

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. 30-025-48578
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

SL

(Continued on page 2)



Approval Date: 01/15/2021

KZ

 03/30/2021

*(Instructions on page 2)

INSTRUCTIONS

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

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

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

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

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

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

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

NOTICES

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

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

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

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

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

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

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

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

Additional Operator Remarks

Location of Well

0. SHL: SWSE / 710 FSL / 2626 FEL / TWSP: 25S / RANGE: 35E / SECTION: 24 / LAT: 32.110573 / LONG: -103.321211 (TVD: 0 feet, MD: 0 feet)
PPP: SWSE / 0 FSL / 2254 FEL / TWSP: 25S / RANGE: 35E / SECTION: 13 / LAT: 32.123145 / LONG: -103.320007 (TVD: 11826 feet, MD: 16900 feet)
PPP: SWNE / 2639 FSL / 2255 FEL / TWSP: 25S / RANGE: 35E / SECTION: 24 / LAT: 32.115872 / LONG: -103.320014 (TVD: 11864 feet, MD: 14300 feet)
PPP: NESE / 1320 FSL / 2256 FEL / TWSP: 25S / RANGE: 35E / SECTION: 24 / LAT: 32.112246 / LONG: -103.320017 (TVD: 11884 feet, MD: 13000 feet)
PPP: SWSE / 629 FSL / 2256 FEL / TWSP: 25S / RANGE: 35E / SECTION: 24 / LAT: 32.110348 / LONG: -103.320019 (TVD: 11894 feet, MD: 12275 feet)
BHL: NWNE / 150 FNL / 2252 FEL / TWSP: 25S / RANGE: 35E / SECTION: 13 / LAT: 32.137249 / LONG: -103.319994 (TVD: 11749 feet, MD: 22063 feet)

BLM Point of Contact

Name: TYLER HILL

Title: LIE

Phone: (575) 234-5972

Email: tjhill@blm.gov

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Review and Appeal Rights

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-48578	² Pool Code 33813	³ Pool Name JAL;WOLFCAMP, WEST
⁴ Property Code 330328	⁵ Property Name SANTA FE FED COM	⁶ Well Number 704H
⁷ OGRID No. 373910	⁸ Operator Name FRANKLIN MOUNTAIN ENERGY LLC	⁹ Elevation 3095.3'

¹⁰ Surface Location

UL or lot no. O	Section 24	Township 25S	Range 35E	Lot Idn	Feet from the 710	North/South line SOUTH	Feet from the 2626	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 2252	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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District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Submit Original
to Appropriate
District Office

GAS CAPTURE PLAN

Date: 12/2/2020

☒ Original

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

☐ Amended - Reason for Amendment: _____

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

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

Well(s)/Production Facility – Name of facility

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

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
Trinity Federal 602H	TBD	N-24-25S-35E	710 FSL 2584 FWL	1100 +/-	Flared	New well; expect to tie-in at IP
Trinity Federal 703H	TBD	N-24-25S-35E	710 FSL 2619 FWL	1100 +/-	Flared	New well; expect to tie-in at IP
Santa Fe Fed Com 704H 30-025-48578	TBD	O-24-25S-35E	710 FSL 2626 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 3,500' 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 704H

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)	3,095'	30'	30'	0	Sand/Gravels/unconsolidated
Rustler	2,401'	724'			Carbonates
Salado	1,798'	1,327'			Salt, Carbonate & Clastics
Base Salt	-1,003'	4,128'			Shaley Carbonate & Shale
Lamar	-1,769'	4,894'			Carbonate & Clastics
Bell Canyon	-1,821'	4,946'			Sandstone - oil/gas/water
Cherry Canyon	-2,854'	5,979'			Sandstone - oil/gas/water
Brushy Canyon	-4,156'	7,281'			Sand/carb/shales - oil/gas/water
Bone Spring Lime	-5,407'	8,532'			Shale/Carbonates - oil/gas
Avalon	-5,430'	8,555'			Shale/Carbonates - oil/gas
First Bone Spring Sand	-6,819'	9,944'			Sandstone - oil/gas/water
Second Bone Spring Carbonates	-6,947'	10,072'			Shale/Carbonates - oil/gas
Second Bone Spring Sand	-7,341'	10,466'			Sandstone - oil/gas/water
Third Bone Spring Carbonates	-7,870'	10,995'			Shale/Carbonates - oil/gas
Third Bone Spring Sand	-8,493'	11,618'			Sandstone - oil/gas/water
Wolfcamp	-8,744'	11,869'			Overpressure shale/sand- Oil/Gas
HZ Target	-8,771'	11,896'			Overpressure shale/sand- Oil/Gas
Wolfcamp A	-8,779'	11,904'			Overpressure Shale - Oil/Gas
Wolfcamp B	-8,971'	12,096'			Overpressure Shale - Oil/Gas

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

Upper Permian Sands	0- 400'	Fresh Water
Delaware Sands	4,946'	Oil
Bone Spring	9,944'	Oil
Wolfcamp	11,869'	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	12000	1.11	1.27	1.81	1.24
Long string 5 1/2"	23	P-110	14520	14520	729	Anaconda 656	22063	1.32	1.41	1.2	1.08



Preliminary plan is to set 7 5/8" string before entering Wolfcamp formation at 11,833'TVD/12,000'MD at 63° Inc due too potential overpressure. Safety factors calculated assuming the well is vertical.

Cementing Program:

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

String Type	Hole Size	Casing Size	Setting Depth	Sacks	Type of cmt	Lead Yield ft ³ /sk	Water gal/sk	TOC ft	Sacks	Type of cmt	Tail Yield ft ³ /sk	Water gal/sk	TOC	Excess
Surf	17.5	13.375	1300	795	Extenda Cem, 13.5 ppg Class C, 3lb/sk Kol-Seal	1.747	9.06	0	334	HalCem TM, 14.8 ppg, Class C, 1% CaCl ₂ , 0.125pps Celo-Flake	1.349	6.51	1000	100%
Int1	12.25	9.625	5400	1167	0.125pps Poly-E-Flake Neocem TM, 11.5 ppg, Class C 5% Salt,	2.444	14.32	0	153	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	12000	340	NeoCem, 11 ppg, Class C 3lb/sk Bridgemaker Gel, 5% Salt, 5pps LCM, 0.25pps Cello-Flake	2.798	17.15	4400	112	NeoCem 13.2 ppg, Class C 0.25 pps Cello-Flake, 2% CaCl ₂	1.44	7.29	11000	50%
Prod	6.75	5.5	22063	815	NeoCem, 13.5 ppg, Gas Migration Control	1.357	6.65	11000						20%

5. Minimum Specifications for Pressure Control:

The minimum blowout preventer equipment (BOPE) shown in Exhibit #1 will consist of a single ram, mud cross and double ram-type (10,000 psi WP) preventer and an annular preventer (5,000-psi WP). Both units will be hydraulically operated, and the ram-type will be equipped with blind rams on bottom and 4 ½" x 7" variable pipe rams on top. All BOPE will be tested in accordance with Onshore Oil & Gas order No. 2.

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

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

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

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



6. Types and characteristics of the proposed mud system:

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

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 – 1,300'	Fresh - Gel	8.6-8.8	28-34	N/c
1,300' – 12,000'	Brine	8.8-10.2	28-34	N/c
12,000' – 22,063' 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 11,894' TVD (deepest point of the well) is 195F with an estimated maximum bottom-hole pressure (BHP) at the same point of 7,731 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.

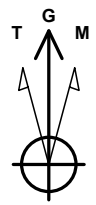
1. Variance is requested to wave the centralizer requirements for the 7 5/8" casing due to the tight clearance with 9 5/8" string.
2. Variance is requested to wave/reduce the centralizer requirements for the 5 1/2" casing due to the tight clearance with 6 3/4" hole and 5 1/2" casing due to tight clearances.

Released to Imaging: 3/30/2021 10:32:41 AM

Franklin Mountain Energy

Project: Lea County, NM (NAD83)
Site: Trinity Fed/Santa Fe Fed
Well: Santa Fe Fed Com 704H
Wellbore: OH
Design: Plan #2

3095.3' GE + 30' KB @ 3125.30usft



Azimuths to Grid North
True North: -0.54°
Magnetic North: 6.03°

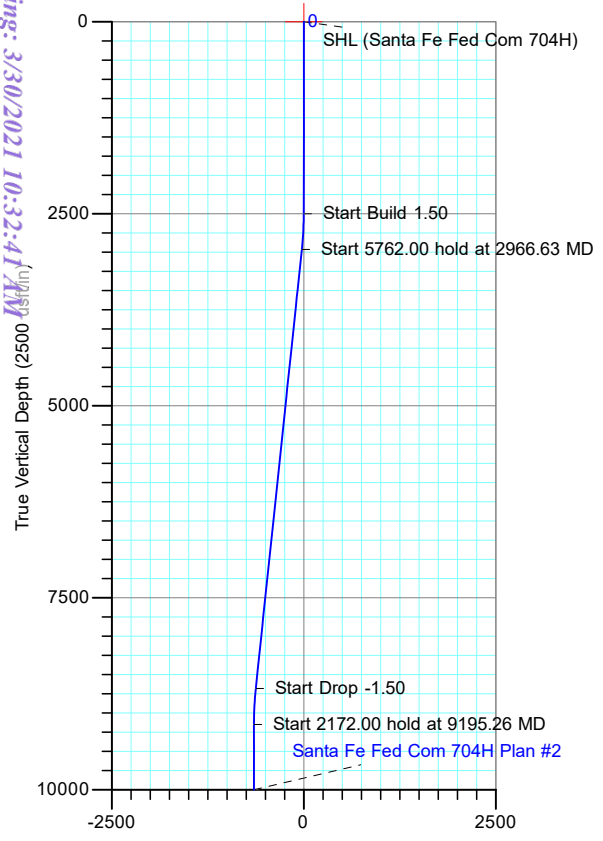
Magnetic Field
Strength: 47586.4nT
Dip Angle: 59.88°
Date: 3/10/2020
Model: IGRF2020

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

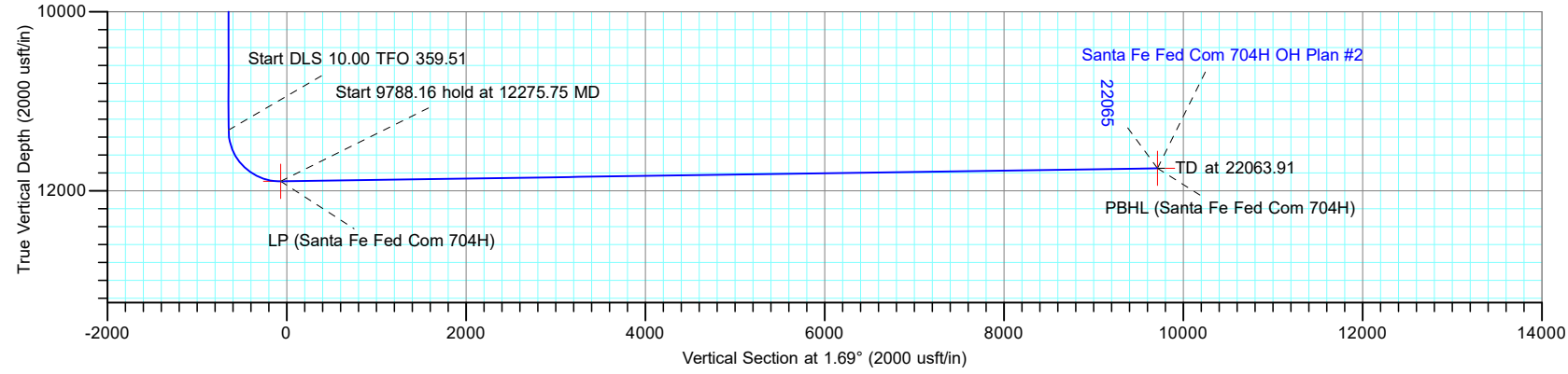
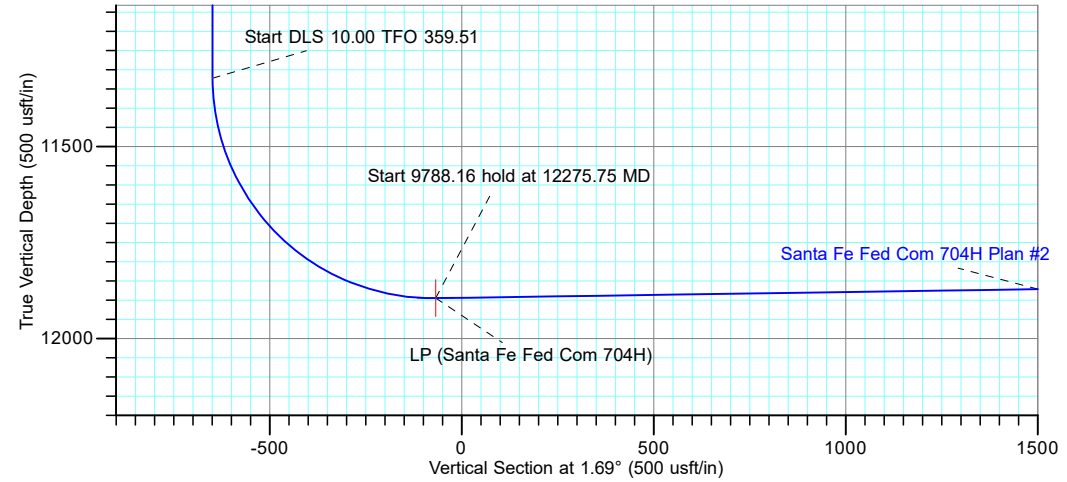


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SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2500.00	0.00	0.00	2500.00	0.00	0.00	0.00	0.00	0.00	Start Build 1.50
2966.63	7.00	150.40	2965.47	-24.75	14.06	1.50	150.40	-24.33	Start 5762.00 hold at 2966.63 MD
8728.63	7.00	150.40	8684.53	-635.25	360.94	0.00	0.00	-624.36	Start Drop -1.50
9195.26	0.00	0.00	9150.00	-660.00	375.00	1.50	180.00	-648.69	Start 2172.00 hold at 9195.26 MD
11367.26	0.00	0.00	11322.00	-660.00	375.00	0.00	0.00	-648.69	Start DLS 10.00 TFO 359.51
12275.75	90.85	359.51	11894.89	-78.58	369.99	10.00	359.51	-67.66	Start 9788.16 hold at 12275.75 MD
22063.91	90.85	359.51	11749.90	9708.15	285.63	0.00	0.00	9712.35	TD at 22063.91

DESIGN TARGET DETAILS					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
LP (Santa Fe Fed Com 704H)	11894.89	-78.58	369.99	32.110348	-103.320019
PBHL (Santa Fe Fed Com 704H)	11749.90	9708.15	285.63	32.137249	-103.319994
SHL (Santa Fe Fed Com 704H)	0.00	0.00	0.00	32.110573	-103.321211



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

Plan: Plan #2 (Santa Fe Fed Com 704H/OH)
Trinity Fed/Santa Fe Fed
Created By: Dustin Ault
Date: 13:10, July 15 2020
Approved: _____
Date: _____

Page 13 of 114

Franklin Mountain Energy

Project: Lea County, NM (NAD83)
Site: Trinity Fed/Santa Fe Fed
Well: Santa Fe Fed Com 704H
Wellbore: OH
Design: Plan #2



Azimuths to Grid North
True North: -0.54°
Magnetic North: 6.03°

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

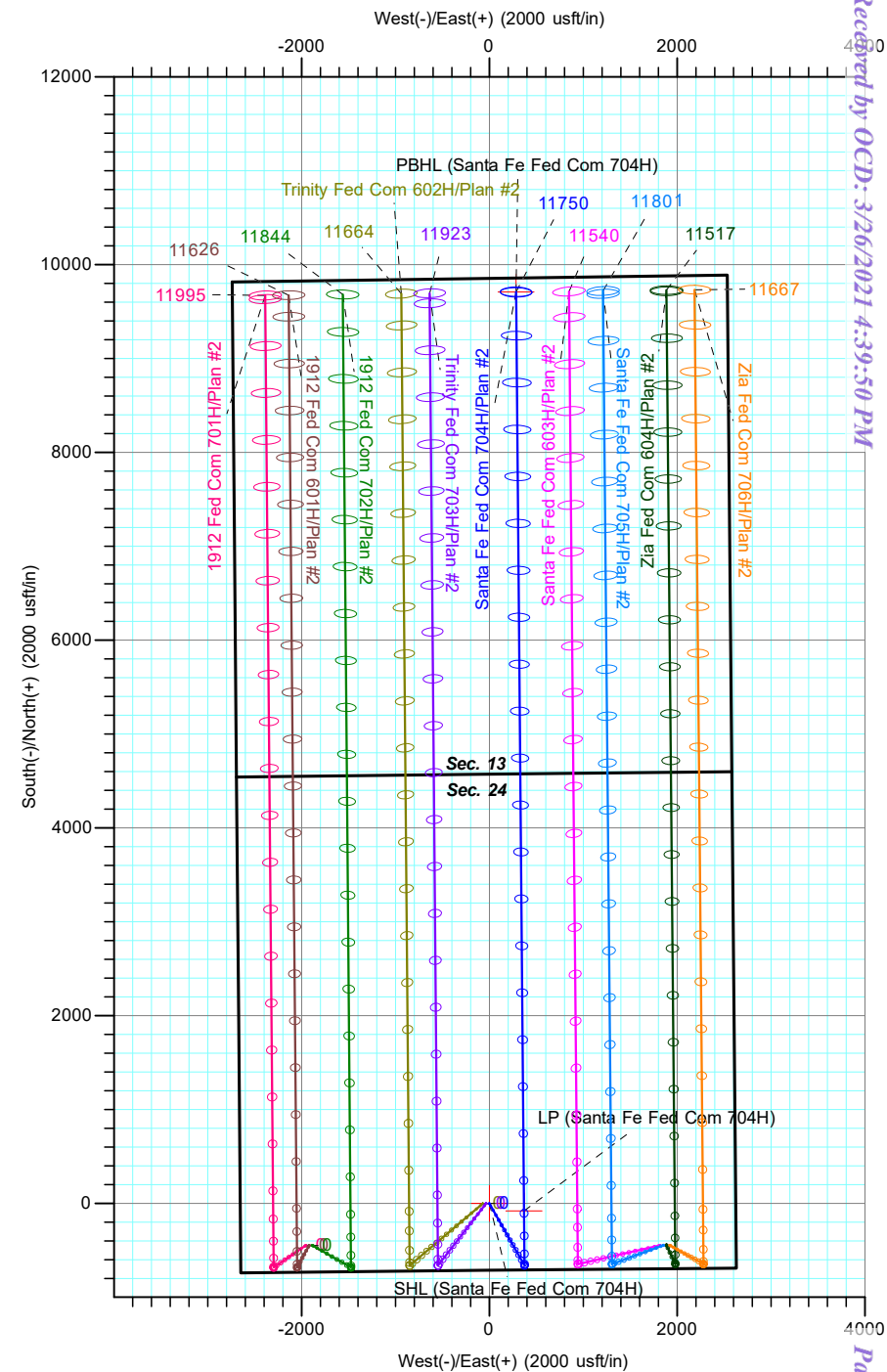
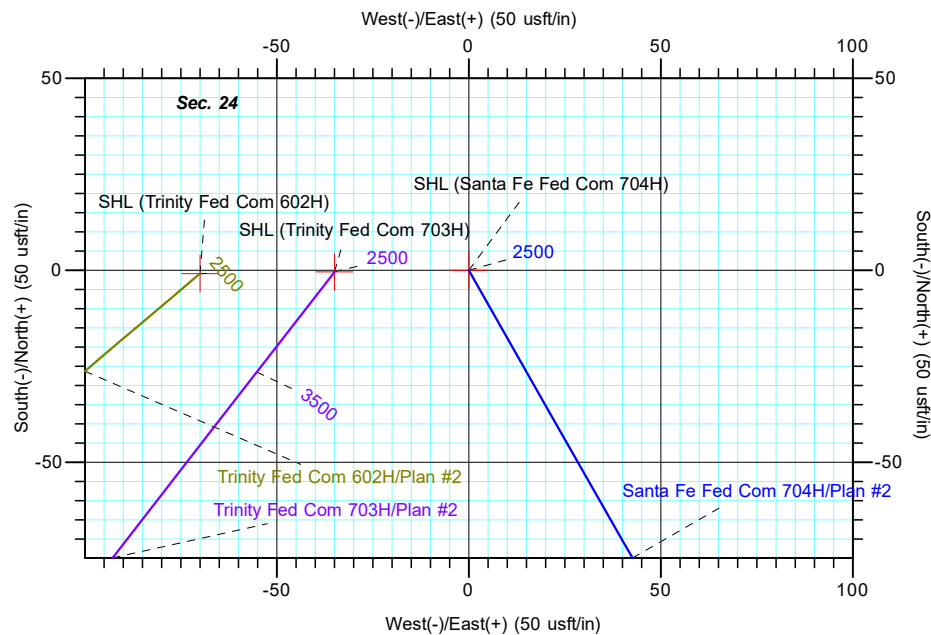


DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
LP (Santa Fe Fed Com 704H)	11894.89	-78.58	369.99	405355.62	855083.30	32.110348	-103.320019
PBHL (Santa Fe Fed Com 704H)	11749.90	9708.15	285.63	415142.35	854998.94	32.137249	-103.319994
SHL (Santa Fe Fed Com 704H)	0.00	0.00	0.00	405434.20	854713.31	32.110573	-103.321211

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	
2500.00	0.00	0.00	2500.00	0.00	0.00	0.00	0.00	0.00	Start Build 1.50
2966.63	7.00	150.40	2965.47	-24.75	14.06	1.50	150.40	-24.33	Start 5762.00 hold at 2966.63 MD
8728.63	7.00	150.40	8684.53	-635.25	360.94	0.00	0.00	-624.36	Start Drop -1.50
9195.26	0.00	0.00	9150.00	-660.00	375.00	1.50	180.00	-648.69	Start 2172.00 hold at 9195.26 MD
11367.26	0.00	0.00	11322.00	-660.00	375.00	0.00	0.00	-648.69	Start DLS 10.00 TFO 359.51
12275.75	90.85	359.51	11894.89	-78.58	369.99	10.00	359.51	-67.66	Start 9788.16 hold at 12275.75 MD
22063.91	90.85	359.51	11749.90	9708.15	285.63	0.00	0.00	9712.35	TD at 22063.91



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

Plan: Plan #2 (Santa Fe Fed Com 704H/OH)
Trinity Fed/Santa Fe Fed
Created By: Dustin Ault Date: 13:11, July 15 2020
Date: _____
Approved: _____ Date: _____



Franklin Mountain Energy

Lea County, NM (NAD83)

Trinity Fed/Santa Fe Fed

Santa Fe Fed Com 704H

OH

Plan: Plan #2

Standard Planning Report

15 July, 2020





Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Santa Fe Fed Com 704H
Company:	Franklin Mountain Energy	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Project:	Lea County, NM (NAD83)	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site:	Trinity Fed/Santa Fe Fed	North Reference:	Grid
Well:	Santa Fe Fed Com 704H	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	Trinity Fed/Santa Fe Fed				
Site Position:		Northing:	405,220.81 usft	Latitude:	32.109994
From:	Map	Easting:	854,430.99 usft	Longitude:	-103.322130
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.54

Well	Santa Fe Fed Com 704H					
Well Position	+N/-S	213.39 usft	Northing:	405,434.20 usft	Latitude:	32.110573
	+E/-W	282.32 usft	Easting:	854,713.31 usft	Longitude:	-103.321211
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	3,095.30 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	3/10/2020	6.57	59.88	47,586.44886974

