

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. [330328]
2. Name of Operator [373910]		9. API Well No. 30-025-48579
3a. Address	3b. Phone No. (include area code)	10. Field and Pool, or Exploratory [33813]
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		11. Sec., T. R. M. or Blk. and Survey or Area
14. Distance in miles and direction from nearest town or post office*		12. County or Parish 13. State
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
24. Attachments		

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

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

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

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

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

GCP REC 03/29/2021

NSL

(Continued on page 2)



Approval Date: 01/15/2021

KZ
 03/30/2021

REQUIRES NSL

*(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 / 777 FEL / TWSP: 25S / RANGE: 35E / SECTION: 24 / LAT: 32.1093 / LONG: -103.315243 (TVD: 0 feet, MD: 0 feet)

PPP: SWSE / 0 FSL / 1325 FEL / TWSP: 25S / RANGE: 35E / SECTION: 13 / LAT: 32.123146 / LONG: -103.317008 (TVD: 11883 feet, MD: 17000 feet)

PPP: SWNE / 2642 FSL / 1325 FEL / TWSP: 25S / RANGE: 35E / SECTION: 24 / LAT: 32.115875 / LONG: -103.31701 (TVD: 11935 feet, MD: 14300 feet)

PPP: NWSE / 1321 FSL / 1325 FEL / TWSP: 25S / RANGE: 35E / SECTION: 24 / LAT: 32.112245 / LONG: -103.317011 (TVD: 11960 feet, MD: 13000 feet)

PPP: SWSE / 638 FSL / 1325 FEL / TWSP: 25S / RANGE: 35E / SECTION: 24 / LAT: 32.11037 / LONG: -103.317012 (TVD: 11972 feet, MD: 12345 feet)

BHL: NWNE / 150 FNL / 1326 FEL / TWSP: 25S / RANGE: 35E / SECTION: 13 / LAT: 32.137259 / LONG: -103.317003 (TVD: 11785 feet, MD: 22129 feet)

BLM Point of Contact

Name: TYLER HILL

Title: LIE

Phone: (575) 234-5972

Email: tjhill@blm.gov

CONFIDENTIAL

Review and Appeal Rights

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

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

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-48579	² Pool Code 33813	³ Pool Name JAL;WOLFECAMP, WEST
⁴ Property Code 330328	⁵ Property Name SANTA FE FED COM	⁶ Well Number 705H
⁷ OGRID No. 373910	⁸ Operator Name FRANKLIN MOUNTAIN ENERGY LLC	⁹ Elevation 3079.5

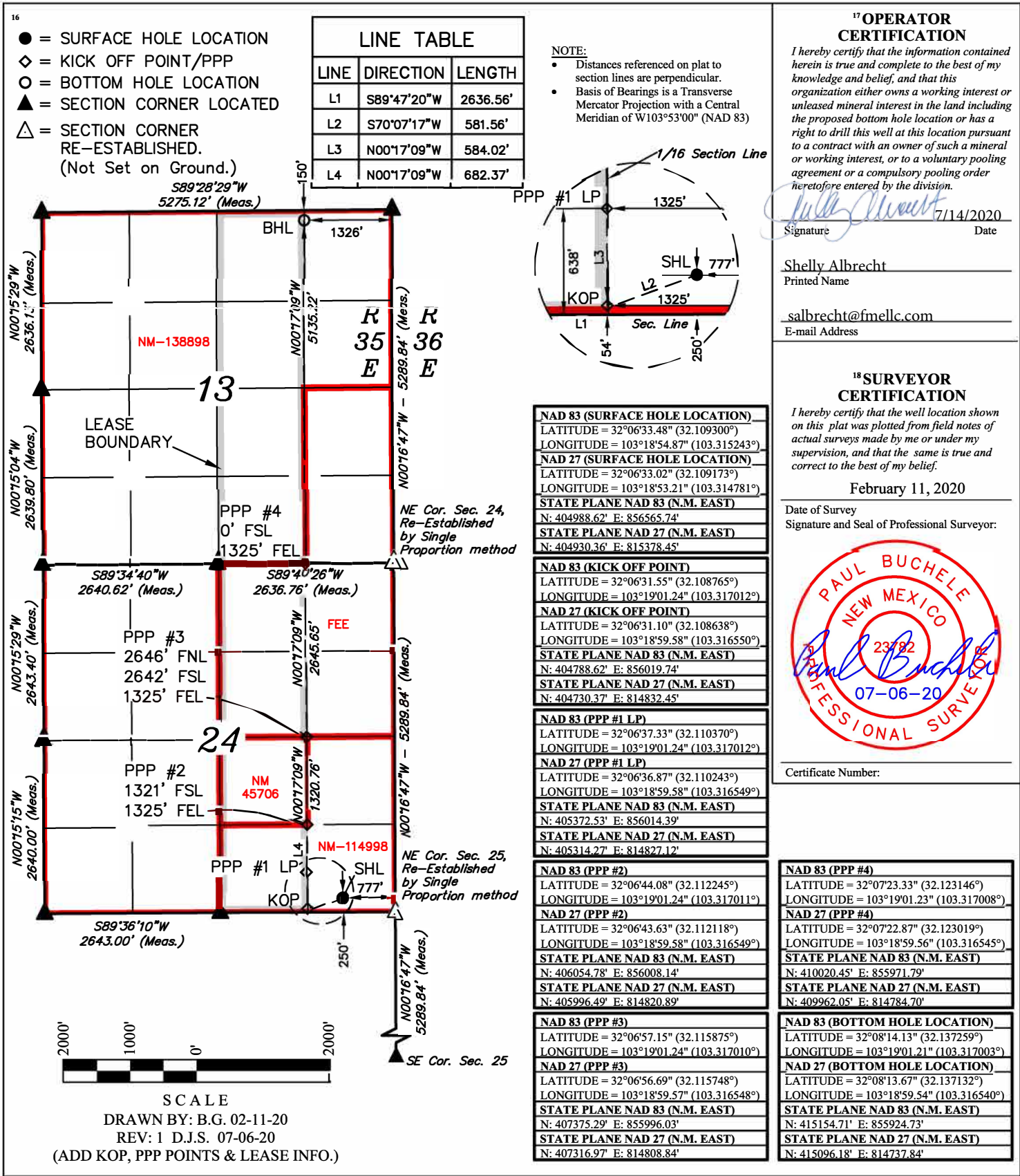
¹⁰ Surface Location

UL or lot no. P	Section 24	Township 25S	Range 35E	Lot Idn	Feet from the 250	North/South line SOUTH	Feet from the 777	East/West line EAST	County LEA
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¹¹ Bottom Hole Location If Different From Surface

UL or lot no. B	Section 13	Township 25S	Range 35E	Lot Idn	Feet from the 150	North/South line NORTH	Feet from the 1326	East/West line EAST	County LEA
¹² Dedicated Acres 320	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.						

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



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

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

Submit Original
to Appropriate
District Office

GAS CAPTURE PLAN

Date: 12/2/2020

☒ Original

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

☐ Amended - Reason for Amendment: _____

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

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

Well(s)/Production Facility – Name of facility

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

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
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 30-025-48579	TBD	P-24-25S-35E	250 FSL 777 FEL	1100 +/-	Flared	New well; expect to tie-in at IP
Zia Fed Com 704H	TBD	P-24-25S-35E	250 FSL 742 FEL	1100 +/-	Flared	New well; expect to tie-in at IP
Zia Fed Com 704H	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



Santa Fe Fed Com 705H

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)	3,080'	30'	30'	0	Sand/Gravels/unconsolidated
Rustler	2,424'	686'			Carbonates
Salado	1,821'	1,289'			Salt, Carbonate & Clastics
Base Salt	-980'	4,090'			Shaley Carbonate & Shale
Lamar	-1,746'	4,856'			Carbonate & Clastics
Bell Canyon	-1,798'	4,908'			Sandstone - oil/gas/water
Cherry Canyon	-2,831'	5,941'			Sandstone - oil/gas/water
Brushy Canyon	-4,133'	7,243'			Sand/carb/shales - oil/gas/water
Bone Spring Lime	-5,384'	8,494'			Shale/Carbonates - oil/gas
Avalon	-5,407'	8,517'			Shale/Carbonates - oil/gas
First Bone Spring Sand	-6,796'	9,906'			Sandstone - oil/gas/water
Second Bone Spring Carbonates	-6,924'	10,034'			Shale/Carbonates - oil/gas
Second Bone Spring Sand	-7,318'	10,428'			Sandstone - oil/gas/water
Third Bone Spring Carbonates	-7,768'	10,878'			Shale/Carbonates - oil/gas
Third Bone Spring Sand	-8,470'	11,580'			Sandstone - oil/gas/water
Wolfcamp	-8,721'	11,831'			Overpressure shale/sand- Oil/Gas
Wolfcamp A	-8,756'	11,866'			Overpressure Shale - Oil/Gas
HZ Target	-8,870'	11,980'			Overpressure Shale - Oil/Gas
Wolfcamp B	-8,948'	12,058'			Overpressure Shale - Oil/Gas

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

Upper Permian Sands	0- 400'	Fresh Water
Delaware Sands	4,908'	Oil
Bone Spring	9,906'	Oil
Wolfcamp	11,831'	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	11850	1.12	1.29	1.83	1.25
Long string 5 1/2"	23	P-110	14520	14520	729	Anaconda 656	22129	1.32	1.4	1.2	1.08



Preliminary plan is to set 7 5/8" string before entering Wolfcamp formation at 11,780'TVD/11,850'MD at 41° 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	0.125 pps Poly-E-Flake, 3lb/sk Kol-Seal 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	11850	332	NeoCem, 11 ppg, Class C 3lb/sk Bridgemaker Gel, 5% Salt, 5pps LCM, 0.25pps Cello-Flake	2.798	17.15	4400	112	NeoCem 13.2 ppg, Class C 0.25 pps Cello-Flake, 2% CaCl ₂	1.44	7.29	10850	50%
Prod	6.75	5.5	22129	830	NeoCem, 13.5 ppg, Gas Migration Control	1.357	6.65	10850						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' – 11,850'	Brine	8.8-10.2	28-34	N/c
11,850' – 22,129' 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 11,972' TVD (deepest point of the well) is 195F with an estimated maximum bottom-hole pressure (BHP) at the same point of 7,781 psig (based on 12.5 ppg MW). Hydrogen sulfate may be present in the area. All necessary precautions will be taken before drilling operations commence. See Hydrogen Sulfide Plan below:

10. Hydrogen Sulfide Plan:

A. All personnel shall receive proper awareness H₂S training.

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

C. Required Emergency Equipment

a. Well Control Equipment

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

ii. Choke manifold with a remotely operated hydraulic choke.

iii. Mud/gas separator

b. Protective equipment for essential personnel

i. Breathing Apparatus

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

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



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

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

11. Anticipated starting date and duration of operations:

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

**12. Disposal/environmental concerns:**

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

13. Wellhead:

A multi-bowl wellhead system will be utilized.

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

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

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

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

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

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

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

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

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

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

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

Released to Imaging: 3/30/2021 10:35:59 AM

Franklin Mountain Energy

Project: Lea County, NM (NAD83)
Site: Santa Fe Fed/Zia Fed
Well: Santa Fe Fed Com 705H
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

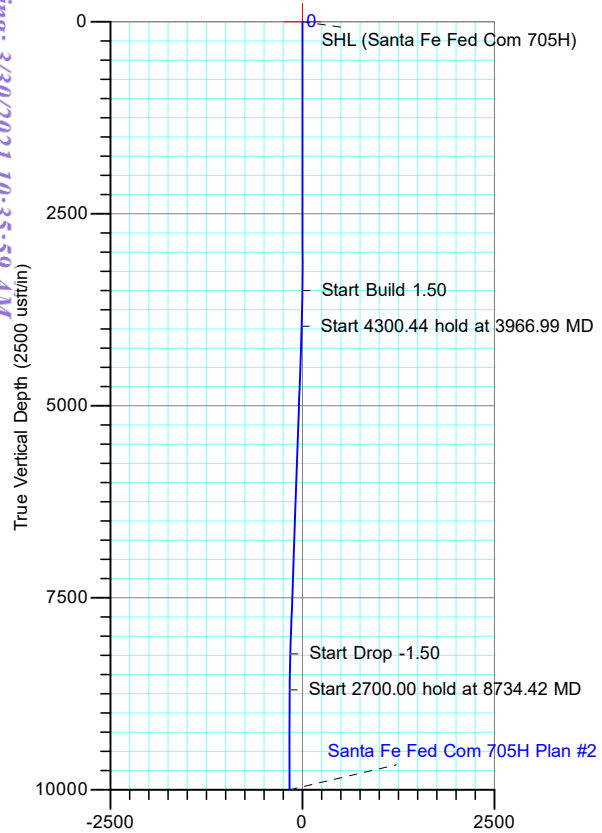
PROJECT DETAILS: Lea County, NM (NAD83)

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



Received by OCD: 3/26/2021 4:12:40 PM

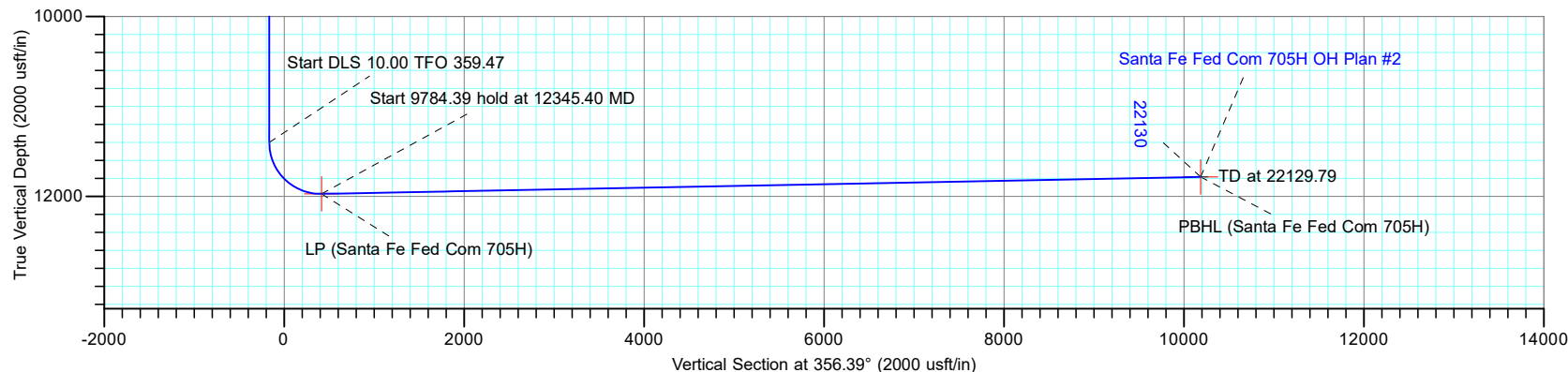
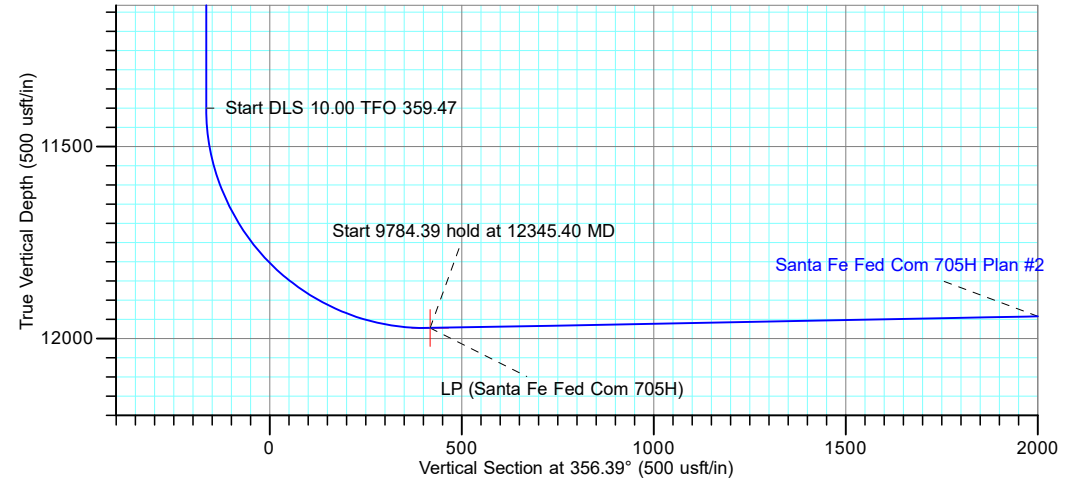
3079.5' GE + 30' KB @ 3109.50usft



SECTION DETAILS										Annotation
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		Start Build 1.50
3500.00	0.00	0.00	3500.00	0.00	0.00	0.00	0.00	0.00		Start 4300.44 hold at 3966.99 MD
3966.99	7.00	249.88	3965.83	-9.81	-26.77	1.50	249.88	-8.10		Start Drop -1.50
8267.43	7.00	249.88	8234.17	-190.19	-519.23	0.00	0.00	-157.14		Start 2700.00 hold at 8734.42 MD
8734.42	0.00	0.00	8700.00	-200.00	-546.00	1.50	180.00	-165.24		Start DLS 10.00 TFO 359.47
11434.42	0.00	0.00	11400.00	-200.00	-546.00	0.00	0.00	-165.24		Start 9784.39 hold at 12345.40 MD
12345.40	91.10	359.47	11972.85	383.91	-551.35	10.00	359.47	417.84		TD at 22129.79
22129.79	91.10	359.47	11785.41	10166.09	-641.01	0.00	0.00	10186.28		

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
LP (Santa Fe Fed Com 705H)	11972.85	383.91	-551.35	32.110370	-103.317012
PBHL (Santa Fe Fed Com 705H)	11785.41	10166.09	-641.01	32.137259	-103.317003
SHL (Santa Fe Fed Com 705H)	0.00	0.00	0.00	32.109300	-103.315243



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

Plan: Plan #2 (Santa Fe Fed Com 705H/OH)
Santa Fe Fed/Zia Fed
Created By: Dustin Ault Date: 23:38, June 21 2020
Date: _____
Approved: _____ Date: _____

Page 13 of 114

Franklin Mountain Energy

Project: Lea County, NM (NAD83)
Site: Santa Fe Fed/Zia Fed
Well: Santa Fe Fed Com 705H
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

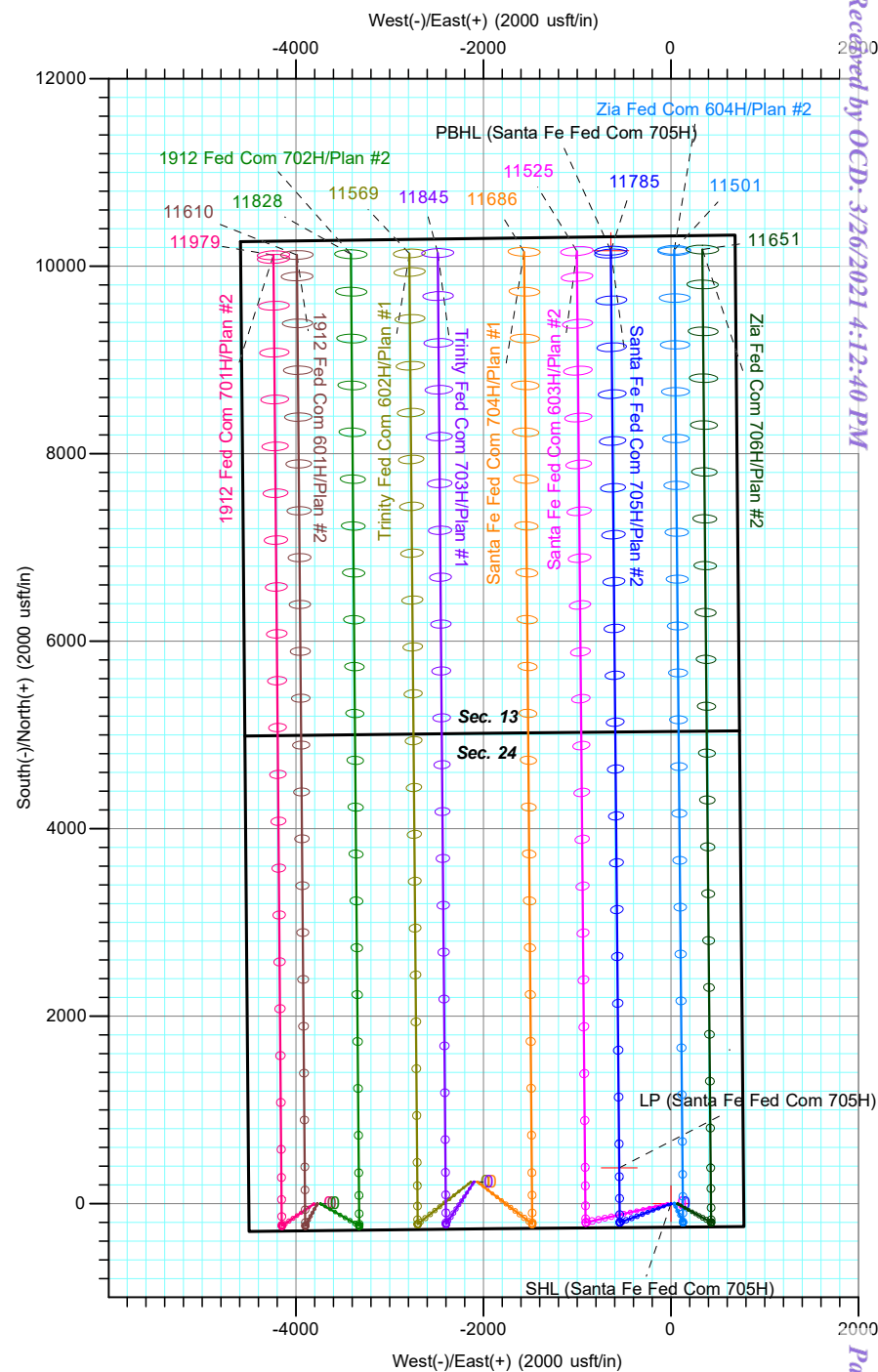
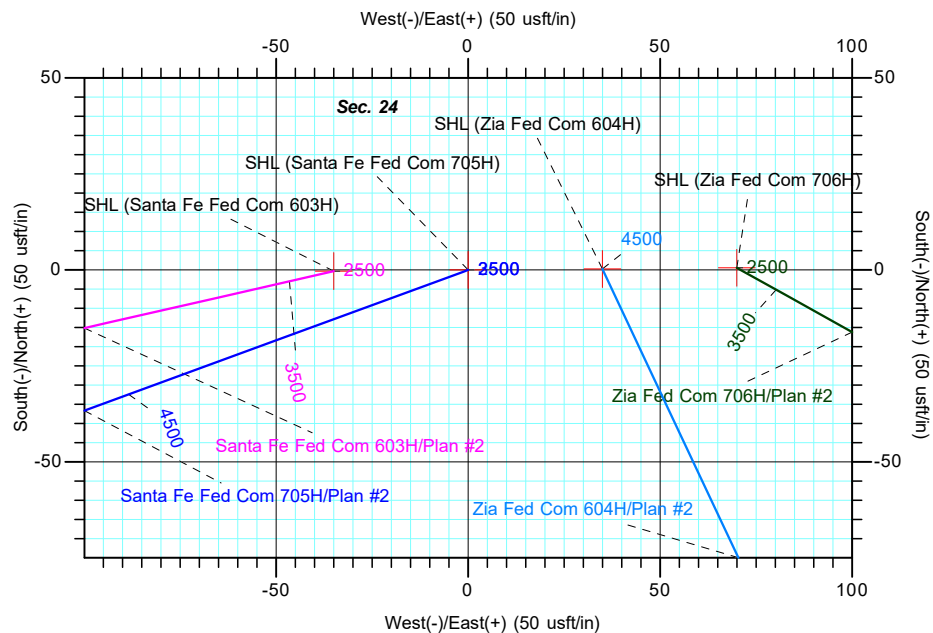


DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
LP (Santa Fe Fed Com 705H)	11972.85	383.91	-551.35	405372.53	856014.39	32.110370	-103.317012
PBHL (Santa Fe Fed Com 705H)	11785.41	10166.09	-641.01	415154.71	855924.73	32.137259	-103.317003
SHL (Santa Fe Fed Com 705H)	0.00	0.00	0.00	404988.62	856565.74	32.109300	-103.315243

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3500.00	0.00	0.00	3500.00	0.00	0.00	0.00	0.00	0.00	Start Build 1.50
3966.99	7.00	249.88	3965.83	-9.81	-26.77	1.50	249.88	-8.10	Start 4300.44 hold at 3966.99 MD
8267.43	7.00	249.88	8234.17	-190.19	-519.23	0.00	0.00	-157.14	Start Drop -1.50
8734.42	0.00	0.00	8700.00	-200.00	-546.00	1.50	180.00	-165.24	Start 2700.00 hold at 8734.42 MD
11434.42	0.00	0.00	11400.00	-200.00	-546.00	0.00	0.00	-165.24	Start DLS 10.00 TFO 359.47
12345.40	91.10	359.47	11972.85	383.91	-551.35	10.00	359.47	417.84	Start 9784.39 hold at 12345.40 MD
22129.79	91.10	359.47	11785.41	10166.09	-641.01	0.00	0.00	10186.28	TD at 22129.79



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

Plan: Plan #2 (Santa Fe Fed Com 705H/OH)
Santa Fe Fed/Zia Fed
Created By: Dustin Ault
Date: 23:39, June 21 2020
Approved: _____
Date: _____



Franklin Mountain Energy

Lea County, NM (NAD83)

Santa Fe Fed/Zia Fed

Santa Fe Fed Com 705H

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 Santa Fe Fed Com 705H
Company:	Franklin Mountain Energy	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Project:	Lea County, NM (NAD83)	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site:	Santa Fe Fed/Zia Fed	North Reference:	Grid
Well:	Santa Fe Fed Com 705H	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	Santa Fe Fed Com 705H					
Well Position	+N/-S	0.12 usft	Northing:	404,988.62 usft	Latitude:	32.109301
	+E/-W	35.07 usft	Easting:	856,565.74 usft	Longitude:	-103.315243
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	3,079.50 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	3/10/2020	6.57	59.88	47,586.41403320

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	356.39

Plan Survey Tool Program	Date	6/21/2020		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	22,129.79 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	
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,966.99	7.00	249.88	3,965.83	-9.81	-26.77	1.50	1.50	0.00	249.88	
8,267.43	7.00	249.88	8,234.17	-190.19	-519.23	0.00	0.00	0.00	0.00	
8,734.42	0.00	0.00	8,700.00	-200.00	-546.00	1.50	-1.50	0.00	180.00	
11,434.42	0.00	0.00	11,400.00	-200.00	-546.00	0.00	0.00	0.00	0.00	
12,345.40	91.10	359.47	11,972.85	383.91	-551.35	10.00	10.00	-0.06	359.47	
22,129.79	91.10	359.47	11,785.41	10,166.09	-641.01	0.00	0.00	0.00	0.00	PBHL (Santa Fe Fed



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Company:	Franklin Mountain Energy	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Project:	Lea County, NM (NAD83)	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site:	Santa Fe Fed/Zia Fed	North Reference:	Grid
Well:	Santa Fe Fed Com 705H	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 (Santa Fe Fed Com 705H)									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 1.50									
3,600.00	1.50	249.88	3,599.99	-0.45	-1.23	-0.37	1.50	1.50	0.00
3,700.00	3.00	249.88	3,699.91	-1.80	-4.92	-1.49	1.50	1.50	0.00
3,800.00	4.50	249.88	3,799.69	-4.05	-11.06	-3.35	1.50	1.50	0.00
3,900.00	6.00	249.88	3,899.27	-7.20	-19.65	-5.95	1.50	1.50	0.00
3,966.99	7.00	249.88	3,965.83	-9.81	-26.77	-8.10	1.50	1.50	0.00
Start 4300.44 hold at 3966.99 MD									
4,000.00	7.00	249.88	3,998.59	-11.19	-30.55	-9.25	0.00	0.00	0.00
4,100.00	7.00	249.88	4,097.84	-15.39	-42.00	-12.71	0.00	0.00	0.00
4,200.00	7.00	249.88	4,197.10	-19.58	-53.45	-16.18	0.00	0.00	0.00
4,300.00	7.00	249.88	4,296.35	-23.77	-64.91	-19.64	0.00	0.00	0.00
4,400.00	7.00	249.88	4,395.61	-27.97	-76.36	-23.11	0.00	0.00	0.00
4,500.00	7.00	249.88	4,494.86	-32.16	-87.81	-26.57	0.00	0.00	0.00
4,600.00	7.00	249.88	4,594.11	-36.36	-99.26	-30.04	0.00	0.00	0.00
4,700.00	7.00	249.88	4,693.37	-40.55	-110.71	-33.51	0.00	0.00	0.00
4,800.00	7.00	249.88	4,792.62	-44.75	-122.16	-36.97	0.00	0.00	0.00



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Company:	Franklin Mountain Energy	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Project:	Lea County, NM (NAD83)	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site:	Santa Fe Fed/Zia Fed	North Reference:	Grid
Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,900.00	7.00	249.88	4,891.87	-48.94	-133.61	-40.44	0.00	0.00	0.00
5,000.00	7.00	249.88	4,991.13	-53.14	-145.06	-43.90	0.00	0.00	0.00
5,100.00	7.00	249.88	5,090.38	-57.33	-156.52	-47.37	0.00	0.00	0.00
5,200.00	7.00	249.88	5,189.63	-61.53	-167.97	-50.83	0.00	0.00	0.00
5,300.00	7.00	249.88	5,288.89	-65.72	-179.42	-54.30	0.00	0.00	0.00
5,400.00	7.00	249.88	5,388.14	-69.92	-190.87	-57.77	0.00	0.00	0.00
5,500.00	7.00	249.88	5,487.39	-74.11	-202.32	-61.23	0.00	0.00	0.00
5,600.00	7.00	249.88	5,586.65	-78.30	-213.77	-64.70	0.00	0.00	0.00
5,700.00	7.00	249.88	5,685.90	-82.50	-225.22	-68.16	0.00	0.00	0.00
5,800.00	7.00	249.88	5,785.16	-86.69	-236.68	-71.63	0.00	0.00	0.00
5,900.00	7.00	249.88	5,884.41	-90.89	-248.13	-75.09	0.00	0.00	0.00
6,000.00	7.00	249.88	5,983.66	-95.08	-259.58	-78.56	0.00	0.00	0.00
6,100.00	7.00	249.88	6,082.92	-99.28	-271.03	-82.03	0.00	0.00	0.00
6,200.00	7.00	249.88	6,182.17	-103.47	-282.48	-85.49	0.00	0.00	0.00
6,300.00	7.00	249.88	6,281.42	-107.67	-293.93	-88.96	0.00	0.00	0.00
6,400.00	7.00	249.88	6,380.68	-111.86	-305.38	-92.42	0.00	0.00	0.00
6,500.00	7.00	249.88	6,479.93	-116.06	-316.83	-95.89	0.00	0.00	0.00
6,600.00	7.00	249.88	6,579.18	-120.25	-328.29	-99.35	0.00	0.00	0.00
6,700.00	7.00	249.88	6,678.44	-124.45	-339.74	-102.82	0.00	0.00	0.00
6,800.00	7.00	249.88	6,777.69	-128.64	-351.19	-106.29	0.00	0.00	0.00
6,900.00	7.00	249.88	6,876.95	-132.83	-362.64	-109.75	0.00	0.00	0.00
7,000.00	7.00	249.88	6,976.20	-137.03	-374.09	-113.22	0.00	0.00	0.00
7,100.00	7.00	249.88	7,075.45	-141.22	-385.54	-116.68	0.00	0.00	0.00
7,200.00	7.00	249.88	7,174.71	-145.42	-396.99	-120.15	0.00	0.00	0.00
7,300.00	7.00	249.88	7,273.96	-149.61	-408.44	-123.61	0.00	0.00	0.00
7,400.00	7.00	249.88	7,373.21	-153.81	-419.90	-127.08	0.00	0.00	0.00
7,500.00	7.00	249.88	7,472.47	-158.00	-431.35	-130.55	0.00	0.00	0.00
7,600.00	7.00	249.88	7,571.72	-162.20	-442.80	-134.01	0.00	0.00	0.00
7,700.00	7.00	249.88	7,670.97	-166.39	-454.25	-137.48	0.00	0.00	0.00
7,800.00	7.00	249.88	7,770.23	-170.59	-465.70	-140.94	0.00	0.00	0.00
7,900.00	7.00	249.88	7,869.48	-174.78	-477.15	-144.41	0.00	0.00	0.00
8,000.00	7.00	249.88	7,968.73	-178.98	-488.60	-147.87	0.00	0.00	0.00
8,100.00	7.00	249.88	8,067.99	-183.17	-500.06	-151.34	0.00	0.00	0.00
8,200.00	7.00	249.88	8,167.24	-187.36	-511.51	-154.81	0.00	0.00	0.00
8,267.43	7.00	249.88	8,234.17	-190.19	-519.23	-157.14	0.00	0.00	0.00
Start Drop -1.50									
8,300.00	6.52	249.88	8,266.51	-191.51	-522.83	-158.23	1.50	-1.50	0.00
8,400.00	5.02	249.88	8,366.00	-194.97	-532.26	-161.09	1.50	-1.50	0.00
8,500.00	3.52	249.88	8,465.72	-197.53	-539.25	-163.20	1.50	-1.50	0.00
8,600.00	2.02	249.88	8,565.60	-199.19	-543.78	-164.57	1.50	-1.50	0.00
8,700.00	0.52	249.88	8,665.58	-199.95	-545.85	-165.20	1.50	-1.50	0.00
8,734.42	0.00	0.00	8,700.00	-200.00	-546.00	-165.24	1.50	-1.50	0.00
Start 2700.00 hold at 8734.42 MD									
8,800.00	0.00	0.00	8,765.58	-200.00	-546.00	-165.24	0.00	0.00	0.00
8,900.00	0.00	0.00	8,865.58	-200.00	-546.00	-165.24	0.00	0.00	0.00
9,000.00	0.00	0.00	8,965.58	-200.00	-546.00	-165.24	0.00	0.00	0.00
9,100.00	0.00	0.00	9,065.58	-200.00	-546.00	-165.24	0.00	0.00	0.00
9,200.00	0.00	0.00	9,165.58	-200.00	-546.00	-165.24	0.00	0.00	0.00
9,300.00	0.00	0.00	9,265.58	-200.00	-546.00	-165.24	0.00	0.00	0.00
9,400.00	0.00	0.00	9,365.58	-200.00	-546.00	-165.24	0.00	0.00	0.00
9,500.00	0.00	0.00	9,465.58	-200.00	-546.00	-165.24	0.00	0.00	0.00
9,600.00	0.00	0.00	9,565.58	-200.00	-546.00	-165.24	0.00	0.00	0.00
9,700.00	0.00	0.00	9,665.58	-200.00	-546.00	-165.24	0.00	0.00	0.00
9,800.00	0.00	0.00	9,765.58	-200.00	-546.00	-165.24	0.00	0.00	0.00



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Company:	Franklin Mountain Energy	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Project:	Lea County, NM (NAD83)	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site:	Santa Fe Fed/Zia Fed	North Reference:	Grid
Well:	Santa Fe Fed Com 705H	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	9,865.58	-200.00	-546.00	-165.24	0.00	0.00	0.00
10,000.00	0.00	0.00	9,965.58	-200.00	-546.00	-165.24	0.00	0.00	0.00
10,100.00	0.00	0.00	10,065.58	-200.00	-546.00	-165.24	0.00	0.00	0.00
10,200.00	0.00	0.00	10,165.58	-200.00	-546.00	-165.24	0.00	0.00	0.00
10,300.00	0.00	0.00	10,265.58	-200.00	-546.00	-165.24	0.00	0.00	0.00
10,400.00	0.00	0.00	10,365.58	-200.00	-546.00	-165.24	0.00	0.00	0.00
10,500.00	0.00	0.00	10,465.58	-200.00	-546.00	-165.24	0.00	0.00	0.00
10,600.00	0.00	0.00	10,565.58	-200.00	-546.00	-165.24	0.00	0.00	0.00
10,700.00	0.00	0.00	10,665.58	-200.00	-546.00	-165.24	0.00	0.00	0.00
10,800.00	0.00	0.00	10,765.58	-200.00	-546.00	-165.24	0.00	0.00	0.00
10,900.00	0.00	0.00	10,865.58	-200.00	-546.00	-165.24	0.00	0.00	0.00
11,000.00	0.00	0.00	10,965.58	-200.00	-546.00	-165.24	0.00	0.00	0.00
11,100.00	0.00	0.00	11,065.58	-200.00	-546.00	-165.24	0.00	0.00	0.00
11,200.00	0.00	0.00	11,165.58	-200.00	-546.00	-165.24	0.00	0.00	0.00
11,300.00	0.00	0.00	11,265.58	-200.00	-546.00	-165.24	0.00	0.00	0.00
11,400.00	0.00	0.00	11,365.58	-200.00	-546.00	-165.24	0.00	0.00	0.00
11,434.42	0.00	0.00	11,400.00	-200.00	-546.00	-165.24	0.00	0.00	0.00
Start DLS 10.00 TFO 359.47									
11,450.00	1.56	359.47	11,415.57	-199.79	-546.00	-165.03	10.00	10.00	0.00
11,500.00	6.56	359.47	11,465.43	-196.25	-546.03	-161.50	10.00	10.00	0.00
11,550.00	11.56	359.47	11,514.79	-188.38	-546.11	-153.64	10.00	10.00	0.00
11,600.00	16.56	359.47	11,563.28	-176.24	-546.22	-141.52	10.00	10.00	0.00
11,650.00	21.56	359.47	11,610.53	-159.92	-546.37	-125.22	10.00	10.00	0.00
11,700.00	26.56	359.47	11,656.17	-139.55	-546.55	-104.88	10.00	10.00	0.00
11,750.00	31.56	359.47	11,699.86	-115.27	-546.78	-80.64	10.00	10.00	0.00
11,800.00	36.56	359.47	11,741.27	-87.28	-547.03	-52.68	10.00	10.00	0.00
11,850.00	41.56	359.47	11,780.08	-55.79	-547.32	-21.23	10.00	10.00	0.00
11,900.00	46.56	359.47	11,816.01	-21.03	-547.64	13.47	10.00	10.00	0.00
11,950.00	51.56	359.47	11,848.76	16.72	-547.99	51.18	10.00	10.00	0.00
12,000.00	56.56	359.47	11,878.10	57.19	-548.36	91.58	10.00	10.00	0.00
12,050.00	61.56	359.47	11,903.80	100.06	-548.75	134.39	10.00	10.00	0.00
12,100.00	66.56	359.47	11,925.67	145.00	-549.16	179.28	10.00	10.00	0.00
12,150.00	71.56	359.47	11,943.53	191.69	-549.59	225.89	10.00	10.00	0.00
12,200.00	76.56	359.47	11,957.26	239.74	-550.03	273.88	10.00	10.00	0.00
12,250.00	81.56	359.47	11,966.75	288.82	-550.48	322.89	10.00	10.00	0.00
12,300.00	86.56	359.47	11,971.92	338.53	-550.94	372.53	10.00	10.00	0.00
12,345.40	91.10	359.47	11,972.85	383.91	-551.35	417.85	10.00	10.00	0.00
Start 9784.39 hold at 12345.40 MD - LP (Santa Fe Fed Com 705H)									
12,400.00	91.10	359.47	11,971.81	438.50	-551.85	472.35	0.00	0.00	0.00
12,500.00	91.10	359.47	11,969.89	538.47	-552.77	572.19	0.00	0.00	0.00
12,600.00	91.10	359.47	11,967.98	638.45	-553.68	672.03	0.00	0.00	0.00
12,700.00	91.10	359.47	11,966.06	738.43	-554.60	771.87	0.00	0.00	0.00
12,800.00	91.10	359.47	11,964.14	838.41	-555.52	871.70	0.00	0.00	0.00
12,900.00	91.10	359.47	11,962.23	938.38	-556.43	971.54	0.00	0.00	0.00
13,000.00	91.10	359.47	11,960.31	1,038.36	-557.35	1,071.38	0.00	0.00	0.00
13,100.00	91.10	359.47	11,958.40	1,138.34	-558.27	1,171.21	0.00	0.00	0.00
13,200.00	91.10	359.47	11,956.48	1,238.32	-559.18	1,271.05	0.00	0.00	0.00
13,300.00	91.10	359.47	11,954.57	1,338.29	-560.10	1,370.89	0.00	0.00	0.00
13,400.00	91.10	359.47	11,952.65	1,438.27	-561.02	1,470.72	0.00	0.00	0.00
13,500.00	91.10	359.47	11,950.73	1,538.25	-561.93	1,570.56	0.00	0.00	0.00
13,600.00	91.10	359.47	11,948.82	1,638.23	-562.85	1,670.40	0.00	0.00	0.00
13,700.00	91.10	359.47	11,946.90	1,738.20	-563.76	1,770.23	0.00	0.00	0.00
13,800.00	91.10	359.47	11,944.99	1,838.18	-564.68	1,870.07	0.00	0.00	0.00
13,900.00	91.10	359.47	11,943.07	1,938.16	-565.60	1,969.91	0.00	0.00	0.00



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Company:	Franklin Mountain Energy	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Project:	Lea County, NM (NAD83)	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site:	Santa Fe Fed/Zia Fed	North Reference:	Grid
Well:	Santa Fe Fed Com 705H	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	91.10	359.47	11,941.16	2,038.14	-566.51	2,069.75	0.00	0.00	0.00	
14,100.00	91.10	359.47	11,939.24	2,138.11	-567.43	2,169.58	0.00	0.00	0.00	
14,200.00	91.10	359.47	11,937.32	2,238.09	-568.35	2,269.42	0.00	0.00	0.00	
14,300.00	91.10	359.47	11,935.41	2,338.07	-569.26	2,369.26	0.00	0.00	0.00	
14,400.00	91.10	359.47	11,933.49	2,438.04	-570.18	2,469.09	0.00	0.00	0.00	
14,500.00	91.10	359.47	11,931.58	2,538.02	-571.10	2,568.93	0.00	0.00	0.00	
14,600.00	91.10	359.47	11,929.66	2,638.00	-572.01	2,668.77	0.00	0.00	0.00	
14,700.00	91.10	359.47	11,927.75	2,737.98	-572.93	2,768.60	0.00	0.00	0.00	
14,800.00	91.10	359.47	11,925.83	2,837.95	-573.84	2,868.44	0.00	0.00	0.00	
14,900.00	91.10	359.47	11,923.91	2,937.93	-574.76	2,968.28	0.00	0.00	0.00	
15,000.00	91.10	359.47	11,922.00	3,037.91	-575.68	3,068.12	0.00	0.00	0.00	
15,100.00	91.10	359.47	11,920.08	3,137.89	-576.59	3,167.95	0.00	0.00	0.00	
15,200.00	91.10	359.47	11,918.17	3,237.86	-577.51	3,267.79	0.00	0.00	0.00	
15,300.00	91.10	359.47	11,916.25	3,337.84	-578.43	3,367.63	0.00	0.00	0.00	
15,400.00	91.10	359.47	11,914.33	3,437.82	-579.34	3,467.46	0.00	0.00	0.00	
15,500.00	91.10	359.47	11,912.42	3,537.80	-580.26	3,567.30	0.00	0.00	0.00	
15,600.00	91.10	359.47	11,910.50	3,637.77	-581.17	3,667.14	0.00	0.00	0.00	
15,700.00	91.10	359.47	11,908.59	3,737.75	-582.09	3,766.97	0.00	0.00	0.00	
15,800.00	91.10	359.47	11,906.67	3,837.73	-583.01	3,866.81	0.00	0.00	0.00	
15,900.00	91.10	359.47	11,904.76	3,937.71	-583.92	3,966.65	0.00	0.00	0.00	
16,000.00	91.10	359.47	11,902.84	4,037.68	-584.84	4,066.48	0.00	0.00	0.00	
16,100.00	91.10	359.47	11,900.92	4,137.66	-585.76	4,166.32	0.00	0.00	0.00	
16,200.00	91.10	359.47	11,899.01	4,237.64	-586.67	4,266.16	0.00	0.00	0.00	
16,300.00	91.10	359.47	11,897.09	4,337.62	-587.59	4,366.00	0.00	0.00	0.00	
16,400.00	91.10	359.47	11,895.18	4,437.59	-588.51	4,465.83	0.00	0.00	0.00	
16,500.00	91.10	359.47	11,893.26	4,537.57	-589.42	4,565.67	0.00	0.00	0.00	
16,600.00	91.10	359.47	11,891.35	4,637.55	-590.34	4,665.51	0.00	0.00	0.00	
16,700.00	91.10	359.47	11,889.43	4,737.53	-591.25	4,765.34	0.00	0.00	0.00	
16,800.00	91.10	359.47	11,887.51	4,837.50	-592.17	4,865.18	0.00	0.00	0.00	
16,900.00	91.10	359.47	11,885.60	4,937.48	-593.09	4,965.02	0.00	0.00	0.00	
17,000.00	91.10	359.47	11,883.68	5,037.46	-594.00	5,064.85	0.00	0.00	0.00	
17,100.00	91.10	359.47	11,881.77	5,137.44	-594.92	5,164.69	0.00	0.00	0.00	
17,200.00	91.10	359.47	11,879.85	5,237.41	-595.84	5,264.53	0.00	0.00	0.00	
17,300.00	91.10	359.47	11,877.94	5,337.39	-596.75	5,364.37	0.00	0.00	0.00	
17,400.00	91.10	359.47	11,876.02	5,437.37	-597.67	5,464.20	0.00	0.00	0.00	
17,500.00	91.10	359.47	11,874.10	5,537.35	-598.59	5,564.04	0.00	0.00	0.00	
17,600.00	91.10	359.47	11,872.19	5,637.32	-599.50	5,663.88	0.00	0.00	0.00	
17,700.00	91.10	359.47	11,870.27	5,737.30	-600.42	5,763.71	0.00	0.00	0.00	
17,800.00	91.10	359.47	11,868.36	5,837.28	-601.33	5,863.55	0.00	0.00	0.00	
17,900.00	91.10	359.47	11,866.44	5,937.26	-602.25	5,963.39	0.00	0.00	0.00	
18,000.00	91.10	359.47	11,864.53	6,037.23	-603.17	6,063.22	0.00	0.00	0.00	
18,100.00	91.10	359.47	11,862.61	6,137.21	-604.08	6,163.06	0.00	0.00	0.00	
18,200.00	91.10	359.47	11,860.69	6,237.19	-605.00	6,262.90	0.00	0.00	0.00	
18,300.00	91.10	359.47	11,858.78	6,337.17	-605.92	6,362.73	0.00	0.00	0.00	
18,400.00	91.10	359.47	11,856.86	6,437.14	-606.83	6,462.57	0.00	0.00	0.00	
18,500.00	91.10	359.47	11,854.95	6,537.12	-607.75	6,562.41	0.00	0.00	0.00	
18,600.00	91.10	359.47	11,853.03	6,637.10	-608.67	6,662.25	0.00	0.00	0.00	
18,700.00	91.10	359.47	11,851.12	6,737.08	-609.58	6,762.08	0.00	0.00	0.00	
18,800.00	91.10	359.47	11,849.20	6,837.05	-610.50	6,861.92	0.00	0.00	0.00	
18,900.00	91.10	359.47	11,847.28	6,937.03	-611.41	6,961.76	0.00	0.00	0.00	
19,000.00	91.10	359.47	11,845.37	7,037.01	-612.33	7,061.59	0.00	0.00	0.00	
19,100.00	91.10	359.47	11,843.45	7,136.99	-613.25	7,161.43	0.00	0.00	0.00	
19,200.00	91.10	359.47	11,841.54	7,236.96	-614.16	7,261.27	0.00	0.00	0.00	
19,300.00	91.10	359.47	11,839.62	7,336.94	-615.08	7,361.10	0.00	0.00	0.00	



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Company:	Franklin Mountain Energy	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Project:	Lea County, NM (NAD83)	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site:	Santa Fe Fed/Zia Fed	North Reference:	Grid
Well:	Santa Fe Fed Com 705H	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	91.10	359.47	11,837.71	7,436.92	-616.00	7,460.94	0.00	0.00	0.00	
19,500.00	91.10	359.47	11,835.79	7,536.89	-616.91	7,560.78	0.00	0.00	0.00	
19,600.00	91.10	359.47	11,833.87	7,636.87	-617.83	7,660.62	0.00	0.00	0.00	
19,700.00	91.10	359.47	11,831.96	7,736.85	-618.74	7,760.45	0.00	0.00	0.00	
19,800.00	91.10	359.47	11,830.04	7,836.83	-619.66	7,860.29	0.00	0.00	0.00	
19,900.00	91.10	359.47	11,828.13	7,936.80	-620.58	7,960.13	0.00	0.00	0.00	
20,000.00	91.10	359.47	11,826.21	8,036.78	-621.49	8,059.96	0.00	0.00	0.00	
20,100.00	91.10	359.47	11,824.30	8,136.76	-622.41	8,159.80	0.00	0.00	0.00	
20,200.00	91.10	359.47	11,822.38	8,236.74	-623.33	8,259.64	0.00	0.00	0.00	
20,300.00	91.10	359.47	11,820.46	8,336.71	-624.24	8,359.47	0.00	0.00	0.00	
20,400.00	91.10	359.47	11,818.55	8,436.69	-625.16	8,459.31	0.00	0.00	0.00	
20,500.00	91.10	359.47	11,816.63	8,536.67	-626.08	8,559.15	0.00	0.00	0.00	
20,600.00	91.10	359.47	11,814.72	8,636.65	-626.99	8,658.99	0.00	0.00	0.00	
20,700.00	91.10	359.47	11,812.80	8,736.62	-627.91	8,758.82	0.00	0.00	0.00	
20,800.00	91.10	359.47	11,810.89	8,836.60	-628.82	8,858.66	0.00	0.00	0.00	
20,900.00	91.10	359.47	11,808.97	8,936.58	-629.74	8,958.50	0.00	0.00	0.00	
21,000.00	91.10	359.47	11,807.05	9,036.56	-630.66	9,058.33	0.00	0.00	0.00	
21,100.00	91.10	359.47	11,805.14	9,136.53	-631.57	9,158.17	0.00	0.00	0.00	
21,200.00	91.10	359.47	11,803.22	9,236.51	-632.49	9,258.01	0.00	0.00	0.00	
21,300.00	91.10	359.47	11,801.31	9,336.49	-633.41	9,357.84	0.00	0.00	0.00	
21,400.00	91.10	359.47	11,799.39	9,436.47	-634.32	9,457.68	0.00	0.00	0.00	
21,500.00	91.10	359.47	11,797.48	9,536.44	-635.24	9,557.52	0.00	0.00	0.00	
21,600.00	91.10	359.47	11,795.56	9,636.42	-636.16	9,657.35	0.00	0.00	0.00	
21,700.00	91.10	359.47	11,793.64	9,736.40	-637.07	9,757.19	0.00	0.00	0.00	
21,800.00	91.10	359.47	11,791.73	9,836.38	-637.99	9,857.03	0.00	0.00	0.00	
21,900.00	91.10	359.47	11,789.81	9,936.35	-638.90	9,956.87	0.00	0.00	0.00	
22,000.00	91.10	359.47	11,787.90	10,036.33	-639.82	10,056.70	0.00	0.00	0.00	
22,100.00	91.10	359.47	11,785.98	10,136.31	-640.74	10,156.54	0.00	0.00	0.00	
22,129.79	91.10	359.47	11,785.41	10,166.09	-641.01	10,186.28	0.00	0.00	0.00	
TD at 22129.79 - PBHL (Santa Fe Fed Com 705H)										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
SHL (Santa Fe Fed Corr - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	404,988.62	856,565.74	32.109301	-103.315243	
PBHL (Santa Fe Fed Co - plan hits target center - Point	0.00	0.00	11,785.41	10,166.09	-641.01	415,154.71	855,924.73	32.137259	-103.317003	
LP (Santa Fe Fed Com - plan hits target center - Point	0.00	0.00	11,972.85	383.91	-551.35	405,372.53	856,014.39	32.110370	-103.317012	



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Company:	Franklin Mountain Energy	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Project:	Lea County, NM (NAD83)	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site:	Santa Fe Fed/Zia Fed	North Reference:	Grid
Well:	Santa Fe Fed Com 705H	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)	
3,500.00	3,500.00	0.00	0.00	Start Build 1.50
3,966.99	3,965.83	-9.81	-26.77	Start 4300.44 hold at 3966.99 MD
8,267.43	8,234.17	-190.19	-519.23	Start Drop -1.50
8,734.42	8,700.00	-200.00	-546.00	Start 2700.00 hold at 8734.42 MD
11,434.42	11,400.00	-200.00	-546.00	Start DLS 10.00 TFO 359.47
12,345.40	11,972.85	383.91	-551.35	Start 9784.39 hold at 12345.40 MD
22,129.79	11,785.41	10,166.09	-641.01	TD at 22129.79



