24	3,699.24	12.93	13.03	163.74	-0.29	-35.00	61.94	43.60	18.35	3.376		
3,800.00	3,798.56	3,798.86	3,798.86	13.28	13.38	165.72	-0.29	-35.00	70.35	51.51	18.84	3.734		
3,900.00	3,898.18	3,898.48	3,898.48	13.62	13.74	167.28	-0.29	-35.00	78.81	59.49	19.33	4.078		
4,000.00	3,997.80	3,998.10	3,998.10	13.97	14.10	168.54	-0.29	-35.00	87.33	67.51	19.82	4.406		
4,100.00	4,097.43	4,097.73	4,097.73	14.32	14.46	169.57	-0.29	-35.00	95.88	75.57	20.31	4.720		
4,200.00	4,197.05	4,197.35	4,197.35	14.67	14.81	170.44	-0.29	-35.00	104.46	83.65	20.81	5.020		
4,300.00	4,296.67	4,296.97	4,296.97	15.02	15.17	171.17	-0.29	-35.00	113.05	91.75	21.30	5.307		
4,400.00	4,396.29	4,396.59	4,396.59	15.38	15.53	171.80	-0.29	-35.00	121.67	99.87	21.80	5.582		
4,500.00	4,495.91	4,496.21	4,496.21	15.74	15.88	172.35	-0.29	-35.00	130.29	108.00	22.29	5.844		
4,600.00	4,495.53	4,495.83	4,495.83	16.09	16.23	172.48	-1.44	-34.46	138.02	115.24	22.78	6.058		
4,700.00	4,495.15	4,495.45	4,495.45	16.45	16.57	171.85	-5.07	-32.75	143.81	120.56	23.26	6.184		
4,800.00	4,494.77	4,495.07	4,495.07	16.81	16.90	170.52	-11.21	-29.87	147.72	123.99	23.72	6.226		
4,900.00	4,494.39	4,494.69	4,494.69	17.17	17.24	168.50	-19.81	-25.83	149.85	125.66	24.19	6.195		
5,000.00	4,994.01	5,005.93	5,004.62	17.53	17.57	166.26	-29.25	-21.39	151.39	126.71	24.67	6.135		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
5,100.00	5,093.63	5,105.75	5,103.89	17.90	17.90	164.06	-38.69	-16.95	153.15	127.99	25.16	6.087		
5,200.00	5,193.25	5,205.56	5,203.15	18.26	18.23	161.92	-48.13	-12.51	155.13	129.48	25.65	6.048		
5,300.00	5,292.87	5,305.37	5,302.42	18.63	18.57	159.83	-57.57	-8.08	157.33	131.19	26.14	6.018		
5,400.00	5,392.49	5,405.19	5,401.69	18.99	18.91	157.81	-67.02	-3.64	159.73	133.09	26.64	5.996		
5,500.00	5,492.11	5,505.00	5,500.95	19.36	19.25	155.84	-76.46	0.80	162.32	135.18	27.13	5.982		
5,600.00	5,591.73	5,604.81	5,600.22	19.73	19.59	153.94	-85.90	5.24	165.10	137.46	27.63	5.975		
5,700.00	5,691.35	5,704.63	5,699.49	20.09	19.94	152.11	-95.34	9.67	168.05	139.91	28.14	5.973		
5,800.00	5,790.97	5,804.44	5,798.76	20.46	20.29	150.34	-104.78	14.11	171.17	142.53	28.64	5.977		
5,900.00	5,890.59	5,904.25	5,898.02	20.83	20.63	148.63	-114.23	18.55	174.45	145.30	29.15	5.985		
6,000.00	5,990.21	6,004.07	5,997.29	21.20	20.99	146.99	-123.67	22.99	177.87	148.22	29.65	5.998		
6,100.00	6,089.83	6,103.88	6,096.56	21.57	21.34	145.41	-133.11	27.43	181.44	151.28	30.17	6.015		
6,200.00	6,189.45	6,203.69	6,195.82	21.94	21.69	143.89	-142.55	31.86	185.14	154.46	30.68	6.035		
6,300.00	6,289.07	6,303.51	6,295.09	22.31	22.05	142.44	-152.00	36.30	188.97	157.77	31.19	6.058		
6,400.00	6,388.69	6,403.32	6,394.36	22.68	22.40	141.04	-161.44	40.74	192.91	161.20	31.71	6.084		
6,500.00	6,488.31	6,503.14	6,493.62	23.06	22.76	139.70	-170.88	45.18	196.96	164.74	32.22	6.112		
6,600.00	6,587.93	6,602.95	6,592.89	23.43	23.12	138.41	-180.32	49.61	201.12	168.37	32.74	6.142		
6,700.00	6,687.55	6,701.80	6,691.30	23.80	23.48	137.47	-188.76	53.58	205.58	172.32	33.26	6.181		
6,800.00	6,787.17	6,800.58	6,789.84	24.18	23.83	137.24	-194.90	56.47	210.60	176.83	33.76	6.237		
6,900.00	6,886.79	6,899.28	6,888.45	24.55	24.17	137.69	-198.74	58.27	216.14	181.88	34.26	6.309		
7,000.00	6,986.41	6,997.77	6,986.92	24.92	24.51	138.75	-200.26	58.99	222.27	187.53	34.75	6.397		
7,100.00	7,086.03	7,097.18	7,086.33	25.30	24.86	140.18	-200.29	59.00	228.89	193.66	35.24	6.496		
7,200.00	7,185.65	7,196.80	7,185.95	25.67	25.21	141.53	-200.29	59.00	235.66	199.93	35.73	6.595		
7,300.00	7,285.27	7,296.42	7,285.57	26.05	25.56	142.81	-200.29	59.00	242.54	206.32	36.22	6.696		
7,400.00	7,384.89	7,396.04	7,385.19	26.42	25.90	144.02	-200.29	59.00	249.55	212.83	36.72	6.796		
7,500.00	7,484.51	7,495.66	7,484.81	26.80	26.25	145.16	-200.29	59.00	256.65	219.44	37.21	6.897		
7,600.00	7,584.13	7,595.28	7,584.43	27.17	26.60	146.24	-200.29	59.00	263.85	226.15	37.71	6.997		
7,700.00	7,683.75	7,694.90	7,684.05	27.55	26.95	147.26	-200.29	59.00	271.14	232.94	38.20	7.098		
7,800.00	7,783.37	7,794.52	7,783.67	27.93	27.30	148.23	-200.29	59.00	278.51	239.82	38.70	7.197		
7,900.00	7,882.99	7,894.14	7,883.29	28.30	27.65	149.14	-200.29	59.00	285.96	246.77	39.19	7.296		
7,919.49	7,902.41	7,913.56	7,902.71	28.38	27.72	149.32	-200.29	59.00	287.42	248.13	39.29	7.315		
8,000.00	7,982.68	7,993.83	7,982.98	28.68	28.00	149.97	-200.29	59.00	292.74	253.05	39.69	7.376		
8,100.00	8,082.54	8,093.69	8,082.84	29.04	28.36	150.52	-200.29	59.00	297.35	257.16	40.19	7.399		
8,200.00	8,182.50	8,193.65	8,182.80	29.40	28.71	150.79	-200.29	59.00	299.69	259.00	40.68	7.366		
8,252.50	8,235.00	8,246.15	8,235.30	29.58	28.89	-90.06	-200.29	59.00	300.00	259.06	40.94	7.327		
8,300.00	8,282.50	8,293.65	8,282.80	29.74	29.06	-90.06	-200.29	59.00	300.00	258.82	41.18	7.285		
8,400.00	8,382.50	8,393.65	8,382.80	30.08	29.41	-90.06	-200.29	59.00	300.00	258.33	41.67	7.199		
8,500.00	8,482.50	8,493.65	8,482.80	30.42	29.76	-90.06	-200.29	59.00	300.00	257.84	42.16	7.115		
8,600.00	8,582.50	8,593.65	8,582.80	30.76	30.12	-90.06	-200.29	59.00	300.00	257.34	42.66	7.033		
8,700.00	8,682.50	8,693.65	8,682.80	31.10	30.47	-90.06	-200.29	59.00	300.00	256.85	43.15	6.952		
8,800.00	8,782.50	8,793.65	8,782.80	31.44	30.82	-90.06	-200.29	59.00	300.00	256.36	43.64	6.874		
8,900.00	8,882.50	8,893.65	8,882.80	31.78	31.18	-90.06	-200.29	59.00	300.00	255.86	44.14	6.797		
9,000.00	8,982.50	8,993.65	8,982.80	32.13	31.53	-90.06	-200.29	59.00	300.00	255.37	44.63	6.722		
9,100.00	9,082.50	9,093.65	9,082.80	32.47	31.88	-90.06	-200.29	59.00	300.00	254.87	45.13	6.648		
9,200.00	9,182.50	9,193.65	9,182.80	32.81	32.24	-90.06	-200.29	59.00	300.00	254.38	45.62	6.576		
9,300.00	9,282.50	9,293.65	9,282.80	33.15	32.59	-90.06	-200.29	59.00	300.00	253.88	46.12	6.505		
9,400.00	9,382.50	9,393.65	9,382.80	33.50	32.94	-90.06	-200.29	59.00	300.00	253.39	46.61	6.436		
9,500.00	9,482.50	9,493.65	9,482.80	33.84	33.30	-90.06	-200.29	59.00	300.00	252.89	47.11	6.368		
9,600.00	9,582.50	9,593.65	9,582.80	34.19	33.65	-90.06	-200.29	59.00	300.00	252.40	47.60	6.302		
9,700.00	9,682.50	9,693.65	9,682.80	34.53	34.00	-90.06	-200.29	59.00	300.00	251.90	48.10	6.237		
9,800.00	9,782.50	9,793.65	9,782.80	34.87	34.36	-90.06	-200.29	59.00	300.00	251.40	48.60	6.173		
9,900.00	9,882.50	9,893.65	9,882.80	35.22	34.71	-90.06	-200.29	59.00	300.00	250.91	49.09	6.111		
10,000.00	9,982.50	9,993.65	9,982.80	35.56	35.07	-90.06	-200.29	59.00	300.00	250.41	49.59	6.050		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well 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		
10,100.00	10,082.50	10,093.65	10,082.80	35.91	35.42	-90.06	-200.29	59.00	300.00	249.91	50.09	5.990		
10,200.00	10,182.50	10,193.65	10,182.80	36.26	35.78	-90.06	-200.29	59.00	300.00	249.42	50.58	5.931		
10,300.00	10,282.50	10,293.65	10,282.80	36.60	36.13	-90.06	-200.29	59.00	300.00	248.92	51.08	5.873		
10,400.00	10,382.50	10,393.65	10,382.80	36.95	36.48	-90.06	-200.29	59.00	300.00	248.42	51.58	5.816		
10,500.00	10,482.50	10,493.65	10,482.80	37.29	36.84	-90.06	-200.29	59.00	300.00	247.92	52.08	5.761		
10,600.00	10,582.50	10,593.65	10,582.80	37.64	37.19	-90.06	-200.29	59.00	300.00	247.43	52.57	5.706		
10,700.00	10,682.50	10,693.65	10,682.80	37.99	37.55	-90.06	-200.29	59.00	300.00	246.93	53.07	5.653		
10,800.00	10,782.50	10,793.65	10,782.80	38.34	37.90	-90.06	-200.29	59.00	300.00	246.43	53.57	5.600		
10,900.00	10,882.50	10,893.65	10,882.80	38.68	38.26	-90.06	-200.29	59.00	300.00	245.93	54.07	5.548		
11,000.00	10,982.50	10,993.65	10,982.80	39.03	38.61	-90.06	-200.29	59.00	300.00	245.43	54.57	5.498		
11,100.00	11,082.50	11,093.65	11,082.80	39.38	38.97	-90.06	-200.29	59.00	300.00	244.93	55.07	5.448		
11,106.54	11,089.03	11,100.18	11,089.33	39.40	38.99	-90.06	-200.29	59.00	300.00	244.90	55.10	5.445		
11,200.00	11,182.50	11,192.68	11,181.54	39.73	39.31	-88.89	-194.17	58.94	300.11	244.57	55.54	5.403		
11,265.50	11,248.00	11,255.24	11,242.81	39.95	39.52	-86.51	-181.69	58.83	300.78	244.96	55.81	5.389		
11,300.00	11,282.48	11,287.19	11,273.47	40.07	39.62	-84.40	-172.76	58.75	301.53	245.59	55.94	5.391		
11,350.00	11,332.19	11,332.76	11,316.25	40.24	39.75	-82.15	-157.09	58.61	303.00	246.93	56.08	5.403		
11,400.00	11,381.27	11,377.54	11,356.95	40.40	39.88	-79.99	-138.44	58.44	304.89	248.72	56.17	5.428		
11,450.00	11,429.33	11,421.61	11,395.46	40.55	40.00	-77.93	-117.03	58.24	307.12	250.91	56.21	5.464		
11,500.00	11,476.01	11,465.02	11,431.67	40.70	40.11	-75.98	-93.11	58.03	309.62	253.43	56.19	5.510		
11,550.00	11,520.95	11,507.85	11,465.53	40.83	40.22	-74.15	-66.89	57.79	312.32	256.21	56.11	5.561		
11,600.00	11,563.82	11,550.00	11,496.84	40.95	40.32	-72.47	-38.69	57.53	315.12	259.16	55.96	5.637		
11,650.00	11,604.28	11,591.98	11,525.88	41.05	40.42	-70.91	-8.39	57.26	317.96	262.20	55.77	5.702		
11,700.00	11,642.03	11,633.38	11,552.27	41.14	40.51	-69.50	23.49	56.97	320.77	265.24	55.53	5.777		
11,750.00	11,676.79	11,674.42	11,576.10	41.22	40.61	-68.23	56.90	56.67	323.48	268.22	55.27	5.853		
11,800.00	11,708.28	11,715.13	11,597.31	41.28	40.71	-67.11	91.64	56.35	326.03	271.04	55.00	5.928		
11,850.00	11,736.26	11,755.57	11,615.88	41.33	40.80	-66.13	127.54	56.02	328.36	273.63	54.73	6.000		
11,900.00	11,760.54	11,800.00	11,633.31	41.37	40.91	-65.24	168.40	55.65	330.46	275.88	54.57	6.055		
11,950.00	11,780.91	11,835.78	11,645.02	41.42	41.00	-64.63	202.20	55.35	332.18	277.90	54.28	6.120		
12,000.00	11,797.22	11,875.63	11,655.54	41.55	41.10	-64.10	240.63	55.00	333.59	279.46	54.13	6.163		
12,050.00	11,809.36	11,915.37	11,663.35	41.68	41.20	-63.71	279.58	54.65	334.63	280.59	54.05	6.191		
12,100.00	11,817.22	11,950.00	11,667.94	41.82	41.29	-63.49	313.90	54.33	335.33	281.33	54.00	6.209		
12,150.00	11,820.75	11,994.64	11,670.78	41.96	41.41	-63.39	358.44	53.93	335.54	281.43	54.11	6.201		
12,175.48	11,820.87	12,014.83	11,670.93	42.03	41.46	-63.40	378.62	53.75	335.51	281.33	54.18	6.192		
12,185.81	11,820.69	12,024.10	11,670.78	42.06	41.49	-63.40	387.90	53.66	335.50	281.29	54.22	6.188		
12,200.00	11,820.44	12,038.30	11,670.53	42.10	41.53	-63.40	402.09	53.53	335.50	281.24	54.27	6.182		
12,300.00	11,818.70	12,138.30	11,668.79	42.44	41.85	-63.40	502.07	52.63	335.50	280.86	54.65	6.139		
12,400.00	11,816.96	12,238.30	11,667.05	42.83	42.24	-63.40	602.05	51.72	335.50	280.40	55.11	6.088		
12,500.00	11,815.22	12,338.30	11,665.31	43.28	42.68	-63.40	702.03	50.81	335.50	279.86	55.64	6.030		
12,600.00	11,813.48	12,438.30	11,663.57	43.78	43.18	-63.40	802.01	49.90	335.50	279.25	56.25	5.965		
12,700.00	11,811.74	12,538.30	11,661.83	44.34	43.74	-63.40	901.99	49.00	335.50	278.57	56.93	5.894		
12,800.00	11,810.00	12,638.30	11,660.09	44.95	44.35	-63.40	1,001.97	48.09	335.50	277.83	57.67	5.817		
12,900.00	11,808.26	12,738.30	11,658.35	45.61	45.02	-63.40	1,101.95	47.18	335.50	277.01	58.49	5.736		
13,000.00	11,806.51	12,838.30	11,656.61	46.32	45.73	-63.40	1,201.93	46.28	335.50	276.14	59.36	5.652		
13,100.00	11,804.77	12,938.30	11,654.87	47.08	46.50	-63.40	1,301.92	45.37	335.50	275.20	60.30	5.564		
13,200.00	11,803.03	13,038.30	11,653.13	47.88	47.30	-63.40	1,401.90	44.46	335.50	274.21	61.29	5.474		
13,300.00	11,801.29	13,138.30	11,651.39	48.72	48.15	-63.40	1,501.88	43.55	335.50	273.16	62.34	5.382		
13,400.00	11,799.55	13,238.30	11,649.65	49.60	49.05	-63.40	1,601.86	42.65	335.50	272.06	63.44	5.289		
13,500.00	11,797.81	13,338.30	11,647.90	50.53	49.98	-63.40	1,701.84	41.74	335.50	270.91	64.59	5.195		
13,600.00	11,796.07	13,438.30	11,646.16	51.48	50.94	-63.40	1,801.82	40.83	335.50	269.72	65.78	5.100		
13,700.00	11,794.33	13,538.30	11,644.42	52.48	51.95	-63.40	1,901.80	39.92	335.50	268.48	67.01	5.006		
13,800.00	11,792.58	13,638.30	11,642.68	53.50	52.98	-63.40	2,001.78	39.02	335.49	267.21	68.29	4.913		
13,900.00	11,790.84	13,738.30	11,640.94	54.56	54.04	-63.40	2,101.76	38.11	335.49	265.89	69.60	4.820		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,000.00	11,789.10	13,838.30	11,639.20	55.64	55.14	-63.40	2,201.74	37.20	335.49	264.54	70.95	4.728		
14,100.00	11,787.36	13,938.30	11,637.46	56.75	56.26	-63.40	2,301.72	36.29	335.49	263.16	72.34	4.638		
14,200.00	11,785.62	14,038.30	11,635.72	57.89	57.41	-63.40	2,401.70	35.39	335.49	261.74	73.75	4.549		
14,300.00	11,783.88	14,138.30	11,633.98	59.05	58.58	-63.40	2,501.68	34.48	335.49	260.30	75.20	4.462		
14,400.00	11,782.14	14,238.30	11,632.24	60.24	59.77	-63.40	2,601.66	33.57	335.49	258.82	76.67	4.376		
14,500.00	11,780.40	14,338.30	11,630.50	61.44	60.99	-63.40	2,701.65	32.67	335.49	257.33	78.17	4.292		
14,600.00	11,778.65	14,438.30	11,628.76	62.67	62.22	-63.40	2,801.63	31.76	335.49	255.80	79.69	4.210		
14,700.00	11,776.91	14,538.30	11,627.02	63.92	63.47	-63.40	2,901.61	30.85	335.49	254.26	81.23	4.130		
14,800.00	11,775.17	14,638.30	11,625.28	65.18	64.75	-63.40	3,001.59	29.94	335.49	252.69	82.80	4.052		
14,900.00	11,773.43	14,738.30	11,623.54	66.46	66.04	-63.40	3,101.57	29.04	335.49	251.11	84.38	3.976		
15,000.00	11,771.69	14,838.30	11,621.80	67.76	67.34	-63.40	3,201.55	28.13	335.49	249.50	85.98	3.902		
15,100.00	11,769.95	14,938.30	11,620.05	69.07	68.66	-63.40	3,301.53	27.22	335.49	247.88	87.60	3.830		
15,200.00	11,768.21	15,038.30	11,618.31	70.39	69.99	-63.40	3,401.51	26.31	335.49	246.25	89.24	3.759		
15,300.00	11,766.46	15,138.30	11,616.57	71.73	71.34	-63.40	3,501.49	25.41	335.49	244.60	90.89	3.691		
15,400.00	11,764.72	15,238.30	11,614.83	73.09	72.70	-63.40	3,601.47	24.50	335.49	242.93	92.55	3.625		
15,500.00	11,762.98	15,338.30	11,613.09	74.45	74.07	-63.40	3,701.45	23.59	335.48	241.25	94.23	3.560		
15,600.00	11,761.24	15,438.30	11,611.35	75.83	75.45	-63.40	3,801.43	22.68	335.48	239.56	95.92	3.497		
15,700.00	11,759.50	15,538.30	11,609.61	77.21	76.85	-63.40	3,901.41	21.78	335.48	237.86	97.62	3.437		
15,800.00	11,757.76	15,638.30	11,607.87	78.61	78.25	-63.40	4,001.39	20.87	335.48	236.15	99.33	3.377		
15,900.00	11,756.02	15,738.30	11,606.13	80.02	79.66	-63.40	4,101.38	19.96	335.48	234.43	101.05	3.320		
16,000.00	11,754.28	15,838.30	11,604.39	81.43	81.08	-63.40	4,201.36	19.06	335.48	232.70	102.78	3.264		
16,100.00	11,752.53	15,938.30	11,602.65	82.86	82.52	-63.40	4,301.34	18.15	335.48	230.96	104.52	3.210		
16,200.00	11,750.79	16,038.30	11,600.91	84.29	83.95	-63.40	4,401.32	17.24	335.48	229.21	106.27	3.157		
16,300.00	11,749.05	16,138.30	11,599.17	85.73	85.40	-63.40	4,501.30	16.33	335.48	227.46	108.02	3.106		
16,400.00	11,747.31	16,238.30	11,597.43	87.18	86.85	-63.40	4,601.28	15.43	335.48	225.70	109.78	3.056		
16,500.00	11,745.57	16,338.30	11,595.69	88.63	88.31	-63.40	4,701.26	14.52	335.48	223.94	111.54	3.008		
16,600.00	11,743.83	16,438.30	11,593.95	90.09	89.78	-63.40	4,801.24	13.61	335.48	222.17	113.31	2.961		
16,700.00	11,742.09	16,538.30	11,592.21	91.56	91.26	-63.40	4,901.22	12.70	335.48	220.39	115.09	2.915		
16,800.00	11,740.35	16,638.30	11,590.46	93.04	92.73	-63.40	5,001.20	11.80	335.48	218.61	116.87	2.871		
16,900.00	11,738.60	16,738.30	11,588.72	94.52	94.22	-63.40	5,101.18	10.89	335.48	216.83	118.65	2.827		
17,000.00	11,736.86	16,838.30	11,586.98	96.00	95.71	-63.40	5,201.16	9.98	335.48	215.04	120.44	2.785		
17,100.00	11,735.12	16,938.30	11,585.24	97.49	97.21	-63.40	5,301.14	9.08	335.47	213.25	122.23	2.745		
17,200.00	11,733.38	17,038.30	11,583.50	98.99	98.71	-63.40	5,401.13	8.17	335.47	211.45	124.02	2.705		
17,300.00	11,731.64	17,138.30	11,581.76	100.49	100.21	-63.40	5,501.11	7.26	335.47	209.66	125.82	2.666		
17,400.00	11,729.90	17,238.30	11,580.02	102.00	101.72	-63.40	5,601.09	6.35	335.47	207.86	127.62	2.629		
17,500.00	11,728.16	17,338.30	11,578.28	103.51	103.24	-63.40	5,701.07	5.45	335.47	206.06	129.42	2.592		
17,600.00	11,726.42	17,438.30	11,576.54	105.02	104.76	-63.40	5,801.05	4.54	335.47	204.25	131.22	2.557		
17,700.00	11,724.67	17,538.30	11,574.80	106.54	106.28	-63.40	5,901.03	3.63	335.47	202.45	133.02	2.522		
17,800.00	11,722.93	17,638.30	11,573.06	108.06	107.81	-63.40	6,001.01	2.72	335.47	200.64	134.83	2.488		