Design	Plan #2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	1.69

Plan Survey Tool Program	Date	7/15/2020		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	22,063.91 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	
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,966.63	7.00	150.40	2,965.47	-24.75	14.06	1.50	1.50	0.00	150.40	
8,728.63	7.00	150.40	8,684.53	-635.25	360.94	0.00	0.00	0.00	0.00	
9,195.26	0.00	0.00	9,150.00	-660.00	375.00	1.50	-1.50	0.00	180.00	
11,367.26	0.00	0.00	11,322.00	-660.00	375.00	0.00	0.00	0.00	0.00	
12,275.75	90.85	359.51	11,894.90	-78.58	369.99	10.00	10.00	-0.05	359.51	
22,063.91	90.85	359.51	11,749.90	9,708.15	285.63	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 704H
Company:	Franklin Mountain Energy	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Project:	Lea County, NM (NAD83)	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site:	Trinity Fed/Santa Fe Fed	North Reference:	Grid
Well:	Santa Fe Fed Com 704H	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 704H)									
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
Start Build 1.50									
2,600.00	1.50	150.40	2,599.99	-1.14	0.65	-1.12	1.50	1.50	0.00
2,700.00	3.00	150.40	2,699.91	-4.55	2.59	-4.47	1.50	1.50	0.00
2,800.00	4.50	150.40	2,799.69	-10.24	5.82	-10.06	1.50	1.50	0.00
2,900.00	6.00	150.40	2,899.27	-18.19	10.34	-17.88	1.50	1.50	0.00
2,966.63	7.00	150.40	2,965.47	-24.75	14.06	-24.33	1.50	1.50	0.00
Start 5762.00 hold at 2966.63 MD									
3,000.00	7.00	150.40	2,998.59	-28.29	16.07	-27.80	0.00	0.00	0.00
3,100.00	7.00	150.40	3,097.85	-38.88	22.09	-38.22	0.00	0.00	0.00
3,200.00	7.00	150.40	3,197.10	-49.48	28.11	-48.63	0.00	0.00	0.00
3,300.00	7.00	150.40	3,296.36	-60.07	34.13	-59.04	0.00	0.00	0.00
3,400.00	7.00	150.40	3,395.61	-70.67	40.15	-69.46	0.00	0.00	0.00
3,500.00	7.00	150.40	3,494.87	-81.26	46.17	-79.87	0.00	0.00	0.00
3,600.00	7.00	150.40	3,594.12	-91.86	52.19	-90.28	0.00	0.00	0.00
3,700.00	7.00	150.40	3,693.37	-102.45	58.21	-100.70	0.00	0.00	0.00
3,800.00	7.00	150.40	3,792.63	-113.05	64.23	-111.11	0.00	0.00	0.00
3,900.00	7.00	150.40	3,891.88	-123.64	70.25	-121.52	0.00	0.00	0.00
4,000.00	7.00	150.40	3,991.14	-134.24	76.27	-131.94	0.00	0.00	0.00
4,100.00	7.00	150.40	4,090.39	-144.83	82.29	-142.35	0.00	0.00	0.00
4,200.00	7.00	150.40	4,189.65	-155.43	88.31	-152.77	0.00	0.00	0.00
4,300.00	7.00	150.40	4,288.90	-166.02	94.33	-163.18	0.00	0.00	0.00
4,400.00	7.00	150.40	4,388.16	-176.62	100.35	-173.59	0.00	0.00	0.00
4,500.00	7.00	150.40	4,487.41	-187.22	106.37	-184.01	0.00	0.00	0.00
4,600.00	7.00	150.40	4,586.67	-197.81	112.39	-194.42	0.00	0.00	0.00
4,700.00	7.00	150.40	4,685.92	-208.41	118.41	-204.83	0.00	0.00	0.00
4,800.00	7.00	150.40	4,785.18	-219.00	124.43	-215.25	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 704H
Company:	Franklin Mountain Energy	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Project:	Lea County, NM (NAD83)	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site:	Trinity Fed/Santa Fe Fed	North Reference:	Grid
Well:	Santa Fe Fed Com 704H	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	150.40	4,884.43	-229.60	130.45	-225.66	0.00	0.00	0.00
5,000.00	7.00	150.40	4,983.69	-240.19	136.47	-236.07	0.00	0.00	0.00
5,100.00	7.00	150.40	5,082.94	-250.79	142.49	-246.49	0.00	0.00	0.00
5,200.00	7.00	150.40	5,182.20	-261.38	148.51	-256.90	0.00	0.00	0.00
5,300.00	7.00	150.40	5,281.45	-271.98	154.53	-267.32	0.00	0.00	0.00
5,400.00	7.00	150.40	5,380.70	-282.57	160.55	-277.73	0.00	0.00	0.00
5,500.00	7.00	150.40	5,479.96	-293.17	166.57	-288.14	0.00	0.00	0.00
5,600.00	7.00	150.40	5,579.21	-303.76	172.59	-298.56	0.00	0.00	0.00
5,700.00	7.00	150.40	5,678.47	-314.36	178.61	-308.97	0.00	0.00	0.00
5,800.00	7.00	150.40	5,777.72	-324.95	184.63	-319.38	0.00	0.00	0.00
5,900.00	7.00	150.40	5,876.98	-335.55	190.65	-329.80	0.00	0.00	0.00
6,000.00	7.00	150.40	5,976.23	-346.14	196.67	-340.21	0.00	0.00	0.00
6,100.00	7.00	150.40	6,075.49	-356.74	202.69	-350.62	0.00	0.00	0.00
6,200.00	7.00	150.40	6,174.74	-367.33	208.71	-361.04	0.00	0.00	0.00
6,300.00	7.00	150.40	6,274.00	-377.93	214.73	-371.45	0.00	0.00	0.00
6,400.00	7.00	150.40	6,373.25	-388.52	220.75	-381.87	0.00	0.00	0.00
6,500.00	7.00	150.40	6,472.51	-399.12	226.77	-392.28	0.00	0.00	0.00
6,600.00	7.00	150.40	6,571.76	-409.72	232.79	-402.69	0.00	0.00	0.00
6,700.00	7.00	150.40	6,671.02	-420.31	238.81	-413.11	0.00	0.00	0.00
6,800.00	7.00	150.40	6,770.27	-430.91	244.83	-423.52	0.00	0.00	0.00
6,900.00	7.00	150.40	6,869.53	-441.50	250.85	-433.93	0.00	0.00	0.00
7,000.00	7.00	150.40	6,968.78	-452.10	256.87	-444.35	0.00	0.00	0.00
7,100.00	7.00	150.40	7,068.04	-462.69	262.89	-454.76	0.00	0.00	0.00
7,200.00	7.00	150.40	7,167.29	-473.29	268.91	-465.17	0.00	0.00	0.00
7,300.00	7.00	150.40	7,266.54	-483.88	274.93	-475.59	0.00	0.00	0.00
7,400.00	7.00	150.40	7,365.80	-494.48	280.95	-486.00	0.00	0.00	0.00
7,500.00	7.00	150.40	7,465.05	-505.07	286.97	-496.42	0.00	0.00	0.00
7,600.00	7.00	150.40	7,564.31	-515.67	292.99	-506.83	0.00	0.00	0.00
7,700.00	7.00	150.40	7,663.56	-526.26	299.01	-517.24	0.00	0.00	0.00
7,800.00	7.00	150.40	7,762.82	-536.86	305.03	-527.66	0.00	0.00	0.00
7,900.00	7.00	150.40	7,862.07	-547.45	311.05	-538.07	0.00	0.00	0.00
8,000.00	7.00	150.40	7,961.33	-558.05	317.07	-548.48	0.00	0.00	0.00
8,100.00	7.00	150.40	8,060.58	-568.64	323.09	-558.90	0.00	0.00	0.00
8,200.00	7.00	150.40	8,159.84	-579.24	329.11	-569.31	0.00	0.00	0.00
8,300.00	7.00	150.40	8,259.09	-589.83	335.13	-579.72	0.00	0.00	0.00
8,400.00	7.00	150.40	8,358.35	-600.43	341.15	-590.14	0.00	0.00	0.00
8,500.00	7.00	150.40	8,457.60	-611.02	347.17	-600.55	0.00	0.00	0.00
8,600.00	7.00	150.40	8,556.86	-621.62	353.19	-610.97	0.00	0.00	0.00
8,700.00	7.00	150.40	8,656.11	-632.22	359.21	-621.38	0.00	0.00	0.00
8,728.63	7.00	150.40	8,684.53	-635.25	360.94	-624.36	0.00	0.00	0.00
Start Drop -1.50									
8,800.00	5.93	150.40	8,755.44	-642.23	364.91	-631.23	1.50	-1.50	0.00
8,900.00	4.43	150.40	8,855.03	-650.08	369.37	-638.94	1.50	-1.50	0.00
9,000.00	2.93	150.40	8,954.82	-655.66	372.54	-644.42	1.50	-1.50	0.00
9,100.00	1.43	150.40	9,054.75	-658.97	374.41	-647.67	1.50	-1.50	0.00
9,195.26	0.00	0.00	9,150.00	-660.00	375.00	-648.69	1.50	-1.50	0.00
Start 2172.00 hold at 9195.26 MD									
9,200.00	0.00	0.00	9,154.74	-660.00	375.00	-648.69	0.00	0.00	0.00
9,300.00	0.00	0.00	9,254.74	-660.00	375.00	-648.69	0.00	0.00	0.00
9,400.00	0.00	0.00	9,354.74	-660.00	375.00	-648.69	0.00	0.00	0.00
9,500.00	0.00	0.00	9,454.74	-660.00	375.00	-648.69	0.00	0.00	0.00
9,600.00	0.00	0.00	9,554.74	-660.00	375.00	-648.69	0.00	0.00	0.00
9,700.00	0.00	0.00	9,654.74	-660.00	375.00	-648.69	0.00	0.00	0.00
9,800.00	0.00	0.00	9,754.74	-660.00	375.00	-648.69	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 704H
Company:	Franklin Mountain Energy	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Project:	Lea County, NM (NAD83)	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site:	Trinity Fed/Santa Fe Fed	North Reference:	Grid
Well:	Santa Fe Fed Com 704H	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	9,854.74	-660.00	375.00	-648.69	0.00	0.00	0.00
10,000.00	0.00	0.00	9,954.74	-660.00	375.00	-648.69	0.00	0.00	0.00
10,100.00	0.00	0.00	10,054.74	-660.00	375.00	-648.69	0.00	0.00	0.00
10,200.00	0.00	0.00	10,154.74	-660.00	375.00	-648.69	0.00	0.00	0.00
10,300.00	0.00	0.00	10,254.74	-660.00	375.00	-648.69	0.00	0.00	0.00
10,400.00	0.00	0.00	10,354.74	-660.00	375.00	-648.69	0.00	0.00	0.00
10,500.00	0.00	0.00	10,454.74	-660.00	375.00	-648.69	0.00	0.00	0.00
10,600.00	0.00	0.00	10,554.74	-660.00	375.00	-648.69	0.00	0.00	0.00
10,700.00	0.00	0.00	10,654.74	-660.00	375.00	-648.69	0.00	0.00	0.00
10,800.00	0.00	0.00	10,754.74	-660.00	375.00	-648.69	0.00	0.00	0.00
10,900.00	0.00	0.00	10,854.74	-660.00	375.00	-648.69	0.00	0.00	0.00
11,000.00	0.00	0.00	10,954.74	-660.00	375.00	-648.69	0.00	0.00	0.00
11,100.00	0.00	0.00	11,054.74	-660.00	375.00	-648.69	0.00	0.00	0.00
11,200.00	0.00	0.00	11,154.74	-660.00	375.00	-648.69	0.00	0.00	0.00
11,300.00	0.00	0.00	11,254.74	-660.00	375.00	-648.69	0.00	0.00	0.00
11,367.26	0.00	0.00	11,322.00	-660.00	375.00	-648.69	0.00	0.00	0.00
Start DLS 10.00 TFO 359.51									
11,400.00	3.27	359.51	11,354.72	-659.07	374.99	-647.75	10.00	10.00	0.00
11,450.00	8.27	359.51	11,404.45	-654.04	374.95	-642.73	10.00	10.00	0.00
11,500.00	13.27	359.51	11,453.55	-644.69	374.87	-633.39	10.00	10.00	0.00
11,550.00	18.27	359.51	11,501.66	-631.11	374.75	-619.81	10.00	10.00	0.00
11,600.00	23.27	359.51	11,548.39	-613.38	374.60	-602.10	10.00	10.00	0.00
11,650.00	28.27	359.51	11,593.40	-591.65	374.41	-580.38	10.00	10.00	0.00
11,700.00	33.27	359.51	11,636.35	-566.07	374.19	-554.82	10.00	10.00	0.00
11,750.00	38.27	359.51	11,676.90	-536.85	373.94	-525.63	10.00	10.00	0.00
11,800.00	43.27	359.51	11,714.75	-504.21	373.66	-493.01	10.00	10.00	0.00
11,850.00	48.27	359.51	11,749.62	-468.39	373.35	-457.21	10.00	10.00	0.00
11,900.00	53.27	359.51	11,781.23	-429.68	373.01	-418.52	10.00	10.00	0.00
11,950.00	58.27	359.51	11,809.34	-388.35	372.66	-377.22	10.00	10.00	0.00
12,000.00	63.27	359.51	11,833.75	-344.73	372.28	-333.63	10.00	10.00	0.00
12,050.00	68.27	359.51	11,854.26	-299.15	371.89	-288.08	10.00	10.00	0.00
12,100.00	73.27	359.51	11,870.72	-251.95	371.48	-240.92	10.00	10.00	0.00
12,150.00	78.27	359.51	11,883.00	-203.50	371.07	-192.51	10.00	10.00	0.00
12,200.00	83.27	359.51	11,891.01	-154.17	370.64	-143.20	10.00	10.00	0.00
12,250.00	88.27	359.51	11,894.70	-104.32	370.21	-93.39	10.00	10.00	0.00
12,275.75	90.85	359.51	11,894.90	-78.58	369.99	-67.67	10.00	10.00	0.00
Start 9788.16 hold at 12275.75 MD - LP (Santa Fe Fed Com 704H)									
12,300.00	90.85	359.51	11,894.54	-54.33	369.78	-43.43	0.00	0.00	0.00
12,400.00	90.85	359.51	11,893.05	45.66	368.92	56.48	0.00	0.00	0.00
12,500.00	90.85	359.51	11,891.57	145.64	368.06	156.40	0.00	0.00	0.00
12,600.00	90.85	359.51	11,890.09	245.63	367.19	256.32	0.00	0.00	0.00
12,700.00	90.85	359.51	11,888.61	345.61	366.33	356.23	0.00	0.00	0.00
12,800.00	90.85	359.51	11,887.13	445.60	365.47	456.15	0.00	0.00	0.00
12,900.00	90.85	359.51	11,885.65	545.58	364.61	556.07	0.00	0.00	0.00
13,000.00	90.85	359.51	11,884.17	645.57	363.75	655.98	0.00	0.00	0.00
13,100.00	90.85	359.51	11,882.69	745.55	362.88	755.90	0.00	0.00	0.00
13,200.00	90.85	359.51	11,881.20	845.54	362.02	855.82	0.00	0.00	0.00
13,300.00	90.85	359.51	11,879.72	945.52	361.16	955.73	0.00	0.00	0.00
13,400.00	90.85	359.51	11,878.24	1,045.51	360.30	1,055.65	0.00	0.00	0.00
13,500.00	90.85	359.51	11,876.76	1,145.49	359.44	1,155.57	0.00	0.00	0.00
13,600.00	90.85	359.51	11,875.28	1,245.48	358.58	1,255.48	0.00	0.00	0.00
13,700.00	90.85	359.51	11,873.80	1,345.46	357.71	1,355.40	0.00	0.00	0.00
13,800.00	90.85	359.51	11,872.32	1,445.45	356.85	1,455.32	0.00	0.00	0.00
13,900.00	90.85	359.51	11,870.83	1,545.43	355.99	1,555.23	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 704H
Company:	Franklin Mountain Energy	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Project:	Lea County, NM (NAD83)	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site:	Trinity Fed/Santa Fe Fed	North Reference:	Grid
Well:	Santa Fe Fed Com 704H	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	90.85	359.51	11,869.35	1,645.42	355.13	1,655.15	0.00	0.00	0.00
14,100.00	90.85	359.51	11,867.87	1,745.41	354.27	1,755.07	0.00	0.00	0.00
14,200.00	90.85	359.51	11,866.39	1,845.39	353.40	1,854.98	0.00	0.00	0.00
14,300.00	90.85	359.51	11,864.91	1,945.38	352.54	1,954.90	0.00	0.00	0.00
14,400.00	90.85	359.51	11,863.43	2,045.36	351.68	2,054.82	0.00	0.00	0.00
14,500.00	90.85	359.51	11,861.95	2,145.35	350.82	2,154.73	0.00	0.00	0.00
14,600.00	90.85	359.51	11,860.47	2,245.33	349.96	2,254.65	0.00	0.00	0.00
14,700.00	90.85	359.51	11,858.98	2,345.32	349.10	2,354.57	0.00	0.00	0.00
14,800.00	90.85	359.51	11,857.50	2,445.30	348.23	2,454.49	0.00	0.00	0.00
14,900.00	90.85	359.51	11,856.02	2,545.29	347.37	2,554.40	0.00	0.00	0.00
15,000.00	90.85	359.51	11,854.54	2,645.27	346.51	2,654.32	0.00	0.00	0.00
15,100.00	90.85	359.51	11,853.06	2,745.26	345.65	2,754.24	0.00	0.00	0.00
15,200.00	90.85	359.51	11,851.58	2,845.24	344.79	2,854.15	0.00	0.00	0.00
15,300.00	90.85	359.51	11,850.10	2,945.23	343.92	2,954.07	0.00	0.00	0.00
15,400.00	90.85	359.51	11,848.61	3,045.21	343.06	3,053.99	0.00	0.00	0.00
15,500.00	90.85	359.51	11,847.13	3,145.20	342.20	3,153.90	0.00	0.00	0.00
15,600.00	90.85	359.51	11,845.65	3,245.19	341.34	3,253.82	0.00	0.00	0.00
15,700.00	90.85	359.51	11,844.17	3,345.17	340.48	3,353.74	0.00	0.00	0.00
15,800.00	90.85	359.51	11,842.69	3,445.16	339.61	3,453.65	0.00	0.00	0.00
15,900.00	90.85	359.51	11,841.21	3,545.14	338.75	3,553.57	0.00	0.00	0.00
16,000.00	90.85	359.51	11,839.73	3,645.13	337.89	3,653.49	0.00	0.00	0.00
16,100.00	90.85	359.51	11,838.25	3,745.11	337.03	3,753.40	0.00	0.00	0.00
16,200.00	90.85	359.51	11,836.76	3,845.10	336.17	3,853.32	0.00	0.00	0.00
16,300.00	90.85	359.51	11,835.28	3,945.08	335.31	3,953.24	0.00	0.00	0.00
16,400.00	90.85	359.51	11,833.80	4,045.07	334.44	4,053.15	0.00	0.00	0.00
16,500.00	90.85	359.51	11,832.32	4,145.05	333.58	4,153.07	0.00	0.00	0.00
16,600.00	90.85	359.51	11,830.84	4,245.04	332.72	4,252.99	0.00	0.00	0.00
16,700.00	90.85	359.51	11,829.36	4,345.02	331.86	4,352.90	0.00	0.00	0.00
16,800.00	90.85	359.51	11,827.88	4,445.01	331.00	4,452.82	0.00	0.00	0.00
16,900.00	90.85	359.51	11,826.39	4,544.99	330.13	4,552.74	0.00	0.00	0.00
17,000.00	90.85	359.51	11,824.91	4,644.98	329.27	4,652.65	0.00	0.00	0.00
17,100.00	90.85	359.51	11,823.43	4,744.96	328.41	4,752.57	0.00	0.00	0.00
17,200.00	90.85	359.51	11,821.95	4,844.95	327.55	4,852.49	0.00	0.00	0.00
17,300.00	90.85	359.51	11,820.47	4,944.94	326.69	4,952.40	0.00	0.00	0.00
17,400.00	90.85	359.51	11,818.99	5,044.92	325.83	5,052.32	0.00	0.00	0.00
17,500.00	90.85	359.51	11,817.51	5,144.91	324.96	5,152.24	0.00	0.00	0.00
17,600.00	90.85	359.51	11,816.03	5,244.89	324.10	5,252.15	0.00	0.00	0.00
17,700.00	90.85	359.51	11,814.54	5,344.88	323.24	5,352.07	0.00	0.00	0.00
17,800.00	90.85	359.51	11,813.06	5,444.86	322.38	5,451.99	0.00	0.00	0.00
17,900.00	90.85	359.51	11,811.58	5,544.85	321.52	5,551.90	0.00	0.00	0.00
18,000.00	90.85	359.51	11,810.10	5,644.83	320.65	5,651.82	0.00	0.00	0.00
18,100.00	90.85	359.51	11,808.62	5,744.82	319.79	5,751.74	0.00	0.00	0.00
18,200.00	90.85	359.51	11,807.14	5,844.80	318.93	5,851.65	0.00	0.00	0.00
18,300.00	90.85	359.51	11,805.66	5,944.79	318.07	5,951.57	0.00	0.00	0.00
18,400.00	90.85	359.51	11,804.17	6,044.77	317.21	6,051.49	0.00	0.00	0.00
18,500.00	90.85	359.51	11,802.69	6,144.76	316.35	6,151.40	0.00	0.00	0.00
18,600.00	90.85	359.51	11,801.21	6,244.74	315.48	6,251.32	0.00	0.00	0.00
18,700.00	90.85	359.51	11,799.73	6,344.73	314.62	6,351.24	0.00	0.00	0.00
18,800.00	90.85	359.51	11,798.25	6,444.72	313.76	6,451.15	0.00	0.00	0.00
18,900.00	90.85	359.51	11,796.77	6,544.70	312.90	6,551.07	0.00	0.00	0.00
19,000.00	90.85	359.51	11,795.29	6,644.69	312.04	6,650.99	0.00	0.00	0.00
19,100.00	90.85	359.51	11,793.81	6,744.67	311.17	6,750.90	0.00	0.00	0.00
19,200.00	90.85	359.51	11,792.32	6,844.66	310.31	6,850.82	0.00	0.00	0.00
19,300.00	90.85	359.51	11,790.84	6,944.64	309.45	6,950.74	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 704H
Company:	Franklin Mountain Energy	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Project:	Lea County, NM (NAD83)	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site:	Trinity Fed/Santa Fe Fed	North Reference:	Grid
Well:	Santa Fe Fed Com 704H	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	90.85	359.51	11,789.36	7,044.63	308.59	7,050.66	0.00	0.00	0.00	
19,500.00	90.85	359.51	11,787.88	7,144.61	307.73	7,150.57	0.00	0.00	0.00	
19,600.00	90.85	359.51	11,786.40	7,244.60	306.87	7,250.49	0.00	0.00	0.00	
19,700.00	90.85	359.51	11,784.92	7,344.58	306.00	7,350.41	0.00	0.00	0.00	
19,800.00	90.85	359.51	11,783.44	7,444.57	305.14	7,450.32	0.00	0.00	0.00	
19,900.00	90.85	359.51	11,781.95	7,544.55	304.28	7,550.24	0.00	0.00	0.00	
20,000.00	90.85	359.51	11,780.47	7,644.54	303.42	7,650.16	0.00	0.00	0.00	
20,100.00	90.85	359.51	11,778.99	7,744.52	302.56	7,750.07	0.00	0.00	0.00	
20,200.00	90.85	359.51	11,777.51	7,844.51	301.69	7,849.99	0.00	0.00	0.00	
20,300.00	90.85	359.51	11,776.03	7,944.50	300.83	7,949.91	0.00	0.00	0.00	
20,400.00	90.85	359.51	11,774.55	8,044.48	299.97	8,049.82	0.00	0.00	0.00	
20,500.00	90.85	359.51	11,773.07	8,144.47	299.11	8,149.74	0.00	0.00	0.00	
20,600.00	90.85	359.51	11,771.59	8,244.45	298.25	8,249.66	0.00	0.00	0.00	
20,700.00	90.85	359.51	11,770.10	8,344.44	297.38	8,349.57	0.00	0.00	0.00	
20,800.00	90.85	359.51	11,768.62	8,444.42	296.52	8,449.49	0.00	0.00	0.00	
20,900.00	90.85	359.51	11,767.14	8,544.41	295.66	8,549.41	0.00	0.00	0.00	
21,000.00	90.85	359.51	11,765.66	8,644.39	294.80	8,649.32	0.00	0.00	0.00	
21,100.00	90.85	359.51	11,764.18	8,744.38	293.94	8,749.24	0.00	0.00	0.00	
21,200.00	90.85	359.51	11,762.70	8,844.36	293.08	8,849.16	0.00	0.00	0.00	
21,300.00	90.85	359.51	11,761.22	8,944.35	292.21	8,949.07	0.00	0.00	0.00	
21,400.00	90.85	359.51	11,759.74	9,044.33	291.35	9,048.99	0.00	0.00	0.00	
21,500.00	90.85	359.51	11,758.25	9,144.32	290.49	9,148.91	0.00	0.00	0.00	
21,600.00	90.85	359.51	11,756.77	9,244.30	289.63	9,248.82	0.00	0.00	0.00	
21,700.00	90.85	359.51	11,755.29	9,344.29	288.77	9,348.74	0.00	0.00	0.00	
21,800.00	90.85	359.51	11,753.81	9,444.27	287.90	9,448.66	0.00	0.00	0.00	
21,900.00	90.85	359.51	11,752.33	9,544.26	287.04	9,548.57	0.00	0.00	0.00	
22,000.00	90.85	359.51	11,750.85	9,644.25	286.18	9,648.49	0.00	0.00	0.00	
22,063.91	90.85	359.51	11,749.90	9,708.15	285.63	9,712.35	0.00	0.00	0.00	
TD at 22063.91 - PBHL (Santa Fe Fed Com 704H)										

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	405,434.20	854,713.31	32.110573	-103.321211	
PBHL (Santa Fe Fed Co - plan hits target center - Point	0.00	0.00	11,749.90	9,708.15	285.63	415,142.35	854,998.94	32.137249	-103.319994	
LP (Santa Fe Fed Com - plan misses target center by 0.01usft at 12275.75usft MD (11894.89 TVD, -78.58 N, 369.99 E) - Point	0.00	0.00	11,894.89	-78.58	369.99	405,355.62	855,083.30	32.110348	-103.320019	



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Santa Fe Fed Com 704H
Company:	Franklin Mountain Energy	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Project:	Lea County, NM (NAD83)	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site:	Trinity Fed/Santa Fe Fed	North Reference:	Grid
Well:	Santa Fe Fed Com 704H	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)	
2,500.00	2,500.00	0.00	0.00	Start Build 1.50
2,966.63	2,965.47	-24.75	14.06	Start 5762.00 hold at 2966.63 MD
8,728.63	8,684.53	-635.25	360.94	Start Drop -1.50
9,195.26	9,150.00	-660.00	375.00	Start 2172.00 hold at 9195.26 MD
11,367.26	11,322.00	-660.00	375.00	Start DLS 10.00 TFO 359.51
12,275.75	11,894.90	-78.58	369.99	Start 9788.16 hold at 12275.75 MD
22,063.91	11,749.90	9,708.15	285.63	TD at 22063.91



Franklin Mountain Energy

Lea County, NM (NAD83)

Trinity Fed/Santa Fe Fed

Santa Fe Fed Com 704H

OH

Plan #2

Anticollision Report

15 July, 2020





Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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	7/15/2020		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	22,063.91	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	2,500.00	2,516.00	1,970.90	1,958.51	159.136	CC
1912 Fed Com 601H - OH - Plan #2	2,600.00	2,615.99	1,971.27	1,958.39	153.052	ES
1912 Fed Com 601H - OH - Plan #2	22,064.91	21,929.37	2,425.97	2,184.28	10.037	SF
1912 Fed Com 701H - OH - Plan #2	2,500.00	2,518.80	2,005.07	1,992.68	161.802	CC
1912 Fed Com 701H - OH - Plan #2	2,600.00	2,618.79	2,005.45	1,992.56	155.620	ES
1912 Fed Com 701H - OH - Plan #2	22,064.91	22,238.31	2,683.99	2,442.80	11.128	SF
1912 Fed Com 702H - OH - Plan #2	7,237.18	7,330.32	1,763.19	1,726.08	47.515	CC
1912 Fed Com 702H - OH - Plan #2	22,064.91	22,099.37	1,849.29	1,607.53	7.649	ES, SF
Santa Fe Fed/Zia Fed						
Santa Fe Fed Com 603H - OH - Plan #2	11,110.77	11,111.04	567.62	511.37	10.092	CC
Santa Fe Fed Com 603H - OH - Plan #2	22,064.91	21,869.45	600.64	374.91	2.661	ES, SF
Santa Fe Fed Com 705H - OH - Plan #2	22,064.91	22,127.89	927.29	685.24	3.831	CC, ES, SF
Zia Fed Com 604H - OH - Plan #2	11,107.34	11,056.43	1,606.49	1,550.68	28.787	CC
Zia Fed Com 604H - OH - Plan #2	22,064.91	21,802.72	1,618.60	1,378.26	6.735	ES, SF
Zia Fed Com 706H - OH - Plan #2	22,064.91	21,964.42	1,903.52	1,661.29	7.858	CC, ES, SF
Trinity Fed/Santa Fe Fed						
Trinity Fed Com 602H - OH - Plan #2	2,415.35	2,419.15	70.00	58.07	5.870	CC
Trinity Fed Com 602H - OH - Plan #2	2,500.00	2,503.75	70.00	57.64	5.666	ES
Trinity Fed Com 602H - OH - Plan #2	22,064.91	21,938.19	1,226.00	987.67	5.144	SF
Trinity Fed Com 703H - OH - Plan #2	2,500.00	2,502.30	34.99	22.64	2.833	CC, ES
Trinity Fed Com 703H - OH - Plan #2	2,600.00	2,602.29	35.64	22.80	2.775	SF

Offset Design													Offset Site Error:	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	
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	16.00	16.00	0.00	0.02	-103.09	-446.51	-1,919.65	1,970.90					
100.00	100.00	116.00	116.00	0.13	0.18	-103.09	-446.51	-1,919.65	1,970.90	1,970.67	0.22	8,888.650		
200.00	200.00	216.00	216.00	0.48	0.54	-103.09	-446.51	-1,919.65	1,970.90	1,970.17	0.73	2,714.433		
300.00	300.00	316.00	316.00	0.84	0.90	-103.09	-446.51	-1,919.65	1,970.90	1,969.66	1.23	1,599.014		
400.00	400.00	416.00	416.00	1.20	1.26	-103.09	-446.51	-1,919.65	1,970.90	1,969.16	1.74	1,133.135		
500.00	500.00	516.00	516.00	1.56	1.62	-103.09	-446.51	-1,919.65	1,970.90	1,968.65	2.25	877.444		

CC - Min centre to center distance or 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 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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		
600.00	600.00	616.00	616.00	1.92	1.98	-103.09	-446.51	-1,919.65	1,970.90	1,968.14	2.75	715.891		
700.00	700.00	716.00	716.00	2.28	2.33	-103.09	-446.51	-1,919.65	1,970.90	1,967.64	3.26	604.574		
800.00	800.00	816.00	816.00	2.63	2.69	-103.09	-446.51	-1,919.65	1,970.90	1,967.13	3.77	523.215		
900.00	900.00	916.00	916.00	2.99	3.05	-103.09	-446.51	-1,919.65	1,970.90	1,966.62	4.27	461.155		
1,000.00	1,000.00	1,016.00	1,016.00	3.35	3.41	-103.09	-446.51	-1,919.65	1,970.90	1,966.11	4.78	412.256		
1,100.00	1,100.00	1,116.00	1,116.00	3.71	3.77	-103.09	-446.51	-1,919.65	1,970.90	1,965.61	5.29	372.732		
1,200.00	1,200.00	1,216.00	1,216.00	4.07	4.13	-103.09	-446.51	-1,919.65	1,970.90	1,965.10	5.79	340.124		
1,300.00	1,300.00	1,316.00	1,316.00	4.43	4.48	-103.09	-446.51	-1,919.65	1,970.90	1,964.59	6.30	312.762		
1,400.00	1,400.00	1,416.00	1,416.00	4.79	4.84	-103.09	-446.51	-1,919.65	1,970.90	1,964.09	6.81	289.474		
1,500.00	1,500.00	1,516.00	1,516.00	5.14	5.20	-103.09	-446.51	-1,919.65	1,970.90	1,963.58	7.32	269.414		
1,600.00	1,600.00	1,616.00	1,616.00	5.50	5.56	-103.09	-446.51	-1,919.65	1,970.90	1,963.07	7.82	251.954		
1,700.00	1,700.00	1,716.00	1,716.00	5.86	5.92	-103.09	-446.51	-1,919.65	1,970.90	1,962.57	8.33	236.620		
1,800.00	1,800.00	1,816.00	1,816.00	6.22	6.28	-103.09	-446.51	-1,919.65	1,970.90	1,962.06	8.84	223.045		
1,900.00	1,900.00	1,916.00	1,916.00	6.58	6.64	-103.09	-446.51	-1,919.65	1,970.90	1,961.55	9.34	210.943		
2,000.00	2,000.00	2,016.00	2,016.00	6.94	6.99	-103.09	-446.51	-1,919.65	1,970.90	1,961.04	9.85	200.086		
2,100.00	2,100.00	2,116.00	2,116.00	7.29	7.35	-103.09	-446.51	-1,919.65	1,970.90	1,960.54	10.36	190.293		
2,200.00	2,200.00	2,216.00	2,216.00	7.65	7.71	-103.09	-446.51	-1,919.65	1,970.90	1,960.03	10.86	181.413		
2,300.00	2,300.00	2,316.00	2,316.00	8.01	8.07	-103.09	-446.51	-1,919.65	1,970.90	1,959.52	11.37	173.325		
2,400.00	2,400.00	2,416.00	2,416.00	8.37	8.43	-103.09	-446.51	-1,919.65	1,970.90	1,959.02	11.88	165.928		
2,500.00	2,500.00	2,516.00	2,516.00	8.73	8.79	-103.09	-446.51	-1,919.65	1,970.90	1,958.51	12.38	159.136 CC		
2,600.00	2,599.99	2,615.99	2,615.99	9.07	9.14	106.54	-446.51	-1,919.65	1,971.27	1,958.39	12.88	153.052 ES		
2,700.00	2,699.91	2,715.91	2,715.91	9.40	9.50	106.63	-446.51	-1,919.65	1,972.39	1,959.03	13.36	147.596		
2,800.00	2,799.69	2,815.69	2,815.69	9.73	9.86	106.79	-446.51	-1,919.65	1,974.27	1,960.43	13.85	142.561		
2,900.00	2,899.27	2,915.27	2,915.27	10.06	10.22	107.00	-446.51	-1,919.65	1,976.94	1,962.61	14.34	137.904		
2,966.63	2,965.47	2,981.47	2,981.47	10.28	10.45	107.18	-446.51	-1,919.65	1,979.17	1,964.51	14.66	134.990		
3,000.00	2,998.59	3,014.59	3,014.59	10.40	10.57	107.29	-446.51	-1,919.65	1,980.39	1,965.56	14.83	133.582		
3,100.00	3,097.85	3,113.85	3,113.85	10.74	10.93	107.62	-446.51	-1,919.65	1,984.07	1,968.75	15.32	129.526		
3,200.00	3,197.10	3,213.10	3,213.10	11.09	11.29	107.96	-446.51	-1,919.65	1,987.82	1,972.00	15.81	125.702		
3,300.00	3,296.36	3,312.36	3,312.36	11.44	11.64	108.29	-446.51	-1,919.65	1,991.63	1,975.32	16.31	122.094		
3,400.00	3,395.61	3,411.61	3,411.61	11.79	12.00	108.62	-446.51	-1,919.65	1,995.52	1,978.70	16.81	118.687		
3,500.00	3,494.87	3,500.00	3,500.00	12.15	12.31	108.91	-446.51	-1,919.65	1,999.49	1,982.21	17.29	115.656		
3,600.00	3,594.12	3,582.88	3,582.87	12.51	12.60	109.16	-447.30	-1,920.08	2,004.23	1,986.49	17.74	112.980		
3,700.00	3,693.37	3,657.72	3,657.67	12.88	12.84	109.36	-449.37	-1,921.21	2,010.25	1,992.09	18.16	110.671		
3,800.00	3,792.63	3,732.62	3,732.48	13.24	13.09	109.52	-452.73	-1,923.04	2,017.53	1,998.94	18.59	108.546		
3,900.00	3,891.88	3,807.54	3,807.21	13.61	13.33	109.65	-457.38	-1,925.57	2,026.03	2,007.03	19.01	106.582		
4,000.00	3,991.14	3,898.43	3,897.76	13.99	13.63	109.77	-464.26	-1,929.32	2,035.50	2,016.03	19.48	104.511		
4,100.00	4,090.39	3,997.87	3,996.82	14.36	13.96	109.90	-471.88	-1,933.47	2,045.06	2,025.09	19.97	102.405		
4,200.00	4,189.65	4,097.31	4,095.88	14.74	14.29	110.02	-479.50	-1,937.62	2,054.62	2,034.15	20.47	100.387		
4,300.00	4,288.90	4,196.75	4,194.94	15.11	14.63	110.15	-487.11	-1,941.77	2,064.19	2,043.22	20.97	98.451		
4,400.00	4,388.16	4,296.18	4,294.00	15.49	14.97	110.28	-494.73	-1,945.91	2,073.77	2,052.30	21.47	96.595		
4,500.00	4,487.41	4,395.62	4,393.05	15.87	15.31	110.40	-502.35	-1,950.06	2,083.37	2,061.39	21.97	94.814		
4,600.00	4,586.67	4,495.06	4,492.11	16.26	15.65	110.53	-509.96	-1,954.21	2,092.97	2,070.49	22.48	93.104		
4,700.00	4,685.92	4,594.49	4,591.17	16.64	15.99	110.65	-517.58	-1,958.36	2,102.58	2,079.59	22.99	91.461		
4,800.00	4,785.18	4,693.93	4,690.23	17.03	16.34	110.77	-525.20	-1,962.51	2,112.20	2,088.70	23.50	89.883		
4,900.00	4,884.43	4,793.37	4,789.28	17.41	16.68	110.89	-532.81	-1,966.66	2,121.83	2,097.82	24.01	88.365		
5,000.00	4,983.69	4,892.80	4,888.34	17.80	17.03	111.01	-540.43	-1,970.81	2,131.47	2,106.94	24.53	86.905		
5,100.00	5,082.94	4,992.24	4,987.40	18.19	17.38	111.13	-548.05	-1,974.96	2,141.12	2,116.08	25.04	85.500		
5,200.00	5,182.20	5,091.68	5,086.46	18.58	17.74	111.24	-555.66	-1,979.10	2,150.78	2,125.22	25.56	84.147		
5,300.00	5,281.45	5,191.11	5,185.52	18.97	18.09	111.36	-563.28	-1,983.25	2,160.44	2,134.36	26.08	82.844		
5,400.00	5,380.70	5,290.55	5,284.57	19.36	18.44	111.47	-570.90	-1,987.40	2,170.12	2,143.52	26.60	81.588		
5,500.00	5,479.96	5,389.99	5,383.63	19.75	18.80	111.59	-578.51	-1,991.55	2,179.80	2,152.68	27.12	80.377		
5,600.00	5,579.21	5,489.42	5,482.69	20.14	19.16	111.70	-586.13	-1,995.70	2,189.49	2,161.85	27.64	79.208		