Franklin Mountain Energy

Lea County, NM (NAD83)

Santa Fe Fed/Zia Fed

Santa Fe Fed Com 705H

OH

Plan #2

Anticollision Report

21 June, 2020





Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Reference	Plan #2
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	Stations
Depth Range:	Unlimited
Results Limited by:	Maximum ellipse separation of 1,000.00 usft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Combined Separation
Casing Method:	Not applied

Survey Tool Program		Date	6/21/2020		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	22,129.79	Plan #2 (OH)	OWSG (Rev2) MWD	OWSG MWD - Standard	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
1912 Fed Com						
1912 Fed Com 601H - OH - Plan #2	22,119.12	21,929.37	3,353.24	3,108.34	13.692	CC
1912 Fed Com 601H - OH - Plan #2	22,129.79	21,929.37	3,353.25	3,108.22	13.685	ES, SF
1912 Fed Com 701H - OH - Plan #2	22,111.11	22,238.31	3,603.80	3,359.29	14.739	CC
1912 Fed Com 701H - OH - Plan #2	22,129.79	22,238.31	3,603.85	3,359.09	14.724	ES, SF
1912 Fed Com 702H - OH - Plan #2	22,117.38	22,099.37	2,773.06	2,528.12	11.322	CC
1912 Fed Com 702H - OH - Plan #2	22,129.79	22,099.37	2,773.09	2,528.01	11.315	ES, SF
Santa Fe Fed/Zia Fed						
Santa Fe Fed Com 603H - OH - Plan #2	3,116.57	3,116.87	34.99	19.52	2.262	CC
Santa Fe Fed Com 603H - OH - Plan #2	3,200.00	3,200.00	34.99	19.10	2.202	ES, SF
Zia Fed Com 604H - OH - Plan #2	3,500.00	3,499.30	34.99	17.58	2.010	CC, ES, SF
Zia Fed Com 706H - OH - Plan #2	3,200.00	3,199.00	69.99	54.10	4.405	CC, ES
Zia Fed Com 706H - OH - Plan #2	22,129.79	21,966.49	985.02	741.73	4.049	SF
Trinity Fed/Santa Fe Fed						
Santa Fe Fed Com 704H - OH - Plan #1	22,128.98	22,023.56	931.19	688.89	3.843	CC
Santa Fe Fed Com 704H - OH - Plan #1	22,129.79	22,023.56	931.20	688.88	3.843	ES, SF
Trinity Fed Com 602H - OH - Plan #1	2,416.12	2,417.72	2,147.34	2,135.41	179.925	CC
Trinity Fed Com 602H - OH - Plan #1	22,129.79	21,898.12	2,159.70	1,916.88	8.894	ES, SF
Trinity Fed Com 703H - OH - Plan #1	22,120.94	22,158.34	1,847.80	1,604.29	7.588	CC
Trinity Fed Com 703H - OH - Plan #1	22,129.79	22,158.34	1,847.82	1,604.17	7.584	ES, SF

Offset Design		1912 Fed Com - 1912 Fed Com 601H - OH - Plan #2										Offset Site Error:		0.00 usft
Survey Program:		0-OWSG (Rev2) MWD										Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.00	0.00	31.80	31.80	0.00	0.04	-90.01	-0.93	-3,772.08	3,772.08					
100.00	100.00	131.80	131.80	0.13	0.24	-90.01	-0.93	-3,772.08	3,772.08	3,771.81	0.27	N/A		
200.00	200.00	231.80	231.80	0.48	0.60	-90.01	-0.93	-3,772.08	3,772.08	3,771.31	0.77	4,903.704		
300.00	300.00	331.80	331.80	0.84	0.96	-90.01	-0.93	-3,772.08	3,772.08	3,770.81	1.27	2,959.649		
400.00	400.00	431.80	431.80	1.20	1.31	-90.01	-0.93	-3,772.08	3,772.08	3,770.30	1.78	2,118.275		
500.00	500.00	531.80	531.80	1.56	1.67	-90.01	-0.93	-3,772.08	3,772.08	3,769.79	2.29	1,649.154		
600.00	600.00	631.80	631.80	1.92	2.03	-90.01	-0.93	-3,772.08	3,772.08	3,769.29	2.79	1,350.074		
700.00	700.00	731.80	731.80	2.28	2.39	-90.01	-0.93	-3,772.08	3,772.08	3,768.78	3.30	1,142.793		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design 1912 Fed Com - 1912 Fed Com 601H - OH - Plan #2													Offset Site Error: 0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
800.00	800.00	831.80	831.80	2.63	2.75	-90.01	-0.93	-3,772.08	3,772.08	3,768.27	3.81	990.676	
900.00	900.00	931.80	931.80	2.99	3.11	-90.01	-0.93	-3,772.08	3,772.08	3,767.77	4.31	874.293	
1,000.00	1,000.00	1,031.80	1,031.80	3.35	3.47	-90.01	-0.93	-3,772.08	3,772.08	3,767.26	4.82	782.376	
1,100.00	1,100.00	1,131.80	1,131.80	3.71	3.82	-90.01	-0.93	-3,772.08	3,772.08	3,766.75	5.33	707.946	
1,200.00	1,200.00	1,231.80	1,231.80	4.07	4.18	-90.01	-0.93	-3,772.08	3,772.08	3,766.25	5.84	646.446	
1,300.00	1,300.00	1,331.80	1,331.80	4.43	4.54	-90.01	-0.93	-3,772.08	3,772.08	3,765.74	6.34	594.776	
1,400.00	1,400.00	1,431.80	1,431.80	4.79	4.90	-90.01	-0.93	-3,772.08	3,772.08	3,765.23	6.85	550.754	
1,500.00	1,500.00	1,531.80	1,531.80	5.14	5.26	-90.01	-0.93	-3,772.08	3,772.08	3,764.72	7.36	512.800	
1,600.00	1,600.00	1,631.80	1,631.80	5.50	5.62	-90.01	-0.93	-3,772.08	3,772.08	3,764.22	7.86	479.739	
1,700.00	1,700.00	1,731.80	1,731.80	5.86	5.98	-90.01	-0.93	-3,772.08	3,772.08	3,763.71	8.37	450.682	
1,800.00	1,800.00	1,831.80	1,831.80	6.22	6.33	-90.01	-0.93	-3,772.08	3,772.08	3,763.20	8.88	424.944	
1,900.00	1,900.00	1,931.80	1,931.80	6.58	6.69	-90.01	-0.93	-3,772.08	3,772.08	3,762.70	9.38	401.987	
2,000.00	2,000.00	2,031.80	2,031.80	6.94	7.05	-90.01	-0.93	-3,772.08	3,772.08	3,762.19	9.89	381.383	
2,100.00	2,100.00	2,131.80	2,131.80	7.29	7.41	-90.01	-0.93	-3,772.08	3,772.08	3,761.68	10.40	362.789	
2,200.00	2,200.00	2,231.80	2,231.80	7.65	7.77	-90.01	-0.93	-3,772.08	3,772.08	3,761.18	10.90	345.923	
2,300.00	2,300.00	2,331.80	2,331.80	8.01	8.13	-90.01	-0.93	-3,772.08	3,772.08	3,760.67	11.41	330.555	
2,400.00	2,400.00	2,431.80	2,431.80	8.37	8.48	-90.01	-0.93	-3,772.08	3,772.08	3,760.16	11.92	316.495	
2,500.00	2,500.00	2,531.80	2,531.80	8.73	8.84	-90.01	-0.93	-3,772.08	3,772.08	3,759.65	12.43	303.582	
2,600.00	2,600.00	2,631.80	2,631.80	9.09	9.20	-90.01	-0.93	-3,772.08	3,772.08	3,759.15	12.93	291.682	
2,700.00	2,700.00	2,731.80	2,731.80	9.45	9.56	-90.01	-0.93	-3,772.08	3,772.08	3,758.64	13.44	280.679	
2,800.00	2,800.00	2,831.80	2,831.80	9.80	9.92	-90.01	-0.93	-3,772.08	3,772.08	3,758.13	13.95	270.476	
2,900.00	2,900.00	2,931.80	2,931.80	10.16	10.28	-90.01	-0.93	-3,772.08	3,772.08	3,757.63	14.45	260.989	
3,000.00	3,000.00	3,031.80	3,031.80	10.52	10.64	-90.01	-0.93	-3,772.08	3,772.08	3,757.12	14.96	252.145	
3,100.00	3,100.00	3,131.80	3,131.80	10.88	10.99	-90.01	-0.93	-3,772.08	3,772.08	3,756.61	15.47	243.881	
3,200.00	3,200.00	3,231.80	3,231.80	11.24	11.35	-90.01	-0.93	-3,772.08	3,772.08	3,756.11	15.97	236.141	
3,300.00	3,300.00	3,331.80	3,331.80	11.60	11.71	-90.01	-0.93	-3,772.08	3,772.08	3,755.60	16.48	228.877	
3,400.00	3,400.00	3,431.80	3,431.80	11.96	12.07	-90.01	-0.93	-3,772.08	3,772.08	3,755.09	16.99	222.047	
3,401.12	3,401.12	3,432.92	3,432.92	11.96	12.07	-90.01	-0.93	-3,772.08	3,772.08	3,755.09	16.99	221.972	
3,500.00	3,500.00	3,521.59	3,521.59	12.31	12.39	-90.01	-0.98	-3,772.11	3,772.12	3,754.66	17.47	215.970	
3,600.00	3,599.99	3,600.00	3,599.99	12.66	12.65	20.10	-2.08	-3,772.71	3,771.61	3,753.71	17.90	210.715	
3,700.00	3,699.91	3,657.37	3,657.33	13.00	12.84	20.09	-3.78	-3,773.63	3,769.45	3,751.18	18.27	206.373	
3,800.00	3,799.69	3,725.20	3,725.07	13.33	13.06	20.09	-6.76	-3,775.25	3,765.70	3,747.05	18.66	201.852	
3,900.00	3,899.27	3,800.00	3,799.69	13.67	13.31	20.09	-11.27	-3,777.71	3,760.36	3,741.30	19.06	197.255	
3,966.99	3,965.83	3,840.57	3,840.12	13.90	13.44	20.09	-14.25	-3,779.33	3,755.87	3,736.56	19.31	194.464	
4,000.00	3,998.59	3,873.47	3,872.90	14.02	13.55	20.07	-16.77	-3,780.71	3,753.47	3,734.00	19.47	192.791	
4,100.00	4,097.84	3,973.15	3,972.19	14.37	13.88	20.02	-24.40	-3,784.87	3,746.18	3,726.24	19.94	187.864	
4,200.00	4,197.10	4,072.82	4,071.49	14.72	14.21	19.96	-32.04	-3,789.02	3,738.91	3,718.49	20.42	183.139	
4,300.00	4,296.35	4,172.50	4,170.78	15.07	14.55	19.91	-39.67	-3,793.18	3,731.63	3,710.74	20.89	178.604	
4,400.00	4,395.61	4,272.17	4,270.08	15.43	14.88	19.86	-47.31	-3,797.34	3,724.36	3,702.99	21.37	174.251	
4,500.00	4,494.86	4,371.84	4,369.37	15.79	15.22	19.80	-54.94	-3,801.50	3,717.09	3,695.24	21.86	170.071	
4,600.00	4,494.11	4,471.52	4,468.66	16.15	15.57	19.75	-62.58	-3,805.66	3,709.83	3,687.49	22.34	166.054	
4,700.00	4,493.37	4,571.19	4,567.96	16.51	15.91	19.69	-70.21	-3,809.82	3,702.57	3,679.74	22.83	162.192	
4,800.00	4,492.62	4,670.87	4,667.25	16.88	16.26	19.64	-77.85	-3,813.98	3,695.31	3,671.99	23.32	158.479	
4,900.00	4,491.87	4,770.54	4,766.55	17.25	16.60	19.58	-85.48	-3,818.14	3,688.05	3,664.24	23.81	154.906	
5,000.00	4,491.13	4,870.22	4,865.84	17.62	16.95	19.53	-93.12	-3,822.29	3,680.80	3,656.50	24.30	151.467	
5,100.00	5,090.38	4,969.89	4,965.14	17.99	17.30	19.47	-100.76	-3,826.45	3,673.55	3,648.76	24.80	148.154	
5,200.00	5,189.63	5,069.57	5,064.43	18.36	17.66	19.42	-108.39	-3,830.61	3,666.31	3,641.02	25.29	144.963	
5,300.00	5,288.89	5,169.24	5,163.73	18.74	18.01	19.36	-116.03	-3,834.77	3,659.07	3,633.28	25.79	141.886	
5,400.00	5,388.14	5,268.91	5,263.02	19.11	18.37	19.31	-123.66	-3,838.93	3,651.83	3,625.54	26.29	138.918	
5,500.00	5,487.39	5,368.59	5,362.31	19.49	18.72	19.25	-131.30	-3,843.09	3,644.59	3,617.81	26.79	136.055	
5,600.00	5,586.65	5,468.26	5,461.61	19.87	19.08	19.20	-138.93	-3,847.25	3,637.36	3,610.07	27.29	133.291	
5,700.00	5,685.90	5,567.94	5,560.90	20.25	19.44	19.14	-146.57	-3,851.40	3,630.14	3,602.34	27.79	130.621	

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design 1912 Fed Com - 1912 Fed Com 601H - OH - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
5,800.00	5,785.16	5,667.61	5,660.20	20.63	19.80	19.08	-154.20	-3,855.56	3,622.91	3,594.62	28.29	128.042		
5,900.00	5,884.41	5,767.29	5,759.49	21.01	20.16	19.03	-161.84	-3,859.72	3,615.69	3,586.89	28.80	125.548		
6,000.00	5,983.66	5,866.96	5,858.79	21.39	20.52	18.97	-169.47	-3,863.88	3,608.47	3,579.17	29.30	123.136		
6,100.00	6,082.92	5,966.63	5,958.08	21.78	20.88	18.91	-177.11	-3,868.04	3,601.26	3,571.45	29.81	120.802		
6,200.00	6,182.17	6,066.31	6,057.38	22.16	21.24	18.85	-184.74	-3,872.20	3,594.05	3,563.73	30.32	118.544		
6,300.00	6,281.42	6,165.98	6,156.67	22.55	21.61	18.80	-192.38	-3,876.36	3,586.84	3,556.02	30.83	116.356		
6,400.00	6,380.68	6,265.66	6,255.96	22.94	21.97	18.74	-200.01	-3,880.52	3,579.64	3,548.31	31.34	114.237		
6,500.00	6,479.93	6,365.33	6,355.26	23.32	22.34	18.68	-207.65	-3,884.67	3,572.44	3,540.60	31.84	112.183		
6,600.00	6,579.18	6,465.01	6,454.55	23.71	22.70	18.62	-215.28	-3,888.83	3,565.25	3,532.89	32.36	110.191		
6,700.00	6,678.44	6,564.68	6,553.85	24.10	23.07	18.56	-222.92	-3,892.99	3,558.06	3,525.19	32.87	108.260		
6,800.00	6,777.69	6,749.71	6,738.48	24.49	23.74	18.51	-233.29	-3,898.64	3,549.71	3,516.12	33.59	105.688		
6,900.00	6,876.95	6,920.01	6,908.75	24.88	24.33	18.58	-235.93	-3,900.08	3,538.94	3,504.69	34.25	103.329		
7,000.00	6,976.20	7,019.27	7,008.00	25.27	24.67	18.64	-235.93	-3,900.08	3,527.38	3,492.63	34.75	101.516		
7,100.00	7,075.45	7,118.52	7,107.25	25.66	25.02	18.70	-235.93	-3,900.08	3,515.81	3,480.57	35.25	99.752		
7,200.00	7,174.71	7,217.77	7,206.51	26.05	25.36	18.77	-235.93	-3,900.08	3,504.26	3,468.51	35.74	98.037		
7,300.00	7,273.96	7,317.03	7,305.76	26.45	25.70	18.83	-235.93	-3,900.08	3,492.70	3,456.46	36.24	96.367		
7,400.00	7,373.21	7,416.28	7,405.01	26.84	26.04	18.90	-235.93	-3,900.08	3,481.15	3,444.41	36.74	94.741		
7,500.00	7,472.47	7,515.54	7,504.27	27.23	26.39	18.96	-235.93	-3,900.08	3,469.61	3,432.36	37.24	93.158		
7,600.00	7,571.72	7,614.79	7,603.52	27.63	26.73	19.03	-235.93	-3,900.08	3,458.07	3,420.32	37.75	91.616		
7,700.00	7,670.97	7,714.04	7,702.77	28.02	27.07	19.09	-235.93	-3,900.08	3,446.53	3,408.29	38.25	90.113		
7,800.00	7,770.23	7,813.30	7,802.03	28.42	27.42	19.16	-235.93	-3,900.08	3,435.00	3,396.25	38.75	88.649		
7,900.00	7,869.48	7,912.55	7,901.28	28.81	27.76	19.23	-235.93	-3,900.08	3,423.47	3,384.22	39.25	87.221		
8,000.00	7,968.73	8,011.80	8,000.53	29.21	28.11	19.29	-235.93	-3,900.08	3,411.95	3,372.20	39.75	85.828		
8,100.00	8,067.99	8,111.06	8,099.79	29.60	28.45	19.36	-235.93	-3,900.08	3,400.43	3,360.18	40.26	84.469		
8,200.00	8,167.24	8,210.31	8,199.04	30.00	28.80	19.43	-235.93	-3,900.08	3,388.92	3,348.16	40.76	83.144		
8,267.43	8,234.17	8,277.24	8,265.97	30.27	29.03	19.48	-235.93	-3,900.08	3,381.16	3,340.06	41.10	82.268		
8,300.00	8,266.51	8,309.58	8,298.31	30.40	29.14	19.48	-235.93	-3,900.08	3,377.54	3,336.28	41.26	81.853		
8,400.00	8,366.00	8,409.07	8,397.80	30.78	29.49	19.49	-235.93	-3,900.08	3,368.07	3,326.30	41.77	80.641		
8,500.00	8,465.72	8,508.79	8,497.52	31.16	29.84	19.50	-235.93	-3,900.08	3,361.05	3,318.78	42.27	79.519		
8,600.00	8,565.60	8,608.67	8,597.40	31.52	30.19	19.50	-235.93	-3,900.08	3,356.50	3,313.74	42.77	78.484		
8,700.00	8,665.58	8,708.64	8,697.38	31.87	30.54	19.50	-235.93	-3,900.08	3,354.42	3,311.16	43.26	77.535		
8,734.42	8,700.00	8,743.07	8,731.80	31.98	30.66	-90.61	-235.93	-3,900.08	3,354.27	3,310.84	43.43	77.229		
8,800.00	8,765.58	8,808.64	8,797.38	32.20	30.89	-90.61	-235.93	-3,900.08	3,354.27	3,310.52	43.75	76.661		
8,900.00	8,865.58	8,908.64	8,897.38	32.54	31.23	-90.61	-235.93	-3,900.08	3,354.27	3,310.03	44.24	75.811		
9,000.00	8,965.58	9,008.64	8,997.38	32.87	31.58	-90.61	-235.93	-3,900.08	3,354.27	3,309.54	44.74	74.979		
9,100.00	9,065.58	9,108.64	9,097.38	33.21	31.93	-90.61	-235.93	-3,900.08	3,354.27	3,309.05	45.23	74.165		
9,200.00	9,165.58	9,208.64	9,197.38	33.54	32.28	-90.61	-235.93	-3,900.08	3,354.27	3,308.55	45.72	73.367		
9,300.00	9,265.58	9,308.64	9,297.38	33.88	32.63	-90.61	-235.93	-3,900.08	3,354.27	3,308.06	46.21	72.586		
9,400.00	9,365.58	9,408.64	9,397.38	34.22	32.99	-90.61	-235.93	-3,900.08	3,354.27	3,307.57	46.70	71.821		
9,500.00	9,465.58	9,508.64	9,497.38	34.55	33.34	-90.61	-235.93	-3,900.08	3,354.27	3,307.08	47.20	71.072		
9,600.00	9,565.58	9,608.64	9,597.38	34.89	33.69	-90.61	-235.93	-3,900.08	3,354.27	3,306.58	47.69	70.337		
9,700.00	9,665.58	9,708.64	9,697.38	35.23	34.04	-90.61	-235.93	-3,900.08	3,354.27	3,306.09	48.18	69.617		
9,800.00	9,765.58	9,808.64	9,797.38	35.57	34.39	-90.61	-235.93	-3,900.08	3,354.27	3,305.60	48.68	68.911		
9,900.00	9,865.58	9,908.64	9,897.38	35.91	34.74	-90.61	-235.93	-3,900.08	3,354.27	3,305.10	49.17	68.219		
10,000.00	9,965.58	10,008.64	9,997.38	36.25	35.09	-90.61	-235.93	-3,900.08	3,354.27	3,304.61	49.66	67.541		
10,100.00	10,065.58	10,108.64	10,097.38	36.59	35.44	-90.61	-235.93	-3,900.08	3,354.27	3,304.12	50.16	66.875		
10,200.00	10,165.58	10,208.64	10,197.38	36.93	35.79	-90.61	-235.93	-3,900.08	3,354.27	3,303.62	50.65	66.222		
10,300.00	10,265.58	10,308.64	10,297.38	37.27	36.15	-90.61	-235.93	-3,900.08	3,354.27	3,303.13	51.15	65.582		
10,400.00	10,365.58	10,408.64	10,397.38	37.61	36.50	-90.61	-235.93	-3,900.08	3,354.27	3,302.63	51.64	64.953		
10,500.00	10,465.58	10,508.64	10,497.38	37.95	36.85	-90.61	-235.93	-3,900.08	3,354.27	3,302.14	52.14	64.336		
10,600.00	10,565.58	10,608.64	10,597.38	38.29	37.20	-90.61	-235.93	-3,900.08	3,354.27	3,301.64	52.63	63.731		
10,700.00	10,665.58	10,708.64	10,697.38	38.63	37.56	-90.61	-235.93	-3,900.08	3,354.27	3,301.14	53.13	63.136		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well 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		
10,800.00	10,765.58	10,808.64	10,797.38	38.97	37.91	-90.61	-235.93	-3,900.08	3,354.27	3,300.65	53.62	62.552		
10,900.00	10,865.58	10,908.64	10,897.38	39.32	38.26	-90.61	-235.93	-3,900.08	3,354.27	3,300.15	54.12	61.979		
11,000.00	10,965.58	11,008.64	10,997.38	39.66	38.61	-90.61	-235.93	-3,900.08	3,354.27	3,299.66	54.62	61.416		
11,100.00	11,065.58	11,108.64	11,097.38	40.00	38.97	-90.61	-235.93	-3,900.08	3,354.27	3,299.16	55.11	60.862		
11,200.00	11,165.58	11,208.64	11,197.38	40.35	39.32	-90.61	-235.93	-3,900.08	3,354.27	3,298.66	55.61	60.319		
11,300.00	11,265.58	11,309.16	11,297.75	40.69	39.67	-90.55	-232.15	-3,900.11	3,354.27	3,298.16	56.10	59.787		
11,323.96	11,289.53	11,332.97	11,321.33	40.77	39.75	-90.49	-228.92	-3,900.14	3,354.27	3,298.05	56.22	59.664		
11,400.00	11,365.58	11,406.16	11,392.70	41.03	39.98	-90.22	-212.93	-3,900.28	3,354.31	3,297.73	56.58	59.287		
11,434.42	11,400.00	11,437.72	11,422.74	41.15	40.08	-90.06	-203.25	-3,900.36	3,354.38	3,297.64	56.73	59.126		
11,450.00	11,415.57	11,451.68	11,435.85	41.20	40.12	-89.45	-198.44	-3,900.40	3,354.42	3,297.62	56.80	59.054		
11,500.00	11,465.43	11,495.84	11,476.47	41.37	40.24	-89.18	-181.16	-3,900.55	3,354.62	3,297.60	57.02	58.835		
11,550.00	11,514.79	11,539.03	11,514.80	41.53	40.36	-88.92	-161.28	-3,900.72	3,354.88	3,297.66	57.22	58.629		
11,600.00	11,563.28	11,581.35	11,550.80	41.69	40.46	-88.67	-139.05	-3,900.92	3,355.20	3,297.78	57.42	58.437		
11,650.00	11,610.53	11,622.91	11,584.47	41.83	40.56	-88.43	-114.69	-3,901.13	3,355.56	3,297.96	57.60	58.257		
11,700.00	11,656.17	11,663.78	11,615.76	41.96	40.65	-88.20	-88.43	-3,901.35	3,355.96	3,298.19	57.77	58.087		
11,750.00	11,699.86	11,700.00	11,641.87	42.09	40.73	-87.99	-63.33	-3,901.57	3,356.39	3,298.46	57.93	57.935		
11,800.00	11,741.27	11,743.76	11,671.23	42.19	40.83	-87.77	-30.90	-3,901.85	3,356.83	3,298.74	58.10	57.778		
11,850.00	11,780.08	11,783.00	11,695.37	42.29	40.91	-87.57	0.02	-3,902.11	3,357.28	3,299.03	58.25	57.635		
11,900.00	11,816.01	11,821.82	11,717.12	42.37	40.99	-87.40	32.17	-3,902.39	3,357.72	3,299.32	58.40	57.497		
11,950.00	11,848.76	11,860.27	11,736.48	42.43	41.08	-87.23	65.38	-3,902.68	3,358.14	3,299.59	58.54	57.362		
12,000.00	11,878.10	11,900.00	11,754.09	42.49	41.17	-87.08	100.99	-3,902.99	3,358.53	3,299.84	58.69	57.227		
12,050.00	11,903.80	11,936.26	11,767.97	42.54	41.25	-86.95	134.48	-3,903.27	3,358.89	3,300.06	58.83	57.097		
12,100.00	11,925.67	11,973.90	11,780.11	42.58	41.34	-86.84	170.09	-3,903.58	3,359.20	3,300.23	58.97	56.964		
12,150.00	11,943.53	12,011.34	11,789.84	42.62	41.43	-86.75	206.25	-3,903.89	3,359.46	3,300.34	59.12	56.828		
12,200.00	11,957.26	12,050.00	11,797.38	42.67	41.52	-86.68	244.15	-3,904.22	3,359.66	3,300.40	59.27	56.688		
12,250.00	11,966.75	12,085.83	11,802.08	42.75	41.61	-86.63	279.66	-3,904.53	3,359.81	3,300.39	59.42	56.548		
12,300.00	11,971.92	12,122.94	11,804.60	42.84	41.70	-86.60	316.68	-3,904.85	3,359.89	3,300.32	59.57	56.402		
12,345.40	11,972.85	12,157.93	11,804.79	42.95	41.79	-86.59	351.66	-3,905.15	3,359.90	3,300.18	59.72	56.262		
12,400.00	11,971.81	12,212.52	11,803.88	43.11	41.95	-86.59	406.25	-3,905.62	3,359.86	3,299.92	59.94	56.055		
12,500.00	11,969.89	12,312.52	11,802.22	43.44	42.28	-86.60	506.23	-3,906.48	3,359.79	3,299.38	60.41	55.617		
12,600.00	11,967.98	12,412.52	11,800.55	43.84	42.68	-86.60	606.22	-3,907.34	3,359.72	3,298.76	60.96	55.109		
12,700.00	11,966.06	12,512.52	11,798.89	44.30	43.13	-86.60	706.20	-3,908.20	3,359.65	3,298.05	61.60	54.536		
12,800.00	11,964.14	12,612.52	11,797.22	44.81	43.64	-86.61	806.18	-3,909.07	3,359.59	3,297.26	62.32	53.905		
12,900.00	11,962.23	12,712.52	11,795.56	45.38	44.21	-86.61	906.16	-3,909.93	3,359.52	3,296.39	63.12	53.223		
13,000.00	11,960.31	12,812.52	11,793.90	46.00	44.83	-86.62	1,006.14	-3,910.79	3,359.45	3,295.45	63.99	52.496		
13,100.00	11,958.40	12,912.52	11,792.23	46.66	45.50	-86.62	1,106.13	-3,911.65	3,359.38	3,294.44	64.94	51.730		
13,200.00	11,956.48	13,012.52	11,790.57	47.38	46.22	-86.63	1,206.11	-3,912.51	3,359.31	3,293.36	65.95	50.934		
13,300.00	11,954.57	13,112.52	11,788.90	48.14	46.99	-86.63	1,306.09	-3,913.38	3,359.24	3,292.21	67.03	50.112		
13,400.00	11,952.65	13,212.52	11,787.24	48.94	47.81	-86.63	1,406.07	-3,914.24	3,359.17	3,290.99	68.18	49.271		
13,500.00	11,950.73	13,312.52	11,785.57	49.78	48.66	-86.64	1,506.05	-3,915.10	3,359.10	3,289.72	69.38	48.416		
13,600.00	11,948.82	13,412.52	11,783.91	50.67	49.56	-86.64	1,606.04	-3,915.96	3,359.03	3,288.40	70.64	47.552		
13,700.00	11,946.90	13,512.52	11,782.24	51.59	50.49	-86.65	1,706.02	-3,916.83	3,358.97	3,287.01	71.95	46.684		
13,800.00	11,944.99	13,612.52	11,780.58	52.55	51.46	-86.65	1,806.00	-3,917.69	3,358.90	3,285.58	73.31	45.815		
13,900.00	11,943.07	13,712.52	11,778.91	53.54	52.46	-86.66	1,905.98	-3,918.55	3,358.83	3,284.10	74.73	44.949		
14,000.00	11,941.16	13,812.52	11,777.25	54.56	53.50	-86.66	2,005.96	-3,919.41	3,358.76	3,282.58	76.18	44.088		
14,100.00	11,939.24	13,912.52	11,775.58	55.61	54.57	-86.66	2,105.95	-3,920.27	3,358.69	3,281.01	77.68	43.236		
14,200.00	11,937.32	14,012.52	11,773.92	56.69	55.66	-86.67	2,205.93	-3,921.14	3,358.62	3,279.40	79.22	42.395		
14,300.00	11,935.41	14,112.52	11,772.25	57.80	56.78	-86.67	2,305.91	-3,922.00	3,358.55	3,277.75	80.80	41.566		
14,400.00	11,933.49	14,212.52	11,770.59	58.93	57.93	-86.68	2,405.89	-3,922.86	3,358.48	3,276.07	82.41	40.752		
14,500.00	11,931.58	14,312.52	11,768.92	60.09	59.10	-86.68	2,505.87	-3,923.72	3,358.42	3,274.35	84.06	39.952		
14,600.00	11,929.66	14,412.52	11,767.26	61.27	60.29	-86.69	2,605.86	-3,924.58	3,358.35	3,272.61	85.74	39.169		
14,700.00	11,927.75	14,512.52	11,765.59	62.47	61.51	-86.69	2,705.84	-3,925.45	3,358.28	3,270.83	87.45	38.402		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well 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		
14,800.00	11,925.83	14,612.52	11,763.93	63.69	62.74	-86.69	2,805.82	-3,926.31	3,358.21	3,269.02	89.19	37.654		
14,900.00	11,923.91	14,712.52	11,762.26	64.93	64.00	-86.70	2,905.80	-3,927.17	3,358.14	3,267.19	90.95	36.922		
15,000.00	11,922.00	14,812.52	11,760.60	66.18	65.27	-86.70	3,005.79	-3,928.03	3,358.07	3,265.33	92.74	36.209		
15,100.00	11,920.08	14,912.52	11,758.93	67.46	66.56	-86.71	3,105.77	-3,928.90	3,358.00	3,263.45	94.55	35.514		
15,200.00	11,918.17	15,012.52	11,757.27	68.75	67.86	-86.71	3,205.75	-3,929.76	3,357.94	3,261.55	96.39	34.837		
15,300.00	11,916.25	15,112.52	11,755.60	70.05	69.18	-86.71	3,305.73	-3,930.62	3,357.87	3,259.62	98.25	34.178		
15,400.00	11,914.33	15,212.51	11,753.94	71.37	70.51	-86.72	3,405.71	-3,931.48	3,357.80	3,257.68	100.12	33.537		
15,500.00	11,912.42	15,312.51	11,752.27	72.71	71.86	-86.72	3,505.70	-3,932.34	3,357.73	3,255.71	102.02	32.913		
15,600.00	11,910.50	15,412.51	11,750.61	74.05	73.21	-86.73	3,605.68	-3,933.21	3,357.66	3,253.73	103.93	32.307		
15,700.00	11,908.59	15,512.51	11,748.94	75.41	74.58	-86.73	3,705.66	-3,934.07	3,357.59	3,251.73	105.86	31.717		
15,800.00	11,906.67	15,612.51	11,747.28	76.78	75.97	-86.74	3,805.64	-3,934.93	3,357.52	3,249.72	107.81	31.144		
15,900.00	11,904.76	15,712.51	11,745.61	78.16	77.36	-86.74	3,905.62	-3,935.79	3,357.46	3,247.69	109.77	30.587		
16,000.00	11,902.84	15,812.51	11,743.95	79.55	78.76	-86.74	4,005.61	-3,936.65	3,357.39	3,245.64	111.74	30.045		
16,100.00	11,900.92	15,912.51	11,742.28	80.95	80.17	-86.75	4,105.59	-3,937.52	3,357.32	3,243.59	113.73	29.519		
16,200.00	11,899.01	16,012.51	11,740.62	82.37	81.59	-86.75	4,205.57	-3,938.38	3,357.25	3,241.52	115.73	29.008		
16,300.00	11,897.09	16,112.51	11,738.95	83.78	83.02	-86.76	4,305.55	-3,939.24	3,357.18	3,239.43	117.75	28.511		
16,400.00	11,895.18	16,212.51	11,737.29	85.21	84.46	-86.76	4,405.53	-3,940.10	3,357.11	3,237.34	119.77	28.029		
16,500.00	11,893.26	16,312.51	11,735.62	86.65	85.90	-86.77	4,505.52	-3,940.97	3,357.05	3,235.23	121.81	27.559		
16,600.00	11,891.35	16,412.51	11,733.96	88.09	87.35	-86.77	4,605.50	-3,941.83	3,356.98	3,233.12	123.86	27.103		
16,700.00	11,889.43	16,512.51	11,732.29	89.54	88.81	-86.77	4,705.48	-3,942.69	3,356.91	3,230.99	125.92	26.660		
16,800.00	11,887.51	16,612.51	11,730.63	91.00	90.28	-86.78	4,805.46	-3,943.55	3,356.84	3,228.86	127.98	26.229		
16,900.00	11,885.60	16,712.51	11,728.96	92.46	91.75	-86.78	4,905.45	-3,944.41	3,356.77	3,226.71	130.06	25.810		
17,000.00	11,883.68	16,812.51	11,727.30	93.93	93.23	-86.79	5,005.43	-3,945.28	3,356.70	3,224.56	132.14	25.402		
17,100.00	11,881.77	16,912.51	11,725.64	95.40	94.71	-86.79	5,105.41	-3,946.14	3,356.64	3,222.40	134.23	25.006		
17,200.00	11,879.85	17,012.51	11,723.97	96.89	96.20	-86.79	5,205.39	-3,947.00	3,356.57	3,220.23	136.33	24.620		
17,300.00	11,877.94	17,112.51	11,722.31	98.37	97.70	-86.80	5,305.37	-3,947.86	3,356.50	3,218.06	138.44	24.245		
17,400.00	11,876.02	17,212.51	11,720.64	99.86	99.20	-86.80	5,405.36	-3,948.72	3,356.43	3,215.87	140.56	23.879		
17,500.00	11,874.10	17,312.51	11,718.98	101.36	100.70	-86.81	5,505.34	-3,949.59	3,356.36	3,213.68	142.68	23.524		
17,600.00	11,872.19	17,412.51	11,717.31	102.86	102.21	-86.81	5,605.32	-3,950.45	3,356.30	3,211.49	144.81	23.178		
17,700.00	11,870.27	17,512.51	11,715.65	104.37	103.72	-86.82	5,705.30	-3,951.31	3,356.23	3,209.29	146.94	22.841		
17,800.00	11,868.36	17,612.51	11,713.98	105.88	105.24	-86.82	5,805.28	-3,952.17	3,356.16	3,207.08	149.08	22.512		
17,900.00	11,866.44	17,712.51	11,712.32	107.39	106.76	-86.82	5,905.27	-3,953.03	3,356.09	3,204.86	151.23	22.192		
18,000.00	11,864.53	17,812.51	11,710.65	108.91	108.29	-86.83	6,005.25	-3,953.90	3,356.02	3,202.64	153.38	21.881		
18,100.00	11,862.61	17,912.51	11,708.99	110.44	109.82	-86.83	6,105.23	-3,954.76	3,355.95	3,200.42	155.54	21.577		
18,200.00	11,860.69	18,012.51	11,707.32	111.96	111.35	-86.84	6,205.21	-3,955.62	3,355.89	3,198.19	157.70	21.281		
18,300.00	11,858.78	18,112.51	11,705.66	113.49	112.89	-86.84	6,305.19	-3,956.48	3,355.82	3,195.95	159.86	20.992		
18,400.00	11,856.86	18,212.51	11,703.99	115.02	114.42	-86.85	6,405.18	-3,957.35	3,355.75	3,193.72	162.04	20.710		
18,500.00	11,854.95	18,312.50	11,702.33	116.56	115.97	-86.85	6,505.16	-3,958.21	3,355.68	3,191.47	164.21	20.435		
18,600.00	11,853.03	18,412.50	11,700.66	118.10	117.51	-86.85	6,605.14	-3,959.07	3,355.61	3,189.22	166.39	20.167		
18,700.00	11,851.12	18,512.50	11,699.00	119.64	119.06	-86.86	6,705.12	-3,959.93	3,355.55	3,186.97	168.57	19.905		
18,800.00	11,849.20	18,612.50	11,697.33	121.19	120.61	-86.86	6,805.11	-3,960.79	3,355.48	3,184.72	170.76	19.650		
18,900.00	11,847.28	18,712.50	11,695.67	122.74	122.16	-86.87	6,905.09	-3,961.66	3,355.41	3,182.46	172.95	19.401		
19,000.00	11,845.37	18,812.50	11,694.00	124.29	123.72	-86.87	7,005.07	-3,962.52	3,355.34	3,180.19	175.15	19.157		
19,100.00	11,843.45	18,912.50	11,692.34	125.84	125.28	-86.88	7,105.05	-3,963.38	3,355.28	3,177.93	177.35	18.919		
19,200.00	11,841.54	19,012.50	11,690.67	127.39	126.84	-86.88	7,205.03	-3,964.24	3,355.21	3,175.66	179.55	18.687		
19,300.00	11,839.62	19,112.50	11,689.01	128.95	128.40	-86.88	7,305.02	-3,965.10	3,355.14	3,173.38	181.76	18.459		
19,400.00	11,837.71	19,212.50	11,687.34	130.51	129.97	-86.89	7,405.00	-3,965.97	3,355.07	3,171.11	183.97	18.237		
19,500.00	11,835.79	19,312.50	11,685.68	132.08	131.53	-86.89	7,504.98	-3,966.83	3,355.00	3,168.83	186.18	18.020		
19,600.00	11,833.87	19,412.50	11,684.01	133.64	133.10	-86.90	7,604.96	-3,967.69	3,354.94	3,166.54	188.39	17.808		
19,700.00	11,831.96	19,512.50	11,682.35	135.21	134.67	-86.90	7,704.94	-3,968.55	3,354.87	3,164.26	190.61	17.601		
19,800.00	11,830.04	19,612.50	11,680.68	136.78	136.25	-86.90	7,804.93	-3,969.42	3,354.80	3,161.97	192.83	17.398		
19,900.00	11,828.13	19,712.50	11,679.02	138.35	137.82	-86.91	7,904.91	-3,970.28	3,354.73	3,159.68	195.05	17.199		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design 1912 Fed Com - 1912 Fed Com 601H - OH - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
20,000.00	11,826.21	19,812.50	11,677.35	139.92	139.40	-86.91	8,004.89	-3,971.14	3,354.67	3,157.39	197.28	17.005		
20,100.00	11,824.30	19,912.50	11,675.69	141.49	140.98	-86.92	8,104.87	-3,972.00	3,354.60	3,155.09	199.51	16.814		
20,200.00	11,822.38	20,012.50	11,674.02	143.07	142.56	-86.92	8,204.85	-3,972.86	3,354.53	3,152.79	201.74	16.628		
20,300.00	11,820.46	20,112.50	11,672.36	144.65	144.14	-86.93	8,304.84	-3,973.73	3,354.46	3,150.49	203.97	16.446		
20,400.00	11,818.55	20,212.50	11,670.69	146.23	145.72	-86.93	8,404.82	-3,974.59	3,354.40	3,148.19	206.21	16.267		
20,500.00	11,816.63	20,312.50	11,669.03	147.81	147.31	-86.93	8,504.80	-3,975.45	3,354.33	3,145.88	208.44	16.092		
20,600.00	11,814.72	20,412.50	11,667.36	149.39	148.89	-86.94	8,604.78	-3,976.31	3,354.26	3,143.58	210.68	15.921		
20,700.00	11,812.80	20,512.50	11,665.70	150.98	150.48	-86.94	8,704.76	-3,977.17	3,354.19	3,141.27	212.93	15.753		
20,800.00	11,810.89	20,612.50	11,664.03	152.56	152.07	-86.95	8,804.75	-3,978.04	3,354.12	3,138.96	215.17	15.588		
20,900.00	11,808.97	20,712.50	11,662.37	154.15	153.66	-86.95	8,904.73	-3,978.90	3,354.06	3,136.64	217.41	15.427		
21,000.00	11,807.05	20,812.50	11,660.70	155.74	155.25	-86.96	9,004.71	-3,979.76	3,353.99	3,134.33	219.66	15.269		
21,100.00	11,805.14	20,912.50	11,659.04	157.33	156.85	-86.96	9,104.69	-3,980.62	3,353.92	3,132.01	221.91	15.114		
21,200.00	11,803.22	21,012.50	11,657.38	158.92	158.44	-86.96	9,204.68	-3,981.49	3,353.85	3,129.69	224.16	14.962		
21,300.00	11,801.31	21,112.50	11,655.71	160.51	160.04	-86.97	9,304.66	-3,982.35	3,353.79	3,127.37	226.41	14.813		
21,400.00	11,799.39	21,212.50	11,654.05	162.10	161.63	-86.97	9,404.64	-3,983.21	3,353.72	3,125.05	228.67	14.666		
21,500.00	11,797.48	21,312.49	11,652.38	163.70	163.23	-86.98	9,504.62	-3,984.07	3,353.65	3,122.73	230.92	14.523		
21,600.00	11,795.56	21,412.49	11,650.72	165.29	164.83	-86.98	9,604.60	-3,984.93	3,353.59	3,120.40	233.18	14.382		
21,700.00	11,793.64	21,512.49	11,649.05	166.89	166.43	-86.99	9,704.59	-3,985.80	3,353.52	3,118.08	235.44	14.244		
21,800.00	11,791.73	21,612.49	11,647.39	168.49	168.03	-86.99	9,804.57	-3,986.66	3,353.45	3,115.75	237.70	14.108		
21,900.00	11,789.81	21,712.49	11,645.72	170.08	169.63	-86.99	9,904.55	-3,987.52	3,353.38	3,113.42	239.96	13.975		
22,000.00	11,787.90	21,812.49	11,644.06	171.68	171.23	-87.00	10,004.53	-3,988.38	3,353.32	3,111.09	242.22	13.844		
22,100.00	11,785.98	21,912.49	11,642.39	173.29	172.84	-87.00	10,104.51	-3,989.24	3,353.25	3,108.76	244.49	13.715		
22,119.12	11,785.61	21,929.37	11,642.11	173.59	173.11	-87.00	10,121.39	-3,989.39	3,353.24	3,108.34	244.90	13.692 CC		
22,129.79	11,785.41	21,929.37	11,642.11	173.76	173.11	-87.00	10,121.39	-3,989.39	3,353.25	3,108.22	245.04	13.685 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 Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well 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	34.60	34.60	0.00	0.04	-90.02	-1.30	-3,807.07	3,807.07					
100.00	100.00	134.60	134.60	0.13	0.25	-90.02	-1.30	-3,807.07	3,807.07	3,806.79	0.28	N/A		
200.00	200.00	234.60	234.60	0.48	0.61	-90.02	-1.30	-3,807.07	3,807.07	3,806.29	0.78	4,899.336		
300.00	300.00	334.60	334.60	0.84	0.97	-90.02	-1.30	-3,807.07	3,807.07	3,805.79	1.28	2,969.513		
400.00	400.00	434.60	434.60	1.20	1.32	-90.02	-1.30	-3,807.07	3,807.07	3,805.28	1.79	2,129.048		
500.00	500.00	534.60	534.60	1.56	1.68	-90.02	-1.30	-3,807.07	3,807.07	3,804.78	2.29	1,659.117		
600.00	600.00	634.60	634.60	1.92	2.04	-90.02	-1.30	-3,807.07	3,807.07	3,804.27	2.80	1,359.043		
700.00	700.00	734.60	734.60	2.28	2.40	-90.02	-1.30	-3,807.07	3,807.07	3,803.76	3.31	1,150.856		
800.00	800.00	834.60	834.60	2.63	2.76	-90.02	-1.30	-3,807.07	3,807.07	3,803.26	3.81	997.965		
900.00	900.00	934.60	934.60	2.99	3.12	-90.02	-1.30	-3,807.07	3,807.07	3,802.75	4.32	880.926		
1,000.00	1,000.00	1,034.60	1,034.60	3.35	3.48	-90.02	-1.30	-3,807.07	3,807.07	3,802.24	4.83	788.453		
1,100.00	1,100.00	1,134.60	1,134.60	3.71	3.83	-90.02	-1.30	-3,807.07	3,807.07	3,801.73	5.34	713.548		
1,200.00	1,200.00	1,234.60	1,234.60	4.07	4.19	-90.02	-1.30	-3,807.07	3,807.07	3,801.23	5.84	651.638		
1,300.00	1,300.00	1,334.60	1,334.60	4.43	4.55	-90.02	-1.30	-3,807.07	3,807.07	3,800.72	6.35	599.613		
1,400.00	1,400.00	1,434.60	1,434.60	4.79	4.91	-90.02	-1.30	-3,807.07	3,807.07	3,800.21	6.86	555.281		
1,500.00	1,500.00	1,534.60	1,534.60	5.14	5.27	-90.02	-1.30	-3,807.07	3,807.07	3,799.71	7.36	517.052		
1,600.00	1,600.00	1,634.60	1,634.60	5.50	5.63	-90.02	-1.30	-3,807.07	3,807.07	3,799.20	7.87	483.747		
1,700.00	1,700.00	1,734.60	1,734.60	5.86	5.99	-90.02	-1.30	-3,807.07	3,807.07	3,798.69	8.38	454.473		
1,800.00	1,800.00	1,834.60	1,834.60	6.22	6.34	-90.02	-1.30	-3,807.07	3,807.07	3,798.19	8.88	428.540		
1,900.00	1,900.00	1,934.60	1,934.60	6.58	6.70	-90.02	-1.30	-3,807.07	3,807.07	3,797.68	9.39	405.407		
2,000.00	2,000.00	2,034.60	2,034.60	6.94	7.06	-90.02	-1.30	-3,807.07	3,807.07	3,797.17	9.90	384.643		
2,100.00	2,100.00	2,134.60	2,134.60	7.29	7.42	-90.02	-1.30	-3,807.07	3,807.07	3,796.67	10.40	365.902		
2,200.00	2,200.00	2,234.60	2,234.60	7.65	7.78	-90.02	-1.30	-3,807.07	3,807.07	3,796.16	10.91	348.903		
2,300.00	2,300.00	2,334.60	2,334.60	8.01	8.14	-90.02	-1.30	-3,807.07	3,807.07	3,795.65	11.42	333.413		
2,400.00	2,400.00	2,434.60	2,434.60	8.37	8.49	-90.02	-1.30	-3,807.07	3,807.07	3,795.14	11.93	319.240		
2,500.00	2,500.00	2,534.60	2,534.60	8.73	8.85	-90.02	-1.30	-3,807.07	3,807.07	3,794.64	12.43	306.222		
2,600.00	2,600.00	2,634.60	2,634.60	9.09	9.21	-90.02	-1.30	-3,807.07	3,807.07	3,794.13	12.94	294.225		
2,700.00	2,700.00	2,734.60	2,734.60	9.45	9.57	-90.02	-1.30	-3,807.07	3,807.07	3,793.62	13.45	283.132		
2,800.00	2,800.00	2,834.60	2,834.60	9.80	9.93	-90.02	-1.30	-3,807.07	3,807.07	3,793.12	13.95	272.846		
2,900.00	2,900.00	2,934.60	2,934.60	10.16	10.29	-90.02	-1.30	-3,807.07	3,807.07	3,792.61	14.46	263.280		
3,000.00	3,000.00	3,034.60	3,034.60	10.52	10.65	-90.02	-1.30	-3,807.07	3,807.07	3,792.10	14.97	254.363		
3,100.00	3,100.00	3,134.60	3,134.60	10.88	11.00	-90.02	-1.30	-3,807.07	3,807.07	3,791.60	15.47	246.029		
3,109.03	3,109.03	3,143.63	3,143.63	10.91	11.04	-90.02	-1.30	-3,807.07	3,807.07	3,791.55	15.52	245.304		
3,200.00	3,200.00	3,200.00	3,200.00	11.24	11.24	-90.02	-1.30	-3,807.07	3,807.23	3,791.34	15.89	239.561		
3,300.00	3,300.00	3,273.85	3,273.84	11.60	11.49	-90.03	-1.70	-3,807.66	3,808.14	3,791.82	16.32	233.277		
3,400.00	3,400.00	3,328.68	3,328.66	11.96	11.68	-90.04	-2.52	-3,808.86	3,810.33	3,793.63	16.71	228.082		
3,500.00	3,500.00	3,400.00	3,399.91	12.31	11.91	-90.06	-4.26	-3,811.39	3,813.77	3,796.65	17.12	222.717		
3,600.00	3,599.99	3,438.20	3,438.05	12.66	12.04	20.02	-5.50	-3,813.20	3,817.03	3,799.58	17.45	218.731		
3,700.00	3,699.91	3,500.00	3,499.69	13.00	12.25	19.99	-7.96	-3,816.78	3,819.10	3,801.27	17.83	214.241		
3,800.00	3,799.69	3,547.66	3,547.18	13.33	12.41	19.97	-10.24	-3,820.11	3,819.87	3,801.70	18.17	210.283		
3,900.00	3,899.27	3,604.22	3,603.46	13.67	12.60	19.95	-13.38	-3,824.70	3,819.37	3,800.84	18.53	206.159		
3,966.99	3,965.83	3,671.18	3,670.06	13.90	12.83	19.93	-17.33	-3,830.47	3,818.03	3,799.18	18.84	202.605		
4,000.00	3,998.59	3,704.17	3,702.87	14.02	12.94	19.93	-19.28	-3,833.32	3,817.09	3,798.09	19.00	200.881		
4,100.00	4,097.84	3,804.12	3,802.27	14.37	13.28	19.90	-25.19	-3,841.94	3,814.27	3,794.79	19.48	195.807		
4,200.00	4,197.10	3,904.06	3,901.67	14.72	13.63	19.87	-31.10	-3,850.56	3,811.44	3,791.48	19.96	190.950		
4,300.00	4,296.35	4,004.01	4,001.06	15.07	13.98	19.85	-37.00	-3,859.18	3,808.61	3,788.17	20.44	186.299		
4,400.00	4,395.61	4,103.95	4,100.46	15.43	14.33	19.82	-42.91	-3,867.80	3,805.79	3,784.86	20.93	181.842		
4,500.00	4,494.86	4,203.90	4,199.86	15.79	14.68	19.80	-48.82	-3,876.43	3,802.96	3,781.55	21.42	177.569		
4,600.00	4,594.11	4,303.84	4,299.25	16.15	15.04	19.77	-54.72	-3,885.05	3,800.14	3,778.23	21.91	173.471		
4,700.00	4,693.37	4,403.79	4,398.65	16.51	15.40	19.74	-60.63	-3,893.67	3,797.32	3,774.92	22.40	169.538		
4,800.00	4,792.62	4,503.73	4,498.05	16.88	15.76	19.72	-66.54	-3,902.29	3,794.49	3,771.60	22.89	165.761		
4,900.00	4,891.87	4,603.68	4,597.45	17.25	16.12	19.69	-72.44	-3,910.91	3,791.67	3,768.29	23.39	162.131		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well 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	4,991.13	4,703.62	4,696.84	17.62	16.48	19.67	-78.35	-3,919.53	3,788.85	3,764.97	23.88	158.642		
5,100.00	5,090.38	4,803.57	4,796.24	17.99	16.85	19.64	-84.26	-3,928.15	3,786.03	3,761.65	24.38	155.286		
5,200.00	5,189.63	4,903.51	4,895.64	18.36	17.21	19.61	-90.16	-3,936.77	3,783.21	3,758.33	24.88	152.056		
5,300.00	5,288.89	5,003.46	4,995.04	18.74	17.58	19.59	-96.07	-3,945.40	3,780.40	3,755.01	25.38	148.946		
5,400.00	5,388.14	5,103.40	5,094.43	19.11	17.95	19.56	-101.98	-3,954.02	3,777.58	3,751.70	25.88	145.949		
5,500.00	5,487.39	5,203.35	5,193.83	19.49	18.32	19.53	-107.89	-3,962.64	3,774.76	3,748.38	26.39	143.060		
5,600.00	5,586.65	5,303.30	5,293.23	19.87	18.69	19.51	-113.79	-3,971.26	3,771.95	3,745.06	26.89	140.274		
5,700.00	5,685.90	5,403.24	5,392.62	20.25	19.06	19.48	-119.70	-3,979.88	3,769.13	3,741.74	27.39	137.585		
5,800.00	5,785.16	5,503.19	5,492.02	20.63	19.43	19.45	-125.61	-3,988.50	3,766.32	3,738.42	27.90	134.989		
5,900.00	5,884.41	5,603.13	5,591.42	21.01	19.81	19.43	-131.51	-3,997.12	3,763.50	3,735.10	28.41	132.482		
6,000.00	5,983.66	5,703.08	5,690.82	21.39	20.18	19.40	-137.42	-4,005.75	3,760.69	3,731.77	28.92	130.058		
6,100.00	6,082.92	5,803.02	5,790.21	21.78	20.56	19.37	-143.33	-4,014.37	3,757.88	3,728.45	29.42	127.715		
6,200.00	6,182.17	5,902.97	5,889.61	22.16	20.93	19.35	-149.23	-4,022.99	3,755.07	3,725.13	29.93	125.448		
6,300.00	6,281.42	6,002.91	5,989.01	22.55	21.31	19.32	-155.14	-4,031.61	3,752.26	3,721.81	30.44	123.255		
6,400.00	6,380.68	6,102.86	6,088.41	22.94	21.69	19.29	-161.05	-4,040.23	3,749.45	3,718.49	30.95	121.130		
6,500.00	6,479.93	6,202.80	6,187.80	23.32	22.07	19.27	-166.95	-4,048.85	3,746.64	3,715.17	31.47	119.073		
6,600.00	6,579.18	6,302.75	6,287.20	23.71	22.45	19.24	-172.86	-4,057.47	3,743.83	3,711.85	31.98	117.079		
6,700.00	6,678.44	6,402.69	6,386.60	24.10	22.83	19.21	-178.77	-4,066.10	3,741.02	3,708.54	32.49	115.146		
6,800.00	6,777.69	6,502.64	6,485.99	24.49	23.21	19.19	-184.67	-4,074.72	3,738.22	3,705.22	33.00	113.271		
6,900.00	6,876.95	6,602.58	6,585.39	24.88	23.59	19.16	-190.58	-4,083.34	3,735.41	3,701.90	33.52	111.451		
7,000.00	6,976.20	6,702.53	6,684.79	25.27	23.97	19.13	-196.49	-4,091.96	3,732.61	3,698.58	34.03	109.685		
7,100.00	7,075.45	6,802.47	6,784.19	25.66	24.35	19.11	-202.39	-4,100.58	3,729.81	3,695.26	34.54	107.970		
7,200.00	7,174.71	6,902.42	6,883.58	26.05	24.73	19.08	-208.30	-4,109.20	3,727.00	3,691.94	35.06	106.305		
7,300.00	7,273.96	7,002.36	6,982.98	26.45	25.12	19.05	-214.21	-4,117.82	3,724.20	3,688.63	35.58	104.686		
7,400.00	7,373.21	7,102.31	7,082.38	26.84	25.50	19.02	-220.11	-4,126.45	3,721.40	3,685.31	36.09	103.112		
7,500.00	7,472.47	7,202.26	7,182.87	27.23	25.89	18.99	-226.02	-4,135.07	3,718.60	3,682.27	36.62	100.716		
7,600.00	7,571.72	7,302.21	7,282.82	27.63	26.28	18.96	-231.93	-4,143.69	3,715.80	3,678.94	37.14	98.823		
7,700.00	7,670.97	7,402.16	7,382.47	28.02	26.67	18.93	-237.84	-4,152.31	3,713.00	3,675.08	37.66	96.923		
7,800.00	7,770.23	7,502.11	7,482.42	28.42	27.06	18.90	-243.75	-4,160.93	3,710.20	3,671.22	38.18	95.021		
7,900.00	7,869.48	7,602.06	7,582.57	28.81	27.45	18.87	-249.66	-4,169.55	3,707.40	3,667.36	38.70	93.118		
8,000.00	7,968.73	7,702.01	7,682.52	29.21	27.84	18.84	-255.57	-4,178.17	3,704.60	3,663.50	39.22	91.217		
8,100.00	8,067.99	7,801.96	7,782.57	29.60	28.23	18.81	-261.48	-4,186.79	3,701.80	3,659.64	39.74	89.317		
8,200.00	8,167.24	7,901.91	7,882.57	30.00	28.62	18.78	-267.39	-4,195.41	3,699.00	3,655.78	40.26	87.417		
8,300.00	8,266.51	8,001.86	7,982.57	30.40	29.01	18.75	-273.30	-4,204.03	3,696.20	3,651.92	40.78	85.517		
8,400.00	8,365.78	8,101.81	8,082.57	30.80	29.40	18.72	-279.21	-4,212.65	3,693.40	3,648.06	41.30	83.617		
8,500.00	8,465.04	8,201.76	8,182.57	31.20	29.79	18.69	-285.12	-4,221.27	3,690.60	3,644.20	41.82	81.717		
8,600.00	8,564.30	8,301.71	8,282.57	31.60	30.18	18.66	-291.03	-4,229.89	3,687.80	3,640.34	42.34	79.817		
8,700.00	8,663.56	8,401.66	8,382.57	32.00	30.57	18.63	-296.94	-4,238.51	3,685.00	3,636.48	42.86	77.917		
8,800.00	8,762.82	8,501.61	8,482.57	32.40	30.96	18.60	-302.85	-4,247.13	3,682.20	3,632.62	43.38	76.017		
8,900.00	8,862.08	8,601.56	8,582.57	32.80	31.35	18.57	-308.76	-4,255.75	3,679.40	3,628.76	43.90	74.117		
9,000.00	8,961.34	8,701.51	8,682.57	33.20	31.74	18.54	-314.67	-4,264.37	3,676.60	3,624.90	44.42	72.217		
9,100.00	9,060.60	8,801.46	8,782.57	33.60	32.13	18.51	-320.58	-4,273.00	3,673.80	3,621.04	44.94	70.317		
9,200.00	9,159.86	8,901.41	8,882.57	34.00	32.52	18.48	-326.49	-4,281.62	3,671.00	3,617.18	45.46	68.417		
9,300.00	9,259.12	9,001.36	8,982.57	34.40	32.91	18.45	-332.40	-4,290.24	3,668.20	3,613.32	45.98	66.517		
9,400.00	9,358.38	9,101.31	9,082.57	34.80	33.30	18.42	-338.31	-4,298.86	3,665.40	3,609.46	46.50	64.617		
9,500.00	9,457.64	9,201.26	9,182.57	35.20	33.69	18.39	-344.22	-4,307.48	3,662.60	3,605.60	47.02	62.717		
9,600.00	9,556.90	9,301.21	9,282.57	35.60	34.08	18.36	-350.13	-4,316.10	3,659.80	3,601.74	47.54	60.817		
9,700.00	9,656.16	9,401.16	9,382.57	36.00	34.47	18.33	-356.04	-4,324.72	3,657.00	3,597.88	48.06	58.917		
9,800.00	9,755.42	9,501.11	9,482.57	36.40	34.86	18.30	-361.95	-4,333.34	3,654.20	3,594.02	48.58	57.017		
9,900.00	9,854.68	9,601.06	9,582.57	36.80	35.25	18.27	-367.86	-4,341.96	3,651.40	3,590.16	49.10	55.117		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well 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	9,965.58	10,021.24	10,000.18	36.25	35.61	-90.58	-236.30	-4,150.07	3,604.25	3,554.48	49.77	72.419		
10,100.00	10,065.58	10,121.24	10,100.18	36.59	35.96	-90.58	-236.30	-4,150.07	3,604.25	3,553.99	50.26	71.710		
10,200.00	10,165.58	10,221.24	10,200.18	36.93	36.30	-90.58	-236.30	-4,150.07	3,604.25	3,553.50	50.75	71.014		
10,300.00	10,265.58	10,321.24	10,300.18	37.27	36.65	-90.58	-236.30	-4,150.07	3,604.25	3,553.01	51.25	70.330		
10,400.00	10,365.58	10,421.24	10,400.18	37.61	37.00	-90.58	-236.30	-4,150.07	3,604.25	3,552.51	51.74	69.660		
10,500.00	10,465.58	10,521.24	10,500.18	37.95	37.35	-90.58	-236.30	-4,150.07	3,604.25	3,552.02	52.23	69.002		
10,600.00	10,565.58	10,621.24	10,600.18	38.29	37.69	-90.58	-236.30	-4,150.07	3,604.25	3,551.52	52.73	68.355		
10,700.00	10,665.58	10,721.24	10,700.18	38.63	38.04	-90.58	-236.30	-4,150.07	3,604.25	3,551.03	53.22	67.721		
10,800.00	10,765.58	10,821.24	10,800.18	38.97	38.39	-90.58	-236.30	-4,150.07	3,604.25	3,550.54	53.72	67.098		
10,900.00	10,865.58	10,921.24	10,900.18	39.32	38.74	-90.58	-236.30	-4,150.07	3,604.25	3,550.04	54.21	66.485		
11,000.00	10,965.58	11,021.24	11,000.18	39.66	39.09	-90.58	-236.30	-4,150.07	3,604.25	3,549.55	54.71	65.884		
11,100.00	11,065.58	11,121.24	11,100.18	40.00	39.43	-90.58	-236.30	-4,150.07	3,604.25	3,549.05	55.20	65.293		
11,200.00	11,165.58	11,221.24	11,200.18	40.35	39.78	-90.58	-236.30	-4,150.07	3,604.25	3,548.56	55.70	64.713		
11,300.00	11,265.58	11,321.24	11,300.18	40.69	40.13	-90.58	-236.30	-4,150.07	3,604.25	3,548.06	56.19	64.142		
11,400.00	11,365.58	11,421.24	11,400.18	41.03	40.48	-90.58	-236.30	-4,150.07	3,604.25	3,547.57	56.69	63.581		
11,434.42	11,400.00	11,455.67	11,434.60	41.15	40.60	-90.58	-236.30	-4,150.07	3,604.25	3,547.39	56.86	63.391		
11,450.00	11,415.57	11,471.24	11,450.17	41.20	40.66	-90.06	-236.30	-4,150.07	3,604.25	3,547.32	56.93	63.305		
11,500.00	11,465.43	11,521.10	11,500.03	41.37	40.83	-90.11	-236.30	-4,150.07	3,604.26	3,547.08	57.18	63.035		
11,550.00	11,514.79	11,570.89	11,549.82	41.53	41.00	-90.23	-236.11	-4,150.07	3,604.28	3,546.87	57.42	62.775		
11,600.00	11,563.28	11,622.00	11,600.79	41.69	41.18	-90.37	-232.51	-4,150.10	3,604.33	3,546.68	57.65	62.524		
11,650.00	11,610.53	11,673.95	11,652.06	41.83	41.35	-90.50	-224.21	-4,150.17	3,604.39	3,546.52	57.87	62.284		
11,700.00	11,656.17	11,726.77	11,703.19	41.96	41.51	-90.64	-211.06	-4,150.29	3,604.46	3,546.38	58.08	62.056		
11,750.00	11,699.86	11,780.45	11,753.70	42.09	41.66	-90.76	-192.92	-4,150.44	3,604.56	3,546.27	58.29	61.840		
11,800.00	11,741.27	11,835.03	11,803.07	42.19	41.81	-90.89	-169.72	-4,150.64	3,604.66	3,546.17	58.48	61.635		
11,850.00	11,780.08	11,890.47	11,850.74	42.29	41.94	-91.01	-141.45	-4,150.89	3,604.76	3,546.09	58.67	61.439		
11,900.00	11,816.01	11,946.78	11,896.13	42.37	42.05	-91.12	-108.17	-4,151.17	3,604.88	3,546.02	58.85	61.252		
11,950.00	11,848.76	12,003.91	11,938.61	42.43	42.15	-91.22	-70.01	-4,151.50	3,604.98	3,545.96	59.03	61.071		
12,000.00	11,878.10	12,061.81	11,977.58	42.49	42.24	-91.31	-27.22	-4,151.87	3,605.09	3,545.89	59.20	60.895		
12,050.00	11,903.80	12,120.42	12,012.43	42.54	42.30	-91.39	19.88	-4,152.28	3,605.18	3,545.81	59.37	60.722		
12,100.00	11,925.67	12,179.66	12,042.57	42.58	42.35	-91.46	70.84	-4,152.72	3,605.26	3,545.72	59.54	60.549		
12,150.00	11,943.53	12,239.42	12,067.49	42.62	42.39	-91.52	125.13	-4,153.19	3,605.32	3,545.60	59.72	60.375		
12,200.00	11,957.26	12,299.59	12,086.72	42.67	42.51	-91.56	182.11	-4,153.68	3,605.36	3,545.46	59.89	60.199		
12,250.00	11,966.75	12,360.05	12,099.93	42.75	42.66	-91.58	241.08	-4,154.19	3,605.37	3,545.30	60.07	60.019		
12,300.00	11,971.92	12,420.66	12,106.86	42.84	42.82	-91.60	301.26	-4,154.70	3,605.36	3,545.10	60.25	59.836		
12,345.40	11,972.85	12,473.24	12,107.82	42.95	42.95	-91.60	353.81	-4,155.16	3,605.33	3,544.91	60.42	59.669		
12,400.00	11,971.81	12,527.84	12,107.29	43.11	43.11	-91.60	408.40	-4,155.63	3,605.31	3,544.68	60.64	59.459		
12,500.00	11,969.89	12,627.83	12,106.33	43.44	43.44	-91.62	508.39	-4,156.49	3,605.29	3,544.20	61.09	59.018		
12,600.00	11,967.98	12,727.83	12,105.37	43.84	43.83	-91.63	608.38	-4,157.35	3,605.26	3,543.63	61.63	58.503		
12,700.00	11,966.06	12,827.82	12,104.40	44.30	44.28	-91.65	708.36	-4,158.21	3,605.23	3,542.99	62.25	57.919		
12,800.00	11,964.14	12,927.82	12,103.44	44.81	44.77	-91.66	808.35	-4,159.08	3,605.20	3,542.26	62.95	57.274		
12,900.00	11,962.23	13,027.81	12,102.48	45.38	45.33	-91.68	908.34	-4,159.94	3,605.18	3,541.45	63.73	56.573		
13,000.00	11,960.31	13,127.81	12,101.51	46.00	45.93	-91.70	1,008.32	-4,160.80	3,605.15	3,540.57	64.58	55.825		
13,100.00	11,958.40	13,227.80	12,100.55	46.66	46.58	-91.71	1,108.31	-4,161.66	3,605.12	3,539.62	65.51	55.036		
13,200.00	11,956.48	13,327.80	12,099.59	47.38	47.28	-91.73	1,208.30	-4,162.52	3,605.10	3,538.60	66.50	54.212		
13,300.00	11,954.57	13,427.80	12,098.63	48.14	48.03	-91.74	1,308.29	-4,163.39	3,605.07	3,537.51	67.56	53.360		
13,400.00	11,952.65	13,527.79	12,097.66	48.94	48.82	-91.76	1,408.27	-4,164.25	3,605.05	3,536.36	68.69	52.487		
13,500.00	11,950.73	13,627.79	12,096.70	49.78	49.65	-91.77	1,508.26	-4,165.11	3,605.02	3,535.15	69.87	51.597		
13,600.00	11,948.82	13,727.78	12,095.74	50.67	50.53	-91.79	1,608.25	-4,165.97	3,605.00	3,533.89	71.11	50.696		
13,700.00	11,946.90	13,827.78	12,094.77	51.59	51.44	-91.80	1,708.23	-4,166.83	3,604.97	3,532.57	72.40	49.789		
13,800.00	11,944.99	13,927.77	12,093.81	52.55	52.38	-91.82	1,808.22	-4,167.69	3,604.95	3,531.20	73.75	48.880		
13,900.00	11,943.07	14,027.77	12,092.85	53.54	53.37	-91.83	1,908.21	-4,168.56	3,604.92	3,529.78	75.14	47.973		
14,000.00	11,941.16	14,127.76	12,091.88	54.56	54.38	-91.85	2,008.19	-4,169.42	3,604.90	3,528.32	76.58	47.071		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design 1912 Fed Com - 1912 Fed Com 701H - OH - Plan #2													Offset Site Error: 0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
14,100.00	11,939.24	14,227.76	12,090.92	55.61	55.42	-91.86	2,108.18	-4,170.28	3,604.88	3,526.81	78.07	46.176	
14,200.00	11,937.32	14,327.75	12,089.96	56.69	56.50	-91.88	2,208.17	-4,171.14	3,604.85	3,525.26	79.59	45.292	
14,300.00	11,935.41	14,427.75	12,089.00	57.80	57.60	-91.89	2,308.16	-4,172.00	3,604.83	3,523.68	81.15	44.420	
14,400.00	11,933.49	14,527.74	12,088.03	58.93	58.72	-91.91	2,408.14	-4,172.87	3,604.81	3,522.05	82.75	43.561	
14,500.00	11,931.58	14,627.74	12,087.07	60.09	59.87	-91.92	2,508.13	-4,173.73	3,604.79	3,520.40	84.39	42.718	
14,600.00	11,929.66	14,727.74	12,086.11	61.27	61.05	-91.94	2,608.12	-4,174.59	3,604.76	3,518.71	86.05	41.891	
14,700.00	11,927.75	14,827.73	12,085.14	62.47	62.24	-91.95	2,708.10	-4,175.45	3,604.74	3,516.99	87.75	41.081	
14,800.00	11,925.83	14,927.73	12,084.18	63.69	63.46	-91.97	2,808.09	-4,176.31	3,604.72	3,515.25	89.47	40.289	
14,900.00	11,923.91	15,027.72	12,083.22	64.93	64.69	-91.98	2,908.08	-4,177.18	3,604.70	3,513.47	91.22	39.515	
15,000.00	11,922.00	15,127.72	12,082.25	66.18	65.94	-92.00	3,008.07	-4,178.04	3,604.68	3,511.68	93.00	38.760	
15,100.00	11,920.08	15,227.71	12,081.29	67.46	67.21	-92.01	3,108.05	-4,178.90	3,604.65	3,509.85	94.80	38.024	
15,200.00	11,918.17	15,327.71	12,080.33	68.75	68.50	-92.03	3,208.04	-4,179.76	3,604.63	3,508.01	96.62	37.306	
15,300.00	11,916.25	15,427.70	12,079.36	70.05	69.80	-92.04	3,308.03	-4,180.62	3,604.61	3,506.14	98.47	36.607	
15,400.00	11,914.33	15,527.70	12,078.40	71.37	71.12	-92.06	3,408.01	-4,181.49	3,604.59	3,504.26	100.33	35.926	
15,500.00	11,912.42	15,627.69	12,077.44	72.71	72.45	-92.07	3,508.00	-4,182.35	3,604.57	3,502.35	102.22	35.263	
15,600.00	11,910.50	15,727.69	12,076.48	74.05	73.79	-92.09	3,607.99	-4,183.21	3,604.55	3,500.43	104.12	34.619	
15,700.00	11,908.59	15,827.69	12,075.51	75.41	75.15	-92.10	3,707.98	-4,184.07	3,604.53	3,498.49	106.04	33.992	
15,800.00	11,906.67	15,927.68	12,074.55	76.78	76.51	-92.12	3,807.96	-4,184.93	3,604.51	3,496.54	107.98	33.382	
15,900.00	11,904.76	16,027.68	12,073.59	78.16	77.89	-92.13	3,907.95	-4,185.80	3,604.49	3,494.57	109.93	32.789	
16,000.00	11,902.84	16,127.67	12,072.62	79.55	79.28	-92.15	4,007.94	-4,186.66	3,604.48	3,492.58	111.90	32.213	
16,100.00	11,900.92	16,227.67	12,071.66	80.95	80.68	-92.17	4,107.92	-4,187.52	3,604.46	3,490.58	113.88	31.653	
16,200.00	11,899.01	16,327.66	12,070.70	82.37	82.08	-92.18	4,207.91	-4,188.38	3,604.44	3,488.57	115.87	31.108	
16,300.00	11,897.09	16,427.66	12,069.73	83.78	83.50	-92.20	4,307.90	-4,189.24	3,604.42	3,486.55	117.87	30.578	
16,400.00	11,895.18	16,527.65	12,068.77	85.21	84.93	-92.21	4,407.89	-4,190.11	3,604.40	3,484.51	119.89	30.064	
16,500.00	11,893.26	16,627.65	12,067.81	86.65	86.36	-92.23	4,507.87	-4,190.97	3,604.39	3,482.46	121.92	29.563	
16,600.00	11,891.35	16,727.64	12,066.84	88.09	87.80	-92.24	4,607.86	-4,191.83	3,604.37	3,480.41	123.96	29.077	
16,700.00	11,889.43	16,827.64	12,065.88	89.54	89.25	-92.26	4,707.85	-4,192.69	3,604.35	3,478.34	126.01	28.604	
16,800.00	11,887.51	16,927.64	12,064.92	91.00	90.70	-92.27	4,807.83	-4,193.55	3,604.33	3,476.27	128.07	28.144	
16,900.00	11,885.60	17,027.63	12,063.96	92.46	92.16	-92.29	4,907.82	-4,194.42	3,604.32	3,474.18	130.14	27.696	
17,000.00	11,883.68	17,127.63	12,062.99	93.93	93.63	-92.30	5,007.81	-4,195.28	3,604.30	3,472.09	132.21	27.261	
17,100.00	11,881.77	17,227.62	12,062.03	95.40	95.11	-92.32	5,107.79	-4,196.14	3,604.29	3,469.99	134.30	26.838	
17,200.00	11,879.85	17,327.62	12,061.07	96.89	96.59	-92.33	5,207.78	-4,197.00	3,604.27	3,467.88	136.39	26.426	
17,300.00	11,877.94	17,427.61	12,060.10	98.37	98.07	-92.35	5,307.77	-4,197.86	3,604.25	3,465.76	138.49	26.025	
17,400.00	11,876.02	17,527.61	12,059.14	99.86	99.56	-92.36	5,407.76	-4,198.72	3,604.24	3,463.64	140.60	25.634	
17,500.00	11,874.10	17,627.60	12,058.18	101.36	101.06	-92.38	5,507.74	-4,199.59	3,604.22	3,461.51	142.72	25.254	
17,600.00	11,872.19	17,727.60	12,057.21	102.86	102.56	-92.39	5,607.73	-4,200.45	3,604.21	3,459.37	144.84	24.884	
17,700.00	11,870.27	17,827.59	12,056.25	104.37	104.06	-92.41	5,707.72	-4,201.31	3,604.19	3,457.23	146.97	24.524	
17,800.00	11,868.36	17,927.59	12,055.29	105.88	105.57	-92.42	5,807.70	-4,202.17	3,604.18	3,455.08	149.10	24.173	
17,900.00	11,866.44	18,027.59	12,054.32	107.39	107.08	-92.44	5,907.69	-4,203.03	3,604.17	3,452.92	151.24	23.831	
18,000.00	11,864.53	18,127.58	12,053.36	108.91	108.60	-92.45	6,007.68	-4,203.90	3,604.15	3,450.77	153.39	23.497	
18,100.00	11,862.61	18,227.58	12,052.40	110.44	110.12	-92.47	6,107.67	-4,204.76	3,604.14	3,448.60	155.54	23.172	
18,200.00	11,860.69	18,327.57	12,051.44	111.96	111.65	-92.48	6,207.65	-4,205.62	3,604.13	3,446.43	157.69	22.855	
18,300.00	11,858.78	18,427.57	12,050.47	113.49	113.18	-92.50	6,307.64	-4,206.48	3,604.11	3,444.26	159.85	22.546	
18,400.00	11,856.86	18,527.56	12,049.51	115.02	114.71	-92.51	6,407.63	-4,207.34	3,604.10	3,442.08	162.02	22.245	
18,500.00	11,854.95	18,627.56	12,048.55	116.56	116.24	-92.53	6,507.61	-4,208.21	3,604.09	3,439.90	164.19	21.951	
18,600.00	11,853.03	18,727.55	12,047.58	118.10	117.78	-92.54	6,607.60	-4,209.07	3,604.07	3,437.71	166.36	21.664	
18,700.00	11,851.12	18,827.55	12,046.62	119.64	119.32	-92.56	6,707.59	-4,209.93	3,604.06	3,435.52	168.54	21.384	
18,800.00	11,849.20	18,927.54	12,045.66	121.19	120.87	-92.57	6,807.58	-4,210.79	3,604.05	3,433.33	170.73	21.110	
18,900.00	11,847.28	19,027.54	12,044.69	122.74	122.41	-92.59	6,907.56	-4,211.65	3,604.04	3,431.13	172.91	20.843	
19,000.00	11,845.37	19,127.54	12,043.73	124.29	123.96	-92.60	7,007.55	-4,212.52	3,604.03	3,428.93	175.10	20.582	
19,100.00	11,843.45	19,227.53	12,042.77	125.84	125.52	-92.62	7,107.54	-4,213.38	3,604.02	3,426.72	177.30	20.328	
19,200.00	11,841.54	19,327.53	12,041.80	127.39	127.07	-92.64	7,207.52	-4,214.24	3,604.01	3,424.51	179.49	20.079	