17,900.00	11,721.19	17,738.30	11,571.32	109.59	109.34	-63.40	6,100.99	1.82	335.47	198.84	136.63	2.455		
18,000.00	11,719.45	17,838.30	11,569.58	111.12	110.87	-63.40	6,200.97	0.91	335.47	197.03	138.44	2.423		
18,100.00	11,717.71	17,938.30	11,567.84	112.65	112.41	-63.40	6,300.95	0.00	335.47	195.22	140.25	2.392		
18,200.00	11,715.97	18,038.30	11,566.10	114.19	113.95	-63.40	6,400.93	-0.91	335.47	193.41	142.05	2.362		
18,300.00	11,714.23	18,138.30	11,564.36	115.73	115.49	-63.40	6,500.91	-1.81	335.47	191.61	143.86	2.332		
18,400.00	11,712.49	18,238.30	11,562.61	117.27	117.04	-63.40	6,600.89	-2.72	335.47	189.80	145.67	2.303		
18,500.00	11,710.74	18,338.30	11,560.87	118.82	118.59	-63.40	6,700.87	-3.63	335.47	187.99	147.47	2.275		
18,600.00	11,709.00	18,438.30	11,559.13	120.37	120.14	-63.40	6,800.86	-4.53	335.47	186.19	149.28	2.247		
18,700.00	11,707.26	18,538.30	11,557.39	121.92	121.69	-63.40	6,900.84	-5.44	335.46	184.38	151.08	2.220		
18,800.00	11,705.52	18,638.30	11,555.65	123.47	123.25	-63.40	7,000.82	-6.35	335.46	182.58	152.89	2.194		
18,900.00	11,703.78	18,738.30	11,553.91	125.03	124.81	-63.40	7,100.80	-7.26	335.46	180.77	154.69	2.169		
19,000.00	11,702.04	18,838.30	11,552.17	126.59	126.37	-63.40	7,200.78	-8.16	335.46	178.97	156.49	2.144		
19,100.00	11,700.30	18,938.30	11,550.43	128.15	127.93	-63.40	7,300.76	-9.07	335.46	177.17	158.29	2.119		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,200.00	11,698.56	19,038.30	11,548.69	129.71	129.50	-63.40	7,400.74	-9.98	335.46	175.37	160.09	2.095		
19,300.00	11,696.81	19,138.30	11,546.95	131.28	131.07	-63.40	7,500.72	-10.89	335.46	173.58	161.88	2.072		
19,400.00	11,695.07	19,238.30	11,545.21	132.85	132.64	-63.40	7,600.70	-11.79	335.46	171.78	163.68	2.050		
19,500.00	11,693.33	19,338.30	11,543.47	134.42	134.21	-63.40	7,700.68	-12.70	335.46	169.99	165.47	2.027		
19,600.00	11,691.59	19,438.30	11,541.73	135.99	135.78	-63.40	7,800.66	-13.61	335.46	168.20	167.26	2.006		
19,700.00	11,689.85	19,538.30	11,539.99	137.56	137.36	-63.40	7,900.64	-14.51	335.46	166.41	169.05	1.984		
19,800.00	11,688.11	19,638.30	11,538.25	139.14	138.94	-63.40	8,000.62	-15.42	335.46	164.62	170.83	1.964		
19,900.00	11,686.37	19,738.30	11,536.51	140.71	140.52	-63.40	8,100.61	-16.33	335.46	162.84	172.62	1.943		
20,000.00	11,684.63	19,838.30	11,534.77	142.29	142.10	-63.40	8,200.59	-17.24	335.46	161.06	174.40	1.924		
20,100.00	11,682.88	19,938.30	11,533.02	143.87	143.68	-63.40	8,300.57	-18.14	335.46	159.28	176.17	1.904		
20,200.00	11,681.14	20,038.30	11,531.28	145.45	145.27	-63.40	8,400.55	-19.05	335.46	157.51	177.95	1.885		
20,300.00	11,679.40	20,138.30	11,529.54	147.04	146.85	-63.40	8,500.53	-19.96	335.46	155.73	179.72	1.867		
20,400.00	11,677.66	20,238.30	11,527.80	148.62	148.44	-63.40	8,600.51	-20.87	335.45	153.97	181.49	1.848		
20,500.00	11,675.92	20,338.30	11,526.06	150.21	150.03	-63.40	8,700.49	-21.77	335.45	152.20	183.25	1.831		
20,600.00	11,674.18	20,438.30	11,524.32	151.80	151.62	-63.40	8,800.47	-22.68	335.45	150.44	185.02	1.813		
20,700.00	11,672.44	20,538.30	11,522.58	153.39	153.21	-63.40	8,900.45	-23.59	335.45	148.68	186.78	1.796		
20,800.00	11,670.70	20,638.30	11,520.84	154.98	154.80	-63.40	9,000.43	-24.50	335.45	146.92	188.53	1.779		
20,900.00	11,668.95	20,738.30	11,519.10	156.57	156.39	-63.40	9,100.41	-25.40	335.45	145.17	190.28	1.763		
21,000.00	11,667.21	20,838.30	11,517.36	158.16	157.99	-63.40	9,200.39	-26.31	335.45	143.42	192.03	1.747		
21,100.00	11,665.47	20,938.30	11,515.62	159.76	159.59	-63.40	9,300.37	-27.22	335.45	141.68	193.77	1.731		
21,200.00	11,663.73	21,038.30	11,513.88	161.35	161.18	-63.40	9,400.35	-28.12	335.45	139.93	195.52	1.716		
21,300.00	11,661.99	21,138.30	11,512.14	162.95	162.78	-63.41	9,500.34	-29.03	335.45	138.20	197.25	1.701		
21,400.00	11,660.25	21,238.30	11,510.40	164.54	164.38	-63.41	9,600.32	-29.94	335.45	136.46	198.99	1.686		
21,500.00	11,658.51	21,338.30	11,508.66	166.14	165.98	-63.41	9,700.30	-30.85	335.45	134.73	200.71	1.671		
21,600.00	11,656.77	21,438.30	11,506.92	167.74	167.58	-63.41	9,800.28	-31.75	335.45	133.01	202.44	1.657		
21,700.00	11,655.02	21,538.30	11,505.18	169.34	169.18	-63.41	9,900.26	-32.66	335.45	131.29	204.16	1.643		
21,800.00	11,653.28	21,638.30	11,503.43	170.95	170.79	-63.41	10,000.24	-33.57	335.45	129.57	205.88	1.629		
21,900.00	11,651.54	21,738.30	11,501.69	172.55	172.39	-63.41	10,100.22	-34.48	335.45	127.86	207.59	1.616		
21,973.00	11,650.27	21,811.30	11,500.42	173.72	173.56	-63.41	10,173.20	-35.14	335.45	126.61	208.84	1.606 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 Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well 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	5.30	5.30	0.00	0.01	-83.79	232.38	-2,134.75	2,147.36					
100.00	100.00	105.30	105.30	0.13	0.16	-83.79	232.38	-2,134.75	2,147.36	2,147.16	0.20	N/A		
200.00	200.00	205.30	205.30	0.48	0.52	-83.79	232.38	-2,134.75	2,147.36	2,146.65	0.71	3,025.877		
300.00	300.00	305.30	305.30	0.84	0.88	-83.79	232.38	-2,134.75	2,147.36	2,146.14	1.22	1,765.283		
400.00	400.00	405.30	405.30	1.20	1.24	-83.79	232.38	-2,134.75	2,147.36	2,145.64	1.72	1,246.060		
500.00	500.00	505.30	505.30	1.56	1.59	-83.79	232.38	-2,134.75	2,147.36	2,145.13	2.23	962.841		
600.00	600.00	605.30	605.30	1.92	1.95	-83.79	232.38	-2,134.75	2,147.36	2,144.62	2.74	784.520		
700.00	700.00	705.30	705.30	2.28	2.31	-83.79	232.38	-2,134.75	2,147.36	2,144.12	3.24	661.928		
800.00	800.00	805.30	805.30	2.63	2.67	-83.79	232.38	-2,134.75	2,147.36	2,143.61	3.75	572.470		
900.00	900.00	905.30	905.30	2.99	3.03	-83.79	232.38	-2,134.75	2,147.36	2,143.10	4.26	504.313		
1,000.00	1,000.00	1,005.30	1,005.30	3.35	3.39	-83.79	232.38	-2,134.75	2,147.36	2,142.60	4.76	450.659		
1,100.00	1,100.00	1,105.30	1,105.30	3.71	3.75	-83.79	232.38	-2,134.75	2,147.36	2,142.09	5.27	407.323		
1,200.00	1,200.00	1,205.30	1,205.30	4.07	4.10	-83.79	232.38	-2,134.75	2,147.36	2,141.58	5.78	371.590		
1,300.00	1,300.00	1,305.30	1,305.30	4.43	4.46	-83.79	232.38	-2,134.75	2,147.36	2,141.07	6.29	341.622		
1,400.00	1,400.00	1,405.30	1,405.30	4.79	4.82	-83.79	232.38	-2,134.75	2,147.36	2,140.57	6.79	316.126		
1,500.00	1,500.00	1,505.30	1,505.30	5.14	5.18	-83.79	232.38	-2,134.75	2,147.36	2,140.06	7.30	294.171		
1,600.00	1,600.00	1,605.30	1,605.30	5.50	5.54	-83.79	232.38	-2,134.75	2,147.36	2,139.55	7.81	275.068		
1,700.00	1,700.00	1,705.30	1,705.30	5.86	5.90	-83.79	232.38	-2,134.75	2,147.36	2,139.05	8.31	258.295		
1,800.00	1,800.00	1,805.30	1,805.30	6.22	6.25	-83.79	232.38	-2,134.75	2,147.36	2,138.54	8.82	243.450		
1,900.00	1,900.00	1,905.30	1,905.30	6.58	6.61	-83.79	232.38	-2,134.75	2,147.36	2,138.03	9.33	230.218		
2,000.00	2,000.00	2,005.30	2,005.30	6.94	6.97	-83.79	232.38	-2,134.75	2,147.36	2,137.53	9.83	218.351		
2,100.00	2,100.00	2,105.30	2,105.30	7.29	7.33	-83.79	232.38	-2,134.75	2,147.36	2,137.02	10.34	207.647		
2,200.00	2,200.00	2,205.30	2,205.30	7.65	7.69	-83.79	232.38	-2,134.75	2,147.36	2,136.51	10.85	197.943		
2,300.00	2,300.00	2,305.30	2,305.30	8.01	8.05	-83.79	232.38	-2,134.75	2,147.36	2,136.01	11.36	189.106		
2,400.00	2,400.00	2,405.30	2,405.30	8.37	8.41	-83.79	232.38	-2,134.75	2,147.36	2,135.50	11.86	181.024		
2,500.00	2,500.00	2,510.20	2,510.20	8.73	8.78	-83.79	232.37	-2,134.74	2,147.35	2,134.97	12.38	173.445		
2,600.00	2,600.00	2,702.43	2,702.34	9.09	9.43	-83.86	229.11	-2,130.50	2,144.98	2,131.89	13.08	163.955		
2,700.00	2,700.00	2,893.65	2,892.95	9.45	10.07	-84.07	220.04	-2,118.68	2,138.32	2,124.56	13.76	155.409		
2,800.00	2,800.00	3,027.76	3,026.15	9.80	10.53	-84.29	210.50	-2,106.26	2,128.25	2,113.93	14.32	148.666		
2,900.00	2,900.00	3,127.02	3,124.66	10.16	10.88	-84.47	203.14	-2,096.67	2,117.88	2,103.07	14.81	143.039		
3,000.00	3,000.00	3,226.27	3,223.18	10.52	11.23	-84.64	195.77	-2,087.08	2,107.53	2,092.23	15.30	137.756		
3,100.00	3,100.00	3,325.52	3,321.69	10.88	11.58	-84.82	188.40	-2,077.48	2,097.20	2,081.41	15.79	132.788		
3,200.00	3,200.00	3,424.78	3,420.21	11.24	11.94	-85.00	181.04	-2,067.89	2,086.90	2,070.61	16.29	128.110		
3,300.00	3,299.99	3,524.18	3,518.87	11.58	12.30	-155.77	173.66	-2,058.28	2,077.80	2,061.02	16.78	123.836		
3,400.00	3,399.91	3,623.83	3,617.77	11.92	12.67	-155.68	166.26	-2,048.65	2,071.09	2,053.83	17.26	119.987		
3,500.00	3,499.69	3,723.66	3,716.86	12.25	13.04	-155.59	158.85	-2,039.00	2,066.78	2,049.03	17.75	116.462		
3,533.01	3,532.59	3,756.64	3,749.59	12.36	13.16	-155.57	156.41	-2,035.82	2,065.88	2,047.97	17.91	115.366		
3,600.00	3,599.32	3,823.58	3,816.03	12.59	13.41	-155.51	151.44	-2,029.35	2,064.32	2,046.08	18.23	113.210		
3,700.00	3,698.94	3,923.51	3,915.22	12.93	13.78	-155.43	144.02	-2,019.69	2,061.99	2,043.27	18.72	110.120		
3,800.00	3,798.56	4,023.43	4,014.40	13.28	14.15	-155.35	136.60	-2,010.03	2,059.67	2,040.45	19.22	107.176		
3,900.00	3,898.18	4,123.36	4,113.58	13.62	14.53	-155.26	129.19	-2,000.37	2,057.35	2,037.64	19.71	104.368		
4,000.00	3,997.80	4,223.29	4,212.76	13.97	14.91	-155.18	121.77	-1,990.71	2,055.04	2,034.83	20.21	101.688		
4,100.00	4,097.43	4,323.22	4,311.95	14.32	15.29	-155.09	114.35	-1,981.05	2,052.73	2,032.02	20.71	99.128		
4,200.00	4,197.05	4,423.14	4,411.13	14.67	15.67	-155.01	106.94	-1,971.40	2,050.43	2,029.22	21.21	96.681		
4,300.00	4,296.67	4,523.07	4,510.31	15.02	16.05	-154.92	99.52	-1,961.74	2,048.13	2,026.42	21.71	94.341		
4,400.00	4,396.29	4,623.00	4,609.49	15.38	16.44	-154.84	92.10	-1,952.08	2,045.83	2,023.62	22.21	92.100		
4,500.00	4,495.91	4,722.93	4,708.68	15.74	16.82	-154.75	84.69	-1,942.42	2,043.54	2,020.83	22.72	89.953		
4,600.00	4,495.53	4,822.85	4,807.86	16.09	17.21	-154.67	77.27	-1,932.76	2,041.26	2,018.03	23.22	87.895		
4,700.00	4,495.15	4,922.78	4,907.04	16.45	17.60	-154.58	69.85	-1,923.11	2,038.98	2,015.25	23.73	85.920		
4,800.00	4,794.77	5,022.71	5,006.22	16.81	17.99	-154.50	62.44	-1,913.45	2,036.70	2,012.46	24.24	84.024		
4,900.00	4,894.39	5,122.64	5,105.41	17.17	18.38	-154.41	55.02	-1,903.79	2,034.43	2,009.68	24.75	82.203		
5,000.00	4,994.01	5,222.56	5,204.59	17.53	18.77	-154.32	47.60	-1,894.13	2,032.16	2,006.90	25.26	80.451		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well 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						
5,100.00	5,093.63	5,322.49	5,303.77	17.90	19.16	154.24	40.19	-1,884.47	2,029.90	2,004.13	25.77	78.767						
5,200.00	5,193.25	5,422.42	5,402.96	18.26	19.55	154.15	32.77	-1,874.81	2,027.64	2,001.36	26.28	77.145						
5,300.00	5,292.87	5,522.35	5,502.14	18.63	19.94	154.07	25.35	-1,865.16	2,025.39	1,998.59	26.80	75.583						
5,400.00	5,392.49	5,622.27	5,601.32	18.99	20.33	153.98	17.94	-1,855.50	2,023.14	1,995.83	27.31	74.078						
5,500.00	5,492.11	5,722.20	5,700.50	19.36	20.73	153.89	10.52	-1,845.84	2,020.90	1,993.07	27.83	72.626						
5,600.00	5,591.73	5,822.13	5,799.69	19.73	21.12	153.80	3.10	-1,836.18	2,018.66	1,990.32	28.34	71.225						
5,700.00	5,691.35	5,922.06	5,898.87	20.09	21.52	153.72	-4.31	-1,826.52	2,016.42	1,987.56	28.86	69.873						
5,800.00	5,790.97	6,021.98	5,998.05	20.46	21.91	153.63	-11.73	-1,816.86	2,014.19	1,984.82	29.38	68.567						
5,900.00	5,890.59	6,121.91	6,097.23	20.83	22.31	153.54	-19.15	-1,807.21	2,011.97	1,982.07	29.89	67.304						
6,000.00	5,990.21	6,221.84	6,196.42	21.20	22.71	153.45	-26.56	-1,797.55	2,009.75	1,979.33	30.41	66.084						
6,100.00	6,089.83	6,321.77	6,295.60	21.57	23.10	153.36	-33.98	-1,787.89	2,007.53	1,976.60	30.93	64.903						
6,200.00	6,189.45	6,421.69	6,394.78	21.94	23.50	153.28	-41.40	-1,778.23	2,005.32	1,973.87	31.45	63.760						
6,300.00	6,289.07	6,521.62	6,493.96	22.31	23.90	153.19	-48.81	-1,768.57	2,003.11	1,971.14	31.97	62.653						
6,400.00	6,388.69	6,621.55	6,593.15	22.68	24.30	153.10	-56.23	-1,758.92	2,000.91	1,968.42	32.49	61.581						
6,500.00	6,488.31	6,721.47	6,692.33	23.06	24.69	153.01	-63.65	-1,749.26	1,998.72	1,965.70	33.01	60.542						
6,600.00	6,587.93	6,821.40	6,791.51	23.43	25.09	152.92	-71.06	-1,739.60	1,996.53	1,962.99	33.54	59.534						
6,700.00	6,687.55	6,921.33	6,890.70	23.80	25.49	152.83	-78.48	-1,729.94	1,994.34	1,960.28	34.06	58.556						
6,800.00	6,787.17	7,021.26	6,989.88	24.18	25.89	152.74	-85.90	-1,720.28	1,992.16	1,957.58	34.58	57.608						
6,900.00	6,886.79	7,121.18	7,089.06	24.55	26.29	152.65	-93.31	-1,710.62	1,989.98	1,954.88	35.11	56.686						
7,000.00	6,986.41	7,221.11	7,188.24	24.92	26.69	152.56	-100.73	-1,700.97	1,987.81	1,952.18	35.63	55.792						
7,100.00	7,086.03	7,321.04	7,287.43	25.30	27.09	152.47	-108.15	-1,691.31	1,985.64	1,949.49	36.15	54.923						
7,200.00	7,185.65	7,420.97	7,386.61	25.67	27.49	152.38	-115.56	-1,681.65	1,983.48	1,946.80	36.68	54.078						
7,300.00	7,285.27	7,520.89	7,485.79	26.05	27.89	152.29	-122.98	-1,671.99	1,981.32	1,944.12	37.20	53.256						
7,400.00	7,384.89	7,620.82	7,584.97	26.42	28.29	152.20	-130.40	-1,662.33	1,979.17	1,941.44	37.73	52.457						
7,500.00	7,484.51	7,720.75	7,684.16	26.80	28.70	152.11	-137.81	-1,652.68	1,977.02	1,938.77	38.26	51.680						
7,600.00	7,584.13	7,820.68	7,783.34	27.17	29.10	152.01	-145.23	-1,643.02	1,974.88	1,936.10	38.78	50.923						
7,700.00	7,683.75	7,920.60	7,882.52	27.55	29.50	151.92	-152.65	-1,633.36	1,972.74	1,933.44	39.31	50.186						
7,800.00	7,783.37	8,020.53	7,981.70	27.93	29.90	151.83	-160.06	-1,623.70	1,970.61	1,930.78	39.84	49.468						
7,900.00	7,882.99	8,120.46	8,080.89	28.30	30.30	151.74	-167.48	-1,614.04	1,968.49	1,928.12	40.36	48.769						
7,919.49	7,902.41	8,139.94	8,100.22	28.38	30.38	151.72	-168.93	-1,612.16	1,968.07	1,927.61	40.47	48.635						
8,000.00	7,982.68	8,220.35	8,180.04	28.68	30.71	151.62	-174.90	-1,604.39	1,965.62	1,924.73	40.89	48.070						
8,100.00	8,082.54	8,320.10	8,279.04	29.04	31.11	151.44	-182.30	-1,594.75	1,960.50	1,919.08	41.42	47.336						
8,200.00	8,182.50	8,419.64	8,377.84	29.40	31.51	151.21	-189.69	-1,585.13	1,953.10	1,911.16	41.94	46.568						
8,252.50	8,235.00	8,471.80	8,429.61	29.58	31.72	-89.81	-193.56	-1,580.08	1,948.31	1,906.10	42.21	46.154						
8,300.00	8,282.50	8,518.94	8,476.40	29.74	31.91	-89.91	-197.06	-1,575.53	1,943.70	1,901.24	42.46	45.779						
8,400.00	8,382.50	8,600.00	8,556.88	30.08	32.24	-90.09	-202.96	-1,567.84	1,934.25	1,891.31	42.94	45.050						
8,500.00	8,482.50	8,673.21	8,629.70	30.42	32.52	-90.22	-207.53	-1,561.88	1,926.13	1,882.75	43.39	44.393						
8,600.00	8,582.50	8,744.48	8,700.71	30.76	32.79	-90.33	-211.17	-1,557.15	1,919.51	1,875.68	43.83	43.798						
8,700.00	8,682.50	8,815.94	8,772.03	31.10	33.06	-90.42	-214.00	-1,553.46	1,914.37	1,870.11	44.25	43.258						
8,800.00	8,782.50	8,900.00	8,856.00	31.44	33.36	-90.49	-216.29	-1,550.48	1,910.77	1,866.06	44.71	42.737						
8,900.00	8,882.50	8,959.27	8,915.25	31.78	33.56	-90.52	-217.23	-1,549.26	1,908.53	1,863.45	45.08	42.336						
9,000.00	8,982.50	9,031.82	8,987.80	32.13	33.81	-90.53	-217.62	-1,548.75	1,907.83	1,862.35	45.48	41.949						
9,100.00	9,082.50	9,131.82	9,087.80	32.47	34.13	-90.53	-217.62	-1,548.75	1,907.83	1,861.88	45.96	41.514						
9,200.00	9,182.50	9,231.82	9,187.80	32.81	34.45	-90.53	-217.62	-1,548.75	1,907.83	1,861.40	46.43	41.087						
9,300.00	9,282.50	9,331.82	9,287.80	33.15	34.77	-90.53	-217.62	-1,548.75	1,907.83	1,860.92	46.91	40.669						
9,400.00	9,382.50	9,431.82	9,387.80	33.50	35.09	-90.53	-217.62	-1,548.75	1,907.83	1,860.44	47.39	40.258						
9,500.00	9,482.50	9,531.82	9,487.80	33.84	35.42	-90.53	-217.62	-1,548.75	1,907.83	1,859.96	47.87	39.855						
9,600.00	9,582.50	9,631.82	9,587.80	34.19	35.74	-90.53	-217.62	-1,548.75	1,907.83	1,859.48	48.35	39.459						
9,700.00	9,682.50	9,731.82	9,687.80	34.53	36.07	-90.53	-217.62	-1,548.75	1,907.83	1,859.00	48.83	39.071						
9,800.00	9,782.50	9,831.82	9,787.80	34.87	36.39	-90.53	-217.62	-1,548.75	1,907.83	1,858.52	49.31	38.690						
9,900.00	9,882.50	9,931.82	9,887.80	35.22	36.72	-90.53	-217.62	-1,548.75	1,907.83	1,858.04	49.79	38.316						
10,000.00	9,982.50	10,031.82	9,987.80	35.56	37.04	-90.53	-217.62	-1,548.75	1,907.83	1,857.56	50.27	37.949						