CC - Min centre to center distance or 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 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design 1912 Fed Com - 1912 Fed Com 601H - OH - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,700.00	5,678.47	5,588.86	5,581.75	20.53	19.51	111.81	-593.75	-1,999.85	2,199.19	2,171.03	28.17	78.080		
5,800.00	5,777.72	5,688.30	5,680.80	20.93	19.87	111.92	-601.37	-2,004.00	2,208.90	2,180.21	28.69	76.990		
5,900.00	5,876.98	5,787.73	5,779.86	21.32	20.23	112.03	-608.98	-2,008.15	2,218.62	2,189.40	29.22	75.938		
6,000.00	5,976.23	5,887.17	5,878.92	21.72	20.59	112.14	-616.60	-2,012.29	2,228.34	2,198.60	29.74	74.920		
6,100.00	6,075.49	5,986.61	5,977.98	22.11	20.95	112.25	-624.22	-2,016.44	2,238.08	2,207.81	30.27	73.936		
6,200.00	6,174.74	6,086.05	6,077.04	22.51	21.32	112.36	-631.83	-2,020.59	2,247.82	2,217.02	30.80	72.984		
6,300.00	6,274.00	6,185.48	6,176.09	22.91	21.68	112.46	-639.45	-2,024.74	2,257.57	2,226.24	31.33	72.062		
6,400.00	6,373.25	6,284.92	6,275.15	23.30	22.04	112.57	-647.07	-2,028.89	2,267.32	2,235.46	31.86	71.170		
6,500.00	6,472.51	6,384.36	6,374.21	23.70	22.41	112.67	-654.68	-2,033.04	2,277.09	2,244.70	32.39	70.305		
6,600.00	6,571.76	6,483.79	6,473.27	24.10	22.77	112.78	-662.30	-2,037.19	2,286.86	2,253.94	32.92	69.467		
6,700.00	6,671.02	6,591.40	6,580.47	24.50	23.17	112.89	-670.48	-2,041.64	2,296.61	2,263.13	33.48	68.602		
6,800.00	6,770.27	6,743.07	6,731.84	24.90	23.71	113.12	-678.63	-2,046.08	2,304.91	2,270.75	34.16	67.475		
6,900.00	6,869.53	6,894.46	6,883.19	25.29	24.24	113.48	-681.50	-2,047.65	2,311.00	2,276.18	34.82	66.371		
7,000.00	6,968.78	6,996.05	6,984.78	25.69	24.59	113.76	-681.51	-2,047.65	2,315.91	2,280.57	35.34	65.523		
7,100.00	7,068.04	7,095.30	7,084.04	26.09	24.94	114.03	-681.51	-2,047.65	2,320.88	2,285.02	35.86	64.713		
7,200.00	7,167.29	7,194.56	7,183.29	26.49	25.28	114.31	-681.51	-2,047.65	2,325.90	2,289.52	36.38	63.926		
7,300.00	7,266.54	7,293.81	7,282.54	26.89	25.62	114.58	-681.51	-2,047.65	2,330.98	2,294.07	36.90	63.163		
7,400.00	7,365.80	7,393.07	7,381.80	27.29	25.96	114.85	-681.51	-2,047.65	2,336.10	2,298.68	37.42	62.421		
7,500.00	7,465.05	7,492.32	7,481.05	27.70	26.31	115.12	-681.51	-2,047.65	2,341.28	2,303.34	37.95	61.702		
7,600.00	7,564.31	7,591.58	7,580.31	28.10	26.65	115.39	-681.51	-2,047.65	2,346.51	2,308.05	38.47	61.003		
7,700.00	7,663.56	7,690.83	7,679.56	28.50	26.99	115.65	-681.51	-2,047.65	2,351.79	2,312.81	38.99	60.323		
7,800.00	7,762.82	7,790.09	7,778.82	28.90	27.34	115.92	-681.51	-2,047.65	2,357.13	2,317.62	39.51	59.663		
7,900.00	7,862.07	7,889.34	7,878.07	29.30	27.68	116.18	-681.51	-2,047.65	2,362.51	2,322.48	40.03	59.021		
8,000.00	7,961.33	7,988.60	7,977.33	29.70	28.03	116.44	-681.51	-2,047.65	2,367.94	2,327.39	40.55	58.396		
8,100.00	8,060.58	8,087.85	8,076.58	30.11	28.37	116.71	-681.51	-2,047.65	2,373.43	2,332.36	41.07	57.789		
8,200.00	8,159.84	8,187.11	8,175.84	30.51	28.72	116.97	-681.51	-2,047.65	2,378.96	2,337.37	41.59	57.197		
8,300.00	8,259.09	8,286.36	8,275.09	30.91	29.06	117.23	-681.51	-2,047.65	2,384.55	2,342.43	42.11	56.622		
8,400.00	8,358.35	8,385.62	8,374.35	31.32	29.41	117.48	-681.51	-2,047.65	2,390.18	2,347.54	42.64	56.061		
8,500.00	8,457.60	8,484.87	8,473.60	31.72	29.76	117.74	-681.51	-2,047.65	2,395.86	2,352.70	43.16	55.515		
8,600.00	8,556.86	8,584.12	8,572.86	32.12	30.10	118.00	-681.51	-2,047.65	2,401.59	2,357.91	43.68	54.984		
8,700.00	8,656.11	8,683.38	8,672.11	32.53	30.45	118.25	-681.51	-2,047.65	2,407.37	2,363.17	44.20	54.466		
8,728.63	8,684.53	8,711.80	8,700.53	32.64	30.55	118.32	-681.51	-2,047.65	2,409.03	2,364.68	44.35	54.320		
8,800.00	8,755.44	8,782.71	8,771.44	32.93	30.79	118.54	-681.51	-2,047.65	2,412.88	2,368.16	44.72	53.956		
8,900.00	8,855.03	8,882.30	8,871.03	33.31	31.14	118.79	-681.51	-2,047.65	2,417.22	2,371.99	45.23	53.440		
9,000.00	8,954.82	8,982.09	8,970.82	33.68	31.49	118.96	-681.51	-2,047.65	2,420.32	2,374.59	45.74	52.918		
9,100.00	9,054.75	9,082.02	9,070.75	34.04	31.84	119.06	-681.51	-2,047.65	2,422.17	2,375.93	46.23	52.389		
9,195.26	9,150.00	9,177.27	9,166.00	34.35	32.17	-90.51	-681.51	-2,047.65	2,422.75	2,376.05	46.69	51.885		
9,200.00	9,154.74	9,182.01	9,170.74	34.37	32.19	-90.51	-681.51	-2,047.65	2,422.75	2,376.03	46.72	51.861		
9,300.00	9,254.74	9,282.01	9,270.74	34.68	32.54	-90.51	-681.51	-2,047.65	2,422.75	2,375.56	47.19	51.341		
9,400.00	9,354.74	9,382.01	9,370.74	35.00	32.89	-90.51	-681.51	-2,047.65	2,422.75	2,375.08	47.66	50.832		
9,500.00	9,454.74	9,482.01	9,470.74	35.32	33.24	-90.51	-681.51	-2,047.65	2,422.75	2,374.61	48.14	50.331		
9,600.00	9,554.74	9,582.01	9,570.74	35.63	33.59	-90.51	-681.51	-2,047.65	2,422.75	2,374.14	48.61	49.840		
9,700.00	9,654.74	9,682.01	9,670.74	35.95	33.94	-90.51	-681.51	-2,047.65	2,422.75	2,373.66	49.09	49.358		
9,800.00	9,754.74	9,782.01	9,770.74	36.27	34.30	-90.51	-681.51	-2,047.65	2,422.75	2,373.18	49.56	48.884		
9,900.00	9,854.74	9,882.01	9,870.74	36.59	34.65	-90.51	-681.51	-2,047.65	2,422.75	2,372.71	50.04	48.418		
10,000.00	9,954.74	9,982.01	9,970.74	36.91	35.00	-90.51	-681.51	-2,047.65	2,422.75	2,372.23	50.51	47.961		
10,100.00	10,054.74	10,082.01	10,070.74	37.23	35.35	-90.51	-681.51	-2,047.65	2,422.75	2,371.75	50.99	47.512		
10,200.00	10,154.74	10,182.01	10,170.74	37.56	35.70	-90.51	-681.51	-2,047.65	2,422.75	2,371.28	51.47	47.071		
10,300.00	10,254.74	10,282.01	10,270.74	37.88	36.05	-90.51	-681.51	-2,047.65	2,422.75	2,370.80	51.95	46.637		
10,400.00	10,354.74	10,382.01	10,370.74	38.20	36.40	-90.51	-681.51	-2,047.65	2,422.75	2,370.32	52.43	46.211		
10,500.00	10,454.74	10,482.01	10,470.74	38.53	36.76	-90.51	-681.51	-2,047.65	2,422.75	2,369.84	52.91	45.792		
10,600.00	10,554.74	10,582.01	10,570.74	38.85	37.11	-90.51	-681.51	-2,047.65	2,422.75	2,369.36	53.39	45.380		

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 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design 1912 Fed Com - 1912 Fed Com 601H - OH - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
10,700.00	10,654.74	10,682.01	10,670.74	39.18	37.46	-90.51	-681.51	-2,047.65	2,422.75	2,368.88	53.87	44.975		
10,800.00	10,754.74	10,782.01	10,770.74	39.50	37.81	-90.51	-681.51	-2,047.65	2,422.75	2,368.40	54.35	44.577		
10,900.00	10,854.74	10,882.01	10,870.74	39.83	38.17	-90.51	-681.51	-2,047.65	2,422.75	2,367.91	54.83	44.185		
11,000.00	10,954.74	10,982.01	10,970.74	40.16	38.52	-90.51	-681.51	-2,047.65	2,422.75	2,367.43	55.31	43.800		
11,100.00	11,054.74	11,082.01	11,070.74	40.48	38.87	-90.51	-681.51	-2,047.65	2,422.75	2,366.95	55.80	43.421		
11,200.00	11,154.74	11,182.01	11,170.74	40.81	39.22	-90.51	-681.51	-2,047.65	2,422.75	2,366.47	56.28	43.049		
11,287.91	11,242.65	11,269.92	11,258.65	41.10	39.53	-90.49	-680.89	-2,047.66	2,422.75	2,366.04	56.70	42.727		
11,300.00	11,254.74	11,281.99	11,270.69	41.14	39.58	-90.48	-680.20	-2,047.66	2,422.75	2,365.99	56.76	42.684		
11,367.26	11,322.00	11,348.19	11,336.34	41.36	39.80	-90.28	-671.93	-2,047.73	2,422.76	2,365.69	57.07	42.451		
11,400.00	11,354.72	11,379.73	11,367.17	41.47	39.90	-89.65	-665.34	-2,047.79	2,422.79	2,365.58	57.21	42.346		
11,450.00	11,404.45	11,427.31	11,412.89	41.61	40.04	-89.44	-652.21	-2,047.90	2,422.86	2,365.44	57.42	42.195		
11,500.00	11,453.55	11,474.23	11,456.76	41.75	40.18	-89.24	-635.59	-2,048.05	2,422.96	2,365.36	57.61	42.058		
11,550.00	11,501.66	11,520.55	11,498.58	41.87	40.31	-89.04	-615.72	-2,048.22	2,423.09	2,365.31	57.78	41.935		
11,600.00	11,548.39	11,566.31	11,538.19	41.97	40.43	-88.86	-592.84	-2,048.41	2,423.24	2,365.30	57.94	41.823		
11,650.00	11,593.40	11,611.54	11,575.43	42.06	40.54	-88.68	-567.18	-2,048.64	2,423.41	2,365.32	58.08	41.722		
11,700.00	11,636.35	11,656.31	11,610.18	42.14	40.64	-88.50	-538.97	-2,048.88	2,423.59	2,365.37	58.21	41.632		
11,750.00	11,676.90	11,700.00	11,641.87	42.20	40.73	-88.35	-508.91	-2,049.14	2,423.78	2,365.44	58.33	41.551		
11,800.00	11,714.75	11,744.59	11,671.76	42.24	40.83	-88.20	-475.83	-2,049.42	2,423.96	2,365.52	58.44	41.475		
11,850.00	11,749.62	11,788.20	11,698.41	42.28	40.92	-88.06	-441.34	-2,049.72	2,424.15	2,365.61	58.55	41.406		
11,900.00	11,781.23	11,831.50	11,722.21	42.31	41.01	-87.94	-405.17	-2,050.03	2,424.33	2,365.69	58.64	41.341		
11,950.00	11,809.34	11,874.53	11,743.08	42.32	41.11	-87.83	-367.56	-2,050.36	2,424.50	2,365.77	58.74	41.278		
12,000.00	11,833.75	11,917.34	11,760.99	42.33	41.21	-87.73	-328.69	-2,050.69	2,424.65	2,365.83	58.83	41.217		
12,050.00	11,854.26	11,959.95	11,775.88	42.34	41.31	-87.65	-288.77	-2,051.04	2,424.79	2,365.87	58.92	41.157		
12,100.00	11,870.72	12,000.00	11,787.14	42.34	41.40	-87.59	-250.35	-2,051.37	2,424.90	2,365.89	59.00	41.098		
12,150.00	11,883.00	12,044.76	11,796.51	42.34	41.51	-87.54	-206.60	-2,051.75	2,424.98	2,365.88	59.10	41.032		
12,200.00	11,891.01	12,087.01	11,802.20	42.34	41.61	-87.51	-164.74	-2,052.11	2,425.04	2,365.84	59.19	40.967		
12,250.00	11,894.70	12,129.22	11,804.79	42.34	41.72	-87.50	-122.62	-2,052.47	2,425.06	2,365.77	59.29	40.900		
12,275.75	11,894.90	12,152.81	11,804.88	42.35	41.78	-87.49	-99.03	-2,052.67	2,425.07	2,365.72	59.35	40.861		
12,277.74	11,894.87	12,152.81	11,804.88	42.35	41.78	-87.49	-99.03	-2,052.67	2,425.07	2,365.71	59.35	40.860		
12,300.00	11,894.54	12,174.86	11,804.51	42.35	41.84	-87.49	-76.99	-2,052.86	2,425.07	2,365.66	59.41	40.822		
12,400.00	11,893.05	12,274.86	11,802.85	42.44	42.15	-87.49	23.00	-2,053.72	2,425.08	2,365.36	59.72	40.610		
12,500.00	11,891.57	12,374.86	11,801.18	42.60	42.53	-87.49	122.98	-2,054.59	2,425.08	2,364.97	60.11	40.342		
12,600.00	11,890.09	12,474.86	11,799.52	42.84	42.96	-87.48	222.96	-2,055.45	2,425.09	2,364.49	60.60	40.020		
12,700.00	11,888.61	12,574.86	11,797.85	43.16	43.45	-87.48	322.94	-2,056.31	2,425.10	2,363.93	61.17	39.648		
12,800.00	11,887.13	12,674.86	11,796.19	43.54	43.99	-87.47	422.93	-2,057.17	2,425.11	2,363.29	61.82	39.230		
12,900.00	11,885.65	12,774.86	11,794.52	43.98	44.59	-87.47	522.91	-2,058.04	2,425.12	2,362.57	62.55	38.770		
13,000.00	11,884.17	12,874.86	11,792.86	44.48	45.25	-87.46	622.89	-2,058.90	2,425.13	2,361.76	63.36	38.275		
13,100.00	11,882.69	12,974.86	11,791.19	45.04	45.95	-87.46	722.87	-2,059.76	2,425.13	2,360.89	64.25	37.748		
13,200.00	11,881.20	13,074.86	11,789.53	45.65	46.70	-87.45	822.85	-2,060.62	2,425.14	2,359.94	65.20	37.194		
13,300.00	11,879.72	13,174.86	11,787.86	46.31	47.50	-87.45	922.84	-2,061.48	2,425.15	2,358.92	66.23	36.619		
13,400.00	11,878.24	13,274.86	11,786.20	47.02	48.34	-87.45	1,022.82	-2,062.35	2,425.16	2,357.84	67.32	36.026		
13,500.00	11,876.76	13,374.86	11,784.53	47.78	49.22	-87.44	1,122.80	-2,063.21	2,425.17	2,356.70	68.47	35.420		
13,600.00	11,875.28	13,474.86	11,782.87	48.58	50.14	-87.44	1,222.78	-2,064.07	2,425.18	2,355.50	69.68	34.805		
13,700.00	11,873.80	13,574.86	11,781.20	49.42	51.09	-87.43	1,322.77	-2,064.93	2,425.19	2,354.24	70.95	34.183		
13,800.00	11,872.32	13,674.86	11,779.54	50.30	52.08	-87.43	1,422.75	-2,065.79	2,425.19	2,352.93	72.27	33.558		
13,900.00	11,870.83	13,774.86	11,777.87	51.22	53.11	-87.42	1,522.73	-2,066.66	2,425.20	2,351.56	73.64	32.934		
14,000.00	11,869.35	13,874.86	11,776.21	52.17	54.16	-87.42	1,622.71	-2,067.52	2,425.21	2,350.15	75.06	32.311		
14,100.00	11,867.87	13,974.86	11,774.54	53.16	55.25	-87.42	1,722.69	-2,068.38	2,425.22	2,348.70	76.52	31.694		
14,200.00	11,866.39	14,074.86	11,772.88	54.18	56.36	-87.41	1,822.68	-2,069.24	2,425.23	2,347.20	78.03	31.082		
14,300.00	11,864.91	14,174.86	11,771.21	55.23	57.49	-87.41	1,922.66	-2,070.11	2,425.24	2,345.66	79.57	30.478		
14,400.00	11,863.43	14,274.86	11,769.55	56.31	58.66	-87.40	2,022.64	-2,070.97	2,425.25	2,344.09	81.16	29.884		
14,500.00	11,861.95	14,374.86	11,767.88	57.42	59.84	-87.40	2,122.62	-2,071.83	2,425.25	2,342.48	82.77	29.300		

CC - Min centre to center distance or 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 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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		
14,600.00	11,860.47	14,474.86	11,766.22	58.55	61.05	-87.39	2,222.61	-2,072.69	2,425.26	2,340.84	84.43	28.726		
14,700.00	11,858.98	14,574.86	11,764.55	59.71	62.28	-87.39	2,322.59	-2,073.55	2,425.27	2,339.16	86.11	28.165		
14,800.00	11,857.50	14,674.86	11,762.89	60.88	63.52	-87.39	2,422.57	-2,074.42	2,425.28	2,337.46	87.82	27.615		
14,900.00	11,856.02	14,774.86	11,761.22	62.08	64.79	-87.38	2,522.55	-2,075.28	2,425.29	2,335.72	89.57	27.078		
15,000.00	11,854.54	14,874.86	11,759.56	63.30	66.07	-87.38	2,622.54	-2,076.14	2,425.30	2,333.96	91.33	26.554		
15,100.00	11,853.06	14,974.86	11,757.89	64.54	67.37	-87.37	2,722.52	-2,077.00	2,425.31	2,332.18	93.13	26.043		
15,200.00	11,851.58	15,074.86	11,756.23	65.80	68.68	-87.37	2,822.50	-2,077.86	2,425.31	2,330.37	94.94	25.545		
15,300.00	11,850.10	15,174.86	11,754.57	67.08	70.01	-87.36	2,922.48	-2,078.73	2,425.32	2,328.54	96.78	25.060		
15,400.00	11,848.61	15,274.86	11,752.90	68.37	71.35	-87.36	3,022.46	-2,079.59	2,425.33	2,326.69	98.64	24.587		
15,500.00	11,847.13	15,374.86	11,751.24	69.67	72.70	-87.36	3,122.45	-2,080.45	2,425.34	2,324.82	100.52	24.128		
15,600.00	11,845.65	15,474.86	11,749.57	70.99	74.07	-87.35	3,222.43	-2,081.31	2,425.35	2,322.93	102.42	23.681		
15,700.00	11,844.17	15,574.86	11,747.91	72.33	75.44	-87.35	3,322.41	-2,082.18	2,425.36	2,321.02	104.33	23.246		
15,800.00	11,842.69	15,674.86	11,746.24	73.67	76.83	-87.34	3,422.39	-2,083.04	2,425.37	2,319.10	106.27	22.823		
15,900.00	11,841.21	15,774.86	11,744.58	75.03	78.23	-87.34	3,522.38	-2,083.90	2,425.38	2,317.16	108.21	22.413		
16,000.00	11,839.73	15,874.86	11,742.91	76.40	79.64	-87.33	3,622.36	-2,084.76	2,425.39	2,315.21	110.18	22.013		
16,100.00	11,838.25	15,974.85	11,741.25	77.78	81.06	-87.33	3,722.34	-2,085.62	2,425.39	2,313.24	112.16	21.625		
16,200.00	11,836.76	16,074.85	11,739.58	79.18	82.48	-87.32	3,822.32	-2,086.49	2,425.40	2,311.26	114.15	21.248		
16,300.00	11,835.28	16,174.85	11,737.92	80.58	83.92	-87.32	3,922.30	-2,087.35	2,425.41	2,309.26	116.15	20.882		
16,400.00	11,833.80	16,274.85	11,736.25	81.99	85.36	-87.32	4,022.29	-2,088.21	2,425.42	2,307.26	118.16	20.526		
16,500.00	11,832.32	16,374.85	11,734.59	83.41	86.81	-87.31	4,122.27	-2,089.07	2,425.43	2,305.24	120.19	20.180		
16,600.00	11,830.84	16,474.85	11,732.92	84.83	88.26	-87.31	4,222.25	-2,089.93	2,425.44	2,303.21	122.23	19.843		
16,700.00	11,829.36	16,574.85	11,731.26	86.27	89.73	-87.30	4,322.23	-2,090.80	2,425.45	2,301.17	124.28	19.516		
16,800.00	11,827.88	16,674.85	11,729.59	87.71	91.20	-87.30	4,422.22	-2,091.66	2,425.46	2,299.12	126.33	19.199		
16,900.00	11,826.39	16,774.85	11,727.93	89.16	92.67	-87.29	4,522.20	-2,092.52	2,425.47	2,297.06	128.40	18.890		
17,000.00	11,824.91	16,874.85	11,726.26	90.62	94.15	-87.29	4,622.18	-2,093.38	2,425.47	2,295.00	130.48	18.589		
17,100.00	11,823.43	16,974.85	11,724.60	92.09	95.64	-87.29	4,722.16	-2,094.25	2,425.48	2,292.92	132.56	18.297		
17,200.00	11,821.95	17,074.85	11,722.93	93.56	97.13	-87.28	4,822.14	-2,095.11	2,425.49	2,290.84	134.66	18.012		
17,300.00	11,820.47	17,174.85	11,721.27	95.03	98.63	-87.28	4,922.13	-2,095.97	2,425.50	2,288.74	136.76	17.736		
17,400.00	11,818.99	17,274.85	11,719.60	96.51	100.14	-87.27	5,022.11	-2,096.83	2,425.51	2,286.64	138.87	17.466		
17,500.00	11,817.51	17,374.85	11,717.94	98.00	101.64	-87.27	5,122.09	-2,097.69	2,425.52	2,284.54	140.98	17.204		
17,600.00	11,816.03	17,474.85	11,716.27	99.49	103.15	-87.26	5,222.07	-2,098.56	2,425.53	2,282.43	143.10	16.949		
17,700.00	11,814.54	17,574.85	11,714.61	100.99	104.67	-87.26	5,322.06	-2,099.42	2,425.54	2,280.31	145.23	16.701		
17,800.00	11,813.06	17,674.85	11,712.94	102.49	106.19	-87.26	5,422.04	-2,100.28	2,425.55	2,278.18	147.37	16.459		
17,900.00	11,811.58	17,774.85	11,711.28	104.00	107.71	-87.25	5,522.02	-2,101.14	2,425.56	2,276.05	149.51	16.224		
18,000.00	11,810.10	17,874.85	11,709.61	105.51	109.24	-87.25	5,622.00	-2,102.00	2,425.57	2,273.91	151.65	15.994		
18,100.00	11,808.62	17,974.85	11,707.95	107.03	110.77	-87.24	5,721.99	-2,102.87	2,425.57	2,271.77	153.80	15.770		
18,200.00	11,807.14	18,074.85	11,706.28	108.55	112.31	-87.24	5,821.97	-2,103.73	2,425.58	2,269.62	155.96	15.552		
18,300.00	11,805.66	18,174.85	11,704.62	110.07	113.84	-87.23	5,921.95	-2,104.59	2,425.59	2,267.47	158.12	15.340		
18,400.00	11,804.17	18,274.85	11,702.95	111.60	115.39	-87.23	6,021.93	-2,105.45	2,425.60	2,265.31	160.29	15.133		
18,500.00	11,802.69	18,374.85	11,701.29	113.13	116.93	-87.23	6,121.91	-2,106.32	2,425.61	2,263.15	162.46	14.930		
18,600.00	11,801.21	18,474.85	11,699.62	114.66	118.48	-87.22	6,221.90	-2,107.18	2,425.62	2,260.98	164.64	14.733		
18,700.00	11,799.73	18,574.85	11,697.96	116.20	120.03	-87.22	6,321.88	-2,108.04	2,425.63	2,258.81	166.82	14.541		
18,800.00	11,798.25	18,674.85	11,696.29	117.74	121.58	-87.21	6,421.86	-2,108.90	2,425.64	2,256.64	169.00	14.353		
18,900.00	11,796.77	18,774.85	11,694.63	119.28	123.13	-87.21	6,521.84	-2,109.76	2,425.65	2,254.46	171.19	14.170		
19,000.00	11,795.29	18,874.85	11,692.96	120.82	124.69	-87.20	6,621.83	-2,110.63	2,425.66	2,252.28	173.38	13.990		
19,100.00	11,793.81	18,974.85	11,691.30	122.37	126.25	-87.20	6,721.81	-2,111.49	2,425.67	2,250.09	175.57	13.816		
19,200.00	11,792.32	19,074.85	11,689.63	123.92	127.81	-87.19	6,821.79	-2,112.35	2,425.68	2,247.90	177.77	13.645		
19,300.00	11,790.84	19,174.85	11,687.97	125.48	129.38	-87.19	6,921.77	-2,113.21	2,425.69	2,245.71	179.97	13.478		
19,400.00	11,789.36	19,274.85	11,686.30	127.03	130.94	-87.19	7,021.75	-2,114.07	2,425.69	2,243.51	182.18	13.315		
19,500.00	11,787.88	19,374.85	11,684.64	128.59	132.51	-87.18	7,121.74	-2,114.94	2,425.70	2,241.32	184.39	13.155		
19,600.00	11,786.40	19,474.85	11,682.98	130.15	134.08	-87.18	7,221.72	-2,115.80	2,425.71	2,239.11	186.60	13.000		
19,700.00	11,784.92	19,574.85	11,681.31	131.72	135.65	-87.17	7,321.70	-2,116.66	2,425.72	2,236.91	188.81	12.847		