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well 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							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
19,300.00	11,839.62	19,427.52	12,040.84	128.95	128.63	-92.65	7,307.51	-4,215.10	3,604.00	3,422.30	181.69	19.836		
19,400.00	11,837.71	19,527.52	12,039.88	130.51	130.19	-92.67	7,407.50	-4,215.96	3,603.99	3,420.09	183.90	19.598		
19,500.00	11,835.79	19,627.51	12,038.92	132.08	131.75	-92.68	7,507.48	-4,216.83	3,603.98	3,417.87	186.10	19.366		
19,600.00	11,833.87	19,727.51	12,037.95	133.64	133.31	-92.70	7,607.47	-4,217.69	3,603.97	3,415.65	188.31	19.138		
19,700.00	11,831.96	19,827.50	12,036.99	135.21	134.88	-92.71	7,707.46	-4,218.55	3,603.96	3,413.43	190.52	18.916		
19,800.00	11,830.04	19,927.50	12,036.03	136.78	136.45	-92.73	7,807.45	-4,219.41	3,603.95	3,411.21	192.74	18.698		
19,900.00	11,828.13	20,027.49	12,035.06	138.35	138.02	-92.74	7,907.43	-4,220.27	3,603.94	3,408.98	194.96	18.486		
20,000.00	11,826.21	20,127.49	12,034.10	139.92	139.59	-92.76	8,007.42	-4,221.14	3,603.93	3,406.75	197.18	18.278		
20,100.00	11,824.30	20,227.49	12,033.14	141.49	141.16	-92.77	8,107.41	-4,222.00	3,603.92	3,404.52	199.40	18.074		
20,200.00	11,822.38	20,327.48	12,032.17	143.07	142.74	-92.79	8,207.39	-4,222.86	3,603.91	3,402.29	201.63	17.874		
20,300.00	11,820.46	20,427.48	12,031.21	144.65	144.32	-92.80	8,307.38	-4,223.72	3,603.90	3,400.05	203.85	17.679		
20,400.00	11,818.55	20,527.47	12,030.25	146.23	145.90	-92.82	8,407.37	-4,224.58	3,603.90	3,397.81	206.08	17.488		
20,500.00	11,816.63	20,627.47	12,029.28	147.81	147.48	-92.83	8,507.36	-4,225.44	3,603.89	3,395.57	208.32	17.300		
20,600.00	11,814.72	20,727.46	12,028.32	149.39	149.06	-92.85	8,607.34	-4,226.31	3,603.88	3,393.33	210.55	17.117		
20,700.00	11,812.80	20,827.46	12,027.36	150.98	150.64	-92.86	8,707.33	-4,227.17	3,603.88	3,391.09	212.79	16.937		
20,800.00	11,810.89	20,927.45	12,026.40	152.56	152.23	-92.88	8,807.32	-4,228.03	3,603.87	3,388.85	215.02	16.760		
20,900.00	11,808.97	21,027.45	12,025.43	154.15	153.81	-92.89	8,907.30	-4,228.89	3,603.86	3,386.60	217.26	16.588		
21,000.00	11,807.05	21,127.44	12,024.47	155.74	155.40	-92.91	9,007.29	-4,229.75	3,603.86	3,384.35	219.50	16.418		
21,100.00	11,805.14	21,227.44	12,023.51	157.33	156.99	-92.92	9,107.28	-4,230.62	3,603.85	3,382.10	221.75	16.252		
21,200.00	11,803.22	21,327.44	12,022.54	158.92	158.58	-92.94	9,207.27	-4,231.48	3,603.84	3,379.85	223.99	16.089		
21,300.00	11,801.31	21,427.43	12,021.58	160.51	160.17	-92.95	9,307.25	-4,232.34	3,603.84	3,377.60	226.24	15.929		
21,400.00	11,799.39	21,527.43	12,020.62	162.10	161.76	-92.97	9,407.24	-4,233.20	3,603.83	3,375.35	228.49	15.772		
21,500.00	11,797.48	21,627.42	12,019.65	163.70	163.36	-92.98	9,507.23	-4,234.06	3,603.83	3,373.09	230.74	15.619		
21,600.00	11,795.56	21,727.42	12,018.69	165.29	164.95	-93.00	9,607.21	-4,234.93	3,603.82	3,370.83	232.99	15.468		
21,700.00	11,793.64	21,827.41	12,017.73	166.89	166.55	-93.01	9,707.20	-4,235.79	3,603.82	3,368.58	235.24	15.320		
21,800.00	11,791.73	21,927.41	12,016.76	168.49	168.15	-93.03	9,807.19	-4,236.65	3,603.82	3,366.32	237.50	15.174		
21,900.00	11,789.81	22,027.40	12,015.80	170.08	169.74	-93.04	9,907.18	-4,237.51	3,603.81	3,364.06	239.75	15.031		
22,000.00	11,787.90	22,127.40	12,014.84	171.68	171.34	-93.06	10,007.16	-4,238.37	3,603.81	3,361.80	242.01	14.891		
22,100.00	11,785.98	22,227.39	12,013.88	173.29	172.94	-93.08	10,107.15	-4,239.24	3,603.80	3,359.54	244.27	14.754		
22,111.11	11,785.77	22,238.31	12,013.77	173.46	173.12	-93.08	10,118.06	-4,239.33	3,603.80	3,359.29	244.52	14.739 CC		
22,129.79	11,785.41	22,238.31	12,013.77	173.76	173.12	-93.08	10,118.06	-4,239.33	3,603.85	3,359.09	244.76	14.724 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 Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well 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	29.50	29.50	0.00	0.04	-90.01	-0.57	-3,737.09	3,737.09				
100.00	100.00	129.50	129.50	0.13	0.23	-90.01	-0.57	-3,737.09	3,737.09	3,736.83	0.26	N/A	
200.00	200.00	229.50	229.50	0.48	0.59	-90.01	-0.57	-3,737.09	3,737.09	3,736.33	0.76	4,898.920	
300.00	300.00	329.50	329.50	0.84	0.95	-90.01	-0.57	-3,737.09	3,737.09	3,735.82	1.27	2,946.471	
400.00	400.00	429.50	429.50	1.20	1.31	-90.01	-0.57	-3,737.09	3,737.09	3,735.32	1.77	2,105.815	
500.00	500.00	529.50	529.50	1.56	1.67	-90.01	-0.57	-3,737.09	3,737.09	3,734.81	2.28	1,638.171	
600.00	600.00	629.50	629.50	1.92	2.02	-90.01	-0.57	-3,737.09	3,737.09	3,734.30	2.79	1,340.424	
700.00	700.00	729.50	729.50	2.28	2.38	-90.01	-0.57	-3,737.09	3,737.09	3,733.80	3.29	1,134.242	
800.00	800.00	829.50	829.50	2.63	2.74	-90.01	-0.57	-3,737.09	3,737.09	3,733.29	3.80	983.022	
900.00	900.00	929.50	929.50	2.99	3.10	-90.01	-0.57	-3,737.09	3,737.09	3,732.78	4.31	867.376	
1,000.00	1,000.00	1,029.50	1,029.50	3.35	3.46	-90.01	-0.57	-3,737.09	3,737.09	3,732.27	4.82	776.072	
1,100.00	1,100.00	1,129.50	1,129.50	3.71	3.82	-90.01	-0.57	-3,737.09	3,737.09	3,731.77	5.32	702.158	
1,200.00	1,200.00	1,229.50	1,229.50	4.07	4.17	-90.01	-0.57	-3,737.09	3,737.09	3,731.26	5.83	641.098	
1,300.00	1,300.00	1,329.50	1,329.50	4.43	4.53	-90.01	-0.57	-3,737.09	3,737.09	3,730.75	6.34	589.808	
1,400.00	1,400.00	1,429.50	1,429.50	4.79	4.89	-90.01	-0.57	-3,737.09	3,737.09	3,730.25	6.84	546.116	
1,500.00	1,500.00	1,529.50	1,529.50	5.14	5.25	-90.01	-0.57	-3,737.09	3,737.09	3,729.74	7.35	508.450	
1,600.00	1,600.00	1,629.50	1,629.50	5.50	5.61	-90.01	-0.57	-3,737.09	3,737.09	3,729.23	7.86	475.645	
1,700.00	1,700.00	1,729.50	1,729.50	5.86	5.97	-90.01	-0.57	-3,737.09	3,737.09	3,728.73	8.36	446.816	
1,800.00	1,800.00	1,829.50	1,829.50	6.22	6.33	-90.01	-0.57	-3,737.09	3,737.09	3,728.22	8.87	421.282	
1,900.00	1,900.00	1,929.50	1,929.50	6.58	6.68	-90.01	-0.57	-3,737.09	3,737.09	3,727.71	9.38	398.508	
2,000.00	2,000.00	2,029.50	2,029.50	6.94	7.04	-90.01	-0.57	-3,737.09	3,737.09	3,727.21	9.88	378.070	
2,100.00	2,100.00	2,129.50	2,129.50	7.29	7.40	-90.01	-0.57	-3,737.09	3,737.09	3,726.70	10.39	359.627	
2,200.00	2,200.00	2,229.50	2,229.50	7.65	7.76	-90.01	-0.57	-3,737.09	3,737.09	3,726.19	10.90	342.899	
2,300.00	2,300.00	2,329.50	2,329.50	8.01	8.12	-90.01	-0.57	-3,737.09	3,737.09	3,725.68	11.41	327.658	
2,400.00	2,400.00	2,429.50	2,429.50	8.37	8.48	-90.01	-0.57	-3,737.09	3,737.09	3,725.18	11.91	313.714	
2,500.00	2,500.00	2,529.50	2,529.50	8.73	8.83	-90.01	-0.57	-3,737.09	3,737.09	3,724.67	12.42	300.908	
2,600.00	2,600.00	2,629.50	2,629.50	9.09	9.19	-90.01	-0.57	-3,737.09	3,737.09	3,724.16	12.93	289.107	
2,700.00	2,700.00	2,729.50	2,729.50	9.45	9.55	-90.01	-0.57	-3,737.09	3,737.09	3,723.66	13.43	278.197	
2,800.00	2,800.00	2,829.50	2,829.50	9.80	9.91	-90.01	-0.57	-3,737.09	3,737.09	3,723.15	13.94	268.080	
2,900.00	2,900.00	2,929.50	2,929.50	10.16	10.27	-90.01	-0.57	-3,737.09	3,737.09	3,722.64	14.45	258.673	
3,000.00	3,000.00	3,029.50	3,029.50	10.52	10.63	-90.01	-0.57	-3,737.09	3,737.09	3,722.14	14.95	249.904	
3,100.00	3,100.00	3,129.50	3,129.50	10.88	10.99	-90.01	-0.57	-3,737.09	3,737.09	3,721.63	15.46	241.710	
3,200.00	3,200.00	3,396.19	3,396.10	11.24	11.90	-90.05	-3.07	-3,732.71	3,736.43	3,720.08	16.36	228.449	
3,300.00	3,300.00	3,725.29	3,723.69	11.60	13.02	-90.28	-18.22	-3,706.15	3,727.10	3,709.76	17.34	214.881	
3,400.00	3,400.00	3,824.54	3,822.21	11.96	13.37	-90.38	-24.21	-3,695.65	3,716.53	3,698.70	17.83	208.397	
3,500.00	3,500.00	3,923.80	3,920.72	12.31	13.71	-90.47	-30.20	-3,685.14	3,705.97	3,687.64	18.32	202.241	
3,600.00	3,599.99	4,022.94	4,019.12	12.66	14.06	19.62	-36.19	-3,674.64	3,694.19	3,675.38	18.81	196.412	
3,700.00	3,699.91	4,121.80	4,117.25	13.00	14.42	19.62	-42.16	-3,664.18	3,679.98	3,660.69	19.29	190.820	
3,800.00	3,799.69	4,220.33	4,215.04	13.33	14.77	19.64	-48.11	-3,653.75	3,663.33	3,643.57	19.76	185.371	
3,900.00	3,899.27	4,318.45	4,312.43	13.67	15.13	19.69	-54.03	-3,643.36	3,644.26	3,624.02	20.24	180.060	
3,966.99	3,965.83	4,383.91	4,377.41	13.90	15.37	19.74	-57.99	-3,636.43	3,630.14	3,609.58	20.56	176.573	
4,000.00	3,998.59	4,416.11	4,409.37	14.02	15.48	19.73	-59.93	-3,633.02	3,622.92	3,602.20	20.72	174.882	
4,100.00	4,097.84	4,513.67	4,506.19	14.37	15.84	19.70	-65.82	-3,622.69	3,601.03	3,579.83	21.19	169.913	
4,200.00	4,197.10	4,611.22	4,603.02	14.72	16.20	19.66	-71.71	-3,612.36	3,579.14	3,557.47	21.67	165.145	
4,300.00	4,296.35	4,708.78	4,699.85	15.07	16.56	19.63	-77.60	-3,602.04	3,557.25	3,535.10	22.15	160.570	
4,400.00	4,395.61	4,806.33	4,796.68	15.43	16.92	19.60	-83.49	-3,591.71	3,535.37	3,512.73	22.64	156.176	
4,500.00	4,494.86	4,903.89	4,893.50	15.79	17.29	19.56	-89.39	-3,581.38	3,513.49	3,490.36	23.12	151.955	
4,600.00	4,494.11	5,001.44	4,990.33	16.15	17.65	19.53	-95.28	-3,571.05	3,491.60	3,468.00	23.61	147.896	
4,700.00	4,693.37	5,099.00	5,087.16	16.51	18.02	19.49	-101.17	-3,560.72	3,469.72	3,445.63	24.10	143.993	
4,800.00	4,792.62	5,196.55	5,183.99	16.88	18.39	19.46	-107.06	-3,550.40	3,447.84	3,423.26	24.59	140.235	
4,900.00	4,891.87	5,294.11	5,280.81	17.25	18.76	19.42	-112.95	-3,540.07	3,425.97	3,400.89	25.08	136.617	
5,000.00	4,991.13	5,391.66	5,377.64	17.62	19.13	19.38	-118.84	-3,529.74	3,404.09	3,378.52	25.57	133.132	