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well 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		
10,100.00	10,082.50	10,131.82	10,087.80	35.91	37.37	-90.53	-217.62	-1,548.75	1,907.83	1,857.08	50.76	37.588		
10,200.00	10,182.50	10,231.82	10,187.80	36.26	37.70	-90.53	-217.62	-1,548.75	1,907.83	1,856.59	51.24	37.234		
10,300.00	10,282.50	10,331.82	10,287.80	36.60	38.03	-90.53	-217.62	-1,548.75	1,907.83	1,856.11	51.72	36.886		
10,400.00	10,382.50	10,431.82	10,387.80	36.95	38.35	-90.53	-217.62	-1,548.75	1,907.83	1,855.63	52.21	36.544		
10,500.00	10,482.50	10,531.82	10,487.80	37.29	38.68	-90.53	-217.62	-1,548.75	1,907.83	1,855.14	52.69	36.209		
10,600.00	10,582.50	10,631.82	10,587.80	37.64	39.01	-90.53	-217.62	-1,548.75	1,907.83	1,854.66	53.17	35.879		
10,700.00	10,682.50	10,731.82	10,687.80	37.99	39.34	-90.53	-217.62	-1,548.75	1,907.83	1,854.17	53.66	35.554		
10,800.00	10,782.50	10,831.82	10,787.80	38.34	39.67	-90.53	-217.62	-1,548.75	1,907.83	1,853.69	54.15	35.235		
10,900.00	10,882.50	10,931.82	10,887.80	38.68	40.00	-90.53	-217.62	-1,548.75	1,907.83	1,853.20	54.63	34.922		
11,000.00	10,982.50	11,031.82	10,987.80	39.03	40.34	-90.53	-217.62	-1,548.75	1,907.83	1,852.71	55.12	34.614		
11,100.00	11,082.50	11,131.82	11,087.80	39.38	40.67	-90.53	-217.62	-1,548.75	1,907.83	1,852.23	55.60	34.311		
11,200.00	11,182.50	11,231.82	11,187.80	39.73	41.00	-90.53	-217.62	-1,548.75	1,907.83	1,851.74	56.09	34.013		
11,265.50	11,248.00	11,297.33	11,253.30	39.95	41.22	-90.53	-217.62	-1,548.75	1,907.83	1,851.42	56.41	33.821		
11,300.00	11,282.48	11,331.83	11,287.81	40.07	41.33	-90.04	-217.57	-1,548.75	1,907.83	1,851.25	56.58	33.721		
11,350.00	11,332.19	11,382.09	11,337.97	40.24	41.49	-90.11	-214.68	-1,548.77	1,907.83	1,851.02	56.81	33.581		
11,400.00	11,381.27	11,432.56	11,387.89	40.40	41.64	-90.18	-207.37	-1,548.84	1,907.83	1,850.80	57.04	33.448		
11,450.00	11,429.33	11,483.23	11,437.16	40.55	41.78	-90.25	-195.64	-1,548.94	1,907.84	1,850.59	57.25	33.324		
11,500.00	11,476.01	11,534.10	11,485.40	40.70	41.91	-90.31	-179.54	-1,549.07	1,907.84	1,850.39	57.45	33.208		
11,550.00	11,520.95	11,585.17	11,532.20	40.83	42.02	-90.38	-159.13	-1,549.25	1,907.84	1,850.20	57.64	33.101		
11,600.00	11,563.82	11,636.43	11,577.15	40.95	42.12	-90.44	-134.54	-1,549.46	1,907.84	1,850.02	57.81	33.000		
11,650.00	11,604.28	11,687.87	11,619.88	41.05	42.20	-90.49	-105.93	-1,549.70	1,907.84	1,849.86	57.98	32.907		
11,700.00	11,642.03	11,739.48	11,659.99	41.14	42.26	-90.55	-73.49	-1,549.97	1,907.83	1,849.70	58.13	32.819		
11,750.00	11,676.79	11,791.25	11,697.14	41.22	42.32	-90.60	-37.45	-1,550.28	1,907.83	1,849.55	58.28	32.735		
11,800.00	11,708.28	11,843.17	11,730.97	41.28	42.35	-90.64	1.91	-1,550.61	1,907.82	1,849.40	58.42	32.656		
11,850.00	11,736.26	11,895.22	11,761.17	41.33	42.37	-90.68	44.28	-1,550.97	1,907.81	1,849.25	58.56	32.578		
11,900.00	11,760.54	11,947.39	11,787.46	41.37	42.38	-90.72	89.31	-1,551.36	1,907.80	1,849.10	58.70	32.503		
11,950.00	11,780.91	11,999.65	11,809.58	41.42	42.38	-90.75	136.64	-1,551.76	1,907.78	1,848.95	58.83	32.428		
12,000.00	11,797.22	12,051.99	11,827.32	41.55	42.36	-90.77	185.86	-1,552.18	1,907.77	1,848.80	58.97	32.352		
12,050.00	11,809.36	12,104.38	11,840.51	41.68	42.34	-90.79	236.54	-1,552.61	1,907.74	1,848.64	59.11	32.276		
12,100.00	11,817.22	12,156.81	11,849.02	41.82	42.30	-90.80	288.26	-1,553.04	1,907.72	1,848.47	59.25	32.199		
12,150.00	11,820.75	12,209.26	11,852.77	41.96	42.27	-90.80	340.55	-1,553.49	1,907.69	1,848.30	59.39	32.121		
12,175.48	11,820.87	12,235.87	11,852.84	42.03	42.25	-90.80	367.16	-1,553.71	1,907.67	1,848.21	59.47	32.080		
12,200.00	11,820.44	12,260.39	11,852.43	42.10	42.23	-90.80	391.68	-1,553.92	1,907.66	1,848.12	59.54	32.038		
12,300.00	11,818.70	12,360.39	11,850.77	42.44	42.33	-90.80	491.66	-1,554.77	1,907.60	1,847.68	59.92	31.837		
12,400.00	11,816.96	12,460.39	11,849.11	42.83	42.65	-90.81	591.64	-1,555.62	1,907.54	1,847.17	60.38	31.594		
12,500.00	11,815.22	12,560.39	11,847.45	43.28	43.03	-90.81	691.62	-1,556.47	1,907.49	1,846.56	60.92	31.310		
12,600.00	11,813.48	12,660.39	11,845.79	43.78	43.46	-90.81	791.61	-1,557.32	1,907.43	1,845.88	61.55	30.990		
12,700.00	11,811.74	12,760.39	11,844.13	44.34	43.94	-90.81	891.59	-1,558.17	1,907.37	1,845.11	62.26	30.635		
12,800.00	11,810.00	12,860.39	11,842.47	44.95	44.47	-90.82	991.57	-1,559.02	1,907.31	1,844.26	63.05	30.251		
12,900.00	11,808.26	12,960.39	11,840.81	45.61	45.06	-90.82	1,091.55	-1,559.86	1,907.26	1,843.34	63.91	29.841		
13,000.00	11,806.51	13,060.39	11,839.15	46.32	45.69	-90.82	1,191.54	-1,560.71	1,907.20	1,842.35	64.85	29.409		
13,100.00	11,804.77	13,160.39	11,837.49	47.08	46.37	-90.82	1,291.52	-1,561.56	1,907.14	1,841.28	65.86	28.959		
13,200.00	11,803.03	13,260.39	11,835.83	47.88	47.10	-90.83	1,391.50	-1,562.41	1,907.08	1,840.15	66.93	28.493		
13,300.00	11,801.29	13,360.39	11,834.16	48.72	47.87	-90.83	1,491.48	-1,563.26	1,907.02	1,838.96	68.07	28.017		
13,400.00	11,799.55	13,460.39	11,832.50	49.60	48.69	-90.83	1,591.47	-1,564.11	1,906.97	1,837.70	69.26	27.532		
13,500.00	11,797.81	13,560.39	11,830.84	50.53	49.54	-90.83	1,691.45	-1,564.96	1,906.91	1,836.39	70.52	27.042		
13,600.00	11,796.07	13,660.39	11,829.18	51.48	50.44	-90.84	1,791.43	-1,565.81	1,906.85	1,835.03	71.82	26.549		
13,700.00	11,794.33	13,760.39	11,827.52	52.48	51.37	-90.84	1,891.41	-1,566.65	1,906.79	1,833.61	73.18	26.055		
13,800.00	11,792.58	13,860.39	11,825.86	53.50	52.33	-90.84	1,991.40	-1,567.50	1,906.74	1,832.15	74.59	25.563		
13,900.00	11,790.84	13,960.39	11,824.20	54.56	53.33	-90.84	2,091.38	-1,568.35	1,906.68	1,830.64	76.04	25.074		
14,000.00	11,789.10	14,060.39	11,822.54	55.64	54.36	-90.85	2,191.36	-1,569.20	1,906.62	1,829.08	77.54	24.590		
14,100.00	11,787.36	14,160.39	11,820.88	56.75	55.42	-90.85	2,291.35	-1,570.05	1,906.56	1,827.49	79.07	24.111		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,200.00	11,785.62	14,260.39	11,819.22	57.89	56.51	-90.85	2,391.33	-1,570.90	1,906.51	1,825.86	80.65	23.640		
14,300.00	11,783.88	14,360.39	11,817.56	59.05	57.62	-90.85	2,491.31	-1,571.75	1,906.45	1,824.19	82.26	23.176		
14,400.00	11,782.14	14,460.39	11,815.90	60.24	58.76	-90.86	2,591.29	-1,572.60	1,906.39	1,822.49	83.90	22.721		
14,500.00	11,780.40	14,560.39	11,814.24	61.44	59.92	-90.86	2,691.28	-1,573.44	1,906.33	1,820.75	85.58	22.275		
14,600.00	11,778.65	14,660.39	11,812.57	62.67	61.11	-90.86	2,791.26	-1,574.29	1,906.27	1,818.99	87.29	21.839		
14,700.00	11,776.91	14,760.39	11,810.91	63.92	62.31	-90.86	2,891.24	-1,575.14	1,906.22	1,817.19	89.02	21.412		
14,800.00	11,775.17	14,860.39	11,809.25	65.18	63.54	-90.87	2,991.22	-1,575.99	1,906.16	1,815.37	90.79	20.996		
14,900.00	11,773.43	14,960.39	11,807.59	66.46	64.78	-90.87	3,091.21	-1,576.84	1,906.10	1,813.53	92.58	20.590		
15,000.00	11,771.69	15,060.39	11,805.93	67.76	66.04	-90.87	3,191.19	-1,577.69	1,906.04	1,811.66	94.39	20.194		
15,100.00	11,769.95	15,160.39	11,804.27	69.07	67.32	-90.87	3,291.17	-1,578.54	1,905.99	1,809.76	96.22	19.808		
15,200.00	11,768.21	15,260.39	11,802.61	70.39	68.62	-90.88	3,391.15	-1,579.39	1,905.93	1,807.85	98.08	19.433		
15,300.00	11,766.46	15,360.39	11,800.95	71.73	69.93	-90.88	3,491.14	-1,580.23	1,905.87	1,805.92	99.96	19.067		
15,400.00	11,764.72	15,460.39	11,799.29	73.09	71.25	-90.88	3,591.12	-1,581.08	1,905.81	1,803.96	101.85	18.712		
15,500.00	11,762.98	15,560.39	11,797.63	74.45	72.59	-90.88	3,691.10	-1,581.93	1,905.76	1,801.99	103.76	18.366		
15,600.00	11,761.24	15,660.39	11,795.97	75.83	73.94	-90.89	3,791.08	-1,582.78	1,905.70	1,800.00	105.69	18.030		
15,700.00	11,759.50	15,760.39	11,794.31	77.21	75.30	-90.89	3,891.07	-1,583.63	1,905.64	1,798.00	107.64	17.704		
15,800.00	11,757.76	15,860.39	11,792.65	78.61	76.67	-90.89	3,991.05	-1,584.48	1,905.58	1,795.98	109.60	17.386		
15,900.00	11,756.02	15,960.39	11,790.99	80.02	78.06	-90.89	4,091.03	-1,585.33	1,905.52	1,793.95	111.58	17.078		
16,000.00	11,754.28	16,060.39	11,789.32	81.43	79.45	-90.90	4,191.01	-1,586.18	1,905.47	1,791.90	113.57	16.778		
16,100.00	11,752.53	16,160.39	11,787.66	82.86	80.85	-90.90	4,291.00	-1,587.02	1,905.41	1,789.84	115.57	16.487		
16,200.00	11,750.79	16,260.39	11,786.00	84.29	82.27	-90.90	4,390.98	-1,587.87	1,905.35	1,787.77	117.58	16.204		
16,300.00	11,749.05	16,360.39	11,784.34	85.73	83.69	-90.90	4,490.96	-1,588.72	1,905.29	1,785.68	119.61	15.929		
16,400.00	11,747.31	16,460.39	11,782.68	87.18	85.12	-90.91	4,590.94	-1,589.57	1,905.24	1,783.59	121.65	15.662		
16,500.00	11,745.57	16,560.39	11,781.02	88.63	86.55	-90.91	4,690.93	-1,590.42	1,905.18	1,781.48	123.70	15.402		
16,600.00	11,743.83	16,660.39	11,779.36	90.09	88.00	-90.91	4,790.91	-1,591.27	1,905.12	1,779.37	125.76	15.149		
16,700.00	11,742.09	16,760.39	11,777.70	91.56	89.45	-90.91	4,890.89	-1,592.12	1,905.06	1,777.24	127.82	14.904		
16,800.00	11,740.35	16,860.39	11,776.04	93.04	90.91	-90.91	4,990.87	-1,592.97	1,905.01	1,775.11	129.90	14.665		
16,900.00	11,738.60	16,960.39	11,774.38	94.52	92.38	-90.92	5,090.86	-1,593.81	1,904.95	1,772.96	131.99	14.433		
17,000.00	11,736.86	17,060.39	11,772.72	96.00	93.85	-90.92	5,190.84	-1,594.66	1,904.89	1,770.81	134.08	14.207		
17,100.00	11,735.12	17,160.39	11,771.06	97.49	95.33	-90.92	5,290.82	-1,595.51	1,904.83	1,768.65	136.18	13.988		
17,200.00	11,733.38	17,260.39	11,769.40	98.99	96.81	-90.92	5,390.80	-1,596.36	1,904.78	1,766.49	138.29	13.774		
17,300.00	11,731.64	17,360.39	11,767.73	100.49	98.30	-90.93	5,490.79	-1,597.21	1,904.72	1,764.31	140.41	13.566		
17,400.00	11,729.90	17,460.39	11,766.07	102.00	99.79	-90.93	5,590.77	-1,598.06	1,904.66	1,762.13	142.53	13.363		
17,500.00	11,728.16	17,560.39	11,764.41	103.51	101.29	-90.93	5,690.75	-1,598.91	1,904.60	1,759.94	144.66	13.166		
17,600.00	11,726.42	17,660.39	11,762.75	105.02	102.79	-90.93	5,790.73	-1,599.76	1,904.55	1,757.75	146.79	12.974		
17,700.00	11,724.67	17,760.39	11,761.09	106.54	104.30	-90.94	5,890.72	-1,600.61	1,904.49	1,755.55	148.94	12.787		
17,800.00	11,722.93	17,860.39	11,759.43	108.06	105.81	-90.94	5,990.70	-1,601.45	1,904.43	1,753.35	151.08	12.605		
17,900.00	11,721.19	17,960.39	11,757.77	109.59	107.33	-90.94	6,090.68	-1,602.30	1,904.37	1,751.14	153.24	12.428		
18,000.00	11,719.45	18,060.39	11,756.11	111.12	108.85	-90.94	6,190.66	-1,603.15	1,904.32	1,748.92	155.40	12.255		
18,100.00	11,717.71	18,160.39	11,754.45	112.65	110.37	-90.95	6,290.65	-1,604.00	1,904.26	1,746.70	157.56	12.086		
18,200.00	11,715.97	18,260.39	11,752.79	114.19	111.90	-90.95	6,390.63	-1,604.85	1,904.20	1,744.47	159.73	11.921		
18,300.00	11,714.23	18,360.39	11,751.13	115.73	113.43	-90.95	6,490.61	-1,605.70	1,904.14	1,742.24	161.90	11.761		
18,400.00	11,712.49	18,460.39	11,749.47	117.27	114.96	-90.95	6,590.60	-1,606.55	1,904.09	1,740.01	164.08	11.605		
18,500.00	11,710.74	18,560.39	11,747.81	118.82	116.50	-90.96	6,690.58	-1,607.40	1,904.03	1,737.77	166.26	11.452		
18,600.00	11,709.00	18,660.39	11,746.14	120.37	118.04	-90.96	6,790.56	-1,608.24	1,903.97	1,735.52	168.45	11.303		
18,700.00	11,707.26	18,760.39	11,744.48	121.92	119.59	-90.96	6,890.54	-1,609.09	1,903.91	1,733.28	170.64	11.158		
18,800.00	11,705.52	18,860.39	11,742.82	123.47	121.13	-90.96	6,990.53	-1,609.94	1,903.85	1,731.02	172.83	11.016		
18,900.00	11,703.78	18,960.39	11,741.16	125.03	122.68	-90.97	7,090.51	-1,610.79	1,903.80	1,728.77	175.03	10.877		
19,000.00	11,702.04	19,060.39	11,739.50	126.59	124.23	-90.97	7,190.49	-1,611.64	1,903.74	1,726.51	177.23	10.742		
19,100.00	11,700.30	19,160.39	11,737.84	128.15	125.79	-90.97	7,290.47	-1,612.49	1,903.68	1,724.25	179.43	10.609		
19,200.00	11,698.56	19,260.39	11,736.18	129.71	127.34	-90.97	7,390.46	-1,613.34	1,903.62	1,721.98	181.64	10.480		
19,300.00	11,696.81	19,360.39	11,734.52	131.28	128.90	-90.98	7,490.44	-1,614.19	1,903.57	1,719.72	183.85	10.354		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,400.00	11,695.07	19,460.39	11,732.86	132.85	130.46	-90.98	7,590.42	-1,615.03	1,903.51	1,717.44	186.07	10.230		
19,500.00	11,693.33	19,560.39	11,731.20	134.42	132.03	-90.98	7,690.40	-1,615.88	1,903.45	1,715.17	188.28	10.110		
19,600.00	11,691.59	19,660.39	11,729.54	135.99	133.59	-90.98	7,790.39	-1,616.73	1,903.39	1,712.89	190.50	9.991		
19,700.00	11,689.85	19,760.39	11,727.88	137.56	135.16	-90.99	7,890.37	-1,617.58	1,903.34	1,710.61	192.72	9.876		
19,800.00	11,688.11	19,860.39	11,726.22	139.14	136.73	-90.99	7,990.35	-1,618.43	1,903.28	1,708.33	194.95	9.763		
19,900.00	11,686.37	19,960.39	11,724.55	140.71	138.30	-90.99	8,090.33	-1,619.28	1,903.22	1,706.05	197.18	9.652		
20,000.00	11,684.63	20,060.39	11,722.89	142.29	139.87	-90.99	8,190.32	-1,620.13	1,903.16	1,703.76	199.41	9.544		
20,100.00	11,682.88	20,160.39	11,721.23	143.87	141.45	-91.00	8,290.30	-1,620.98	1,903.11	1,701.47	201.64	9.438		
20,200.00	11,681.14	20,260.39	11,719.57	145.45	143.03	-91.00	8,390.28	-1,621.82	1,903.05	1,699.18	203.87	9.334		
20,300.00	11,679.40	20,360.39	11,717.91	147.04	144.60	-91.00	8,490.26	-1,622.67	1,902.99	1,696.88	206.11	9.233		
20,400.00	11,677.66	20,460.39	11,716.25	148.62	146.18	-91.00	8,590.25	-1,623.52	1,902.93	1,694.59	208.35	9.133		
20,500.00	11,675.92	20,560.39	11,714.59	150.21	147.77	-91.01	8,690.23	-1,624.37	1,902.88	1,692.29	210.59	9.036		
20,600.00	11,674.18	20,660.39	11,712.93	151.80	149.35	-91.01	8,790.21	-1,625.22	1,902.82	1,689.99	212.83	8.940		
20,700.00	11,672.44	20,760.39	11,711.27	153.39	150.93	-91.01	8,890.19	-1,626.07	1,902.76	1,687.68	215.08	8.847		
20,800.00	11,670.70	20,860.39	11,709.61	154.98	152.52	-91.01	8,990.18	-1,626.92	1,902.70	1,685.38	217.33	8.755		