CC - Min centre to center distance or 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 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design 1912 Fed Com - 1912 Fed Com 601H - OH - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,800.00	11,783.44	19,674.85	11,679.65	133.28	137.23	-87.17	7,421.68	-2,117.52	2,425.73	2,234.70	191.03	12.698		
19,900.00	11,781.95	19,774.85	11,677.98	134.85	138.81	-87.16	7,521.67	-2,118.39	2,425.74	2,232.49	193.25	12.552		
20,000.00	11,780.47	19,874.85	11,676.32	136.42	140.38	-87.16	7,621.65	-2,119.25	2,425.75	2,230.28	195.47	12.410		
20,100.00	11,778.99	19,974.85	11,674.65	137.99	141.96	-87.16	7,721.63	-2,120.11	2,425.76	2,228.06	197.70	12.270		
20,200.00	11,777.51	20,074.85	11,672.99	139.56	143.54	-87.15	7,821.61	-2,120.97	2,425.77	2,225.84	199.93	12.133		
20,300.00	11,776.03	20,174.85	11,671.32	141.14	145.13	-87.15	7,921.59	-2,121.83	2,425.78	2,223.62	202.16	12.000		
20,400.00	11,774.55	20,274.85	11,669.66	142.71	146.71	-87.14	8,021.58	-2,122.70	2,425.79	2,221.40	204.39	11.869		
20,500.00	11,773.07	20,374.85	11,667.99	144.29	148.30	-87.14	8,121.56	-2,123.56	2,425.80	2,219.18	206.62	11.740		
20,600.00	11,771.59	20,474.85	11,666.33	145.87	149.88	-87.13	8,221.54	-2,124.42	2,425.81	2,216.95	208.86	11.615		
20,700.00	11,770.10	20,574.85	11,664.66	147.45	151.47	-87.13	8,321.52	-2,125.28	2,425.82	2,214.72	211.10	11.492		
20,800.00	11,768.62	20,674.85	11,663.00	149.04	153.06	-87.13	8,421.51	-2,126.14	2,425.83	2,212.49	213.34	11.371		
20,900.00	11,767.14	20,774.85	11,661.33	150.62	154.65	-87.12	8,521.49	-2,127.01	2,425.84	2,210.26	215.58	11.253		
21,000.00	11,765.66	20,874.85	11,659.67	152.21	156.25	-87.12	8,621.47	-2,127.87	2,425.85	2,208.02	217.82	11.137		
21,100.00	11,764.18	20,974.85	11,658.00	153.79	157.84	-87.11	8,721.45	-2,128.73	2,425.86	2,205.79	220.07	11.023		
21,200.00	11,762.70	21,074.85	11,656.34	155.38	159.43	-87.11	8,821.43	-2,129.59	2,425.86	2,203.55	222.32	10.912		
21,300.00	11,761.22	21,174.85	11,654.67	156.97	161.03	-87.10	8,921.42	-2,130.46	2,425.87	2,201.31	224.57	10.802		
21,400.00	11,759.74	21,274.85	11,653.01	158.56	162.63	-87.10	9,021.40	-2,131.32	2,425.88	2,199.07	226.82	10.695		
21,500.00	11,758.25	21,374.85	11,651.34	160.16	164.23	-87.10	9,121.38	-2,132.18	2,425.89	2,196.82	229.07	10.590		
21,600.00	11,756.77	21,474.85	11,649.68	161.75	165.82	-87.09	9,221.36	-2,133.04	2,425.90	2,194.58	231.32	10.487		
21,700.00	11,755.29	21,574.85	11,648.01	163.34	167.43	-87.09	9,321.35	-2,133.90	2,425.91	2,192.33	233.58	10.386		
21,800.00	11,753.81	21,674.85	11,646.35	164.94	169.03	-87.08	9,421.33	-2,134.77	2,425.92	2,190.09	235.84	10.286		
21,900.00	11,752.33	21,774.85	11,644.68	166.54	170.63	-87.08	9,521.31	-2,135.63	2,425.93	2,187.84	238.10	10.189		
22,000.00	11,750.85	21,874.85	11,643.02	168.13	172.23	-87.07	9,621.29	-2,136.49	2,425.94	2,185.59	240.36	10.093		
22,002.41	11,750.81	21,877.26	11,642.98	168.17	172.27	-87.07	9,623.71	-2,136.51	2,425.94	2,185.53	240.41	10.091		
22,063.91	11,749.90	21,929.37	11,642.11	169.16	173.11	-87.07	9,675.81	-2,136.96	2,425.97	2,184.28	241.69	10.038		
22,064.91	11,749.89	21,929.37	11,642.11	169.17	173.11	-87.07	9,675.81	-2,136.96	2,425.97	2,184.28	241.70	10.037 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 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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	18.80	18.80	0.00	0.02	-102.88	-446.88	-1,954.64	2,005.07					
100.00	100.00	118.80	118.80	0.13	0.19	-102.88	-446.88	-1,954.64	2,005.07	2,004.84	0.23	8,714.771		
200.00	200.00	218.80	218.80	0.48	0.55	-102.88	-446.88	-1,954.64	2,005.07	2,004.34	0.73	2,733.223		
300.00	300.00	318.80	318.80	0.84	0.91	-102.88	-446.88	-1,954.64	2,005.07	2,003.83	1.24	1,617.105		
400.00	400.00	418.80	418.80	1.20	1.27	-102.88	-446.88	-1,954.64	2,005.07	2,003.33	1.75	1,147.984		
500.00	500.00	518.80	518.80	1.56	1.63	-102.88	-446.88	-1,954.64	2,005.07	2,002.82	2.25	889.794		
600.00	600.00	618.80	618.80	1.92	1.99	-102.88	-446.88	-1,954.64	2,005.07	2,002.31	2.76	726.403		
700.00	700.00	718.80	718.80	2.28	2.34	-102.88	-446.88	-1,954.64	2,005.07	2,001.81	3.27	613.704		
800.00	800.00	818.80	818.80	2.63	2.70	-102.88	-446.88	-1,954.64	2,005.07	2,001.30	3.77	531.275		
900.00	900.00	918.80	918.80	2.99	3.06	-102.88	-446.88	-1,954.64	2,005.07	2,000.79	4.28	468.366		
1,000.00	1,000.00	1,018.80	1,018.80	3.35	3.42	-102.88	-446.88	-1,954.64	2,005.07	2,000.29	4.79	418.777		
1,100.00	1,100.00	1,118.80	1,118.80	3.71	3.78	-102.88	-446.88	-1,954.64	2,005.07	1,999.78	5.29	378.683		
1,200.00	1,200.00	1,218.80	1,218.80	4.07	4.14	-102.88	-446.88	-1,954.64	2,005.07	1,999.27	5.80	345.596		
1,300.00	1,300.00	1,318.80	1,318.80	4.43	4.49	-102.88	-446.88	-1,954.64	2,005.07	1,998.76	6.31	317.825		
1,400.00	1,400.00	1,418.80	1,418.80	4.79	4.85	-102.88	-446.88	-1,954.64	2,005.07	1,998.26	6.82	294.186		
1,500.00	1,500.00	1,518.80	1,518.80	5.14	5.21	-102.88	-446.88	-1,954.64	2,005.07	1,997.75	7.32	273.819		
1,600.00	1,600.00	1,618.80	1,618.80	5.50	5.57	-102.88	-446.88	-1,954.64	2,005.07	1,997.24	7.83	256.090		
1,700.00	1,700.00	1,718.80	1,718.80	5.86	5.93	-102.88	-446.88	-1,954.64	2,005.07	1,996.74	8.34	240.517		
1,800.00	1,800.00	1,818.80	1,818.80	6.22	6.29	-102.88	-446.88	-1,954.64	2,005.07	1,996.23	8.84	226.730		
1,900.00	1,900.00	1,918.80	1,918.80	6.58	6.65	-102.88	-446.88	-1,954.64	2,005.07	1,995.72	9.35	214.437		
2,000.00	2,000.00	2,018.80	2,018.80	6.94	7.00	-102.88	-446.88	-1,954.64	2,005.07	1,995.22	9.86	203.409		
2,100.00	2,100.00	2,118.80	2,118.80	7.29	7.36	-102.88	-446.88	-1,954.64	2,005.07	1,994.71	10.36	193.460		
2,200.00	2,200.00	2,218.80	2,218.80	7.65	7.72	-102.88	-446.88	-1,954.64	2,005.07	1,994.20	10.87	184.438		
2,300.00	2,300.00	2,318.80	2,318.80	8.01	8.08	-102.88	-446.88	-1,954.64	2,005.07	1,993.70	11.38	176.221		
2,400.00	2,400.00	2,418.80	2,418.80	8.37	8.44	-102.88	-446.88	-1,954.64	2,005.07	1,993.19	11.89	168.704		
2,500.00	2,500.00	2,518.80	2,518.80	8.73	8.80	-102.88	-446.88	-1,954.64	2,005.07	1,992.68	12.39	161.802 CC		
2,600.00	2,599.99	2,618.79	2,618.79	9.07	9.15	106.76	-446.88	-1,954.64	2,005.45	1,992.56	12.89	155.620 ES		
2,700.00	2,699.91	2,718.71	2,718.71	9.40	9.51	106.85	-446.88	-1,954.64	2,006.59	1,993.22	13.37	150.075		
2,800.00	2,799.69	2,818.49	2,818.49	9.73	9.87	107.00	-446.88	-1,954.64	2,008.49	1,994.64	13.86	144.957		
2,900.00	2,899.27	2,918.07	2,918.07	10.06	10.23	107.21	-446.88	-1,954.64	2,011.20	1,996.85	14.34	140.223		
2,966.63	2,965.47	2,984.27	2,984.27	10.28	10.46	107.38	-446.88	-1,954.64	2,013.45	1,998.78	14.67	137.262		
3,000.00	2,998.59	3,017.39	3,017.39	10.40	10.58	107.49	-446.88	-1,954.64	2,014.68	1,999.85	14.83	135.830		
3,100.00	3,097.85	3,116.65	3,116.65	10.74	10.94	107.82	-446.88	-1,954.64	2,018.40	2,003.07	15.33	131.706		
3,200.00	3,197.10	3,200.00	3,200.00	11.09	11.24	108.09	-446.88	-1,954.64	2,022.25	2,006.47	15.78	128.156		
3,300.00	3,296.36	3,277.44	3,277.44	11.44	11.50	108.34	-447.32	-1,955.29	2,027.11	2,010.90	16.21	125.037		
3,400.00	3,395.61	3,344.17	3,344.14	11.79	11.73	108.53	-448.42	-1,956.88	2,033.66	2,017.05	16.61	122.416		
3,500.00	3,494.87	3,400.00	3,399.91	12.15	11.91	108.69	-449.84	-1,958.96	2,041.90	2,024.92	16.98	120.251		
3,600.00	3,594.12	3,477.39	3,477.15	12.51	12.17	108.88	-452.57	-1,962.95	2,051.66	2,034.26	17.41	117.875		
3,700.00	3,693.37	3,543.81	3,543.34	12.88	12.40	109.04	-455.62	-1,967.40	2,063.08	2,045.29	17.80	115.909		
3,800.00	3,792.63	3,614.93	3,614.12	13.24	12.64	109.18	-459.59	-1,973.19	2,076.08	2,057.88	18.21	114.036		
3,900.00	3,891.88	3,713.75	3,712.39	13.61	12.97	109.38	-465.43	-1,981.71	2,089.67	2,070.97	18.70	111.762		
4,000.00	3,991.14	3,812.56	3,810.67	13.99	13.31	109.58	-471.27	-1,990.24	2,103.27	2,084.08	19.19	109.590		
4,100.00	4,090.39	3,911.38	3,908.94	14.36	13.65	109.77	-477.11	-1,998.76	2,116.91	2,097.22	19.69	107.514		
4,200.00	4,189.65	4,010.20	4,007.22	14.74	14.00	109.96	-482.95	-2,007.29	2,130.56	2,110.37	20.19	105.529		
4,300.00	4,288.90	4,109.02	4,105.50	15.11	14.35	110.14	-488.79	-2,015.81	2,144.24	2,123.55	20.69	103.629		
4,400.00	4,388.16	4,207.83	4,203.77	15.49	14.70	110.33	-494.63	-2,024.33	2,157.94	2,136.75	21.20	101.810		
4,500.00	4,487.41	4,306.65	4,302.05	15.87	15.05	110.51	-500.47	-2,032.86	2,171.66	2,149.96	21.70	100.067		
4,600.00	4,586.67	4,405.47	4,400.32	16.26	15.40	110.69	-506.31	-2,041.38	2,185.41	2,163.20	22.21	98.397		
4,700.00	4,685.92	4,504.29	4,498.60	16.64	15.76	110.87	-512.15	-2,049.91	2,199.17	2,176.45	22.72	96.795		
4,800.00	4,785.18	4,603.10	4,596.87	17.03	16.12	111.04	-517.99	-2,058.43	2,212.96	2,189.73	23.23	95.257		
4,900.00	4,884.43	4,701.92	4,695.15	17.41	16.48	111.22	-523.83	-2,066.96	2,226.76	2,203.02	23.74	93.781		
5,000.00	4,983.69	4,800.74	4,793.43	17.80	16.84	111.39	-529.67	-2,075.48	2,240.59	2,216.33	24.26	92.363		

CC - Min centre to center distance or 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 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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		
5,100.00	5,082.94	4,899.56	4,891.70	18.19	17.20	111.56	-535.51	-2,084.00	2,254.43	2,229.66	24.77	90.999		
5,200.00	5,182.20	4,998.37	4,989.98	18.58	17.56	111.73	-541.35	-2,092.53	2,268.30	2,243.01	25.29	89.688		
5,300.00	5,281.45	5,097.19	5,088.25	18.97	17.93	111.89	-547.19	-2,101.05	2,282.18	2,256.37	25.81	88.426		
5,400.00	5,380.70	5,196.01	5,186.53	19.36	18.29	112.05	-553.03	-2,109.58	2,296.08	2,269.75	26.33	87.210		
5,500.00	5,479.96	5,294.83	5,284.80	19.75	18.66	112.22	-558.87	-2,118.10	2,310.00	2,283.15	26.85	86.039		
5,600.00	5,579.21	5,393.64	5,383.08	20.14	19.02	112.37	-564.71	-2,126.62	2,323.94	2,296.57	27.37	84.910		
5,700.00	5,678.47	5,492.46	5,481.36	20.53	19.39	112.53	-570.55	-2,135.15	2,337.89	2,310.00	27.89	83.821		
5,800.00	5,777.72	5,591.28	5,579.63	20.93	19.76	112.69	-576.39	-2,143.67	2,351.86	2,323.45	28.41	82.770		
5,900.00	5,876.98	5,690.10	5,677.91	21.32	20.13	112.84	-582.23	-2,152.20	2,365.85	2,336.92	28.94	81.755		
6,000.00	5,976.23	5,788.91	5,776.18	21.72	20.50	112.99	-588.07	-2,160.72	2,379.86	2,350.40	29.46	80.775		
6,100.00	6,075.49	5,887.73	5,874.46	22.11	20.88	113.14	-593.91	-2,169.24	2,393.88	2,363.89	29.99	79.828		
6,200.00	6,174.74	5,986.55	5,972.74	22.51	21.25	113.29	-599.75	-2,177.77	2,407.92	2,377.40	30.51	78.912		
6,300.00	6,274.00	6,085.37	6,071.01	22.91	21.62	113.44	-605.59	-2,186.29	2,421.97	2,390.93	31.04	78.026		
6,400.00	6,373.25	6,184.18	6,169.29	23.30	22.00	113.58	-611.43	-2,194.82	2,436.04	2,404.47	31.57	77.168		
6,500.00	6,472.51	6,283.00	6,267.56	23.70	22.37	113.73	-617.27	-2,203.34	2,450.12	2,418.03	32.10	76.338		
6,600.00	6,571.76	6,381.82	6,365.84	24.10	22.75	113.87	-623.11	-2,211.87	2,464.22	2,431.60	32.62	75.533		
6,700.00	6,671.02	6,480.64	6,464.11	24.50	23.12	114.01	-628.95	-2,220.39	2,478.34	2,445.18	33.15	74.754		
6,800.00	6,770.27	6,579.45	6,562.39	24.90	23.50	114.15	-634.79	-2,228.91	2,492.46	2,458.78	33.68	73.998		
6,900.00	6,869.53	6,678.27	6,660.67	25.29	23.88	114.28	-640.63	-2,237.44	2,506.61	2,472.39	34.21	73.265		
7,000.00	6,968.78	6,777.09	6,758.94	25.69	24.25	114.42	-646.47	-2,245.96	2,520.76	2,486.02	34.74	72.554		
7,100.00	7,068.04	6,875.91	6,857.22	26.09	24.63	114.55	-652.31	-2,254.49	2,534.93	2,499.66	35.27	71.863		
7,200.00	7,167.29	6,974.72	6,955.49	26.49	25.01	114.69	-658.15	-2,263.01	2,549.11	2,513.31	35.81	71.193		
7,300.00	7,266.54	7,073.54	7,053.77	26.89	25.39	114.82	-663.99	-2,271.53	2,563.31	2,526.97	36.34	70.542		
7,400.00	7,365.80	7,172.36	7,152.04	27.29	25.77	114.95	-669.83	-2,280.06	2,577.52	2,540.65	36.87	69.909		
7,500.00	7,465.05	7,271.18	7,250.76	27.70	26.14	115.08	-675.67	-2,288.59	2,589.28	2,551.46	37.40	69.277		
7,600.00	7,564.31	7,370.00	7,349.58	28.10	26.52	115.21	-681.51	-2,297.12	2,599.96	2,557.35	37.93	68.644		
7,700.00	7,663.56	7,468.82	7,448.40	28.50	26.90	115.34	-687.35	-2,305.65	2,610.64	2,563.24	38.46	68.011		
7,800.00	7,762.82	7,567.64	7,547.22	28.90	27.28	115.47	-693.19	-2,314.18	2,621.32	2,569.13	38.99	67.378		
7,900.00	7,862.07	7,666.46	7,646.04	29.30	27.66	115.60	-699.03	-2,322.71	2,632.00	2,575.02	39.52	66.745		
8,000.00	7,961.33	7,765.28	7,744.86	29.70	28.04	115.73	-704.87	-2,331.24	2,642.68	2,580.91	40.05	66.112		
8,100.00	8,060.58	7,864.10	7,843.68	30.11	28.42	115.86	-710.71	-2,339.77	2,653.36	2,586.80	40.58	65.479		
8,200.00	8,159.84	7,962.92	7,942.50	30.51	28.80	115.99	-716.55	-2,348.30	2,664.04	2,592.69	41.11	64.846		
8,300.00	8,259.09	8,061.74	8,041.32	30.91	29.18	116.12	-722.39	-2,356.83	2,674.72	2,598.58	41.64	64.213		
8,400.00	8,358.35	8,160.56	8,140.14	31.32	29.56	116.25	-728.23	-2,365.36	2,685.40	2,604.47	42.17	63.580		
8,500.00	8,457.60	8,259.38	8,238.96	31.72	29.94	116.38	-734.07	-2,373.89	2,696.08	2,610.36	42.70	62.947		
8,600.00	8,556.86	8,358.20	8,337.78	32.12	30.32	116.51	-739.91	-2,382.42	2,706.76	2,616.25	43.23	62.314		
8,700.00	8,656.11	8,457.02	8,436.60	32.53	30.70	116.64	-745.75	-2,390.95	2,717.44	2,622.14	43.76	61.681		
8,800.00	8,755.37	8,555.84	8,535.42	32.93	31.08	116.77	-751.59	-2,399.48	2,728.12	2,628.03	44.29	61.048		
8,900.00	8,854.62	8,654.66	8,634.24	33.34	31.46	116.90	-757.43	-2,408.01	2,738.80	2,633.92	44.82	60.415		
9,000.00	8,953.88	8,753.48	8,733.06	33.74	31.84	117.03	-763.27	-2,416.54	2,749.48	2,639.81	45.35	59.782		
9,100.00	9,053.13	8,852.30	8,831.88	34.15	32.22	117.16	-769.11	-2,425.07	2,760.16	2,645.70	45.88	59.149		
9,200.00	9,152.39	8,951.12	8,930.70	34.55	32.60	117.29	-774.95	-2,433.60	2,770.84	2,651.59	46.41	58.516		
9,300.00	9,251.64	9,049.94	9,029.52	34.96	32.98	117.42	-780.79	-2,442.13	2,781.52	2,657.48	46.94	57.883		
9,400.00	9,350.90	9,148.76	9,128.34	35.36	33.36	117.55	-786.63	-2,450.66	2,792.20	2,663.37	47.47	57.250		
9,500.00	9,450.15	9,247.58	9,227.16	35.77	33.74	117.68	-792.47	-2,459.19	2,802.88	2,669.26	48.00	56.617		
9,600.00	9,549.41	9,346.40	9,325.98	36.17	34.12	117.81	-798.31	-2,467.72	2,813.56	2,675.15	48.53	55.984		
9,700.00	9,648.66	9,445.22	9,424.80	36.58	34.50	117.94	-804.15	-2,476.25	2,824.24	2,681.04	49.06	55.351		
9,800.00	9,747.92	9,544.04	9,523.62	36.98	34.88	118.07	-810.00	-2,484.78	2,834.92	2,686.93	49.59	54.718		
9,900.00	9,847.17	9,642.86	9,622.44	37.39	35.26	118.20	-815.84	-2,493.31	2,845.60	2,692.82	50.12	54.085		
10,000.00	9,946.43	9,741.68	9,721.26	37.79	35.64	118.33	-821.68	-2,501.84	2,856.28	2,698.71	50.65	53.452		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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		
10,100.00	10,054.74	10,094.60	10,073.54	37.23	35.86	-90.47	-681.88	-2,297.64	2,672.73	2,621.64	51.09	52.310		
10,200.00	10,154.74	10,194.60	10,173.54	37.56	36.21	-90.47	-681.88	-2,297.64	2,672.73	2,621.16	51.57	51.826		
10,300.00	10,254.74	10,294.60	10,273.54	37.88	36.56	-90.47	-681.88	-2,297.64	2,672.73	2,620.68	52.05	51.351		
10,400.00	10,354.74	10,394.60	10,373.54	38.20	36.91	-90.47	-681.88	-2,297.64	2,672.73	2,620.20	52.53	50.884		
10,500.00	10,454.74	10,494.60	10,473.54	38.53	37.25	-90.47	-681.88	-2,297.64	2,672.73	2,619.73	53.00	50.425		
10,600.00	10,554.74	10,594.60	10,573.54	38.85	37.60	-90.47	-681.88	-2,297.64	2,672.73	2,619.25	53.48	49.974		
10,700.00	10,654.74	10,694.60	10,673.54	39.18	37.95	-90.47	-681.88	-2,297.64	2,672.73	2,618.77	53.96	49.530		
10,800.00	10,754.74	10,794.60	10,773.54	39.50	38.30	-90.47	-681.88	-2,297.64	2,672.73	2,618.29	54.44	49.094		
10,900.00	10,854.74	10,894.60	10,873.54	39.83	38.64	-90.47	-681.88	-2,297.64	2,672.73	2,617.81	54.92	48.665		
11,000.00	10,954.74	10,994.60	10,973.54	40.16	38.99	-90.47	-681.88	-2,297.64	2,672.73	2,617.33	55.40	48.242		
11,100.00	11,054.74	11,094.60	11,073.54	40.48	39.34	-90.47	-681.88	-2,297.64	2,672.73	2,616.85	55.88	47.827		
11,200.00	11,154.74	11,194.60	11,173.54	40.81	39.69	-90.47	-681.88	-2,297.64	2,672.73	2,616.36	56.36	47.418		
11,300.00	11,254.74	11,294.60	11,273.54	41.14	40.04	-90.47	-681.88	-2,297.64	2,672.73	2,615.88	56.85	47.016		
11,367.26	11,322.00	11,361.87	11,340.80	41.36	40.27	-90.47	-681.88	-2,297.64	2,672.73	2,615.56	57.17	46.750		
11,400.00	11,354.72	11,394.59	11,373.52	41.47	40.39	-90.00	-681.88	-2,297.64	2,672.73	2,615.40	57.33	46.622		
11,403.70	11,358.41	11,398.28	11,377.21	41.48	40.40	-90.00	-681.88	-2,297.64	2,672.73	2,615.39	57.34	46.609		
11,450.00	11,404.45	11,444.32	11,423.25	41.61	40.56	-90.10	-681.88	-2,297.64	2,672.73	2,615.18	57.56	46.436		
11,500.00	11,453.55	11,493.42	11,472.35	41.75	40.73	-90.30	-681.88	-2,297.64	2,672.77	2,614.99	57.78	46.260		
11,550.00	11,501.66	11,541.52	11,520.46	41.87	40.90	-90.56	-681.88	-2,297.64	2,672.87	2,614.89	57.98	46.097		
11,600.00	11,548.39	11,590.99	11,569.90	41.97	41.07	-90.90	-680.82	-2,297.65	2,673.10	2,614.92	58.18	45.942		
11,650.00	11,593.40	11,642.85	11,621.46	42.06	41.25	-91.24	-675.32	-2,297.70	2,673.43	2,615.06	58.37	45.798		
11,700.00	11,636.35	11,696.54	11,674.07	42.14	41.42	-91.58	-664.75	-2,297.79	2,673.87	2,615.31	58.55	45.664		
11,750.00	11,676.90	11,732.20	11,727.33	42.20	41.59	-91.91	-648.64	-2,297.93	2,674.39	2,615.67	58.72	45.542		
11,800.00	11,714.75	11,809.98	11,780.68	42.24	41.74	-92.24	-626.54	-2,298.12	2,674.99	2,616.11	58.88	45.432		
11,850.00	11,749.62	11,870.00	11,833.46	42.28	41.89	-92.56	-598.01	-2,298.36	2,675.64	2,616.62	59.02	45.331		
11,900.00	11,781.23	11,932.36	11,884.82	42.31	42.03	-92.86	-562.70	-2,298.67	2,676.34	2,617.18	59.16	45.239		
11,950.00	11,809.34	11,997.11	11,933.76	42.32	42.14	-93.15	-520.36	-2,299.03	2,677.03	2,617.75	59.29	45.154		
12,000.00	11,833.75	12,064.23	11,979.11	42.33	42.24	-93.41	-470.93	-2,299.46	2,677.71	2,618.31	59.41	45.075		
12,050.00	11,854.26	12,133.62	12,019.60	42.34	42.31	-93.65	-414.62	-2,299.94	2,678.34	2,618.82	59.52	44.997		
12,100.00	11,870.72	12,205.08	12,053.86	42.34	42.37	-93.84	-351.97	-2,300.48	2,678.88	2,619.24	59.64	44.917		
12,150.00	11,883.00	12,278.29	12,080.60	42.34	42.46	-94.00	-283.87	-2,301.07	2,679.32	2,619.55	59.76	44.833		
12,200.00	11,891.01	12,352.84	12,098.68	42.34	42.64	-94.10	-211.61	-2,301.69	2,679.62	2,619.72	59.89	44.741		
12,250.00	11,894.70	12,428.20	12,107.28	42.34	42.83	-94.15	-136.79	-2,302.34	2,679.76	2,619.73	60.03	44.640		
12,275.75	11,894.90	12,465.26	12,107.90	42.35	42.93	-94.16	-99.75	-2,302.66	2,679.78	2,619.67	60.10	44.587		
12,300.00	11,894.54	12,489.51	12,107.66	42.35	43.00	-94.16	-75.50	-2,302.87	2,679.79	2,619.62	60.16	44.543		
12,400.00	11,893.05	12,589.51	12,106.70	42.44	43.31	-94.17	24.49	-2,303.73	2,679.82	2,619.36	60.46	44.323		
12,500.00	11,891.57	12,689.51	12,105.74	42.60	43.67	-94.18	124.48	-2,304.59	2,679.86	2,619.01	60.85	44.043		
12,600.00	11,890.09	12,789.51	12,104.77	42.84	44.10	-94.19	224.47	-2,305.45	2,679.90	2,618.58	61.32	43.704		
12,700.00	11,888.61	12,889.51	12,103.81	43.16	44.57	-94.20	324.46	-2,306.32	2,679.94	2,618.06	61.88	43.312		
12,800.00	11,887.13	12,989.51	12,102.85	43.54	45.11	-94.21	424.45	-2,307.18	2,679.98	2,617.46	62.51	42.870		
12,900.00	11,885.65	13,089.51	12,101.88	43.98	45.69	-94.22	524.44	-2,308.04	2,680.01	2,616.78	63.23	42.384		
13,000.00	11,884.17	13,189.50	12,100.92	44.48	46.32	-94.24	624.43	-2,308.90	2,680.05	2,616.02	64.03	41.858		
13,100.00	11,882.69	13,289.50	12,099.96	45.04	47.01	-94.25	724.42	-2,309.76	2,680.09	2,615.19	64.90	41.298		
13,200.00	11,881.20	13,389.50	12,098.99	45.65	47.74	-94.26	824.41	-2,310.63	2,680.13	2,614.29	65.84	40.709		
13,300.00	11,879.72	13,489.50	12,098.03	46.31	48.51	-94.27	924.41	-2,311.49	2,680.17	2,613.32	66.84	40.096		
13,400.00	11,878.24	13,589.50	12,097.07	47.02	49.33	-94.28	1,024.40	-2,312.35	2,680.21	2,612.29	67.92	39.463		
13,500.00	11,876.76	13,689.50	12,096.11	47.78	50.19	-94.29	1,124.39	-2,313.21	2,680.24	2,611.19	69.05	38.815		
13,600.00	11,875.28	13,789.50	12,095.14	48.58	51.08	-94.30	1,224.38	-2,314.07	2,680.28	2,610.04	70.25	38.156		
13,700.00	11,873.80	13,889.49	12,094.18	49.42	52.02	-94.31	1,324.37	-2,314.93	2,680.32	2,608.83	71.50	37.489		
13,800.00	11,872.32	13,989.49	12,093.22	50.30	52.98	-94.32	1,424.36	-2,315.80	2,680.36	2,607.56	72.80	36.819		
13,900.00	11,870.83	14,089.49	12,092.25	51.22	53.99	-94.34	1,524.35	-2,316.66	2,680.40	2,606.25	74.15	36.147		
14,000.00	11,869.35	14,189.49	12,091.29	52.17	55.02	-94.35	1,624.34	-2,317.52	2,680.44	2,604.89	75.55	35.478		