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well 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	5,090.38	5,489.21	5,474.47	17.99	19.50	19.35	-124.73	-3,519.41	3,382.21	3,356.15	26.06	129.772		
5,200.00	5,189.63	5,586.77	5,571.30	18.36	19.88	19.31	-130.62	-3,509.09	3,360.34	3,333.78	26.56	126.531		
5,300.00	5,288.89	5,684.32	5,668.12	18.74	20.25	19.27	-136.51	-3,498.76	3,338.46	3,311.41	27.05	123.403		
5,400.00	5,388.14	5,781.88	5,764.95	19.11	20.63	19.23	-142.40	-3,488.43	3,316.59	3,289.04	27.55	120.384		
5,500.00	5,487.39	5,879.43	5,861.78	19.49	21.00	19.20	-148.29	-3,478.10	3,294.72	3,266.67	28.05	117.468		
5,600.00	5,586.65	5,976.99	5,958.61	19.87	21.38	19.16	-154.18	-3,467.78	3,272.85	3,244.31	28.55	114.649		
5,700.00	5,685.90	6,074.54	6,055.43	20.25	21.76	19.12	-160.07	-3,457.45	3,250.99	3,221.94	29.05	111.924		
5,800.00	5,785.16	6,172.10	6,152.26	20.63	22.14	19.08	-165.97	-3,447.12	3,229.12	3,199.57	29.55	109.288		
5,900.00	5,884.41	6,269.65	6,249.09	21.01	22.52	19.03	-171.86	-3,436.79	3,207.26	3,177.21	30.05	106.737		
6,000.00	5,983.66	6,367.21	6,345.92	21.39	22.90	18.99	-177.75	-3,426.47	3,185.39	3,154.84	30.55	104.267		
6,100.00	6,082.92	6,464.76	6,442.74	21.78	23.28	18.95	-183.64	-3,416.14	3,163.53	3,132.48	31.05	101.874		
6,200.00	6,182.17	6,562.32	6,539.57	22.16	23.66	18.91	-189.53	-3,405.81	3,141.67	3,110.12	31.56	99.556		
6,300.00	6,281.42	6,659.87	6,636.40	22.55	24.04	18.87	-195.42	-3,395.48	3,119.82	3,087.75	32.06	97.308		
6,400.00	6,380.68	6,757.43	6,733.23	22.94	24.42	18.82	-201.31	-3,385.15	3,097.96	3,065.39	32.57	95.128		
6,500.00	6,479.93	6,854.98	6,830.05	23.32	24.81	18.78	-207.20	-3,374.83	3,076.11	3,043.03	33.07	93.013		
6,600.00	6,579.18	6,952.53	6,926.88	23.71	25.19	18.73	-213.09	-3,364.50	3,054.25	3,020.67	33.58	90.959		
6,700.00	6,678.44	7,050.09	7,023.71	24.10	25.57	18.69	-218.98	-3,354.17	3,032.40	2,998.32	34.08	88.966		
6,800.00	6,777.69	7,147.64	7,119.00	24.49	25.95	18.65	-224.87	-3,343.84	3,010.55	2,976.47	34.58	87.031		
6,900.00	6,876.95	7,245.19	7,216.27	24.88	26.34	18.61	-230.76	-3,333.51	2,988.70	2,954.62	35.08	85.156		
7,000.00	6,976.20	7,342.74	7,313.62	25.27	26.72	18.57	-236.65	-3,323.18	2,966.85	2,932.77	35.58	83.331		
7,100.00	7,075.45	7,440.29	7,411.17	25.66	27.11	18.53	-242.54	-3,312.85	2,945.00	2,911.92	36.08	81.556		
7,200.00	7,174.71	7,537.84	7,508.72	26.05	27.50	18.49	-248.43	-3,302.52	2,923.15	2,890.07	36.58	79.831		
7,300.00	7,273.96	7,635.39	7,606.27	26.44	27.89	18.45	-254.32	-3,292.19	2,901.30	2,868.22	37.08	78.156		
7,400.00	7,373.21	7,732.94	7,703.82	26.83	28.28	18.41	-260.21	-3,281.86	2,879.45	2,846.37	37.58	76.531		
7,500.00	7,472.47	7,830.49	7,791.37	27.22	28.67	18.37	-266.10	-3,271.53	2,857.60	2,824.52	38.08	74.956		
7,600.00	7,571.72	7,928.04	7,888.92	27.61	29.06	18.33	-271.99	-3,261.20	2,835.75	2,802.67	38.58	73.431		
7,700.00	7,670.97	8,025.59	7,986.47	28.00	29.45	18.29	-277.88	-3,250.87	2,813.90	2,780.82	39.08	71.956		
7,800.00	7,770.23	8,123.14	8,084.02	28.39	29.84	18.25	-283.77	-3,240.54	2,792.05	2,759.97	39.58	70.531		
7,900.00	7,869.48	8,220.69	8,181.56	28.78	30.23	18.21	-289.66	-3,230.21	2,770.20	2,738.12	40.08	69.156		
8,000.00	7,968.73	8,318.24	8,279.11	29.17	30.62	18.17	-295.55	-3,219.88	2,748.35	2,716.27	40.58	67.831		
8,100.00	8,067.99	8,415.79	8,376.67	29.56	31.01	18.13	-301.44	-3,209.55	2,726.50	2,694.42	41.08	66.556		
8,200.00	8,167.24	8,513.34	8,474.22	29.95	31.40	18.09	-307.33	-3,199.22	2,704.65	2,672.57	41.58	65.331		
8,300.00	8,266.50	8,610.89	8,571.78	30.34	31.79	18.05	-313.22	-3,188.89	2,682.80	2,650.72	42.08	64.156		
8,400.00	8,365.75	8,708.44	8,669.32	30.73	32.18	18.01	-319.11	-3,178.56	2,660.95	2,628.87	42.58	63.031		
8,500.00	8,465.01	8,805.99	8,766.87	31.12	32.57	17.97	-325.00	-3,168.23	2,639.10	2,607.02	43.08	61.956		
8,600.00	8,564.26	8,903.54	8,864.42	31.51	32.96	17.93	-330.89	-3,157.90	2,617.25	2,585.17	43.58	60.881		
8,700.00	8,663.52	9,001.09	8,962.00	31.90	33.35	17.89	-336.78	-3,147.57	2,595.40	2,563.32	44.08	59.856		
8,800.00	8,762.77	9,098.64	9,059.52	32.29	33.74	17.85	-342.67	-3,137.24	2,573.55	2,541.47	44.58	58.881		
8,900.00	8,862.03	9,196.19	9,157.07	32.68	34.13	17.81	-348.56	-3,126.91	2,551.70	2,519.62	45.08	57.956		
9,000.00	8,961.28	9,293.74	9,254.62	33.07	34.52	17.77	-354.45	-3,116.58	2,529.85	2,497.77	45.58	57.081		
9,100.00	9,060.54	9,391.29	9,352.10	33.46	34.91	17.73	-360.34	-3,106.25	2,508.00	2,475.92	46.08	56.256		
9,200.00	9,159.79	9,488.84	9,449.72	33.85	35.30	17.69	-366.23	-3,095.92	2,486.15	2,454.07	46.58	55.431		
9,300.00	9,259.05	9,586.39	9,547.27	34.24	35.69	17.65	-372.12	-3,085.59	2,464.30	2,432.22	47.08	54.656		
9,400.00	9,358.30	9,683.94	9,644.82	34.63	36.08	17.61	-378.01	-3,075.26	2,442.45	2,410.37	47.58	53.931		
9,500.00	9,457.56	9,781.49	9,742.37	35.02	36.47	17.57	-383.90	-3,064.93	2,420.60	2,388.52	48.08	53.256		
9,600.00	9,556.81	9,879.04	9,839.92	35.41	36.86	17.53	-389.79	-3,054.60	2,398.75	2,366.67	48.58	52.631		
9,700.00	9,656.07	9,976.59	9,937.47	35.80	37.25	17.49	-395.68	-3,044.27	2,376.90	2,344.82	49.08	52.006		
9,800.00	9,755.32	10,074.14	10,035.02	36.19	37.64	17.45	-401.57	-3,033.94	2,355.05	2,322.97	49.58	51.431		
9,900.00	9,854.58	10,171.69	10,132.56	36.58	38.03	17.41	-407.46	-3,023.61	2,333.20	2,301.12	50.08	50.906		
10,000.00	9,953.83	10,269.24	10,230.11	36.97	38.42	17.37	-413.35	-3,013.28	2,311.35	2,279.27	50.58	50.431		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well 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		
10,100.00	10,065.58	10,122.92	10,095.08	36.59	36.19	-90.73	-235.57	-3,325.09	2,779.32	2,729.01	50.31	55.246		
10,200.00	10,165.58	10,222.92	10,195.08	36.93	36.54	-90.73	-235.57	-3,325.09	2,779.32	2,728.52	50.80	54.711		
10,300.00	10,265.58	10,322.92	10,295.08	37.27	36.88	-90.73	-235.57	-3,325.09	2,779.32	2,728.02	51.29	54.185		
10,400.00	10,365.58	10,422.92	10,395.08	37.61	37.23	-90.73	-235.57	-3,325.09	2,779.32	2,727.53	51.79	53.669		
10,500.00	10,465.58	10,522.92	10,495.08	37.95	37.57	-90.73	-235.57	-3,325.09	2,779.32	2,727.04	52.28	53.162		
10,600.00	10,565.58	10,622.92	10,595.08	38.29	37.92	-90.73	-235.57	-3,325.09	2,779.32	2,726.54	52.77	52.665		
10,700.00	10,665.58	10,722.92	10,695.08	38.63	38.27	-90.73	-235.57	-3,325.09	2,779.32	2,726.05	53.27	52.177		
10,800.00	10,765.58	10,822.92	10,795.08	38.97	38.61	-90.73	-235.57	-3,325.09	2,779.32	2,725.56	53.76	51.697		
10,900.00	10,865.58	10,922.92	10,895.08	39.32	38.96	-90.73	-235.57	-3,325.09	2,779.32	2,725.06	54.26	51.226		
11,000.00	10,965.58	11,022.92	10,995.08	39.66	39.31	-90.73	-235.57	-3,325.09	2,779.32	2,724.57	54.75	50.763		
11,100.00	11,065.58	11,122.92	11,095.08	40.00	39.66	-90.73	-235.57	-3,325.09	2,779.32	2,724.07	55.25	50.309		
11,200.00	11,165.58	11,222.92	11,195.08	40.35	40.00	-90.73	-235.57	-3,325.09	2,779.32	2,723.58	55.74	49.862		
11,300.00	11,265.58	11,322.92	11,295.08	40.69	40.35	-90.73	-235.57	-3,325.09	2,779.32	2,723.08	56.24	49.423		
11,400.00	11,365.58	11,423.26	11,395.41	41.03	40.70	-90.73	-235.34	-3,325.09	2,779.32	2,722.59	56.73	48.991		
11,434.42	11,400.00	11,458.28	11,430.36	41.15	40.82	-90.69	-233.26	-3,325.11	2,779.31	2,722.41	56.90	48.844		
11,450.00	11,415.57	11,474.03	11,446.03	41.20	40.87	-90.13	-231.64	-3,325.12	2,779.30	2,722.33	56.98	48.780		
11,500.00	11,465.43	11,524.35	11,495.68	41.37	41.03	-90.04	-223.56	-3,325.19	2,779.29	2,722.08	57.21	48.578		
11,550.00	11,514.79	11,574.27	11,544.05	41.53	41.19	-89.95	-211.28	-3,325.30	2,779.29	2,721.85	57.44	48.387		
11,600.00	11,563.28	11,623.80	11,590.80	41.69	41.33	-89.86	-194.99	-3,325.44	2,779.28	2,721.63	57.65	48.207		
11,604.63	11,567.71	11,628.37	11,595.04	41.70	41.34	-89.85	-193.28	-3,325.45	2,779.28	2,721.61	57.67	48.191		
11,650.00	11,610.53	11,672.95	11,635.64	41.83	41.46	-89.77	-174.88	-3,325.61	2,779.28	2,721.43	57.86	48.037		
11,700.00	11,656.17	11,721.74	11,678.28	41.96	41.58	-89.68	-151.20	-3,325.81	2,779.29	2,721.24	58.05	47.877		
11,750.00	11,699.86	11,770.19	11,718.47	42.09	41.68	-89.59	-124.18	-3,326.04	2,779.30	2,721.07	58.23	47.727		
11,800.00	11,741.27	11,818.30	11,755.99	42.19	41.77	-89.51	-94.08	-3,326.30	2,779.31	2,720.90	58.41	47.584		
11,850.00	11,780.08	11,866.11	11,790.64	42.29	41.85	-89.43	-61.16	-3,326.58	2,779.33	2,720.75	58.58	47.447		
11,900.00	11,816.01	11,913.63	11,822.24	42.37	41.91	-89.36	-25.69	-3,326.88	2,779.34	2,720.60	58.74	47.316		
11,950.00	11,848.76	11,960.89	11,850.65	42.43	41.96	-89.29	12.06	-3,327.20	2,779.36	2,720.46	58.90	47.189		
12,000.00	11,878.10	12,007.90	11,875.72	42.49	42.00	-89.22	51.81	-3,327.54	2,779.37	2,720.32	59.05	47.065		
12,050.00	11,903.80	12,054.69	11,897.36	42.54	42.03	-89.17	93.27	-3,327.90	2,779.39	2,720.18	59.21	46.942		
12,100.00	11,925.67	12,100.00	11,915.02	42.58	42.05	-89.11	134.99	-3,328.25	2,779.40	2,720.04	59.36	46.821		
12,150.00	11,943.53	12,147.69	11,929.99	42.62	42.05	-89.07	180.25	-3,328.64	2,779.40	2,719.88	59.52	46.696		
12,200.00	11,957.26	12,193.95	11,940.87	42.67	42.14	-89.03	225.20	-3,329.02	2,779.41	2,719.73	59.68	46.573		
12,250.00	11,966.75	12,240.08	11,948.07	42.75	42.27	-89.00	270.75	-3,329.41	2,779.41	2,719.57	59.84	46.448		
12,300.00	11,971.92	12,286.10	11,951.58	42.84	42.39	-88.97	316.63	-3,329.80	2,779.40	2,719.40	60.00	46.322		
12,345.40	11,972.85	12,329.20	11,951.77	42.95	42.51	-88.96	359.71	-3,330.17	2,779.38	2,719.22	60.16	46.200		
12,400.00	11,971.81	12,383.79	11,951.24	43.11	42.67	-88.97	414.31	-3,330.63	2,779.34	2,718.97	60.37	46.038		
12,500.00	11,969.89	12,483.79	11,950.28	43.44	43.01	-88.99	514.29	-3,331.49	2,779.26	2,718.43	60.83	45.690		
12,600.00	11,967.98	12,583.78	11,949.32	43.84	43.40	-89.01	614.28	-3,332.34	2,779.18	2,717.81	61.37	45.285		
12,700.00	11,966.06	12,683.78	11,948.36	44.30	43.85	-89.03	714.27	-3,333.19	2,779.10	2,717.10	62.00	44.827		
12,800.00	11,964.14	12,783.78	11,947.39	44.81	44.36	-89.05	814.25	-3,334.05	2,779.02	2,716.32	62.70	44.320		
12,900.00	11,962.23	12,883.77	11,946.43	45.38	44.92	-89.07	914.24	-3,334.90	2,778.94	2,715.45	63.49	43.771		
13,000.00	11,960.31	12,983.77	11,945.47	46.00	45.53	-89.09	1,014.23	-3,335.75	2,778.86	2,714.51	64.35	43.185		
13,100.00	11,958.40	13,083.76	11,944.51	46.66	46.19	-89.11	1,114.22	-3,336.61	2,778.78	2,713.50	65.28	42.567		
13,200.00	11,956.48	13,183.76	11,943.54	47.38	46.89	-89.13	1,214.20	-3,337.46	2,778.71	2,712.42	66.28	41.923		
13,300.00	11,954.57	13,283.75	11,942.58	48.14	47.65	-89.15	1,314.19	-3,338.31	2,778.63	2,711.28	67.35	41.257		
13,400.00	11,952.65	13,383.75	11,941.62	48.94	48.44	-89.16	1,414.18	-3,339.17	2,778.55	2,710.07	68.48	40.575		
13,500.00	11,950.73	13,483.74	11,940.65	49.78	49.28	-89.18	1,514.16	-3,340.02	2,778.47	2,708.80	69.67	39.881		
13,600.00	11,948.82	13,583.74	11,939.69	50.67	50.16	-89.20	1,614.15	-3,340.87	2,778.40	2,707.48	70.92	39.178		
13,700.00	11,946.90	13,683.73	11,938.73	51.59	51.08	-89.22	1,714.14	-3,341.72	2,778.32	2,706.10	72.22	38.471		
13,800.00	11,944.99	13,783.73	11,937.77	52.55	52.03	-89.24	1,814.13	-3,342.58	2,778.24	2,704.67	73.57	37.762		
13,900.00	11,943.07	13,883.73	11,936.80	53.54	53.02	-89.26	1,914.11	-3,343.43	2,778.17	2,703.20	74.97	37.056		
14,000.00	11,941.16	13,983.72	11,935.84	54.56	54.04	-89.28	2,014.10	-3,344.28	2,778.09	2,701.67	76.42	36.353		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well 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	11,939.24	14,083.72	11,934.88	55.61	55.09	-89.30	2,114.09	-3,345.14	2,778.02	2,700.11	77.91	35.657		
14,200.00	11,937.32	14,183.71	11,933.92	56.69	56.17	-89.32	2,214.07	-3,345.99	2,777.94	2,698.50	79.44	34.969		
14,300.00	11,935.41	14,283.71	11,932.95	57.80	57.27	-89.34	2,314.06	-3,346.84	2,777.87	2,696.86	81.01	34.291		
14,400.00	11,933.49	14,383.70	11,931.99	58.93	58.40	-89.36	2,414.05	-3,347.70	2,777.79	2,695.18	82.61	33.623		
14,500.00	11,931.58	14,483.70	11,931.03	60.09	59.56	-89.38	2,514.04	-3,348.55	2,777.72	2,693.47	84.25	32.968		
14,600.00	11,929.66	14,583.69	11,930.07	61.27	60.74	-89.40	2,614.02	-3,349.40	2,777.65	2,691.72	85.93	32.326		
14,700.00	11,927.75	14,683.69	11,929.10	62.47	61.94	-89.42	2,714.01	-3,350.26	2,777.57	2,689.95	87.63	31.697		
14,800.00	11,925.83	14,783.68	11,928.14	63.69	63.16	-89.44	2,814.00	-3,351.11	2,777.50	2,688.14	89.36	31.082		
14,900.00	11,923.91	14,883.68	11,927.18	64.93	64.40	-89.46	2,913.98	-3,351.96	2,777.43	2,686.31	91.12	30.482		
15,000.00	11,922.00	14,983.68	11,926.21	66.18	65.65	-89.48	3,013.97	-3,352.81	2,777.36	2,684.46	92.90	29.896		
15,100.00	11,920.08	15,083.67	11,925.25	67.46	66.93	-89.50	3,113.96	-3,353.67	2,777.28	2,682.58	94.71	29.325		
15,200.00	11,918.17	15,183.67	11,924.29	68.75	68.22	-89.52	3,213.95	-3,354.52	2,777.21	2,680.68	96.54	28.768		
15,300.00	11,916.25	15,283.66	11,923.33	70.05	69.53	-89.54	3,313.93	-3,355.37	2,777.14	2,678.75	98.39	28.226		
15,400.00	11,914.33	15,383.66	11,922.36	71.37	70.85	-89.56	3,413.92	-3,356.23	2,777.07	2,676.81	100.26	27.699		
15,500.00	11,912.42	15,483.65	11,921.40	72.71	72.18	-89.58	3,513.91	-3,357.08	2,777.00	2,674.85	102.15	27.185		
15,600.00	11,910.50	15,583.65	11,920.44	74.05	73.53	-89.60	3,613.89	-3,357.93	2,776.93	2,672.87	104.06	26.686		
15,700.00	11,908.59	15,683.64	11,919.48	75.41	74.89	-89.62	3,713.88	-3,358.79	2,776.86	2,670.87	105.99	26.200		
15,800.00	11,906.67	15,783.64	11,918.51	76.78	76.26	-89.64	3,813.87	-3,359.64	2,776.79	2,668.86	107.93	25.728		
15,900.00	11,904.76	15,883.63	11,917.55	78.16	77.64	-89.66	3,913.86	-3,360.49	2,776.72	2,666.84	109.89	25.269		
16,000.00	11,902.84	15,983.63	11,916.59	79.55	79.03	-89.68	4,013.84	-3,361.35	2,776.65	2,664.79	111.86	24.823		
16,100.00	11,900.92	16,083.63	11,915.62	80.95	80.43	-89.70	4,113.83	-3,362.20	2,776.58	2,662.74	113.84	24.389		
16,200.00	11,899.01	16,183.62	11,914.66	82.37	81.84	-89.71	4,213.82	-3,363.05	2,776.52	2,660.67	115.84	23.968		
16,300.00	11,897.09	16,283.62	11,913.70	83.78	83.26	-89.73	4,313.81	-3,363.90	2,776.45	2,658.59	117.85	23.558		
16,400.00	11,895.18	16,383.61	11,912.74	85.21	84.69	-89.75	4,413.79	-3,364.76	2,776.38	2,656.50	119.88	23.160		
16,500.00	11,893.26	16,483.61	11,911.77	86.65	86.13	-89.77	4,513.78	-3,365.61	2,776.31	2,654.40	121.91	22.773		
16,600.00	11,891.35	16,583.60	11,910.81	88.09	87.57	-89.79	4,613.77	-3,366.46	2,776.25	2,652.29	123.96	22.397		
16,700.00	11,889.43	16,683.60	11,909.85	89.54	89.02	-89.81	4,713.75	-3,367.32	2,776.18	2,650.17	126.01	22.031		
16,800.00	11,887.51	16,783.59	11,908.89	91.00	90.48	-89.83	4,813.74	-3,368.17	2,776.11	2,648.04	128.07	21.676		
16,900.00	11,885.60	16,883.59	11,907.92	92.46	91.94	-89.85	4,913.73	-3,369.02	2,776.05	2,645.90	130.15	21.330		
17,000.00	11,883.68	16,983.58	11,906.96	93.93	93.41	-89.87	5,013.72	-3,369.88	2,775.98	2,643.75	132.23	20.993		
17,100.00	11,881.77	17,083.58	11,906.00	95.40	94.89	-89.89	5,113.70	-3,370.73	2,775.92	2,641.59	134.32	20.666		
17,200.00	11,879.85	17,183.57	11,905.04	96.89	96.37	-89.91	5,213.69	-3,371.58	2,775.85	2,639.43	136.42	20.348		
17,300.00	11,877.94	17,283.57	11,904.07	98.37	97.86	-89.93	5,313.68	-3,372.44	2,775.79	2,637.26	138.53	20.038		
17,400.00	11,876.02	17,383.57	11,903.11	99.86	99.35	-89.95	5,413.66	-3,373.29	2,775.72	2,635.08	140.64	19.736		
17,500.00	11,874.10	17,483.56	11,902.15	101.36	100.85	-89.97	5,513.65	-3,374.14	2,775.66	2,632.90	142.76	19.443		
17,600.00	11,872.19	17,583.56	11,901.18	102.86	102.35	-89.99	5,613.64	-3,374.99	2,775.59	2,630.71	144.89	19.157		
17,700.00	11,870.27	17,683.55	11,900.22	104.37	103.86	-90.01	5,713.63	-3,375.85	2,775.53	2,628.51	147.02	18.878		
17,800.00	11,868.36	17,783.55	11,899.26	105.88	105.37	-90.03	5,813.61	-3,376.70	2,775.47	2,626.31	149.16	18.607		
17,900.00	11,866.44	17,883.54	11,898.30	107.39	106.89	-90.05	5,913.60	-3,377.55	2,775.41	2,624.10	151.31	18.343		
18,000.00	11,864.53	17,983.54	11,897.33	108.91	108.41	-90.07	6,013.59	-3,378.41	2,775.34	2,621.89	153.46	18.086		
18,100.00	11,862.61	18,083.53	11,896.37	110.44	109.93	-90.09	6,113.57	-3,379.26	2,775.28	2,619.67	155.61	17.835		
18,200.00	11,860.69	18,183.53	11,895.41	111.96	111.46	-90.11	6,213.56	-3,380.11	2,775.22	2,617.45	157.77	17.590		
18,300.00	11,858.78	18,283.52	11,894.45	113.49	112.99	-90.13	6,313.55	-3,380.97	2,775.16	2,615.22	159.94	17.351		
18,400.00	11,856.86	18,383.52	11,893.48	115.02	114.52	-90.15	6,413.54	-3,381.82	2,775.10	2,612.99	162.11	17.119		
18,500.00	11,854.95	18,483.52	11,892.52	116.56	116.06	-90.17	6,513.52	-3,382.67	2,775.04	2,610.75	164.29	16.892		
18,600.00	11,853.03	18,583.51	11,891.56	118.10	117.60	-90.19	6,613.51	-3,383.53	2,774.98	2,608.51	166.47	16.670		
18,700.00	11,851.12	18,683.51	11,890.60	119.64	119.14	-90.21	6,713.50	-3,384.38	2,774.92	2,606.27	168.65	16.454		
18,800.00	11,849.20	18,783.50	11,889.63	121.19	120.69	-90.23	6,813.48	-3,385.23	2,774.86	2,604.02	170.84	16.243		
18,900.00	11,847.28	18,883.50	11,888.67	122.74	122.23	-90.25	6,913.47	-3,386.08	2,774.80	2,601.77	173.03	16.037		
19,000.00	11,845.37	18,983.49	11,887.71	124.29	123.79	-90.27	7,013.46	-3,386.94	2,774.74	2,599.51	175.22	15.835		
19,100.00	11,843.45	19,083.49	11,886.74	125.84	125.34	-90.29	7,113.45	-3,387.79	2,774.68	2,597.26	177.42	15.639		
19,200.00	11,841.54	19,183.48	11,885.78	127.39	126.90	-90.31	7,213.43	-3,388.64	2,774.62	2,595.00	179.62	15.447		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well 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	11,839.62	19,283.48	11,884.82	128.95	128.45	-90.32	7,313.42	-3,389.50	2,774.56	2,592.73	181.83	15.259		
19,400.00	11,837.71	19,383.47	11,883.86	130.51	130.02	-90.34	7,413.41	-3,390.35	2,774.50	2,590.47	184.04	15.076		
19,500.00	11,835.79	19,483.47	11,882.89	132.08	131.58	-90.36	7,513.39	-3,391.20	2,774.45	2,588.20	186.25	14.896		
19,600.00	11,833.87	19,583.47	11,881.93	133.64	133.14	-90.38	7,613.38	-3,392.06	2,774.39	2,585.92	188.47	14.721		
19,700.00	11,831.96	19,683.46	11,880.97	135.21	134.71	-90.40	7,713.37	-3,392.91	2,774.33	2,583.65	190.68	14.549		
19,800.00	11,830.04	19,783.46	11,880.01	136.78	136.28	-90.42	7,813.36	-3,393.76	2,774.28	2,581.37	192.90	14.382		
19,900.00	11,828.13	19,883.45	11,879.04	138.35	137.85	-90.44	7,913.34	-3,394.62	2,774.22	2,579.09	195.13	14.218		
20,000.00	11,826.21	19,983.45	11,878.08	139.92	139.43	-90.46	8,013.33	-3,395.47	2,774.16	2,576.81	197.35	14.057		
20,100.00	11,824.30	20,083.44	11,877.12	141.49	141.00	-90.48	8,113.32	-3,396.32	2,774.11	2,574.53	199.58	13.900		
20,200.00	11,822.38	20,183.44	11,876.16	143.07	142.58	-90.50	8,213.30	-3,397.17	2,774.05	2,572.24	201.81	13.746		
20,300.00	11,820.46	20,283.43	11,875.19	144.65	144.16	-90.52	8,313.29	-3,398.03	2,774.00	2,569.96	204.04	13.595		
20,400.00	11,818.55	20,383.43	11,874.23	146.23	145.74	-90.54	8,413.28	-3,398.88	2,773.94	2,567.67	206.28	13.448		
20,500.00	11,816.63	20,483.42	11,873.27	147.81	147.32	-90.56	8,513.27	-3,399.73	2,773.89	2,565.37	208.52	13.303		
20,600.00	11,814.72	20,583.42	11,872.30	149.39	148.90	-90.58	8,613.25	-3,400.59	2,773.84	2,563.08	210.76	13.161		
20,700.00	11,812.80	20,683.42	11,871.34	150.98	150.48	-90.60	8,713.24	-3,401.44	2,773.78	2,560.79	213.00	13.023		
20,800.00	11,810.89	20,783.41	11,870.38	152.56	152.07	-90.62	8,813.23	-3,402.29	2,773.73	2,558.49	215.24	12.887		
20,900.00	11,808.97	20,883.41	11,869.42	154.15	153.66	-90.64	8,913.21	-3,403.15	2,773.68	2,556.19	217.48	12.753		
21,000.00	11,807.05	20,983.40	11,868.45	155.74	155.25	-90.66	9,013.20	-3,404.00	2,773.62	2,553.89	219.73	12.623		
21,100.00	11,805.14	21,083.40	11,867.49	157.33	156.84	-90.68	9,113.19	-3,404.85	2,773.57	2,551.59	221.98	12.495		
21,200.00	11,803.22	21,183.39	11,866.53	158.92	158.43	-90.70	9,213.18	-3,405.71	2,773.52	2,549.29	224.23	12.369		
21,300.00	11,801.31	21,283.39	11,865.57	160.51	160.02	-90.72	9,313.16	-3,406.56	2,773.47	2,546.98	226.48	12.246		
21,400.00	11,799.39	21,383.38	11,864.60	162.10	161.61	-90.74	9,413.15	-3,407.41	2,773.42	2,544.68	228.74	12.125		
21,500.00	11,797.48	21,483.38	11,863.64	163.70	163.21	-90.76	9,513.14	-3,408.26	2,773.37	2,542.37	230.99	12.006		
21,600.00	11,795.56	21,583.37	11,862.68	165.29	164.80	-90.78	9,613.12	-3,409.12	2,773.32	2,540.07	233.25	11.890		
21,700.00	11,793.64	21,683.37	11,861.72	166.89	166.40	-90.80	9,713.11	-3,409.97	2,773.27	2,537.76	235.51	11.776		
21,800.00	11,791.73	21,783.37	11,860.75	168.49	168.00	-90.82	9,813.10	-3,410.82	2,773.22	2,535.45	237.77	11.664		
21,900.00	11,789.81	21,883.36	11,859.79	170.08	169.60	-90.84	9,913.09	-3,411.68	2,773.17	2,533.14	240.03	11.553		
22,000.00	11,787.90	21,983.36	11,858.83	171.68	171.20	-90.86	10,013.07	-3,412.53	2,773.12	2,530.82	242.29	11.445		
22,100.00	11,785.98	22,083.35	11,857.86	173.29	172.80	-90.88	10,113.06	-3,413.38	2,773.07	2,528.51	244.56	11.339		
22,117.38	11,785.65	22,099.37	11,857.71	173.56	173.06	-90.88	10,129.08	-3,413.52	2,773.06	2,528.12	244.93	11.322 CC		
22,129.79	11,785.41	22,099.37	11,857.71	173.76	173.06	-90.88	10,129.08	-3,413.52	2,773.09	2,528.01	245.08	11.315 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 Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well 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	-34.99	34.99					
100.00	100.00	100.30	100.30	0.13	0.13	-90.47	-0.29	-34.99	34.99	34.81	0.18	196.363		
200.00	200.00	200.30	200.30	0.48	0.49	-90.47	-0.29	-34.99	34.99	34.31	0.69	51.071		
300.00	300.00	300.30	300.30	0.84	0.84	-90.47	-0.29	-34.99	34.99	33.80	1.19	29.352		
400.00	400.00	400.30	400.30	1.20	1.20	-90.47	-0.29	-34.99	34.99	33.29	1.70	20.594		
500.00	500.00	500.30	500.30	1.56	1.56	-90.47	-0.29	-34.99	34.99	32.79	2.21	15.862		
600.00	600.00	600.30	600.30	1.92	1.92	-90.47	-0.29	-34.99	34.99	32.28	2.71	12.898		
700.00	700.00	700.30	700.30	2.28	2.28	-90.47	-0.29	-34.99	34.99	31.77	3.22	10.867		
800.00	800.00	800.30	800.30	2.63	2.64	-90.47	-0.29	-34.99	34.99	31.26	3.73	9.389		
900.00	900.00	900.30	900.30	2.99	2.99	-90.47	-0.29	-34.99	34.99	30.76	4.23	8.265		
1,000.00	1,000.00	1,000.30	1,000.30	3.35	3.35	-90.47	-0.29	-34.99	34.99	30.25	4.74	7.381		
1,100.00	1,100.00	1,100.30	1,100.30	3.71	3.71	-90.47	-0.29	-34.99	34.99	29.74	5.25	6.668		
1,200.00	1,200.00	1,200.30	1,200.30	4.07	4.07	-90.47	-0.29	-34.99	34.99	29.24	5.75	6.080		
1,300.00	1,300.00	1,300.30	1,300.30	4.43	4.43	-90.47	-0.29	-34.99	34.99	28.73	6.26	5.588		
1,400.00	1,400.00	1,400.30	1,400.30	4.79	4.79	-90.47	-0.29	-34.99	34.99	28.22	6.77	5.170		
1,500.00	1,500.00	1,500.30	1,500.30	5.14	5.15	-90.47	-0.29	-34.99	34.99	27.72	7.28	4.809		
1,600.00	1,600.00	1,600.30	1,600.30	5.50	5.50	-90.47	-0.29	-34.99	34.99	27.21	7.78	4.496		
1,700.00	1,700.00	1,700.30	1,700.30	5.86	5.86	-90.47	-0.29	-34.99	34.99	26.70	8.29	4.221		
1,800.00	1,800.00	1,800.30	1,800.30	6.22	6.22	-90.47	-0.29	-34.99	34.99	26.19	8.80	3.978		
1,900.00	1,900.00	1,900.30	1,900.30	6.58	6.58	-90.47	-0.29	-34.99	34.99	25.69	9.30	3.761		
2,000.00	2,000.00	2,000.30	2,000.30	6.94	6.94	-90.47	-0.29	-34.99	34.99	25.18	9.81	3.567		
2,100.00	2,100.00	2,100.30	2,100.30	7.29	7.30	-90.47	-0.29	-34.99	34.99	24.67	10.32	3.392		
2,200.00	2,200.00	2,200.30	2,200.30	7.65	7.65	-90.47	-0.29	-34.99	34.99	24.17	10.82	3.233		
2,300.00	2,300.00	2,300.30	2,300.30	8.01	8.01	-90.47	-0.29	-34.99	34.99	23.66	11.33	3.088		
2,400.00	2,400.00	2,400.30	2,400.30	8.37	8.37	-90.47	-0.29	-34.99	34.99	23.15	11.84	2.956		
2,500.00	2,500.00	2,500.30	2,500.30	8.73	8.73	-90.47	-0.29	-34.99	34.99	22.65	12.35	2.834		
2,600.00	2,600.00	2,600.30	2,600.30	9.09	9.09	-90.47	-0.29	-34.99	34.99	22.14	12.85	2.723		
2,700.00	2,700.00	2,700.30	2,700.30	9.45	9.45	-90.47	-0.29	-34.99	34.99	21.63	13.36	2.619		
2,800.00	2,800.00	2,800.30	2,800.30	9.80	9.81	-90.47	-0.29	-34.99	34.99	21.13	13.87	2.524		
2,900.00	2,900.00	2,900.30	2,900.30	10.16	10.16	-90.47	-0.29	-34.99	34.99	20.62	14.37	2.435		
3,000.00	3,000.00	3,000.30	3,000.30	10.52	10.52	-90.47	-0.29	-34.99	34.99	20.11	14.88	2.352		
3,100.00	3,100.00	3,100.30	3,100.30	10.88	10.88	-90.47	-0.29	-34.99	34.99	19.60	15.39	2.274		
3,116.57	3,116.57	3,116.87	3,116.87	10.94	10.94	-90.47	-0.29	-34.99	34.99	19.52	15.47	2.262 CC		
3,200.00	3,200.00	3,200.00	3,200.00	11.24	11.24	-90.47	-0.29	-34.99	34.99	19.10	15.89	2.202 ES, SF		
3,300.00	3,300.00	3,299.39	3,299.38	11.60	11.58	-90.91	-0.58	-36.25	36.27	19.88	16.38	2.214		
3,400.00	3,400.00	3,398.35	3,398.26	11.96	11.92	-92.06	-1.44	-40.01	40.09	23.24	16.85	2.379		
3,500.00	3,500.00	3,497.04	3,496.74	12.31	12.25	-93.54	-2.86	-46.24	46.47	29.16	17.31	2.685		
3,600.00	3,599.99	3,595.45	3,594.75	12.66	12.59	15.40	-4.85	-54.93	54.16	36.42	17.74	3.053		
3,700.00	3,699.91	3,693.67	3,692.30	13.00	12.93	14.82	-7.39	-66.05	61.89	43.73	18.16	3.408		
3,800.00	3,799.69	3,792.75	3,790.44	13.33	13.28	14.67	-10.42	-79.29	69.19	50.58	18.61	3.718		
3,900.00	3,899.27	3,892.62	3,889.34	13.67	13.64	15.05	-13.51	-92.84	74.18	55.08	19.09	3.885		
3,966.99	3,965.83	3,959.58	3,955.65	13.90	13.88	15.57	-15.59	-101.93	76.10	56.69	19.42	3.920		
4,000.00	3,998.59	3,992.58	3,988.33	14.02	14.00	15.88	-16.61	-106.41	76.78	57.20	19.58	3.922		
4,100.00	4,097.84	4,092.55	4,087.33	14.37	14.36	16.78	-19.71	-119.97	78.83	58.77	20.06	3.930		
4,200.00	4,197.10	4,192.52	4,186.32	14.72	14.73	17.64	-22.81	-133.54	80.91	60.36	20.55	3.937		
4,300.00	4,296.35	4,292.50	4,285.32	15.07	15.10	18.45	-25.92	-147.10	83.00	61.96	21.04	3.945		
4,400.00	4,395.61	4,392.47	4,384.32	15.43	15.47	19.22	-29.02	-160.67	85.11	63.58	21.53	3.953		
4,500.00	4,494.86	4,492.44	4,483.32	15.79	15.84	19.96	-32.12	-174.23	87.23	65.20	22.03	3.960		
4,600.00	4,594.11	4,592.41	4,582.32	16.15	16.22	20.66	-35.22	-187.80	89.37	66.84	22.52	3.968		
4,700.00	4,693.37	4,692.38	4,681.31	16.51	16.60	21.33	-38.32	-201.36	91.52	68.49	23.02	3.975		
4,800.00	4,792.62	4,792.35	4,780.31	16.88	16.98	21.97	-41.42	-214.93	93.68	70.15	23.52	3.982		
4,900.00	4,891.87	4,892.32	4,879.31	17.25	17.36	22.58	-44.52	-228.49	95.85	71.82	24.03	3.989		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well 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	4,991.13	4,992.30	4,978.31	17.62	17.75	23.16	-47.62	-242.06	98.03	73.50	24.53	3.996		
5,100.00	5,090.38	5,092.27	5,077.31	17.99	18.14	23.71	-50.72	-255.62	100.22	75.19	25.04	4.003		
5,200.00	5,189.63	5,192.24	5,176.31	18.36	18.53	24.25	-53.82	-269.19	102.42	76.88	25.55	4.009		
5,300.00	5,288.89	5,292.21	5,275.30	18.74	18.92	24.76	-56.92	-282.75	104.63	78.58	26.06	4.016		
5,400.00	5,388.14	5,392.18	5,374.30	19.11	19.31	25.24	-60.02	-296.32	106.85	80.28	26.57	4.022		
5,500.00	5,487.39	5,492.15	5,473.30	19.49	19.70	25.71	-63.12	-309.88	109.08	82.00	27.08	4.028		
5,600.00	5,586.65	5,592.12	5,572.30	19.87	20.09	26.16	-66.22	-323.45	111.31	83.72	27.59	4.034		
5,700.00	5,685.90	5,692.10	5,671.30	20.25	20.49	26.60	-69.32	-337.01	113.55	85.44	28.11	4.040		
5,800.00	5,785.16	5,792.07	5,770.30	20.63	20.88	27.01	-72.42	-350.58	115.79	87.17	28.62	4.045		
5,900.00	5,884.41	5,892.04	5,869.29	21.01	21.28	27.41	-75.53	-364.14	118.04	88.90	29.14	4.051		
6,000.00	5,983.66	5,992.01	5,968.29	21.39	21.68	27.80	-78.63	-377.71	120.30	90.64	29.66	4.056		
6,100.00	6,082.92	6,091.98	6,067.29	21.78	22.08	28.17	-81.73	-391.27	122.56	92.38	30.18	4.061		
6,200.00	6,182.17	6,191.95	6,166.29	22.16	22.48	28.52	-84.83	-404.84	124.83	94.12	30.70	4.066		
6,300.00	6,281.42	6,291.92	6,265.29	22.55	22.88	28.87	-87.93	-418.40	127.10	95.87	31.22	4.071		
6,400.00	6,380.68	6,391.89	6,364.28	22.94	23.28	29.20	-91.03	-431.97	129.37	97.62	31.75	4.075		
6,500.00	6,479.93	6,491.87	6,463.28	23.32	23.68	29.52	-94.13	-445.53	131.65	99.38	32.27	4.080		
6,600.00	6,579.18	6,591.84	6,562.28	23.71	24.09	29.83	-97.23	-459.10	133.93	101.14	32.80	4.084		
6,700.00	6,678.44	6,691.81	6,661.28	24.10	24.49	30.13	-100.33	-472.67	136.22	102.90	33.32	4.088		
6,800.00	6,777.69	6,791.78	6,760.28	24.49	24.90	30.42	-103.43	-486.23	138.51	104.66	33.85	4.092		
6,900.00	6,876.95	6,891.75	6,859.28	24.88	25.30	30.70	-106.53	-499.80	140.81	106.43	34.38	4.096		
7,000.00	6,976.20	6,991.72	6,958.27	25.27	25.71	30.97	-109.63	-513.36	143.10	108.20	34.90	4.100		
7,100.00	7,075.45	7,091.69	7,057.27	25.66	26.11	31.24	-112.73	-526.93	145.41	109.97	35.43	4.104		
7,200.00	7,174.71	7,191.67	7,156.27	26.05	26.52	31.49	-115.83	-540.49	147.71	111.75	35.96	4.107		
7,300.00	7,273.96	7,291.64	7,255.27	26.45	26.93	31.74	-118.93	-554.06	150.02	113.52	36.49	4.111		
7,400.00	7,373.21	7,391.61	7,354.27	26.84	27.34	31.98	-122.03	-567.62	152.32	115.30	37.02	4.114		
7,500.00	7,472.47	7,491.58	7,453.26	27.23	27.74	32.21	-125.13	-581.19	154.64	117.08	37.56	4.117		
7,600.00	7,571.72	7,591.55	7,552.26	27.63	28.15	32.43	-128.24	-594.75	156.95	118.86	38.09	4.121		
7,700.00	7,670.97	7,691.52	7,651.26	28.02	28.56	32.65	-131.34	-608.32	159.27	120.65	38.62	4.124		
7,800.00	7,770.23	7,791.49	7,750.26	28.42	28.97	32.86	-134.44	-621.88	161.59	122.43	39.16	4.127		
7,900.00	7,869.48	7,891.46	7,849.26	28.81	29.38	33.07	-137.54	-635.45	163.91	124.22	39.69	4.130		
8,000.00	7,968.73	7,991.44	7,948.26	29.21	29.79	33.27	-140.64	-649.01	166.23	126.01	40.22	4.133		
8,100.00	8,067.99	8,091.41	8,047.25	29.60	30.20	33.47	-143.74	-662.58	168.55	127.79	40.76	4.135		
8,200.00	8,167.24	8,191.38	8,146.25	30.00	30.61	33.66	-146.84	-676.14	170.88	129.59	41.30	4.138		
8,267.43	8,234.17	8,258.79	8,213.01	30.27	30.89	33.78	-148.93	-685.29	172.45	130.79	41.66	4.140		
8,300.00	8,266.51	8,291.35	8,245.25	30.40	31.03	33.82	-149.94	-689.71	173.33	131.49	41.83	4.143		
8,400.00	8,366.00	8,391.26	8,344.18	30.78	31.44	33.65	-153.04	-703.26	177.45	135.10	42.35	4.190		
8,500.00	8,465.72	8,491.03	8,442.99	31.16	31.85	33.05	-156.13	-716.80	183.77	140.91	42.85	4.288		
8,600.00	8,565.60	8,590.61	8,541.60	31.52	32.26	32.09	-159.22	-730.31	192.31	148.97	43.34	4.438		
8,700.00	8,665.58	8,689.91	8,639.93	31.87	32.67	30.85	-162.30	-743.79	203.15	159.34	43.81	4.637		
8,734.42	8,700.00	8,724.02	8,673.71	31.98	32.81	-79.74	-163.36	-748.42	207.42	163.45	43.96	4.718		
8,800.00	8,765.58	8,788.96	8,738.02	32.20	33.08	-80.69	-165.37	-757.23	215.85	171.59	44.26	4.876		
8,900.00	8,865.58	8,887.99	8,836.08	32.54	33.49	-82.00	-168.44	-770.67	228.82	184.09	44.73	5.116		
9,000.00	8,965.58	8,987.01	8,934.14	32.87	33.90	-83.18	-171.52	-784.10	241.89	196.70	45.19	5.352		
9,100.00	9,065.58	9,086.04	9,032.20	33.21	34.31	-84.23	-174.59	-797.54	255.05	209.39	45.67	5.585		
9,200.00	9,165.58	9,185.07	9,130.27	33.54	34.72	-85.18	-177.66	-810.98	268.29	222.15	46.14	5.814		
9,300.00	9,265.58	9,284.09	9,228.33	33.88	35.13	-86.04	-180.73	-824.41	281.59	234.97	46.62	6.040		
9,400.00	9,365.58	9,383.12	9,326.39	34.22	35.54	-86.82	-183.80	-837.85	294.95	247.85	47.10	6.262		
9,500.00	9,465.58	9,482.15	9,424.46	34.55	35.95	-87.54	-186.87	-851.29	308.36	260.78	47.59	6.480		
9,600.00	9,565.58	9,581.17	9,522.52	34.89	36.36	-88.19	-189.94	-864.72	321.82	273.74	48.07	6.694		
9,700.00	9,665.58	9,683.23	9,623.61	35.23	36.78	-88.81	-193.07	-878.41	335.16	286.57	48.59	6.898		
9,800.00	9,765.58	9,791.99	9,731.63	35.57	37.22	-89.32	-195.88	-890.69	346.41	297.26	49.15	7.048		
9,900.00	9,865.58	9,901.38	9,840.60	35.91	37.64	-89.68	-198.01	-900.01	354.92	305.24	49.69	7.143		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well 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	9,965.58	10,011.24	9,950.26	36.25	38.04	-89.91	-199.45	-906.31	360.65	310.46	50.19	7.186		
10,100.00	10,065.58	10,121.37	10,060.34	36.59	38.42	-90.03	-200.19	-909.54	363.58	312.92	50.66	7.176		
10,200.00	10,165.58	10,226.91	10,165.88	36.93	38.76	-90.05	-200.29	-909.99	363.99	312.86	51.13	7.119		
10,300.00	10,265.58	10,326.91	10,265.88	37.27	39.09	-90.05	-200.29	-909.99	363.99	312.38	51.61	7.052		
10,400.00	10,365.58	10,426.91	10,365.88	37.61	39.41	-90.05	-200.29	-909.99	363.99	311.89	52.10	6.987		
10,500.00	10,465.58	10,526.91	10,465.88	37.95	39.73	-90.05	-200.29	-909.99	363.99	311.41	52.58	6.922		
10,600.00	10,565.58	10,626.91	10,565.88	38.29	40.06	-90.05	-200.29	-909.99	363.99	310.92	53.07	6.858		
10,700.00	10,665.58	10,726.91	10,665.88	38.63	40.38	-90.05	-200.29	-909.99	363.99	310.43	53.56	6.796		
10,800.00	10,765.58	10,826.91	10,765.88	38.97	40.71	-90.05	-200.29	-909.99	363.99	309.94	54.05	6.735		
10,900.00	10,865.58	10,926.91	10,865.88	39.32	41.04	-90.05	-200.29	-909.99	363.99	309.46	54.53	6.675		
11,000.00	10,965.58	11,026.91	10,965.88	39.66	41.36	-90.05	-200.29	-909.99	363.99	308.97	55.02	6.615		
11,100.00	11,065.58	11,126.91	11,065.88	40.00	41.69	-90.05	-200.29	-909.99	363.99	308.48	55.51	6.557		
11,108.32	11,073.89	11,135.23	11,074.19	40.03	41.72	-90.05	-200.29	-909.99	363.99	308.44	55.55	6.552		
11,200.00	11,165.58	11,226.91	11,165.53	40.35	42.02	-89.80	-198.71	-910.00	364.01	308.00	56.01	6.499		
11,300.00	11,265.58	11,323.35	11,260.95	40.69	42.31	-87.40	-183.44	-910.14	364.55	308.00	56.56	6.446		
11,400.00	11,365.58	11,412.68	11,345.62	41.03	42.56	-83.00	-155.27	-910.40	367.69	310.54	57.15	6.434		
11,434.42	11,400.00	11,441.12	11,371.55	41.15	42.63	-81.20	-143.58	-910.50	369.96	312.63	57.33	6.453		
11,450.00	11,415.57	11,453.65	11,382.77	41.20	42.66	-79.72	-138.02	-910.55	371.23	313.82	57.40	6.467		
11,500.00	11,465.43	11,493.23	11,417.41	41.37	42.75	-76.75	-118.87	-910.73	375.93	318.36	57.57	6.530		
11,550.00	11,514.79	11,531.94	11,449.92	41.53	42.83	-73.91	-97.88	-910.92	381.48	323.84	57.64	6.618		
11,600.00	11,563.28	11,569.88	11,480.34	41.69	42.90	-71.22	-75.21	-911.12	387.68	330.09	57.59	6.732		
11,650.00	11,610.53	11,607.15	11,508.70	41.83	42.96	-68.70	-51.04	-911.34	394.33	336.90	57.43	6.866		
11,700.00	11,656.17	11,643.84	11,535.02	41.96	43.02	-66.36	-25.49	-911.57	401.25	344.08	57.17	7.019		
11,750.00	11,699.86	11,680.02	11,559.32	42.09	43.06	-64.21	1.30	-911.82	408.27	351.44	56.82	7.185		
11,800.00	11,741.27	11,715.74	11,581.61	42.19	43.11	-62.24	29.21	-912.07	415.22	358.81	56.41	7.361		
11,850.00	11,780.08	11,750.00	11,601.31	42.29	43.14	-60.51	57.23	-912.32	421.98	366.05	55.93	7.545		
11,900.00	11,816.01	11,786.08	11,620.21	42.37	43.17	-58.89	87.95	-912.60	428.40	372.92	55.48	7.722		
11,950.00	11,848.76	11,820.79	11,636.54	42.43	43.20	-57.50	118.57	-912.88	434.38	379.37	55.01	7.897		
12,000.00	11,878.10	11,850.00	11,648.82	42.49	43.23	-56.40	145.07	-913.12	439.87	385.41	54.46	8.077		
12,050.00	11,903.80	11,889.50	11,663.25	42.54	43.26	-55.27	181.83	-913.45	444.64	390.47	54.17	8.209		
12,100.00	11,925.67	11,923.57	11,673.63	42.58	43.29	-54.42	214.28	-913.75	448.77	394.94	53.83	8.337		
12,150.00	11,943.53	11,950.00	11,680.35	42.62	43.31	-53.81	239.83	-913.98	452.24	398.75	53.48	8.456		
12,200.00	11,957.26	11,991.34	11,688.48	42.67	43.35	-53.23	280.36	-914.35	454.73	401.32	53.42	8.513		
12,250.00	11,966.75	12,025.10	11,692.93	42.75	43.39	-52.89	313.81	-914.65	456.49	403.13	53.37	8.554		
12,300.00	11,971.92	12,058.81	11,695.40	42.84	43.43	-52.72	347.43	-914.96	457.41	403.98	53.43	8.562		
12,345.40	11,972.85	12,094.06	11,695.87	42.95	43.49	-52.70	382.66	-915.28	457.52	403.95	53.58	8.540		
12,368.88	11,972.40	12,110.63	11,695.58	43.02	43.52	-52.71	399.23	-915.43	457.45	403.76	53.68	8.522		
12,400.00	11,971.81	12,141.75	11,695.04	43.11	43.58	-52.71	430.35	-915.71	457.41	403.60	53.81	8.500		
12,500.00	11,969.89	12,241.75	11,693.29	43.44	43.84	-52.73	530.33	-916.61	457.30	403.03	54.27	8.426		
12,600.00	11,967.98	12,341.75	11,691.54	43.84	44.17	-52.74	630.31	-917.52	457.19	402.40	54.80	8.344		
12,700.00	11,966.06	12,441.75	11,689.79	44.30	44.58	-52.76	730.29	-918.43	457.08	401.70	55.38	8.253		
12,800.00	11,964.14	12,541.75	11,688.04	44.81	45.06	-52.78	830.27	-919.33	456.98	400.95	56.03	8.156		
12,900.00	11,962.23	12,641.75	11,686.29	45.38	45.61	-52.79	930.25	-920.24	456.87	400.13	56.73	8.053		
13,000.00	11,960.31	12,741.75	11,684.54	46.00	46.21	-52.81	1,030.23	-921.15	456.76	399.27	57.49	7.945		
13,100.00	11,958.40	12,841.75	11,682.79	46.66	46.86	-52.82	1,130.21	-922.05	456.65	398.34	58.31	7.832		
13,200.00	11,956.48	12,941.75	11,681.05	47.38	47.57	-52.84	1,230.19	-922.96	456.54	397.37	59.17	7.715		
13,300.00	11,954.57	13,041.75	11,679.30	48.14	48.32	-52.85	1,330.17	-923.87	456.43	396.34	60.09	7.596		
13,400.00	11,952.65	13,141.75	11,677.55	48.94	49.12	-52.87	1,430.16	-924.77	456.32	395.27	61.05	7.474		
13,500.00	11,950.73	13,241.75	11,675.80	49.78	49.96	-52.89	1,530.14	-925.68	456.21	394.16	62.06	7.351		
13,600.00	11,948.82	13,341.75	11,674.05	50.67	50.84	-52.90	1,630.12	-926.58	456.11	393.00	63.11	7.228		
13,700.00	11,946.90	13,441.75	11,672.30	51.59	51.75	-52.92	1,730.10	-927.49	456.00	391.80	64.20	7.103		
13,800.00	11,944.99	13,541.75	11,670.55	52.55	52.71	-52.93	1,830.08	-928.40	455.89	390.57	65.32	6.979		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well 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	11,943.07	13,641.75	11,668.80	53.54	53.69	-52.95	1,930.06	-929.30	455.78	389.29	66.49	6.855		
14,000.00	11,941.16	13,741.75	11,667.05	54.56	54.71	-52.97	2,030.04	-930.21	455.67	387.99	67.68	6.732		
14,100.00	11,939.24	13,841.75	11,665.31	55.61	55.76	-52.98	2,130.02	-931.12	455.56	386.65	68.91	6.611		
14,200.00	11,937.32	13,941.75	11,663.56	56.69	56.84	-53.00	2,230.00	-932.02	455.46	385.28	70.17	6.491		
14,300.00	11,935.41	14,041.75	11,661.81	57.80	57.94	-53.01	2,329.98	-932.93	455.35	383.89	71.46	6.372		
14,400.00	11,933.49	14,141.75	11,660.06	58.93	59.07	-53.03	2,429.96	-933.84	455.24	382.46	72.77	6.255		
14,500.00	11,931.58	14,241.75	11,658.31	60.09	60.23	-53.05	2,529.94	-934.74	455.13	381.02	74.11	6.141		
14,600.00	11,929.66	14,341.75	11,656.56	61.27	61.40	-53.06	2,629.92	-935.65	455.02	379.54	75.48	6.028		
14,700.00	11,927.75	14,441.75	11,654.81	62.47	62.60	-53.08	2,729.90	-936.56	454.91	378.05	76.86	5.918		
14,800.00	11,925.83	14,541.75	11,653.06	63.69	63.82	-53.09	2,829.88	-937.46	454.81	376.53	78.27	5.811		
14,900.00	11,923.91	14,641.75	11,651.31	64.93	65.05	-53.11	2,929.86	-938.37	454.70	375.00	79.70	5.705		
15,000.00	11,922.00	14,741.75	11,649.57	66.18	66.31	-53.13	3,029.84	-939.28	454.59	373.45	81.14	5.602		
15,100.00	11,920.08	14,841.75	11,647.82	67.46	67.58	-53.14	3,129.82	-940.18	454.48	371.88	82.61	5.502		
15,200.00	11,918.17	14,941.75	11,646.07	68.75	68.87	-53.16	3,229.80	-941.09	454.37	370.29	84.09	5.404		
15,300.00	11,916.25	15,041.75	11,644.32	70.05	70.17	-53.18	3,329.78	-941.99	454.27	368.69	85.58	5.308		
15,400.00	11,914.33	15,141.75	11,642.57	71.37	71.49	-53.19	3,429.76	-942.90	454.16	367.07	87.09	5.215		
15,500.00	11,912.42	15,241.75	11,640.82	72.71	72.82	-53.21	3,529.74	-943.81	454.05	365.44	88.61	5.124		
15,600.00	11,910.50	15,341.75	11,639.07	74.05	74.16	-53.22	3,629.73	-944.71	453.94	363.80	90.15	5.036		
15,700.00	11,908.59	15,441.75	11,637.32	75.41	75.52	-53.24	3,729.71	-945.62	453.83	362.14	91.69	4.950		
15,800.00	11,906.67	15,541.75	11,635.57	76.78	76.88	-53.26	3,829.69	-946.53	453.73	360.48	93.25	4.866		
15,900.00	11,904.76	15,641.75	11,633.83	78.16	78.26	-53.27	3,929.67	-947.43	453.62	358.80	94.82	4.784		
16,000.00	11,902.84	15,741.75	11,632.08	79.55	79.65	-53.29	4,029.65	-948.34	453.51	357.11	96.40	4.705		
16,100.00	11,900.92	15,841.75	11,630.33	80.95	81.05	-53.30	4,129.63	-949.25	453.40	355.42	97.98	4.627		
16,200.00	11,899.01	15,941.75	11,628.58	82.37	82.46	-53.32	4,229.61	-950.15	453.30	353.72	99.58	4.552		
16,300.00	11,897.09	16,041.75	11,626.83	83.78	83.87	-53.34	4,329.59	-951.06	453.19	352.00	101.18	4.479		
16,400.00	11,895.18	16,141.75	11,625.08	85.21	85.30	-53.35	4,429.57	-951.97	453.08	350.28	102.80	4.408		
16,500.00	11,893.26	16,241.75	11,623.33	86.65	86.73	-53.37	4,529.55	-952.87	452.97	348.56	104.41	4.338		
16,600.00	11,891.35	16,341.75	11,621.58	88.09	88.17	-53.39	4,629.53	-953.78	452.87	346.83	106.04	4.271		
16,700.00	11,889.43	16,441.75	11,619.83	89.54	89.62	-53.40	4,729.51	-954.68	452.76	345.09	107.67	4.205		
16,800.00	11,887.51	16,541.75	11,618.09	91.00	91.07	-53.42	4,829.49	-955.59	452.65	343.34	109.31	4.141		
16,900.00	11,885.60	16,641.75	11,616.34	92.46	92.54	-53.43	4,929.47	-956.50	452.54	341.59	110.95	4.079		
17,000.00	11,883.68	16,741.74	11,614.59	93.93	94.00	-53.45	5,029.45	-957.40	452.44	339.84	112.60	4.018		
17,100.00	11,881.77	16,841.74	11,612.84	95.40	95.48	-53.47	5,129.43	-958.31	452.33	338.08	114.25	3.959		
17,200.00	11,879.85	16,941.74	11,611.09	96.89	96.96	-53.48	5,229.41	-959.22	452.22	336.32	115.90	3.902		
17,300.00	11,877.94	17,041.74	11,609.34	98.37	98.44	-53.50	5,329.39	-960.12	452.11	334.55	117.56	3.846		
17,400.00	11,876.02	17,141.74	11,607.59	99.86	99.93	-53.51	5,429.37	-961.03	452.01	332.78	119.23	3.791		
17,500.00	11,874.10	17,241.74	11,605.84	101.36	101.43	-53.53	5,529.35	-961.94	451.90	331.01	120.89	3.738		
17,600.00	11,872.19	17,341.74	11,604.09	102.86	102.93	-53.55	5,629.33	-962.84	451.79	329.23	122.56	3.686		
17,700.00	11,870.27	17,441.74	11,602.35	104.37	104.43	-53.56	5,729.31	-963.75	451.69	327.45	124.24	3.636		
17,800.00	11,868.36	17,541.74	11,600.60	105.88	105.94	-53.58	5,829.30	-964.66	451.58	325.67	125.91	3.586		
17,900.00	11,866.44	17,641.74	11,598.85	107.39	107.45	-53.60	5,929.28	-965.56	451.47	323.88	127.59	3.538		
18,000.00	11,864.53	17,741.74	11,597.10	108.91	108.97	-53.61	6,029.26	-966.47	451.36	322.10	129.27	3.492		
18,100.00	11,862.61	17,841.74	11,595.35	110.44	110.49	-53.63	6,129.24	-967.37	451.26	320.31	130.95	3.446		
18,200.00	11,860.69	17,941.74	11,593.60	111.96	112.01	-53.65	6,229.22	-968.28	451.15	318.52	132.63	3.401		
18,300.00	11,858.78	18,041.74	11,591.85	113.49	113.54	-53.66	6,329.20	-969.19	451.04	316.73	134.32	3.358		
18,400.00	11,856.86	18,141.74	11,590.10	115.02	115.07	-53.68	6,429.18	-970.09	450.94	314.93	136.00	3.316		
18,500.00	11,854.95	18,241.74	11,588.35	116.56	116.61	-53.69	6,529.16	-971.00	450.83	313.14	137.69	3.274		
18,600.00	11,853.03	18,341.74	11,586.61	118.10	118.15	-53.71	6,629.14	-971.91	450.72	311.34	139.38	3.234		
18,700.00	11,851.12	18,441.74	11,584.86	119.64	119.69	-53.73	6,729.12	-972.81	450.62	309.55	141.07	3.194		
18,800.00	11,849.20	18,541.74	11,583.11	121.19	121.23	-53.74	6,829.10	-973.72	450.51	307.75	142.76	3.156		
18,900.00	11,847.28	18,641.74	11,581.36	122.74	122.78	-53.76	6,929.08	-974.63	450.40	305.95	144.45	3.118		
19,000.00	11,845.37	18,741.74	11,579.61	124.29	124.33	-53.78	7,029.06	-975.53	450.30	304.16	146.14	3.081		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well 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	11,843.45	18,841.74	11,577.86	125.84	125.88	-53.79	7,129.04	-976.44	450.19	302.36	147.83	3.045		
19,200.00	11,841.54	18,941.74	11,576.11	127.39	127.43	-53.81	7,229.02	-977.35	450.08	300.56	149.52	3.010		
19,300.00	11,839.62	19,041.74	11,574.36	128.95	128.99	-53.83	7,329.00	-978.25	449.98	298.76	151.21	2.976		
19,400.00	11,837.71	19,141.74	11,572.61	130.51	130.55	-53.84	7,428.98	-979.16	449.87	296.97	152.90	2.942		
19,500.00	11,835.79	19,241.74	11,570.87	132.08	132.11	-53.86	7,528.96	-980.07	449.76	295.17	154.60	2.909		
19,600.00	11,833.87	19,341.74	11,569.12	133.64	133.68	-53.87	7,628.94	-980.97	449.66	293.37	156.29	2.877		
19,700.00	11,831.96	19,441.74	11,567.37	135.21	135.24	-53.89	7,728.92	-981.88	449.55	291.57	157.98	2.846		
19,800.00	11,830.04	19,541.74	11,565.62	136.78	136.81	-53.91	7,828.90	-982.78	449.44	289.78	159.67	2.815		
19,900.00	11,828.13	19,641.74	11,563.87	138.35	138.38	-53.92	7,928.88	-983.69	449.34	287.98	161.36	2.785		
20,000.00	11,826.21	19,741.74	11,562.12	139.92	139.95	-53.94	8,028.87	-984.60	449.23	286.19	163.04	2.755		
20,100.00	11,824.30	19,841.74	11,560.37	141.49	141.52	-53.96	8,128.85	-985.50	449.13	284.39	164.73	2.726		
20,200.00	11,822.38	19,941.74	11,558.62	143.07	143.10	-53.97	8,228.83	-986.41	449.02	282.60	166.42	2.698		
20,300.00	11,820.46	20,041.74	11,556.87	144.65	144.68	-53.99	8,328.81	-987.32	448.91	280.81	168.11	2.670		
20,400.00	11,818.55	20,141.74	11,555.13	146.23	146.25	-54.01	8,428.79	-988.22	448.81	279.02	169.79	2.643		
20,500.00	11,816.63	20,241.74	11,553.38	147.81	147.83	-54.02	8,528.77	-989.13	448.70	277.23	171.47	2.617		
20,600.00	11,814.72	20,341.74	11,551.63	149.39	149.42	-54.04	8,628.75	-990.04	448.60	275.44	173.16	2.591		
20,700.00	11,812.80	20,441.74	11,549.88	150.98	151.00	-54.06	8,728.73	-990.94	448.49	273.65	174.84	2.565		
20,800.00	11,810.89	20,541.74	11,548.13	152.56	152.58	-54.07	8,828.71	-991.85	448.38	271.87	176.52	2.540		
20,900.00	11,808.97	20,641.74	11,546.38	154.15	154.17	-54.09	8,928.69	-992.76	448.28	270.08	178.20	2.516		
21,000.00	11,807.05	20,741.74	11,544.63	155.74	155.76	-54.11	9,028.67	-993.66	448.17	268.30	179.87	2.492		
21,100.00	11,805.14	20,841.74	11,542.88	157.33	157.35	-54.12	9,128.65	-994.57	448.07	266.52	181.55	2.468		
21,200.00	11,803.22	20,941.74	11,541.13	158.92	158.94	-54.14	9,228.63	-995.47	447.96	264.74	183.22	2.445		
21,300.00	11,801.31	21,041.74	11,539.39	160.51	160.53	-54.15	9,328.61	-996.38	447.85	262.96	184.90	2.422		
21,400.00	11,799.39	21,141.74	11,537.64	162.10	162.12	-54.17	9,428.59	-997.29	447.75	261.18	186.57	2.400		
21,500.00	11,797.48	21,241.74	11,535.89	163.70	163.71	-54.19	9,528.57	-998.19	447.64	259.40	188.24	2.378		
21,600.00	11,795.56	21,341.74	11,534.14	165.29	165.31	-54.20	9,628.55	-999.10	447.54	257.63	189.91	2.357		
21,700.00	11,793.64	21,441.74	11,532.39	166.89	166.90	-54.22	9,728.53	-1,000.01	447.43	255.86	191.57	2.336		
21,800.00	11,791.73	21,541.74	11,530.64	168.49	168.50	-54.24	9,828.51	-1,000.91	447.33	254.09	193.24	2.315		
21,900.00	11,789.81	21,641.74	11,528.89	170.08	170.10	-54.25	9,928.49	-1,001.82	447.22	252.32	194.90	2.295		
22,000.00	11,787.90	21,741.74	11,527.14	171.68	171.70	-54.27	10,028.47	-1,002.73	447.11	250.56	196.56	2.275		
22,100.00	11,785.98	21,841.74	11,525.39	173.29	173.30	-54.29	10,128.46	-1,003.63	447.01	248.79	198.22	2.255		
22,129.79	11,785.41	21,871.53	11,524.87	173.76	173.77	-54.29	10,158.24	-1,003.90	446.98	248.27	198.71	2.249		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	89.53	0.29	34.99	35.00					
100.00	100.00	99.30	99.30	0.13	0.12	89.53	0.29	34.99	34.99	34.81	0.18	197.898		
200.00	200.00	199.30	199.30	0.48	0.48	89.53	0.29	34.99	34.99	34.31	0.68	51.260		
300.00	300.00	299.30	299.30	0.84	0.84	89.53	0.29	34.99	34.99	33.80	1.19	29.415		
400.00	400.00	399.30	399.30	1.20	1.20	89.53	0.29	34.99	34.99	33.29	1.70	20.625		
500.00	500.00	499.30	499.30	1.56	1.56	89.53	0.29	34.99	34.99	32.79	2.20	15.880		
600.00	600.00	599.30	599.30	1.92	1.92	89.53	0.29	34.99	34.99	32.28	2.71	12.910		
700.00	700.00	699.30	699.30	2.28	2.27	89.53	0.29	34.99	34.99	31.77	3.22	10.876		
800.00	800.00	799.30	799.30	2.63	2.63	89.53	0.29	34.99	34.99	31.27	3.72	9.395		
900.00	900.00	899.30	899.30	2.99	2.99	89.53	0.29	34.99	34.99	30.76	4.23	8.270		
1,000.00	1,000.00	999.30	999.30	3.35	3.35	89.53	0.29	34.99	34.99	30.25	4.74	7.385		
1,100.00	1,100.00	1,099.30	1,099.30	3.71	3.71	89.53	0.29	34.99	34.99	29.75	5.25	6.671		
1,200.00	1,200.00	1,199.30	1,199.30	4.07	4.07	89.53	0.29	34.99	34.99	29.24	5.75	6.083		
1,300.00	1,300.00	1,299.30	1,299.30	4.43	4.42	89.53	0.29	34.99	34.99	28.73	6.26	5.590		
1,400.00	1,400.00	1,399.30	1,399.30	4.79	4.78	89.53	0.29	34.99	34.99	28.23	6.77	5.172		
1,500.00	1,500.00	1,499.30	1,499.30	5.14	5.14	89.53	0.29	34.99	34.99	27.72	7.27	4.811		
1,600.00	1,600.00	1,599.30	1,599.30	5.50	5.50	89.53	0.29	34.99	34.99	27.21	7.78	4.498		
1,700.00	1,700.00	1,699.30	1,699.30	5.86	5.86	89.53	0.29	34.99	34.99	26.70	8.29	4.222		
1,800.00	1,800.00	1,799.30	1,799.30	6.22	6.22	89.53	0.29	34.99	34.99	26.20	8.79	3.979		
1,900.00	1,900.00	1,899.30	1,899.30	6.58	6.58	89.53	0.29	34.99	34.99	25.69	9.30	3.762		
2,000.00	2,000.00	1,999.30	1,999.30	6.94	6.93	89.53	0.29	34.99	34.99	25.18	9.81	3.568		
2,100.00	2,100.00	2,099.30	2,099.30	7.29	7.29	89.53	0.29	34.99	34.99	24.68	10.31	3.392		
2,200.00	2,200.00	2,199.30	2,199.30	7.65	7.65	89.53	0.29	34.99	34.99	24.17	10.82	3.233		
2,300.00	2,300.00	2,299.30	2,299.30	8.01	8.01	89.53	0.29	34.99	34.99	23.66	11.33	3.089		
2,400.00	2,400.00	2,399.30	2,399.30	8.37	8.37	89.53	0.29	34.99	34.99	23.16	11.84	2.956		
2,500.00	2,500.00	2,499.30	2,499.30	8.73	8.73	89.53	0.29	34.99	34.99	22.65	12.34	2.835		
2,600.00	2,600.00	2,599.30	2,599.30	9.09	9.08	89.53	0.29	34.99	34.99	22.14	12.85	2.723		
2,700.00	2,700.00	2,699.30	2,699.30	9.45	9.44	89.53	0.29	34.99	34.99	21.63	13.36	2.620		
2,800.00	2,800.00	2,799.30	2,799.30	9.80	9.80	89.53	0.29	34.99	34.99	21.13	13.86	2.524		
2,900.00	2,900.00	2,899.30	2,899.30	10.16	10.16	89.53	0.29	34.99	34.99	20.62	14.37	2.435		
3,000.00	3,000.00	2,999.30	2,999.30	10.52	10.52	89.53	0.29	34.99	34.99	20.11	14.88	2.352		
3,100.00	3,100.00	3,099.30	3,099.30	10.88	10.88	89.53	0.29	34.99	34.99	19.61	15.38	2.274		
3,200.00	3,200.00	3,199.30	3,199.30	11.24	11.24	89.53	0.29	34.99	34.99	19.10	15.89	2.202		
3,300.00	3,300.00	3,299.30	3,299.30	11.60	11.59	89.53	0.29	34.99	34.99	18.59	16.40	2.134		
3,400.00	3,400.00	3,399.30	3,399.30	11.96	11.95	89.53	0.29	34.99	34.99	18.09	16.91	2.070		
3,500.00	3,500.00	3,499.30	3,499.30	12.31	12.31	89.53	0.29	34.99	34.99	17.58	17.41	2.010 CC, ES, SF		
3,600.00	3,599.99	3,599.29	3,599.29	12.66	12.67	-161.05	0.29	34.99	36.23	18.32	17.91	2.023		
3,700.00	3,699.91	3,699.21	3,699.21	13.00	13.03	-162.86	0.29	34.99	39.96	21.56	18.40	2.172		
3,800.00	3,799.69	3,798.99	3,798.99	13.33	13.39	-165.22	0.29	34.99	46.25	27.36	18.89	2.448		
3,900.00	3,899.27	3,898.57	3,898.57	13.67	13.74	-167.62	0.29	34.99	55.15	35.77	19.38	2.846		
3,966.99	3,965.83	3,965.13	3,965.13	13.90	13.98	-169.09	0.29	34.99	62.58	42.87	19.71	3.175		
4,000.00	3,998.59	3,997.89	3,997.89	14.02	14.10	-169.74	0.29	34.99	66.54	46.67	19.87	3.349		
4,100.00	4,097.84	4,097.14	4,097.14	14.37	14.45	-171.33	0.29	34.99	78.57	58.21	20.36	3.859		
4,200.00	4,197.10	4,196.40	4,196.40	14.72	14.81	-172.49	0.29	34.99	90.65	69.80	20.85	4.348		
4,300.00	4,296.35	4,295.65	4,295.65	15.07	15.17	-173.38	0.29	34.99	102.75	81.41	21.34	4.815		
4,400.00	4,395.61	4,394.91	4,394.91	15.43	15.52	-174.08	0.29	34.99	114.88	93.04	21.83	5.262		
4,500.00	4,494.86	4,494.16	4,494.16	15.79	15.88	-174.65	0.29	34.99	127.01	104.69	22.33	5.689		
4,600.00	4,594.11	4,592.81	4,592.80	16.15	16.21	-174.65	-0.73	35.47	139.36	116.56	22.81	6.111		
4,700.00	4,693.37	4,691.25	4,691.17	16.51	16.54	-173.71	-4.04	37.03	152.19	128.92	23.27	6.539		
4,800.00	4,792.62	4,789.38	4,789.11	16.88	16.86	-172.05	-9.63	39.65	165.60	141.87	23.74	6.976		
4,900.00	4,891.87	4,887.08	4,886.42	17.25	17.17	-169.87	-17.44	43.33	179.78	155.58	24.20	7.429		
5,000.00	4,991.13	4,985.52	4,984.32	17.62	17.50	-167.54	-26.74	47.69	194.65	169.98	24.67	7.890		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well 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:	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	
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	5,090.38	5,084.12	5,082.38	17.99	17.83	-165.54	-36.06	52.08	209.80	184.65	25.15	8.343		
5,200.00	5,189.63	5,182.72	5,180.44	18.36	18.16	-163.81	-45.39	56.46	225.17	199.54	25.62	8.788		
5,300.00	5,288.89	5,281.31	5,278.49	18.74	18.49	-162.29	-54.72	60.84	240.71	214.61	26.10	9.221		
5,400.00	5,388.14	5,379.91	5,376.55	19.11	18.82	-160.97	-64.05	65.23	256.40	229.81	26.59	9.644		
5,500.00	5,487.39	5,478.51	5,474.61	19.49	19.16	-159.79	-73.37	69.61	272.20	245.13	27.07	10.055		
5,600.00	5,586.65	5,577.11	5,572.67	19.87	19.50	-158.75	-82.70	74.00	288.11	260.55	27.56	10.454		
5,700.00	5,685.90	5,675.70	5,670.72	20.25	19.84	-157.81	-92.03	78.38	304.10	276.05	28.05	10.842		
5,800.00	5,785.16	5,774.30	5,768.78	20.63	20.18	-156.97	-101.35	82.76	320.16	291.62	28.54	11.218		
5,900.00	5,884.41	5,872.90	5,866.84	21.01	20.52	-156.20	-110.68	87.15	336.28	307.25	29.03	11.582		
6,000.00	5,983.66	5,971.50	5,964.90	21.39	20.87	-155.51	-120.01	91.53	352.45	322.93	29.53	11.936		
6,100.00	6,082.92	6,070.09	6,062.95	21.78	21.22	-154.88	-129.33	95.91	368.68	338.65	30.03	12.279		
6,200.00	6,182.17	6,168.69	6,161.01	22.16	21.57	-154.30	-138.66	100.30	384.94	354.41	30.52	12.611		
6,300.00	6,281.42	6,267.29	6,259.07	22.55	21.92	-153.77	-147.99	104.68	401.23	370.21	31.02	12.933		
6,400.00	6,380.68	6,365.89	6,357.13	22.94	22.27	-153.28	-157.32	109.06	417.56	386.03	31.52	13.246		
6,500.00	6,479.93	6,464.48	6,455.18	23.32	22.62	-152.83	-166.64	113.45	433.91	401.89	32.03	13.548		
6,600.00	6,579.18	6,563.08	6,553.24	23.71	22.98	-152.41	-175.97	117.83	450.29	417.76	32.53	13.842		
6,700.00	6,678.44	6,665.07	6,654.70	24.10	23.34	-152.04	-185.31	122.22	466.52	433.46	33.06	14.112		
6,800.00	6,777.69	6,771.08	6,760.39	24.49	23.72	-151.94	-192.73	125.71	481.47	447.87	33.60	14.328		
6,900.00	6,876.95	6,877.52	6,866.70	24.88	24.10	-152.13	-197.51	127.96	494.93	460.79	34.14	14.496		
7,000.00	6,976.20	6,984.25	6,973.40	25.27	24.46	-152.60	-199.61	128.94	506.91	472.24	34.67	14.621		
7,100.00	7,075.45	7,085.60	7,074.75	25.66	24.82	-153.23	-199.71	128.99	517.85	482.67	35.18	14.721		
7,200.00	7,174.71	7,184.86	7,174.01	26.05	25.16	-153.82	-199.71	128.99	528.78	493.10	35.68	14.821		
7,300.00	7,273.96	7,284.11	7,273.26	26.45	25.51	-154.39	-199.71	128.99	539.76	503.59	36.18	14.919		
7,400.00	7,373.21	7,383.36	7,372.51	26.84	25.86	-154.94	-199.71	128.99	550.80	514.12	36.68	15.016		
7,500.00	7,472.47	7,482.62	7,471.77	27.23	26.21	-155.46	-199.71	128.99	561.89	524.71	37.18	15.112		
7,600.00	7,571.72	7,581.87	7,571.02	27.63	26.56	-155.97	-199.71	128.99	573.02	535.33	37.68	15.206		
7,700.00	7,670.97	7,681.12	7,670.27	28.02	26.91	-156.46	-199.71	128.99	584.19	546.01	38.19	15.299		
7,800.00	7,770.23	7,780.38	7,769.53	28.42	27.25	-156.92	-199.71	128.99	595.40	556.72	38.69	15.390		
7,900.00	7,869.48	7,879.63	7,868.78	28.81	27.60	-157.38	-199.71	128.99	606.65	567.47	39.19	15.480		
8,000.00	7,968.73	7,978.88	7,968.03	29.21	27.95	-157.81	-199.71	128.99	617.94	578.25	39.69	15.569		
8,100.00	8,067.99	8,078.14	8,067.29	29.60	28.30	-158.23	-199.71	128.99	629.26	589.07	40.19	15.656		
8,200.00	8,167.24	8,177.39	8,166.54	30.00	28.65	-158.63	-199.71	128.99	640.62	599.92	40.70	15.741		
8,267.43	8,234.17	8,244.32	8,233.47	30.27	28.89	-158.90	-199.71	128.99	648.29	607.25	41.04	15.798		
8,300.00	8,266.51	8,276.66	8,265.81	30.40	29.00	-159.04	-199.71	128.99	651.87	610.67	41.20	15.823		
8,400.00	8,366.00	8,376.15	8,365.30	30.78	29.35	-159.40	-199.71	128.99	661.27	619.57	41.70	15.857		
8,500.00	8,465.72	8,475.87	8,465.02	31.16	29.70	-159.66	-199.71	128.99	668.24	626.04	42.20	15.834		
8,600.00	8,565.60	8,575.75	8,564.90	31.52	30.05	-159.83	-199.71	128.99	672.77	630.07	42.70	15.755		
8,700.00	8,665.58	8,675.73	8,664.88	31.87	30.41	-159.90	-199.71	128.99	674.84	631.64	43.20	15.621		
8,734.42	8,700.00	8,710.15	8,699.30	31.98	30.53	89.98	-199.71	128.99	674.99	631.62	43.37	15.563		
8,800.00	8,765.58	8,775.73	8,764.88	32.20	30.76	89.98	-199.71	128.99	674.99	631.30	43.69	15.448		
8,900.00	8,865.58	8,875.73	8,864.88	32.54	31.11	89.98	-199.71	128.99	674.99	630.80	44.19	15.276		
9,000.00	8,965.58	8,975.73	8,964.88	32.87	31.47	89.98	-199.71	128.99	674.99	630.31	44.68	15.107		
9,100.00	9,065.58	9,075.73	9,064.88	33.21	31.82	89.98	-199.71	128.99	674.99	629.82	45.17	14.942		
9,200.00	9,165.58	9,175.73	9,164.88	33.54	32.17	89.98	-199.71	128.99	674.99	629.32	45.67	14.781		
9,300.00	9,265.58	9,275.73	9,264.88	33.88	32.53	89.98	-199.71	128.99	674.99	628.83	46.16	14.623		
9,400.00	9,365.58	9,375.73	9,364.88	34.22	32.88	89.98	-199.71	128.99	674.99	628.34	46.65	14.468		
9,500.00	9,465.58	9,475.73	9,464.88	34.55	33.23	89.98	-199.71	128.99	674.99	627.84	47.15	14.316		
9,600.00	9,565.58	9,575.73	9,564.88	34.89	33.59	89.98	-199.71	128.99	674.99	627.35	47.64	14.167		
9,700.00	9,665.58	9,675.73	9,664.88	35.23	33.94	89.98	-199.71	128.99	674.99	626.85	48.14	14.022		
9,800.00	9,765.58	9,775.73	9,764.88	35.57	34.30	89.98	-199.71	128.99	674.99	626.36	48.63	13.879		
9,900.00	9,865.58	9,875.73	9,864.88	35.91	34.65	89.98	-199.71	128.99	674.99	625.86	49.13	13.739		
10,000.00	9,965.58	9,975.73	9,964.88	36.25	35.00	89.98	-199.71	128.99	674.99	625.37	49.63	13.602		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
10,100.00	10,065.58	10,075.73	10,064.88	36.59	35.36	89.98	-199.71	128.99	674.99	624.87	50.12	13.467		
10,200.00	10,165.58	10,175.73	10,164.88	36.93	35.71	89.98	-199.71	128.99	674.99	624.37	50.62	13.335		
10,300.00	10,265.58	10,275.73	10,264.88	37.27	36.07	89.98	-199.71	128.99	674.99	623.88	51.11	13.206		
10,400.00	10,365.58	10,375.73	10,364.88	37.61	36.42	89.98	-199.71	128.99	674.99	623.38	51.61	13.079		
10,500.00	10,465.58	10,475.73	10,464.88	37.95	36.78	89.98	-199.71	128.99	674.99	622.88	52.11	12.954		
10,600.00	10,565.58	10,575.73	10,564.88	38.29	37.13	89.98	-199.71	128.99	674.99	622.39	52.60	12.832		
10,700.00	10,665.58	10,675.73	10,664.88	38.63	37.49	89.98	-199.71	128.99	674.99	621.89	53.10	12.711		
10,800.00	10,765.58	10,775.73	10,764.88	38.97	37.84	89.98	-199.71	128.99	674.99	621.39	53.60	12.593		
10,900.00	10,865.58	10,875.73	10,864.88	39.32	38.20	89.98	-199.71	128.99	674.99	620.89	54.10	12.478		
11,000.00	10,965.58	10,975.73	10,964.88	39.66	38.55	89.98	-199.71	128.99	674.99	620.40	54.59	12.364		
11,100.00	11,065.58	11,075.73	11,064.88	40.00	38.91	89.98	-199.71	128.99	674.99	619.90	55.09	12.252		
11,200.00	11,165.58	11,176.10	11,165.10	40.35	39.26	89.64	-195.77	128.95	674.97	619.38	55.58	12.143		
11,214.72	11,180.29	11,190.72	11,179.59	40.40	39.31	89.48	-193.87	128.94	674.96	619.31	55.65	12.128		
11,300.00	11,265.58	11,272.81	11,259.74	40.69	39.57	88.00	-176.41	128.78	675.21	619.17	56.04	12.050		
11,400.00	11,365.58	11,360.86	11,341.96	41.03	39.84	85.35	-145.18	128.50	677.11	620.70	56.41	12.003		
11,434.42	11,400.00	11,388.66	11,366.82	41.15	39.91	84.30	-132.74	128.38	678.51	621.99	56.51	12.007		
11,450.00	11,415.57	11,400.00	11,376.78	41.20	39.95	84.31	-127.32	128.33	679.29	622.74	56.55	12.013		
11,500.00	11,465.43	11,439.47	11,410.58	41.37	40.05	82.51	-106.94	128.15	682.23	625.57	56.66	12.042		
11,550.00	11,514.79	11,477.19	11,441.49	41.53	40.14	80.79	-85.34	127.95	685.74	629.02	56.72	12.090		
11,600.00	11,563.28	11,514.16	11,470.34	41.69	40.23	79.13	-62.24	127.74	689.73	632.99	56.74	12.155		
11,650.00	11,610.53	11,550.00	11,496.84	41.83	40.32	77.55	-38.11	127.52	694.07	637.35	56.72	12.237		
11,700.00	11,656.17	11,586.18	11,522.00	41.96	40.40	76.01	-12.12	127.29	698.65	641.99	56.66	12.330		
11,750.00	11,699.86	11,621.40	11,544.87	42.09	40.49	74.58	14.65	127.04	703.36	646.79	56.57	12.433		
11,800.00	11,741.27	11,650.00	11,562.21	42.19	40.55	73.38	37.39	126.84	708.14	651.75	56.39	12.558		
11,850.00	11,780.08	11,690.59	11,584.82	42.29	40.65	71.99	71.09	126.53	712.77	656.46	56.31	12.658		
11,900.00	11,816.01	11,724.66	11,601.91	42.37	40.73	70.86	100.56	126.27	717.26	661.11	56.16	12.772		
11,950.00	11,848.76	11,758.45	11,617.11	42.43	40.81	69.83	130.73	125.99	721.51	665.51	56.00	12.884		
12,000.00	11,878.10	11,792.00	11,630.41	42.49	40.89	68.92	161.52	125.71	725.44	669.58	55.85	12.988		
12,050.00	11,903.80	11,825.34	11,641.82	42.54	40.97	68.13	192.85	125.43	728.97	673.25	55.72	13.082		
12,100.00	11,925.67	11,858.51	11,651.35	42.58	41.06	67.45	224.61	125.14	732.04	676.43	55.61	13.163		
12,150.00	11,943.53	11,891.55	11,658.99	42.62	41.14	66.90	256.74	124.85	734.62	679.08	55.54	13.227		
12,200.00	11,957.26	11,924.47	11,664.76	42.67	41.22	66.47	289.15	124.55	736.65	681.15	55.50	13.273		
12,250.00	11,966.75	11,950.00	11,667.94	42.75	41.29	66.20	314.48	124.32	738.17	682.68	55.48	13.305		
12,300.00	11,971.92	11,990.11	11,670.65	42.84	41.40	65.99	354.49	123.96	738.97	683.40	55.57	13.298		
12,345.40	11,972.85	12,020.42	11,670.84	42.95	41.48	65.94	384.79	123.69	739.23	683.56	55.67	13.278		
12,400.00	11,971.81	12,075.01	11,669.89	43.11	41.64	65.95	439.38	123.19	739.20	683.33	55.87	13.230		
12,500.00	11,969.89	12,175.01	11,668.15	43.44	41.99	65.96	539.36	122.28	739.13	682.84	56.30	13.129		
12,600.00	11,967.98	12,275.01	11,666.41	43.84	42.39	65.97	639.34	121.38	739.07	682.27	56.80	13.012		
12,700.00	11,966.06	12,375.01	11,664.67	44.30	42.86	65.99	739.32	120.47	739.01	681.63	57.38	12.878		
12,800.00	11,964.14	12,475.01	11,662.93	44.81	43.38	66.00	839.30	119.56	738.95	680.91	58.04	12.732		
12,900.00	11,962.23	12,575.01	11,661.19	45.38	43.96	66.01	939.28	118.65	738.88	680.11	58.77	12.573		
13,000.00	11,960.31	12,675.01	11,659.45	46.00	44.59	66.03	1,039.26	117.75	738.82	679.25	59.57	12.403		
13,100.00	11,958.40	12,775.01	11,657.71	46.66	45.27	66.04	1,139.24	116.84	738.76	678.32	60.44	12.224		
13,200.00	11,956.48	12,875.01	11,655.97	47.38	46.01	66.05	1,239.22	115.93	738.69	677.33	61.37	12.037		
13,300.00	11,954.57	12,975.01	11,654.23	48.14	46.79	66.06	1,339.20	115.02	738.63	676.27	62.36	11.845		
13,400.00	11,952.65	13,075.01	11,652.49	48.94	47.61	66.08	1,439.18	114.12	738.57	675.16	63.41	11.647		
13,500.00	11,950.73	13,175.01	11,650.75	49.78	48.48	66.09	1,539.16	113.21	738.51	673.99	64.52	11.446		
13,600.00	11,948.82	13,275.01	11,649.01	50.67	49.38	66.10	1,639.14	112.30	738.44	672.76	65.68	11.243		
13,700.00	11,946.90	13,375.01	11,647.27	51.59	50.33	66.11	1,739.13	111.40	738.38	671.49	66.89	11.039		
13,800.00	11,944.99	13,475.01	11,645.52	52.55	51.31	66.13	1,839.11	110.49	738.32	670.17	68.15	10.834		
13,900.00	11,943.07	13,575.01	11,643.78	53.54	52.32	66.14	1,939.09	109.58	738.25	668.81	69.45	10.630		
14,000.00	11,941.16	13,675.01	11,642.04	54.56	53.37	66.15	2,039.07	108.67	738.19	667.40	70.79	10.427		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well 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	11,939.24	13,775.01	11,640.30	55.61	54.44	66.16	2,139.05	107.77	738.13	665.95	72.18	10.227		
14,200.00	11,937.32	13,875.01	11,638.56	56.69	55.55	66.18	2,239.03	106.86	738.07	664.47	73.60	10.028		
14,300.00	11,935.41	13,975.01	11,636.82	57.80	56.68	66.19	2,339.01	105.95	738.00	662.95	75.06	9.833		
14,400.00	11,933.49	14,075.01	11,635.08	58.93	57.83	66.20	2,438.99	105.04	737.94	661.40	76.55	9.640		
14,500.00	11,931.58	14,175.01	11,633.34	60.09	59.01	66.22	2,538.97	104.14	737.88	659.81	78.07	9.452		
14,600.00	11,929.66	14,275.01	11,631.60	61.27	60.21	66.23	2,638.95	103.23	737.82	658.20	79.62	9.267		
14,700.00	11,927.75	14,375.01	11,629.86	62.47	61.44	66.24	2,738.93	102.32	737.76	656.56	81.20	9.086		
14,800.00	11,925.83	14,475.01	11,628.12	63.69	62.68	66.25	2,838.91	101.41	737.69	654.89	82.81	8.909		
14,900.00	11,923.91	14,575.01	11,626.38	64.93	63.94	66.27	2,938.89	100.51	737.63	653.19	84.44	8.736		
15,000.00	11,922.00	14,675.01	11,624.64	66.18	65.22	66.28	3,038.87	99.60	737.57	651.48	86.09	8.567		
15,100.00	11,920.08	14,775.01	11,622.90	67.46	66.51	66.29	3,138.85	98.69	737.51	649.74	87.77	8.403		
15,200.00	11,918.17	14,875.01	11,621.16	68.75	67.82	66.30	3,238.83	97.79	737.44	647.98	89.46	8.243		
15,300.00	11,916.25	14,975.01	11,619.42	70.05	69.15	66.32	3,338.81	96.88	737.38	646.21	91.18	8.087		
15,400.00	11,914.33	15,075.01	11,617.68	71.37	70.49	66.33	3,438.80	95.97	737.32	644.41	92.91	7.936		
15,500.00	11,912.42	15,175.01	11,615.93	72.71	71.84	66.34	3,538.78	95.06	737.26	642.60	94.66	7.788		
15,600.00	11,910.50	15,275.01	11,614.19	74.05	73.20	66.36	3,638.76	94.16	737.20	640.77	96.43	7.645		
15,700.00	11,908.59	15,375.01	11,612.45	75.41	74.58	66.37	3,738.74	93.25	737.13	638.92	98.21	7.506		
15,800.00	11,906.67	15,475.01	11,610.71	76.78	75.96	66.38	3,838.72	92.34	737.07	637.06	100.01	7.370		
15,900.00	11,904.76	15,575.01	11,608.97	78.16	77.36	66.39	3,938.70	91.43	737.01	635.19	101.82	7.238		
16,000.00	11,902.84	15,675.01	11,607.23	79.55	78.77	66.41	4,038.68	90.53	736.95	633.30	103.65	7.110		
16,100.00	11,900.92	15,775.01	11,605.49	80.95	80.18	66.42	4,138.66	89.62	736.89	631.41	105.48	6.986		
16,200.00	11,899.01	15,875.01	11,603.75	82.37	81.61	66.43	4,238.64	88.71	736.83	629.49	107.33	6.865		
16,300.00	11,897.09	15,975.01	11,602.01	83.78	83.04	66.45	4,338.62	87.81	736.76	627.57	109.19	6.748		
16,400.00	11,895.18	16,075.01	11,600.27	85.21	84.48	66.46	4,438.60	86.90	736.70	625.64	111.06	6.633		
16,500.00	11,893.26	16,175.01	11,598.53	86.65	85.93	66.47	4,538.58	85.99	736.64	623.70	112.94	6.523		
16,600.00	11,891.35	16,275.01	11,596.79	88.09	87.39	66.48	4,638.56	85.08	736.58	621.75	114.83	6.415		
16,700.00	11,889.43	16,375.01	11,595.05	89.54	88.85	66.50	4,738.54	84.18	736.52	619.79	116.73	6.310		
16,800.00	11,887.51	16,475.01	11,593.31	91.00	90.32	66.51	4,838.52	83.27	736.46	617.83	118.63	6.208		
16,900.00	11,885.60	16,575.01	11,591.57	92.46	91.80	66.52	4,938.50	82.36	736.39	615.85	120.54	6.109		
17,000.00	11,883.68	16,675.01	11,589.83	93.93	93.28	66.53	5,038.48	81.45	736.33	613.87	122.47	6.013		
17,100.00	11,881.77	16,775.01	11,588.09	95.40	94.77	66.55	5,138.47	80.55	736.27	611.88	124.40	5.919		
17,200.00	11,879.85	16,875.01	11,586.34	96.89	96.26	66.56	5,238.45	79.64	736.21	609.88	126.33	5.828		
17,300.00	11,877.94	16,975.01	11,584.60	98.37	97.76	66.57	5,338.43	78.73	736.15	607.88	128.27	5.739		
17,400.00	11,876.02	17,075.01	11,582.86	99.86	99.26	66.59	5,438.41	77.82	736.09	605.87	130.22	5.653		
17,500.00	11,874.10	17,175.01	11,581.12	101.36	100.77	66.60	5,538.39	76.92	736.03	603.85	132.17	5.569		
17,600.00	11,872.19	17,275.01	11,579.38	102.86	102.28	66.61	5,638.37	76.01	735.96	601.83	134.13	5.487		
17,700.00	11,870.27	17,375.01	11,577.64	104.37	103.79	66.62	5,738.35	75.10	735.90	599.81	136.10	5.407		
17,800.00	11,868.36	17,475.01	11,575.90	105.88	105.32	66.64	5,838.33	74.20	735.84	597.77	138.07	5.330		
17,900.00	11,866.44	17,575.01	11,574.16	107.39	106.84	66.65	5,938.31	73.29	735.78	595.74	140.04	5.254		
18,000.00	11,864.53	17,675.01	11,572.42	108.91	108.37	66.66	6,038.29	72.38	735.72	593.70	142.02	5.180		
18,100.00	11,862.61	17,775.01	11,570.68	110.44	109.90	66.68	6,138.27	71.47	735.66	591.65	144.01	5.109		
18,200.00	11,860.69	17,875.01	11,568.94	111.96	111.43	66.69	6,238.25	70.57	735.60	589.60	145.99	5.039		
18,300.00	11,858.78	17,975.01	11,567.20	113.49	112.97	66.70	6,338.23	69.66	735.54	587.55	147.98	4.970		
18,400.00	11,856.86	18,075.01	11,565.46	115.02	114.51	66.71	6,438.21	68.75	735.48	585.50	149.98	4.904		
18,500.00	11,854.95	18,175.01	11,563.72	116.56	116.06	66.73	6,538.19	67.84	735.42	583.44	151.98	4.839		
18,600.00	11,853.03	18,275.01	11,561.98	118.10	117.60	66.74	6,638.17	66.94	735.35	581.37	153.98	4.776		
18,700.00	11,851.12	18,375.01	11,560.24	119.64	119.15	66.75	6,738.15	66.03	735.29	579.31	155.99	4.714		
18,800.00	11,849.20	18,475.01	11,558.49	121.19	120.71	66.77	6,838.14	65.12	735.23	577.24	157.99	4.654		
18,900.00	11,847.28	18,575.01	11,556.75	122.74	122.26	66.78	6,938.12	64.22	735.17	575.16	160.01	4.595		
19,000.00	11,845.37	18,675.00	11,555.01	124.29	123.82	66.79	7,038.10	63.31	735.11	573.09	162.02	4.537		
19,100.00	11,843.45	18,775.00	11,553.27	125.84	125.38	66.80	7,138.08	62.40	735.05	571.01	164.04	4.481		
19,200.00	11,841.54	18,875.00	11,551.53	127.39	126.94	66.82	7,238.06	61.49	734.99	568.93	166.06	4.426		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well 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	11,839.62	18,975.00	11,549.79	128.95	128.51	66.83	7,338.04	60.59	734.93	566.85	168.08	4.372			
19,400.00	11,837.71	19,075.00	11,548.05	130.51	130.07	66.84	7,438.02	59.68	734.87	564.76	170.10	4.320			
19,500.00	11,835.79	19,175.00	11,546.31	132.08	131.64	66.85	7,538.00	58.77	734.81	562.68	172.13	4.269			
19,600.00	11,833.87	19,275.00	11,544.57	133.64	133.22	66.87	7,637.98	57.86	734.75	560.59	174.16	4.219			
19,700.00	11,831.96	19,375.00	11,542.83	135.21	134.79	66.88	7,737.96	56.96	734.69	558.50	176.19	4.170			
19,800.00	11,830.04	19,475.00	11,541.09	136.78	136.36	66.89	7,837.94	56.05	734.63	556.40	178.22	4.122			
19,900.00	11,828.13	19,575.00	11,539.35	138.35	137.94	66.91	7,937.92	55.14	734.57	554.31	180.26	4.075			
20,000.00	11,826.21	19,675.00	11,537.61	139.92	139.52	66.92	8,037.90	54.23	734.51	552.21	182.29	4.029			
20,100.00	11,824.30	19,775.00	11,535.87	141.49	141.10	66.93	8,137.88	53.33	734.45	550.12	184.33	3.984			
20,200.00	11,822.38	19,875.00	11,534.13	143.07	142.68	66.94	8,237.86	52.42	734.39	548.02	186.37	3.940			
20,300.00	11,820.46	19,975.00	11,532.39	144.65	144.26	66.96	8,337.84	51.51	734.33	545.91	188.41	3.897			
20,400.00	11,818.55	20,075.00	11,530.65	146.23	145.85	66.97	8,437.82	50.61	734.26	543.81	190.45	3.855			
20,500.00	11,816.63	20,175.00	11,528.90	147.81	147.43	66.98	8,537.80	49.70	734.20	541.71	192.50	3.814			
20,600.00	11,814.72	20,275.00	11,527.16	149.39	149.02	67.00	8,637.79	48.79	734.14	539.60	194.54	3.774			
20,700.00	11,812.80	20,375.00	11,525.42	150.98	150.61	67.01	8,737.77	47.88	734.08	537.50	196.59	3.734			
20,800.00	11,810.89	20,475.00	11,523.68	152.56	152.20	67.02	8,837.75	46.98	734.02	535.39	198.63	3.695			
20,900.00	11,808.97	20,575.00	11,521.94	154.15	153.79	67.03	8,937.73	46.07	733.96	533.28	200.68	3.657			
21,000.00	11,807.05	20,675.00	11,520.20	155.74	155.39	67.05	9,037.71	45.16	733.90	531.18	202.73	3.620			
21,100.00	11,805.14	20,775.00	11,518.46	157.33	156.98	67.06	9,137.69	44.25	733.84	529.07	204.78	3.584			
21,200.00	11,803.22	20,875.00	11,516.72	158.92	158.58	67.07	9,237.67	43.35	733.78	526.95	206.83	3.548			
21,300.00	11,801.31	20,975.00	11,514.98	160.51	160.17	67.09	9,337.65	42.44	733.72	524.84	208.88	3.513			
21,400.00	11,799.39	21,075.00	11,513.24	162.10	161.77	67.10	9,437.63	41.53	733.66	522.73	210.93	3.478			
21,500.00	11,797.48	21,175.00	11,511.50	163.70	163.37	67.11	9,537.61	40.63	733.61	520.62	212.99	3.444			
21,600.00	11,795.56	21,275.00	11,509.76	165.29	164.97	67.12	9,637.59	39.72	733.55	518.51	215.04	3.411			
21,700.00	11,793.64	21,375.00	11,508.02	166.89	166.57	67.14	9,737.57	38.81	733.49	516.39	217.09	3.379			
21,800.00	11,791.73	21,475.00	11,506.28	168.49	168.17	67.15	9,837.55	37.90	733.43	514.28	219.15	3.347			
21,900.00	11,789.81	21,575.00	11,504.54	170.08	169.77	67.16	9,937.53	37.00	733.37	512.16	221.20	3.315			
22,000.00	11,787.90	21,675.00	11,502.80	171.68	171.38	67.18	10,037.51	36.09	733.31	510.05	223.26	3.285			
22,100.00	11,785.98	21,775.00	11,501.06	173.29	172.98	67.19	10,137.49	35.18	733.25	507.93	225.32	3.254			
22,129.79	11,785.41	21,804.79	11,500.54	173.76	173.46	67.19	10,167.28	34.91	733.23	507.30	225.93	3.245			