20,900.00	11,668.95	20,960.39	11,707.95	156.57	154.11	-91.02	9,090.16	-1,627.77	1,902.65	1,683.07	219.57	8.665		
21,000.00	11,667.21	21,060.39	11,706.29	158.16	155.70	-91.02	9,190.14	-1,628.61	1,902.59	1,680.76	221.83	8.577		
21,100.00	11,665.47	21,160.39	11,704.63	159.76	157.29	-91.02	9,290.12	-1,629.46	1,902.53	1,678.45	224.08	8.490		
21,200.00	11,663.73	21,260.39	11,702.96	161.35	158.88	-91.02	9,390.11	-1,630.31	1,902.48	1,676.14	226.33	8.406		
21,300.00	11,661.99	21,360.39	11,701.30	162.95	160.47	-91.03	9,490.09	-1,631.16	1,902.42	1,673.83	228.59	8.322		
21,400.00	11,660.25	21,460.39	11,699.64	164.54	162.06	-91.03	9,590.07	-1,632.01	1,902.36	1,671.52	230.85	8.241		
21,500.00	11,658.51	21,560.39	11,697.98	166.14	163.66	-91.03	9,690.05	-1,632.86	1,902.30	1,669.20	233.10	8.161		
21,600.00	11,656.77	21,660.39	11,696.32	167.74	165.26	-91.03	9,790.04	-1,633.71	1,902.25	1,666.88	235.36	8.082		
21,700.00	11,655.02	21,760.39	11,694.66	169.34	166.85	-91.04	9,890.02	-1,634.56	1,902.19	1,664.56	237.63	8.005		
21,800.00	11,653.28	21,860.39	11,693.00	170.95	168.45	-91.04	9,990.00	-1,635.41	1,902.13	1,662.24	239.89	7.929		
21,900.00	11,651.54	21,960.39	11,691.34	172.55	170.05	-91.04	10,089.98	-1,636.25	1,902.07	1,659.92	242.15	7.855		
21,964.24	11,650.42	22,023.56	11,690.29	173.58	171.06	-91.04	10,153.15	-1,636.79	1,902.04	1,658.44	243.59	7.808 CC		
21,973.00	11,650.27	22,023.56	11,690.29	173.72	171.06	-91.04	10,153.15	-1,636.79	1,902.06	1,658.41	243.65	7.806 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 Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well 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	2.60	2.60	0.00	0.00	-84.00	231.61	-2,204.74	2,216.87					
100.00	100.00	102.60	102.60	0.13	0.15	-84.00	231.61	-2,204.74	2,216.87	2,216.68	0.20	N/A		
200.00	200.00	202.60	202.60	0.48	0.51	-84.00	231.61	-2,204.74	2,216.87	2,216.17	0.70	3,155.163		
300.00	300.00	302.60	302.60	0.84	0.87	-84.00	231.61	-2,204.74	2,216.87	2,215.66	1.21	1,832.919		
400.00	400.00	402.60	402.60	1.20	1.23	-84.00	231.61	-2,204.74	2,216.87	2,215.16	1.72	1,291.589		
500.00	500.00	502.60	502.60	1.56	1.58	-84.00	231.61	-2,204.74	2,216.87	2,214.65	2.22	997.097		
600.00	600.00	602.60	602.60	1.92	1.94	-84.00	231.61	-2,204.74	2,216.87	2,214.14	2.73	811.962		
700.00	700.00	702.60	702.60	2.28	2.30	-84.00	231.61	-2,204.74	2,216.87	2,213.63	3.24	684.809		
800.00	800.00	802.60	802.60	2.63	2.66	-84.00	231.61	-2,204.74	2,216.87	2,213.13	3.74	592.088		
900.00	900.00	902.60	902.60	2.99	3.02	-84.00	231.61	-2,204.74	2,216.87	2,212.62	4.25	521.481		
1,000.00	1,000.00	1,002.60	1,002.60	3.35	3.38	-84.00	231.61	-2,204.74	2,216.87	2,212.11	4.76	465.919		
1,100.00	1,100.00	1,102.60	1,102.60	3.71	3.74	-84.00	231.61	-2,204.74	2,216.87	2,211.61	5.27	421.057		
1,200.00	1,200.00	1,202.60	1,202.60	4.07	4.09	-84.00	231.61	-2,204.74	2,216.87	2,211.10	5.77	384.076		
1,300.00	1,300.00	1,302.60	1,302.60	4.43	4.45	-84.00	231.61	-2,204.74	2,216.87	2,210.59	6.28	353.066		
1,400.00	1,400.00	1,402.60	1,402.60	4.79	4.81	-84.00	231.61	-2,204.74	2,216.87	2,210.09	6.79	326.689		
1,500.00	1,500.00	1,502.60	1,502.60	5.14	5.17	-84.00	231.61	-2,204.74	2,216.87	2,209.58	7.29	303.980		
1,600.00	1,600.00	1,602.60	1,602.60	5.50	5.53	-84.00	231.61	-2,204.74	2,216.87	2,209.07	7.80	284.222		
1,700.00	1,700.00	1,702.60	1,702.60	5.86	5.89	-84.00	231.61	-2,204.74	2,216.87	2,208.57	8.31	266.876		
1,800.00	1,800.00	1,802.60	1,802.60	6.22	6.24	-84.00	231.61	-2,204.74	2,216.87	2,208.06	8.81	251.526		
1,900.00	1,900.00	1,902.60	1,902.60	6.58	6.60	-84.00	231.61	-2,204.74	2,216.87	2,207.55	9.32	237.845		
2,000.00	2,000.00	2,002.60	2,002.60	6.94	6.96	-84.00	231.61	-2,204.74	2,216.87	2,207.04	9.83	225.576		
2,100.00	2,100.00	2,102.60	2,102.60	7.29	7.32	-84.00	231.61	-2,204.74	2,216.87	2,206.54	10.33	214.511		
2,200.00	2,200.00	2,202.60	2,202.60	7.65	7.68	-84.00	231.61	-2,204.74	2,216.87	2,206.03	10.84	204.480		
2,300.00	2,300.00	2,302.60	2,302.60	8.01	8.04	-84.00	231.61	-2,204.74	2,216.87	2,205.52	11.35	195.346		
2,400.00	2,400.00	2,402.60	2,402.60	8.37	8.40	-84.00	231.61	-2,204.74	2,216.87	2,205.02	11.86	186.992		
2,415.78	2,415.78	2,418.38	2,418.38	8.43	8.45	-84.00	231.61	-2,204.74	2,216.87	2,204.94	11.94	185.739 CC		
2,500.00	2,500.00	2,500.00	2,500.00	8.73	8.74	-84.00	231.61	-2,204.74	2,216.87	2,204.52	12.36	179.420 ES		
2,600.00	2,600.00	2,572.53	2,572.53	9.09	8.99	-84.02	231.18	-2,205.28	2,217.57	2,204.78	12.78	173.456		
2,700.00	2,700.00	2,643.17	2,643.14	9.45	9.23	-84.05	229.94	-2,206.84	2,219.59	2,206.38	13.20	168.108		
2,800.00	2,800.00	2,700.00	2,699.91	9.80	9.42	-84.10	228.36	-2,208.84	2,222.99	2,209.40	13.58	163.657		
2,900.00	2,900.00	2,784.11	2,783.85	10.16	9.70	-84.19	225.04	-2,213.01	2,227.59	2,213.56	14.03	158.764		
3,000.00	3,000.00	2,854.32	2,853.81	10.52	9.94	-84.30	221.40	-2,217.60	2,233.59	2,219.15	14.44	154.657		
3,100.00	3,100.00	2,924.29	2,923.41	10.88	10.17	-84.43	216.98	-2,223.18	2,240.92	2,226.07	14.85	150.885		
3,200.00	3,200.00	2,999.91	2,998.48	11.24	10.43	-84.59	211.30	-2,230.33	2,249.59	2,234.32	15.28	147.265		
3,300.00	3,299.99	3,090.51	3,088.30	11.58	10.75	156.03	203.95	-2,239.59	2,260.23	2,244.50	15.73	143.661		
3,400.00	3,399.91	3,189.38	3,186.33	11.92	11.10	155.76	195.93	-2,249.69	2,273.29	2,257.08	16.21	140.267		
3,500.00	3,499.69	3,287.98	3,284.09	12.25	11.45	155.51	187.93	-2,259.77	2,288.73	2,272.05	16.68	137.194		
3,533.01	3,532.59	3,320.46	3,316.29	12.36	11.57	155.43	185.30	-2,263.09	2,294.35	2,277.51	16.84	136.242		
3,600.00	3,599.32	3,386.33	3,381.60	12.59	11.80	155.34	179.95	-2,269.83	2,306.01	2,288.85	17.16	134.385		
3,700.00	3,698.94	3,484.67	3,479.10	12.93	12.16	155.21	171.98	-2,279.88	2,323.43	2,305.79	17.64	131.722		
3,800.00	3,798.56	3,583.00	3,576.59	13.28	12.52	155.08	164.00	-2,289.93	2,340.86	2,322.74	18.12	129.180		
3,900.00	3,898.18	3,681.34	3,674.08	13.62	12.89	154.95	156.02	-2,299.98	2,358.30	2,339.69	18.61	126.753		
4,000.00	3,997.80	3,779.67	3,771.58	13.97	13.25	154.83	148.04	-2,310.04	2,375.75	2,356.66	19.09	124.433		
4,100.00	4,097.43	3,878.01	3,869.07	14.32	13.62	154.71	140.06	-2,320.09	2,393.21	2,373.63	19.58	122.216		
4,200.00	4,197.05	3,976.34	3,966.56	14.67	13.99	154.59	132.09	-2,330.14	2,410.69	2,390.61	20.07	120.094		
4,300.00	4,296.67	4,074.67	4,064.06	15.02	14.37	154.47	124.11	-2,340.19	2,428.17	2,407.60	20.57	118.064		
4,400.00	4,396.29	4,173.01	4,161.55	15.38	14.74	154.35	116.13	-2,350.24	2,445.67	2,424.60	21.06	116.119		
4,500.00	4,495.91	4,271.34	4,259.04	15.74	15.12	154.23	108.15	-2,360.29	2,463.17	2,441.61	21.56	114.255		
4,600.00	4,495.53	4,369.68	4,356.54	16.09	15.50	154.12	100.18	-2,370.35	2,480.68	2,458.63	22.06	112.468		
4,700.00	4,495.15	4,468.01	4,454.03	16.45	15.88	154.01	92.20	-2,380.40	2,498.20	2,475.65	22.56	110.753		
4,800.00	4,494.77	4,566.35	4,551.52	16.81	16.26	153.90	84.22	-2,390.45	2,515.74	2,492.68	23.06	109.107		
4,900.00	4,494.39	4,664.68	4,649.02	17.17	16.64	153.79	76.24	-2,400.50	2,533.28	2,509.72	23.56	107.525		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,000.00	4,994.01	4,763.02	4,746.51	17.53	17.03	153.68	68.27	-2,410.55	2,550.83	2,526.76	24.06	106.005		
5,100.00	5,093.63	4,861.35	4,844.01	17.90	17.41	153.57	60.29	-2,420.61	2,568.39	2,543.82	24.57	104.542		
5,200.00	5,193.25	4,959.68	4,941.50	18.26	17.80	153.47	52.31	-2,430.66	2,585.95	2,560.88	25.07	103.135		
5,300.00	5,292.87	5,058.02	5,038.99	18.63	18.19	153.36	44.33	-2,440.71	2,603.53	2,577.95	25.58	101.779		
5,400.00	5,392.49	5,156.35	5,136.49	18.99	18.58	153.26	36.36	-2,450.76	2,621.11	2,595.02	26.09	100.473		
5,500.00	5,492.11	5,254.69	5,233.98	19.36	18.97	153.16	28.38	-2,460.81	2,638.70	2,612.11	26.60	99.214		
5,600.00	5,591.73	5,353.02	5,331.47	19.73	19.36	153.06	20.40	-2,470.86	2,656.30	2,629.20	27.11	98.000		
5,700.00	5,691.35	5,451.36	5,428.97	20.09	19.75	152.96	12.42	-2,480.92	2,673.91	2,646.30	27.62	96.828		
5,800.00	5,790.97	5,549.69	5,526.46	20.46	20.14	152.86	4.44	-2,490.97	2,691.53	2,663.40	28.13	95.696		
5,900.00	5,890.59	5,648.03	5,623.95	20.83	20.53	152.77	-3.53	-2,501.02	2,709.15	2,680.51	28.64	94.602		
6,000.00	5,990.21	5,746.36	5,721.45	21.20	20.93	152.67	-11.51	-2,511.07	2,726.78	2,697.63	29.15	93.546		
6,100.00	6,089.83	5,844.70	5,818.94	21.57	21.32	152.58	-19.49	-2,521.12	2,744.41	2,714.75	29.66	92.524		
6,200.00	6,189.45	5,943.03	5,916.43	21.94	21.72	152.49	-27.47	-2,531.18	2,762.06	2,731.88	30.17	91.535		
6,300.00	6,289.07	6,041.36	6,013.93	22.31	22.11	152.40	-35.44	-2,541.23	2,779.71	2,749.02	30.69	90.578		
6,400.00	6,388.69	6,139.70	6,111.42	22.68	22.51	152.31	-43.42	-2,551.28	2,797.36	2,766.16	31.20	89.651		
6,500.00	6,488.31	6,238.03	6,208.92	23.06	22.90	152.22	-51.40	-2,561.33	2,815.03	2,783.31	31.72	88.752		
6,600.00	6,587.93	6,336.37	6,306.41	23.43	23.30	152.13	-59.38	-2,571.38	2,832.70	2,800.47	32.23	87.882		
6,700.00	6,687.55	6,434.70	6,403.90	23.80	23.70	152.04	-67.35	-2,581.43	2,850.37	2,817.63	32.75	87.038		
6,800.00	6,787.17	6,533.04	6,501.40	24.18	24.09	151.96	-75.33	-2,591.49	2,868.06	2,834.79	33.26	86.219		
6,900.00	6,886.79	6,631.37	6,598.89	24.55	24.49	151.87	-83.31	-2,601.54	2,885.75	2,851.97	33.78	85.424		
7,000.00	6,986.41	6,729.71	6,696.38	24.92	24.89	151.79	-91.29	-2,611.59	2,903.44	2,869.14	34.30	84.653		
7,100.00	7,086.03	6,828.04	6,793.88	25.30	25.29	151.71	-99.26	-2,621.64	2,921.14	2,886.33	34.82	83.903		
7,200.00	7,185.65	6,926.37	6,891.37	25.67	25.69	151.63	-107.24	-2,631.69	2,938.85	2,903.52	35.33	83.175		
7,300.00	7,285.27	7,024.71	6,988.86	26.05	26.09	151.55	-115.22	-2,641.75	2,956.56	2,920.71	35.85	82.467		
7,400.00	7,384.89	7,123.04	7,086.36	26.42	26.49	151.47	-123.20	-2,651.80	2,974.28	2,937.91	36.37	81.779		
7,500.00	7,484.51	7,221.38	7,183.85	26.80	26.89	151.39	-131.18	-2,661.85	2,992.00	2,955.11	36.89	81.110		
7,600.00	7,584.13	7,319.71	7,281.34	27.17	27.29	151.31	-139.15	-2,671.90	3,009.73	2,972.32	37.41	80.458		
7,700.00	7,683.75	7,418.05	7,378.84	27.55	27.69	151.24	-147.13	-2,681.95	3,027.46	2,989.54	37.93	79.824		
7,800.00	7,783.37	7,516.38	7,476.33	27.93	28.09	151.16	-155.11	-2,692.00	3,045.20	3,006.76	38.45	79.207		
7,900.00	7,882.99	7,614.72	7,573.82	28.30	28.49	151.08	-163.09	-2,702.06	3,062.95	3,023.98	38.97	78.606		
7,919.49	7,902.41	7,633.88	7,592.83	28.38	28.57	151.07	-164.64	-2,704.02	3,066.41	3,027.34	39.07	78.490		
8,000.00	7,982.68	7,713.16	7,671.43	28.68	28.89	151.10	-171.07	-2,712.12	3,079.97	3,040.48	39.49	78.002		
8,100.00	8,082.54	7,811.90	7,769.32	29.04	29.30	151.11	-179.08	-2,722.21	3,094.77	3,054.77	40.00	77.363		
8,200.00	8,182.50	7,910.87	7,867.45	29.40	29.70	151.07	-187.11	-2,732.33	3,107.32	3,066.80	40.52	76.687		
8,252.50	8,235.00	7,962.91	7,919.04	29.58	29.91	-89.84	-191.33	-2,737.65	3,113.00	3,072.22	40.79	76.321		
8,300.00	8,282.50	8,010.00	7,965.73	29.74	30.11	-89.91	-195.15	-2,742.46	3,117.87	3,076.84	41.03	75.990		
8,400.00	8,382.50	8,176.05	8,130.64	30.08	30.77	-90.13	-207.11	-2,757.53	3,126.91	3,085.14	41.77	74.860		
8,500.00	8,482.50	8,504.03	8,458.02	30.42	31.96	-90.33	-218.25	-2,771.56	3,130.73	3,087.80	42.93	72.932		
8,600.00	8,582.50	8,631.10	8,585.10	30.76	32.37	-90.34	-218.39	-2,771.74	3,130.79	3,087.33	43.47	72.028		
8,700.00	8,682.50	8,731.10	8,685.10	31.10	32.69	-90.34	-218.39	-2,771.74	3,130.79	3,086.85	43.94	71.248		
8,800.00	8,782.50	8,831.10	8,785.10	31.44	33.01	-90.34	-218.39	-2,771.74	3,130.79	3,086.38	44.42	70.484		
8,900.00	8,882.50	8,931.10	8,885.10	31.78	33.33	-90.34	-218.39	-2,771.74	3,130.79	3,085.90	44.90	69.734		
9,000.00	8,982.50	9,031.10	8,985.10	32.13	33.66	-90.34	-218.39	-2,771.74	3,130.79	3,085.42	45.37	69.000		
9,100.00	9,082.50	9,131.10	9,085.10	32.47	33.98	-90.34	-218.39	-2,771.74	3,130.79	3,084.94	45.85	68.280		
9,200.00	9,182.50	9,231.10	9,185.10	32.81	34.30	-90.34	-218.39	-2,771.74	3,130.79	3,084.46	46.33	67.573		
9,300.00	9,282.50	9,331.10	9,285.10	33.15	34.62	-90.34	-218.39	-2,771.74	3,130.79	3,083.98	46.81	66.881		
9,400.00	9,382.50	9,431.10	9,385.10	33.50	34.95	-90.34	-218.39	-2,771.74	3,130.79	3,083.50	47.29	66.202		
9,500.00	9,482.50	9,531.10	9,485.10	33.84	35.27	-90.34	-218.39	-2,771.74	3,130.79	3,083.02	47.77	65.535		
9,600.00	9,582.50	9,631.10	9,585.10	34.19	35.60	-90.34	-218.39	-2,771.74	3,130.79	3,082.54	48.25	64.881		
9,700.00	9,682.50	9,731.10	9,685.10	34.53	35.93	-90.34	-218.39	-2,771.74	3,130.79	3,082.06	48.74	64.240		
9,800.00	9,782.50	9,831.10	9,785.10	34.87	36.25	-90.34	-218.39	-2,771.74	3,130.79	3,081.58	49.22	63.610		
9,900.00	9,882.50	9,931.10	9,885.10	35.22	36.58	-90.34	-218.39	-2,771.74	3,130.79	3,081.09	49.70	62.992		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well 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		
10,000.00	9,982.50	10,031.10	9,985.10	35.56	36.91	-90.34	-218.39	-2,771.74	3,130.79	3,080.61	50.18	62.385		
10,100.00	10,082.50	10,131.10	10,085.10	35.91	37.24	-90.34	-218.39	-2,771.74	3,130.79	3,080.13	50.67	61.789		
10,200.00	10,182.50	10,231.10	10,185.10	36.26	37.57	-90.34	-218.39	-2,771.74	3,130.79	3,079.64	51.15	61.204		
10,300.00	10,282.50	10,331.10	10,285.10	36.60	37.90	-90.34	-218.39	-2,771.74	3,130.79	3,079.16	51.64	60.630		
10,400.00	10,382.50	10,431.10	10,385.10	36.95	38.23	-90.34	-218.39	-2,771.74	3,130.79	3,078.67	52.12	60.065		
10,500.00	10,482.50	10,531.10	10,485.10	37.29	38.56	-90.34	-218.39	-2,771.74	3,130.79	3,078.19	52.61	59.511		
10,600.00	10,582.50	10,631.10	10,585.10	37.64	38.89	-90.34	-218.39	-2,771.74	3,130.79	3,077.70	53.09	58.966		
10,700.00	10,682.50	10,731.10	10,685.10	37.99	39.22	-90.34	-218.39	-2,771.74	3,130.79	3,077.21	53.58	58.431		