CC - Min centre to center distance or 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 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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	11,867.87	14,289.49	12,090.33	53.16	56.08	-94.36	1,724.33	-2,318.38	2,680.48	2,603.48	77.00	34.812		
14,200.00	11,866.39	14,389.49	12,089.36	54.18	57.17	-94.37	1,824.32	-2,319.24	2,680.52	2,602.03	78.49	34.152		
14,300.00	11,864.91	14,489.49	12,088.40	55.23	58.29	-94.38	1,924.31	-2,320.11	2,680.56	2,600.54	80.02	33.500		
14,400.00	11,863.43	14,589.49	12,087.44	56.31	59.43	-94.39	2,024.30	-2,320.97	2,680.60	2,599.02	81.58	32.857		
14,500.00	11,861.95	14,689.48	12,086.47	57.42	60.59	-94.40	2,124.29	-2,321.83	2,680.64	2,597.45	83.18	32.225		
14,600.00	11,860.47	14,789.48	12,085.51	58.55	61.78	-94.41	2,224.28	-2,322.69	2,680.68	2,595.86	84.82	31.604		
14,700.00	11,858.98	14,889.48	12,084.55	59.71	62.99	-94.42	2,324.27	-2,323.55	2,680.72	2,594.23	86.49	30.995		
14,800.00	11,857.50	14,989.48	12,083.58	60.88	64.22	-94.43	2,424.26	-2,324.42	2,680.76	2,592.57	88.19	30.399		
14,900.00	11,856.02	15,089.48	12,082.62	62.08	65.46	-94.45	2,524.25	-2,325.28	2,680.80	2,590.89	89.91	29.816		
15,000.00	11,854.54	15,189.48	12,081.66	63.30	66.73	-94.46	2,624.24	-2,326.14	2,680.84	2,589.17	91.67	29.246		
15,100.00	11,853.06	15,289.48	12,080.70	64.54	68.01	-94.47	2,724.23	-2,327.00	2,680.88	2,587.44	93.44	28.690		
15,200.00	11,851.58	15,389.47	12,079.73	65.80	69.30	-94.48	2,824.22	-2,327.86	2,680.92	2,585.68	95.24	28.148		
15,300.00	11,850.10	15,489.47	12,078.77	67.08	70.61	-94.49	2,924.21	-2,328.73	2,680.96	2,583.89	97.07	27.619		
15,400.00	11,848.61	15,589.47	12,077.81	68.37	71.94	-94.50	3,024.20	-2,329.59	2,681.00	2,582.09	98.91	27.104		
15,500.00	11,847.13	15,689.47	12,076.84	69.67	73.28	-94.51	3,124.19	-2,330.45	2,681.04	2,580.26	100.78	26.603		
15,600.00	11,845.65	15,789.47	12,075.88	70.99	74.63	-94.52	3,224.18	-2,331.31	2,681.08	2,578.42	102.66	26.115		
15,700.00	11,844.17	15,889.47	12,074.92	72.33	75.99	-94.53	3,324.17	-2,332.17	2,681.12	2,576.56	104.57	25.641		
15,800.00	11,842.69	15,989.47	12,073.95	73.67	77.36	-94.55	3,424.16	-2,333.04	2,681.17	2,574.68	106.48	25.179		
15,900.00	11,841.21	16,089.47	12,072.99	75.03	78.75	-94.56	3,524.15	-2,333.90	2,681.21	2,572.79	108.42	24.730		
16,000.00	11,839.73	16,189.46	12,072.03	76.40	80.14	-94.57	3,624.14	-2,334.76	2,681.25	2,570.88	110.37	24.294		
16,100.00	11,838.25	16,289.46	12,071.06	77.78	81.55	-94.58	3,724.13	-2,335.62	2,681.29	2,568.96	112.33	23.869		
16,200.00	11,836.76	16,389.46	12,070.10	79.18	82.96	-94.59	3,824.12	-2,336.48	2,681.33	2,567.02	114.31	23.457		
16,300.00	11,835.28	16,489.46	12,069.14	80.58	84.38	-94.60	3,924.11	-2,337.35	2,681.37	2,565.07	116.30	23.056		
16,400.00	11,833.80	16,589.46	12,068.18	81.99	85.81	-94.61	4,024.10	-2,338.21	2,681.41	2,563.11	118.30	22.666		
16,500.00	11,832.32	16,689.46	12,067.21	83.41	87.25	-94.62	4,124.09	-2,339.07	2,681.46	2,561.14	120.32	22.287		
16,600.00	11,830.84	16,789.46	12,066.25	84.83	88.69	-94.63	4,224.09	-2,339.93	2,681.50	2,559.15	122.34	21.918		
16,700.00	11,829.36	16,889.45	12,065.29	86.27	90.15	-94.64	4,324.08	-2,340.79	2,681.54	2,557.16	124.38	21.559		
16,800.00	11,827.88	16,989.45	12,064.32	87.71	91.61	-94.66	4,424.07	-2,341.66	2,681.58	2,555.16	126.42	21.211		
16,900.00	11,826.39	17,089.45	12,063.36	89.16	93.07	-94.67	4,524.06	-2,342.52	2,681.62	2,553.14	128.48	20.872		
17,000.00	11,824.91	17,189.45	12,062.40	90.62	94.54	-94.68	4,624.05	-2,343.38	2,681.67	2,551.12	130.55	20.542		
17,100.00	11,823.43	17,289.45	12,061.43	92.09	96.02	-94.69	4,724.04	-2,344.24	2,681.71	2,549.09	132.62	20.221		
17,200.00	11,821.95	17,389.45	12,060.47	93.56	97.50	-94.70	4,824.03	-2,345.10	2,681.75	2,547.05	134.70	19.909		
17,300.00	11,820.47	17,489.45	12,059.51	95.03	98.99	-94.71	4,924.02	-2,345.97	2,681.79	2,545.00	136.79	19.605		
17,400.00	11,818.99	17,589.45	12,058.54	96.51	100.49	-94.72	5,024.01	-2,346.83	2,681.84	2,542.95	138.89	19.310		
17,500.00	11,817.51	17,689.44	12,057.58	98.00	101.98	-94.73	5,124.00	-2,347.69	2,681.88	2,540.89	140.99	19.022		
17,600.00	11,816.03	17,789.44	12,056.62	99.49	103.49	-94.74	5,223.99	-2,348.55	2,681.92	2,538.82	143.10	18.741		
17,700.00	11,814.54	17,889.44	12,055.65	100.99	104.99	-94.75	5,323.98	-2,349.41	2,681.97	2,536.75	145.22	18.468		
17,800.00	11,813.06	17,989.44	12,054.69	102.49	106.51	-94.77	5,423.97	-2,350.28	2,682.01	2,534.66	147.34	18.202		
17,900.00	11,811.58	18,089.44	12,053.73	104.00	108.02	-94.78	5,523.96	-2,351.14	2,682.05	2,532.58	149.47	17.943		
18,000.00	11,810.10	18,189.44	12,052.77	105.51	109.54	-94.79	5,623.95	-2,352.00	2,682.09	2,530.49	151.61	17.691		
18,100.00	11,808.62	18,289.44	12,051.80	107.03	111.07	-94.80	5,723.94	-2,352.86	2,682.14	2,528.39	153.75	17.445		
18,200.00	11,807.14	18,389.43	12,050.84	108.55	112.59	-94.81	5,823.93	-2,353.72	2,682.18	2,526.28	155.90	17.205		
18,300.00	11,805.66	18,489.43	12,049.88	110.07	114.12	-94.82	5,923.92	-2,354.59	2,682.23	2,524.18	158.05	16.971		
18,400.00	11,804.17	18,589.43	12,048.91	111.60	115.66	-94.83	6,023.91	-2,355.45	2,682.27	2,522.06	160.20	16.743		
18,500.00	11,802.69	18,689.43	12,047.95	113.13	117.19	-94.84	6,123.90	-2,356.31	2,682.31	2,519.95	162.37	16.520		
18,600.00	11,801.21	18,789.43	12,046.99	114.66	118.73	-94.85	6,223.89	-2,357.17	2,682.36	2,517.83	164.53	16.303		
18,700.00	11,799.73	18,889.43	12,046.02	116.20	120.28	-94.87	6,323.88	-2,358.03	2,682.40	2,515.70	166.70	16.091		
18,800.00	11,798.25	18,989.43	12,045.06	117.74	121.82	-94.88	6,423.87	-2,358.90	2,682.44	2,513.57	168.87	15.884		
18,900.00	11,796.77	19,089.43	12,044.10	119.28	123.37	-94.89	6,523.86	-2,359.76	2,682.49	2,511.44	171.05	15.682		
19,000.00	11,795.29	19,189.42	12,043.13	120.82	124.92	-94.90	6,623.85	-2,360.62	2,682.53	2,509.30	173.23	15.485		
19,100.00	11,793.81	19,289.42	12,042.17	122.37	126.48	-94.91	6,723.84	-2,361.48	2,682.58	2,507.16	175.42	15.292		
19,200.00	11,792.32	19,389.42	12,041.21	123.92	128.03	-94.92	6,823.83	-2,362.34	2,682.62	2,505.01	177.61	15.104		

CC - Min centre to center distance or 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 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design 1912 Fed Com - 1912 Fed Com 701H - OH - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,300.00	11,790.84	19,489.42	12,040.25	125.48	129.59	-94.93	6,923.82	-2,363.21	2,682.67	2,502.87	179.80	14.920		
19,400.00	11,789.36	19,589.42	12,039.28	127.03	131.15	-94.94	7,023.81	-2,364.07	2,682.71	2,500.72	182.00	14.741		
19,500.00	11,787.88	19,689.42	12,038.32	128.59	132.72	-94.95	7,123.80	-2,364.93	2,682.76	2,498.56	184.19	14.565		
19,600.00	11,786.40	19,789.42	12,037.36	130.15	134.28	-94.96	7,223.79	-2,365.79	2,682.80	2,496.40	186.40	14.393		
19,700.00	11,784.92	19,889.41	12,036.39	131.72	135.85	-94.98	7,323.78	-2,366.65	2,682.85	2,494.25	188.60	14.225		
19,800.00	11,783.44	19,989.41	12,035.43	133.28	137.42	-94.99	7,423.77	-2,367.52	2,682.89	2,492.08	190.81	14.061		
19,900.00	11,781.95	20,089.41	12,034.47	134.85	138.99	-95.00	7,523.77	-2,368.38	2,682.94	2,489.92	193.02	13.900		
20,000.00	11,780.47	20,189.41	12,033.50	136.42	140.56	-95.01	7,623.76	-2,369.24	2,682.98	2,487.75	195.23	13.743		
20,100.00	11,778.99	20,289.41	12,032.54	137.99	142.14	-95.02	7,723.75	-2,370.10	2,683.03	2,485.58	197.45	13.589		
20,200.00	11,777.51	20,389.41	12,031.58	139.56	143.72	-95.03	7,823.74	-2,370.96	2,683.07	2,483.41	199.66	13.438		
20,300.00	11,776.03	20,489.41	12,030.61	141.14	145.29	-95.04	7,923.73	-2,371.82	2,683.12	2,481.23	201.88	13.290		
20,400.00	11,774.55	20,589.40	12,029.65	142.71	146.87	-95.05	8,023.72	-2,372.69	2,683.16	2,479.06	204.11	13.146		
20,500.00	11,773.07	20,689.40	12,028.69	144.29	148.46	-95.06	8,123.71	-2,373.55	2,683.21	2,476.88	206.33	13.004		
20,600.00	11,771.59	20,789.40	12,027.72	145.87	150.04	-95.07	8,223.70	-2,374.41	2,683.26	2,474.70	208.56	12.866		
20,700.00	11,770.10	20,889.40	12,026.76	147.45	151.62	-95.09	8,323.69	-2,375.27	2,683.30	2,472.52	210.79	12.730		
20,800.00	11,768.62	20,989.40	12,025.80	149.04	153.21	-95.10	8,423.68	-2,376.13	2,683.35	2,470.33	213.02	12.597		
20,900.00	11,767.14	21,089.40	12,024.84	150.62	154.80	-95.11	8,523.67	-2,377.00	2,683.39	2,468.14	215.25	12.466		
21,000.00	11,765.66	21,189.40	12,023.87	152.21	156.38	-95.12	8,623.66	-2,377.86	2,683.44	2,465.96	217.48	12.339		
21,100.00	11,764.18	21,289.40	12,022.91	153.79	157.97	-95.13	8,723.65	-2,378.72	2,683.49	2,463.77	219.72	12.213		
21,200.00	11,762.70	21,389.39	12,021.95	155.38	159.56	-95.14	8,823.64	-2,379.58	2,683.53	2,461.57	221.96	12.090		
21,300.00	11,761.22	21,489.39	12,020.98	156.97	161.16	-95.15	8,923.63	-2,380.44	2,683.58	2,459.38	224.20	11.970		
21,400.00	11,759.74	21,589.39	12,020.02	158.56	162.75	-95.16	9,023.62	-2,381.31	2,683.63	2,457.19	226.44	11.851		
21,500.00	11,758.25	21,689.39	12,019.06	160.16	164.35	-95.17	9,123.61	-2,382.17	2,683.67	2,454.99	228.68	11.735		
21,600.00	11,756.77	21,789.39	12,018.09	161.75	165.94	-95.18	9,223.60	-2,383.03	2,683.72	2,452.79	230.93	11.621		
21,700.00	11,755.29	21,889.39	12,017.13	163.34	167.54	-95.20	9,323.59	-2,383.89	2,683.77	2,450.59	233.17	11.510		
21,800.00	11,753.81	21,989.39	12,016.17	164.94	169.14	-95.21	9,423.58	-2,384.75	2,683.81	2,448.39	235.42	11.400		
21,900.00	11,752.33	22,089.38	12,015.20	166.54	170.73	-95.22	9,523.57	-2,385.62	2,683.86	2,446.19	237.67	11.292		
22,000.00	11,750.85	22,189.38	12,014.24	168.13	172.33	-95.23	9,623.56	-2,386.48	2,683.91	2,443.99	239.92	11.187		
22,002.18	11,750.81	22,191.56	12,014.22	168.17	172.37	-95.23	9,625.74	-2,386.50	2,683.91	2,443.94	239.97	11.184		
22,063.91	11,749.90	22,238.31	12,013.77	169.16	173.12	-95.23	9,672.48	-2,386.90	2,683.98	2,442.80	241.18	11.129		
22,064.91	11,749.89	22,238.31	12,013.77	169.17	173.12	-95.23	9,672.48	-2,386.90	2,683.99	2,442.80	241.19	11.128 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 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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	13.70	13.70	0.00	0.02	-103.32	-446.15	-1,884.66	1,936.75					
100.00	100.00	113.70	113.70	0.13	0.17	-103.32	-446.15	-1,884.66	1,936.75	1,936.53	0.21	9,008.789		
200.00	200.00	213.70	213.70	0.48	0.53	-103.32	-446.15	-1,884.66	1,936.75	1,936.03	0.72	2,690.098		
300.00	300.00	313.70	313.70	0.84	0.89	-103.32	-446.15	-1,884.66	1,936.75	1,935.52	1.23	1,579.004		
400.00	400.00	413.70	413.70	1.20	1.25	-103.32	-446.15	-1,884.66	1,936.75	1,935.01	1.73	1,117.328		
500.00	500.00	513.70	513.70	1.56	1.61	-103.32	-446.15	-1,884.66	1,936.75	1,934.51	2.24	864.523		
600.00	600.00	613.70	613.70	1.92	1.97	-103.32	-446.15	-1,884.66	1,936.75	1,934.00	2.75	705.001		
700.00	700.00	713.70	713.70	2.28	2.33	-103.32	-446.15	-1,884.66	1,936.75	1,933.49	3.25	595.176		
800.00	800.00	813.70	813.70	2.63	2.68	-103.32	-446.15	-1,884.66	1,936.75	1,932.99	3.76	514.954		
900.00	900.00	913.70	913.70	2.99	3.04	-103.32	-446.15	-1,884.66	1,936.75	1,932.48	4.27	453.789		
1,000.00	1,000.00	1,013.70	1,013.70	3.35	3.40	-103.32	-446.15	-1,884.66	1,936.75	1,931.97	4.77	405.611		
1,100.00	1,100.00	1,113.70	1,113.70	3.71	3.76	-103.32	-446.15	-1,884.66	1,936.75	1,931.47	5.28	366.681		
1,200.00	1,200.00	1,213.70	1,213.70	4.07	4.12	-103.32	-446.15	-1,884.66	1,936.75	1,930.96	5.79	334.570		
1,300.00	1,300.00	1,313.70	1,313.70	4.43	4.48	-103.32	-446.15	-1,884.66	1,936.75	1,930.45	6.30	307.629		
1,400.00	1,400.00	1,413.70	1,413.70	4.79	4.83	-103.32	-446.15	-1,884.66	1,936.75	1,929.95	6.80	284.704		
1,500.00	1,500.00	1,513.70	1,513.70	5.14	5.19	-103.32	-446.15	-1,884.66	1,936.75	1,929.44	7.31	264.959		
1,600.00	1,600.00	1,613.70	1,613.70	5.50	5.55	-103.32	-446.15	-1,884.66	1,936.75	1,928.93	7.82	247.775		
1,700.00	1,700.00	1,713.70	1,713.70	5.86	5.91	-103.32	-446.15	-1,884.66	1,936.75	1,928.42	8.32	232.684		
1,800.00	1,800.00	1,813.70	1,813.70	6.22	6.27	-103.32	-446.15	-1,884.66	1,936.75	1,927.92	8.83	219.326		
1,900.00	1,900.00	1,913.70	1,913.70	6.58	6.63	-103.32	-446.15	-1,884.66	1,936.75	1,927.41	9.34	207.418		
2,000.00	2,000.00	2,013.70	2,013.70	6.94	6.99	-103.32	-446.15	-1,884.66	1,936.75	1,926.90	9.84	196.737		
2,100.00	2,100.00	2,113.70	2,113.70	7.29	7.34	-103.32	-446.15	-1,884.66	1,936.75	1,926.40	10.35	187.101		
2,200.00	2,200.00	2,213.70	2,213.70	7.65	7.70	-103.32	-446.15	-1,884.66	1,936.75	1,925.89	10.86	178.366		
2,300.00	2,300.00	2,313.70	2,313.70	8.01	8.06	-103.32	-446.15	-1,884.66	1,936.75	1,925.38	11.37	170.410		
2,400.00	2,400.00	2,413.70	2,413.70	8.37	8.42	-103.32	-446.15	-1,884.66	1,936.75	1,924.88	11.87	163.133		
2,500.00	2,500.00	2,513.70	2,513.70	8.73	8.78	-103.32	-446.15	-1,884.66	1,936.75	1,924.37	12.38	156.453		
2,600.00	2,599.99	2,613.69	2,613.69	9.07	9.14	106.32	-446.15	-1,884.66	1,937.12	1,924.24	12.87	150.469		
2,700.00	2,699.91	2,713.61	2,713.61	9.40	9.49	106.41	-446.15	-1,884.66	1,938.22	1,924.87	13.36	145.103		
2,800.00	2,799.69	2,813.39	2,813.39	9.73	9.85	106.57	-446.15	-1,884.66	1,940.08	1,926.24	13.84	140.152		
2,900.00	2,899.27	2,912.97	2,912.97	10.06	10.21	106.79	-446.15	-1,884.66	1,942.72	1,928.39	14.33	135.572		
2,966.63	2,965.47	2,979.17	2,979.17	10.28	10.45	106.97	-446.15	-1,884.66	1,944.92	1,930.27	14.66	132.707		
3,000.00	2,998.59	3,012.29	3,012.29	10.40	10.57	107.08	-446.15	-1,884.66	1,946.12	1,931.30	14.82	131.323		
3,100.00	3,097.85	3,111.55	3,111.55	10.74	10.92	107.42	-446.15	-1,884.66	1,949.76	1,934.45	15.31	127.334		
3,200.00	3,197.10	3,217.52	3,217.52	11.09	11.30	107.79	-446.17	-1,884.63	1,953.45	1,937.63	15.82	123.453		
3,300.00	3,296.36	3,379.19	3,379.13	11.44	11.85	108.26	-448.23	-1,881.01	1,955.30	1,938.85	16.45	118.850		
3,400.00	3,395.61	3,541.66	3,541.21	11.79	12.39	108.59	-453.72	-1,871.40	1,954.01	1,936.94	17.07	114.499		
3,500.00	3,494.87	3,689.80	3,688.47	12.15	12.90	108.79	-461.65	-1,857.48	1,949.60	1,931.96	17.65	110.487		
3,600.00	3,594.12	3,789.59	3,787.52	12.51	13.24	108.90	-467.68	-1,846.92	1,944.26	1,926.12	18.14	107.189		
3,700.00	3,693.37	3,889.38	3,886.56	12.88	13.59	109.00	-473.71	-1,836.35	1,938.92	1,920.28	18.64	104.044		
3,800.00	3,792.63	3,989.18	3,985.61	13.24	13.94	109.11	-479.73	-1,825.79	1,933.59	1,914.45	19.14	101.045		
3,900.00	3,891.88	4,088.97	4,084.66	13.61	14.30	109.22	-485.76	-1,815.22	1,928.26	1,908.63	19.64	98.183		
4,000.00	3,991.14	4,188.76	4,183.71	13.99	14.66	109.33	-491.78	-1,804.66	1,922.95	1,902.80	20.15	95.451		
4,100.00	4,090.39	4,288.55	4,282.76	14.36	15.02	109.44	-497.81	-1,794.09	1,917.64	1,896.98	20.66	92.841		
4,200.00	4,189.65	4,388.34	4,381.80	14.74	15.38	109.55	-503.83	-1,783.53	1,912.33	1,891.17	21.17	90.346		
4,300.00	4,288.90	4,488.14	4,480.85	15.11	15.75	109.66	-509.86	-1,772.96	1,907.04	1,885.36	21.68	87.960		
4,400.00	4,388.16	4,587.93	4,579.90	15.49	16.11	109.77	-515.89	-1,762.40	1,901.75	1,879.55	22.20	85.676		
4,500.00	4,487.41	4,687.72	4,678.95	15.87	16.48	109.88	-521.91	-1,751.83	1,896.47	1,873.75	22.72	83.489		
4,600.00	4,586.67	4,787.51	4,778.00	16.26	16.85	109.99	-527.94	-1,741.27	1,891.19	1,867.96	23.24	81.394		
4,700.00	4,685.92	4,887.30	4,877.04	16.64	17.23	110.10	-533.96	-1,730.71	1,885.92	1,862.17	23.76	79.385		
4,800.00	4,785.18	4,987.09	4,976.09	17.03	17.60	110.22	-539.99	-1,720.14	1,880.66	1,856.38	24.28	77.457		
4,900.00	4,884.43	5,086.89	5,075.14	17.41	17.98	110.33	-546.02	-1,709.58	1,875.41	1,850.60	24.80	75.607		
5,000.00	4,983.69	5,186.68	5,174.19	17.80	18.35	110.45	-552.04	-1,699.01	1,870.16	1,844.83	25.33	73.830		

CC - Min centre to center distance or 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 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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	5,082.94	5,286.47	5,273.24	18.19	18.73	110.56	-558.07	-1,688.45	1,864.93	1,839.07	25.86	72.121		
5,200.00	5,182.20	5,386.26	5,372.28	18.58	19.11	110.68	-564.09	-1,677.88	1,859.70	1,833.31	26.39	70.479		
5,300.00	5,281.45	5,486.05	5,471.33	18.97	19.49	110.79	-570.12	-1,667.32	1,854.47	1,827.56	26.92	68.898		
5,400.00	5,380.70	5,585.85	5,570.38	19.36	19.87	110.91	-576.14	-1,656.75	1,849.26	1,821.81	27.45	67.376		
5,500.00	5,479.96	5,685.64	5,669.43	19.75	20.26	111.03	-582.17	-1,646.19	1,844.05	1,816.07	27.98	65.910		
5,600.00	5,579.21	5,785.43	5,768.48	20.14	20.64	111.15	-588.20	-1,635.63	1,838.85	1,810.34	28.51	64.497		
5,700.00	5,678.47	5,885.22	5,867.52	20.53	21.03	111.27	-594.22	-1,625.06	1,833.66	1,804.62	29.04	63.134		
5,800.00	5,777.72	5,985.01	5,966.57	20.93	21.41	111.39	-600.25	-1,614.50	1,828.48	1,798.90	29.58	61.819		
5,900.00	5,876.98	6,084.81	6,065.62	21.32	21.80	111.51	-606.27	-1,603.93	1,823.30	1,793.19	30.11	60.549		
6,000.00	5,976.23	6,184.60	6,164.67	21.72	22.19	111.63	-612.30	-1,593.37	1,818.13	1,787.49	30.65	59.323		
6,100.00	6,075.49	6,284.39	6,263.72	22.11	22.57	111.75	-618.33	-1,582.80	1,812.98	1,781.79	31.18	58.138		
6,200.00	6,174.74	6,384.18	6,362.76	22.51	22.96	111.88	-624.35	-1,572.24	1,807.83	1,776.10	31.72	56.992		
6,300.00	6,274.00	6,483.97	6,461.81	22.91	23.35	112.00	-630.38	-1,561.67	1,802.68	1,770.43	32.26	55.884		
6,400.00	6,373.25	6,583.77	6,560.86	23.30	23.74	112.12	-636.40	-1,551.11	1,797.55	1,764.75	32.80	54.811		
6,500.00	6,472.51	6,683.56	6,659.91	23.70	24.13	112.25	-642.43	-1,540.54	1,792.42	1,759.09	33.33	53.773		
6,600.00	6,571.76	6,783.35	6,758.96	24.10	24.52	112.37	-648.46	-1,529.98	1,787.31	1,753.44	33.87	52.767		
6,700.00	6,671.02	6,883.14	6,858.00	24.50	24.92	112.50	-654.48	-1,519.42	1,782.20	1,747.79	34.41	51.793		
6,800.00	6,770.27	6,982.93	6,957.05	24.90	25.31	112.63	-660.51	-1,508.85	1,777.10	1,742.15	34.95	50.848		
6,900.00	6,869.53	7,082.72	7,056.10	25.29	25.70	112.76	-666.53	-1,498.29	1,772.01	1,736.52	35.49	49.931		
7,000.00	6,968.78	7,157.79	7,130.67	25.69	25.99	112.86	-670.78	-1,490.84	1,767.57	1,731.58	35.98	49.123		
7,100.00	7,068.04	7,230.58	7,203.13	26.09	26.27	113.00	-674.21	-1,484.83	1,764.66	1,728.19	36.46	48.395		
7,200.00	7,167.29	7,300.00	7,272.35	26.49	26.53	113.15	-676.84	-1,480.22	1,763.30	1,726.37	36.93	47.750		
7,237.18	7,204.19	7,330.32	7,302.61	26.64	26.64	113.22	-677.79	-1,478.54	1,763.19	1,726.08	37.11	47.515 CC		
7,300.00	7,266.54	7,375.93	7,348.15	26.89	26.81	113.34	-679.00	-1,476.42	1,763.50	1,726.10	37.40	47.156		
7,400.00	7,365.80	7,448.39	7,420.56	27.29	27.07	113.55	-680.37	-1,474.02	1,765.27	1,727.42	37.85	46.640		
7,500.00	7,465.05	7,520.64	7,492.79	27.70	27.32	113.79	-681.06	-1,472.82	1,768.62	1,730.33	38.29	46.190		
7,600.00	7,564.31	7,605.86	7,578.01	28.10	27.61	114.09	-681.15	-1,472.66	1,773.39	1,734.63	38.76	45.753		
7,700.00	7,663.56	7,705.11	7,677.26	28.50	27.94	114.45	-681.15	-1,472.66	1,778.43	1,739.16	39.27	45.286		
7,800.00	7,762.82	7,804.37	7,776.52	28.90	28.27	114.80	-681.15	-1,472.66	1,783.54	1,743.76	39.78	44.833		
7,900.00	7,862.07	7,903.62	7,875.77	29.30	28.61	115.15	-681.15	-1,472.66	1,788.72	1,748.42	40.29	44.392		
8,000.00	7,961.33	8,002.88	7,975.03	29.70	28.94	115.50	-681.15	-1,472.66	1,793.96	1,753.16	40.81	43.964		
8,100.00	8,060.58	8,102.13	8,074.28	30.11	29.28	115.85	-681.15	-1,472.66	1,799.27	1,757.96	41.32	43.547		
8,200.00	8,159.84	8,201.39	8,173.54	30.51	29.61	116.20	-681.15	-1,472.66	1,804.65	1,762.82	41.83	43.142		
8,300.00	8,259.09	8,300.64	8,272.79	30.91	29.95	116.54	-681.15	-1,472.66	1,810.10	1,767.76	42.34	42.749		
8,400.00	8,358.35	8,399.90	8,372.05	31.32	30.29	116.88	-681.15	-1,472.66	1,815.61	1,772.75	42.86	42.366		
8,500.00	8,457.60	8,499.15	8,471.30	31.72	30.62	117.22	-681.15	-1,472.66	1,821.18	1,777.82	43.37	41.993		
8,600.00	8,556.86	8,598.40	8,570.56	32.12	30.96	117.56	-681.15	-1,472.66	1,826.82	1,782.94	43.88	41.630		
8,700.00	8,656.11	8,697.66	8,669.81	32.53	31.30	117.90	-681.15	-1,472.66	1,832.53	1,788.13	44.40	41.277		
8,728.63	8,684.53	8,726.08	8,698.23	32.64	31.40	117.99	-681.15	-1,472.66	1,834.17	1,789.63	44.54	41.178		
8,800.00	8,755.44	8,796.99	8,769.14	32.93	31.64	118.26	-681.15	-1,472.66	1,837.98	1,793.07	44.91	40.928		
8,900.00	8,855.03	8,896.58	8,868.73	33.31	31.98	118.57	-681.15	-1,472.66	1,842.29	1,796.87	45.41	40.567		
9,000.00	8,954.82	8,996.37	8,968.52	33.68	32.32	118.78	-681.15	-1,472.66	1,845.37	1,799.46	45.91	40.193		
9,100.00	9,054.75	9,096.30	9,068.45	34.04	32.66	118.91	-681.15	-1,472.66	1,847.21	1,800.80	46.41	39.805		
9,195.26	9,150.00	9,191.55	9,163.70	34.35	32.99	-90.66	-681.15	-1,472.66	1,847.78	1,800.92	46.86	39.429		
9,200.00	9,154.74	9,196.29	9,168.44	34.37	33.00	-90.66	-681.15	-1,472.66	1,847.78	1,800.90	46.89	39.410		
9,300.00	9,254.74	9,296.29	9,268.44	34.68	33.35	-90.66	-681.15	-1,472.66	1,847.78	1,800.43	47.36	39.019		
9,400.00	9,354.74	9,396.29	9,368.44	35.00	33.69	-90.66	-681.15	-1,472.66	1,847.78	1,799.95	47.83	38.635		
9,500.00	9,454.74	9,496.29	9,468.44	35.32	34.03	-90.66	-681.15	-1,472.66	1,847.78	1,799.48	48.30	38.257		
9,600.00	9,554.74	9,596.29	9,568.44	35.63	34.38	-90.66	-681.15	-1,472.66	1,847.78	1,799.01	48.77	37.887		
9,700.00	9,654.74	9,696.29	9,668.44	35.95	34.72	-90.66	-681.15	-1,472.66	1,847.78	1,798.54	49.24	37.523		
9,800.00	9,754.74	9,796.29	9,768.44	36.27	35.06	-90.66	-681.15	-1,472.66	1,847.78	1,798.06	49.72	37.165		
9,900.00	9,854.74	9,896.29	9,868.44	36.59	35.41	-90.66	-681.15	-1,472.66	1,847.78	1,797.59	50.19	36.814		