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	89.53	0.58	69.99	70.00					
100.00	100.00	99.00	99.00	0.13	0.12	89.53	0.58	69.99	69.99	69.82	0.18	396.446		
200.00	200.00	199.00	199.00	0.48	0.48	89.53	0.58	69.99	69.99	69.31	0.68	102.649		
300.00	300.00	299.00	299.00	0.84	0.84	89.53	0.58	69.99	69.99	68.80	1.19	58.876		
400.00	400.00	399.00	399.00	1.20	1.20	89.53	0.58	69.99	69.99	68.30	1.70	41.275		
500.00	500.00	499.00	499.00	1.56	1.56	89.53	0.58	69.99	69.99	67.79	2.20	31.775		
600.00	600.00	599.00	599.00	1.92	1.91	89.53	0.58	69.99	69.99	67.28	2.71	25.831		
700.00	700.00	699.00	699.00	2.28	2.27	89.53	0.58	69.99	69.99	66.78	3.22	21.760		
800.00	800.00	799.00	799.00	2.63	2.63	89.53	0.58	69.99	69.99	66.27	3.72	18.797		
900.00	900.00	899.00	899.00	2.99	2.99	89.53	0.58	69.99	69.99	65.76	4.23	16.545		
1,000.00	1,000.00	999.00	999.00	3.35	3.35	89.53	0.58	69.99	69.99	65.25	4.74	14.774		
1,100.00	1,100.00	1,099.00	1,099.00	3.71	3.71	89.53	0.58	69.99	69.99	64.75	5.24	13.346		
1,200.00	1,200.00	1,199.00	1,199.00	4.07	4.07	89.53	0.58	69.99	69.99	64.24	5.75	12.170		
1,300.00	1,300.00	1,299.00	1,299.00	4.43	4.42	89.53	0.58	69.99	69.99	63.73	6.26	11.184		
1,400.00	1,400.00	1,399.00	1,399.00	4.79	4.78	89.53	0.58	69.99	69.99	63.23	6.77	10.346		
1,500.00	1,500.00	1,499.00	1,499.00	5.14	5.14	89.53	0.58	69.99	69.99	62.72	7.27	9.625		
1,600.00	1,600.00	1,599.00	1,599.00	5.50	5.50	89.53	0.58	69.99	69.99	62.21	7.78	8.997		
1,700.00	1,700.00	1,699.00	1,699.00	5.86	5.86	89.53	0.58	69.99	69.99	61.71	8.29	8.447		
1,800.00	1,800.00	1,799.00	1,799.00	6.22	6.22	89.53	0.58	69.99	69.99	61.20	8.79	7.960		
1,900.00	1,900.00	1,899.00	1,899.00	6.58	6.57	89.53	0.58	69.99	69.99	60.69	9.30	7.526		
2,000.00	2,000.00	1,999.00	1,999.00	6.94	6.93	89.53	0.58	69.99	69.99	60.19	9.81	7.137		
2,100.00	2,100.00	2,099.00	2,099.00	7.29	7.29	89.53	0.58	69.99	69.99	59.68	10.31	6.786		
2,200.00	2,200.00	2,199.00	2,199.00	7.65	7.65	89.53	0.58	69.99	69.99	59.17	10.82	6.468		
2,300.00	2,300.00	2,299.00	2,299.00	8.01	8.01	89.53	0.58	69.99	69.99	58.66	11.33	6.179		
2,400.00	2,400.00	2,399.00	2,399.00	8.37	8.37	89.53	0.58	69.99	69.99	58.16	11.83	5.914		
2,500.00	2,500.00	2,499.00	2,499.00	8.73	8.73	89.53	0.58	69.99	69.99	57.65	12.34	5.671		
2,600.00	2,600.00	2,599.00	2,599.00	9.09	9.08	89.53	0.58	69.99	69.99	57.14	12.85	5.447		
2,700.00	2,700.00	2,699.00	2,699.00	9.45	9.44	89.53	0.58	69.99	69.99	56.64	13.36	5.241		
2,800.00	2,800.00	2,799.00	2,799.00	9.80	9.80	89.53	0.58	69.99	69.99	56.13	13.86	5.049		
2,900.00	2,900.00	2,899.00	2,899.00	10.16	10.16	89.53	0.58	69.99	69.99	55.62	14.37	4.871		
3,000.00	3,000.00	2,999.00	2,999.00	10.52	10.52	89.53	0.58	69.99	69.99	55.12	14.88	4.705		
3,100.00	3,100.00	3,099.00	3,099.00	10.88	10.88	89.53	0.58	69.99	69.99	54.61	15.38	4.550		
3,200.00	3,200.00	3,199.00	3,199.00	11.24	11.23	89.53	0.58	69.99	69.99	54.10	15.89	4.405 CC, ES		
3,300.00	3,300.00	3,297.43	3,297.42	11.60	11.57	90.02	-0.02	71.08	71.09	54.71	16.38	4.340		
3,400.00	3,400.00	3,395.71	3,395.62	11.96	11.90	91.43	-1.86	74.37	74.47	57.62	16.85	4.419		
3,500.00	3,500.00	3,493.73	3,493.44	12.31	12.23	93.52	-4.91	79.85	80.20	62.88	17.31	4.633		
3,600.00	3,599.99	3,592.52	3,591.87	12.66	12.57	-154.30	-9.00	87.19	89.12	71.34	17.78	5.013		
3,700.00	3,699.91	3,691.84	3,690.81	13.00	12.90	-153.21	-13.21	94.74	100.64	82.39	18.25	5.515		
3,800.00	3,799.69	3,790.87	3,789.47	13.33	13.24	-152.92	-17.41	102.28	114.49	95.77	18.72	6.116		
3,900.00	3,899.27	3,889.55	3,887.77	13.67	13.59	-153.19	-21.59	109.78	130.65	111.46	19.20	6.806		
3,966.99	3,965.83	3,955.43	3,953.40	13.90	13.81	-153.58	-24.38	114.79	142.77	123.26	19.51	7.316		
4,000.00	3,998.59	3,987.83	3,985.69	14.02	13.93	-153.84	-25.75	117.26	149.00	129.33	19.67	7.575		
4,100.00	4,097.84	4,086.02	4,083.50	14.37	14.27	-154.50	-29.91	124.73	167.89	147.75	20.15	8.334		
4,200.00	4,197.10	4,184.20	4,181.31	14.72	14.62	-155.02	-34.07	132.20	186.80	166.18	20.62	9.058		
4,300.00	4,296.35	4,282.38	4,279.12	15.07	14.96	-155.45	-38.24	139.66	205.72	184.62	21.10	9.749		
4,400.00	4,395.61	4,380.57	4,376.93	15.43	15.31	-155.80	-42.40	147.13	224.65	203.07	21.58	10.409		
4,500.00	4,494.86	4,478.75	4,474.74	15.79	15.66	-156.10	-46.56	154.60	243.59	221.52	22.06	11.040		
4,600.00	4,494.11	4,476.93	4,472.55	16.15	16.01	-156.36	-50.72	162.07	262.53	239.98	22.55	11.643		
4,700.00	4,493.37	4,475.12	4,470.36	16.51	16.36	-156.58	-54.88	169.54	281.47	258.44	23.03	12.220		
4,800.00	4,492.62	4,473.30	4,468.17	16.88	16.72	-156.78	-59.04	177.00	300.42	276.90	23.52	12.773		
4,900.00	4,491.87	4,471.48	4,465.98	17.25	17.07	-156.95	-63.20	184.47	319.38	295.37	24.01	13.303		
5,000.00	4,491.13	4,469.67	4,463.79	17.62	17.42	-157.10	-67.36	191.94	338.33	313.84	24.50	13.811		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.00	5,090.38	5,067.85	5,061.60	17.99	17.78	-157.24	-71.52	199.41	357.29	332.30	24.99	14.299		
5,200.00	5,189.63	5,166.03	5,159.41	18.36	18.14	-157.36	-75.68	206.88	376.25	350.77	25.48	14.767		
5,300.00	5,288.89	5,264.22	5,257.22	18.74	18.50	-157.47	-79.84	214.35	395.21	369.24	25.97	15.217		
5,400.00	5,388.14	5,362.40	5,355.03	19.11	18.85	-157.57	-84.00	221.81	414.17	387.71	26.47	15.650		
5,500.00	5,487.39	5,460.58	5,452.84	19.49	19.21	-157.66	-88.16	229.28	433.13	406.17	26.96	16.066		
5,600.00	5,586.65	5,558.77	5,550.65	19.87	19.57	-157.74	-92.32	236.75	452.10	424.64	27.46	16.467		
5,700.00	5,685.90	5,656.95	5,648.46	20.25	19.94	-157.82	-96.48	244.22	471.06	443.11	27.95	16.853		
5,800.00	5,785.16	5,755.14	5,746.27	20.63	20.30	-157.89	-100.64	251.69	490.03	461.58	28.45	17.225		
5,900.00	5,884.41	5,853.32	5,844.08	21.01	20.66	-157.96	-104.80	259.16	508.99	480.05	28.95	17.584		
6,000.00	5,983.66	5,951.50	5,941.89	21.39	21.02	-158.02	-108.97	266.62	527.96	498.52	29.45	17.930		
6,100.00	6,082.92	6,049.69	6,039.71	21.78	21.38	-158.08	-113.13	274.09	546.93	516.98	29.94	18.264		
6,200.00	6,182.17	6,147.87	6,137.52	22.16	21.75	-158.13	-117.29	281.56	565.90	535.45	30.44	18.588		
6,300.00	6,281.42	6,246.05	6,235.33	22.55	22.11	-158.18	-121.45	289.03	584.86	553.92	30.95	18.900		
6,400.00	6,380.68	6,344.24	6,333.14	22.94	22.48	-158.23	-125.61	296.50	603.83	572.39	31.45	19.202		
6,500.00	6,479.93	6,442.42	6,430.95	23.32	22.84	-158.27	-129.77	303.96	622.80	590.85	31.95	19.494		
6,600.00	6,579.18	6,540.60	6,528.76	23.71	23.21	-158.31	-133.93	311.43	641.77	609.32	32.45	19.776		
6,700.00	6,678.44	6,638.79	6,626.57	24.10	23.57	-158.35	-138.09	318.90	660.74	627.79	32.95	20.050		
6,800.00	6,777.69	6,736.97	6,724.38	24.49	23.94	-158.39	-142.25	326.37	679.71	646.25	33.46	20.316		
6,900.00	6,876.95	6,835.15	6,822.19	24.88	24.31	-158.42	-146.41	333.84	698.68	664.72	33.96	20.573		
7,000.00	6,976.20	6,933.34	6,920.00	25.27	24.67	-158.45	-150.57	341.31	717.65	683.18	34.47	20.822		
7,100.00	7,075.45	7,031.52	7,017.81	25.66	25.04	-158.48	-154.73	348.77	736.62	701.65	34.97	21.064		
7,200.00	7,174.71	7,129.70	7,115.62	26.05	25.41	-158.51	-158.89	356.24	755.59	720.12	35.48	21.298		
7,300.00	7,273.96	7,227.89	7,213.43	26.45	25.78	-158.54	-163.05	363.71	774.56	738.58	35.98	21.526		
7,400.00	7,373.21	7,326.07	7,311.24	26.84	26.15	-158.57	-167.21	371.18	793.53	757.05	36.49	21.748		
7,500.00	7,472.47	7,424.25	7,409.05	27.23	26.51	-158.59	-171.37	378.65	812.51	775.51	36.99	21.963		
7,600.00	7,571.72	7,522.44	7,506.86	27.63	26.88	-158.62	-175.53	386.12	831.48	793.97	37.50	22.172		
7,700.00	7,670.97	7,620.62	7,604.67	28.02	27.25	-158.64	-179.69	393.58	850.45	812.44	38.01	22.375		
7,800.00	7,770.23	7,718.80	7,702.48	28.42	27.62	-158.66	-183.86	401.05	869.42	830.90	38.52	22.572		
7,900.00	7,869.48	7,816.99	7,800.29	28.81	27.99	-158.69	-188.02	408.52	888.39	849.37	39.02	22.765		
8,000.00	7,968.73	7,915.17	7,898.10	29.21	28.36	-158.71	-192.18	415.99	907.36	867.83	39.53	22.952		
8,100.00	8,067.99	8,038.82	8,021.43	29.60	28.82	-158.73	-196.34	423.77	925.04	884.88	40.17	23.029		
8,200.00	8,167.24	8,164.75	8,147.25	30.00	29.27	-158.78	-198.93	428.11	939.88	899.10	40.78	23.046		
8,267.43	8,234.17	8,250.16	8,232.66	30.27	29.57	-158.18	-199.42	428.99	948.26	907.08	41.18	23.027		
8,300.00	8,266.51	8,283.01	8,265.51	30.40	29.68	-159.28	-199.42	428.99	951.85	910.51	41.34	23.023		
8,400.00	8,366.00	8,382.51	8,365.00	30.78	30.02	-159.54	-199.42	428.99	961.26	919.42	41.84	22.974		
8,500.00	8,465.72	8,482.23	8,464.72	31.16	30.36	-159.74	-199.42	428.99	968.24	925.90	42.34	22.869		
8,600.00	8,565.60	8,582.11	8,564.60	31.52	30.70	-159.86	-199.42	428.99	972.77	929.94	42.83	22.710		
8,700.00	8,665.58	8,682.08	8,664.58	31.87	31.04	-159.91	-199.42	428.99	974.84	931.52	43.33	22.500		
8,734.42	8,700.00	8,716.50	8,699.00	31.98	31.16	89.97	-199.42	428.99	974.99	931.50	43.49	22.416		
8,800.00	8,765.58	8,782.08	8,764.58	32.20	31.38	89.97	-199.42	428.99	974.99	931.18	43.81	22.253		
8,900.00	8,865.58	8,882.08	8,864.58	32.54	31.72	89.97	-199.42	428.99	974.99	930.69	44.30	22.008		
9,000.00	8,965.58	8,982.08	8,964.58	32.87	32.06	89.97	-199.42	428.99	974.99	930.20	44.79	21.768		
9,100.00	9,065.58	9,082.08	9,064.58	33.21	32.41	89.97	-199.42	428.99	974.99	929.71	45.28	21.534		
9,200.00	9,165.58	9,182.08	9,164.58	33.54	32.75	89.97	-199.42	428.99	974.99	929.22	45.77	21.304		
9,300.00	9,265.58	9,282.08	9,264.58	33.88	33.09	89.97	-199.42	428.99	974.99	928.74	46.25	21.079		
9,400.00	9,365.58	9,382.08	9,364.58	34.22	33.44	89.97	-199.42	428.99	974.99	928.25	46.74	20.858		
9,500.00	9,465.58	9,482.08	9,464.58	34.55	33.78	89.97	-199.42	428.99	974.99	927.76	47.23	20.642		
9,600.00	9,565.58	9,582.08	9,564.58	34.89	34.12	89.97	-199.42	428.99	974.99	927.27	47.72	20.430		
9,700.00	9,665.58	9,682.08	9,664.58	35.23	34.47	89.97	-199.42	428.99	974.99	926.78	48.21	20.222		
9,800.00	9,765.58	9,782.08	9,764.58	35.57	34.81	89.97	-199.42	428.99	974.99	926.29	48.70	20.018		
9,900.00	9,865.58	9,882.08	9,864.58	35.91	35.16	89.97	-199.42	428.99	974.99	925.79	49.20	19.819		
10,000.00	9,965.58	9,982.08	9,964.58	36.25	35.50	89.97	-199.42	428.99	974.99	925.30	49.69	19.623		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
10,100.00	10,065.58	10,082.08	10,064.58	36.59	35.85	89.97	-199.42	428.99	974.99	924.81	50.18	19.430		
10,200.00	10,165.58	10,182.08	10,164.58	36.93	36.19	89.97	-199.42	428.99	974.99	924.32	50.67	19.242		
10,300.00	10,265.58	10,282.08	10,264.58	37.27	36.54	89.97	-199.42	428.99	974.99	923.83	51.16	19.057		
10,400.00	10,365.58	10,382.08	10,364.58	37.61	36.89	89.97	-199.42	428.99	974.99	923.33	51.66	18.875		
10,500.00	10,465.58	10,482.08	10,464.58	37.95	37.23	89.97	-199.42	428.99	974.99	922.84	52.15	18.697		
10,600.00	10,565.58	10,582.08	10,564.58	38.29	37.58	89.97	-199.42	428.99	974.99	922.35	52.64	18.521		
10,700.00	10,665.58	10,682.08	10,664.58	38.63	37.93	89.97	-199.42	428.99	974.99	921.86	53.13	18.349		
10,800.00	10,765.58	10,782.08	10,764.58	38.97	38.27	89.97	-199.42	428.99	974.99	921.36	53.63	18.181		
10,900.00	10,865.58	10,882.08	10,864.58	39.32	38.62	89.97	-199.42	428.99	974.99	920.87	54.12	18.015		
11,000.00	10,965.58	10,982.08	10,964.58	39.66	38.97	89.97	-199.42	428.99	974.99	920.37	54.62	17.852		
11,100.00	11,065.58	11,082.08	11,064.58	40.00	39.32	89.97	-199.42	428.99	974.99	919.88	55.11	17.692		
11,200.00	11,165.58	11,182.08	11,164.58	40.35	39.66	89.97	-199.42	428.99	974.99	919.39	55.61	17.534		
11,300.00	11,265.58	11,282.32	11,264.81	40.69	40.01	89.95	-199.17	428.99	974.99	918.89	56.10	17.379		
11,380.47	11,346.05	11,363.02	11,345.05	40.97	40.28	89.48	-191.14	428.91	974.96	918.47	56.49	17.259		
11,400.00	11,365.58	11,382.15	11,363.84	41.03	40.34	89.27	-187.59	428.88	974.96	918.38	56.58	17.231		
11,434.42	11,400.00	11,415.21	11,396.01	41.15	40.45	88.82	-179.97	428.81	975.02	918.29	56.74	17.185		
11,450.00	11,415.57	11,429.91	11,410.16	41.20	40.49	89.12	-175.99	428.78	975.08	918.27	56.81	17.165		
11,500.00	11,465.43	11,476.49	11,454.25	41.37	40.63	88.40	-161.01	428.64	975.37	918.34	57.02	17.105		
11,550.00	11,514.79	11,522.18	11,496.18	41.53	40.75	87.69	-142.88	428.48	975.80	918.58	57.22	17.052		
11,600.00	11,563.28	11,567.07	11,535.83	41.69	40.87	87.00	-121.88	428.29	976.38	918.97	57.41	17.007		
11,650.00	11,610.53	11,611.22	11,573.12	41.83	40.97	86.34	-98.25	428.07	977.07	919.48	57.59	16.967		
11,700.00	11,656.17	11,654.71	11,607.96	41.96	41.06	85.70	-72.24	427.84	977.85	920.11	57.74	16.934		
11,750.00	11,699.86	11,700.00	11,642.03	42.09	41.14	85.06	-42.42	427.56	978.71	920.81	57.90	16.904		
11,800.00	11,741.27	11,739.95	11,670.05	42.19	41.20	84.52	-13.96	427.31	979.61	921.59	58.02	16.884		
11,850.00	11,780.08	11,781.81	11,697.21	42.29	41.26	83.98	17.88	427.02	980.54	922.40	58.14	16.865		
11,900.00	11,816.01	11,823.25	11,721.74	42.37	41.31	83.49	51.26	426.71	981.47	923.22	58.25	16.848		
11,950.00	11,848.76	11,864.30	11,743.59	42.43	41.35	83.04	86.01	426.40	982.38	924.02	58.36	16.833		
12,000.00	11,878.10	11,905.02	11,762.76	42.49	41.38	82.63	121.92	426.07	983.25	924.78	58.47	16.817		
12,050.00	11,903.80	11,950.00	11,780.91	42.54	41.42	82.24	163.07	425.70	984.06	925.48	58.59	16.797		
12,100.00	11,925.67	11,985.65	11,792.96	42.58	41.51	81.95	196.61	425.39	984.77	926.09	58.68	16.783		
12,150.00	11,943.53	12,025.64	11,803.97	42.62	41.62	81.69	235.05	425.05	985.39	926.60	58.79	16.761		
12,200.00	11,957.26	12,065.47	11,812.25	42.67	41.72	81.49	274.00	424.69	985.90	926.99	58.91	16.736		
12,250.00	11,966.75	12,105.18	11,817.79	42.75	41.83	81.33	313.30	424.34	986.29	927.25	59.04	16.706		
12,300.00	11,971.92	12,150.00	11,820.75	42.84	41.96	81.22	358.01	423.93	986.56	927.37	59.19	16.668		
12,301.83	11,972.03	12,150.00	11,820.75	42.85	41.96	81.22	358.01	423.93	986.56	927.36	59.19	16.667		
12,345.40	11,972.85	12,182.12	11,820.76	42.95	42.05	81.19	390.13	423.64	986.65	927.33	59.32	16.633		
12,400.00	11,971.81	12,236.72	11,819.80	43.11	42.22	81.20	444.72	423.14	986.64	927.10	59.54	16.571		
12,500.00	11,969.89	12,336.72	11,818.06	43.44	42.58	81.21	544.70	422.23	986.62	926.61	60.01	16.442		
12,600.00	11,967.98	12,436.72	11,816.32	43.84	42.99	81.22	644.68	421.33	986.60	926.05	60.56	16.292		
12,700.00	11,966.06	12,536.72	11,814.58	44.30	43.46	81.23	744.66	420.42	986.58	925.39	61.19	16.123		
12,800.00	11,964.14	12,636.72	11,812.84	44.81	43.98	81.24	844.64	419.51	986.57	924.66	61.90	15.938		
12,900.00	11,962.23	12,736.72	11,811.10	45.38	44.56	81.25	944.62	418.60	986.55	923.86	62.69	15.736		
13,000.00	11,960.31	12,836.72	11,809.36	46.00	45.19	81.26	1,044.60	417.70	986.53	922.97	63.56	15.522		
13,100.00	11,958.40	12,936.72	11,807.62	46.66	45.87	81.27	1,144.58	416.79	986.51	922.02	64.49	15.296		
13,200.00	11,956.48	13,036.72	11,805.87	47.38	46.60	81.28	1,244.56	415.88	986.49	921.00	65.50	15.062		
13,300.00	11,954.57	13,136.72	11,804.13	48.14	47.37	81.29	1,344.54	414.97	986.48	919.91	66.57	14.819		
13,400.00	11,952.65	13,236.72	11,802.39	48.94	48.19	81.30	1,444.52	414.07	986.46	918.76	67.70	14.571		
13,500.00	11,950.73	13,336.72	11,800.65	49.78	49.04	81.31	1,544.50	413.16	986.44	917.55	68.89	14.319		
13,600.00	11,948.82	13,436.72	11,798.91	50.67	49.94	81.32	1,644.48	412.25	986.42	916.28	70.14	14.064		
13,700.00	11,946.90	13,536.72	11,797.17	51.59	50.88	81.33	1,744.46	411.34	986.41	914.96	71.44	13.807		
13,800.00	11,944.99	13,636.72	11,795.43	52.55	51.85	81.34	1,844.45	410.44	986.39	913.60	72.79	13.551		
13,900.00	11,943.07	13,736.72	11,793.69	53.54	52.85	81.35	1,944.43	409.53	986.37	912.18	74.19	13.295		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design Santa Fe Fed/Zia Fed - Zia Fed Com 706H - OH - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
14,000.00	11,941.16	13,836.72	11,791.94	54.56	53.89	81.36	2,044.41	408.62	986.35	910.72	75.63	13.041		
14,100.00	11,939.24	13,936.72	11,790.20	55.61	54.96	81.37	2,144.39	407.71	986.33	909.21	77.12	12.789		
14,200.00	11,937.32	14,036.72	11,788.46	56.69	56.05	81.38	2,244.37	406.80	986.32	907.67	78.65	12.541		
14,300.00	11,935.41	14,136.72	11,786.72	57.80	57.17	81.39	2,344.35	405.90	986.30	906.09	80.21	12.296		
14,400.00	11,933.49	14,236.72	11,784.98	58.93	58.32	81.40	2,444.33	404.99	986.28	904.47	81.81	12.056		
14,500.00	11,931.58	14,336.72	11,783.24	60.09	59.49	81.41	2,544.31	404.08	986.26	902.82	83.44	11.819		
14,600.00	11,929.66	14,436.72	11,781.50	61.27	60.68	81.42	2,644.29	403.17	986.25	901.14	85.11	11.588		
14,700.00	11,927.75	14,536.72	11,779.76	62.47	61.89	81.43	2,744.27	402.27	986.23	899.43	86.80	11.362		
14,800.00	11,925.83	14,636.72	11,778.01	63.69	63.13	81.44	2,844.25	401.36	986.21	897.69	88.53	11.140		
14,900.00	11,923.91	14,736.72	11,776.27	64.93	64.38	81.45	2,944.23	400.45	986.19	895.92	90.28	10.924		
15,000.00	11,922.00	14,836.72	11,774.53	66.18	65.65	81.46	3,044.21	399.54	986.18	894.13	92.05	10.713		
15,100.00	11,920.08	14,936.72	11,772.79	67.46	66.94	81.47	3,144.19	398.64	986.16	892.31	93.85	10.508		
15,200.00	11,918.17	15,036.71	11,771.05	68.75	68.24	81.48	3,244.17	397.73	986.14	890.47	95.67	10.308		
15,300.00	11,916.25	15,136.71	11,769.31	70.05	69.56	81.49	3,344.15	396.82	986.13	888.61	97.51	10.113		
15,400.00	11,914.33	15,236.71	11,767.57	71.37	70.89	81.50	3,444.13	395.91	986.11	886.74	99.37	9.923		
15,500.00	11,912.42	15,336.71	11,765.83	72.71	72.23	81.51	3,544.11	395.00	986.09	884.84	101.25	9.739		
15,600.00	11,910.50	15,436.71	11,764.08	74.05	73.59	81.52	3,644.10	394.10	986.07	882.93	103.15	9.560		
15,700.00	11,908.59	15,536.71	11,762.34	75.41	74.96	81.53	3,744.08	393.19	986.06	880.99	105.06	9.385		
15,800.00	11,906.67	15,636.71	11,760.60	76.78	76.33	81.54	3,844.06	392.28	986.04	879.05	106.99	9.216		
15,900.00	11,904.76	15,736.71	11,758.86	78.16	77.73	81.55	3,944.04	391.37	986.02	877.08	108.94	9.051		
16,000.00	11,902.84	15,836.71	11,757.12	79.55	79.13	81.56	4,044.02	390.47	986.01	875.11	110.90	8.891		
16,100.00	11,900.92	15,936.71	11,755.38	80.95	80.54	81.57	4,144.00	389.56	985.99	873.12	112.87	8.735		
16,200.00	11,899.01	16,036.71	11,753.64	82.37	81.95	81.58	4,243.98	388.65	985.97	871.11	114.86	8.584		
16,300.00	11,897.09	16,136.71	11,751.90	83.78	83.38	81.59	4,343.96	387.74	985.96	869.10	116.86	8.437		
16,400.00	11,895.18	16,236.71	11,750.15	85.21	84.82	81.60	4,443.94	386.84	985.94	867.07	118.87	8.295		
16,500.00	11,893.26	16,336.71	11,748.41	86.65	86.26	81.61	4,543.92	385.93	985.92	865.04	120.89	8.156		
16,600.00	11,891.35	16,436.71	11,746.67	88.09	87.71	81.62	4,643.90	385.02	985.90	862.99	122.92	8.021		
16,700.00	11,889.43	16,536.71	11,744.93	89.54	89.17	81.63	4,743.88	384.11	985.89	860.93	124.96	7.890		
16,800.00	11,887.51	16,636.71	11,743.19	91.00	90.63	81.64	4,843.86	383.21	985.87	858.86	127.01	7.762		
16,900.00	11,885.60	16,736.71	11,741.45	92.46	92.10	81.65	4,943.84	382.30	985.85	856.79	129.07	7.638		
17,000.00	11,883.68	16,836.71	11,739.71	93.93	93.58	81.66	5,043.82	381.39	985.84	854.70	131.13	7.518		
17,100.00	11,881.77	16,936.71	11,737.97	95.40	95.06	81.67	5,143.80	380.48	985.82	852.61	133.21	7.400		
17,200.00	11,879.85	17,036.71	11,736.22	96.89	96.55	81.68	5,243.78	379.57	985.80	850.51	135.29	7.286		
17,300.00	11,877.94	17,136.71	11,734.48	98.37	98.04	81.69	5,343.77	378.67	985.79	848.40	137.38	7.175		
17,400.00	11,876.02	17,236.71	11,732.74	99.86	99.54	81.70	5,443.75	377.76	985.77	846.29	139.48	7.067		
17,500.00	11,874.10	17,336.71	11,731.00	101.36	101.04	81.71	5,543.73	376.85	985.75	844.17	141.59	6.962		
17,600.00	11,872.19	17,436.71	11,729.26	102.86	102.55	81.72	5,643.71	375.94	985.74	842.04	143.70	6.860		
17,700.00	11,870.27	17,536.71	11,727.52	104.37	104.06	81.73	5,743.69	375.04	985.72	839.90	145.82	6.760		
17,800.00	11,868.36	17,636.71	11,725.78	105.88	105.58	81.74	5,843.67	374.13	985.71	837.76	147.94	6.663		
17,900.00	11,866.44	17,736.71	11,724.04	107.39	107.10	81.75	5,943.65	373.22	985.69	835.62	150.07	6.568		
18,000.00	11,864.53	17,836.71	11,722.29	108.91	108.62	81.76	6,043.63	372.31	985.67	833.47	152.21	6.476		
18,100.00	11,862.61	17,936.71	11,720.55	110.44	110.15	81.77	6,143.61	371.41	985.66	831.31	154.35	6.386		
18,200.00	11,860.69	18,036.71	11,718.81	111.96	111.68	81.78	6,243.59	370.50	985.64	829.15	156.49	6.298		
18,300.00	11,858.78	18,136.71	11,717.07	113.49	113.22	81.79	6,343.57	369.59	985.62	826.98	158.64	6.213		
18,400.00	11,856.86	18,236.71	11,715.33	115.02	114.76	81.80	6,443.55	368.68	985.61	824.81	160.80	6.130		
18,500.00	11,854.95	18,336.71	11,713.59	116.56	116.30	81.81	6,543.53	367.78	985.59	822.64	162.95	6.048		
18,600.00	11,853.03	18,436.71	11,711.85	118.10	117.84	81.82	6,643.51	366.87	985.57	820.46	165.12	5.969		
18,700.00	11,851.12	18,536.71	11,710.11	119.64	119.39	81.83	6,743.49	365.96	985.56	818.27	167.28	5.892		
18,800.00	11,849.20	18,636.71	11,708.36	121.19	120.94	81.84	6,843.47	365.05	985.54	816.09	169.46	5.816		
18,900.00	11,847.28	18,736.71	11,706.62	122.74	122.49	81.85	6,943.45	364.14	985.53	813.90	171.63	5.742		
19,000.00	11,845.37	18,836.71	11,704.88	124.29	124.04	81.86	7,043.43	363.24	985.51	811.70	173.81	5.670		
19,100.00	11,843.45	18,936.71	11,703.14	125.84	125.60	81.87	7,143.42	362.33	985.49	809.50	175.99	5.600		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well 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	11,841.54	19,036.71	11,701.40	127.39	127.16	81.88	7,243.40	361.42	985.48	807.30	178.18	5.531		
19,300.00	11,839.62	19,136.71	11,699.66	128.95	128.72	81.89	7,343.38	360.51	985.46	805.10	180.37	5.464		
19,400.00	11,837.71	19,236.71	11,697.92	130.51	130.29	81.90	7,443.36	359.61	985.45	802.89	182.56	5.398		
19,500.00	11,835.79	19,336.71	11,696.18	132.08	131.85	81.91	7,543.34	358.70	985.43	800.68	184.75	5.334		
19,600.00	11,833.87	19,436.71	11,694.43	133.64	133.42	81.92	7,643.32	357.79	985.41	798.46	186.95	5.271		
19,700.00	11,831.96	19,536.71	11,692.69	135.21	134.99	81.93	7,743.30	356.88	985.40	796.25	189.15	5.210		
19,800.00	11,830.04	19,636.71	11,690.95	136.78	136.56	81.94	7,843.28	355.98	985.38	794.03	191.36	5.149		
19,900.00	11,828.13	19,736.71	11,689.21	138.35	138.14	81.95	7,943.26	355.07	985.37	791.80	193.56	5.091		
20,000.00	11,826.21	19,836.71	11,687.47	139.92	139.71	81.96	8,043.24	354.16	985.35	789.58	195.77	5.033		
20,100.00	11,824.30	19,936.71	11,685.73	141.49	141.29	81.97	8,143.22	353.25	985.33	787.35	197.98	4.977		
20,200.00	11,822.38	20,036.71	11,683.99	143.07	142.87	81.98	8,243.20	352.34	985.32	785.12	200.19	4.922		
20,300.00	11,820.46	20,136.71	11,682.25	144.65	144.45	81.99	8,343.18	351.44	985.30	782.89	202.41	4.868		
20,400.00	11,818.55	20,236.71	11,680.50	146.23	146.04	82.00	8,443.16	350.53	985.29	780.66	204.63	4.815		
20,500.00	11,816.63	20,336.71	11,678.76	147.81	147.62	82.01	8,543.14	349.62	985.27	778.42	206.85	4.763		
20,600.00	11,814.72	20,436.71	11,677.02	149.39	149.20	82.02	8,643.12	348.71	985.26	776.18	209.07	4.713		
20,700.00	11,812.80	20,536.71	11,675.28	150.98	150.79	82.03	8,743.10	347.81	985.24	773.94	211.30	4.663		
20,800.00	11,810.89	20,636.71	11,673.54	152.56	152.38	82.04	8,843.09	346.90	985.23	771.70	213.52	4.614		
20,900.00	11,808.97	20,736.71	11,671.80	154.15	153.97	82.05	8,943.07	345.99	985.21	769.46	215.75	4.566		
21,000.00	11,807.05	20,836.71	11,670.06	155.74	155.56	82.06	9,043.05	345.08	985.19	767.21	217.98	4.520		
21,100.00	11,805.14	20,936.71	11,668.31	157.33	157.15	82.07	9,143.03	344.18	985.18	764.97	220.21	4.474		
21,200.00	11,803.22	21,036.71	11,666.57	158.92	158.75	82.08	9,243.01	343.27	985.16	762.72	222.45	4.429		
21,300.00	11,801.31	21,136.71	11,664.83	160.51	160.34	82.09	9,342.99	342.36	985.15	760.47	224.68	4.385		
21,400.00	11,799.39	21,236.71	11,663.09	162.10	161.94	82.10	9,442.97	341.45	985.13	758.21	226.92	4.341		
21,500.00	11,797.48	21,336.71	11,661.35	163.70	163.53	82.11	9,542.95	340.55	985.12	755.96	229.16	4.299		
21,600.00	11,795.56	21,436.71	11,659.61	165.29	165.13	82.12	9,642.93	339.64	985.10	753.71	231.40	4.257		
21,700.00	11,793.64	21,536.71	11,657.87	166.89	166.73	82.14	9,742.91	338.73	985.09	751.45	233.64	4.216		
21,800.00	11,791.73	21,636.70	11,656.13	168.49	168.33	82.15	9,842.89	337.82	985.07	749.19	235.88	4.176		
21,900.00	11,789.81	21,736.70	11,654.38	170.08	169.93	82.16	9,942.87	336.91	985.06	746.93	238.13	4.137		
22,000.00	11,787.90	21,836.70	11,652.64	171.68	171.53	82.17	10,042.85	336.01	985.04	744.67	240.37	4.098		
22,100.00	11,785.98	21,936.70	11,650.90	173.29	173.14	82.18	10,142.83	335.10	985.03	742.41	242.62	4.060		
22,129.79	11,785.41	21,966.49	11,650.38	173.76	173.61	82.18	10,172.62	334.83	985.02	741.73	243.29	4.049 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 Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well 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	4.30	4.30	0.00	0.01	-83.56	232.96	-2,064.76	2,077.86					
100.00	100.00	104.30	104.30	0.13	0.16	-83.56	232.96	-2,064.76	2,077.86	2,077.66	0.20	N/A		
200.00	200.00	204.30	204.30	0.48	0.52	-83.56	232.96	-2,064.76	2,077.86	2,077.15	0.71	2,938.783		
300.00	300.00	304.30	304.30	0.84	0.87	-83.56	232.96	-2,064.76	2,077.86	2,076.65	1.21	1,711.785		
400.00	400.00	404.30	404.30	1.20	1.23	-83.56	232.96	-2,064.76	2,077.86	2,076.14	1.72	1,207.531		
500.00	500.00	504.30	504.30	1.56	1.59	-83.56	232.96	-2,064.76	2,077.86	2,075.63	2.23	932.749		
600.00	600.00	604.30	604.30	1.92	1.95	-83.56	232.96	-2,064.76	2,077.86	2,075.13	2.73	759.838		
700.00	700.00	704.30	704.30	2.28	2.31	-83.56	232.96	-2,064.76	2,077.86	2,074.62	3.24	641.008		
800.00	800.00	804.30	804.30	2.63	2.67	-83.56	232.96	-2,064.76	2,077.86	2,074.11	3.75	554.319		
900.00	900.00	904.30	904.30	2.99	3.02	-83.56	232.96	-2,064.76	2,077.86	2,073.61	4.26	488.283		
1,000.00	1,000.00	1,004.30	1,004.30	3.35	3.38	-83.56	232.96	-2,064.76	2,077.86	2,073.10	4.76	436.306		
1,100.00	1,100.00	1,104.30	1,104.30	3.71	3.74	-83.56	232.96	-2,064.76	2,077.86	2,072.59	5.27	394.330		
1,200.00	1,200.00	1,204.30	1,204.30	4.07	4.10	-83.56	232.96	-2,064.76	2,077.86	2,072.08	5.78	359.722		
1,300.00	1,300.00	1,304.30	1,304.30	4.43	4.46	-83.56	232.96	-2,064.76	2,077.86	2,071.58	6.28	330.699		
1,400.00	1,400.00	1,404.30	1,404.30	4.79	4.82	-83.56	232.96	-2,064.76	2,077.86	2,071.07	6.79	306.009		
1,500.00	1,500.00	1,504.30	1,504.30	5.14	5.18	-83.56	232.96	-2,064.76	2,077.86	2,070.56	7.30	284.750		
1,600.00	1,600.00	1,604.30	1,604.30	5.50	5.53	-83.56	232.96	-2,064.76	2,077.86	2,070.06	7.80	266.252		
1,700.00	1,700.00	1,704.30	1,704.30	5.86	5.89	-83.56	232.96	-2,064.76	2,077.86	2,069.55	8.31	250.012		
1,800.00	1,800.00	1,804.30	1,804.30	6.22	6.25	-83.56	232.96	-2,064.76	2,077.86	2,069.04	8.82	235.638		
1,900.00	1,900.00	1,904.30	1,904.30	6.58	6.61	-83.56	232.96	-2,064.76	2,077.86	2,068.54	9.32	222.828		
2,000.00	2,000.00	2,004.30	2,004.30	6.94	6.97	-83.56	232.96	-2,064.76	2,077.86	2,068.03	9.83	211.338		
2,100.00	2,100.00	2,104.30	2,104.30	7.29	7.33	-83.56	232.96	-2,064.76	2,077.86	2,067.52	10.34	200.976		
2,200.00	2,200.00	2,204.30	2,204.30	7.65	7.68	-83.56	232.96	-2,064.76	2,077.86	2,067.01	10.85	191.582		
2,300.00	2,300.00	2,304.30	2,304.30	8.01	8.04	-83.56	232.96	-2,064.76	2,077.86	2,066.51	11.35	183.027		
2,400.00	2,400.00	2,404.30	2,404.30	8.37	8.40	-83.56	232.96	-2,064.76	2,077.86	2,066.00	11.86	175.203		
2,500.00	2,500.00	2,508.05	2,508.05	8.73	8.77	-83.56	232.95	-2,064.75	2,077.86	2,065.48	12.38	167.903		
2,600.00	2,600.00	2,695.10	2,695.02	9.09	9.40	-83.63	229.93	-2,060.81	2,075.58	2,062.51	13.07	158.854		
2,700.00	2,700.00	2,881.22	2,880.59	9.45	10.03	-83.84	221.38	-2,049.68	2,069.13	2,055.40	13.73	150.685		
2,800.00	2,800.00	3,020.05	3,018.49	9.80	10.51	-84.07	211.66	-2,037.02	2,059.16	2,044.86	14.30	144.035		
2,900.00	2,900.00	3,119.30	3,117.00	10.16	10.85	-84.25	204.29	-2,027.43	2,048.76	2,033.98	14.79	138.555		
3,000.00	3,000.00	3,218.56	3,215.52	10.52	11.20	-84.43	196.92	-2,017.83	2,038.39	2,023.11	15.28	133.409		
3,100.00	3,100.00	3,317.81	3,314.03	10.88	11.56	-84.61	189.56	-2,008.24	2,028.04	2,012.27	15.77	128.571		
3,200.00	3,200.00	3,417.07	3,412.55	11.24	11.91	-84.79	182.19	-1,998.65	2,017.71	2,001.44	16.27	124.015		
3,300.00	3,300.00	3,516.32	3,511.06	11.60	12.27	-84.98	174.82	-1,989.05	2,007.40	1,990.63	16.77	119.718		
3,400.00	3,400.00	3,615.57	3,609.58	11.96	12.64	-85.16	167.46	-1,979.46	1,997.11	1,979.84	17.27	115.661		
3,500.00	3,500.00	3,714.83	3,708.09	12.31	13.00	-85.35	160.09	-1,969.87	1,986.84	1,969.07	17.77	111.824		
3,600.00	3,599.99	3,813.99	3,806.51	12.66	13.37	24.66	152.73	-1,960.28	1,975.41	1,957.15	18.26	108.177		
3,700.00	3,699.91	3,912.91	3,904.69	13.00	13.74	24.60	145.39	-1,950.72	1,961.64	1,942.89	18.75	104.640		
3,800.00	3,799.69	4,011.52	4,002.57	13.33	14.11	24.59	138.07	-1,941.19	1,945.52	1,926.29	19.23	101.158		
3,900.00	3,899.27	4,109.76	4,100.08	13.67	14.48	24.62	130.78	-1,931.70	1,927.07	1,907.35	19.72	97.730		
3,966.99	3,965.83	4,175.33	4,165.16	13.90	14.73	24.67	125.91	-1,925.36	1,913.40	1,893.35	20.04	95.462		
4,000.00	3,998.59	4,207.58	4,197.17	14.02	14.85	24.65	123.52	-1,922.24	1,906.41	1,886.20	20.20	94.359		
4,100.00	4,097.84	4,305.30	4,294.16	14.37	15.22	24.60	116.26	-1,912.80	1,885.22	1,864.54	20.69	91.120		
4,200.00	4,197.10	4,403.02	4,391.15	14.72	15.59	24.55	109.01	-1,903.35	1,864.04	1,842.87	21.18	88.022		
4,300.00	4,296.35	4,500.74	4,488.14	15.07	15.97	24.50	101.76	-1,893.91	1,842.87	1,821.20	21.67	85.056		
4,400.00	4,395.61	4,598.46	4,585.13	15.43	16.34	24.45	94.51	-1,884.46	1,821.69	1,799.53	22.16	82.214		
4,500.00	4,494.86	4,696.17	4,682.12	15.79	16.72	24.40	87.25	-1,875.02	1,800.51	1,777.86	22.65	79.490		
4,600.00	4,494.11	4,793.89	4,779.11	16.15	17.10	24.34	80.00	-1,865.57	1,779.34	1,756.20	23.15	76.877		
4,700.00	4,693.37	4,891.61	4,876.10	16.51	17.48	24.29	72.75	-1,856.13	1,758.17	1,734.53	23.64	74.369		
4,800.00	4,792.62	4,989.33	4,973.09	16.88	17.86	24.23	65.49	-1,846.68	1,737.00	1,712.86	24.14	71.960		
4,900.00	4,891.87	5,087.05	5,070.08	17.25	18.24	24.17	58.24	-1,837.24	1,715.83	1,691.19	24.64	69.644		
5,000.00	4,991.13	5,184.77	5,167.07	17.62	18.62	24.11	50.99	-1,827.79	1,694.66	1,669.53	25.14	67.417		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well 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	5,090.38	5,282.48	5,264.06	17.99	19.00	24.05	43.74	-1,818.35	1,673.50	1,647.86	25.64	65.274		
5,200.00	5,189.63	5,380.20	5,361.05	18.36	19.38	23.98	36.48	-1,808.90	1,652.33	1,626.19	26.14	63.211		
5,300.00	5,288.89	5,477.92	5,458.04	18.74	19.77	23.92	29.23	-1,799.46	1,631.17	1,604.53	26.64	61.223		
5,400.00	5,388.14	5,575.64	5,555.03	19.11	20.15	23.85	21.98	-1,790.02	1,610.01	1,582.87	27.15	59.307		
5,500.00	5,487.39	5,673.36	5,652.02	19.49	20.54	23.78	14.73	-1,780.57	1,588.86	1,561.21	27.65	57.459		
5,600.00	5,586.65	5,771.08	5,749.01	19.87	20.92	23.71	7.47	-1,771.13	1,567.70	1,539.54	28.16	55.675		
5,700.00	5,685.90	5,868.79	5,846.01	20.25	21.31	23.64	0.22	-1,761.68	1,546.55	1,517.89	28.66	53.953		
5,800.00	5,785.16	5,966.51	5,943.00	20.63	21.69	23.57	-7.03	-1,752.24	1,525.40	1,496.23	29.17	52.289		
5,900.00	5,884.41	6,064.23	6,039.99	21.01	22.08	23.49	-14.29	-1,742.79	1,504.25	1,474.57	29.68	50.681		
6,000.00	5,983.66	6,161.95	6,136.98	21.39	22.47	23.41	-21.54	-1,733.35	1,483.11	1,452.92	30.19	49.126		
6,100.00	6,082.92	6,259.67	6,233.97	21.78	22.86	23.33	-28.79	-1,723.90	1,461.97	1,431.27	30.70	47.621		
6,200.00	6,182.17	6,357.39	6,330.96	22.16	23.24	23.25	-36.04	-1,714.46	1,440.83	1,409.62	31.21	46.165		
6,300.00	6,281.42	6,455.10	6,427.95	22.55	23.63	23.16	-43.30	-1,705.01	1,419.69	1,387.97	31.72	44.755		
6,400.00	6,380.68	6,552.82	6,524.94	22.94	24.02	23.07	-50.55	-1,695.57	1,398.56	1,366.32	32.23	43.389		
6,500.00	6,479.93	6,650.54	6,621.93	23.32	24.41	22.98	-57.80	-1,686.12	1,377.43	1,344.68	32.75	42.064		
6,600.00	6,579.18	6,748.26	6,718.92	23.71	24.80	22.89	-65.05	-1,676.68	1,356.30	1,323.04	33.26	40.780		
6,700.00	6,678.44	6,845.98	6,815.91	24.10	25.19	22.79	-72.31	-1,667.23	1,335.18	1,301.41	33.77	39.535		
6,800.00	6,777.69	6,943.70	6,912.90	24.49	25.58	22.69	-79.56	-1,657.79	1,314.06	1,279.77	34.29	38.326		
6,900.00	6,876.95	7,041.42	7,009.89	24.88	25.97	22.59	-86.81	-1,648.34	1,292.94	1,258.14	34.80	37.153		
7,000.00	6,976.20	7,139.13	7,106.88	25.27	26.36	22.48	-94.07	-1,638.90	1,271.83	1,236.52	35.32	36.013		
7,100.00	7,075.45	7,236.85	7,203.87	25.66	26.75	22.37	-101.32	-1,629.45	1,250.73	1,214.89	35.83	34.906		
7,200.00	7,174.71	7,334.57	7,300.86	26.05	27.15	22.26	-108.57	-1,620.01	1,229.62	1,193.28	36.35	33.830		
7,300.00	7,273.96	7,432.29	7,397.85	26.45	27.54	22.14	-115.82	-1,610.57	1,208.53	1,171.66	36.86	32.783		
7,400.00	7,373.21	7,530.01	7,494.84	26.84	27.93	22.02	-123.08	-1,601.12	1,187.43	1,150.05	37.38	31.766		
7,500.00	7,472.47	7,627.73	7,591.83	27.23	28.32	21.89	-130.33	-1,591.68	1,166.35	1,128.45	37.90	30.776		
7,600.00	7,571.72	7,725.44	7,688.82	27.63	28.72	21.76	-137.58	-1,582.23	1,145.27	1,106.85	38.42	29.812		
7,700.00	7,670.97	7,823.16	7,785.81	28.02	29.11	21.62	-144.84	-1,572.79	1,124.19	1,085.26	38.93	28.874		
7,800.00	7,770.23	7,920.88	7,882.80	28.42	29.50	21.48	-152.09	-1,563.34	1,103.12	1,063.67	39.45	27.960		
7,900.00	7,869.48	8,018.60	7,979.79	28.81	29.89	21.33	-159.34	-1,553.90	1,082.06	1,042.09	39.97	27.070		
8,000.00	7,968.73	8,116.32	8,076.78	29.21	30.29	21.18	-166.59	-1,544.45	1,061.01	1,020.51	40.49	26.203		
8,100.00	8,067.99	8,214.04	8,173.77	29.60	30.68	21.02	-173.85	-1,535.01	1,039.96	998.95	41.01	25.357		
8,200.00	8,167.24	8,311.75	8,270.76	30.00	31.07	20.86	-181.10	-1,525.56	1,018.92	977.39	41.53	24.533		
8,267.43	8,234.17	8,377.65	8,336.16	30.27	31.34	20.74	-185.99	-1,519.19	1,004.74	962.85	41.88	23.989		
8,300.00	8,266.51	8,409.50	8,367.77	30.40	31.47	20.65	-188.35	-1,516.12	998.01	955.96	42.05	23.732		
8,400.00	8,366.00	8,507.59	8,465.14	30.78	31.86	20.32	-195.63	-1,506.63	978.98	936.40	42.57	22.994		
8,500.00	8,465.72	8,600.00	8,556.88	31.16	32.24	19.97	-202.38	-1,497.85	962.54	919.44	43.10	22.333		
8,600.00	8,565.60	8,681.54	8,638.00	31.52	32.55	19.68	-207.42	-1,491.29	949.99	906.37	43.62	21.780		
8,700.00	8,665.58	8,764.86	8,721.04	31.87	32.87	19.43	-211.48	-1,486.00	941.61	897.49	44.12	21.342		
8,734.42	8,700.00	8,800.00	8,756.11	31.98	33.00	-90.79	-212.86	-1,484.20	939.72	895.43	44.30	21.215		
8,800.00	8,765.58	8,848.53	8,804.57	32.20	33.18	-90.88	-214.44	-1,482.14	936.90	892.29	44.61	21.004		
8,900.00	8,865.58	8,932.38	8,888.37	32.54	33.47	-91.00	-216.30	-1,479.73	934.05	888.98	45.08	20.722		
9,000.00	8,965.58	9,016.33	8,972.30	32.87	33.76	-91.05	-217.03	-1,478.78	932.94	887.41	45.53	20.491		
9,039.27	9,004.85	9,053.17	9,009.15	33.00	33.88	-91.05	-217.04	-1,478.76	932.92	887.20	45.71	20.409		
9,100.00	9,065.58	9,113.90	9,069.88	33.21	34.07	-91.05	-217.04	-1,478.76	932.92	886.92	46.00	20.281		
9,200.00	9,165.58	9,213.90	9,169.88	33.54	34.39	-91.05	-217.04	-1,478.76	932.92	886.44	46.48	20.073		
9,300.00	9,265.58	9,313.90	9,269.88	33.88	34.71	-91.05	-217.04	-1,478.76	932.92	885.96	46.95	19.869		
9,400.00	9,365.58	9,413.90	9,369.88	34.22	35.04	-91.05	-217.04	-1,478.76	932.92	885.49	47.43	19.669		
9,500.00	9,465.58	9,513.90	9,469.88	34.55	35.36	-91.05	-217.04	-1,478.76	932.92	885.01	47.91	19.473		
9,600.00	9,565.58	9,613.90	9,569.88	34.89	35.68	-91.05	-217.04	-1,478.76	932.92	884.53	48.39	19.280		
9,700.00	9,665.58	9,713.90	9,669.88	35.23	36.01	-91.05	-217.04	-1,478.76	932.92	884.05	48.87	19.091		
9,800.00	9,765.58	9,813.90	9,769.88	35.57	36.33	-91.05	-217.04	-1,478.76	932.92	883.57	49.35	18.905		
9,900.00	9,865.58	9,913.90	9,869.88	35.91	36.66	-91.05	-217.04	-1,478.76	932.92	883.09	49.83	18.723		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well 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	9,965.58	10,013.90	9,969.88	36.25	36.98	-91.05	-217.04	-1,478.76	932.92	882.61	50.31	18.544		
10,100.00	10,065.58	10,113.90	10,069.88	36.59	37.31	-91.05	-217.04	-1,478.76	932.92	882.13	50.79	18.369		
10,200.00	10,165.58	10,213.90	10,169.88	36.93	37.64	-91.05	-217.04	-1,478.76	932.92	881.64	51.27	18.196		
10,300.00	10,265.58	10,313.90	10,269.88	37.27	37.97	-91.05	-217.04	-1,478.76	932.92	881.16	51.75	18.026		
10,400.00	10,365.58	10,413.90	10,369.88	37.61	38.29	-91.05	-217.04	-1,478.76	932.92	880.68	52.24	17.860		
10,500.00	10,465.58	10,513.90	10,469.88	37.95	38.62	-91.05	-217.04	-1,478.76	932.92	880.20	52.72	17.696		
10,600.00	10,565.58	10,613.90	10,569.88	38.29	38.95	-91.05	-217.04	-1,478.76	932.92	879.71	53.20	17.535		
10,700.00	10,665.58	10,713.90	10,669.88	38.63	39.28	-91.05	-217.04	-1,478.76	932.92	879.23	53.69	17.377		
10,800.00	10,765.58	10,813.90	10,769.88	38.97	39.61	-91.05	-217.04	-1,478.76	932.92	878.74	54.17	17.222		
10,900.00	10,865.58	10,913.90	10,869.88	39.32	39.94	-91.05	-217.04	-1,478.76	932.92	878.26	54.66	17.069		
11,000.00	10,965.58	11,013.90	10,969.88	39.66	40.28	-91.05	-217.04	-1,478.76	932.92	877.77	55.14	16.919		
11,100.00	11,065.58	11,113.90	11,069.88	40.00	40.61	-91.05	-217.04	-1,478.76	932.92	877.29	55.63	16.771		
11,200.00	11,165.58	11,213.90	11,169.88	40.35	40.94	-91.05	-217.04	-1,478.76	932.92	876.80	56.11	16.626		
11,300.00	11,265.58	11,313.90	11,269.88	40.69	41.27	-91.05	-217.04	-1,478.76	932.92	876.32	56.60	16.483		
11,400.00	11,365.58	11,414.59	11,370.19	41.03	41.59	-90.61	-209.90	-1,478.82	932.87	875.80	57.07	16.346		
11,411.94	11,377.51	11,426.38	11,381.81	41.07	41.63	-90.49	-207.92	-1,478.84	932.87	875.75	57.12	16.331		
11,434.42	11,400.00	11,448.35	11,403.35	41.15	41.69	-90.22	-203.61	-1,478.87	932.88	875.66	57.22	16.303		
11,450.00	11,415.57	11,463.40	11,418.00	41.20	41.73	-89.50	-200.17	-1,478.90	932.90	875.62	57.29	16.285		
11,500.00	11,465.43	11,511.17	11,463.83	41.37	41.85	-88.86	-186.75	-1,479.02	933.05	875.56	57.49	16.230		
11,550.00	11,514.79	11,558.14	11,507.65	41.53	41.96	-88.23	-169.87	-1,479.16	933.31	875.63	57.68	16.181		
11,600.00	11,563.28	11,604.37	11,549.29	41.69	42.06	-87.62	-149.81	-1,479.33	933.67	875.81	57.86	16.138		
11,650.00	11,610.53	11,650.00	11,588.67	41.83	42.14	-87.03	-126.79	-1,479.53	934.11	876.10	58.02	16.101		
11,700.00	11,656.17	11,694.85	11,625.48	41.96	42.21	-86.47	-101.17	-1,479.74	934.63	876.47	58.16	16.070		
11,750.00	11,699.86	11,739.22	11,659.80	42.09	42.26	-85.92	-73.08	-1,479.98	935.21	876.92	58.29	16.043		
11,800.00	11,741.27	11,783.06	11,691.48	42.19	42.31	-85.41	-42.79	-1,480.24	935.83	877.42	58.41	16.021		
11,850.00	11,780.08	11,826.44	11,720.46	42.29	42.34	-84.93	-10.53	-1,480.51	936.47	877.95	58.52	16.003		
11,900.00	11,816.01	11,869.40	11,746.67	42.37	42.36	-84.49	23.50	-1,480.80	937.12	878.50	58.62	15.987		
11,950.00	11,848.76	11,911.99	11,770.07	42.43	42.38	-84.08	59.07	-1,481.10	937.76	879.05	58.71	15.972		
12,000.00	11,878.10	11,954.25	11,790.61	42.49	42.38	-83.72	95.99	-1,481.42	938.37	879.56	58.80	15.958		
12,050.00	11,903.80	12,000.00	11,809.72	42.54	42.38	-83.37	137.54	-1,481.77	938.94	880.04	58.90	15.941		
12,100.00	11,925.67	12,037.96	11,823.01	42.58	42.36	-83.11	173.09	-1,482.07	939.44	880.46	58.98	15.927		
12,150.00	11,943.53	12,079.49	11,834.82	42.62	42.35	-82.87	212.90	-1,482.41	939.88	880.80	59.08	15.908		
12,200.00	11,957.26	12,120.85	11,843.69	42.67	42.33	-82.68	253.28	-1,482.75	940.24	881.05	59.19	15.886		
12,250.00	11,966.75	12,162.09	11,849.61	42.75	42.30	-82.54	294.08	-1,483.10	940.51	881.21	59.30	15.860		
12,300.00	11,971.92	12,203.23	11,852.58	42.84	42.27	-82.44	335.11	-1,483.45	940.68	881.26	59.42	15.830		
12,345.40	11,972.85	12,242.06	11,852.74	42.95	42.25	-82.40	373.93	-1,483.78	940.74	881.19	59.55	15.798		
12,400.00	11,971.81	12,296.66	11,851.83	43.11	42.23	-82.41	428.52	-1,484.24	940.69	880.96	59.72	15.750		
12,500.00	11,969.89	12,396.66	11,850.17	43.44	42.44	-82.42	528.50	-1,485.09	940.59	880.47	60.12	15.645		
12,600.00	11,967.98	12,496.66	11,848.51	43.84	42.78	-82.44	628.48	-1,485.94	940.49	879.89	60.60	15.520		
12,700.00	11,966.06	12,596.66	11,846.85	44.30	43.17	-82.45	728.46	-1,486.79	940.39	879.22	61.17	15.375		
12,800.00	11,964.14	12,696.65	11,845.19	44.81	43.62	-82.47	828.45	-1,487.64	940.28	878.47	61.81	15.212		
12,900.00	11,962.23	12,796.65	11,843.53	45.38	44.12	-82.48	928.43	-1,488.48	940.18	877.65	62.54	15.034		
13,000.00	11,960.31	12,896.65	11,841.87	46.00	44.68	-82.50	1,028.41	-1,489.33	940.08	876.74	63.34	14.841		
13,100.00	11,958.40	12,996.65	11,840.21	46.66	45.28	-82.51	1,128.39	-1,490.18	939.98	875.76	64.22	14.637		
13,200.00	11,956.48	13,096.65	11,838.54	47.38	45.93	-82.53	1,228.37	-1,491.03	939.88	874.72	65.17	14.423		
13,300.00	11,954.57	13,196.65	11,836.88	48.14	46.63	-82.54	1,328.36	-1,491.88	939.78	873.60	66.18	14.200		
13,400.00	11,952.65	13,296.65	11,835.22	48.94	47.37	-82.56	1,428.34	-1,492.73	939.68	872.42	67.26	13.970		
13,500.00	11,950.73	13,396.65	11,833.56	49.78	48.16	-82.57	1,528.32	-1,493.58	939.58	871.18	68.40	13.736		
13,600.00	11,948.82	13,496.65	11,831.90	50.67	48.99	-82.59	1,628.30	-1,494.43	939.48	869.88	69.60	13.497		
13,700.00	11,946.90	13,596.65	11,830.24	51.59	49.86	-82.60	1,728.29	-1,495.27	939.38	868.52	70.86	13.257		
13,800.00	11,944.99	13,696.65	11,828.58	52.55	50.77	-82.62	1,828.27	-1,496.12	939.28	867.11	72.17	13.015		
13,900.00	11,943.07	13,796.65	11,826.92	53.54	51.71	-82.63	1,928.25	-1,496.97	939.18	865.65	73.53	12.773		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well 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	11,941.16	13,896.65	11,825.26	54.56	52.69	-82.65	2,028.23	-1,497.82	939.08	864.15	74.94	12.532		
14,100.00	11,939.24	13,996.65	11,823.60	55.61	53.70	-82.66	2,128.21	-1,498.67	938.98	862.60	76.39	12.292		
14,200.00	11,937.32	14,096.65	11,821.94	56.69	54.74	-82.68	2,228.20	-1,499.52	938.88	861.00	77.88	12.055		
14,300.00	11,935.41	14,196.65	11,820.28	57.80	55.81	-82.69	2,328.18	-1,500.37	938.78	859.37	79.41	11.821		
14,400.00	11,933.49	14,296.65	11,818.62	58.93	56.90	-82.71	2,428.16	-1,501.22	938.69	857.70	80.98	11.591		
14,500.00	11,931.58	14,396.65	11,816.96	60.09	58.03	-82.72	2,528.14	-1,502.06	938.59	856.00	82.59	11.364		
14,600.00	11,929.66	14,496.65	11,815.29	61.27	59.18	-82.74	2,628.13	-1,502.91	938.49	854.26	84.23	11.142		
14,700.00	11,927.75	14,596.65	11,813.63	62.47	60.35	-82.75	2,728.11	-1,503.76	938.39	852.49	85.90	10.924		
14,800.00	11,925.83	14,696.65	11,811.97	63.69	61.54	-82.77	2,828.09	-1,504.61	938.29	850.69	87.60	10.711		
14,900.00	11,923.91	14,796.65	11,810.31	64.93	62.75	-82.78	2,928.07	-1,505.46	938.19	848.86	89.33	10.502		
15,000.00	11,922.00	14,896.65	11,808.65	66.18	63.98	-82.80	3,028.06	-1,506.31	938.09	847.00	91.09	10.299		
15,100.00	11,920.08	14,996.65	11,806.99	67.46	65.24	-82.81	3,128.04	-1,507.16	937.99	845.13	92.87	10.101		
15,200.00	11,918.17	15,096.65	11,805.33	68.75	66.50	-82.83	3,228.02	-1,508.01	937.89	843.22	94.67	9.907		
15,300.00	11,916.25	15,196.65	11,803.67	70.05	67.79	-82.84	3,328.00	-1,508.85	937.79	841.30	96.49	9.719		
15,400.00	11,914.33	15,296.65	11,802.01	71.37	69.09	-82.86	3,427.98	-1,509.70	937.69	839.35	98.34	9.535		
15,500.00	11,912.42	15,396.65	11,800.35	72.71	70.40	-82.87	3,527.97	-1,510.55	937.60	837.39	100.21	9.357		
15,600.00	11,910.50	15,496.65	11,798.69	74.05	71.73	-82.88	3,627.95	-1,511.40	937.50	835.40	102.09	9.183		
15,700.00	11,908.59	15,596.64	11,797.03	75.41	73.07	-82.90	3,727.93	-1,512.25	937.40	833.40	104.00	9.014		
15,800.00	11,906.67	15,696.64	11,795.37	76.78	74.43	-82.91	3,827.91	-1,513.10	937.30	831.38	105.92	8.850		
15,900.00	11,904.76	15,796.64	11,793.70	78.16	75.79	-82.93	3,927.90	-1,513.95	937.20	829.35	107.85	8.690		
16,000.00	11,902.84	15,896.64	11,792.04	79.55	77.17	-82.94	4,027.88	-1,514.80	937.10	827.30	109.80	8.534		
16,100.00	11,900.92	15,996.64	11,790.38	80.95	78.56	-82.96	4,127.86	-1,515.64	937.00	825.24	111.77	8.384		
16,200.00	11,899.01	16,096.64	11,788.72	82.37	79.96	-82.97	4,227.84	-1,516.49	936.91	823.16	113.74	8.237		
16,300.00	11,897.09	16,196.64	11,787.06	83.78	81.36	-82.99	4,327.82	-1,517.34	936.81	821.07	115.74	8.094		
16,400.00	11,895.18	16,296.64	11,785.40	85.21	82.78	-83.00	4,427.81	-1,518.19	936.71	818.97	117.74	7.956		
16,500.00	11,893.26	16,396.64	11,783.74	86.65	84.20	-83.02	4,527.79	-1,519.04	936.61	816.86	119.75	7.821		
16,600.00	11,891.35	16,496.64	11,782.08	88.09	85.64	-83.03	4,627.77	-1,519.89	936.51	814.73	121.78	7.690		
16,700.00	11,889.43	16,596.64	11,780.42	89.54	87.08	-83.05	4,727.75	-1,520.74	936.42	812.60	123.82	7.563		
16,800.00	11,887.51	16,696.64	11,778.76	91.00	88.52	-83.06	4,827.74	-1,521.59	936.32	810.45	125.86	7.439		
16,900.00	11,885.60	16,796.64	11,777.10	92.46	89.98	-83.08	4,927.72	-1,522.44	936.22	808.30	127.92	7.319		
17,000.00	11,883.68	16,896.64	11,775.44	93.93	91.44	-83.09	5,027.70	-1,523.28	936.12	806.14	129.98	7.202		
17,100.00	11,881.77	16,996.64	11,773.78	95.40	92.91	-83.11	5,127.68	-1,524.13	936.02	803.97	132.06	7.088		
17,200.00	11,879.85	17,096.64	11,772.11	96.89	94.38	-83.12	5,227.66	-1,524.98	935.93	801.79	134.14	6.977		
17,300.00	11,877.94	17,196.64	11,770.45	98.37	95.86	-83.14	5,327.65	-1,525.83	935.83	799.60	136.23	6.869		
17,400.00	11,876.02	17,296.64	11,768.79	99.86	97.35	-83.15	5,427.63	-1,526.68	935.73	797.40	138.33	6.765		
17,500.00	11,874.10	17,396.64	11,767.13	101.36	98.84	-83.17	5,527.61	-1,527.53	935.63	795.20	140.43	6.663		
17,600.00	11,872.19	17,496.64	11,765.47	102.86	100.33	-83.18	5,627.59	-1,528.38	935.54	792.99	142.54	6.563		
17,700.00	11,870.27	17,596.64	11,763.81	104.37	101.83	-83.20	5,727.58	-1,529.23	935.44	790.78	144.66	6.466		
17,800.00	11,868.36	17,696.64	11,762.15	105.88	103.34	-83.21	5,827.56	-1,530.07	935.34	788.56	146.78	6.372		
17,900.00	11,866.44	17,796.64	11,760.49	107.39	104.85	-83.23	5,927.54	-1,530.92	935.24	786.33	148.91	6.280		
18,000.00	11,864.53	17,896.64	11,758.83	108.91	106.36	-83.24	6,027.52	-1,531.77	935.15	784.10	151.05	6.191		
18,100.00	11,862.61	17,996.64	11,757.17	110.44	107.88	-83.26	6,127.51	-1,532.62	935.05	781.86	153.19	6.104		
18,200.00	11,860.69	18,096.64	11,755.51	111.96	109.40	-83.27	6,227.49	-1,533.47	934.95	779.61	155.34	6.019		
18,300.00	11,858.78	18,196.64	11,753.85	113.49	110.92	-83.29	6,327.47	-1,534.32	934.86	777.37	157.49	5.936		
18,400.00	11,856.86	18,296.64	11,752.19	115.02	112.45	-83.30	6,427.45	-1,535.17	934.76	775.11	159.65	5.855		
18,500.00	11,854.95	18,396.63	11,750.52	116.56	113.99	-83.32	6,527.43	-1,536.02	934.66	772.85	161.81	5.776		
18,600.00	11,853.03	18,496.63	11,748.86	118.10	115.52	-83.33	6,627.42	-1,536.86	934.57	770.59	163.97	5.699		
18,700.00	11,851.12	18,596.63	11,747.20	119.64	117.06	-83.35	6,727.40	-1,537.71	934.47	768.33	166.14	5.624		
18,800.00	11,849.20	18,696.63	11,745.54	121.19	118.60	-83.37	6,827.38	-1,538.56	934.37	766.05	168.32	5.551		
18,900.00	11,847.28	18,796.63	11,743.88	122.74	120.15	-83.38	6,927.36	-1,539.41	934.28	763.78	170.50	5.480		
19,000.00	11,845.37	18,896.63	11,742.22	124.29	121.69	-83.40	7,027.35	-1,540.26	934.18	761.50	172.68	5.410		
19,100.00	11,843.45	18,996.63	11,740.56	125.84	123.24	-83.41	7,127.33	-1,541.11	934.08	759.22	174.86	5.342		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well 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	11,841.54	19,096.63	11,738.90	127.39	124.79	-83.43	7,227.31	-1,541.96	933.99	756.93	177.05	5.275		
19,300.00	11,839.62	19,196.63	11,737.24	128.95	126.35	-83.44	7,327.29	-1,542.81	933.89	754.64	179.25	5.210		
19,400.00	11,837.71	19,296.63	11,735.58	130.51	127.91	-83.46	7,427.27	-1,543.65	933.79	752.35	181.44	5.146		
19,500.00	11,835.79	19,396.63	11,733.92	132.08	129.47	-83.47	7,527.26	-1,544.50	933.70	750.06	183.64	5.084		
19,600.00	11,833.87	19,496.63	11,732.26	133.64	131.03	-83.49	7,627.24	-1,545.35	933.60	747.76	185.84	5.024		
19,700.00	11,831.96	19,596.63	11,730.60	135.21	132.59	-83.50	7,727.22	-1,546.20	933.51	745.45	188.05	4.964		
19,800.00	11,830.04	19,696.63	11,728.94	136.78	134.16	-83.52	7,827.20	-1,547.05	933.41	743.15	190.26	4.906		
19,900.00	11,828.13	19,796.63	11,727.27	138.35	135.73	-83.53	7,927.19	-1,547.90	933.31	740.84	192.47	4.849		
20,000.00	11,826.21	19,896.63	11,725.61	139.92	137.30	-83.55	8,027.17	-1,548.75	933.22	738.53	194.68	4.794		
20,100.00	11,824.30	19,996.63	11,723.95	141.49	138.87	-83.56	8,127.15	-1,549.60	933.12	736.22	196.90	4.739		
20,200.00	11,822.38	20,096.63	11,722.29	143.07	140.44	-83.58	8,227.13	-1,550.44	933.03	733.91	199.12	4.686		
20,300.00	11,820.46	20,196.63	11,720.63	144.65	142.02	-83.59	8,327.11	-1,551.29	932.93	731.59	201.34	4.634		
20,400.00	11,818.55	20,296.63	11,718.97	146.23	143.60	-83.61	8,427.10	-1,552.14	932.83	729.27	203.56	4.583		
20,500.00	11,816.63	20,396.63	11,717.31	147.81	145.18	-83.62	8,527.08	-1,552.99	932.74	726.95	205.79	4.532		
20,600.00	11,814.72	20,496.63	11,715.65	149.39	146.76	-83.64	8,627.06	-1,553.84	932.64	724.62	208.02	4.483		
20,700.00	11,812.80	20,596.63	11,713.99	150.98	148.34	-83.65	8,727.04	-1,554.69	932.55	722.30	210.25	4.435		
20,800.00	11,810.89	20,696.63	11,712.33	152.56	149.92	-83.67	8,827.03	-1,555.54	932.45	719.97	212.48	4.388		
20,900.00	11,808.97	20,796.63	11,710.67	154.15	151.51	-83.68	8,927.01	-1,556.39	932.36	717.64	214.72	4.342		
21,000.00	11,807.05	20,896.63	11,709.01	155.74	153.10	-83.70	9,026.99	-1,557.23	932.26	715.31	216.95	4.297		
21,100.00	11,805.14	20,996.63	11,707.35	157.33	154.68	-83.71	9,126.97	-1,558.08	932.17	712.97	219.19	4.253		
21,200.00	11,803.22	21,096.63	11,705.68	158.92	156.27	-83.73	9,226.96	-1,558.93	932.07	710.64	221.43	4.209		
21,300.00	11,801.31	21,196.63	11,704.02	160.51	157.86	-83.74	9,326.94	-1,559.78	931.98	708.30	223.68	4.167		
21,400.00	11,799.39	21,296.62	11,702.36	162.10	159.46	-83.76	9,426.92	-1,560.63	931.88	705.96	225.92	4.125		
21,500.00	11,797.48	21,396.62	11,700.70	163.70	161.05	-83.77	9,526.90	-1,561.48	931.79	703.62	228.16	4.084		
21,600.00	11,795.56	21,496.62	11,699.04	165.29	162.64	-83.79	9,626.88	-1,562.33	931.69	701.28	230.41	4.044		
21,700.00	11,793.64	21,596.62	11,697.38	166.89	164.24	-83.80	9,726.87	-1,563.18	931.60	698.94	232.66	4.004		
21,800.00	11,791.73	21,696.62	11,695.72	168.49	165.83	-83.82	9,826.85	-1,564.03	931.50	696.59	234.91	3.965		
21,900.00	11,789.81	21,796.62	11,694.06	170.08	167.43	-83.83	9,926.83	-1,564.87	931.41	694.24	237.16	3.927		
22,000.00	11,787.90	21,896.62	11,692.40	171.68	169.03	-83.85	10,026.81	-1,565.72	931.31	691.90	239.42	3.890		
22,100.00	11,785.98	21,996.62	11,690.74	173.29	170.63	-83.86	10,126.80	-1,566.57	931.22	689.55	241.67	3.853		
22,128.98	11,785.43	22,023.56	11,690.29	173.75	171.06	-83.87	10,153.73	-1,566.80	931.19	688.89	242.31	3.843 CC		
22,129.79	11,785.41	22,023.56	11,690.29	173.76	171.06	-83.87	10,153.73	-1,566.80	931.20	688.88	242.31	3.843 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 Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well 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	1.60	1.60	0.00	0.00	-83.79	232.19	-2,134.75	2,147.34					
100.00	100.00	101.60	101.60	0.13	0.15	-83.79	232.19	-2,134.75	2,147.34	2,147.15	0.19	N/A		
200.00	200.00	201.60	201.60	0.48	0.51	-83.79	232.19	-2,134.75	2,147.34	2,146.64	0.70	3,067.529		
300.00	300.00	301.60	301.60	0.84	0.86	-83.79	232.19	-2,134.75	2,147.34	2,146.13	1.21	1,779.210		
400.00	400.00	401.60	401.60	1.20	1.22	-83.79	232.19	-2,134.75	2,147.34	2,145.63	1.71	1,252.946		
500.00	500.00	501.60	501.60	1.56	1.58	-83.79	232.19	-2,134.75	2,147.34	2,145.12	2.22	966.934		
600.00	600.00	601.60	601.60	1.92	1.94	-83.79	232.19	-2,134.75	2,147.34	2,144.61	2.73	787.230		
700.00	700.00	701.60	701.60	2.28	2.30	-83.79	232.19	-2,134.75	2,147.34	2,144.11	3.23	663.852		
800.00	800.00	801.60	801.60	2.63	2.66	-83.79	232.19	-2,134.75	2,147.34	2,143.60	3.74	573.907		
900.00	900.00	901.60	901.60	2.99	3.02	-83.79	232.19	-2,134.75	2,147.34	2,143.09	4.25	505.427		
1,000.00	1,000.00	1,001.60	1,001.60	3.35	3.37	-83.79	232.19	-2,134.75	2,147.34	2,142.58	4.76	451.547		
1,100.00	1,100.00	1,101.60	1,101.60	3.71	3.73	-83.79	232.19	-2,134.75	2,147.34	2,142.08	5.26	408.048		
1,200.00	1,200.00	1,201.60	1,201.60	4.07	4.09	-83.79	232.19	-2,134.75	2,147.34	2,141.57	5.77	372.193		
1,300.00	1,300.00	1,301.60	1,301.60	4.43	4.45	-83.79	232.19	-2,134.75	2,147.34	2,141.06	6.28	342.130		
1,400.00	1,400.00	1,401.60	1,401.60	4.79	4.81	-83.79	232.19	-2,134.75	2,147.34	2,140.56	6.78	316.561		
1,500.00	1,500.00	1,501.60	1,501.60	5.14	5.17	-83.79	232.19	-2,134.75	2,147.34	2,140.05	7.29	294.548		