10,800.00	10,782.50	10,831.10	10,785.10	38.34	39.55	-90.34	-218.39	-2,771.74	3,130.79	3,076.73	54.07	57.905		
10,900.00	10,882.50	10,931.10	10,885.10	38.68	39.89	-90.34	-218.39	-2,771.74	3,130.79	3,076.24	54.55	57.388		
11,000.00	10,982.50	11,031.10	10,985.10	39.03	40.22	-90.34	-218.39	-2,771.74	3,130.79	3,075.75	55.04	56.880		
11,100.00	11,082.50	11,131.10	11,085.10	39.38	40.55	-90.34	-218.39	-2,771.74	3,130.79	3,075.26	55.53	56.380		
11,109.91	11,092.41	11,141.02	11,095.01	39.41	40.59	-90.34	-218.39	-2,771.74	3,130.79	3,075.22	55.58	56.331		
11,200.00	11,182.50	11,230.86	11,184.85	39.73	40.89	-90.33	-218.14	-2,771.74	3,130.79	3,074.78	56.02	55.890		
11,265.50	11,248.00	11,294.90	11,248.63	39.95	41.09	-90.23	-212.69	-2,771.79	3,130.81	3,074.49	56.33	55.585		
11,300.00	11,282.48	11,328.11	11,281.35	40.07	41.18	-89.62	-207.07	-2,771.84	3,130.84	3,074.36	56.48	55.432		
11,350.00	11,332.19	11,375.79	11,327.64	40.24	41.31	-89.50	-195.70	-2,771.93	3,130.88	3,074.19	56.69	55.223		
11,400.00	11,381.27	11,422.96	11,372.35	40.40	41.43	-89.38	-180.71	-2,772.06	3,130.94	3,074.04	56.90	55.029		
11,450.00	11,429.33	11,469.67	11,415.26	40.55	41.53	-89.27	-162.29	-2,772.22	3,131.00	3,073.92	57.09	54.848		
11,500.00	11,476.01	11,515.94	11,456.15	40.70	41.62	-89.16	-140.66	-2,772.40	3,131.07	3,073.81	57.26	54.680		
11,550.00	11,520.95	11,561.81	11,494.83	40.83	41.70	-89.05	-116.03	-2,772.61	3,131.15	3,073.72	57.43	54.525		
11,600.00	11,563.82	11,607.31	11,531.13	40.95	41.76	-88.96	-88.62	-2,772.84	3,131.22	3,073.64	57.58	54.380		
11,650.00	11,604.28	11,652.48	11,564.91	41.05	41.82	-88.87	-58.65	-2,773.10	3,131.30	3,073.57	57.73	54.244		
11,700.00	11,642.03	11,697.36	11,596.03	41.14	41.85	-88.79	-26.33	-2,773.37	3,131.37	3,073.50	57.86	54.116		
11,750.00	11,676.79	11,741.97	11,624.35	41.22	41.88	-88.72	8.12	-2,773.66	3,131.43	3,073.44	58.00	53.994		
11,800.00	11,708.28	11,786.35	11,649.80	41.28	41.90	-88.65	44.47	-2,773.97	3,131.49	3,073.37	58.12	53.876		
11,850.00	11,736.26	11,830.53	11,672.25	41.33	41.90	-88.60	82.51	-2,774.29	3,131.54	3,073.29	58.25	53.760		
11,900.00	11,760.54	11,874.55	11,691.65	41.37	41.90	-88.56	122.01	-2,774.63	3,131.57	3,073.20	58.37	53.646		
11,950.00	11,780.91	11,918.44	11,707.91	41.42	41.89	-88.52	162.76	-2,774.98	3,131.60	3,073.10	58.50	53.531		
12,000.00	11,797.22	11,962.23	11,720.97	41.55	41.88	-88.50	204.54	-2,775.33	3,131.61	3,072.98	58.63	53.416		
12,050.00	11,809.36	12,005.95	11,730.80	41.68	41.85	-88.48	247.13	-2,775.69	3,131.60	3,072.85	58.76	53.299		
12,100.00	11,817.22	12,050.00	11,737.39	41.82	41.83	-88.48	290.68	-2,776.06	3,131.58	3,072.70	58.89	53.179		
12,150.00	11,820.75	12,093.31	11,740.58	41.96	41.80	-88.48	333.85	-2,776.43	3,131.55	3,072.53	59.02	53.058		
12,175.48	11,820.87	12,115.57	11,740.96	42.03	41.78	-88.49	356.11	-2,776.62	3,131.53	3,072.44	59.09	52.994		
12,200.00	11,820.44	12,138.88	11,740.61	42.10	41.76	-88.49	379.42	-2,776.82	3,131.51	3,072.34	59.17	52.926		
12,300.00	11,818.70	12,238.88	11,738.87	42.44	41.84	-88.49	479.40	-2,777.66	3,131.45	3,071.91	59.54	52.594		
12,400.00	11,816.96	12,338.88	11,737.13	42.83	42.17	-88.49	579.38	-2,778.51	3,131.39	3,071.40	60.00	52.192		
12,500.00	11,815.22	12,438.88	11,735.39	43.28	42.55	-88.49	679.36	-2,779.36	3,131.33	3,070.79	60.54	51.721		
12,600.00	11,813.48	12,538.88	11,733.65	43.78	42.97	-88.49	779.34	-2,780.21	3,131.28	3,070.10	61.17	51.189		
12,700.00	11,811.74	12,638.88	11,731.91	44.34	43.46	-88.49	879.32	-2,781.06	3,131.22	3,069.33	61.88	50.600		
12,800.00	11,810.00	12,738.88	11,730.17	44.95	43.99	-88.49	979.30	-2,781.91	3,131.16	3,068.49	62.67	49.961		
12,900.00	11,808.26	12,838.88	11,728.43	45.61	44.58	-88.49	1,079.28	-2,782.76	3,131.10	3,067.56	63.54	49.280		
13,000.00	11,806.51	12,938.88	11,726.69	46.32	45.21	-88.49	1,179.27	-2,783.61	3,131.04	3,066.56	64.48	48.561		
13,100.00	11,804.77	13,038.88	11,724.95	47.08	45.89	-88.49	1,279.25	-2,784.45	3,130.98	3,065.50	65.48	47.813		
13,200.00	11,803.03	13,138.88	11,723.20	47.88	46.62	-88.49	1,379.23	-2,785.30	3,130.92	3,064.36	66.56	47.039		
13,300.00	11,801.29	13,238.88	11,721.46	48.72	47.40	-88.49	1,479.21	-2,786.15	3,130.86	3,063.17	67.70	46.247		
13,400.00	11,799.55	13,338.88	11,719.72	49.60	48.22	-88.49	1,579.19	-2,787.00	3,130.80	3,061.91	68.90	45.442		
13,500.00	11,797.81	13,438.88	11,717.98	50.53	49.08	-88.49	1,679.17	-2,787.85	3,130.75	3,060.59	70.15	44.627		
13,600.00	11,796.07	13,538.88	11,716.24	51.48	49.97	-88.49	1,779.15	-2,788.70	3,130.69	3,059.22	71.46	43.808		
13,700.00	11,794.33	13,638.88	11,714.50	52.48	50.91	-88.49	1,879.13	-2,789.55	3,130.63	3,057.80	72.83	42.988		
13,800.00	11,792.58	13,738.88	11,712.76	53.50	51.88	-88.49	1,979.12	-2,790.40	3,130.57	3,056.33	74.24	42.170		
13,900.00	11,790.84	13,838.88	11,711.02	54.56	52.88	-88.49	2,079.10	-2,791.24	3,130.51	3,054.82	75.69	41.358		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,000.00	11,789.10	13,938.88	11,709.28	55.64	53.92	-88.49	2,179.08	-2,792.09	3,130.45	3,053.26	77.19	40.554		
14,100.00	11,787.36	14,038.88	11,707.54	56.75	54.98	-88.49	2,279.06	-2,792.94	3,130.39	3,051.66	78.73	39.760		
14,200.00	11,785.62	14,138.88	11,705.80	57.89	56.07	-88.49	2,379.04	-2,793.79	3,130.33	3,050.02	80.31	38.978		
14,300.00	11,783.88	14,238.88	11,704.06	59.05	57.19	-88.49	2,479.02	-2,794.64	3,130.27	3,048.35	81.93	38.209		
14,400.00	11,782.14	14,338.88	11,702.32	60.24	58.33	-88.49	2,579.00	-2,795.49	3,130.22	3,046.64	83.57	37.454		
14,500.00	11,780.40	14,438.88	11,700.58	61.44	59.50	-88.49	2,678.98	-2,796.34	3,130.16	3,044.90	85.25	36.715		
14,600.00	11,778.65	14,538.88	11,698.83	62.67	60.69	-88.49	2,778.97	-2,797.19	3,130.10	3,043.13	86.97	35.992		
14,700.00	11,776.91	14,638.88	11,697.09	63.92	61.90	-88.49	2,878.95	-2,798.03	3,130.04	3,041.33	88.71	35.286		
14,800.00	11,775.17	14,738.88	11,695.35	65.18	63.13	-88.49	2,978.93	-2,798.88	3,129.98	3,039.51	90.47	34.596		
14,900.00	11,773.43	14,838.88	11,693.61	66.46	64.38	-88.49	3,078.91	-2,799.73	3,129.92	3,037.66	92.26	33.924		
15,000.00	11,771.69	14,938.88	11,691.87	67.76	65.65	-88.49	3,178.89	-2,800.58	3,129.86	3,035.78	94.08	33.269		
15,100.00	11,769.95	15,038.88	11,690.13	69.07	66.93	-88.49	3,278.87	-2,801.43	3,129.80	3,033.89	95.92	32.630		
15,200.00	11,768.21	15,138.88	11,688.39	70.39	68.23	-88.49	3,378.85	-2,802.28	3,129.74	3,031.97	97.78	32.009		
15,300.00	11,766.46	15,238.88	11,686.65	71.73	69.55	-88.49	3,478.83	-2,803.13	3,129.69	3,030.03	99.66	31.405		
15,400.00	11,764.72	15,338.88	11,684.91	73.09	70.88	-88.49	3,578.82	-2,803.98	3,129.63	3,028.07	101.55	30.818		
15,500.00	11,762.98	15,438.88	11,683.17	74.45	72.22	-88.49	3,678.80	-2,804.82	3,129.57	3,026.10	103.47	30.246		
15,600.00	11,761.24	15,538.88	11,681.43	75.83	73.57	-88.49	3,778.78	-2,805.67	3,129.51	3,024.11	105.40	29.691		
15,700.00	11,759.50	15,638.88	11,679.69	77.21	74.94	-88.49	3,878.76	-2,806.52	3,129.45	3,022.10	107.35	29.151		
15,800.00	11,757.76	15,738.88	11,677.95	78.61	76.31	-88.49	3,978.74	-2,807.37	3,129.39	3,020.08	109.32	28.627		
15,900.00	11,756.02	15,838.88	11,676.21	80.02	77.70	-88.49	4,078.72	-2,808.22	3,129.33	3,018.04	111.29	28.118		
16,000.00	11,754.28	15,938.88	11,674.46	81.43	79.10	-88.49	4,178.70	-2,809.07	3,129.27	3,015.99	113.29	27.623		
16,100.00	11,752.53	16,038.88	11,672.72	82.86	80.51	-88.49	4,278.68	-2,809.92	3,129.22	3,013.92	115.29	27.142		
16,200.00	11,750.79	16,138.88	11,670.98	84.29	81.92	-88.49	4,378.67	-2,810.77	3,129.16	3,011.85	117.31	26.675		
16,300.00	11,749.05	16,238.88	11,669.24	85.73	83.35	-88.49	4,478.65	-2,811.62	3,129.10	3,009.76	119.34	26.221		
16,400.00	11,747.31	16,338.88	11,667.50	87.18	84.78	-88.49	4,578.63	-2,812.46	3,129.04	3,007.66	121.38	25.780		
16,500.00	11,745.57	16,438.88	11,665.76	88.63	86.22	-88.49	4,678.61	-2,813.31	3,128.98	3,005.55	123.43	25.351		
16,600.00	11,743.83	16,538.88	11,664.02	90.09	87.67	-88.49	4,778.59	-2,814.16	3,128.92	3,003.43	125.49	24.934		
16,700.00	11,742.09	16,638.88	11,662.28	91.56	89.13	-88.49	4,878.57	-2,815.01	3,128.86	3,001.31	127.56	24.529		
16,800.00	11,740.35	16,738.88	11,660.54	93.04	90.59	-88.49	4,978.55	-2,815.86	3,128.80	2,999.17	129.64	24.135		
16,900.00	11,738.60	16,838.88	11,658.80	94.52	92.06	-88.49	5,078.53	-2,816.71	3,128.74	2,997.02	131.72	23.753		
17,000.00	11,736.86	16,938.88	11,657.06	96.00	93.53	-88.49	5,178.51	-2,817.56	3,128.69	2,994.87	133.82	23.380		
17,100.00	11,735.12	17,038.88	11,655.32	97.49	95.01	-88.49	5,278.50	-2,818.41	3,128.63	2,992.70	135.92	23.018		
17,200.00	11,733.38	17,138.88	11,653.58	98.99	96.50	-88.49	5,378.48	-2,819.25	3,128.57	2,990.54	138.03	22.665		
17,300.00	11,731.64	17,238.88	11,651.83	100.49	97.99	-88.49	5,478.46	-2,820.10	3,128.51	2,988.36	140.15	22.323		
17,400.00	11,729.90	17,338.88	11,650.09	102.00	99.49	-88.49	5,578.44	-2,820.95	3,128.45	2,986.17	142.27	21.989		
17,500.00	11,728.16	17,438.88	11,648.35	103.51	100.99	-88.49	5,678.42	-2,821.80	3,128.39	2,983.98	144.41	21.664		
17,600.00	11,726.42	17,538.88	11,646.61	105.02	102.49	-88.49	5,778.40	-2,822.65	3,128.33	2,981.79	146.54	21.347		
17,700.00	11,724.67	17,638.88	11,644.87	106.54	104.00	-88.49	5,878.38	-2,823.50	3,128.27	2,979.59	148.69	21.039		
17,800.00	11,722.93	17,738.88	11,643.13	108.06	105.52	-88.49	5,978.36	-2,824.35	3,128.21	2,977.38	150.84	20.739		
17,900.00	11,721.19	17,838.88	11,641.39	109.59	107.04	-88.49	6,078.35	-2,825.20	3,128.16	2,975.16	152.99	20.447		
18,000.00	11,719.45	17,938.88	11,639.65	111.12	108.56	-88.49	6,178.33	-2,826.04	3,128.10	2,972.95	155.15	20.162		
18,100.00	11,717.71	18,038.88	11,637.91	112.65	110.09	-88.49	6,278.31	-2,826.89	3,128.04	2,970.72	157.32	19.884		
18,200.00	11,715.97	18,138.88	11,636.17	114.19	111.62	-88.49	6,378.29	-2,827.74	3,127.98	2,968.49	159.48	19.613		
18,300.00	11,714.23	18,238.88	11,634.43	115.73	113.15	-88.49	6,478.27	-2,828.59	3,127.92	2,966.26	161.66	19.349		
18,400.00	11,712.49	18,338.88	11,632.69	117.27	114.69	-88.49	6,578.25	-2,829.44	3,127.86	2,964.02	163.84	19.091		
18,500.00	11,710.74	18,438.88	11,630.95	118.82	116.23	-88.49	6,678.23	-2,830.29	3,127.80	2,961.78	166.02	18.840		
18,600.00	11,709.00	18,538.88	11,629.21	120.37	117.77	-88.49	6,778.21	-2,831.14	3,127.74	2,959.54	168.21	18.595		
18,700.00	11,707.26	18,638.88	11,627.46	121.92	119.31	-88.49	6,878.20	-2,831.99	3,127.68	2,957.29	170.40	18.355		
18,800.00	11,705.52	18,738.88	11,625.72	123.47	120.86	-88.49	6,978.18	-2,832.83	3,127.63	2,955.03	172.59	18.121		
18,900.00	11,703.78	18,838.88	11,623.98	125.03	122.41	-88.49	7,078.16	-2,833.68	3,127.57	2,952.78	174.79	17.893		
19,000.00	11,702.04	18,938.88	11,622.24	126.59	123.97	-88.49	7,178.14	-2,834.53	3,127.51	2,950.51	176.99	17.670		
19,100.00	11,700.30	19,038.88	11,620.50	128.15	125.52	-88.49	7,278.12	-2,835.38	3,127.45	2,948.25	179.20	17.452		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,200.00	11,698.56	19,138.88	11,618.76	129.71	127.08	-88.49	7,378.10	-2,836.23	3,127.39	2,945.98	181.41	17.240		
19,300.00	11,696.81	19,238.88	11,617.02	131.28	128.64	-88.49	7,478.08	-2,837.08	3,127.33	2,943.71	183.62	17.032		
19,400.00	11,695.07	19,338.88	11,615.28	132.85	130.20	-88.49	7,578.06	-2,837.93	3,127.27	2,941.44	185.83	16.828		
19,500.00	11,693.33	19,438.88	11,613.54	134.42	131.77	-88.49	7,678.05	-2,838.78	3,127.21	2,939.16	188.05	16.630		
19,600.00	11,691.59	19,538.88	11,611.80	135.99	133.34	-88.49	7,778.03	-2,839.63	3,127.15	2,936.88	190.27	16.435		
19,700.00	11,689.85	19,638.88	11,610.06	137.56	134.91	-88.49	7,878.01	-2,840.47	3,127.10	2,934.60	192.49	16.245		
19,800.00	11,688.11	19,738.88	11,608.32	139.14	136.48	-88.49	7,977.99	-2,841.32	3,127.04	2,932.32	194.72	16.059		
19,900.00	11,686.37	19,838.88	11,606.58	140.71	138.05	-88.49	8,077.97	-2,842.17	3,126.98	2,930.03	196.95	15.877		
20,000.00	11,684.63	19,938.88	11,604.84	142.29	139.63	-88.49	8,177.95	-2,843.02	3,126.92	2,927.74	199.18	15.699		
20,100.00	11,682.88	20,038.88	11,603.09	143.87	141.20	-88.49	8,277.93	-2,843.87	3,126.86	2,925.45	201.41	15.525		
20,200.00	11,681.14	20,138.88	11,601.35	145.45	142.78	-88.49	8,377.91	-2,844.72	3,126.80	2,923.15	203.65	15.354		
20,300.00	11,679.40	20,238.88	11,599.61	147.04	144.36	-88.49	8,477.90	-2,845.57	3,126.74	2,920.86	205.89	15.187		
20,400.00	11,677.66	20,338.88	11,597.87	148.62	145.94	-88.49	8,577.88	-2,846.42	3,126.68	2,918.56	208.12	15.023		
20,500.00	11,675.92	20,438.88	11,596.13	150.21	147.53	-88.49	8,677.86	-2,847.26	3,126.62	2,916.26	210.37	14.863		
20,600.00	11,674.18	20,538.88	11,594.39	151.80	149.11	-88.49	8,777.84	-2,848.11	3,126.57	2,913.96	212.61	14.706		
20,700.00	11,672.44	20,638.88	11,592.65	153.39	150.70	-88.49	8,877.82	-2,848.96	3,126.51	2,911.65	214.86	14.552		
20,800.00	11,670.70	20,738.88	11,590.91	154.98	152.28	-88.49	8,977.80	-2,849.81	3,126.45	2,909.34	217.10	14.401		
20,900.00	11,668.95	20,838.88	11,589.17	156.57	153.87	-88.49	9,077.78	-2,850.66	3,126.39	2,907.04	219.35	14.253		
21,000.00	11,667.21	20,938.88	11,587.43	158.16	155.46	-88.49	9,177.76	-2,851.51	3,126.33	2,904.73	221.60	14.108		
21,100.00	11,665.47	21,038.88	11,585.69	159.76	157.05	-88.49	9,277.75	-2,852.36	3,126.27	2,902.41	223.86	13.965		
21,200.00	11,663.73	21,138.88	11,583.95	161.35	158.65	-88.49	9,377.73	-2,853.21	3,126.21	2,900.10	226.11	13.826		
21,300.00	11,661.99	21,238.88	11,582.21	162.95	160.24	-88.49	9,477.71	-2,854.05	3,126.15	2,897.79	228.37	13.689		
21,400.00	11,660.25	21,338.88	11,580.47	164.54	161.84	-88.49	9,577.69	-2,854.90	3,126.09	2,895.47	230.63	13.555		