CC - Min centre to center distance or 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 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design 1912 Fed Com - 1912 Fed Com 702H - OH - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,000.00	9,954.74	9,996.29	9,968.44	36.91	35.75	-90.66	-681.15	-1,472.66	1,847.78	1,797.11	50.67	36.469		
10,100.00	10,054.74	10,096.29	10,068.44	37.23	36.10	-90.66	-681.15	-1,472.66	1,847.78	1,796.64	51.14	36.129		
10,200.00	10,154.74	10,196.29	10,168.44	37.56	36.44	-90.66	-681.15	-1,472.66	1,847.78	1,796.16	51.62	35.796		
10,300.00	10,254.74	10,296.29	10,268.44	37.88	36.79	-90.66	-681.15	-1,472.66	1,847.78	1,795.68	52.10	35.468		
10,400.00	10,354.74	10,396.29	10,368.44	38.20	37.14	-90.66	-681.15	-1,472.66	1,847.78	1,795.21	52.57	35.146		
10,500.00	10,454.74	10,496.29	10,468.44	38.53	37.48	-90.66	-681.15	-1,472.66	1,847.78	1,794.73	53.05	34.830		
10,600.00	10,554.74	10,596.29	10,568.44	38.85	37.83	-90.66	-681.15	-1,472.66	1,847.78	1,794.25	53.53	34.518		
10,700.00	10,654.74	10,696.29	10,668.44	39.18	38.18	-90.66	-681.15	-1,472.66	1,847.78	1,793.77	54.01	34.212		
10,800.00	10,754.74	10,796.29	10,768.44	39.50	38.52	-90.66	-681.15	-1,472.66	1,847.78	1,793.29	54.49	33.911		
10,900.00	10,854.74	10,896.29	10,868.44	39.83	38.87	-90.66	-681.15	-1,472.66	1,847.78	1,792.81	54.97	33.615		
11,000.00	10,954.74	10,996.29	10,968.44	40.16	39.22	-90.66	-681.15	-1,472.66	1,847.78	1,792.33	55.45	33.324		
11,100.00	11,054.74	11,096.29	11,068.44	40.48	39.56	-90.66	-681.15	-1,472.66	1,847.78	1,791.85	55.93	33.037		
11,200.00	11,154.74	11,196.29	11,168.44	40.81	39.91	-90.66	-681.15	-1,472.66	1,847.78	1,791.37	56.41	32.755		
11,300.00	11,254.74	11,296.29	11,268.44	41.14	40.26	-90.66	-681.15	-1,472.66	1,847.78	1,790.89	56.89	32.478		
11,367.26	11,322.00	11,363.55	11,335.70	41.36	40.49	-90.66	-681.15	-1,472.66	1,847.78	1,790.56	57.22	32.294		
11,400.00	11,354.72	11,396.27	11,368.42	41.47	40.61	-90.19	-681.15	-1,472.66	1,847.78	1,790.41	57.37	32.206		
11,450.00	11,404.45	11,446.73	11,418.84	41.61	40.78	-90.30	-679.76	-1,472.67	1,847.80	1,790.19	57.61	32.076		
11,500.00	11,453.55	11,497.64	11,469.41	41.75	40.95	-90.42	-673.97	-1,472.72	1,847.82	1,790.00	57.83	31.955		
11,550.00	11,501.66	11,548.90	11,519.60	41.87	41.11	-90.53	-663.63	-1,472.81	1,847.85	1,789.82	58.03	31.843		
11,600.00	11,548.39	11,600.49	11,568.98	41.97	41.27	-90.64	-648.74	-1,472.94	1,847.89	1,789.67	58.22	31.740		
11,650.00	11,593.40	11,652.42	11,617.12	42.06	41.41	-90.74	-629.33	-1,473.10	1,847.92	1,789.53	58.39	31.647		
11,700.00	11,636.35	11,704.66	11,663.58	42.14	41.54	-90.84	-605.48	-1,473.31	1,847.97	1,789.41	58.55	31.561		
11,750.00	11,676.90	11,757.21	11,707.93	42.20	41.65	-90.93	-577.33	-1,473.55	1,848.01	1,789.31	58.70	31.484		
11,800.00	11,714.75	11,810.04	11,749.73	42.24	41.76	-91.01	-545.05	-1,473.82	1,848.05	1,789.22	58.83	31.413		
11,850.00	11,749.62	11,863.15	11,788.57	42.28	41.84	-91.09	-508.86	-1,474.13	1,848.09	1,789.14	58.96	31.347		
11,900.00	11,781.23	11,916.49	11,824.05	42.31	41.91	-91.16	-469.05	-1,474.47	1,848.13	1,789.06	59.07	31.286		
11,950.00	11,809.34	11,970.05	11,855.79	42.32	41.97	-91.22	-425.93	-1,474.84	1,848.17	1,788.98	59.18	31.227		
12,000.00	11,833.75	12,023.79	11,883.45	42.33	42.01	-91.27	-379.88	-1,475.23	1,848.20	1,788.91	59.29	31.171		
12,050.00	11,854.26	12,077.69	11,906.74	42.34	42.04	-91.30	-331.31	-1,475.64	1,848.22	1,788.82	59.40	31.116		
12,100.00	11,870.72	12,131.69	11,925.39	42.34	42.05	-91.33	-280.65	-1,476.08	1,848.24	1,788.73	59.50	31.060		
12,150.00	11,883.00	12,185.77	11,939.21	42.34	42.12	-91.35	-228.39	-1,476.52	1,848.24	1,788.63	59.61	31.004		
12,200.00	11,891.01	12,239.89	11,948.05	42.34	42.27	-91.35	-175.02	-1,476.98	1,848.24	1,788.52	59.72	30.947		
12,250.00	11,894.70	12,294.00	11,951.81	42.34	42.41	-91.35	-121.06	-1,477.44	1,848.23	1,788.40	59.84	30.889		
12,274.92	11,894.91	12,320.31	11,951.86	42.35	42.48	-91.34	-94.75	-1,477.66	1,848.23	1,788.33	59.89	30.858		
12,275.75	11,894.90	12,321.14	11,951.85	42.35	42.48	-91.34	-93.92	-1,477.67	1,848.23	1,788.33	59.90	30.857		
12,300.00	11,894.54	12,345.39	11,951.61	42.35	42.55	-91.34	-69.68	-1,477.88	1,848.23	1,788.27	59.96	30.826		
12,400.00	11,893.05	12,445.39	11,950.65	42.44	42.87	-91.36	30.31	-1,478.73	1,848.23	1,787.97	60.26	30.671		
12,500.00	11,891.57	12,545.39	11,949.69	42.60	43.25	-91.38	130.30	-1,479.58	1,848.24	1,787.59	60.65	30.474		
12,600.00	11,890.09	12,645.38	11,948.73	42.84	43.68	-91.39	230.29	-1,480.44	1,848.24	1,787.11	61.13	30.237		
12,700.00	11,888.61	12,745.38	11,947.76	43.16	44.16	-91.41	330.29	-1,481.29	1,848.24	1,786.56	61.69	29.962		
12,800.00	11,887.13	12,845.38	11,946.80	43.54	44.70	-91.43	430.28	-1,482.14	1,848.25	1,785.92	62.33	29.652		
12,900.00	11,885.65	12,945.38	11,945.84	43.98	45.29	-91.44	530.27	-1,483.00	1,848.25	1,785.20	63.05	29.312		
13,000.00	11,884.17	13,045.38	11,944.87	44.48	45.93	-91.46	630.26	-1,483.85	1,848.26	1,784.40	63.86	28.944		
13,100.00	11,882.69	13,145.38	11,943.91	45.04	46.62	-91.47	730.25	-1,484.70	1,848.26	1,783.53	64.73	28.553		
13,200.00	11,881.20	13,245.38	11,942.95	45.65	47.36	-91.49	830.24	-1,485.56	1,848.27	1,782.59	65.68	28.142		
13,300.00	11,879.72	13,345.38	11,941.99	46.31	48.14	-91.51	930.23	-1,486.41	1,848.27	1,781.58	66.69	27.713		
13,400.00	11,878.24	13,445.37	11,941.02	47.02	48.96	-91.52	1,030.22	-1,487.26	1,848.28	1,780.50	67.77	27.272		
13,500.00	11,876.76	13,545.37	11,940.06	47.78	49.82	-91.54	1,130.21	-1,488.11	1,848.28	1,779.36	68.92	26.819		
13,600.00	11,875.28	13,645.37	11,939.10	48.58	50.73	-91.55	1,230.20	-1,488.97	1,848.29	1,778.17	70.12	26.360		
13,700.00	11,873.80	13,745.37	11,938.14	49.42	51.66	-91.57	1,330.19	-1,489.82	1,848.29	1,776.92	71.38	25.895		
13,800.00	11,872.32	13,845.37	11,937.17	50.30	52.64	-91.59	1,430.18	-1,490.67	1,848.30	1,775.61	72.69	25.428		
13,900.00	11,870.83	13,945.37	11,936.21	51.22	53.65	-91.60	1,530.17	-1,491.53	1,848.30	1,774.25	74.05	24.961		

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



Total Directional Services

Anticollision Report



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Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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		
14,000.00	11,869.35	14,045.37	11,935.25	52.17	54.68	-91.62	1,630.16	-1,492.38	1,848.31	1,772.85	75.46	24.494		
14,100.00	11,867.87	14,145.36	11,934.28	53.16	55.75	-91.63	1,730.15	-1,493.23	1,848.31	1,771.40	76.91	24.031		
14,200.00	11,866.39	14,245.36	11,933.32	54.18	56.85	-91.65	1,830.14	-1,494.09	1,848.32	1,769.91	78.41	23.573		
14,300.00	11,864.91	14,345.36	11,932.36	55.23	57.97	-91.67	1,930.13	-1,494.94	1,848.33	1,768.38	79.95	23.119		
14,400.00	11,863.43	14,445.36	11,931.40	56.31	59.11	-91.68	2,030.12	-1,495.79	1,848.33	1,766.81	81.52	22.673		
14,500.00	11,861.95	14,545.36	11,930.43	57.42	60.28	-91.70	2,130.11	-1,496.65	1,848.34	1,765.21	83.13	22.234		
14,600.00	11,860.47	14,645.36	11,929.47	58.55	61.48	-91.71	2,230.10	-1,497.50	1,848.35	1,763.57	84.78	21.803		
14,700.00	11,858.98	14,745.36	11,928.51	59.71	62.69	-91.73	2,330.09	-1,498.35	1,848.35	1,761.90	86.45	21.380		
14,800.00	11,857.50	14,845.35	11,927.55	60.88	63.92	-91.75	2,430.08	-1,499.20	1,848.36	1,760.20	88.16	20.966		
14,900.00	11,856.02	14,945.35	11,926.58	62.08	65.17	-91.76	2,530.07	-1,500.06	1,848.37	1,758.47	89.89	20.562		
15,000.00	11,854.54	15,045.35	11,925.62	63.30	66.44	-91.78	2,630.06	-1,500.91	1,848.37	1,756.72	91.65	20.167		
15,100.00	11,853.06	15,145.35	11,924.66	64.54	67.72	-91.80	2,730.05	-1,501.76	1,848.38	1,754.94	93.44	19.782		
15,200.00	11,851.58	15,245.35	11,923.70	65.80	69.02	-91.81	2,830.04	-1,502.62	1,848.39	1,753.14	95.25	19.406		
15,300.00	11,850.10	15,345.35	11,922.73	67.08	70.34	-91.83	2,930.03	-1,503.47	1,848.40	1,751.31	97.08	19.040		
15,400.00	11,848.61	15,445.35	11,921.77	68.37	71.67	-91.84	3,030.03	-1,504.32	1,848.40	1,749.47	98.94	18.683		
15,500.00	11,847.13	15,545.35	11,920.81	69.67	73.01	-91.86	3,130.02	-1,505.18	1,848.41	1,747.60	100.81	18.336		
15,600.00	11,845.65	15,645.34	11,919.84	70.99	74.36	-91.88	3,230.01	-1,506.03	1,848.42	1,745.72	102.70	17.998		
15,700.00	11,844.17	15,745.34	11,918.88	72.33	75.73	-91.89	3,330.00	-1,506.88	1,848.43	1,743.82	104.61	17.670		
15,800.00	11,842.69	15,845.34	11,917.92	73.67	77.11	-91.91	3,429.99	-1,507.74	1,848.44	1,741.90	106.54	17.350		
15,900.00	11,841.21	15,945.34	11,916.96	75.03	78.50	-91.92	3,529.98	-1,508.59	1,848.45	1,739.96	108.48	17.039		
16,000.00	11,839.73	16,045.34	11,915.99	76.40	79.89	-91.94	3,629.97	-1,509.44	1,848.45	1,738.02	110.44	16.737		
16,100.00	11,838.25	16,145.34	11,915.03	77.78	81.30	-91.96	3,729.96	-1,510.30	1,848.46	1,736.05	112.41	16.444		
16,200.00	11,836.76	16,245.34	11,914.07	79.18	82.72	-91.97	3,829.95	-1,511.15	1,848.47	1,734.07	114.40	16.158		
16,300.00	11,835.28	16,345.33	11,913.11	80.58	84.14	-91.99	3,929.94	-1,512.00	1,848.48	1,732.08	116.40	15.881		
16,400.00	11,833.80	16,445.33	11,912.14	81.99	85.58	-92.00	4,029.93	-1,512.85	1,848.49	1,730.08	118.41	15.611		
16,500.00	11,832.32	16,545.33	11,911.18	83.41	87.02	-92.02	4,129.92	-1,513.71	1,848.50	1,728.07	120.43	15.349		
16,600.00	11,830.84	16,645.33	11,910.22	84.83	88.46	-92.04	4,229.91	-1,514.56	1,848.51	1,726.04	122.47	15.094		
16,700.00	11,829.36	16,745.33	11,909.25	86.27	89.92	-92.05	4,329.90	-1,515.41	1,848.52	1,724.01	124.51	14.846		
16,800.00	11,827.88	16,845.33	11,908.29	87.71	91.38	-92.07	4,429.89	-1,516.27	1,848.53	1,721.96	126.57	14.605		
16,900.00	11,826.39	16,945.33	11,907.33	89.16	92.85	-92.08	4,529.88	-1,517.12	1,848.54	1,719.91	128.63	14.371		
17,000.00	11,824.91	17,045.33	11,906.37	90.62	94.32	-92.10	4,629.87	-1,517.97	1,848.55	1,717.85	130.70	14.143		
17,100.00	11,823.43	17,145.32	11,905.40	92.09	95.80	-92.12	4,729.86	-1,518.83	1,848.56	1,715.78	132.78	13.922		
17,200.00	11,821.95	17,245.32	11,904.44	93.56	97.29	-92.13	4,829.85	-1,519.68	1,848.57	1,713.70	134.87	13.706		
17,300.00	11,820.47	17,345.32	11,903.48	95.03	98.78	-92.15	4,929.84	-1,520.53	1,848.58	1,711.61	136.97	13.496		
17,400.00	11,818.99	17,445.32	11,902.52	96.51	100.28	-92.16	5,029.83	-1,521.39	1,848.59	1,709.52	139.08	13.292		
17,500.00	11,817.51	17,545.32	11,901.55	98.00	101.78	-92.18	5,129.82	-1,522.24	1,848.60	1,707.41	141.19	13.093		
17,600.00	11,816.03	17,645.32	11,900.59	99.49	103.28	-92.20	5,229.81	-1,523.09	1,848.61	1,705.31	143.31	12.900		
17,700.00	11,814.54	17,745.32	11,899.63	100.99	104.79	-92.21	5,329.80	-1,523.94	1,848.62	1,703.19	145.43	12.711		
17,800.00	11,813.06	17,845.31	11,898.66	102.49	106.31	-92.23	5,429.79	-1,524.80	1,848.64	1,701.07	147.56	12.528		
17,900.00	11,811.58	17,945.31	11,897.70	104.00	107.82	-92.25	5,529.78	-1,525.65	1,848.65	1,698.95	149.70	12.349		
18,000.00	11,810.10	18,045.31	11,896.74	105.51	109.35	-92.26	5,629.78	-1,526.50	1,848.66	1,696.81	151.85	12.175		
18,100.00	11,808.62	18,145.31	11,895.78	107.03	110.87	-92.28	5,729.77	-1,527.36	1,848.67	1,694.68	153.99	12.005		
18,200.00	11,807.14	18,245.31	11,894.81	108.55	112.40	-92.29	5,829.76	-1,528.21	1,848.68	1,692.53	156.15	11.839		
18,300.00	11,805.66	18,345.31	11,893.85	110.07	113.93	-92.31	5,929.75	-1,529.06	1,848.70	1,690.39	158.31	11.678		
18,400.00	11,804.17	18,445.31	11,892.89	111.60	115.47	-92.33	6,029.74	-1,529.92	1,848.71	1,688.24	160.47	11.520		
18,500.00	11,802.69	18,545.31	11,891.93	113.13	117.01	-92.34	6,129.73	-1,530.77	1,848.72	1,686.08	162.64	11.367		
18,600.00	11,801.21	18,645.30	11,890.96	114.66	118.55	-92.36	6,229.72	-1,531.62	1,848.73	1,683.92	164.81	11.217		
18,700.00	11,799.73	18,745.30	11,890.00	116.20	120.09	-92.37	6,329.71	-1,532.48	1,848.74	1,681.75	166.99	11.071		
18,800.00	11,798.25	18,845.30	11,889.04	117.74	121.64	-92.39	6,429.70	-1,533.33	1,848.76	1,679.58	169.17	10.928		
18,900.00	11,796.77	18,945.30	11,888.08	119.28	123.19	-92.41	6,529.69	-1,534.18	1,848.77	1,677.41	171.36	10.789		
19,000.00	11,795.29	19,045.30	11,887.11	120.82	124.75	-92.42	6,629.68	-1,535.04	1,848.78	1,675.24	173.55	10.653		
19,100.00	11,793.81	19,145.30	11,886.15	122.37	126.30	-92.44	6,729.67	-1,535.89	1,848.80	1,673.06	175.74	10.520		

CC - Min centre to center distance or 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 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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		
19,200.00	11,792.32	19,245.30	11,885.19	123.92	127.86	-92.45	6,829.66	-1,536.74	1,848.81	1,670.87	177.94	10.390		
19,300.00	11,790.84	19,345.29	11,884.22	125.48	129.42	-92.47	6,929.65	-1,537.59	1,848.82	1,668.69	180.14	10.263		
19,400.00	11,789.36	19,445.29	11,883.26	127.03	130.98	-92.49	7,029.64	-1,538.45	1,848.84	1,666.50	182.34	10.139		
19,500.00	11,787.88	19,545.29	11,882.30	128.59	132.55	-92.50	7,129.63	-1,539.30	1,848.85	1,664.30	184.55	10.018		
19,600.00	11,786.40	19,645.29	11,881.34	130.15	134.11	-92.52	7,229.62	-1,540.15	1,848.87	1,662.11	186.76	9.900		
19,700.00	11,784.92	19,745.29	11,880.37	131.72	135.68	-92.53	7,329.61	-1,541.01	1,848.88	1,659.91	188.97	9.784		
19,800.00	11,783.44	19,845.29	11,879.41	133.28	137.25	-92.55	7,429.60	-1,541.86	1,848.89	1,657.71	191.18	9.671		
19,900.00	11,781.95	19,945.29	11,878.45	134.85	138.83	-92.57	7,529.59	-1,542.71	1,848.91	1,655.51	193.40	9.560		
20,000.00	11,780.47	20,045.29	11,877.49	136.42	140.40	-92.58	7,629.58	-1,543.57	1,848.92	1,653.30	195.62	9.452		
20,100.00	11,778.99	20,145.28	11,876.52	137.99	141.98	-92.60	7,729.57	-1,544.42	1,848.94	1,651.09	197.84	9.345		
20,200.00	11,777.51	20,245.28	11,875.56	139.56	143.55	-92.61	7,829.56	-1,545.27	1,848.95	1,648.88	200.07	9.242		
20,300.00	11,776.03	20,345.28	11,874.60	141.14	145.13	-92.63	7,929.55	-1,546.13	1,848.97	1,646.67	202.30	9.140		
20,400.00	11,774.55	20,445.28	11,873.63	142.71	146.71	-92.65	8,029.54	-1,546.98	1,848.98	1,644.46	204.53	9.040		
20,500.00	11,773.07	20,545.28	11,872.67	144.29	148.30	-92.66	8,129.53	-1,547.83	1,849.00	1,642.24	206.76	8.943		
20,600.00	11,771.59	20,645.28	11,871.71	145.87	149.88	-92.68	8,229.53	-1,548.68	1,849.01	1,640.02	208.99	8.847		
20,700.00	11,770.10	20,745.28	11,870.75	147.45	151.47	-92.70	8,329.52	-1,549.54	1,849.03	1,637.80	211.23	8.754		
20,800.00	11,768.62	20,845.27	11,869.78	149.04	153.05	-92.71	8,429.51	-1,550.39	1,849.04	1,635.58	213.47	8.662		
20,900.00	11,767.14	20,945.27	11,868.82	150.62	154.64	-92.73	8,529.50	-1,551.24	1,849.06	1,633.35	215.71	8.572		
21,000.00	11,765.66	21,045.27	11,867.86	152.21	156.23	-92.74	8,629.49	-1,552.10	1,849.08	1,631.13	217.95	8.484		
21,100.00	11,764.18	21,145.27	11,866.90	153.79	157.82	-92.76	8,729.48	-1,552.95	1,849.09	1,628.90	220.19	8.398		
21,200.00	11,762.70	21,245.27	11,865.93	155.38	159.41	-92.78	8,829.47	-1,553.80	1,849.11	1,626.67	222.44	8.313		
21,300.00	11,761.22	21,345.27	11,864.97	156.97	161.01	-92.79	8,929.46	-1,554.66	1,849.12	1,624.44	224.69	8.230		
21,400.00	11,759.74	21,445.27	11,864.01	158.56	162.60	-92.81	9,029.45	-1,555.51	1,849.14	1,622.21	226.94	8.148		
21,500.00	11,758.25	21,545.26	11,863.04	160.16	164.20	-92.82	9,129.44	-1,556.36	1,849.16	1,619.97	229.19	8.068		
21,600.00	11,756.77	21,645.26	11,862.08	161.75	165.79	-92.84	9,229.43	-1,557.22	1,849.17	1,617.74	231.44	7.990		
21,700.00	11,755.29	21,745.26	11,861.12	163.34	167.39	-92.86	9,329.42	-1,558.07	1,849.19	1,615.50	233.69	7.913		
21,800.00	11,753.81	21,845.26	11,860.16	164.94	168.99	-92.87	9,429.41	-1,558.92	1,849.21	1,613.26	235.95	7.837		
21,900.00	11,752.33	21,945.26	11,859.19	166.54	170.59	-92.89	9,529.40	-1,559.78	1,849.23	1,611.02	238.20	7.763		
22,000.00	11,750.85	22,045.26	11,858.23	168.13	172.19	-92.90	9,629.39	-1,560.63	1,849.24	1,608.78	240.46	7.690		
22,001.85	11,750.82	22,047.11	11,858.21	168.16	172.22	-92.90	9,631.24	-1,560.64	1,849.24	1,608.74	240.50	7.689		
22,063.91	11,749.90	22,099.37	11,857.71	169.16	173.06	-92.91	9,683.50	-1,561.09	1,849.28	1,607.53	241.75	7.649		
22,064.91	11,749.89	22,099.37	11,857.71	169.17	173.06	-92.91	9,683.50	-1,561.09	1,849.29	1,607.53	241.76	7.649 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 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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	103.78	-445.87	1,817.44	1,871.40					
100.00	100.00	84.50	84.50	0.13	0.11	103.78	-445.87	1,817.44	1,871.33	1,871.17	0.16	N/A		
200.00	200.00	184.50	184.50	0.48	0.43	103.78	-445.87	1,817.44	1,871.33	1,870.69	0.65	2,895.473		
300.00	300.00	284.50	284.50	0.84	0.79	103.78	-445.87	1,817.44	1,871.33	1,870.18	1.15	1,623.398		
400.00	400.00	384.50	384.50	1.20	1.15	103.78	-445.87	1,817.44	1,871.33	1,869.67	1.66	1,127.665		
500.00	500.00	484.50	484.50	1.56	1.50	103.78	-445.87	1,817.44	1,871.33	1,869.17	2.17	863.829		
600.00	600.00	584.50	584.50	1.92	1.86	103.78	-445.87	1,817.44	1,871.33	1,868.66	2.67	700.032		
700.00	700.00	684.50	684.50	2.28	2.22	103.78	-445.87	1,817.44	1,871.33	1,868.15	3.18	588.447		
800.00	800.00	784.50	784.50	2.63	2.58	103.78	-445.87	1,817.44	1,871.33	1,867.65	3.69	507.543		
900.00	900.00	884.50	884.50	2.99	2.94	103.78	-445.87	1,817.44	1,871.33	1,867.14	4.19	446.196		
1,000.00	1,000.00	984.50	984.50	3.35	3.30	103.78	-445.87	1,817.44	1,871.33	1,866.63	4.70	398.079		
1,100.00	1,100.00	1,084.50	1,084.50	3.71	3.65	103.78	-445.87	1,817.44	1,871.33	1,866.13	5.21	359.330		
1,200.00	1,200.00	1,184.50	1,184.50	4.07	4.01	103.78	-445.87	1,817.44	1,871.33	1,865.62	5.71	327.454		
1,300.00	1,300.00	1,284.50	1,284.50	4.43	4.37	103.78	-445.87	1,817.44	1,871.33	1,865.11	6.22	300.774		
1,400.00	1,400.00	1,384.50	1,384.50	4.79	4.73	103.78	-445.87	1,817.44	1,871.33	1,864.60	6.73	278.113		
1,500.00	1,500.00	1,484.50	1,484.50	5.14	5.09	103.78	-445.87	1,817.44	1,871.33	1,864.10	7.24	258.628		
1,600.00	1,600.00	1,584.50	1,584.50	5.50	5.45	103.78	-445.87	1,817.44	1,871.33	1,863.59	7.74	241.694		
1,700.00	1,700.00	1,684.50	1,684.50	5.86	5.81	103.78	-445.87	1,817.44	1,871.33	1,863.08	8.25	226.841		
1,800.00	1,800.00	1,784.50	1,784.50	6.22	6.16	103.78	-445.87	1,817.44	1,871.33	1,862.58	8.76	213.709		
1,900.00	1,900.00	1,884.50	1,884.50	6.58	6.52	103.78	-445.87	1,817.44	1,871.33	1,862.07	9.26	202.013		
2,000.00	2,000.00	1,984.50	1,984.50	6.94	6.88	103.78	-445.87	1,817.44	1,871.33	1,861.56	9.77	191.531		
2,100.00	2,100.00	2,084.50	2,084.50	7.29	7.24	103.78	-445.87	1,817.44	1,871.33	1,861.06	10.28	182.084		
2,200.00	2,200.00	2,184.50	2,184.50	7.65	7.60	103.78	-445.87	1,817.44	1,871.33	1,860.55	10.78	173.524		
2,300.00	2,300.00	2,284.50	2,284.50	8.01	7.96	103.78	-445.87	1,817.44	1,871.33	1,860.04	11.29	165.733		
2,400.00	2,400.00	2,384.50	2,384.50	8.37	8.31	103.78	-445.87	1,817.44	1,871.33	1,859.54	11.80	158.612		
2,500.00	2,500.00	2,484.50	2,484.50	8.73	8.67	103.78	-445.87	1,817.44	1,871.33	1,859.03	12.31	152.077		
2,600.00	2,599.99	2,584.49	2,584.49	9.07	9.03	-46.65	-445.87	1,817.44	1,870.43	1,857.63	12.80	146.130		
2,700.00	2,699.91	2,684.41	2,684.41	9.40	9.39	-46.77	-445.87	1,817.44	1,867.74	1,854.46	13.28	140.608		
2,800.00	2,799.69	2,784.19	2,784.19	9.73	9.75	-46.96	-445.87	1,817.44	1,863.26	1,849.50	13.77	135.333		
2,900.00	2,899.27	2,883.77	2,883.77	10.06	10.10	-47.24	-445.87	1,817.44	1,857.02	1,842.77	14.25	130.280		
2,966.63	2,965.47	2,949.97	2,949.97	10.28	10.34	-47.47	-445.87	1,817.44	1,851.89	1,837.31	14.58	127.027		
3,000.00	2,998.59	2,983.09	2,983.09	10.40	10.46	-47.56	-445.87	1,817.44	1,849.14	1,834.39	14.74	125.436		
3,100.00	3,097.85	3,082.35	3,082.35	10.74	10.82	-47.84	-445.87	1,817.44	1,840.90	1,825.67	15.23	120.863		
3,200.00	3,197.10	3,181.60	3,181.60	11.09	11.17	-48.12	-445.87	1,817.44	1,832.71	1,816.99	15.72	116.557		
3,300.00	3,296.36	3,342.44	3,342.41	11.44	11.73	-48.54	-446.46	1,814.85	1,823.20	1,806.85	16.35	111.502		
3,400.00	3,395.61	3,516.21	3,515.85	11.79	12.32	-48.91	-448.78	1,804.69	1,809.69	1,792.71	16.98	106.587		
3,500.00	3,494.87	3,688.12	3,686.79	12.15	12.91	-49.18	-452.81	1,787.08	1,792.16	1,774.58	17.58	101.939		
3,600.00	3,594.12	3,805.21	3,802.78	12.51	13.33	-49.31	-456.38	1,771.45	1,771.71	1,753.62	18.09	97.941		
3,700.00	3,693.37	3,903.01	3,899.63	12.88	13.67	-49.43	-459.42	1,758.18	1,751.14	1,732.56	18.57	94.280		
3,800.00	3,792.63	4,000.81	3,996.48	13.24	14.03	-49.55	-462.45	1,744.91	1,730.57	1,711.51	19.06	90.791		
3,900.00	3,891.88	4,098.61	4,093.33	13.61	14.38	-49.66	-465.48	1,731.64	1,710.00	1,690.45	19.55	87.464		
4,000.00	3,991.14	4,196.41	4,190.18	13.99	14.74	-49.79	-468.52	1,718.37	1,689.45	1,669.41	20.04	84.289		
4,100.00	4,090.39	4,294.22	4,287.02	14.36	15.10	-49.91	-471.55	1,705.10	1,668.90	1,648.36	20.54	81.258		
4,200.00	4,189.65	4,392.02	4,383.87	14.74	15.47	-50.04	-474.58	1,691.82	1,648.36	1,627.33	21.04	78.361		
4,300.00	4,288.90	4,489.82	4,480.72	15.11	15.83	-50.17	-477.62	1,678.55	1,627.83	1,606.29	21.53	75.592		
4,400.00	4,388.16	4,587.62	4,577.57	15.49	16.20	-50.31	-480.65	1,665.28	1,607.31	1,585.27	22.04	72.942		
4,500.00	4,487.41	4,685.42	4,674.42	15.87	16.57	-50.44	-483.68	1,652.01	1,586.79	1,564.25	22.54	70.404		
4,600.00	4,586.67	4,783.22	4,771.27	16.26	16.95	-50.59	-486.72	1,638.74	1,566.29	1,543.24	23.04	67.973		
4,700.00	4,685.92	4,881.02	4,868.11	16.64	17.32	-50.73	-489.75	1,625.47	1,545.79	1,522.24	23.55	65.642		
4,800.00	4,785.18	4,978.82	4,964.96	17.03	17.70	-50.88	-492.78	1,612.20	1,525.30	1,501.25	24.06	63.405		
4,900.00	4,884.43	5,076.62	5,061.81	17.41	18.08	-51.03	-495.82	1,598.93	1,504.83	1,480.26	24.57	61.258		
5,000.00	4,983.69	5,174.42	5,158.66	17.80	18.46	-51.19	-498.85	1,585.66	1,484.36	1,459.29	25.08	59.196		