1,600.00	1,600.00	1,601.60	1,601.60	5.50	5.52	-83.79	232.19	-2,134.75	2,147.34	2,139.54	7.80	275.397		
1,700.00	1,700.00	1,701.60	1,701.60	5.86	5.88	-83.79	232.19	-2,134.75	2,147.34	2,139.04	8.30	258.585		
1,800.00	1,800.00	1,801.60	1,801.60	6.22	6.24	-83.79	232.19	-2,134.75	2,147.34	2,138.53	8.81	243.707		
1,900.00	1,900.00	1,901.60	1,901.60	6.58	6.60	-83.79	232.19	-2,134.75	2,147.34	2,138.02	9.32	230.448		
2,000.00	2,000.00	2,001.60	2,001.60	6.94	6.96	-83.79	232.19	-2,134.75	2,147.34	2,137.52	9.83	218.557		
2,100.00	2,100.00	2,101.60	2,101.60	7.29	7.32	-83.79	232.19	-2,134.75	2,147.34	2,137.01	10.33	207.834		
2,200.00	2,200.00	2,201.60	2,201.60	7.65	7.68	-83.79	232.19	-2,134.75	2,147.34	2,136.50	10.84	198.113		
2,300.00	2,300.00	2,301.60	2,301.60	8.01	8.03	-83.79	232.19	-2,134.75	2,147.34	2,135.99	11.35	189.261		
2,400.00	2,400.00	2,401.60	2,401.60	8.37	8.39	-83.79	232.19	-2,134.75	2,147.34	2,135.49	11.85	181.166		
2,416.12	2,416.12	2,417.72	2,417.72	8.43	8.45	-83.79	232.19	-2,134.75	2,147.34	2,135.41	11.93	179.925 CC		
2,500.00	2,500.00	2,500.00	2,500.00	8.73	8.74	-83.79	232.19	-2,134.75	2,147.34	2,134.99	12.36	173.793		
2,600.00	2,600.00	2,572.56	2,572.56	9.09	8.99	-83.81	231.76	-2,135.29	2,148.03	2,135.24	12.78	168.015		
2,700.00	2,700.00	2,643.93	2,643.90	9.45	9.23	-83.84	230.50	-2,136.87	2,150.04	2,136.84	13.21	162.820		
2,800.00	2,800.00	2,715.20	2,715.09	9.80	9.47	-83.91	228.42	-2,139.50	2,153.39	2,139.77	13.62	158.092		
2,900.00	2,900.00	2,800.00	2,799.69	10.16	9.75	-84.01	224.87	-2,143.97	2,158.14	2,144.07	14.07	153.376		
3,000.00	3,000.00	2,857.25	2,856.73	10.52	9.95	-84.10	221.81	-2,147.83	2,164.10	2,149.66	14.45	149.778		
3,100.00	3,100.00	2,927.92	2,927.03	10.88	10.19	-84.24	217.30	-2,153.51	2,171.47	2,156.61	14.86	146.131		
3,200.00	3,200.00	2,999.91	2,998.48	11.24	10.43	-84.40	211.88	-2,160.34	2,180.19	2,164.91	15.27	142.747		
3,300.00	3,300.00	3,096.79	3,094.54	11.60	10.77	-84.63	204.02	-2,170.24	2,189.62	2,173.86	15.76	138.954		
3,400.00	3,400.00	3,195.94	3,192.83	11.96	11.12	-84.86	195.98	-2,180.38	2,199.10	2,182.85	16.25	135.317		
3,500.00	3,500.00	3,295.08	3,291.13	12.31	11.47	-85.10	187.94	-2,190.51	2,208.61	2,191.86	16.75	131.880		
3,600.00	3,599.99	3,394.38	3,389.58	12.66	11.83	24.75	179.88	-2,200.66	2,216.97	2,199.74	17.24	128.625		
3,700.00	3,699.91	3,493.93	3,488.28	13.00	12.20	24.53	171.80	-2,210.84	2,222.99	2,205.27	17.72	125.458		
3,800.00	3,799.69	3,593.67	3,587.17	13.33	12.56	24.35	163.71	-2,221.03	2,226.65	2,208.45	18.21	122.307		
3,900.00	3,899.27	3,693.53	3,686.17	13.67	12.93	24.21	155.61	-2,231.24	2,227.94	2,209.25	18.69	119.176		
3,966.99	3,965.83	3,760.46	3,752.53	13.90	13.18	24.14	150.18	-2,238.08	2,227.48	2,208.46	19.02	117.088		
4,000.00	3,998.59	3,793.44	3,785.23	14.02	13.30	24.11	147.51	-2,241.45	2,226.99	2,207.80	19.19	116.071		
4,100.00	4,097.84	3,893.36	3,884.29	14.37	13.68	24.01	139.40	-2,251.67	2,225.50	2,205.82	19.68	113.079		
4,200.00	4,197.10	3,993.27	3,983.35	14.72	14.06	23.91	131.29	-2,261.88	2,224.02	2,203.85	20.18	110.221		
4,300.00	4,296.35	4,093.19	4,082.41	15.07	14.44	23.81	123.19	-2,272.09	2,222.55	2,201.87	20.68	107.489		
4,400.00	4,395.61	4,193.10	4,181.47	15.43	14.82	23.71	115.08	-2,282.31	2,221.08	2,199.91	21.18	104.876		
4,500.00	4,494.86	4,293.02	4,280.53	15.79	15.20	23.61	106.98	-2,292.52	2,219.63	2,197.94	21.68	102.374		
4,600.00	4,594.11	4,392.93	4,379.59	16.15	15.59	23.51	98.87	-2,302.73	2,218.17	2,195.99	22.19	99.978		
4,700.00	4,693.37	4,492.85	4,478.66	16.51	15.98	23.41	90.76	-2,312.95	2,216.73	2,194.03	22.69	97.682		
4,800.00	4,792.62	4,592.76	4,577.72	16.88	16.36	23.31	82.66	-2,323.16	2,215.29	2,192.09	23.20	95.480		
4,900.00	4,891.87	4,692.68	4,676.78	17.25	16.75	23.21	74.55	-2,333.37	2,213.85	2,190.14	23.71	93.367		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Trinity Fed/Santa Fe Fed - Trinity Fed Com 602H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
5,000.00	4,991.13	4,792.60	4,775.84	17.62	17.15	23.12	66.45	-2,343.59	2,212.43	2,188.21	24.22	91.338				
5,100.00	5,090.38	4,892.51	4,874.90	17.99	17.54	23.02	58.34	-2,353.80	2,211.01	2,186.27	24.73	89.389				
5,200.00	5,189.63	4,992.43	4,973.96	18.36	17.93	22.92	50.23	-2,364.01	2,209.60	2,184.35	25.25	87.515				
5,300.00	5,288.89	5,092.34	5,073.02	18.74	18.32	22.82	42.13	-2,374.23	2,208.19	2,182.43	25.76	85.712				
5,400.00	5,388.14	5,192.26	5,172.08	19.11	18.72	22.72	34.02	-2,384.44	2,206.79	2,180.51	26.28	83.978				
5,500.00	5,487.39	5,292.17	5,271.14	19.49	19.12	22.62	25.92	-2,394.65	2,205.40	2,178.61	26.79	82.307				
5,600.00	5,586.65	5,392.09	5,370.21	19.87	19.51	22.51	17.81	-2,404.87	2,204.01	2,176.70	27.31	80.697				
5,700.00	5,685.90	5,492.01	5,469.27	20.25	19.91	22.41	9.70	-2,415.08	2,202.64	2,174.81	27.83	79.146				
5,800.00	5,785.16	5,591.92	5,568.33	20.63	20.31	22.31	1.60	-2,425.29	2,201.26	2,172.91	28.35	77.649				
5,900.00	5,884.41	5,691.84	5,667.39	21.01	20.71	22.21	-6.51	-2,435.51	2,199.90	2,171.03	28.87	76.204				
6,000.00	5,983.66	5,791.75	5,766.45	21.39	21.11	22.11	-14.61	-2,445.72	2,198.54	2,169.15	29.39	74.809				
6,100.00	6,082.92	5,891.67	5,865.51	21.78	21.51	22.01	-22.72	-2,455.94	2,197.19	2,167.28	29.91	73.461				
6,200.00	6,182.17	5,991.58	5,964.57	22.16	21.91	21.91	-30.82	-2,466.15	2,195.84	2,165.41	30.43	72.158				
6,300.00	6,281.42	6,091.50	6,063.63	22.55	22.31	21.81	-38.93	-2,476.36	2,194.51	2,163.55	30.95	70.898				
6,400.00	6,380.68	6,191.41	6,162.70	22.94	22.72	21.71	-47.04	-2,486.58	2,193.18	2,161.70	31.48	69.679				
6,500.00	6,479.93	6,291.33	6,261.76	23.32	23.12	21.61	-55.14	-2,496.79	2,191.85	2,159.85	32.00	68.500				
6,600.00	6,579.18	6,391.25	6,360.82	23.71	23.52	21.50	-63.25	-2,507.00	2,190.53	2,158.01	32.52	67.357				
6,700.00	6,678.44	6,491.16	6,459.88	24.10	23.93	21.40	-71.35	-2,517.22	2,189.22	2,156.18	33.04	66.250				
6,800.00	6,777.69	6,591.08	6,558.94	24.49	24.33	21.30	-79.46	-2,527.43	2,187.92	2,154.35	33.57	65.177				
6,900.00	6,876.95	6,690.99	6,658.00	24.88	24.73	21.20	-87.57	-2,537.64	2,186.63	2,152.53	34.09	64.136				
7,000.00	6,976.20	6,790.91	6,757.06	25.27	25.14	21.10	-95.67	-2,547.86	2,185.34	2,150.72	34.62	63.127				
7,100.00	7,075.45	6,890.82	6,856.12	25.66	25.54	20.99	-103.78	-2,558.07	2,184.05	2,148.91	35.14	62.148				
7,200.00	7,174.71	6,990.74	6,955.18	26.05	25.95	20.89	-111.88	-2,568.28	2,182.78	2,147.11	35.67	61.197				
7,300.00	7,273.96	7,090.66	7,054.25	26.45	26.36	20.79	-119.99	-2,578.50	2,181.51	2,145.32	36.19	60.273				
7,400.00	7,373.21	7,190.57	7,153.31	26.84	26.76	20.69	-128.10	-2,588.71	2,180.25	2,143.53	36.72	59.376				
7,500.00	7,472.47	7,290.49	7,252.37	27.23	27.17	20.58	-136.20	-2,598.92	2,178.99	2,141.75	37.25	58.504				
7,600.00	7,571.72	7,390.40	7,351.43	27.63	27.58	20.48	-144.31	-2,609.14	2,177.75	2,139.97	37.77	57.656				
7,700.00	7,670.97	7,490.32	7,450.49	28.02	27.98	20.38	-152.41	-2,619.35	2,176.51	2,138.21	38.30	56.831				
7,800.00	7,770.23	7,590.23	7,549.55	28.42	28.39	20.27	-160.52	-2,629.56	2,175.27	2,136.45	38.82	56.029				
7,900.00	7,869.48	7,690.15	7,648.61	28.81	28.80	20.17	-168.63	-2,639.78	2,174.05	2,134.70	39.35	55.248				
8,000.00	7,968.73	7,790.06	7,747.67	29.21	29.21	20.07	-176.73	-2,649.99	2,172.83	2,132.95	39.88	54.488				
8,100.00	8,067.99	7,889.98	7,846.73	29.60	29.62	19.96	-184.84	-2,660.20	2,171.61	2,131.21	40.40	53.747				
8,200.00	8,167.24	7,989.90	7,945.80	30.00	30.02	19.86	-192.94	-2,670.42	2,170.41	2,129.48	40.93	53.026				
8,267.43	8,234.17	8,066.33	8,021.58	30.27	30.34	19.78	-199.11	-2,678.19	2,169.58	2,128.26	41.32	52.512				
8,300.00	8,266.51	8,125.26	8,080.10	30.40	30.57	19.73	-203.42	-2,683.62	2,168.99	2,127.42	41.57	52.180				
8,400.00	8,366.00	8,306.21	8,260.36	30.78	31.27	19.62	-213.13	-2,695.86	2,166.33	2,124.03	42.30	51.212				
8,500.00	8,465.72	8,486.95	8,440.94	31.16	31.91	19.61	-217.53	-2,701.39	2,162.40	2,119.43	42.97	50.323				
8,600.00	8,565.60	8,613.21	8,567.20	31.52	32.32	19.63	-217.81	-2,701.75	2,158.05	2,114.55	43.50	49.611				
8,700.00	8,665.58	8,713.18	8,667.18	31.87	32.64	19.64	-217.81	-2,701.75	2,155.97	2,111.99	43.98	49.020				
8,734.42	8,700.00	8,747.61	8,701.60	31.98	32.75	-90.47	-217.81	-2,701.75	2,155.82	2,111.68	44.15	48.834				
8,800.00	8,765.58	8,813.18	8,767.18	32.20	32.96	-90.47	-217.81	-2,701.75	2,155.82	2,111.37	44.46	48.492				
8,900.00	8,865.58	8,913.18	8,867.18	32.54	33.28	-90.47	-217.81	-2,701.75	2,155.82	2,110.89	44.93	47.978				
9,000.00	8,965.58	9,013.18	8,967.18	32.87	33.60	-90.47	-217.81	-2,701.75	2,155.82	2,110.41	45.41	47.474				
9,100.00	9,065.58	9,113.18	9,067.18	33.21	33.92	-90.47	-217.81	-2,701.75	2,155.82	2,109.94	45.89	46.980				
9,200.00	9,165.58	9,213.18	9,167.18	33.54	34.24	-90.47	-217.81	-2,701.75	2,155.82	2,109.46	46.37	46.496				
9,300.00	9,265.58	9,313.18	9,267.18	33.88	34.57	-90.47	-217.81	-2,701.75	2,155.82	2,108.98	46.84	46.021				
9,400.00	9,365.58	9,413.18	9,367.18	34.22	34.89	-90.47	-217.81	-2,701.75	2,155.82	2,108.50	47.32	45.554				
9,500.00	9,465.58	9,513.18	9,467.18	34.55	35.22	-90.47	-217.81	-2,701.75	2,155.82	2,108.02	47.80	45.097				
9,600.00	9,565.58	9,613.18	9,567.18	34.89	35.54	-90.47	-217.81	-2,701.75	2,155.82	2,107.54	48.28	44.649				
9,700.00	9,665.58	9,713.18	9,667.18	35.23	35.87	-90.47	-217.81	-2,701.75	2,155.82	2,107.06	48.77	44.208				
9,800.00	9,765.58	9,813.18	9,767.18	35.57	36.19	-90.47	-217.81	-2,701.75	2,155.82	2,106.58	49.25	43.776				
9,900.00	9,865.58	9,913.18	9,867.18	35.91	36.52	-90.47	-217.81	-2,701.75	2,155.82	2,106.10	49.73	43.352				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well 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	9,965.58	10,013.18	9,967.18	36.25	36.85	-90.47	-217.81	-2,701.75	2,155.82	2,105.61	50.21	42.935		
10,100.00	10,065.58	10,113.18	10,067.18	36.59	37.18	-90.47	-217.81	-2,701.75	2,155.82	2,105.13	50.69	42.526		
10,200.00	10,165.58	10,213.18	10,167.18	36.93	37.51	-90.47	-217.81	-2,701.75	2,155.82	2,104.65	51.18	42.125		
10,300.00	10,265.58	10,313.18	10,267.18	37.27	37.84	-90.47	-217.81	-2,701.75	2,155.82	2,104.16	51.66	41.730		
10,400.00	10,365.58	10,413.18	10,367.18	37.61	38.17	-90.47	-217.81	-2,701.75	2,155.82	2,103.68	52.15	41.342		
10,500.00	10,465.58	10,513.18	10,467.18	37.95	38.50	-90.47	-217.81	-2,701.75	2,155.82	2,103.19	52.63	40.962		
10,600.00	10,565.58	10,613.18	10,567.18	38.29	38.83	-90.47	-217.81	-2,701.75	2,155.82	2,102.71	53.12	40.588		
10,700.00	10,665.58	10,713.18	10,667.18	38.63	39.16	-90.47	-217.81	-2,701.75	2,155.82	2,102.22	53.60	40.220		
10,800.00	10,765.58	10,813.18	10,767.18	38.97	39.49	-90.47	-217.81	-2,701.75	2,155.82	2,101.74	54.09	39.859		
10,900.00	10,865.58	10,913.18	10,867.18	39.32	39.83	-90.47	-217.81	-2,701.75	2,155.82	2,101.25	54.57	39.503		
11,000.00	10,965.58	11,013.18	10,967.18	39.66	40.16	-90.47	-217.81	-2,701.75	2,155.82	2,100.76	55.06	39.154		
11,100.00	11,065.58	11,113.18	11,067.18	40.00	40.49	-90.47	-217.81	-2,701.75	2,155.82	2,100.28	55.55	38.811		
11,200.00	11,165.58	11,213.18	11,167.18	40.35	40.83	-90.47	-217.81	-2,701.75	2,155.82	2,099.79	56.03	38.473		
11,204.01	11,169.59	11,217.19	11,171.18	40.36	40.84	-90.47	-217.80	-2,701.75	2,155.82	2,099.77	56.05	38.460		
11,300.00	11,265.58	11,312.13	11,265.64	40.69	41.14	-90.25	-209.43	-2,701.82	2,155.84	2,099.33	56.51	38.149		
11,400.00	11,365.58	11,405.54	11,355.99	41.03	41.39	-89.63	-186.09	-2,702.02	2,156.09	2,099.13	56.96	37.850		
11,434.42	11,400.00	11,435.65	11,384.15	41.15	41.46	-89.35	-175.47	-2,702.11	2,156.32	2,099.21	57.11	37.755		
11,450.00	11,415.57	11,450.00	11,397.38	41.20	41.49	-88.67	-169.89	-2,702.16	2,156.45	2,099.27	57.18	37.712		
11,500.00	11,465.43	11,490.95	11,434.29	41.37	41.58	-88.22	-152.17	-2,702.31	2,156.97	2,099.59	57.38	37.588		
11,550.00	11,514.79	11,532.04	11,469.95	41.53	41.65	-87.77	-131.79	-2,702.48	2,157.62	2,100.04	57.58	37.474		
11,600.00	11,563.28	11,572.30	11,503.40	41.69	41.72	-87.33	-109.39	-2,702.67	2,158.36	2,100.61	57.75	37.372		
11,650.00	11,610.53	11,611.84	11,534.63	41.83	41.77	-86.91	-85.16	-2,702.88	2,159.20	2,101.28	57.92	37.280		
11,700.00	11,656.17	11,650.00	11,563.12	41.96	41.81	-86.51	-59.78	-2,703.09	2,160.09	2,102.02	58.07	37.199		
11,750.00	11,699.86	11,689.07	11,590.47	42.09	41.85	-86.13	-31.90	-2,703.33	2,161.01	2,102.81	58.21	37.125		
11,800.00	11,741.27	11,726.91	11,615.09	42.19	41.87	-85.77	-3.18	-2,703.57	2,161.96	2,103.62	58.34	37.059		
11,850.00	11,780.08	11,764.31	11,637.51	42.29	41.89	-85.43	26.75	-2,703.83	2,162.89	2,104.44	58.46	36.999		
11,900.00	11,816.01	11,800.00	11,657.05	42.37	41.90	-85.13	56.62	-2,704.08	2,163.80	2,105.23	58.57	36.943		
11,950.00	11,848.76	11,838.02	11,675.76	42.43	41.90	-84.85	89.70	-2,704.36	2,164.66	2,105.98	58.68	36.888		
12,000.00	11,878.10	11,874.42	11,691.59	42.49	41.90	-84.60	122.47	-2,704.64	2,165.46	2,106.67	58.79	36.834		
12,050.00	11,903.80	11,910.59	11,705.23	42.54	41.89	-84.38	155.97	-2,704.92	2,166.17	2,107.27	58.90	36.780		
12,100.00	11,925.67	11,950.00	11,717.64	42.58	41.88	-84.19	193.36	-2,705.24	2,166.78	2,107.78	59.01	36.720		
12,150.00	11,943.53	11,982.38	11,725.90	42.62	41.87	-84.05	224.66	-2,705.51	2,167.28	2,108.17	59.12	36.662		
12,200.00	11,957.26	12,018.06	11,732.94	42.67	41.85	-83.94	259.63	-2,705.80	2,167.67	2,108.44	59.23	36.597		
12,250.00	11,966.75	12,050.00	11,737.39	42.75	41.83	-83.86	291.26	-2,706.07	2,167.93	2,108.58	59.35	36.529		
12,300.00	11,971.92	12,089.20	11,740.42	42.84	41.80	-83.82	330.33	-2,706.40	2,168.05	2,108.57	59.48	36.451		
12,345.40	11,972.85	12,123.98	11,740.87	42.95	41.78	-83.82	365.10	-2,706.70	2,168.05	2,108.44	59.60	36.374		
12,400.00	11,971.81	12,175.02	11,739.98	43.11	41.73	-83.82	416.13	-2,707.13	2,168.00	2,108.21	59.79	36.262		
12,500.00	11,969.89	12,275.02	11,738.24	43.44	41.94	-83.82	516.12	-2,707.98	2,167.91	2,107.72	60.19	36.017		
12,600.00	11,967.98	12,375.02	11,736.50	43.84	42.30	-83.83	616.10	-2,708.83	2,167.83	2,107.14	60.68	35.723		
12,700.00	11,966.06	12,475.02	11,734.76	44.30	42.69	-83.83	716.08	-2,709.68	2,167.74	2,106.48	61.26	35.386		
12,800.00	11,964.14	12,575.02	11,733.02	44.81	43.14	-83.84	816.06	-2,710.53	2,167.65	2,105.74	61.92	35.008		
12,900.00	11,962.23	12,675.02	11,731.28	45.38	43.64	-83.84	916.04	-2,711.38	2,167.57	2,104.91	62.66	34.595		
13,000.00	11,960.31	12,775.02	11,729.54	46.00	44.20	-83.85	1,016.02	-2,712.22	2,167.48	2,104.01	63.47	34.150		
13,100.00	11,958.40	12,875.02	11,727.80	46.66	44.80	-83.85	1,116.00	-2,713.07	2,167.40	2,103.04	64.36	33.677		
13,200.00	11,956.48	12,975.02	11,726.06	47.38	45.45	-83.85	1,215.98	-2,713.92	2,167.31	2,101.99	65.32	33.182		
13,300.00	11,954.57	13,075.02	11,724.32	48.14	46.15	-83.86	1,315.96	-2,714.77	2,167.22	2,100.88	66.34	32.667		
13,400.00	11,952.65	13,175.02	11,722.58	48.94	46.90	-83.86	1,415.95	-2,715.62	2,167.14	2,099.71	67.43	32.137		
13,500.00	11,950.73	13,275.02	11,720.83	49.78	47.69	-83.87	1,515.93	-2,716.47	2,167.05	2,098.47	68.59	31.596		
13,600.00	11,948.82	13,375.02	11,719.09	50.67	48.52	-83.87	1,615.91	-2,717.32	2,166.97	2,097.17	69.80	31.047		
13,700.00	11,946.90	13,475.02	11,717.35	51.59	49.40	-83.88	1,715.89	-2,718.17	2,166.88	2,095.82	71.06	30.493		
13,800.00	11,944.99	13,575.02	11,715.61	52.55	50.31	-83.88	1,815.87	-2,719.01	2,166.80	2,094.42	72.38	29.936		
13,900.00	11,943.07	13,675.02	11,713.87	53.54	51.25	-83.89	1,915.85	-2,719.86	2,166.71	2,092.96	73.75	29.380		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well 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	11,941.16	13,775.02	11,712.13	54.56	52.24	-83.89	2,015.83	-2,720.71	2,166.62	2,091.46	75.16	28.826		
14,100.00	11,939.24	13,875.02	11,710.39	55.61	53.25	-83.89	2,115.81	-2,721.56	2,166.54	2,089.92	76.62	28.276		
14,200.00	11,937.32	13,975.02	11,708.65	56.69	54.30	-83.90	2,215.79	-2,722.41	2,166.45	2,088.33	78.12	27.731		
14,300.00	11,935.41	14,075.02	11,706.91	57.80	55.37	-83.90	2,315.78	-2,723.26	2,166.37	2,086.70	79.66	27.194		
14,400.00	11,933.49	14,175.02	11,705.17	58.93	56.47	-83.91	2,415.76	-2,724.11	2,166.28	2,085.04	81.24	26.664		
14,500.00	11,931.58	14,275.02	11,703.43	60.09	57.60	-83.91	2,515.74	-2,724.96	2,166.19	2,083.34	82.86	26.144		
14,600.00	11,929.66	14,375.02	11,701.69	61.27	58.75	-83.92	2,615.72	-2,725.81	2,166.11	2,081.61	84.50	25.633		
14,700.00	11,927.75	14,475.02	11,699.95	62.47	59.93	-83.92	2,715.70	-2,726.65	2,166.02	2,079.84	86.18	25.133		
14,800.00	11,925.83	14,575.02	11,698.21	63.69	61.13	-83.92	2,815.68	-2,727.50	2,165.94	2,078.05	87.89	24.644		
14,900.00	11,923.91	14,675.02	11,696.46	64.93	62.34	-83.93	2,915.66	-2,728.35	2,165.85	2,076.23	89.62	24.166		
15,000.00	11,922.00	14,775.02	11,694.72	66.18	63.58	-83.93	3,015.64	-2,729.20	2,165.77	2,074.38	91.39	23.699		
15,100.00	11,920.08	14,875.02	11,692.98	67.46	64.84	-83.94	3,115.62	-2,730.05	2,165.68	2,072.51	93.17	23.244		
15,200.00	11,918.17	14,975.02	11,691.24	68.75	66.11	-83.94	3,215.60	-2,730.90	2,165.59	2,070.61	94.98	22.800		
15,300.00	11,916.25	15,075.02	11,689.50	70.05	67.40	-83.95	3,315.59	-2,731.75	2,165.51	2,068.69	96.81	22.368		
15,400.00	11,914.33	15,175.02	11,687.76	71.37	68.71	-83.95	3,415.57	-2,732.60	2,165.42	2,066.76	98.67	21.947		
15,500.00	11,912.42	15,275.02	11,686.02	72.71	70.02	-83.96	3,515.55	-2,733.44	2,165.34	2,064.80	100.54	21.537		
15,600.00	11,910.50	15,375.02	11,684.28	74.05	71.36	-83.96	3,615.53	-2,734.29	2,165.25	2,062.82	102.43	21.139		
15,700.00	11,908.59	15,475.02	11,682.54	75.41	72.70	-83.96	3,715.51	-2,735.14	2,165.17	2,060.83	104.34	20.751		
15,800.00	11,906.67	15,575.02	11,680.80	76.78	74.06	-83.97	3,815.49	-2,735.99	2,165.08	2,058.82	106.26	20.375		
15,900.00	11,904.76	15,675.02	11,679.06	78.16	75.43	-83.97	3,915.47	-2,736.84	2,165.00	2,056.79	108.20	20.008		
16,000.00	11,902.84	15,775.02	11,677.32	79.55	76.81	-83.98	4,015.45	-2,737.69	2,164.91	2,054.75	110.16	19.652		
16,100.00	11,900.92	15,875.02	11,675.58	80.95	78.21	-83.98	4,115.43	-2,738.54	2,164.82	2,052.69	112.13	19.306		
16,200.00	11,899.01	15,975.02	11,673.84	82.37	79.61	-83.99	4,215.42	-2,739.39	2,164.74	2,050.62	114.11	18.970		
16,300.00	11,897.09	16,075.02	11,672.09	83.78	81.02	-83.99	4,315.40	-2,740.23	2,164.65	2,048.54	116.11	18.643		
16,400.00	11,895.18	16,175.02	11,670.35	85.21	82.44	-84.00	4,415.38	-2,741.08	2,164.57	2,046.45	118.12	18.325		
16,500.00	11,893.26	16,275.02	11,668.61	86.65	83.87	-84.00	4,515.36	-2,741.93	2,164.48	2,044.34	120.14	18.017		
16,600.00	11,891.35	16,375.02	11,666.87	88.09	85.30	-84.00	4,615.34	-2,742.78	2,164.40	2,042.23	122.17	17.716		
16,700.00	11,889.43	16,475.02	11,665.13	89.54	86.75	-84.01	4,715.32	-2,743.63	2,164.31	2,040.10	124.21	17.425		
16,800.00	11,887.51	16,575.02	11,663.39	91.00	88.20	-84.01	4,815.30	-2,744.48	2,164.23	2,037.96	126.26	17.141		
16,900.00	11,885.60	16,675.02	11,661.65	92.46	89.65	-84.02	4,915.28	-2,745.33	2,164.14	2,035.82	128.32	16.865		
17,000.00	11,883.68	16,775.02	11,659.91	93.93	91.12	-84.02	5,015.26	-2,746.18	2,164.05	2,033.66	130.39	16.597		
17,100.00	11,881.77	16,875.02	11,658.17	95.40	92.59	-84.03	5,115.25	-2,747.02	2,163.97	2,031.50	132.47	16.336		
17,200.00	11,879.85	16,975.02	11,656.43	96.89	94.07	-84.03	5,215.23	-2,747.87	2,163.88	2,029.33	134.55	16.082		
17,300.00	11,877.94	17,075.02	11,654.69	98.37	95.55	-84.04	5,315.21	-2,748.72	2,163.80	2,027.15	136.65	15.835		
17,400.00	11,876.02	17,175.02	11,652.95	99.86	97.04	-84.04	5,415.19	-2,749.57	2,163.71	2,024.96	138.75	15.594		
17,500.00	11,874.10	17,275.02	11,651.21	101.36	98.53	-84.04	5,515.17	-2,750.42	2,163.63	2,022.77	140.86	15.360		
17,600.00	11,872.19	17,375.02	11,649.47	102.86	100.03	-84.05	5,615.15	-2,751.27	2,163.54	2,020.57	142.97	15.132		
17,700.00	11,870.27	17,475.02	11,647.72	104.37	101.53	-84.05	5,715.13	-2,752.12	2,163.46	2,018.36	145.10	14.911		
17,800.00	11,868.36	17,575.02	11,645.98	105.88	103.04	-84.06	5,815.11	-2,752.97	2,163.37	2,016.15	147.22	14.695		
17,900.00	11,866.44	17,675.02	11,644.24	107.39	104.55	-84.06	5,915.09	-2,753.81	2,163.29	2,013.93	149.36	14.484		
18,000.00	11,864.53	17,775.02	11,642.50	108.91	106.07	-84.07	6,015.07	-2,754.66	2,163.20	2,011.70	151.50	14.279		
18,100.00	11,862.61	17,875.01	11,640.76	110.44	107.59	-84.07	6,115.06	-2,755.51	2,163.12	2,009.47	153.64	14.079		
18,200.00	11,860.69	17,975.01	11,639.02	111.96	109.11	-84.08	6,215.04	-2,756.36	2,163.03	2,007.24	155.79	13.884		
18,300.00	11,858.78	18,075.01	11,637.28	113.49	110.64	-84.08	6,315.02	-2,757.21	2,162.94	2,005.00	157.95	13.694		
18,400.00	11,856.86	18,175.01	11,635.54	115.02	112.17	-84.08	6,415.00	-2,758.06	2,162.86	2,002.75	160.10	13.509		
18,500.00	11,854.95	18,275.01	11,633.80	116.56	113.70	-84.09	6,514.98	-2,758.91	2,162.77	2,000.51	162.27	13.328		
18,600.00	11,853.03	18,375.01	11,632.06	118.10	115.24	-84.09	6,614.96	-2,759.76	2,162.69	1,998.25	164.44	13.152		
18,700.00	11,851.12	18,475.01	11,630.32	119.64	116.78	-84.10	6,714.94	-2,760.61	2,162.60	1,995.99	166.61	12.980		
18,800.00	11,849.20	18,575.01	11,628.58	121.19	118.33	-84.10	6,814.92	-2,761.45	2,162.52	1,993.73	168.79	12.812		
18,900.00	11,847.28	18,675.01	11,626.84	122.74	119.87	-84.11	6,914.90	-2,762.30	2,162.43	1,991.46	170.97	12.648		
19,000.00	11,845.37	18,775.01	11,625.10	124.29	121.42	-84.11	7,014.89	-2,763.15	2,162.35	1,989.19	173.15	12.488		
19,100.00	11,843.45	18,875.01	11,623.35	125.84	122.97	-84.11	7,114.87	-2,764.00	2,162.26	1,986.92	175.34	12.332		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well 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	11,841.54	18,975.01	11,621.61	127.39	124.53	-84.12	7,214.85	-2,764.85	2,162.18	1,984.64	177.53	12.179		
19,300.00	11,839.62	19,075.01	11,619.87	128.95	126.09	-84.12	7,314.83	-2,765.70	2,162.09	1,982.36	179.73	12.030		
19,400.00	11,837.71	19,175.01	11,618.13	130.51	127.64	-84.13	7,414.81	-2,766.55	2,162.01	1,980.08	181.93	11.884		
19,500.00	11,835.79	19,275.01	11,616.39	132.08	129.21	-84.13	7,514.79	-2,767.40	2,161.92	1,977.79	184.13	11.741		
19,600.00	11,833.87	19,375.01	11,614.65	133.64	130.77	-84.14	7,614.77	-2,768.24	2,161.84	1,975.50	186.33	11.602		
19,700.00	11,831.96	19,475.01	11,612.91	135.21	132.34	-84.14	7,714.75	-2,769.09	2,161.75	1,973.21	188.54	11.466		
19,800.00	11,830.04	19,575.01	11,611.17	136.78	133.90	-84.15	7,814.73	-2,769.94	2,161.67	1,970.92	190.75	11.332		
19,900.00	11,828.13	19,675.01	11,609.43	138.35	135.47	-84.15	7,914.72	-2,770.79	2,161.58	1,968.62	192.96	11.202		
20,000.00	11,826.21	19,775.01	11,607.69	139.92	137.05	-84.15	8,014.70	-2,771.64	2,161.50	1,966.32	195.18	11.074		
20,100.00	11,824.30	19,875.01	11,605.95	141.49	138.62	-84.16	8,114.68	-2,772.49	2,161.41	1,964.01	197.40	10.950		
20,200.00	11,822.38	19,975.01	11,604.21	143.07	140.20	-84.16	8,214.66	-2,773.34	2,161.33	1,961.71	199.62	10.827		
20,300.00	11,820.46	20,075.01	11,602.47	144.65	141.77	-84.17	8,314.64	-2,774.19	2,161.24	1,959.40	201.84	10.708		
20,400.00	11,818.55	20,175.01	11,600.72	146.23	143.35	-84.17	8,414.62	-2,775.03	2,161.16	1,957.09	204.07	10.590		
20,500.00	11,816.63	20,275.01	11,598.98	147.81	144.93	-84.18	8,514.60	-2,775.88	2,161.07	1,954.78	206.29	10.476		
20,600.00	11,814.72	20,375.01	11,597.24	149.39	146.51	-84.18	8,614.58	-2,776.73	2,160.99	1,952.46	208.52	10.363		
20,700.00	11,812.80	20,475.01	11,595.50	150.98	148.10	-84.19	8,714.56	-2,777.58	2,160.90	1,950.15	210.76	10.253		
20,800.00	11,810.89	20,575.01	11,593.76	152.56	149.68	-84.19	8,814.54	-2,778.43	2,160.82	1,947.83	212.99	10.145		
20,900.00	11,808.97	20,675.01	11,592.02	154.15	151.27	-84.19	8,914.53	-2,779.28	2,160.73	1,945.51	215.23	10.039		
21,000.00	11,807.05	20,775.01	11,590.28	155.74	152.86	-84.20	9,014.51	-2,780.13	2,160.65	1,943.18	217.46	9.936		
21,100.00	11,805.14	20,875.01	11,588.54	157.33	154.45	-84.20	9,114.49	-2,780.98	2,160.56	1,940.86	219.70	9.834		
21,200.00	11,803.22	20,975.01	11,586.80	158.92	156.04	-84.21	9,214.47	-2,781.82	2,160.48	1,938.53	221.95	9.734		
21,300.00	11,801.31	21,075.01	11,585.06	160.51	157.63	-84.21	9,314.45	-2,782.67	2,160.39	1,936.20	224.19	9.636		
21,400.00	11,799.39	21,175.01	11,583.32	162.10	159.22	-84.22	9,414.43	-2,783.52	2,160.31	1,933.87	226.43	9.541		
21,500.00	11,797.48	21,275.01	11,581.58	163.70	160.82	-84.22	9,514.41	-2,784.37	2,160.22	1,931.54	228.68	9.446		
21,600.00	11,795.56	21,375.01	11,579.84	165.29	162.41	-84.23	9,614.39	-2,785.22	2,160.14	1,929.21	230.93	9.354		
21,700.00	11,793.64	21,475.01	11,578.10	166.89	164.01	-84.23	9,714.37	-2,786.07	2,160.05	1,926.87	233.18	9.263		
21,800.00	11,791.73	21,575.01	11,576.35	168.49	165.61	-84.23	9,814.36	-2,786.92	2,159.97	1,924.54	235.43	9.175		
21,900.00	11,789.81	21,675.01	11,574.61	170.08	167.20	-84.24	9,914.34	-2,787.77	2,159.88	1,922.20	237.68	9.087		
22,000.00	11,787.90	21,775.01	11,572.87	171.68	168.80	-84.24	10,014.32	-2,788.62	2,159.80	1,919.86	239.94	9.001		
22,100.00	11,785.98	21,875.01	11,571.13	173.29	170.40	-84.25	10,114.30	-2,789.46	2,159.71	1,917.52	242.19	8.917		
22,124.95	11,785.50	21,898.12	11,570.73	173.68	170.77	-84.25	10,137.41	-2,789.66	2,159.69	1,916.95	242.75	8.897		
22,129.79	11,785.41	21,898.12	11,570.73	173.76	170.77	-84.25	10,137.41	-2,789.66	2,159.70	1,916.88	242.82	8.894 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 Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well 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	3.80	3.80	0.00	0.01	-83.68	232.57	-2,099.75	2,112.59					
100.00	100.00	103.80	103.80	0.13	0.16	-83.68	232.57	-2,099.75	2,112.59	2,112.39	0.20	N/A		
200.00	200.00	203.80	203.80	0.48	0.51	-83.68	232.57	-2,099.75	2,112.59	2,111.88	0.71	2,993.431		
300.00	300.00	303.80	303.80	0.84	0.87	-83.68	232.57	-2,099.75	2,112.59	2,111.38	1.21	1,742.247		
400.00	400.00	403.80	403.80	1.20	1.23	-83.68	232.57	-2,099.75	2,112.59	2,110.87	1.72	1,228.630		
500.00	500.00	503.80	503.80	1.56	1.59	-83.68	232.57	-2,099.75	2,112.59	2,110.36	2.23	948.884		
600.00	600.00	603.80	603.80	1.92	1.95	-83.68	232.57	-2,099.75	2,112.59	2,109.86	2.73	772.900		
700.00	700.00	703.80	703.80	2.28	2.31	-83.68	232.57	-2,099.75	2,112.59	2,109.35	3.24	651.979		
800.00	800.00	803.80	803.80	2.63	2.66	-83.68	232.57	-2,099.75	2,112.59	2,108.84	3.75	563.776		
900.00	900.00	903.80	903.80	2.99	3.02	-83.68	232.57	-2,099.75	2,112.59	2,108.34	4.25	496.593		
1,000.00	1,000.00	1,003.80	1,003.80	3.35	3.38	-83.68	232.57	-2,099.75	2,112.59	2,107.83	4.76	443.717		
1,100.00	1,100.00	1,103.80	1,103.80	3.71	3.74	-83.68	232.57	-2,099.75	2,112.59	2,107.32	5.27	401.018		
1,200.00	1,200.00	1,203.80	1,203.80	4.07	4.10	-83.68	232.57	-2,099.75	2,112.59	2,106.82	5.78	365.815		
1,300.00	1,300.00	1,303.80	1,303.80	4.43	4.46	-83.68	232.57	-2,099.75	2,112.59	2,106.31	6.28	336.294		
1,400.00	1,400.00	1,403.80	1,403.80	4.79	4.82	-83.68	232.57	-2,099.75	2,112.59	2,105.80	6.79	311.182		
1,500.00	1,500.00	1,503.80	1,503.80	5.14	5.17	-83.68	232.57	-2,099.75	2,112.59	2,105.29	7.30	289.559		
1,600.00	1,600.00	1,603.80	1,603.80	5.50	5.53	-83.68	232.57	-2,099.75	2,112.59	2,104.79	7.80	270.747		
1,700.00	1,700.00	1,703.80	1,703.80	5.86	5.89	-83.68	232.57	-2,099.75	2,112.59	2,104.28	8.31	254.229		
1,800.00	1,800.00	1,803.80	1,803.80	6.22	6.25	-83.68	232.57	-2,099.75	2,112.59	2,103.77	8.82	239.611		
1,900.00	1,900.00	1,903.80	1,903.80	6.58	6.61	-83.68	232.57	-2,099.75	2,112.59	2,103.27	9.32	226.583		
2,000.00	2,000.00	2,003.80	2,003.80	6.94	6.97	-83.68	232.57	-2,099.75	2,112.59	2,102.76	9.83	214.898		
2,100.00	2,100.00	2,103.80	2,103.80	7.29	7.32	-83.68	232.57	-2,099.75	2,112.59	2,102.25	10.34	204.360		
2,200.00	2,200.00	2,203.80	2,203.80	7.65	7.68	-83.68	232.57	-2,099.75	2,112.59	2,101.75	10.84	194.807		
2,300.00	2,300.00	2,303.80	2,303.80	8.01	8.04	-83.68	232.57	-2,099.75	2,112.59	2,101.24	11.35	186.107		
2,400.00	2,400.00	2,403.80	2,403.80	8.37	8.40	-83.68	232.57	-2,099.75	2,112.59	2,100.73	11.86	178.150		
2,500.00	2,500.00	2,503.80	2,503.80	8.73	8.76	-83.68	232.57	-2,099.75	2,112.59	2,100.23	12.37	170.847		
2,600.00	2,600.00	2,603.80	2,603.80	9.09	9.12	-83.68	232.57	-2,099.75	2,112.59	2,099.72	12.87	164.118		
2,700.00	2,700.00	2,703.80	2,703.80	9.45	9.48	-83.68	232.57	-2,099.75	2,112.59	2,099.21	13.38	157.900		
2,800.00	2,800.00	2,803.80	2,803.80	9.80	9.83	-83.68	232.57	-2,099.75	2,112.59	2,098.70	13.89	152.135		
2,900.00	2,900.00	2,903.80	2,903.80	10.16	10.19	-83.68	232.57	-2,099.75	2,112.59	2,098.20	14.39	146.777		
2,915.35	2,915.35	2,919.15	2,919.15	10.22	10.25	-83.68	232.57	-2,099.75	2,112.59	2,098.12	14.47	145.987		
3,000.00	3,000.00	3,000.00	3,000.00	10.52	10.54	-83.68	232.57	-2,099.75	2,112.59	2,097.70	14.89	141.875		
3,100.00	3,100.00	3,082.74	3,082.74	10.88	10.82	-83.70	231.82	-2,100.25	2,113.11	2,097.76	15.34	137.723		
3,200.00	3,200.00	3,162.39	3,162.34	11.24	11.08	-83.76	229.70	-2,101.66	2,114.59	2,098.81	15.78	134.000		
3,300.00	3,300.00	3,241.89	3,241.73	11.60	11.34	-83.86	226.20	-2,104.00	2,117.03	2,100.82	16.21	130.561		
3,400.00	3,400.00	3,321.18	3,320.80	11.96	11.60	-84.00	221.34	-2,107.24	2,120.45	2,103.81	16.65	127.366		
3,500.00	3,500.00	3,400.23	3,399.50	12.31	11.87	-84.18	215.14	-2,111.37	2,124.86	2,107.78	17.08	124.398		
3,600.00	3,599.99	3,499.78	3,498.50	12.66	12.20	25.68	206.48	-2,117.14	2,128.61	2,111.05	17.56	121.219		
3,700.00	3,699.91	3,599.48	3,597.66	13.00	12.54	25.47	197.81	-2,122.93	2,130.04	2,112.00	18.03	118.116		
3,800.00	3,799.69	3,699.27	3,696.90	13.33	12.88	25.30	189.13	-2,128.71	2,129.12	2,110.61	18.51	115.025		
3,900.00	3,899.27	3,799.07	3,796.16	13.67	13.22	25.18	180.44	-2,134.50	2,125.85	2,106.86	18.99	111.949		
3,966.99	3,965.83	3,865.91	3,862.63	13.90	13.46	25.12	174.63	-2,138.38	2,122.34	2,103.03	19.31	109.896		
4,000.00	3,998.59	3,898.83	3,895.37	14.02	13.57	25.09	171.77	-2,140.29	2,120.36	2,100.88	19.47	108.896		
4,100.00	4,097.84	3,998.57	3,994.56	14.37	13.92	24.98	163.09	-2,146.07	2,114.34	2,094.38	19.96	105.951		
4,200.00	4,197.10	4,098.31	4,093.75	14.72	14.27	24.87	154.41	-2,151.86	2,108.33	2,087.88	20.44	103.131		
4,300.00	4,296.35	4,198.05	4,192.94	15.07	14.63	24.76	145.74	-2,157.64	2,102.32	2,081.39	20.93	100.430		
4,400.00	4,395.61	4,297.79	4,292.14	15.43	14.98	24.65	137.06	-2,163.42	2,096.33	2,074.90	21.43	97.842		
4,500.00	4,494.86	4,397.52	4,391.33	15.79	15.34	24.54	128.38	-2,169.21	2,090.34	2,068.42	21.92	95.361		
4,600.00	4,594.11	4,497.26	4,490.52	16.15	15.70	24.43	119.71	-2,174.99	2,084.36	2,061.94	22.42	92.981		
4,700.00	4,693.37	4,597.00	4,589.71	16.51	16.06	24.32	111.03	-2,180.78	2,078.39	2,055.47	22.92	90.696		
4,800.00	4,792.62	4,696.74	4,688.90	16.88	16.43	24.20	102.35	-2,186.56	2,072.42	2,049.01	23.42	88.502		
4,900.00	4,891.87	4,796.48	4,788.10	17.25	16.79	24.09	93.68	-2,192.35	2,066.47	2,042.55	23.92	86.395		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well 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	4,991.13	4,896.22	4,887.29	17.62	17.16	23.98	85.00	-2,198.13	2,060.52	2,036.10	24.42	84.369		
5,100.00	5,090.38	4,995.96	4,986.48	17.99	17.53	23.86	76.32	-2,203.91	2,054.58	2,029.65	24.93	82.420		
5,200.00	5,189.63	5,095.70	5,085.67	18.36	17.90	23.75	67.65	-2,209.70	2,048.65	2,023.21	25.43	80.545		
5,300.00	5,288.89	5,195.43	5,184.86	18.74	18.27	23.63	58.97	-2,215.48	2,042.73	2,016.78	25.94	78.739		
5,400.00	5,388.14	5,295.17	5,284.06	19.11	18.64	23.51	50.29	-2,221.27	2,036.81	2,010.36	26.45	76.999		
5,500.00	5,487.39	5,394.91	5,383.25	19.49	19.01	23.40	41.62	-2,227.05	2,030.91	2,003.94	26.96	75.323		
5,600.00	5,586.65	5,494.65	5,482.44	19.87	19.38	23.28	32.94	-2,232.84	2,025.01	1,997.53	27.47	73.706		
5,700.00	5,685.90	5,594.39	5,581.63	20.25	19.76	23.16	24.27	-2,238.62	2,019.12	1,991.13	27.99	72.146		
5,800.00	5,785.16	5,694.13	5,680.82	20.63	20.13	23.04	15.59	-2,244.40	2,013.24	1,984.74	28.50	70.640		
5,900.00	5,884.41	5,793.87	5,780.02	21.01	20.51	22.92	6.91	-2,250.19	2,007.37	1,978.35	29.01	69.186		
6,000.00	5,983.66	5,893.60	5,879.21	21.39	20.89	22.80	-1.76	-2,255.97	2,001.50	1,971.98	29.53	67.781		
6,100.00	6,082.92	5,993.34	5,978.40	21.78	21.26	22.68	-10.44	-2,261.76	1,995.65	1,965.61	30.04	66.422		
6,200.00	6,182.17	6,093.08	6,077.59	22.16	21.64	22.56	-19.12	-2,267.54	1,989.81	1,959.24	30.56	65.109		
6,300.00	6,281.42	6,192.82	6,176.78	22.55	22.02	22.43	-27.79	-2,273.33	1,983.97	1,952.89	31.08	63.838		
6,400.00	6,380.68	6,292.56	6,275.98	22.94	22.40	22.31	-36.47	-2,279.11	1,978.14	1,946.55	31.60	62.607		
6,500.00	6,479.93	6,392.30	6,375.17	23.32	22.78	22.19	-45.15	-2,284.89	1,972.33	1,940.21	32.11	61.416		
6,600.00	6,579.18	6,492.04	6,474.36	23.71	23.16	22.06	-53.82	-2,290.68	1,966.52	1,933.89	32.63	60.261		
6,700.00	6,678.44	6,591.77	6,573.55	24.10	23.54	21.93	-62.50	-2,296.46	1,960.72	1,927.57	33.15	59.142		
6,800.00	6,777.69	6,691.51	6,672.74	24.49	23.92	21.81	-71.18	-2,302.25	1,954.93	1,921.26	33.67	58.057		
6,900.00	6,876.95	6,791.25	6,771.94	24.88	24.30	21.68	-79.85	-2,308.03	1,949.15	1,914.96	34.19	57.005		
7,000.00	6,976.20	6,890.99	6,871.13	25.27	24.69	21.55	-88.53	-2,313.82	1,943.38	1,908.67	34.71	55.984		
7,100.00	7,075.45	6,990.73	6,970.32	25.66	25.07	21.42	-97.20	-2,319.60	1,937.62	1,902.39	35.23	54.992		
7,200.00	7,174.71	7,090.47	7,069.51	26.05	25.45	21.29	-105.88	-2,325.38	1,931.87	1,896.12	35.76	54.030		
7,300.00	7,273.96	7,190.21	7,168.70	26.45	25.84	21.16	-114.56	-2,331.17	1,926.13	1,889.86	36.28	53.095		
7,400.00	7,373.21	7,289.95	7,267.90	26.84	26.22	21.03	-123.23	-2,336.95	1,920.40	1,883.60	36.80	52.186		
7,500.00	7,472.47	7,389.68	7,367.09	27.23	26.61	20.90	-131.91	-2,342.74	1,914.68	1,877.36	37.32	51.302		
7,600.00	7,571.72	7,489.42	7,466.28	27.63	26.99	20.77	-140.59	-2,348.52	1,908.97	1,871.13	37.84	50.443		
7,700.00	7,670.97	7,589.16	7,565.47	28.02	27.38	20.63	-149.26	-2,354.31	1,903.27	1,864.91	38.37	49.607		
7,800.00	7,770.23	7,688.90	7,664.66	28.42	27.76	20.50	-157.94	-2,360.09	1,897.59	1,858.69	38.89	48.793		
7,900.00	7,869.48	7,788.64	7,763.86	28.81	28.15	20.36	-166.62	-2,365.87	1,891.91	1,852.49	39.41	48.002		
8,000.00	7,968.73	7,888.38	7,863.05	29.21	28.53	20.23	-175.29	-2,371.66	1,886.24	1,846.30	39.94	47.231		
8,100.00	8,067.99	7,988.12	7,962.24	29.60	28.92	20.09	-183.97	-2,377.44	1,880.58	1,840.12	40.46	46.479		
8,200.00	8,167.24	8,087.85	8,061.43	30.00	29.31	19.95	-192.65	-2,383.23	1,874.93	1,833.95	40.98	45.748		
8,267.43	8,234.17	8,155.11	8,128.32	30.27	29.57	19.86	-198.50	-2,387.13	1,871.13	1,829.80	41.34	45.265		
8,300.00	8,266.51	8,193.30	8,166.31	30.40	29.71	19.80	-201.77	-2,389.31	1,869.41	1,827.88	41.52	45.020		
8,400.00	8,366.00	8,330.93	8,303.47	30.78	30.23	19.63	-211.07	-2,395.51	1,864.50	1,822.36	42.14	44.248		
8,500.00	8,465.72	8,468.61	8,441.00	31.16	30.73	19.56	-216.25	-2,398.96	1,860.03	1,817.30	42.73	43.533		
8,600.00	8,565.60	8,597.02	8,569.40	31.52	31.17	19.57	-217.43	-2,399.75	1,856.06	1,812.79	43.27	42.894		
8,700.00	8,665.58	8,696.99	8,669.38	31.87	31.50	19.58	-217.43	-2,399.75	1,853.98	1,810.22	43.76	42.372		
8,734.42	8,700.00	8,731.42	8,703.80	31.98	31.61	-90.54	-217.43	-2,399.75	1,853.83	1,809.91	43.92	42.209		
8,800.00	8,765.58	8,796.99	8,769.38	32.20	31.83	-90.54	-217.43	-2,399.75	1,853.83	1,809.60	44.23	41.910		
8,900.00	8,865.58	8,896.99	8,869.38	32.54	32.16	-90.54	-217.43	-2,399.75	1,853.83	1,809.12	44.71	41.462		
9,000.00	8,965.58	8,996.99	8,969.38	32.87	32.49	-90.54	-217.43	-2,399.75	1,853.83	1,808.64	45.19	41.022		
9,100.00	9,065.58	9,096.99	9,069.38	33.21	32.82	-90.54	-217.43	-2,399.75	1,853.83	1,808.16	45.67	40.592		
9,200.00	9,165.58	9,196.99	9,169.38	33.54	33.15	-90.54	-217.43	-2,399.75	1,853.83	1,807.68	46.15	40.169		
9,300.00	9,265.58	9,296.99	9,269.38	33.88	33.48	-90.54	-217.43	-2,399.75	1,853.83	1,807.20	46.63	39.755		
9,400.00	9,365.58	9,396.99	9,369.38	34.22	33.82	-90.54	-217.43	-2,399.75	1,853.83	1,806.72	47.11	39.349		
9,500.00	9,465.58	9,496.99	9,469.38	34.55	34.15	-90.54	-217.43	-2,399.75	1,853.83	1,806.24	47.59	38.951		
9,600.00	9,565.58	9,596.99	9,569.38	34.89	34.48	-90.54	-217.43	-2,399.75	1,853.83	1,805.76	48.08	38.560		
9,700.00	9,665.58	9,696.99	9,669.38	35.23	34.82	-90.54	-217.43	-2,399.75	1,853.83	1,805.27	48.56	38.177		
9,800.00	9,765.58	9,796.99	9,769.38	35.57	35.15	-90.54	-217.43	-2,399.75	1,853.83	1,804.79	49.04	37.800		
9,900.00	9,865.58	9,896.99	9,869.38	35.91	35.49	-90.54	-217.43	-2,399.75	1,853.83	1,804.31	49.53	37.431		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well 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	9,965.58	9,996.99	9,969.38	36.25	35.82	-90.54	-217.43	-2,399.75	1,853.83	1,803.82	50.01	37.069		
10,100.00	10,065.58	10,096.99	10,069.38	36.59	36.16	-90.54	-217.43	-2,399.75	1,853.83	1,803.34	50.50	36.713		
10,200.00	10,165.58	10,196.99	10,169.38	36.93	36.50	-90.54	-217.43	-2,399.75	1,853.83	1,802.85	50.98	36.364		
10,300.00	10,265.58	10,296.99	10,269.38	37.27	36.83	-90.54	-217.43	-2,399.75	1,853.83	1,802.37	51.47	36.021		
10,400.00	10,365.58	10,396.99	10,369.38	37.61	37.17	-90.54	-217.43	-2,399.75	1,853.83	1,801.88	51.95	35.684		
10,500.00	10,465.58	10,496.99	10,469.38	37.95	37.51	-90.54	-217.43	-2,399.75	1,853.83	1,801.39	52.44	35.353		
10,600.00	10,565.58	10,596.99	10,569.38	38.29	37.85	-90.54	-217.43	-2,399.75	1,853.83	1,800.91	52.92	35.028		
10,700.00	10,665.58	10,696.99	10,669.38	38.63	38.19	-90.54	-217.43	-2,399.75	1,853.83	1,800.42	53.41	34.708		
10,800.00	10,765.58	10,796.99	10,769.38	38.97	38.53	-90.54	-217.43	-2,399.75	1,853.83	1,799.93	53.90	34.394		
10,900.00	10,865.58	10,896.99	10,869.38	39.32	38.86	-90.54	-217.43	-2,399.75	1,853.83	1,799.44	54.39	34.086		
11,000.00	10,965.58	10,996.99	10,969.38	39.66	39.20	-90.54	-217.43	-2,399.75	1,853.83	1,798.96	54.88	33.783		
11,100.00	11,065.58	11,096.99	11,069.38	40.00	39.54	-90.54	-217.43	-2,399.75	1,853.83	1,798.47	55.36	33.484		
11,200.00	11,165.58	11,196.99	11,169.38	40.35	39.88	-90.54	-217.43	-2,399.75	1,853.83	1,797.98	55.85	33.191		
11,300.00	11,265.58	11,296.99	11,269.38	40.69	40.23	-90.54	-217.43	-2,399.75	1,853.83	1,797.49	56.34	32.903		
11,400.00	11,365.58	11,396.99	11,369.38	41.03	40.57	-90.54	-217.43	-2,399.75	1,853.83	1,797.00	56.83	32.620		
11,434.42	11,400.00	11,431.42	11,403.80	41.15	40.68	-90.54	-217.43	-2,399.75	1,853.83	1,796.83	57.00	32.523		
11,450.00	11,415.57	11,446.99	11,419.37	41.20	40.74	-90.02	-217.43	-2,399.75	1,853.83	1,796.76	57.08	32.480		
11,500.00	11,465.43	11,497.08	11,469.46	41.37	40.91	-90.11	-216.82	-2,399.76	1,853.83	1,796.52	57.31	32.345		
11,550.00	11,514.79	11,547.54	11,516.69	41.53	41.07	-90.22	-212.27	-2,399.79	1,853.84	1,796.30	57.54	32.217		
11,600.00	11,563.28	11,598.31	11,569.64	41.69	41.22	-90.32	-203.26	-2,399.87	1,853.85	1,796.09	57.76	32.096		
11,650.00	11,610.53	11,649.38	11,618.87	41.83	41.36	-90.42	-189.77	-2,399.98	1,853.86	1,795.90	57.96	31.984		
11,700.00	11,656.17	11,700.75	11,666.99	41.96	41.49	-90.52	-171.83	-2,400.14	1,853.88	1,795.72	58.15	31.879		
11,750.00	11,699.86	11,752.42	11,713.58	42.09	41.61	-90.61	-149.52	-2,400.33	1,853.89	1,795.56	58.33	31.782		
11,800.00	11,741.27	11,804.37	11,758.20	42.19	41.71	-90.71	-122.94	-2,400.55	1,853.91	1,795.41	58.50	31.691		
11,850.00	11,780.08	11,856.60	11,800.44	42.29	41.80	-90.79	-92.27	-2,400.81	1,853.92	1,795.27	58.66	31.607		
11,900.00	11,816.01	11,909.08	11,839.90	42.37	41.88	-90.87	-57.70	-2,401.11	1,853.94	1,795.13	58.81	31.527		
11,950.00	11,848.76	11,961.81	11,876.20	42.43	41.94	-90.94	-19.48	-2,401.43	1,853.95	1,795.00	58.95	31.450		
12,000.00	11,878.10	12,014.75	11,908.95	42.49	42.00	-91.01	22.09	-2,401.78	1,853.96	1,794.87	59.09	31.377		
12,050.00	11,903.80	12,067.89	11,937.82	42.54	42.05	-91.06	66.68	-2,402.16	1,853.96	1,794.74	59.22	31.305		
12,100.00	11,925.67	12,121.19	11,962.52	42.58	42.09	-91.11	113.89	-2,402.56	1,853.96	1,794.60	59.36	31.233		
12,150.00	11,943.53	12,174.63	11,982.76	42.62	42.14	-91.15	163.33	-2,402.98	1,853.95	1,794.45	59.49	31.162		
12,200.00	11,957.26	12,228.18	11,998.34	42.67	42.19	-91.18	214.54	-2,403.42	1,853.93	1,794.30	59.63	31.089		
12,250.00	11,966.75	12,281.81	12,009.09	42.75	42.24	-91.20	267.06	-2,403.86	1,853.91	1,794.14	59.77	31.016		
12,300.00	11,971.92	12,335.47	12,014.88	42.84	42.30	-91.21	320.39	-2,404.32	1,853.88	1,793.97	59.92	30.941		
12,345.40	11,972.85	12,383.95	12,015.81	42.95	42.37	-91.21	368.84	-2,404.73	1,853.85	1,793.80	60.05	30.870		
12,400.00	11,971.81	12,438.55	12,014.88	43.11	42.48	-91.21	423.43	-2,405.19	1,853.82	1,793.58	60.24	30.774		
12,500.00	11,969.89	12,538.55	12,013.17	43.44	42.71	-91.22	523.41	-2,406.04	1,853.75	1,793.11	60.64	30.570		
12,600.00	11,967.98	12,638.55	12,011.45	43.84	43.02	-91.23	623.39	-2,406.89	1,853.69	1,792.56	61.13	30.325		
12,700.00	11,966.06	12,738.55	12,009.74	44.30	43.39	-91.23	723.37	-2,407.74	1,853.63	1,791.93	61.70	30.043		
12,800.00	11,964.14	12,838.55	12,008.03	44.81	43.82	-91.24	823.36	-2,408.59	1,853.57	1,791.21	62.35	29.726		
12,900.00	11,962.23	12,938.55	12,006.31	45.38	44.31	-91.25	923.34	-2,409.44	1,853.50	1,790.41	63.09	29.379		
13,000.00	11,960.31	13,038.55	12,004.60	46.00	44.85	-91.25	1,023.32	-2,410.29	1,853.44	1,789.54	63.90	29.006		
13,100.00	11,958.40	13,138.55	12,002.89	46.66	45.45	-91.26	1,123.30	-2,411.14	1,853.38	1,788.59	64.78	28.609		
13,200.00	11,956.48	13,238.55	12,001.17	47.38	46.09	-91.27	1,223.28	-2,411.98	1,853.31	1,787.58	65.74	28.192		
13,300.00	11,954.57	13,338.55	11,999.46	48.14	46.79	-91.27	1,323.26	-2,412.83	1,853.25	1,786.49	66.76	27.759		
13,400.00	11,952.65	13,438.55	11,997.75	48.94	47.53	-91.28	1,423.24	-2,413.68	1,853.19	1,785.34	67.85	27.313		
13,500.00	11,950.73	13,538.55	11,996.03	49.78	48.31	-91.28	1,523.23	-2,414.53	1,853.13	1,784.12	69.00	26.856		
13,600.00	11,948.82	13,638.55	11,994.32	50.67	49.14	-91.29	1,623.21	-2,415.38	1,853.06	1,782.85	70.21	26.393		
13,700.00	11,946.90	13,738.55	11,992.61	51.59	50.01	-91.30	1,723.19	-2,416.23	1,853.00	1,781.52	71.48	25.925		
13,800.00	11,944.99	13,838.55	11,990.90	52.55	50.92	-91.30	1,823.17	-2,417.08	1,852.94	1,780.14	72.79	25.454		
13,900.00	11,943.07	13,938.55	11,989.18	53.54	51.86	-91.31	1,923.15	-2,417.93	1,852.88	1,778.71	74.16	24.984		
14,000.00	11,941.16	14,038.55	11,987.47	54.56	52.84	-91.32	2,023.13	-2,418.78	1,852.81	1,777.23	75.58	24.515		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well 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	11,939.24	14,138.55	11,985.76	55.61	53.85	-91.32	2,123.12	-2,419.63	1,852.75	1,775.71	77.04	24.050		
14,200.00	11,937.32	14,238.55	11,984.04	56.69	54.90	-91.33	2,223.10	-2,420.48	1,852.69	1,774.15	78.54	23.589		
14,300.00	11,935.41	14,338.55	11,982.33	57.80	55.97	-91.33	2,323.08	-2,421.32	1,852.62	1,772.54	80.08	23.134		
14,400.00	11,933.49	14,438.55	11,980.62	58.93	57.07	-91.34	2,423.06	-2,422.17	1,852.56	1,770.90	81.66	22.686		
14,500.00	11,931.58	14,538.55	11,978.90	60.09	58.19	-91.35	2,523.04	-2,423.02	1,852.50	1,769.22	83.28	22.245		
14,600.00	11,929.66	14,638.55	11,977.19	61.27	59.34	-91.35	2,623.02	-2,423.87	1,852.44	1,767.51	84.93	21.812		
14,700.00	11,927.75	14,738.55	11,975.48	62.47	60.52	-91.36	2,723.00	-2,424.72	1,852.37	1,765.77	86.61	21.388		
14,800.00	11,925.83	14,838.55	11,973.76	63.69	61.71	-91.37	2,822.99	-2,425.57	1,852.31	1,763.99	88.32	20.973		
14,900.00	11,923.91	14,938.55	11,972.05	64.93	62.93	-91.37	2,922.97	-2,426.42	1,852.25	1,762.19	90.06	20.568		
15,000.00	11,922.00	15,038.55	11,970.34	66.18	64.16	-91.38	3,022.95	-2,427.27	1,852.19	1,760.37	91.82	20.172		
15,100.00	11,920.08	15,138.55	11,968.63	67.46	65.41	-91.39	3,122.93	-2,428.12	1,852.12	1,758.51	93.61	19.785		
15,200.00	11,918.17	15,238.55	11,966.91	68.75	66.69	-91.39	3,222.91	-2,428.97	1,852.06	1,756.64	95.42	19.409		
15,300.00	11,916.25	15,338.55	11,965.20	70.05	67.97	-91.40	3,322.89	-2,429.82	1,852.00	1,754.74	97.26	19.042		
15,400.00	11,914.33	15,438.55	11,963.49	71.37	69.27	-91.40	3,422.87	-2,430.66	1,851.94	1,752.82	99.12	18.685		
15,500.00	11,912.42	15,538.55	11,961.77	72.71	70.59	-91.41	3,522.86	-2,431.51	1,851.88	1,750.88	100.99	18.337		
15,600.00	11,910.50	15,638.55	11,960.06	74.05	71.92	-91.42	3,622.84	-2,432.36	1,851.81	1,748.93	102.89	17.998		
15,700.00	11,908.59	15,738.55	11,958.35	75.41	73.27	-91.42	3,722.82	-2,433.21	1,851.75	1,746.95	104.80	17.669		
15,800.00	11,906.67	15,838.55	11,956.63	76.78	74.62	-91.43	3,822.80	-2,434.06	1,851.69	1,744.96	106.73	17.349		
15,900.00	11,904.76	15,938.55	11,954.92	78.16	75.99	-91.44	3,922.78	-2,434.91	1,851.63	1,742.95	108.68	17.038		
16,000.00	11,902.84	16,038.55	11,953.21	79.55	77.37	-91.44	4,022.76	-2,435.76	1,851.56	1,740.93	110.64	16.736		
16,100.00	11,900.92	16,138.55	11,951.49	80.95	78.76	-91.45	4,122.75	-2,436.61	1,851.50	1,738.89	112.61	16.442		
16,200.00	11,899.01	16,238.55	11,949.78	82.37	80.16	-91.45	4,222.73	-2,437.46	1,851.44	1,736.84	114.60	16.156		
16,300.00	11,897.09	16,338.55	11,948.07	83.78	81.57	-91.46	4,322.71	-2,438.31	1,851.38	1,734.78	116.60	15.878		
16,400.00	11,895.18	16,438.55	11,946.36	85.21	82.98	-91.47	4,422.69	-2,439.16	1,851.32	1,732.70	118.61	15.608		
16,500.00	11,893.26	16,538.55	11,944.64	86.65	84.41	-91.47	4,522.67	-2,440.00	1,851.25	1,730.61	120.64	15.345		
16,600.00	11,891.35	16,638.55	11,942.93	88.09	85.84	-91.48	4,622.65	-2,440.85	1,851.19	1,728.52	122.68	15.090		
16,700.00	11,889.43	16,738.55	11,941.22	89.54	87.29	-91.49	4,722.63	-2,441.70	1,851.13	1,726.41	124.72	14.842		
16,800.00	11,887.51	16,838.55	11,939.50	91.00	88.74	-91.49	4,822.62	-2,442.55	1,851.07	1,724.29	126.78	14.601		
16,900.00	11,885.60	16,938.55	11,937.79	92.46	90.19	-91.50	4,922.60	-2,443.40	1,851.01	1,722.16	128.84	14.366		
17,000.00	11,883.68	17,038.55	11,936.08	93.93	91.65	-91.51	5,022.58	-2,444.25	1,850.94	1,720.02	130.92	14.138		
17,100.00	11,881.77	17,138.55	11,934.36	95.40	93.12	-91.51	5,122.56	-2,445.10	1,850.88	1,717.88	133.00	13.916		
17,200.00	11,879.85	17,238.55	11,932.65	96.89	94.60	-91.52	5,222.54	-2,445.95	1,850.82	1,715.73	135.09	13.700		
17,300.00	11,877.94	17,338.55	11,930.94	98.37	96.08	-91.52	5,322.52	-2,446.80	1,850.76	1,713.56	137.19	13.490		
17,400.00	11,876.02	17,438.55	11,929.22	99.86	97.57	-91.53	5,422.50	-2,447.65	1,850.70	1,711.39	139.30	13.286		
17,500.00	11,874.10	17,538.55	11,927.51	101.36	99.06	-91.54	5,522.49	-2,448.49	1,850.63	1,709.22	141.42	13.087		
17,600.00	11,872.19	17,638.55	11,925.80	102.86	100.55	-91.54	5,622.47	-2,449.34	1,850.57	1,707.04	143.54	12.893		
17,700.00	11,870.27	17,738.55	11,924.09	104.37	102.06	-91.55	5,722.45	-2,450.19	1,850.51	1,704.85	145.66	12.704		
17,800.00	11,868.36	17,838.55	11,922.37	105.88	103.56	-91.56	5,822.43	-2,451.04	1,850.45	1,702.65	147.80	12.520		
17,900.00	11,866.44	17,938.55	11,920.66	107.39	105.07	-91.56	5,922.41	-2,451.89	1,850.39	1,700.45	149.94	12.341		
18,000.00	11,864.53	18,038.55	11,918.95	108.91	106.59	-91.57	6,022.39	-2,452.74	1,850.33	1,698.24	152.08	12.167		
18,100.00	11,862.61	18,138.55	11,917.23	110.44	108.11	-91.57	6,122.37	-2,453.59	1,850.26	1,696.03	154.23	11.996		
18,200.00	11,860.69	18,238.55	11,915.52	111.96	109.63	-91.58	6,222.36	-2,454.44	1,850.20	1,693.81	156.39	11.831		
18,300.00	11,858.78	18,338.55	11,913.81	113.49	111.15	-91.59	6,322.34	-2,455.29	1,850.14	1,691.59	158.55	11.669		
18,400.00	11,856.86	18,438.55	11,912.09	115.02	112.68	-91.59	6,422.32	-2,456.14	1,850.08	1,689.36	160.72	11.511		
18,500.00	11,854.95	18,538.55	11,910.38	116.56	114.22	-91.60	6,522.30	-2,456.99	1,850.02	1,687.13	162.89	11.358		
18,600.00	11,853.03	18,638.55	11,908.67	118.10	115.75	-91.61	6,622.28	-2,457.83	1,849.96	1,684.89	165.06	11.208		
18,700.00	11,851.12	18,738.55	11,906.95	119.64	117.29	-91.61	6,722.26	-2,458.68	1,849.89	1,682.65	167.24	11.061		
18,800.00	11,849.20	18,838.55	11,905.24	121.19	118.83	-91.62	6,822.25	-2,459.53	1,849.83	1,680.41	169.43	10.918		
18,900.00	11,847.28	18,938.55	11,903.53	122.74	120.38	-91.63	6,922.23	-2,460.38	1,849.77	1,678.16	171.61	10.779		
19,000.00	11,845.37	19,038.55	11,901.82	124.29	121.93	-91.63	7,022.21	-2,461.23	1,849.71	1,675.90	173.81	10.642		
19,100.00	11,843.45	19,138.55	11,900.10	125.84	123.48	-91.64	7,122.19	-2,462.08	1,849.65	1,673.65	176.00	10.509		
19,200.00	11,841.54	19,238.55	11,898.39	127.39	125.03	-91.64	7,222.17	-2,462.93	1,849.59	1,671.39	178.20	10.379		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well 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	11,839.62	19,338.54	11,896.68	128.95	126.59	-91.65	7,322.15	-2,463.78	1,849.52	1,669.12	180.40	10.252		
19,400.00	11,837.71	19,438.54	11,894.96	130.51	128.15	-91.66	7,422.13	-2,464.63	1,849.46	1,666.86	182.61	10.128		
19,500.00	11,835.79	19,538.54	11,893.25	132.08	129.71	-91.66	7,522.12	-2,465.48	1,849.40	1,664.59	184.81	10.007		
19,600.00	11,833.87	19,638.54	11,891.54	133.64	131.27	-91.67	7,622.10	-2,466.33	1,849.34	1,662.31	187.03	9.888		
19,700.00	11,831.96	19,738.54	11,889.82	135.21	132.83	-91.68	7,722.08	-2,467.17	1,849.28	1,660.04	189.24	9.772		
19,800.00	11,830.04	19,838.54	11,888.11	136.78	134.40	-91.68	7,822.06	-2,468.02	1,849.22	1,657.76	191.46	9.659		
19,900.00	11,828.13	19,938.54	11,886.40	138.35	135.97	-91.69	7,922.04	-2,468.87	1,849.16	1,655.48	193.68	9.548		
20,000.00	11,826.21	20,038.53	11,884.68	139.92	137.54	-91.70	8,022.02	-2,469.72	1,849.09	1,653.20	195.90	9.439		
20,100.00	11,824.30	20,138.53	11,882.97	141.49	139.11	-91.70	8,122.00	-2,470.57	1,849.03	1,650.91	198.12	9.333		
20,200.00	11,822.38	20,238.53	11,881.26	143.07	140.69	-91.71	8,221.99	-2,471.42	1,848.97	1,648.62	200.35	9.229		
20,300.00	11,820.46	20,338.53	11,879.55	144.65	142.27	-91.71	8,321.97	-2,472.27	1,848.91	1,646.33	202.58	9.127		
20,400.00	11,818.55	20,438.53	11,877.83	146.23	143.84	-91.72	8,421.95	-2,473.12	1,848.85	1,644.04	204.81	9.027		
20,500.00	11,816.63	20,538.53	11,876.12	147.81	145.42	-91.73	8,521.93	-2,473.97	1,848.79	1,641.74	207.05	8.929		
20,600.00	11,814.72	20,638.53	11,874.41	149.39	147.00	-91.73	8,621.91	-2,474.82	1,848.73	1,639.44	209.29	8.834		
20,700.00	11,812.80	20,738.53	11,872.69	150.98	148.59	-91.74	8,721.89	-2,475.66	1,848.67	1,637.14	211.52	8.740		
20,800.00	11,810.89	20,838.53	11,870.98	152.56	150.17	-91.75	8,821.88	-2,476.51	1,848.61	1,634.84	213.76	8.648		
20,900.00	11,808.97	20,938.53	11,869.27	154.15	151.76	-91.75	8,921.86	-2,477.36	1,848.54	1,632.54	216.01	8.558		
21,000.00	11,807.05	21,038.53	11,867.55	155.74	153.34	-91.76	9,021.84	-2,478.21	1,848.48	1,630.23	218.25	8.469		
21,100.00	11,805.14	21,138.53	11,865.84	157.33	154.93	-91.77	9,121.82	-2,479.06	1,848.42	1,627.92	220.50	8.383		
21,200.00	11,803.22	21,238.53	11,864.13	158.92	156.52	-91.77	9,221.80	-2,479.91	1,848.36	1,625.61	222.75	8.298		
21,300.00	11,801.31	21,338.53	11,862.41	160.51	158.11	-91.78	9,321.78	-2,480.76	1,848.30	1,623.30	225.00	8.215		
21,400.00	11,799.39	21,438.53	11,860.70	162.10	159.71	-91.78	9,421.76	-2,481.61	1,848.24	1,620.99	227.25	8.133		
21,500.00	11,797.48	21,538.53	11,858.99	163.70	161.30	-91.79	9,521.75	-2,482.46	1,848.18	1,618.68	229.50	8.053		
21,600.00	11,795.56	21,638.53	11,857.28	165.29	162.89	-91.80	9,621.73	-2,483.31	1,848.12	1,616.36	231.76	7.974		
21,700.00	11,793.64	21,738.53	11,855.56	166.89	164.49	-91.80	9,721.71	-2,484.16	1,848.06	1,614.05	234.01	7.897		
21,800.00	11,791.73	21,838.53	11,853.85	168.49	166.09	-91.81	9,821.69	-2,485.00	1,848.00	1,611.73	236.27	7.822		
21,900.00	11,789.81	21,938.53	11,852.14	170.08	167.68	-91.82	9,921.67	-2,485.85	1,847.93	1,609.41	238.53	7.747		
22,000.00	11,787.90	22,038.53	11,850.42	171.68	169.28	-91.82	10,021.65	-2,486.70	1,847.87	1,607.09	240.79	7.674		
22,100.00	11,785.98	22,138.53	11,848.71	173.29	170.88	-91.83	10,121.63	-2,487.55	1,847.81	1,604.76	243.05	7.603		
22,120.94	11,785.58	22,158.34	11,848.37	173.62	171.20	-91.83	10,141.44	-2,487.72	1,847.80	1,604.29	243.52	7.588 CC		
22,129.79	11,785.41	22,158.34	11,848.37	173.76	171.20	-91.83	10,141.44	-2,487.72	1,847.82	1,604.17	243.65	7.584 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 Santa Fe Fed Com 705H
Project:	Lea County, NM (NAD83)	TVD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 705H	Survey Calculation Method:	Minimum Curvature
Well 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 3079.5' GE + 30' KB @ 3109.50usft