21,500.00	11,658.51	21,438.88	11,578.72	166.14	163.43	-88.49	9,677.67	-2,855.75	3,126.04	2,893.15	232.89	13.423		
21,600.00	11,656.77	21,538.88	11,576.98	167.74	165.03	-88.49	9,777.65	-2,856.60	3,125.98	2,890.83	235.15	13.294		
21,700.00	11,655.02	21,638.88	11,575.24	169.34	166.63	-88.49	9,877.63	-2,857.45	3,125.92	2,888.51	237.41	13.167		
21,800.00	11,653.28	21,738.88	11,573.50	170.95	168.23	-88.49	9,977.61	-2,858.30	3,125.86	2,886.19	239.67	13.042		
21,900.00	11,651.54	21,838.88	11,571.76	172.55	169.83	-88.49	10,077.60	-2,859.15	3,125.80	2,883.86	241.94	12.920		
21,961.11	11,650.48	21,898.12	11,570.73	173.53	170.77	-88.49	10,136.83	-2,859.65	3,125.77	2,882.46	243.30	12.847		
21,973.00	11,650.27	21,898.12	11,570.73	173.72	170.77	-88.49	10,136.83	-2,859.65	3,125.79	2,882.35	243.44	12.840 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 Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well 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	4.80	4.80	0.00	0.01	-83.90	231.99	-2,169.74	2,182.11					
100.00	100.00	104.80	104.80	0.13	0.16	-83.90	231.99	-2,169.74	2,182.11	2,181.90	0.20	N/A		
200.00	200.00	204.80	204.80	0.48	0.52	-83.90	231.99	-2,169.74	2,182.11	2,181.40	0.71	3,080.524		
300.00	300.00	304.80	304.80	0.84	0.88	-83.90	231.99	-2,169.74	2,182.11	2,180.89	1.22	1,795.755		
400.00	400.00	404.80	404.80	1.20	1.23	-83.90	231.99	-2,169.74	2,182.11	2,180.39	1.72	1,267.167		
500.00	500.00	504.80	504.80	1.56	1.59	-83.90	231.99	-2,169.74	2,182.11	2,179.88	2.23	978.983		
600.00	600.00	604.80	604.80	1.92	1.95	-83.90	231.99	-2,169.74	2,182.11	2,179.37	2.74	797.587		
700.00	700.00	704.80	704.80	2.28	2.31	-83.90	231.99	-2,169.74	2,182.11	2,178.86	3.24	672.903		
800.00	800.00	804.80	804.80	2.63	2.67	-83.90	231.99	-2,169.74	2,182.11	2,178.36	3.75	581.931		
900.00	900.00	904.80	904.80	2.99	3.03	-83.90	231.99	-2,169.74	2,182.11	2,177.85	4.26	512.627		
1,000.00	1,000.00	1,004.80	1,004.80	3.35	3.39	-83.90	231.99	-2,169.74	2,182.11	2,177.34	4.76	458.073		
1,100.00	1,100.00	1,104.80	1,104.80	3.71	3.74	-83.90	231.99	-2,169.74	2,182.11	2,176.84	5.27	414.014		
1,200.00	1,200.00	1,204.80	1,204.80	4.07	4.10	-83.90	231.99	-2,169.74	2,182.11	2,176.33	5.78	377.686		
1,300.00	1,300.00	1,304.80	1,304.80	4.43	4.46	-83.90	231.99	-2,169.74	2,182.11	2,175.82	6.28	347.220		
1,400.00	1,400.00	1,404.80	1,404.80	4.79	4.82	-83.90	231.99	-2,169.74	2,182.11	2,175.32	6.79	321.301		
1,500.00	1,500.00	1,504.80	1,504.80	5.14	5.18	-83.90	231.99	-2,169.74	2,182.11	2,174.81	7.30	298.983		
1,600.00	1,600.00	1,604.80	1,604.80	5.50	5.54	-83.90	231.99	-2,169.74	2,182.11	2,174.30	7.81	279.565		
1,700.00	1,700.00	1,704.80	1,704.80	5.86	5.89	-83.90	231.99	-2,169.74	2,182.11	2,173.79	8.31	262.515		
1,800.00	1,800.00	1,804.80	1,804.80	6.22	6.25	-83.90	231.99	-2,169.74	2,182.11	2,173.29	8.82	247.425		
1,900.00	1,900.00	1,904.80	1,904.80	6.58	6.61	-83.90	231.99	-2,169.74	2,182.11	2,172.78	9.33	233.975		
2,000.00	2,000.00	2,004.80	2,004.80	6.94	6.97	-83.90	231.99	-2,169.74	2,182.11	2,172.27	9.83	221.912		
2,100.00	2,100.00	2,104.80	2,104.80	7.29	7.33	-83.90	231.99	-2,169.74	2,182.11	2,171.77	10.34	211.033		
2,200.00	2,200.00	2,204.80	2,204.80	7.65	7.69	-83.90	231.99	-2,169.74	2,182.11	2,171.26	10.85	201.170		
2,300.00	2,300.00	2,304.80	2,304.80	8.01	8.05	-83.90	231.99	-2,169.74	2,182.11	2,170.75	11.35	192.188		
2,400.00	2,400.00	2,404.80	2,404.80	8.37	8.40	-83.90	231.99	-2,169.74	2,182.11	2,170.25	11.86	183.973		
2,500.00	2,500.00	2,504.80	2,504.80	8.73	8.76	-83.90	231.99	-2,169.74	2,182.11	2,169.74	12.37	176.432		
2,600.00	2,600.00	2,604.80	2,604.80	9.09	9.12	-83.90	231.99	-2,169.74	2,182.11	2,169.23	12.87	169.485		
2,700.00	2,700.00	2,704.80	2,704.80	9.45	9.48	-83.90	231.99	-2,169.74	2,182.11	2,168.73	13.38	163.064		
2,800.00	2,800.00	2,804.80	2,804.80	9.80	9.84	-83.90	231.99	-2,169.74	2,182.11	2,168.22	13.89	157.112		
2,900.00	2,900.00	2,904.80	2,904.80	10.16	10.20	-83.90	231.99	-2,169.74	2,182.11	2,167.71	14.40	151.580		
2,914.99	2,914.99	2,919.79	2,919.79	10.22	10.25	-83.90	231.99	-2,169.74	2,182.11	2,167.64	14.47	150.784 CC		
3,000.00	3,000.00	3,000.00	3,000.00	10.52	10.54	-83.90	231.99	-2,169.74	2,182.11	2,167.22	14.89	146.544 ES		
3,100.00	3,100.00	3,082.86	3,082.86	10.88	10.82	-83.92	231.24	-2,170.24	2,182.63	2,167.29	15.34	142.252		
3,200.00	3,200.00	3,161.86	3,161.81	11.24	11.08	-83.98	229.14	-2,171.64	2,184.12	2,168.34	15.78	138.418		
3,300.00	3,299.99	3,240.70	3,240.54	11.58	11.34	156.79	225.68	-2,173.95	2,187.78	2,171.57	16.20	135.028		
3,400.00	3,399.91	3,319.27	3,318.90	11.92	11.60	156.65	220.89	-2,177.14	2,194.80	2,178.18	16.62	132.093		
3,500.00	3,499.69	3,400.09	3,399.36	12.25	11.87	156.47	214.57	-2,181.35	2,205.19	2,188.16	17.03	129.452		
3,533.01	3,532.59	3,429.40	3,428.51	12.36	11.96	156.40	212.02	-2,183.05	2,209.31	2,192.13	17.18	128.591		
3,600.00	3,599.32	3,495.72	3,494.47	12.59	12.19	156.30	206.25	-2,186.90	2,217.95	2,200.46	17.49	126.778		
3,700.00	3,698.94	3,594.72	3,592.93	12.93	12.52	156.15	197.64	-2,192.64	2,230.86	2,212.89	17.97	124.169		
3,800.00	3,798.56	3,693.73	3,691.39	13.28	12.86	156.01	189.03	-2,198.38	2,243.78	2,225.34	18.44	121.673		
3,900.00	3,898.18	3,792.73	3,789.85	13.62	13.20	155.86	180.42	-2,204.12	2,256.71	2,237.79	18.92	119.284		
4,000.00	3,997.80	3,891.73	3,888.30	13.97	13.55	155.72	171.80	-2,209.86	2,269.66	2,250.26	19.40	116.995		
4,100.00	4,097.43	3,990.73	3,986.76	14.32	13.89	155.58	163.19	-2,215.61	2,282.62	2,262.74	19.88	114.803		
4,200.00	4,197.05	4,089.73	4,085.22	14.67	14.24	155.44	154.58	-2,221.35	2,295.60	2,275.23	20.37	112.702		
4,300.00	4,296.67	4,188.74	4,183.68	15.02	14.59	155.30	145.97	-2,227.09	2,308.59	2,287.73	20.86	110.688		
4,400.00	4,396.29	4,287.74	4,282.14	15.38	14.95	155.17	137.35	-2,232.83	2,321.59	2,300.24	21.35	108.755		
4,500.00	4,495.91	4,386.74	4,380.60	15.74	15.30	155.03	128.74	-2,238.57	2,334.60	2,312.76	21.84	106.900		
4,600.00	4,495.53	4,485.74	4,479.06	16.09	15.66	154.90	120.13	-2,244.31	2,347.63	2,325.30	22.33	105.119		
4,700.00	4,495.15	4,584.74	4,577.52	16.45	16.02	154.77	111.52	-2,250.06	2,360.67	2,337.84	22.83	103.408		
4,800.00	4,494.77	4,683.74	4,675.98	16.81	16.38	154.64	102.90	-2,255.80	2,373.72	2,350.39	23.33	101.763		
4,900.00	4,494.39	4,782.75	4,774.44	17.17	16.74	154.51	94.29	-2,261.54	2,386.78	2,362.96	23.82	100.180		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,000.00	4,994.01	4,881.75	4,872.90	17.53	17.11	154.39	85.68	-2,267.28	2,399.86	2,375.53	24.33	98.658		
5,100.00	5,093.63	4,980.75	4,971.36	17.90	17.47	154.26	77.07	-2,273.02	2,412.94	2,388.11	24.83	97.192		
5,200.00	5,193.25	5,079.75	5,069.81	18.26	17.84	154.14	68.45	-2,278.76	2,426.04	2,400.71	25.33	95.780		
5,300.00	5,292.87	5,178.75	5,168.27	18.63	18.20	154.01	59.84	-2,284.51	2,439.15	2,413.31	25.83	94.418		
5,400.00	5,392.49	5,277.75	5,266.73	18.99	18.57	153.89	51.23	-2,290.25	2,452.27	2,425.93	26.34	93.106		
5,500.00	5,492.11	5,376.76	5,365.19	19.36	18.94	153.77	42.62	-2,295.99	2,465.40	2,438.55	26.84	91.839		
5,600.00	5,591.73	5,475.76	5,463.65	19.73	19.31	153.65	34.01	-2,301.73	2,478.54	2,451.19	27.35	90.617		
5,700.00	5,691.35	5,574.76	5,562.11	20.09	19.68	153.53	25.39	-2,307.47	2,491.69	2,463.83	27.86	89.437		
5,800.00	5,790.97	5,673.76	5,660.57	20.46	20.06	153.42	16.78	-2,313.21	2,504.85	2,476.48	28.37	88.296		
5,900.00	5,890.59	5,772.76	5,759.03	20.83	20.43	153.30	8.17	-2,318.95	2,518.02	2,489.14	28.88	87.194		
6,000.00	5,990.21	5,871.76	5,857.49	21.20	20.80	153.19	-0.44	-2,324.70	2,531.20	2,501.81	29.39	86.127		
6,100.00	6,089.83	5,970.77	5,955.95	21.57	21.18	153.08	-9.06	-2,330.44	2,544.39	2,514.49	29.90	85.096		
6,200.00	6,189.45	6,069.77	6,054.41	21.94	21.55	152.96	-17.67	-2,336.18	2,557.59	2,527.18	30.41	84.097		
6,300.00	6,289.07	6,168.77	6,152.87	22.31	21.93	152.85	-26.28	-2,341.92	2,570.80	2,539.88	30.93	83.130		
6,400.00	6,388.69	6,267.77	6,251.32	22.68	22.30	152.74	-34.89	-2,347.66	2,584.02	2,552.59	31.44	82.193		
6,500.00	6,488.31	6,366.77	6,349.78	23.06	22.68	152.63	-43.51	-2,353.40	2,597.25	2,565.30	31.95	81.285		
6,600.00	6,587.93	6,465.78	6,448.24	23.43	23.06	152.53	-52.12	-2,359.15	2,610.49	2,578.02	32.47	80.404		
6,700.00	6,687.55	6,564.78	6,546.70	23.80	23.44	152.42	-60.73	-2,364.89	2,623.74	2,590.76	32.98	79.550		
6,800.00	6,787.17	6,663.78	6,645.16	24.18	23.82	152.32	-69.34	-2,370.63	2,636.99	2,603.50	33.50	78.721		
6,900.00	6,886.79	6,762.78	6,743.62	24.55	24.20	152.21	-77.96	-2,376.37	2,650.26	2,616.24	34.01	77.917		
7,000.00	6,986.41	6,861.78	6,842.08	24.92	24.57	152.11	-86.57	-2,382.11	2,663.53	2,629.00	34.53	77.135		
7,100.00	7,086.03	6,960.78	6,940.54	25.30	24.95	152.01	-95.18	-2,387.85	2,676.81	2,641.76	35.05	76.376		
7,200.00	7,185.65	7,059.79	7,039.00	25.67	25.33	151.91	-103.79	-2,393.59	2,690.10	2,654.54	35.57	75.638		
7,300.00	7,285.27	7,158.79	7,137.46	26.05	25.72	151.81	-112.40	-2,399.34	2,703.40	2,667.32	36.08	74.921		
7,400.00	7,384.89	7,257.79	7,235.92	26.42	26.10	151.71	-121.02	-2,405.08	2,716.70	2,680.10	36.60	74.223		
7,500.00	7,484.51	7,356.79	7,334.38	26.80	26.48	151.61	-129.63	-2,410.82	2,730.02	2,692.90	37.12	73.545		
7,600.00	7,584.13	7,455.79	7,432.83	27.17	26.86	151.51	-138.24	-2,416.56	2,743.34	2,705.70	37.64	72.884		
7,700.00	7,683.75	7,554.79	7,531.29	27.55	27.24	151.42	-146.85	-2,422.30	2,756.67	2,718.51	38.16	72.241		
7,800.00	7,783.37	7,653.80	7,629.75	27.93	27.63	151.32	-155.47	-2,428.04	2,770.01	2,731.33	38.68	71.615		
7,900.00	7,882.99	7,752.80	7,728.21	28.30	28.01	151.23	-164.08	-2,433.79	2,783.35	2,744.15	39.20	71.005		
7,919.49	7,902.41	7,772.10	7,747.40	28.38	28.08	151.21	-165.76	-2,434.90	2,785.95	2,746.65	39.30	70.888		
8,000.00	7,982.68	7,851.87	7,826.75	28.68	28.39	151.20	-172.70	-2,439.53	2,795.96	2,756.25	39.72	70.393		
8,100.00	8,082.54	7,951.14	7,925.47	29.04	28.78	151.15	-181.33	-2,445.29	2,806.35	2,766.12	40.24	69.745		
8,200.00	8,182.50	8,050.53	8,024.31	29.40	29.16	151.05	-189.98	-2,451.05	2,814.48	2,773.72	40.75	69.061		
8,252.50	8,235.00	8,102.74	8,076.24	29.58	29.36	-89.89	-194.52	-2,454.08	2,817.84	2,776.81	41.02	68.690		
8,300.00	8,282.50	8,149.98	8,123.21	29.74	29.55	-89.97	-198.63	-2,456.82	2,820.60	2,779.33	41.26	68.355		
8,400.00	8,382.50	8,303.62	8,276.22	30.08	30.13	-90.21	-210.13	-2,464.49	2,825.69	2,783.74	41.95	67.365		
8,500.00	8,482.50	8,474.05	8,446.44	30.42	30.75	-90.34	-216.95	-2,469.03	2,828.38	2,785.73	42.65	66.318		
8,600.00	8,582.50	8,614.91	8,587.30	30.76	31.23	-90.36	-218.01	-2,469.74	2,828.80	2,785.56	43.24	65.425		
8,700.00	8,682.50	8,714.91	8,687.30	31.10	31.56	-90.36	-218.01	-2,469.74	2,828.80	2,785.08	43.72	64.710		
8,800.00	8,782.50	8,814.91	8,787.30	31.44	31.89	-90.36	-218.01	-2,469.74	2,828.80	2,784.60	44.19	64.008		
8,900.00	8,882.50	8,914.91	8,887.30	31.78	32.22	-90.36	-218.01	-2,469.74	2,828.80	2,784.12	44.67	63.321		
9,000.00	8,982.50	9,014.91	8,987.30	32.13	32.55	-90.36	-218.01	-2,469.74	2,828.80	2,783.64	45.15	62.648		
9,100.00	9,082.50	9,114.91	9,087.30	32.47	32.88	-90.36	-218.01	-2,469.74	2,828.80	2,783.16	45.63	61.988		
9,200.00	9,182.50	9,214.91	9,187.30	32.81	33.21	-90.36	-218.01	-2,469.74	2,828.80	2,782.68	46.12	61.341		
9,300.00	9,282.50	9,314.92	9,287.30	33.15	33.54	-90.36	-218.01	-2,469.74	2,828.80	2,782.20	46.60	60.707		
9,400.00	9,382.50	9,414.92	9,387.30	33.50	33.88	-90.36	-218.01	-2,469.74	2,828.80	2,781.72	47.08	60.085		
9,500.00	9,482.50	9,514.92	9,487.30	33.84	34.21	-90.36	-218.01	-2,469.74	2,828.80	2,781.23	47.56	59.475		
9,600.00	9,582.50	9,614.92	9,587.30	34.19	34.54	-90.36	-218.01	-2,469.74	2,828.80	2,780.75	48.05	58.877		
9,700.00	9,682.50	9,714.92	9,687.30	34.53	34.88	-90.36	-218.01	-2,469.74	2,828.80	2,780.27	48.53	58.290		
9,800.00	9,782.50	9,814.92	9,787.30	34.87	35.21	-90.36	-218.01	-2,469.74	2,828.80	2,779.78	49.01	57.714		
9,900.00	9,882.50	9,914.92	9,887.30	35.22	35.55	-90.36	-218.01	-2,469.74	2,828.80	2,779.30	49.50	57.149		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well 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		
10,000.00	9,982.50	10,014.92	9,987.30	35.56	35.88	-90.36	-218.01	-2,469.74	2,828.80	2,778.81	49.98	56.594		
10,100.00	10,082.50	10,114.92	10,087.30	35.91	36.22	-90.36	-218.01	-2,469.74	2,828.80	2,778.33	50.47	56.049		
10,200.00	10,182.50	10,214.92	10,187.30	36.26	36.56	-90.36	-218.01	-2,469.74	2,828.80	2,777.84	50.96	55.515		
10,300.00	10,282.50	10,314.92	10,287.30	36.60	36.89	-90.36	-218.01	-2,469.74	2,828.80	2,777.36	51.44	54.990		
10,400.00	10,382.50	10,414.92	10,387.30	36.95	37.23	-90.36	-218.01	-2,469.74	2,828.80	2,776.87	51.93	54.474		
10,500.00	10,482.50	10,514.92	10,487.30	37.29	37.57	-90.36	-218.01	-2,469.74	2,828.80	2,776.38	52.42	53.968		
10,600.00	10,582.50	10,614.92	10,587.30	37.64	37.91	-90.36	-218.01	-2,469.74	2,828.80	2,775.89	52.90	53.470		
10,700.00	10,682.50	10,714.92	10,687.30	37.99	38.25	-90.36	-218.01	-2,469.74	2,828.80	2,775.41	53.39	52.982		
10,800.00	10,782.50	10,814.92	10,787.30	38.34	38.59	-90.36	-218.01	-2,469.74	2,828.80	2,774.92	53.88	52.502		
10,900.00	10,882.50	10,914.92	10,887.30	38.68	38.93	-90.36	-218.01	-2,469.74	2,828.80	2,774.43	54.37	52.030		
11,000.00	10,982.50	11,014.92	10,987.30	39.03	39.27	-90.36	-218.01	-2,469.74	2,828.80	2,773.94	54.86	51.566		
11,100.00	11,082.50	11,114.92	11,087.30	39.38	39.61	-90.36	-218.01	-2,469.74	2,828.80	2,773.45	55.35	51.110		
11,200.00	11,182.50	11,214.92	11,187.30	39.73	39.95	-90.36	-218.01	-2,469.74	2,828.80	2,772.96	55.84	50.662		
11,265.50	11,248.00	11,280.42	11,252.80	39.95	40.17	-90.36	-218.01	-2,469.74	2,828.80	2,772.64	56.16	50.372		