CC - Min centre to center distance or 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 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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	5,082.94	5,272.22	5,255.51	18.19	18.84	-51.35	-501.88	1,572.39	1,463.91	1,438.32	25.59	57.213		
5,200.00	5,182.20	5,370.02	5,352.36	18.58	19.22	-51.52	-504.91	1,559.12	1,443.46	1,417.36	26.10	55.306		
5,300.00	5,281.45	5,467.82	5,449.20	18.97	19.60	-51.69	-507.95	1,545.85	1,423.03	1,396.42	26.61	53.470		
5,400.00	5,380.70	5,565.62	5,546.05	19.36	19.99	-51.87	-510.98	1,532.58	1,402.62	1,375.49	27.13	51.703		
5,500.00	5,479.96	5,663.42	5,642.90	19.75	20.38	-52.05	-514.01	1,519.31	1,382.21	1,354.57	27.64	50.000		
5,600.00	5,579.21	5,761.22	5,739.75	20.14	20.76	-52.24	-517.05	1,506.04	1,361.82	1,333.66	28.16	48.359		
5,700.00	5,678.47	5,859.02	5,836.60	20.53	21.15	-52.43	-520.08	1,492.77	1,341.44	1,312.76	28.68	46.776		
5,800.00	5,777.72	5,956.82	5,933.45	20.93	21.54	-52.63	-523.11	1,479.50	1,321.08	1,291.88	29.20	45.248		
5,900.00	5,876.98	6,054.62	6,030.29	21.32	21.93	-52.84	-526.15	1,466.23	1,300.74	1,271.02	29.72	43.772		
6,000.00	5,976.23	6,152.42	6,127.14	21.72	22.32	-53.05	-529.18	1,452.95	1,280.41	1,250.17	30.24	42.347		
6,100.00	6,075.49	6,250.22	6,223.99	22.11	22.71	-53.27	-532.21	1,439.68	1,260.09	1,229.34	30.76	40.970		
6,200.00	6,174.74	6,348.02	6,320.84	22.51	23.11	-53.49	-535.25	1,426.41	1,239.80	1,208.52	31.28	39.638		
6,300.00	6,274.00	6,445.82	6,417.69	22.91	23.50	-53.72	-538.28	1,413.14	1,219.52	1,187.72	31.80	38.350		
6,400.00	6,373.25	6,543.62	6,514.53	23.30	23.89	-53.96	-541.31	1,399.87	1,199.27	1,166.95	32.32	37.103		
6,500.00	6,472.51	6,641.42	6,611.38	23.70	24.29	-54.21	-544.35	1,386.60	1,179.04	1,146.19	32.85	35.896		
6,600.00	6,571.76	6,739.22	6,708.23	24.10	24.68	-54.47	-547.38	1,373.33	1,158.82	1,125.45	33.37	34.726		
6,700.00	6,671.02	6,837.02	6,805.08	24.50	25.08	-54.74	-550.41	1,360.06	1,138.64	1,104.74	33.90	33.593		
6,800.00	6,770.27	6,934.82	6,901.93	24.90	25.48	-55.01	-553.45	1,346.79	1,118.47	1,084.05	34.42	32.494		
6,900.00	6,869.53	7,032.62	6,998.78	25.29	25.87	-55.30	-556.48	1,333.52	1,098.34	1,063.39	34.95	31.429		
7,000.00	6,968.78	7,130.42	7,095.62	25.69	26.27	-55.60	-559.51	1,320.25	1,078.22	1,042.75	35.47	30.396		
7,100.00	7,068.04	7,228.22	7,192.47	26.09	26.67	-55.91	-562.55	1,306.98	1,058.14	1,022.14	36.00	29.393		
7,200.00	7,167.29	7,326.02	7,289.32	26.49	27.07	-56.23	-565.58	1,293.71	1,038.09	1,001.57	36.53	28.419		
7,300.00	7,266.54	7,423.82	7,386.17	26.89	27.47	-56.56	-568.61	1,280.44	1,018.08	981.02	37.06	27.474		
7,400.00	7,365.80	7,521.63	7,483.02	27.29	27.87	-56.91	-571.65	1,267.17	998.09	960.51	37.59	26.555		
7,500.00	7,465.05	7,619.43	7,579.87	27.70	28.27	-57.27	-574.68	1,253.90	978.14	940.03	38.12	25.663		
7,600.00	7,564.31	7,717.23	7,676.71	28.10	28.67	-57.64	-577.71	1,240.63	958.24	919.59	38.65	24.796		
7,700.00	7,663.56	7,815.03	7,773.56	28.50	29.07	-58.03	-580.75	1,227.36	938.37	899.19	39.18	23.953		
7,800.00	7,762.82	7,912.83	7,870.41	28.90	29.47	-58.44	-583.78	1,214.08	918.55	878.84	39.71	23.133		
7,900.00	7,862.07	8,010.63	7,967.26	29.30	29.87	-58.87	-586.81	1,200.81	898.77	858.53	40.24	22.336		
8,000.00	7,961.33	8,108.43	8,064.11	29.70	30.27	-59.31	-589.85	1,187.54	879.04	838.27	40.77	21.560		
8,100.00	8,060.58	8,206.23	8,160.96	30.11	30.68	-59.78	-592.88	1,174.27	859.37	818.07	41.31	20.805		
8,200.00	8,159.84	8,304.03	8,257.80	30.51	31.08	-60.26	-595.91	1,161.00	839.76	797.92	41.84	20.071		
8,300.00	8,259.09	8,401.83	8,354.65	30.91	31.48	-60.77	-598.95	1,147.73	820.20	777.83	42.37	19.356		
8,400.00	8,358.35	8,499.63	8,451.50	31.32	31.88	-61.31	-601.98	1,134.46	800.72	757.81	42.91	18.660		
8,500.00	8,457.60	8,597.43	8,548.35	31.72	32.29	-61.87	-605.01	1,121.19	781.30	737.85	43.45	17.983		
8,600.00	8,556.86	8,695.23	8,645.20	32.12	32.69	-62.46	-608.05	1,107.92	761.96	717.97	43.98	17.324		
8,700.00	8,656.11	8,793.03	8,742.05	32.53	33.09	-63.08	-611.08	1,094.65	742.70	698.18	44.52	16.682		
8,728.63	8,684.53	8,821.03	8,769.77	32.64	33.21	-63.26	-611.95	1,090.85	737.20	692.53	44.68	16.501		
8,800.00	8,755.44	8,890.93	8,839.00	32.93	33.50	-63.50	-614.12	1,081.36	723.82	678.76	45.06	16.064		
8,900.00	8,855.03	8,989.19	8,936.30	33.31	33.91	-63.71	-617.16	1,068.03	706.10	660.52	45.59	15.490		
9,000.00	8,954.82	9,087.75	9,033.90	33.68	34.31	-63.76	-620.22	1,054.66	689.56	643.46	46.10	14.957		
9,100.00	9,054.75	9,186.55	9,131.74	34.04	34.72	-63.64	-623.28	1,041.25	674.17	627.56	46.61	14.464		
9,195.26	9,150.00	9,280.83	9,225.10	34.35	35.11	87.04	-626.21	1,028.46	660.57	613.50	47.08	14.031		
9,200.00	9,154.74	9,285.52	9,229.74	34.37	35.13	87.05	-626.35	1,027.82	659.93	612.82	47.10	14.011		
9,300.00	9,254.74	9,384.55	9,327.81	34.68	35.54	87.26	-629.43	1,014.39	646.21	598.63	47.58	13.581		
9,400.00	9,354.74	9,483.57	9,425.87	35.00	35.95	87.48	-632.50	1,000.95	632.51	584.45	48.06	13.160		
9,500.00	9,454.74	9,582.60	9,523.93	35.32	36.36	87.72	-635.57	987.51	618.82	570.28	48.54	12.748		
9,600.00	9,554.74	9,677.05	9,617.48	35.63	36.75	87.94	-638.47	974.81	605.27	556.22	49.05	12.341		
9,700.00	9,654.74	9,763.07	9,702.87	35.95	37.10	88.13	-640.78	964.71	593.44	543.87	49.58	11.970		
9,800.00	9,754.74	9,849.51	9,788.89	36.27	37.44	88.29	-642.67	956.46	583.83	533.74	50.09	11.656		
9,900.00	9,854.74	9,936.30	9,875.43	36.59	37.76	88.42	-644.12	950.08	576.44	525.86	50.58	11.396		
10,000.00	9,954.74	10,023.34	9,962.35	36.91	38.08	88.51	-645.14	945.61	571.27	520.22	51.05	11.190		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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	10,054.74	10,110.55	10,049.52	37.23	38.38	88.56	-645.73	943.07	568.35	516.84	51.50	11.035		
10,200.00	10,154.74	10,200.27	10,139.24	37.56	38.68	88.57	-645.87	942.44	567.62	515.67	51.94	10.928		
10,300.00	10,254.74	10,300.27	10,239.24	37.88	39.00	88.57	-645.87	942.44	567.62	515.20	52.41	10.830		
10,400.00	10,354.74	10,400.27	10,339.24	38.20	39.32	88.57	-645.87	942.44	567.62	514.73	52.88	10.734		
10,500.00	10,454.74	10,500.27	10,439.24	38.53	39.65	88.57	-645.87	942.44	567.62	514.26	53.35	10.639		
10,600.00	10,554.74	10,600.27	10,539.24	38.85	39.97	88.57	-645.87	942.44	567.62	513.79	53.83	10.545		
10,700.00	10,654.74	10,700.27	10,639.24	39.18	40.30	88.57	-645.87	942.44	567.62	513.32	54.30	10.454		
10,800.00	10,754.74	10,800.27	10,739.24	39.50	40.62	88.57	-645.87	942.44	567.62	512.84	54.77	10.363		
10,900.00	10,854.74	10,900.27	10,839.24	39.83	40.95	88.57	-645.87	942.44	567.62	512.37	55.24	10.275		
11,000.00	10,954.74	11,000.27	10,939.24	40.16	41.28	88.57	-645.87	942.44	567.62	511.90	55.72	10.187		
11,100.00	11,054.74	11,100.27	11,039.24	40.48	41.60	88.57	-645.87	942.44	567.62	511.42	56.19	10.101		
11,110.77	11,065.51	11,111.04	11,050.01	40.52	41.64	88.57	-645.87	942.44	567.62	511.37	56.25	10.092 CC		
11,200.00	11,154.74	11,200.00	11,138.96	40.81	41.93	88.55	-645.65	942.44	567.62	510.95	56.67	10.017		
11,300.00	11,254.74	11,296.99	11,235.23	41.14	42.24	87.45	-634.77	942.34	567.91	510.79	57.13	9.941		
11,367.26	11,322.00	11,359.05	11,295.30	41.36	42.41	85.90	-619.35	942.20	568.76	511.36	57.41	9.907		
11,400.00	11,354.72	11,388.16	11,322.83	41.47	42.49	85.45	-609.89	942.11	569.49	511.95	57.53	9.898		
11,450.00	11,404.45	11,431.88	11,363.19	41.61	42.61	84.05	-593.10	941.96	570.86	513.16	57.70	9.894		
11,500.00	11,453.55	11,474.78	11,401.43	41.75	42.71	82.69	-573.67	941.79	572.52	514.70	57.83	9.901		
11,550.00	11,501.66	11,516.94	11,437.49	41.87	42.80	81.39	-551.85	941.59	574.42	516.50	57.92	9.918		
11,600.00	11,548.39	11,558.44	11,471.33	41.97	42.88	80.16	-527.83	941.37	576.49	518.52	57.97	9.945		
11,650.00	11,593.40	11,600.00	11,503.38	42.06	42.95	78.98	-501.40	941.13	578.68	520.69	57.99	9.980		
11,700.00	11,636.35	11,639.75	11,532.16	42.14	43.01	77.91	-474.00	940.88	580.93	522.98	57.95	10.024		
11,750.00	11,676.90	11,679.68	11,559.10	42.20	43.06	76.90	-444.54	940.61	583.19	525.29	57.90	10.073		
11,800.00	11,714.75	11,719.20	11,583.67	42.24	43.11	75.98	-413.60	940.33	585.40	527.59	57.81	10.126		
11,850.00	11,749.62	11,758.37	11,605.87	42.28	43.15	75.15	-381.34	940.04	587.51	529.80	57.71	10.180		
11,900.00	11,781.23	11,800.00	11,626.99	42.31	43.19	74.38	-345.47	939.72	589.48	531.85	57.63	10.228		
11,950.00	11,809.34	11,835.82	11,643.03	42.32	43.22	73.78	-313.45	939.43	591.25	533.76	57.49	10.285		
12,000.00	11,833.75	11,874.19	11,657.96	42.33	43.25	73.23	-278.11	939.11	592.81	535.42	57.39	10.330		
12,050.00	11,854.26	11,912.39	11,670.44	42.34	43.28	72.79	-242.02	938.78	594.10	536.80	57.30	10.368		
12,100.00	11,870.72	11,950.00	11,680.35	42.34	43.31	72.46	-205.75	938.45	595.12	537.88	57.24	10.397		
12,150.00	11,883.00	11,988.40	11,688.00	42.34	43.35	72.22	-168.12	938.11	595.83	538.62	57.21	10.414		
12,200.00	11,891.01	12,026.29	11,693.05	42.34	43.39	72.09	-130.58	937.77	596.22	539.00	57.22	10.420		
12,250.00	11,894.70	12,064.16	11,695.61	42.34	43.44	72.06	-92.81	937.43	596.30	539.03	57.27	10.412		
12,275.75	11,894.90	12,083.66	11,695.96	42.35	43.47	72.08	-73.31	937.25	596.21	538.89	57.31	10.403		
12,289.23	11,894.70	12,094.06	11,695.87	42.35	43.49	72.09	-62.92	937.15	596.17	538.84	57.34	10.398		
12,300.00	11,894.54	12,104.58	11,695.69	42.35	43.51	72.09	-52.39	937.06	596.18	538.82	57.36	10.393		
12,400.00	11,893.05	12,204.58	11,693.94	42.44	43.73	72.06	47.59	936.15	596.22	538.58	57.64	10.344		
12,500.00	11,891.57	12,304.58	11,692.19	42.60	44.04	72.03	147.57	935.25	596.26	538.25	58.00	10.279		
12,600.00	11,890.09	12,404.58	11,690.44	42.84	44.42	72.01	247.55	934.34	596.30	537.85	58.45	10.201		
12,700.00	11,888.61	12,504.58	11,688.69	43.16	44.88	71.98	347.53	933.43	596.34	537.36	58.98	10.111		
12,800.00	11,887.13	12,604.58	11,686.94	43.54	45.40	71.96	447.51	932.53	596.38	536.79	59.59	10.008		
12,900.00	11,885.65	12,704.58	11,685.19	43.98	45.98	71.93	547.49	931.62	596.42	536.15	60.27	9.896		
13,000.00	11,884.17	12,804.58	11,683.44	44.48	46.61	71.91	647.47	930.71	596.46	535.43	61.03	9.773		
13,100.00	11,882.69	12,904.58	11,681.70	45.04	47.30	71.88	747.45	929.81	596.50	534.64	61.86	9.643		
13,200.00	11,881.20	13,004.58	11,679.95	45.65	48.03	71.85	847.43	928.90	596.54	533.79	62.76	9.506		
13,300.00	11,879.72	13,104.58	11,678.20	46.31	48.82	71.83	947.41	928.00	596.58	532.86	63.72	9.363		
13,400.00	11,878.24	13,204.58	11,676.45	47.02	49.64	71.80	1,047.39	927.09	596.62	531.88	64.74	9.215		
13,500.00	11,876.76	13,304.57	11,674.70	47.78	50.50	71.78	1,147.37	926.18	596.66	530.84	65.83	9.064		
13,600.00	11,875.28	13,404.57	11,672.95	48.58	51.41	71.75	1,247.35	925.28	596.71	529.74	66.97	8.911		
13,700.00	11,873.80	13,504.57	11,671.20	49.42	52.35	71.73	1,347.33	924.37	596.75	528.59	68.16	8.755		
13,800.00	11,872.32	13,604.57	11,669.45	50.30	53.32	71.70	1,447.31	923.46	596.79	527.39	69.40	8.599		
13,900.00	11,870.83	13,704.57	11,667.70	51.22	54.33	71.67	1,547.29	922.56	596.83	526.14	70.69	8.443		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Santa Fe Fed/Zia Fed - Santa Fe Fed Com 603H - OH - Plan #2		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance				Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)		Minimum Separation (usft)	Separation Factor			
14,000.00	11,869.35	13,804.57	11,665.96	52.17	55.37	71.65	1,647.27	921.65	596.87	524.84		72.03	8.286			
14,100.00	11,867.87	13,904.57	11,664.21	53.16	56.43	71.62	1,747.25	920.74	596.91	523.51		73.41	8.131			
14,200.00	11,866.39	14,004.57	11,662.46	54.18	57.53	71.60	1,847.23	919.84	596.96	522.13		74.83	7.978			
14,300.00	11,864.91	14,104.57	11,660.71	55.23	58.65	71.57	1,947.21	918.93	597.00	520.72		76.28	7.826			
14,400.00	11,863.43	14,204.57	11,658.96	56.31	59.79	71.55	2,047.19	918.02	597.04	519.27		77.77	7.677			
14,500.00	11,861.95	14,304.57	11,657.21	57.42	60.96	71.52	2,147.17	917.12	597.08	517.78		79.30	7.529			
14,600.00	11,860.47	14,404.57	11,655.46	58.55	62.15	71.49	2,247.15	916.21	597.13	516.27		80.86	7.385			
14,700.00	11,858.98	14,504.57	11,653.71	59.71	63.36	71.47	2,347.13	915.30	597.17	514.73		82.44	7.244			
14,800.00	11,857.50	14,604.57	11,651.96	60.88	64.59	71.44	2,447.11	914.40	597.21	513.16		84.05	7.105			
14,900.00	11,856.02	14,704.57	11,650.22	62.08	65.84	71.42	2,547.09	913.49	597.25	511.56		85.69	6.970			
15,000.00	11,854.54	14,804.57	11,648.47	63.30	67.10	71.39	2,647.07	912.59	597.30	509.94		87.36	6.837			
15,100.00	11,853.06	14,904.57	11,646.72	64.54	68.38	71.37	2,747.05	911.68	597.34	508.30		89.04	6.708			
15,200.00	11,851.58	15,004.57	11,644.97	65.80	69.68	71.34	2,847.03	910.77	597.38	506.63		90.75	6.583			
15,300.00	11,850.10	15,104.57	11,643.22	67.08	70.99	71.31	2,947.01	909.87	597.43	504.95		92.48	6.460			
15,400.00	11,848.61	15,204.57	11,641.47	68.37	72.32	71.29	3,046.99	908.96	597.47	503.24		94.23	6.341			
15,500.00	11,847.13	15,304.57	11,639.72	69.67	73.66	71.26	3,146.97	908.05	597.51	501.52		95.99	6.225			
15,600.00	11,845.65	15,404.57	11,637.97	70.99	75.01	71.24	3,246.95	907.15	597.56	499.78		97.78	6.112			
15,700.00	11,844.17	15,504.57	11,636.22	72.33	76.37	71.21	3,346.93	906.24	597.60	498.03		99.57	6.002			
15,800.00	11,842.69	15,604.57	11,634.48	73.67	77.75	71.19	3,446.91	905.33	597.65	496.26		101.39	5.895			
15,900.00	11,841.21	15,704.57	11,632.73	75.03	79.13	71.16	3,546.89	904.43	597.69	494.48		103.21	5.791			
16,000.00	11,839.73	15,804.57	11,630.98	76.40	80.53	71.13	3,646.87	903.52	597.73	492.68		105.05	5.690			
16,100.00	11,838.25	15,904.57	11,629.23	77.78	81.93	71.11	3,746.85	902.61	597.78	490.87		106.91	5.592			
16,200.00	11,836.76	16,004.57	11,627.48	79.18	83.34	71.08	3,846.83	901.71	597.82	489.05		108.77	5.496			
16,300.00	11,835.28	16,104.56	11,625.73	80.58	84.77	71.06	3,946.81	900.80	597.87	487.22		110.65	5.403			
16,400.00	11,833.80	16,204.56	11,623.98	81.99	86.20	71.03	4,046.80	899.90	597.91	485.38		112.53	5.313			
16,500.00	11,832.32	16,304.56	11,622.23	83.41	87.63	71.01	4,146.78	898.99	597.96	483.53		114.43	5.226			
16,600.00	11,830.84	16,404.56	11,620.48	84.83	89.08	70.98	4,246.76	898.08	598.00	481.67		116.33	5.141			
16,700.00	11,829.36	16,504.56	11,618.74	86.27	90.53	70.96	4,346.74	897.18	598.05	479.80		118.24	5.058			
16,800.00	11,827.88	16,604.56	11,616.99	87.71	91.99	70.93	4,446.72	896.27	598.09	477.93		120.17	4.977			
16,900.00	11,826.39	16,704.56	11,615.24	89.16	93.46	70.90	4,546.70	895.36	598.14	476.04		122.09	4.899			
17,000.00	11,824.91	16,804.56	11,613.49	90.62	94.93	70.88	4,646.68	894.46	598.18	474.15		124.03	4.823			
17,100.00	11,823.43	16,904.56	11,611.74	92.09	96.41	70.85	4,746.66	893.55	598.23	472.25		125.97	4.749			
17,200.00	11,821.95	17,004.56	11,609.99	93.56	97.89	70.83	4,846.64	892.64	598.27	470.35		127.92	4.677			
17,300.00	11,820.47	17,104.56	11,608.24	95.03	99.38	70.80	4,946.62	891.74	598.32	468.44		129.88	4.607			
17,400.00	11,818.99	17,204.56	11,606.49	96.51	100.87	70.78	5,046.60	890.83	598.37	466.53		131.84	4.539			
17,500.00	11,817.51	17,304.56	11,604.74	98.00	102.37	70.75	5,146.58	889.92	598.41	464.61		133.80	4.472			
17,600.00	11,816.03	17,404.56	11,603.00	99.49	103.87	70.72	5,246.56	889.02	598.46	462.68		135.78	4.408			
17,700.00	11,814.54	17,504.56	11,601.25	100.99	105.38	70.70	5,346.54	888.11	598.50	460.75		137.75	4.345			
17,800.00	11,813.06	17,604.56	11,599.50	102.49	106.89	70.67	5,446.52	887.21	598.55	458.82		139.73	4.284			
17,900.00	11,811.58	17,704.56	11,597.75	104.00	108.40	70.65	5,546.50	886.30	598.60	456.88		141.72	4.224			
18,000.00	11,810.10	17,804.56	11,596.00	105.51	109.92	70.62	5,646.48	885.39	598.64	454.94		143.70	4.166			
18,100.00	11,808.62	17,904.56	11,594.25	107.03	111.45	70.60	5,746.46	884.49	598.69	452.99		145.70	4.109			
18,200.00	11,807.14	18,004.56	11,592.50	108.55	112.97	70.57	5,846.44	883.58	598.74	451.05		147.69	4.054			
18,300.00	11,805.66	18,104.56	11,590.75	110.07	114.50	70.55	5,946.42	882.67	598.78	449.10		149.69	4.000			
18,400.00	11,804.17	18,204.56	11,589.00	111.60	116.04	70.52	6,046.40	881.77	598.83	447.14		151.69	3.948			
18,500.00	11,802.69	18,304.56	11,587.26	113.13	117.57	70.49	6,146.38	880.86	598.88	445.18		153.69	3.897			
18,600.00	11,801.21	18,404.56	11,585.51	114.66	119.11	70.47	6,246.36	879.95	598.93	443.23		155.70	3.847			
18,700.00	11,799.73	18,504.56	11,583.76	116.20	120.66	70.44	6,346.34	879.05	598.97	441.26		157.71	3.798			
18,800.00	11,798.25	18,604.56	11,582.01	117.74	122.20	70.42	6,446.32	878.14	599.02	439.30		159.72	3.750			
18,900.00	11,796.77	18,704.56	11,580.26	119.28	123.75	70.39	6,546.30	877.23	599.07	437.34		161.73	3.704			
19,000.00	11,795.29	18,804.55	11,578.51	120.82	125.30	70.37	6,646.28	876.33	599.12	435.37		163.75	3.659			
19,100.00	11,793.81	18,904.55	11,576.76	122.37	126.86	70.34	6,746.26	875.42	599.16	433.40		165.76	3.615			