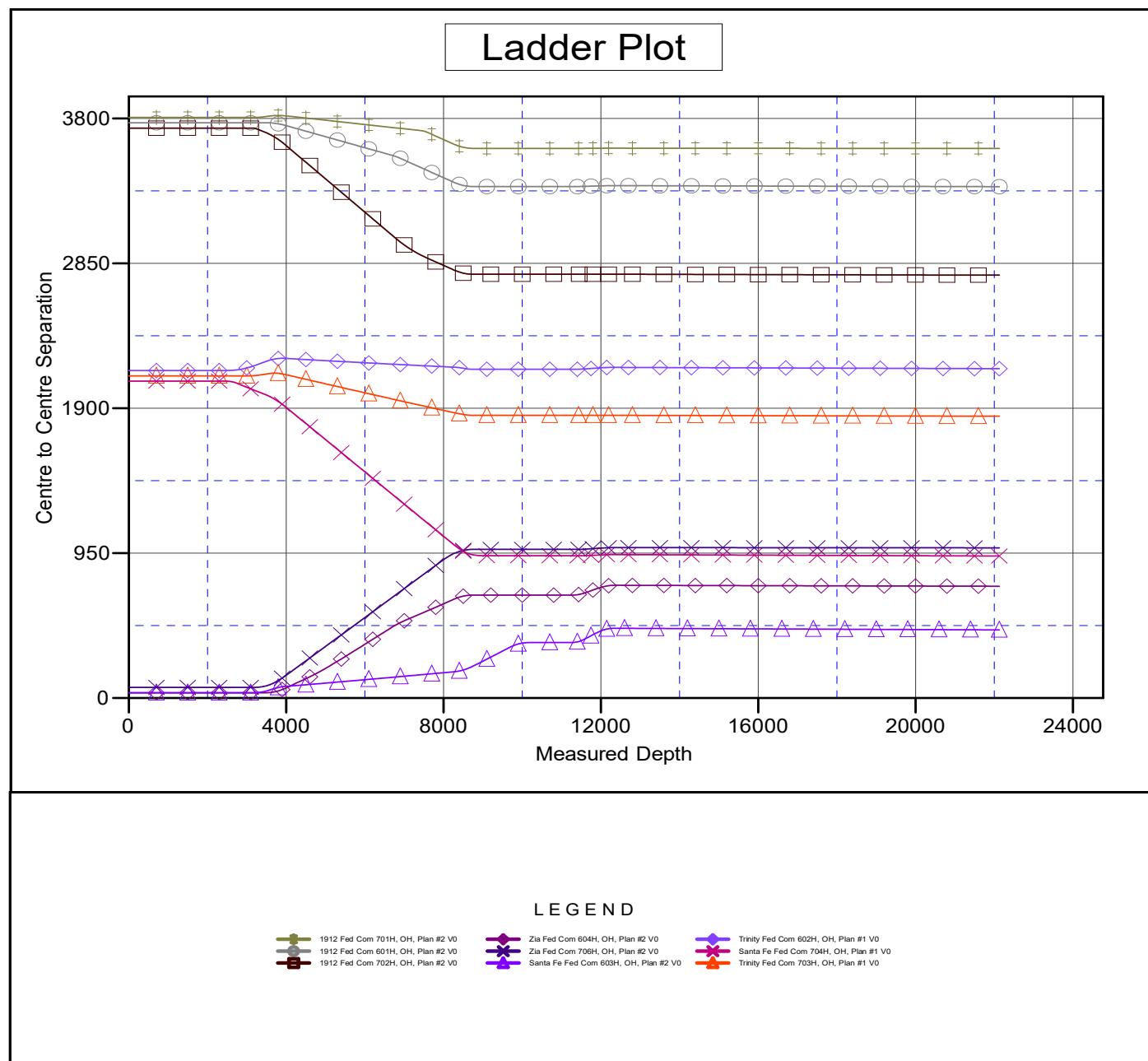
Coordinates are relative to: Santa Fe Fed Com 705H