11,300.00	11,282.48	11,314.89	11,287.28	40.07	40.29	-89.87	-218.01	-2,469.74	2,828.79	2,772.47	56.33	50.222		
11,350.00	11,332.19	11,364.61	11,336.99	40.24	40.46	-89.97	-218.01	-2,469.74	2,828.79	2,772.22	56.56	50.010		
11,359.37	11,341.45	11,373.87	11,346.25	40.27	40.49	-90.00	-218.01	-2,469.74	2,828.79	2,772.18	56.61	49.971		
11,400.00	11,381.27	11,413.68	11,386.07	40.40	40.62	-90.16	-218.01	-2,469.74	2,828.80	2,772.00	56.80	49.805		
11,450.00	11,429.33	11,461.74	11,434.13	40.55	40.79	-90.42	-218.01	-2,469.74	2,828.87	2,771.85	57.02	49.610		
11,500.00	11,476.01	11,511.29	11,483.64	40.70	40.95	-90.73	-216.57	-2,469.75	2,829.05	2,771.80	57.24	49.422		
11,550.00	11,520.95	11,562.82	11,534.80	40.83	41.11	-91.05	-210.61	-2,469.80	2,829.31	2,771.86	57.46	49.243		
11,600.00	11,563.82	11,616.09	11,586.92	40.95	41.27	-91.37	-199.64	-2,469.90	2,829.67	2,772.01	57.66	49.076		
11,650.00	11,604.28	11,671.26	11,639.56	41.05	41.42	-91.68	-183.24	-2,470.04	2,830.11	2,772.26	57.85	48.919		
11,700.00	11,642.03	11,728.45	11,692.22	41.14	41.55	-91.99	-160.97	-2,470.22	2,830.62	2,772.59	58.04	48.772		
11,750.00	11,676.79	11,787.79	11,744.22	41.22	41.68	-92.29	-132.44	-2,470.47	2,831.19	2,772.97	58.21	48.636		
11,800.00	11,708.28	11,849.38	11,794.77	41.28	41.79	-92.57	-97.31	-2,470.77	2,831.78	2,773.41	58.38	48.508		
11,850.00	11,736.26	11,913.27	11,842.91	41.33	41.88	-92.85	-55.36	-2,471.12	2,832.39	2,773.86	58.53	48.389		
11,900.00	11,760.54	11,979.45	11,887.53	41.37	41.96	-93.10	-6.54	-2,471.54	2,832.99	2,774.30	58.69	48.274		
11,950.00	11,780.91	12,047.83	11,927.41	41.42	42.03	-93.32	48.96	-2,472.01	2,833.54	2,774.71	58.83	48.162		
12,000.00	11,797.22	12,118.25	11,961.27	41.55	42.09	-93.51	110.65	-2,472.53	2,834.02	2,775.04	58.98	48.048		
12,050.00	11,809.36	12,190.42	11,987.86	41.68	42.15	-93.66	177.70	-2,473.10	2,834.41	2,775.28	59.14	47.930		
12,100.00	11,817.22	12,263.97	12,006.06	41.82	42.22	-93.77	248.90	-2,473.71	2,834.69	2,775.39	59.30	47.805		
12,150.00	11,820.75	12,338.43	12,015.05	41.96	42.31	-93.84	322.76	-2,474.33	2,834.83	2,775.36	59.47	47.672		
12,175.48	11,820.87	12,376.55	12,015.93	42.03	42.36	-93.85	360.86	-2,474.66	2,834.84	2,775.29	59.56	47.600		
12,200.00	11,820.44	12,402.36	12,015.50	42.10	42.40	-93.85	386.67	-2,474.88	2,834.83	2,775.19	59.64	47.536		
12,300.00	11,818.70	12,502.36	12,013.79	42.44	42.61	-93.85	486.65	-2,475.72	2,834.77	2,774.76	60.01	47.237		
12,400.00	11,816.96	12,602.36	12,012.07	42.83	42.90	-93.85	586.63	-2,476.57	2,834.72	2,774.24	60.48	46.873		
12,500.00	11,815.22	12,702.36	12,010.36	43.28	43.25	-93.85	686.61	-2,477.42	2,834.66	2,773.63	61.03	46.451		
12,600.00	11,813.48	12,802.36	12,008.65	43.78	43.65	-93.85	786.59	-2,478.27	2,834.60	2,772.94	61.66	45.973		
12,700.00	11,811.74	12,902.36	12,006.93	44.34	44.12	-93.85	886.57	-2,479.12	2,834.55	2,772.17	62.37	45.446		
12,800.00	11,810.00	13,002.36	12,005.22	44.95	44.64	-93.85	986.56	-2,479.97	2,834.49	2,771.33	63.16	44.875		
12,900.00	11,808.26	13,102.36	12,003.51	45.61	45.22	-93.85	1,086.54	-2,480.82	2,834.43	2,770.40	64.03	44.267		
13,000.00	11,806.51	13,202.36	12,001.79	46.32	45.85	-93.85	1,186.52	-2,481.67	2,834.38	2,769.41	64.97	43.626		
13,100.00	11,804.77	13,302.36	12,000.08	47.08	46.52	-93.86	1,286.50	-2,482.52	2,834.32	2,768.34	65.98	42.959		
13,200.00	11,803.03	13,402.36	11,998.37	47.88	47.25	-93.86	1,386.48	-2,483.37	2,834.26	2,767.21	67.05	42.270		
13,300.00	11,801.29	13,502.36	11,996.65	48.72	48.02	-93.86	1,486.46	-2,484.21	2,834.21	2,766.02	68.19	41.564		
13,400.00	11,799.55	13,602.36	11,994.94	49.60	48.83	-93.86	1,586.45	-2,485.06	2,834.15	2,764.76	69.39	40.847		
13,500.00	11,797.81	13,702.36	11,993.23	50.53	49.69	-93.86	1,686.43	-2,485.91	2,834.09	2,763.45	70.64	40.121		
13,600.00	11,796.07	13,802.36	11,991.52	51.48	50.58	-93.86	1,786.41	-2,486.76	2,834.04	2,762.09	71.95	39.391		
13,700.00	11,794.33	13,902.36	11,989.80	52.48	51.51	-93.86	1,886.39	-2,487.61	2,833.98	2,760.68	73.30	38.661		
13,800.00	11,792.58	14,002.36	11,988.09	53.50	52.48	-93.86	1,986.37	-2,488.46	2,833.92	2,759.21	74.71	37.932		
13,900.00	11,790.84	14,102.36	11,986.38	54.56	53.48	-93.86	2,086.36	-2,489.31	2,833.87	2,757.70	76.16	37.209		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,000.00	11,789.10	14,202.36	11,984.66	55.64	54.51	-93.86	2,186.34	-2,490.16	2,833.81	2,756.15	77.66	36.492		
14,100.00	11,787.36	14,302.36	11,982.95	56.75	55.57	-93.86	2,286.32	-2,491.01	2,833.75	2,754.56	79.19	35.784		
14,200.00	11,785.62	14,402.36	11,981.24	57.89	56.66	-93.86	2,386.30	-2,491.86	2,833.70	2,752.93	80.76	35.086		
14,300.00	11,783.88	14,502.36	11,979.52	59.05	57.78	-93.86	2,486.28	-2,492.71	2,833.64	2,751.27	82.37	34.400		
14,400.00	11,782.14	14,602.36	11,977.81	60.24	58.92	-93.86	2,586.26	-2,493.55	2,833.58	2,749.57	84.02	33.726		
14,500.00	11,780.40	14,702.36	11,976.10	61.44	60.09	-93.86	2,686.25	-2,494.40	2,833.53	2,747.84	85.69	33.067		
14,600.00	11,778.65	14,802.36	11,974.38	62.67	61.27	-93.86	2,786.23	-2,495.25	2,833.47	2,746.07	87.40	32.421		
14,700.00	11,776.91	14,902.36	11,972.67	63.92	62.48	-93.87	2,886.21	-2,496.10	2,833.41	2,744.28	89.13	31.790		
14,800.00	11,775.17	15,002.36	11,970.96	65.18	63.71	-93.87	2,986.19	-2,496.95	2,833.36	2,742.47	90.89	31.173		
14,900.00	11,773.43	15,102.36	11,969.25	66.46	64.96	-93.87	3,086.17	-2,497.80	2,833.30	2,740.63	92.68	30.572		
15,000.00	11,771.69	15,202.36	11,967.53	67.76	66.22	-93.87	3,186.15	-2,498.65	2,833.24	2,738.76	94.49	29.986		
15,100.00	11,769.95	15,302.36	11,965.82	69.07	67.50	-93.87	3,286.14	-2,499.50	2,833.19	2,736.87	96.32	29.415		
15,200.00	11,768.21	15,402.36	11,964.11	70.39	68.80	-93.87	3,386.12	-2,500.35	2,833.13	2,734.96	98.17	28.859		
15,300.00	11,766.46	15,502.36	11,962.39	71.73	70.11	-93.87	3,486.10	-2,501.20	2,833.07	2,733.03	100.04	28.319		
15,400.00	11,764.72	15,602.36	11,960.68	73.09	71.44	-93.87	3,586.08	-2,502.05	2,833.02	2,731.08	101.93	27.792		
15,500.00	11,762.98	15,702.36	11,958.97	74.45	72.78	-93.87	3,686.06	-2,502.89	2,832.96	2,729.12	103.84	27.281		
15,600.00	11,761.24	15,802.36	11,957.25	75.83	74.13	-93.87	3,786.04	-2,503.74	2,832.91	2,727.13	105.77	26.783		
15,700.00	11,759.50	15,902.36	11,955.54	77.21	75.49	-93.87	3,886.03	-2,504.59	2,832.85	2,725.13	107.71	26.300		
15,800.00	11,757.76	16,002.36	11,953.83	78.61	76.87	-93.87	3,986.01	-2,505.44	2,832.79	2,723.12	109.67	25.830		
15,900.00	11,756.02	16,102.36	11,952.11	80.02	78.25	-93.87	4,085.99	-2,506.29	2,832.74	2,721.09	111.64	25.373		
16,000.00	11,754.28	16,202.36	11,950.40	81.43	79.65	-93.87	4,185.97	-2,507.14	2,832.68	2,719.05	113.63	24.929		
16,100.00	11,752.53	16,302.36	11,948.69	82.86	81.05	-93.87	4,285.95	-2,507.99	2,832.62	2,716.99	115.63	24.497		
16,200.00	11,750.79	16,402.36	11,946.97	84.29	82.47	-93.88	4,385.93	-2,508.84	2,832.57	2,714.93	117.64	24.078		
16,300.00	11,749.05	16,502.36	11,945.26	85.73	83.89	-93.88	4,485.92	-2,509.69	2,832.51	2,712.85	119.66	23.671		
16,400.00	11,747.31	16,602.36	11,943.55	87.18	85.32	-93.88	4,585.90	-2,510.54	2,832.45	2,710.76	121.70	23.275		
16,500.00	11,745.57	16,702.36	11,941.84	88.63	86.76	-93.88	4,685.88	-2,511.39	2,832.40	2,708.66	123.74	22.890		
16,600.00	11,743.83	16,802.36	11,940.12	90.09	88.21	-93.88	4,785.86	-2,512.23	2,832.34	2,706.55	125.79	22.516		
16,700.00	11,742.09	16,902.36	11,938.41	91.56	89.66	-93.88	4,885.84	-2,513.08	2,832.28	2,704.43	127.86	22.152		
16,800.00	11,740.35	17,002.36	11,936.70	93.04	91.12	-93.88	4,985.82	-2,513.93	2,832.23	2,702.30	129.93	21.798		
16,900.00	11,738.60	17,102.36	11,934.98	94.52	92.59	-93.88	5,085.81	-2,514.78	2,832.17	2,700.16	132.01	21.454		
17,000.00	11,736.86	17,202.36	11,933.27	96.00	94.06	-93.88	5,185.79	-2,515.63	2,832.11	2,698.01	134.10	21.119		
17,100.00	11,735.12	17,302.36	11,931.56	97.49	95.54	-93.88	5,285.77	-2,516.48	2,832.06	2,695.86	136.20	20.794		
17,200.00	11,733.38	17,402.36	11,929.84	98.99	97.03	-93.88	5,385.75	-2,517.33	2,832.00	2,693.70	138.30	20.477		
17,300.00	11,731.64	17,502.36	11,928.13	100.49	98.52	-93.88	5,485.73	-2,518.18	2,831.94	2,691.53	140.41	20.168		
17,400.00	11,729.90	17,602.36	11,926.42	102.00	100.01	-93.88	5,585.71	-2,519.03	2,831.89	2,689.35	142.53	19.868		
17,500.00	11,728.16	17,702.36	11,924.70	103.51	101.51	-93.88	5,685.70	-2,519.88	2,831.83	2,687.17	144.66	19.576		
17,600.00	11,726.42	17,802.36	11,922.99	105.02	103.02	-93.88	5,785.68	-2,520.72	2,831.77	2,684.98	146.79	19.291		
17,700.00	11,724.67	17,902.36	11,921.28	106.54	104.52	-93.89	5,885.66	-2,521.57	2,831.72	2,682.79	148.93	19.014		
17,800.00	11,722.93	18,002.36	11,919.57	108.06	106.04	-93.89	5,985.64	-2,522.42	2,831.66	2,680.59	151.07	18.744		
17,900.00	11,721.19	18,102.36	11,917.85	109.59	107.56	-93.89	6,085.62	-2,523.27	2,831.60	2,678.39	153.22	18.481		
18,000.00	11,719.45	18,202.36	11,916.14	111.12	109.08	-93.89	6,185.60	-2,524.12	2,831.55	2,676.18	155.37	18.224		
18,100.00	11,717.71	18,302.36	11,914.43	112.65	110.60	-93.89	6,285.59	-2,524.97	2,831.49	2,673.96	157.53	17.974		
18,200.00	11,715.97	18,402.36	11,912.71	114.19	112.13	-93.89	6,385.57	-2,525.82	2,831.43	2,671.74	159.69	17.730		
18,300.00	11,714.23	18,502.36	11,911.00	115.73	113.66	-93.89	6,485.55	-2,526.67	2,831.38	2,669.51	161.86	17.492		
18,400.00	11,712.49	18,602.36	11,909.29	117.27	115.20	-93.89	6,585.53	-2,527.52	2,831.32	2,667.29	164.04	17.260		
18,500.00	11,710.74	18,702.36	11,907.57	118.82	116.73	-93.89	6,685.51	-2,528.37	2,831.26	2,665.05	166.21	17.034		
18,600.00	11,709.00	18,802.36	11,905.86	120.37	118.28	-93.89	6,785.50	-2,529.22	2,831.21	2,662.81	168.39	16.813		
18,700.00	11,707.26	18,902.36	11,904.15	121.92	119.82	-93.89	6,885.48	-2,530.06	2,831.15	2,660.57	170.58	16.597		
18,800.00	11,705.52	19,002.36	11,902.43	123.47	121.37	-93.89	6,985.46	-2,530.91	2,831.10	2,658.33	172.77	16.387		
18,900.00	11,703.78	19,102.36	11,900.72	125.03	122.92	-93.89	7,085.44	-2,531.76	2,831.04	2,656.08	174.96	16.181		
19,000.00	11,702.04	19,202.36	11,899.01	126.59	124.47	-93.89	7,185.42	-2,532.61	2,830.98	2,653.82	177.16	15.980		
19,100.00	11,700.30	19,302.36	11,897.30	128.15	126.02	-93.89	7,285.40	-2,533.46	2,830.93	2,651.57	179.36	15.784		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,200.00	11,698.56	19,402.36	11,895.58	129.71	127.58	-93.89	7,385.39	-2,534.31	2,830.87	2,649.31	181.56	15.592		
19,300.00	11,696.81	19,502.36	11,893.87	131.28	129.14	-93.90	7,485.37	-2,535.16	2,830.81	2,647.05	183.77	15.404		
19,400.00	11,695.07	19,602.36	11,892.16	132.85	130.70	-93.90	7,585.35	-2,536.01	2,830.76	2,644.78	185.98	15.221		
19,500.00	11,693.33	19,702.36	11,890.44	134.42	132.27	-93.90	7,685.33	-2,536.86	2,830.70	2,642.51	188.19	15.042		
19,600.00	11,691.59	19,802.36	11,888.73	135.99	133.83	-93.90	7,785.31	-2,537.71	2,830.64	2,640.24	190.40	14.867		
19,700.00	11,689.85	19,902.36	11,887.02	137.56	135.40	-93.90	7,885.29	-2,538.56	2,830.59	2,637.97	192.62	14.695		
19,800.00	11,688.11	20,002.36	11,885.30	139.14	136.97	-93.90	7,985.28	-2,539.40	2,830.53	2,635.69	194.84	14.527		
19,900.00	11,686.37	20,102.36	11,883.59	140.71	138.54	-93.90	8,085.26	-2,540.25	2,830.47	2,633.41	197.06	14.363		
20,000.00	11,684.63	20,202.36	11,881.88	142.29	140.12	-93.90	8,185.24	-2,541.10	2,830.42	2,631.13	199.29	14.203		
20,100.00	11,682.88	20,302.36	11,880.16	143.87	141.69	-93.90	8,285.22	-2,541.95	2,830.36	2,628.84	201.52	14.045		
20,200.00	11,681.14	20,402.36	11,878.45	145.45	143.27	-93.90	8,385.20	-2,542.80	2,830.30	2,626.56	203.75	13.891		
20,300.00	11,679.40	20,502.36	11,876.74	147.04	144.85	-93.90	8,485.18	-2,543.65	2,830.25	2,624.27	205.98	13.740		
20,400.00	11,677.66	20,602.36	11,875.03	148.62	146.43	-93.90	8,585.17	-2,544.50	2,830.19	2,621.98	208.21	13.593		
20,500.00	11,675.92	20,702.36	11,873.31	150.21	148.01	-93.90	8,685.15	-2,545.35	2,830.13	2,619.68	210.45	13.448		
20,600.00	11,674.18	20,802.36	11,871.60	151.80	149.60	-93.90	8,785.13	-2,546.20	2,830.08	2,617.39	212.69	13.306		
20,700.00	11,672.44	20,902.36	11,869.89	153.39	151.18	-93.90	8,885.11	-2,547.05	2,830.02	2,615.09	214.93	13.167		
20,800.00	11,670.70	21,002.36	11,868.17	154.98	152.77	-93.91	8,985.09	-2,547.90	2,829.96	2,612.79	217.17	13.031		
20,900.00	11,668.95	21,102.36	11,866.46	156.57	154.36	-93.91	9,085.07	-2,548.74	2,829.91	2,610.49	219.42	12.898		
21,000.00	11,667.21	21,202.36	11,864.75	158.16	155.95	-93.91	9,185.06	-2,549.59	2,829.85	2,608.19	221.66	12.767		
21,100.00	11,665.47	21,302.36	11,863.03	159.76	157.54	-93.91	9,285.04	-2,550.44	2,829.79	2,605.89	223.91	12.638		
21,200.00	11,663.73	21,402.36	11,861.32	161.35	159.13	-93.91	9,385.02	-2,551.29	2,829.74	2,603.58	226.16	12.512		
21,300.00	11,661.99	21,502.36	11,859.61	162.95	160.72	-93.91	9,485.00	-2,552.14	2,829.68	2,601.27	228.41	12.389		
21,400.00	11,660.25	21,602.36	11,857.89	164.54	162.32	-93.91	9,584.98	-2,552.99	2,829.63	2,598.96	230.66	12.267		
21,500.00	11,658.51	21,702.36	11,856.18	166.14	163.91	-93.91	9,684.96	-2,553.84	2,829.57	2,596.65	232.92	12.148		
21,600.00	11,656.77	21,802.36	11,854.47	167.74	165.51	-93.91	9,784.95	-2,554.69	2,829.51	2,594.34	235.17	12.032		
21,700.00	11,655.02	21,902.36	11,852.76	169.34	167.11	-93.91	9,884.93	-2,555.54	2,829.46	2,592.03	237.43	11.917		
21,800.00	11,653.28	22,002.36	11,851.04	170.95	168.70	-93.91	9,984.91	-2,556.39	2,829.40	2,589.71	239.69	11.805		
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21,957.61	11,650.54	22,158.34	11,848.37	173.47	171.20	-93.91	10,140.86	-2,557.71	2,829.31	2,586.08	243.23	11.632		
21,973.00	11,650.27	22,158.34	11,848.37	173.72	171.20	-93.91	10,140.86	-2,557.71	2,829.35	2,585.95	243.40	11.624 SF		



Total Directional Services

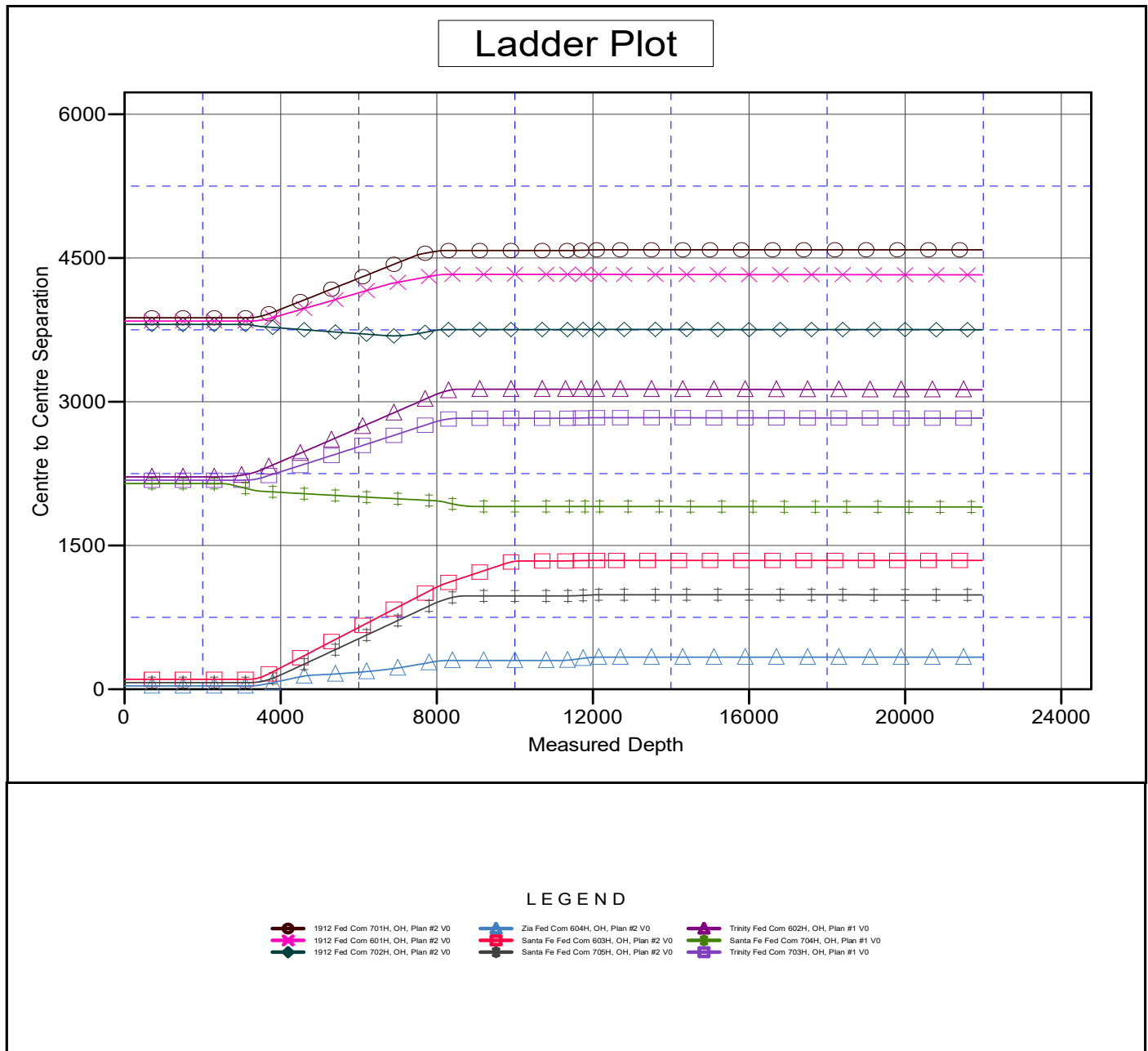
Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Zia Fed Com 706H
Project:	Lea County, NM (NAD83)	TVD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3078.5' GE + 30' KB @ 3108.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Zia Fed Com 706H	Survey Calculation Method:	Minimum Curvature
Well 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 3078.5' GE + 30' KB @ 3108.50usft
 Offset Depths are relative to Offset Datum
 Central Meridian is -104.333334

Coordinates are relative to: Zia Fed Com 706H
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.54°



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



Total Directional Services

Anticollision Report



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Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to 3078.5' GE + 30' KB @ 3108.50usft

Offset Depths are relative to Offset Datum

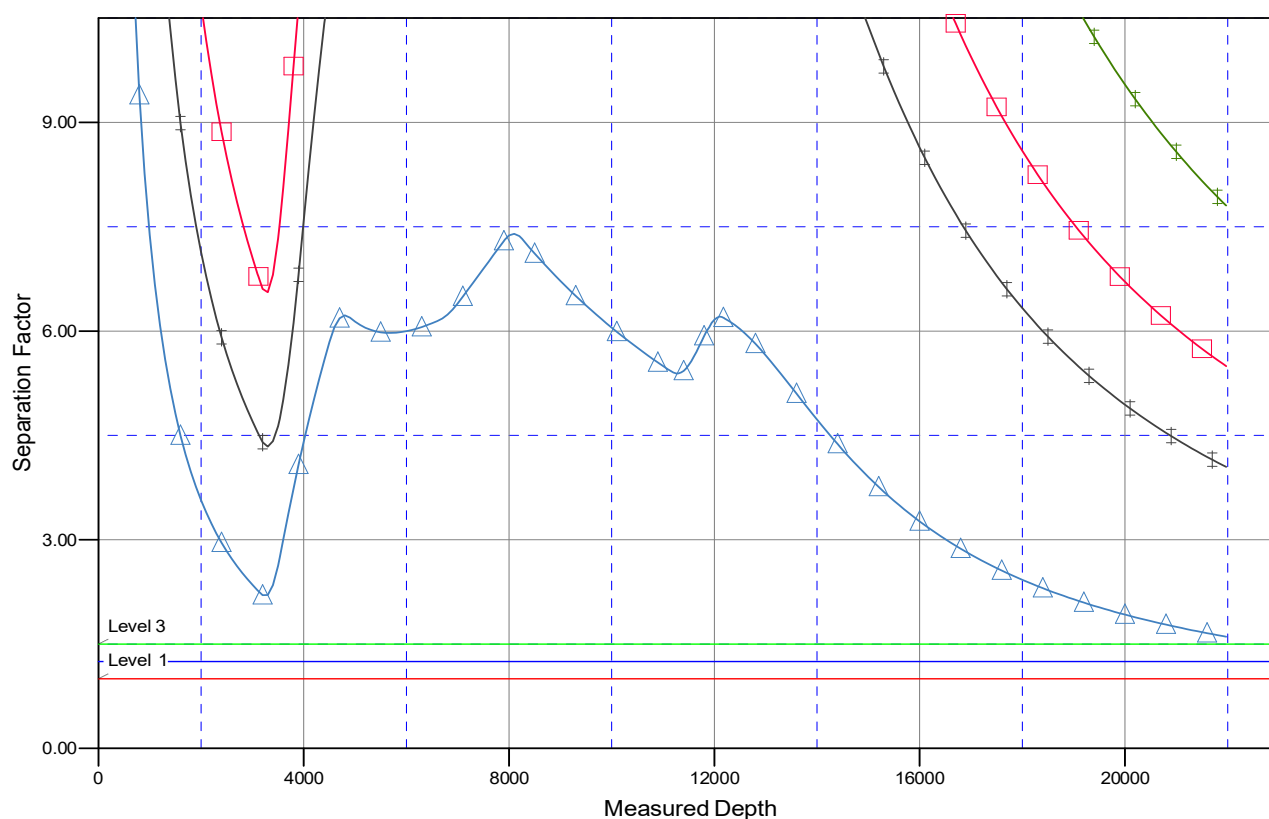
Central Meridian is -104.333334

Coordinates are relative to: Zia Fed Com 706H

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

Grid Convergence at Surface is: 0.54°

Separation Factor Plot



LEGEND

1912 Fed Com 701H, OH, Plan #2 V0	Zia Fed Com 604H, OH, Plan #2 V0	Trinity Fed Com 602H, OH, Plan #1 V0
1912 Fed Com 601H, OH, Plan #2 V0	Santa Fe Fed Com 603H, OH, Plan #2 V0	Santa Fe Fed Com 704H, OH, Plan #1 V0
1912 Fed Com 702H, OH, Plan #2 V0	Santa Fe Fed Com 705H, OH, Plan #2 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**
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 - Ground-level Abandoned Well Marker
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 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
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 - Electric Lines
- ☐ **Interim Reclamation**
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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

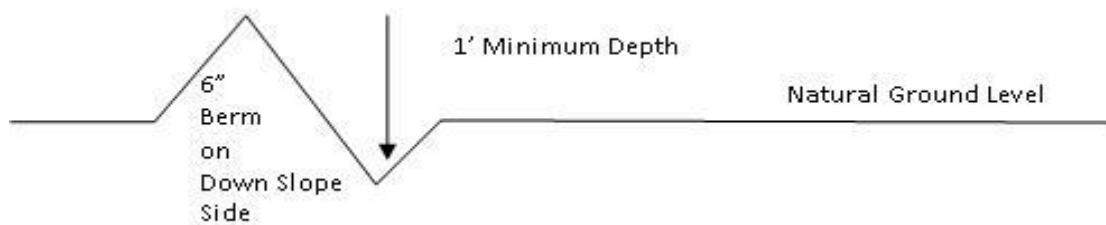
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

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

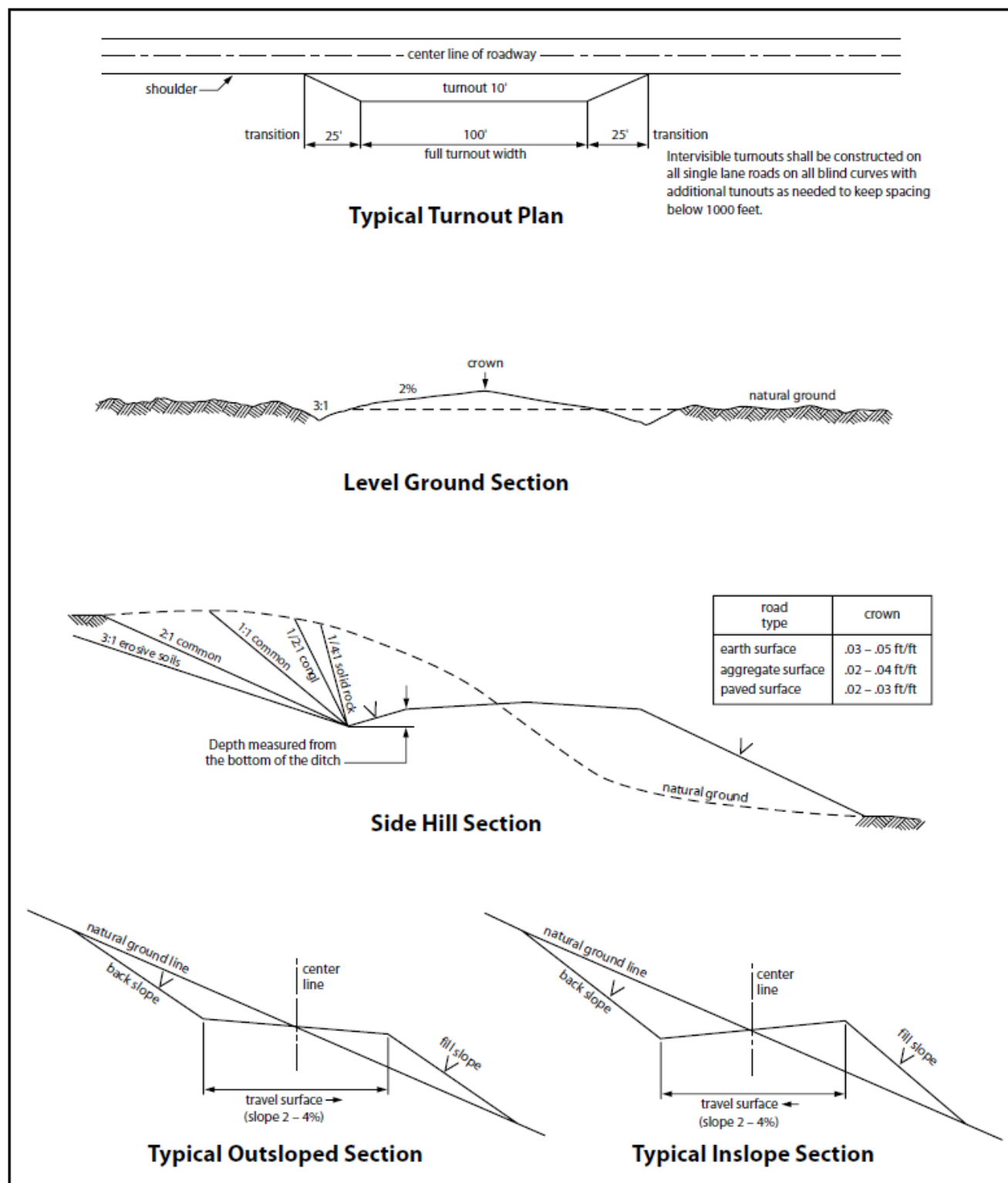


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

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.:	NMNM114998
LOCATION:	Section 24, T.25 S., R.35 E., NMPM
COUNTY:	Lea County, New Mexico

WELL NAME & NO.:	Zia Fed Com 604H
SURFACE HOLE FOOTAGE:	250'/S & 742'/E
BOTTOM HOLE FOOTAGE:	150'/N & 650'/E

WELL NAME & NO.:	Zia Fed Com 706H
SURFACE HOLE FOOTAGE:	250'/S & 707'/E
BOTTOM HOLE FOOTAGE:	150'/N & 350'/E

COA

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

A. HYDROGEN SULFIDE

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 shall be set at approximately **5400 feet** 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, potash or capitan reef.
 - ❖ In Capitan Reef Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.
 - ❖ **Special Capitan Reef requirements.** If lost circulation (50% or greater) occurs below the Base of the Salt, the operator shall do the following:
 - Switch to fresh water mud to protect the Capitan Reef and use fresh water mud until setting the intermediate casing. The appropriate BLM office is to be notified for a PET to witness the switch to fresh water.
 - Daily drilling reports from the Base of the Salt to the setting of the intermediate casing are to be submitted to the BLM CFO engineering staff via e-mail by 0800 hours each morning. Any lost circulation encountered is to be recorded on these drilling reports. The daily drilling report should show mud volume per shift/tour. Failure to submit these reports will result in an Incidence of Non-Compliance being issued for failure to comply with the Conditions of Approval. If not already planned, the operator shall run a caliper survey for the intermediate well bore and submit to the appropriate BLM office.

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

3. The minimum required fill of cement behind the 7-5/8 inch intermediate casing is:
 - Cement should tie-back at least **50 feet** on top of Capitan Reef top **or 200 feet** into the previous casing, whichever is greater. 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, potash or capitan reef.
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. 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 **5000 (5M) psi**.
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
 - e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record),

or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.

- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

GENERAL REQUIREMENTS

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

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

☒ Eddy County

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

☒ Lea County

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

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

A. CASING

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

B. PRESSURE CONTROL

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

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

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

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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



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.



Emergency Contact List:

Vladimir Roudakov, Drilling Engineer	Cell 720 933 9784
Rachael Overbey, Project and Regulatory Director	Cell 303 570 4057
Franklin Mountain Energy Afterhours Emergency Call Tree:	720-640-7517

EMERGENCY NUMBERS:

<u>Agency</u>	<u>Telephone Number</u>
BLM – Carlsbad Mainline	575-234-5972
BLM – Spill Emergency	575-234-6235
BLM – Engineering Emergency	575-361-2822
NMOCD District 1 – Hobbs Mainline	575-393-6161
NMOCD Emergency Line	575-370-3186
Wild Well Control	281-784-4700
H2S Emergency response:	
Air Ambulance New Mexico – Lea Co Reginal	575-391-2934
Lea County Sheriff's Department	575-396-3611
Fire Department:	
Carlsbad	575-885-3125
Artesia	575-746-5050
Lea County Regional Medical Center	575-492-5000
Jal Community Hospital	505-395-2511
Lea County Emergency Management	575-396-8602
Poison Control Center	800-222-1222



Zia Fed Com 706H

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)	3,079'	30'	30'	0	Sand/Gravels/unconsolidated
Rustler	2,454'	655'			Carbonates
Salado	1,851'	1,258'			Salt, Carbonate & Clastics
Base Salt	-950'	4,059'			Shaley Carbonate & Shale
Lamar	-1,716'	4,825'			Carbonate & Clastics
Bell Canyon	-1,768'	4,877'			Sandstone - oil/gas/water
Cherry Canyon	-2,801'	5,910'			Sandstone - oil/gas/water
Brushy Canyon	-4,103'	7,212'			Sand/carb/shales - oil/gas/water
Bone Spring Lime	-5,354'	8,463'			Shale/Carbonates - oil/gas
Avalon	-5,377'	8,486'			Shale/Carbonates - oil/gas
First Bone Spring Sand	-6,766'	9,875'			Sandstone - oil/gas/water
Second Bone Spring Carbonates	-6,894'	10,003'			Shale/Carbonates - oil/gas
Second Bone Spring Sand	-7,288'	10,397'			Sandstone - oil/gas/water
Third Bone Spring Carbonates	-7,738'	10,847'			Shale/Carbonates - oil/gas
Third Bone Spring Sand	-8,440'	11,549'			Sandstone - oil/gas/water
Wolfcamp	-8,691'	11,800'			Overpressure shale/sand- Oil/Gas
HZ Target	-8,718'	11,827'			Overpressure shale/sand- Oil/Gas
Wolfcamp A	-8,726'	11,835'			Overpressure Shale - Oil/Gas
Wolfcamp B	-8,918'	12,027'			Overpressure Shale - Oil/Gas

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

Upper Permian Sands	0- 400'	Fresh Water
Delaware Sands	4,877'	Oil
Bone Spring	9,875'	Oil
Wolfcamp	11,800'	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.

Capitan Reef boundary is near surface hole locations, but exact location is unknown. While drilling, FME will be prepared to switch over to fresh water should we encounter the reef and have losses up to 50%.

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	11900	1.12	1.28	1.82	1.24
Long string 5 1/2"	23	P-110	14520	14520	729	Anaconda 656	21973	1.32	1.41	1.2	1.08



Preliminary plan is to set 7 5/8" string before entering Wolfcamp formation at 11,760'TVD/11,900'MD at 63° Inc due too potential overpressure. Safety factors calculated assuming the well is vertical.

Cementing Program:

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

String Type	Hole Size	Casing Size	Setting Depth	Sacks	Type of cmt	Lead Yield ft ³ /sk	Water gal/sk	TOC ft	Sacks	Type of cmt	Tail Yield ft ³ /sk	Water gal/sk	TOC	Excess
Surf	17.5	13.375	1300	795	Extenda Cem, 13.5 ppg Class C, 3lb/sk Kol-Seal	1.747	9.06	0	334	HalCem TM, 14.8 ppg, Class C, 1% CaCl ₂ , 0.125pps Celo-Flake	1.349	6.51	1000	100%
Int1	12.25	9.625	5400	1167	0.125pps Poly-E-Flake Neocem TM, 11.5 ppg, Class C 5% Salt,	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	11900	340	0.125 pps Poly-E-Flake, 3lb/sk Kol-Seal NeoCem, 11 ppg, Class C 3lb/sk Bridgemaker Gel, 5% Salt, 5pps LCM, 0.25pps Cello-Flake NeoCem, 13.5 ppg, Gas Migration Control	2.798	17.15	4400	112	NeoCem 13.2 ppg, Class C 0.25 pps Cello-Flake, 2% CaCl ₂	1.44	7.29	10900	50%
Prod	6.75	5.5	21973	831		1.357	6.65	10900						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' – 11,900'	Brine	8.8-10.2	28-34	N/c
11,900' – 21,973' Lateral	Oil Base	10.0-11.0	58-68	3 - 6

The highest mud weight needed to balance formation is expected to be 10-11 ppg. In order to maintain hole stability, mud weights up to 12.5 ppg may be utilized.

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

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

7. Auxiliary well control and monitoring equipment:

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

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

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

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

8. Logging, testing and coring program:

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

Open-hole logs are not planned for this well.

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

The estimated bottom-hole temperature at 11,820' TVD (deepest point of the well) is 195F with an estimated maximum bottom-hole pressure (BHP) at the same point of 7,683 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.

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 22164

CONDITIONS OF APPROVAL

Operator:		OGRID:	Action Number:	Action Type:
FRANKLIN MOUNTAIN ENERGY LLC	44 Cook Street	373910	22164	FORM 3160-3
Suite 1000	Denver, CO80206			

OCD Reviewer	Condition
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104
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