Offset Depths are relative to Offset Datum

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

Central Meridian is -104.333334

Grid Convergence at Surface is: 0.54°



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



Total Directional Services

Anticollision Report

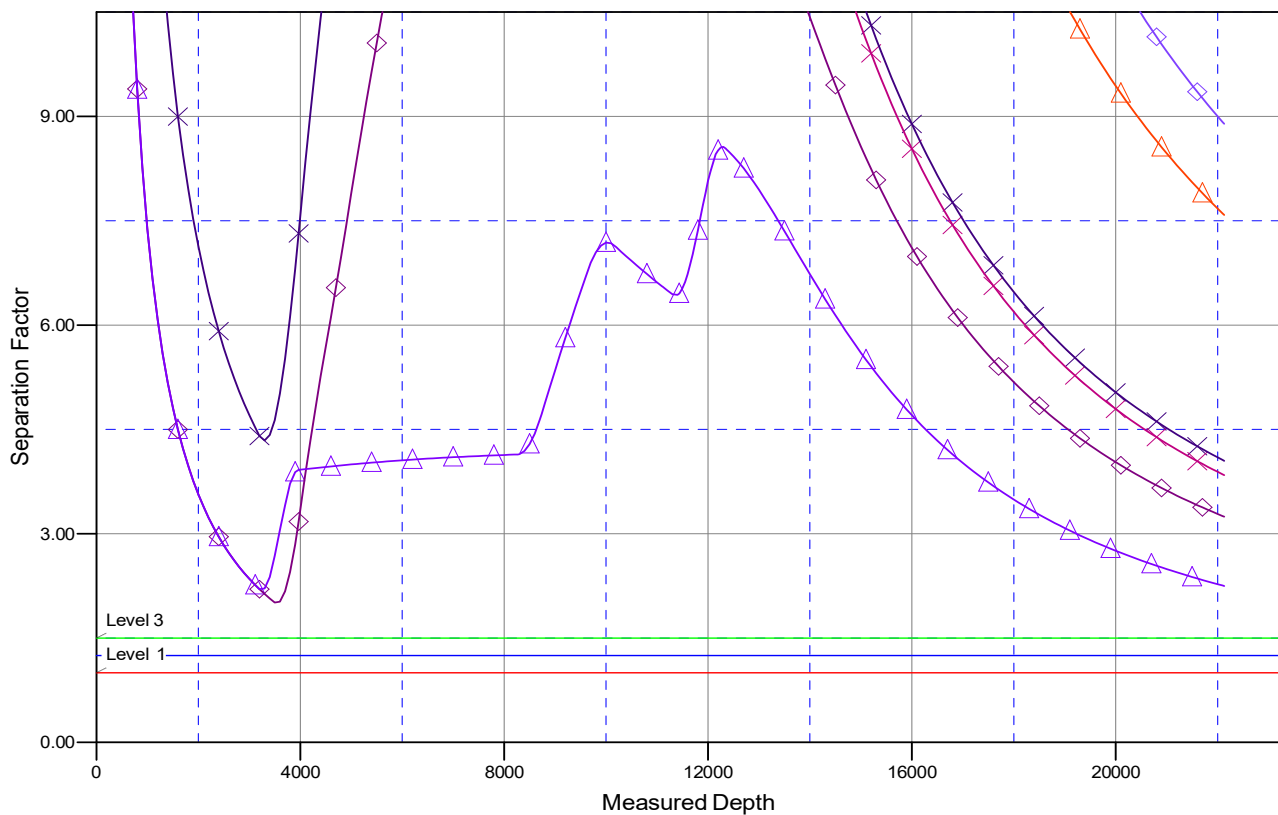


Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 705H
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Reference Site:	Santa Fe Fed/Zia Fed	MD Reference:	3079.5' GE + 30' KB @ 3109.50usft
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Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to 3079.5' GE + 30' KB @ 3109.50usft
 Offset Depths are relative to Offset Datum
 Central Meridian is -104.333334

Coordinates are relative to: Santa Fe Fed Com 705H
 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	Zia Fed Com 706H, 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 603H, 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**
 - Lesser Prairie-Chicken Timing Stipulations
 - Ground-level Abandoned Well Marker
- ☐ **Construction**
 - Notification
 - Topsoil
 - Closed Loop System
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
- ☒ **Production (Post Drilling)**
 - Well Structures & Facilities
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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

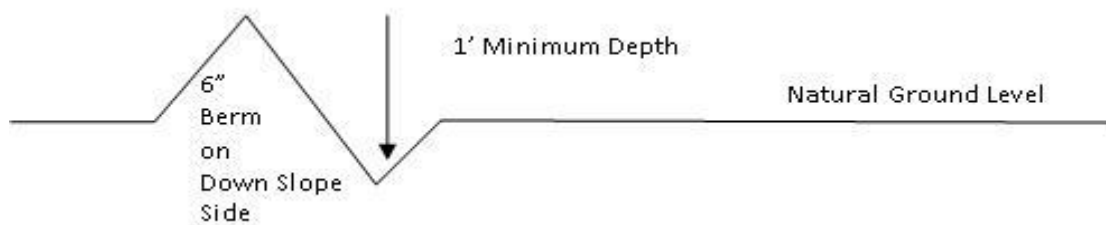
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

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

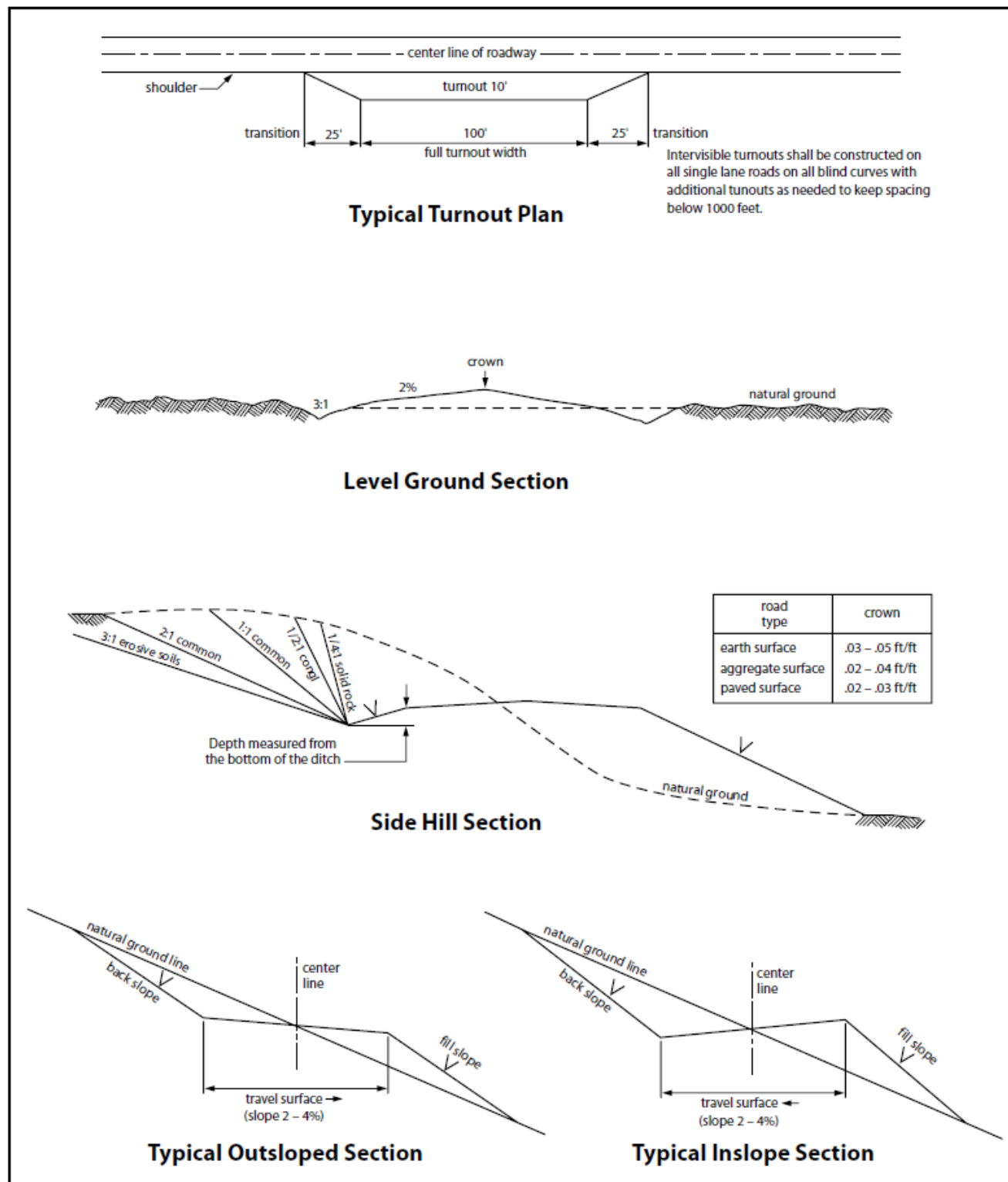


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

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.:	Santa Fe Fed Com 603H
SURFACE HOLE FOOTAGE:	250'/S & 812'/E
BOTTOM HOLE FOOTAGE:	150'/N & 1689'/E

WELL NAME & NO.:	Santa Fe Fed Com 704H
SURFACE HOLE FOOTAGE:	710'/S & 2626'/E
BOTTOM HOLE FOOTAGE:	150'/N & 2252'/E

WELL NAME & NO.:	Santa Fe Fed Com 705H
SURFACE HOLE FOOTAGE:	250'/S & 777'/E
BOTTOM HOLE FOOTAGE:	150'/N & 1326'/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.

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

C. PRESSURE CONTROL

1. 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



Santa Fe Fed Com 705H

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)	3,080'	30'	30'	0	Sand/Gravels/unconsolidated
Rustler	2,424'	686'			Carbonates
Salado	1,821'	1,289'			Salt, Carbonate & Clastics
Base Salt	-980'	4,090'			Shaley Carbonate & Shale
Lamar	-1,746'	4,856'			Carbonate & Clastics
Bell Canyon	-1,798'	4,908'			Sandstone - oil/gas/water
Cherry Canyon	-2,831'	5,941'			Sandstone - oil/gas/water
Brushy Canyon	-4,133'	7,243'			Sand/carb/shales - oil/gas/water
Bone Spring Lime	-5,384'	8,494'			Shale/Carbonates - oil/gas
Avalon	-5,407'	8,517'			Shale/Carbonates - oil/gas
First Bone Spring Sand	-6,796'	9,906'			Sandstone - oil/gas/water
Second Bone Spring Carbonates	-6,924'	10,034'			Shale/Carbonates - oil/gas
Second Bone Spring Sand	-7,318'	10,428'			Sandstone - oil/gas/water
Third Bone Spring Carbonates	-7,768'	10,878'			Shale/Carbonates - oil/gas
Third Bone Spring Sand	-8,470'	11,580'			Sandstone - oil/gas/water
Wolfcamp	-8,721'	11,831'			Overpressure shale/sand- Oil/Gas
Wolfcamp A	-8,756'	11,866'			Overpressure Shale - Oil/Gas
HZ Target	-8,870'	11,980'			Overpressure Shale - Oil/Gas
Wolfcamp B	-8,948'	12,058'			Overpressure Shale - Oil/Gas

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

Upper Permian Sands	0- 400'	Fresh Water
Delaware Sands	4,908'	Oil
Bone Spring	9,906'	Oil
Wolfcamp	11,831'	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	11850	1.12	1.29	1.83	1.25
Long string 5 1/2"	23	P-110	14520	14520	729	Anaconda 656	22129	1.32	1.4	1.2	1.08



Preliminary plan is to set 7 5/8" string before entering Wolfcamp formation at 11,780'TVD/11,850'MD at 41° 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	11850	332	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	2.798	17.15	4400	112	NeoCem 13.2 ppg, Class C 0.25 pps Cello-Flake, 2% CaCl ₂	1.44	7.29	10850	50%
Prod	6.75	5.5	22129	830	ppg, Gas Migration Control	1.357	6.65	10850						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' – 11,850'	Brine	8.8-10.2	28-34	N/c
11,850' – 22,129' 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 11,972' TVD (deepest point of the well) is 195F with an estimated maximum bottom-hole pressure (BHP) at the same point of 7,781 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 22161

CONDITIONS OF APPROVAL

Operator:		OGRID:	Action Number:	Action Type:
FRANKLIN MOUNTAIN ENERGY LLC	44 Cook Street	373910	22161	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