CC - Min centre to center distance or 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 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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
Santa Fe Fed/Zia Fed - Santa Fe Fed Com 603H - OH - Plan #2													Offset Well Error:		0.00 usft
Survey Program: 0-OWSG (Rev2) MWD															
Reference		Offset		Semi Major Axis			Distance								
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
19,200.00	11,792.32	19,004.55	11,575.01	123.92	128.41	70.32	6,846.24	874.51	599.21	431.43	167.78	3.571			
19,300.00	11,790.84	19,104.55	11,573.26	125.48	129.97	70.29	6,946.22	873.61	599.26	429.46	169.80	3.529			
19,400.00	11,789.36	19,204.55	11,571.52	127.03	131.53	70.26	7,046.20	872.70	599.31	427.49	171.82	3.488			
19,500.00	11,787.88	19,304.55	11,569.77	128.59	133.09	70.24	7,146.18	871.80	599.36	425.52	173.84	3.448			
19,600.00	11,786.40	19,404.55	11,568.02	130.15	134.66	70.21	7,246.16	870.89	599.41	423.54	175.86	3.408			
19,700.00	11,784.92	19,504.55	11,566.27	131.72	136.23	70.19	7,346.14	869.98	599.45	421.57	177.89	3.370			
19,800.00	11,783.44	19,604.55	11,564.52	133.28	137.79	70.16	7,446.12	869.08	599.50	419.59	179.91	3.332			
19,900.00	11,781.95	19,704.55	11,562.77	134.85	139.37	70.14	7,546.10	868.17	599.55	417.62	181.93	3.295			
20,000.00	11,780.47	19,804.55	11,561.02	136.42	140.94	70.11	7,646.08	867.26	599.60	415.64	183.96	3.259			
20,100.00	11,778.99	19,904.55	11,559.27	137.99	142.51	70.09	7,746.06	866.36	599.65	413.66	185.98	3.224			
20,200.00	11,777.51	20,004.55	11,557.52	139.56	144.09	70.06	7,846.04	865.45	599.70	411.69	188.01	3.190			
20,300.00	11,776.03	20,104.55	11,555.78	141.14	145.67	70.04	7,946.02	864.54	599.75	409.71	190.04	3.156			
20,400.00	11,774.55	20,204.55	11,554.03	142.71	147.25	70.01	8,046.00	863.64	599.80	407.74	192.06	3.123			
20,500.00	11,773.07	20,304.55	11,552.28	144.29	148.83	69.98	8,145.98	862.73	599.85	405.76	194.09	3.091			
20,600.00	11,771.59	20,404.55	11,550.53	145.87	150.41	69.96	8,245.96	861.82	599.90	403.78	196.12	3.059			
20,700.00	11,770.10	20,504.55	11,548.78	147.45	151.99	69.93	8,345.95	860.92	599.95	401.81	198.14	3.028			
20,800.00	11,768.62	20,604.55	11,547.03	149.04	153.58	69.91	8,445.93	860.01	600.00	399.83	200.17	2.997			
20,900.00	11,767.14	20,704.55	11,545.28	150.62	155.17	69.88	8,545.91	859.11	600.05	397.85	202.19	2.968			
21,000.00	11,765.66	20,804.55	11,543.53	152.21	156.75	69.86	8,645.89	858.20	600.10	395.88	204.22	2.939			
21,100.00	11,764.18	20,904.55	11,541.78	153.79	158.34	69.83	8,745.87	857.29	600.15	393.91	206.24	2.910			
21,200.00	11,762.70	21,004.55	11,540.04	155.38	159.93	69.81	8,845.85	856.39	600.20	391.93	208.27	2.882			
21,300.00	11,761.22	21,104.55	11,538.29	156.97	161.53	69.78	8,945.83	855.48	600.25	389.96	210.29	2.854			
21,400.00	11,759.74	21,204.55	11,536.54	158.56	163.12	69.75	9,045.81	854.57	600.30	387.99	212.31	2.827			
21,500.00	11,758.25	21,304.55	11,534.79	160.16	164.71	69.73	9,145.79	853.67	600.35	386.02	214.33	2.801			
21,600.00	11,756.77	21,404.55	11,533.04	161.75	166.31	69.70	9,245.77	852.76	600.40	384.05	216.35	2.775			
21,700.00	11,755.29	21,504.54	11,531.29	163.34	167.91	69.68	9,345.75	851.85	600.45	382.08	218.37	2.750			
21,800.00	11,753.81	21,604.54	11,529.54	164.94	169.50	69.65	9,445.73	850.95	600.50	380.11	220.39	2.725			
21,900.00	11,752.33	21,704.54	11,527.79	166.54	171.10	69.63	9,545.71	850.04	600.55	378.14	222.41	2.700			
22,000.00	11,750.85	21,804.54	11,526.04	168.13	172.70	69.60	9,645.69	849.13	600.61	376.18	224.43	2.676			
22,063.91	11,749.90	21,868.46	11,524.93	169.16	173.72	69.59	9,709.59	848.56	600.64	374.92	225.72	2.661			
22,064.91	11,749.89	21,869.45	11,524.91	169.17	173.74	69.59	9,710.58	848.55	600.64	374.91	225.73	2.661	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 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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	103.52	-445.58	1,852.43	1,905.33					
100.00	100.00	84.20	84.20	0.13	0.11	103.52	-445.58	1,852.43	1,905.27	1,905.10	0.16	N/A		
200.00	200.00	184.20	184.20	0.48	0.43	103.52	-445.58	1,852.43	1,905.27	1,904.62	0.65	2,951.229		
300.00	300.00	284.20	284.20	0.84	0.79	103.52	-445.58	1,852.43	1,905.27	1,904.11	1.15	1,653.888		
400.00	400.00	384.20	384.20	1.20	1.14	103.52	-445.58	1,852.43	1,905.27	1,903.61	1.66	1,148.626		
500.00	500.00	484.20	484.20	1.56	1.50	103.52	-445.58	1,852.43	1,905.27	1,903.10	2.17	879.796		
600.00	600.00	584.20	584.20	1.92	1.86	103.52	-445.58	1,852.43	1,905.27	1,902.59	2.67	712.925		
700.00	700.00	684.20	684.20	2.28	2.22	103.52	-445.58	1,852.43	1,905.27	1,902.09	3.18	599.259		
800.00	800.00	784.20	784.20	2.63	2.58	103.52	-445.58	1,852.43	1,905.27	1,901.58	3.69	516.852		
900.00	900.00	884.20	884.20	2.99	2.94	103.52	-445.58	1,852.43	1,905.27	1,901.07	4.19	454.368		
1,000.00	1,000.00	984.20	984.20	3.35	3.30	103.52	-445.58	1,852.43	1,905.27	1,900.57	4.70	405.363		
1,100.00	1,100.00	1,084.20	1,084.20	3.71	3.65	103.52	-445.58	1,852.43	1,905.27	1,900.06	5.21	365.898		
1,200.00	1,200.00	1,184.20	1,184.20	4.07	4.01	103.52	-445.58	1,852.43	1,905.27	1,899.55	5.71	333.436		
1,300.00	1,300.00	1,284.20	1,284.20	4.43	4.37	103.52	-445.58	1,852.43	1,905.27	1,899.05	6.22	306.265		
1,400.00	1,400.00	1,384.20	1,384.20	4.79	4.73	103.52	-445.58	1,852.43	1,905.27	1,898.54	6.73	283.188		
1,500.00	1,500.00	1,484.20	1,484.20	5.14	5.09	103.52	-445.58	1,852.43	1,905.27	1,898.03	7.23	263.345		
1,600.00	1,600.00	1,584.20	1,584.20	5.50	5.45	103.52	-445.58	1,852.43	1,905.27	1,897.52	7.74	246.101		
1,700.00	1,700.00	1,684.20	1,684.20	5.86	5.80	103.52	-445.58	1,852.43	1,905.27	1,897.02	8.25	230.976		
1,800.00	1,800.00	1,784.20	1,784.20	6.22	6.16	103.52	-445.58	1,852.43	1,905.27	1,896.51	8.76	217.603		
1,900.00	1,900.00	1,884.20	1,884.20	6.58	6.52	103.52	-445.58	1,852.43	1,905.27	1,896.00	9.26	205.693		
2,000.00	2,000.00	1,984.20	1,984.20	6.94	6.88	103.52	-445.58	1,852.43	1,905.27	1,895.50	9.77	195.019		
2,100.00	2,100.00	2,084.20	2,084.20	7.29	7.24	103.52	-445.58	1,852.43	1,905.27	1,894.99	10.28	185.399		
2,200.00	2,200.00	2,184.20	2,184.20	7.65	7.60	103.52	-445.58	1,852.43	1,905.27	1,894.48	10.78	176.683		
2,300.00	2,300.00	2,284.20	2,284.20	8.01	7.96	103.52	-445.58	1,852.43	1,905.27	1,893.98	11.29	168.750		
2,400.00	2,400.00	2,384.20	2,384.20	8.37	8.31	103.52	-445.58	1,852.43	1,905.27	1,893.47	11.80	161.498		
2,500.00	2,500.00	2,484.20	2,484.20	8.73	8.67	103.52	-445.58	1,852.43	1,905.27	1,892.96	12.30	154.845		
2,600.00	2,599.99	2,584.19	2,584.19	9.07	9.03	-46.91	-445.58	1,852.43	1,904.37	1,891.57	12.80	148.790		
2,700.00	2,699.91	2,684.11	2,684.11	9.40	9.39	-47.02	-445.58	1,852.43	1,901.69	1,888.41	13.28	143.172		
2,800.00	2,799.69	2,783.89	2,783.89	9.73	9.75	-47.22	-445.58	1,852.43	1,897.24	1,883.47	13.77	137.808		
2,900.00	2,899.27	2,883.47	2,883.47	10.06	10.10	-47.49	-445.58	1,852.43	1,891.02	1,876.77	14.25	132.673		
2,966.63	2,965.47	2,949.67	2,949.67	10.28	10.34	-47.72	-445.58	1,852.43	1,885.92	1,871.34	14.58	129.367		
3,000.00	2,998.59	2,982.79	2,982.79	10.40	10.46	-47.81	-445.58	1,852.43	1,883.17	1,868.43	14.74	127.751		
3,100.00	3,097.85	3,082.05	3,082.05	10.74	10.82	-48.08	-445.58	1,852.43	1,874.98	1,859.75	15.23	123.106		
3,200.00	3,197.10	3,181.30	3,181.30	11.09	11.17	-48.36	-445.58	1,852.43	1,866.82	1,851.10	15.72	118.732		
3,300.00	3,296.36	3,280.56	3,280.56	11.44	11.53	-48.64	-445.58	1,852.43	1,858.72	1,842.50	16.22	114.609		
3,400.00	3,395.61	3,379.81	3,379.81	11.79	11.88	-48.92	-445.58	1,852.43	1,850.65	1,833.94	16.71	110.718		
3,500.00	3,494.87	3,479.07	3,479.07	12.15	12.24	-49.20	-445.58	1,852.43	1,842.63	1,825.42	17.21	107.042		
3,600.00	3,594.12	3,632.85	3,632.82	12.51	12.77	-49.61	-446.37	1,850.26	1,833.50	1,815.67	17.83	102.832		
3,700.00	3,693.37	3,800.44	3,800.13	12.88	13.34	-49.95	-449.64	1,841.34	1,820.74	1,802.30	18.45	98.702		
3,800.00	3,792.63	3,966.58	3,965.42	13.24	13.90	-50.17	-455.37	1,825.71	1,804.31	1,785.27	19.04	94.759		
3,900.00	3,891.88	4,065.02	4,063.12	13.61	14.25	-50.28	-459.50	1,814.43	1,786.04	1,766.52	19.53	91.462		
4,000.00	3,991.14	4,163.29	4,160.66	13.99	14.59	-50.38	-463.62	1,803.18	1,767.78	1,747.76	20.02	88.314		
4,100.00	4,090.39	4,261.56	4,258.19	14.36	14.94	-50.48	-467.74	1,791.93	1,749.52	1,729.01	20.51	85.306		
4,200.00	4,189.65	4,359.82	4,355.73	14.74	15.29	-50.59	-471.86	1,780.67	1,731.27	1,710.27	21.00	82.429		
4,300.00	4,288.90	4,458.09	4,453.27	15.11	15.64	-50.70	-475.99	1,769.42	1,713.03	1,691.53	21.50	79.677		
4,400.00	4,388.16	4,556.36	4,550.80	15.49	15.99	-50.81	-480.11	1,758.17	1,694.79	1,672.79	22.00	77.042		
4,500.00	4,487.41	4,654.63	4,648.34	15.87	16.35	-50.92	-484.23	1,746.91	1,676.55	1,654.05	22.50	74.517		
4,600.00	4,586.67	4,752.90	4,745.87	16.26	16.71	-51.04	-488.35	1,735.66	1,658.33	1,635.32	23.00	72.096		
4,700.00	4,685.92	4,851.17	4,843.41	16.64	17.07	-51.15	-492.47	1,724.41	1,640.11	1,616.60	23.51	69.775		
4,800.00	4,785.18	4,949.44	4,940.94	17.03	17.43	-51.28	-496.60	1,713.16	1,621.89	1,597.88	24.01	67.546		
4,900.00	4,884.43	5,047.71	5,038.48	17.41	17.79	-51.40	-500.72	1,701.90	1,603.69	1,579.17	24.52	65.405		
5,000.00	4,983.69	5,145.98	5,136.01	17.80	18.16	-51.53	-504.84	1,690.65	1,585.49	1,560.46	25.03	63.348		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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	5,082.94	5,244.25	5,233.55	18.19	18.53	-51.66	-508.96	1,679.40	1,567.30	1,541.76	25.54	61.370		
5,200.00	5,182.20	5,342.51	5,331.08	18.58	18.90	-51.79	-513.08	1,668.14	1,549.11	1,523.06	26.05	59.467		
5,300.00	5,281.45	5,440.78	5,428.62	18.97	19.27	-51.92	-517.21	1,656.89	1,530.94	1,504.38	26.56	57.634		
5,400.00	5,380.70	5,539.05	5,526.16	19.36	19.64	-52.06	-521.33	1,645.64	1,512.77	1,485.70	27.08	55.869		
5,500.00	5,479.96	5,637.32	5,623.69	19.75	20.01	-52.21	-525.45	1,634.38	1,494.62	1,467.02	27.59	54.168		
5,600.00	5,579.21	5,735.59	5,721.23	20.14	20.38	-52.35	-529.57	1,623.13	1,476.47	1,448.36	28.11	52.528		
5,700.00	5,678.47	5,833.86	5,818.76	20.53	20.76	-52.50	-533.69	1,611.88	1,458.33	1,429.70	28.63	50.945		
5,800.00	5,777.72	5,932.13	5,916.30	20.93	21.13	-52.65	-537.82	1,600.62	1,440.20	1,411.06	29.14	49.417		
5,900.00	5,876.98	6,030.40	6,013.83	21.32	21.51	-52.81	-541.94	1,589.37	1,422.08	1,392.42	29.66	47.941		
6,000.00	5,976.23	6,128.67	6,111.37	21.72	21.89	-52.97	-546.06	1,578.12	1,403.97	1,373.79	30.18	46.516		
6,100.00	6,075.49	6,226.93	6,208.90	22.11	22.27	-53.14	-550.18	1,566.87	1,385.88	1,355.17	30.70	45.137		
6,200.00	6,174.74	6,325.20	6,306.44	22.51	22.65	-53.31	-554.30	1,555.61	1,367.79	1,336.57	31.23	43.804		
6,300.00	6,274.00	6,423.47	6,403.97	22.91	23.03	-53.48	-558.43	1,544.36	1,349.72	1,317.97	31.75	42.514		
6,400.00	6,373.25	6,521.74	6,501.51	23.30	23.41	-53.66	-562.55	1,533.11	1,331.66	1,299.39	32.27	41.266		
6,500.00	6,472.51	6,620.01	6,599.04	23.70	23.79	-53.85	-566.67	1,521.85	1,313.61	1,280.81	32.79	40.057		
6,600.00	6,571.76	6,718.28	6,696.58	24.10	24.17	-54.03	-570.79	1,510.60	1,295.57	1,262.26	33.32	38.885		
6,700.00	6,671.02	6,816.55	6,794.12	24.50	24.55	-54.23	-574.91	1,499.35	1,277.55	1,243.71	33.84	37.749		
6,800.00	6,770.27	6,914.82	6,891.65	24.90	24.94	-54.43	-579.04	1,488.09	1,259.55	1,225.18	34.37	36.648		
6,900.00	6,869.53	7,013.09	6,989.19	25.29	25.32	-54.64	-583.16	1,476.84	1,241.56	1,206.66	34.89	35.580		
7,000.00	6,968.78	7,111.35	7,086.72	25.69	25.71	-54.85	-587.28	1,465.59	1,223.58	1,188.16	35.42	34.543		
7,100.00	7,068.04	7,209.62	7,184.26	26.09	26.09	-55.07	-591.40	1,454.33	1,205.62	1,169.68	35.95	33.537		
7,200.00	7,167.29	7,307.89	7,281.79	26.49	26.48	-55.29	-595.52	1,443.08	1,187.68	1,151.21	36.48	32.560		
7,300.00	7,266.54	7,406.16	7,379.33	26.89	26.86	-55.52	-599.65	1,431.83	1,169.76	1,132.76	37.01	31.611		
7,400.00	7,365.80	7,504.43	7,476.86	27.29	27.25	-55.76	-603.77	1,420.58	1,151.86	1,114.32	37.53	30.688		
7,500.00	7,465.05	7,602.70	7,574.40	27.70	27.64	-56.01	-607.89	1,409.32	1,133.98	1,095.91	38.06	29.792		
7,600.00	7,564.31	7,700.97	7,671.93	28.10	28.03	-56.26	-612.01	1,398.07	1,116.11	1,077.52	38.59	28.920		
7,700.00	7,663.56	7,799.24	7,769.47	28.50	28.41	-56.52	-616.13	1,386.82	1,098.27	1,059.15	39.12	28.072		
7,800.00	7,762.82	7,897.51	7,867.01	28.90	28.80	-56.79	-620.26	1,375.56	1,080.46	1,040.80	39.65	27.246		
7,900.00	7,862.07	7,995.78	7,964.54	29.30	29.19	-57.07	-624.38	1,364.31	1,062.66	1,022.48	40.19	26.443		
8,000.00	7,961.33	8,094.04	8,062.08	29.70	29.58	-57.36	-628.50	1,353.06	1,044.90	1,004.18	40.72	25.662		
8,100.00	8,060.58	8,192.31	8,159.61	30.11	29.97	-57.66	-632.62	1,341.81	1,027.16	985.91	41.25	24.900		
8,200.00	8,159.84	8,286.06	8,252.66	30.51	30.34	-57.96	-636.54	1,331.11	1,009.50	967.71	41.79	24.158		
8,300.00	8,259.09	8,365.40	8,331.55	30.91	30.65	-58.25	-639.45	1,323.16	993.20	950.87	42.33	23.463		
8,400.00	8,358.35	8,445.13	8,410.98	31.32	30.95	-58.58	-641.81	1,316.71	978.83	935.97	42.86	22.836		
8,500.00	8,457.60	8,525.18	8,490.86	31.72	31.25	-58.96	-643.61	1,311.81	966.43	923.05	43.38	22.276		
8,600.00	8,556.86	8,600.00	8,565.60	32.12	31.52	-59.35	-644.77	1,308.65	956.05	912.17	43.88	21.786		
8,700.00	8,656.11	8,685.96	8,651.54	32.53	31.82	-59.85	-645.47	1,306.72	947.66	903.28	44.39	21.350		
8,728.63	8,684.53	8,709.03	8,674.61	32.64	31.90	-60.00	-645.55	1,306.51	945.65	901.12	44.53	21.238		
8,800.00	8,755.44	8,774.07	8,739.64	32.93	32.12	-60.32	-645.58	1,306.43	941.53	896.64	44.89	20.976		
8,900.00	8,855.03	8,873.66	8,839.23	33.31	32.45	-60.74	-645.58	1,306.43	937.08	891.67	45.40	20.639		
9,000.00	8,954.82	8,973.45	8,939.02	33.68	32.78	-61.05	-645.58	1,306.43	933.95	888.04	45.91	20.344		
9,100.00	9,054.75	9,073.37	9,038.95	34.04	33.12	-61.23	-645.58	1,306.43	932.11	885.71	46.41	20.086		
9,195.26	9,150.00	9,168.62	9,134.20	34.35	33.44	89.11	-645.58	1,306.43	931.54	884.68	46.86	19.878		
9,200.00	9,154.74	9,173.36	9,138.94	34.37	33.45	89.11	-645.58	1,306.43	931.54	884.66	46.88	19.869		
9,300.00	9,254.74	9,273.36	9,238.94	34.68	33.79	89.11	-645.58	1,306.43	931.54	884.19	47.35	19.672		
9,400.00	9,354.74	9,373.36	9,338.94	35.00	34.13	89.11	-645.58	1,306.43	931.54	883.72	47.82	19.479		
9,500.00	9,454.74	9,473.36	9,438.94	35.32	34.46	89.11	-645.58	1,306.43	931.54	883.25	48.29	19.290		
9,600.00	9,554.74	9,573.36	9,538.94	35.63	34.80	89.11	-645.58	1,306.43	931.54	882.78	48.76	19.103		
9,700.00	9,654.74	9,673.36	9,638.94	35.95	35.14	89.11	-645.58	1,306.43	931.54	882.31	49.23	18.920		
9,800.00	9,754.74	9,773.36	9,738.94	36.27	35.48	89.11	-645.58	1,306.43	931.54	881.83	49.71	18.741		
9,900.00	9,854.74	9,873.36	9,838.94	36.59	35.82	89.11	-645.58	1,306.43	931.54	881.36	50.18	18.564		
10,000.00	9,954.74	9,973.36	9,938.94	36.91	36.16	89.11	-645.58	1,306.43	931.54	880.89	50.65	18.391		

CC - Min centre to center distance or 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 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance								Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,100.00	10,054.74	10,073.36	10,038.94	37.23	36.50	89.11	-645.58	1,306.43	931.54	880.41	51.13	18.220		
10,200.00	10,154.74	10,173.36	10,138.94	37.56	36.84	89.11	-645.58	1,306.43	931.54	879.94	51.60	18.052		
10,300.00	10,254.74	10,273.36	10,238.94	37.88	37.18	89.11	-645.58	1,306.43	931.54	879.46	52.08	17.888		
10,400.00	10,354.74	10,373.36	10,338.94	38.20	37.52	89.11	-645.58	1,306.43	931.54	878.99	52.55	17.726		
10,500.00	10,454.74	10,473.36	10,438.94	38.53	37.86	89.11	-645.58	1,306.43	931.54	878.51	53.03	17.566		
10,600.00	10,554.74	10,573.36	10,538.94	38.85	38.20	89.11	-645.58	1,306.43	931.54	878.03	53.51	17.410		
10,700.00	10,654.74	10,673.36	10,638.94	39.18	38.54	89.11	-645.58	1,306.43	931.54	877.56	53.98	17.256		
10,800.00	10,754.74	10,773.36	10,738.94	39.50	38.88	89.11	-645.58	1,306.43	931.54	877.08	54.46	17.104		
10,900.00	10,854.74	10,873.36	10,838.94	39.83	39.23	89.11	-645.58	1,306.43	931.54	876.60	54.94	16.955		
11,000.00	10,954.74	10,973.36	10,938.94	40.16	39.57	89.11	-645.58	1,306.43	931.54	876.12	55.42	16.809		
11,100.00	11,054.74	11,073.36	11,038.94	40.48	39.91	89.11	-645.58	1,306.43	931.54	875.64	55.90	16.664		
11,200.00	11,154.74	11,173.36	11,138.94	40.81	40.25	89.11	-645.58	1,306.43	931.54	875.16	56.38	16.522		
11,300.00	11,254.74	11,273.36	11,238.94	41.14	40.60	89.11	-645.58	1,306.43	931.54	874.68	56.86	16.383		
11,367.26	11,322.00	11,340.62	11,306.20	41.36	40.83	89.11	-645.58	1,306.43	931.54	874.36	57.18	16.290		
11,400.00	11,354.72	11,373.34	11,338.92	41.47	40.94	89.66	-645.58	1,306.43	931.54	874.20	57.34	16.246		
11,450.00	11,404.45	11,423.07	11,388.65	41.61	41.11	89.97	-645.58	1,306.43	931.52	873.95	57.57	16.182		
11,452.90	11,407.32	11,425.94	11,391.52	41.62	41.12	90.00	-645.58	1,306.43	931.52	873.94	57.58	16.178		
11,500.00	11,453.55	11,472.75	11,438.30	41.75	41.28	90.46	-644.30	1,306.42	931.55	873.77	57.78	16.123		
11,550.00	11,501.66	11,523.16	11,488.38	41.87	41.45	90.96	-638.72	1,306.37	931.65	873.67	57.98	16.069		
11,600.00	11,548.39	11,574.32	11,538.51	41.97	41.61	91.46	-628.59	1,306.27	931.82	873.65	58.16	16.020		
11,650.00	11,593.40	11,626.26	11,588.27	42.06	41.76	91.94	-613.77	1,306.14	932.05	873.71	58.34	15.977		
11,700.00	11,636.35	11,679.00	11,637.21	42.14	41.91	92.42	-594.17	1,305.96	932.34	873.84	58.50	15.938		
11,750.00	11,676.90	11,732.54	11,684.85	42.20	42.04	92.88	-569.76	1,305.74	932.68	874.04	58.64	15.905		
11,800.00	11,714.75	11,786.90	11,730.66	42.24	42.16	93.32	-540.54	1,305.47	933.06	874.28	58.77	15.875		
11,850.00	11,749.62	11,842.06	11,774.11	42.28	42.27	93.74	-506.59	1,305.16	933.46	874.57	58.89	15.850		
11,900.00	11,781.23	11,898.00	11,814.63	42.31	42.36	94.13	-468.06	1,304.80	933.88	874.87	59.00	15.827		
11,950.00	11,809.34	11,954.69	11,851.66	42.32	42.44	94.48	-425.17	1,304.41	934.29	875.18	59.11	15.807		
12,000.00	11,833.75	12,012.07	11,884.64	42.33	42.50	94.80	-378.25	1,303.98	934.68	875.48	59.21	15.787		
12,050.00	11,854.26	12,070.08	11,913.05	42.34	42.55	95.08	-327.70	1,303.52	935.04	875.74	59.30	15.767		
12,100.00	11,870.72	12,128.66	11,936.41	42.34	42.60	95.32	-274.01	1,303.02	935.36	875.95	59.40	15.746		
12,150.00	11,883.00	12,187.70	11,954.27	42.34	42.66	95.51	-217.77	1,302.51	935.61	876.10	59.51	15.721		
12,200.00	11,891.01	12,247.10	11,966.32	42.34	42.74	95.65	-159.63	1,301.98	935.80	876.17	59.63	15.693		
12,250.00	11,894.70	12,306.76	11,972.29	42.34	42.86	95.73	-100.30	1,301.43	935.90	876.14	59.76	15.661		
12,275.75	11,894.90	12,337.54	11,972.95	42.35	42.93	95.76	-69.53	1,301.15	935.92	876.09	59.83	15.642		
12,300.00	11,894.54	12,363.08	11,972.51	42.35	43.00	95.75	-44.00	1,300.92	935.90	876.00	59.90	15.624		
12,400.00	11,893.05	12,463.08	11,970.60	42.44	43.31	95.73	55.98	1,300.00	935.81	875.59	60.22	15.541		
12,500.00	11,891.57	12,563.08	11,968.68	42.60	43.69	95.70	155.95	1,299.08	935.71	875.09	60.62	15.437		
12,600.00	11,890.09	12,663.07	11,966.77	42.84	44.13	95.67	255.93	1,298.17	935.61	874.51	61.10	15.312		
12,700.00	11,888.61	12,763.07	11,964.85	43.16	44.62	95.65	355.91	1,297.25	935.51	873.84	61.67	15.169		
12,800.00	11,887.13	12,863.07	11,962.94	43.54	45.17	95.62	455.88	1,296.33	935.42	873.10	62.32	15.009		
12,900.00	11,885.65	12,963.07	11,961.02	43.98	45.77	95.60	555.86	1,295.42	935.32	872.27	63.05	14.834		
13,000.00	11,884.17	13,063.07	11,959.10	44.48	46.42	95.57	655.84	1,294.50	935.22	871.36	63.86	14.645		
13,100.00	11,882.69	13,163.07	11,957.19	45.04	47.11	95.54	755.81	1,293.59	935.13	870.39	64.74	14.444		
13,200.00	11,881.20	13,263.07	11,955.27	45.65	47.86	95.52	855.79	1,292.67	935.03	869.34	65.69	14.233		
13,300.00	11,879.72	13,363.07	11,953.36	46.31	48.64	95.49	955.77	1,291.75	934.94	868.22	66.71	14.015		
13,400.00	11,878.24	13,463.07	11,951.44	47.02	49.47	95.46	1,055.74	1,290.84	934.84	867.04	67.80	13.789		
13,500.00	11,876.76	13,563.07	11,949.53	47.78	50.34	95.44	1,155.72	1,289.92	934.74	865.80	68.94	13.559		
13,600.00	11,875.28	13,663.06	11,947.61	48.58	51.25	95.41	1,255.70	1,289.00	934.65	864.50	70.14	13.325		
13,700.00	11,873.80	13,763.06	11,945.69	49.42	52.19	95.39	1,355.67	1,288.09	934.55	863.15	71.40	13.088		
13,800.00	11,872.32	13,863.06	11,943.78	50.30	53.17	95.36	1,455.65	1,287.17	934.46	861.74	72.72	12.851		
13,900.00	11,870.83	13,963.06	11,941.86	51.22	54.18	95.33	1,555.62	1,286.25	934.36	860.28	74.08	12.613		
14,000.00	11,869.35	14,063.06	11,939.95	52.17	55.22	95.31	1,655.60	1,285.34	934.27	858.78	75.49	12.376		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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	11,867.87	14,163.06	11,938.03	53.16	56.29	95.28	1,755.58	1,284.42	934.17	857.23	76.94	12.141		
14,200.00	11,866.39	14,263.06	11,936.12	54.18	57.39	95.25	1,855.55	1,283.51	934.08	855.64	78.44	11.908		
14,300.00	11,864.91	14,363.06	11,934.20	55.23	58.51	95.23	1,955.53	1,282.59	933.99	854.01	79.98	11.678		
14,400.00	11,863.43	14,463.06	11,932.28	56.31	59.66	95.20	2,055.51	1,281.67	933.89	852.34	81.55	11.451		
14,500.00	11,861.95	14,563.06	11,930.37	57.42	60.83	95.18	2,155.48	1,280.76	933.80	850.64	83.16	11.229		
14,600.00	11,860.47	14,663.06	11,928.45	58.55	62.02	95.15	2,255.46	1,279.84	933.71	848.90	84.81	11.010		
14,700.00	11,858.98	14,763.05	11,926.54	59.71	63.24	95.12	2,355.44	1,278.92	933.61	847.13	86.48	10.796		
14,800.00	11,857.50	14,863.05	11,924.62	60.88	64.47	95.10	2,455.41	1,278.01	933.52	845.33	88.19	10.586		
14,900.00	11,856.02	14,963.05	11,922.71	62.08	65.72	95.07	2,555.39	1,277.09	933.43	843.51	89.92	10.381		
15,000.00	11,854.54	15,063.05	11,920.79	63.30	66.99	95.04	2,655.37	1,276.18	933.33	841.66	91.68	10.180		
15,100.00	11,853.06	15,163.05	11,918.87	64.54	68.27	95.02	2,755.34	1,275.26	933.24	839.78	93.46	9.985		
15,200.00	11,851.58	15,263.05	11,916.96	65.80	69.57	94.99	2,855.32	1,274.34	933.15	837.88	95.27	9.795		
15,300.00	11,850.10	15,363.05	11,915.04	67.08	70.89	94.97	2,955.30	1,273.43	933.06	835.95	97.10	9.609		
15,400.00	11,848.61	15,463.05	11,913.13	68.37	72.22	94.94	3,055.27	1,272.51	932.97	834.01	98.95	9.428		
15,500.00	11,847.13	15,563.05	11,911.21	69.67	73.56	94.91	3,155.25	1,271.59	932.87	832.05	100.83	9.252		
15,600.00	11,845.65	15,663.05	11,909.30	70.99	74.91	94.89	3,255.23	1,270.68	932.78	830.07	102.72	9.081		
15,700.00	11,844.17	15,763.04	11,907.38	72.33	76.28	94.86	3,355.20	1,269.76	932.69	828.07	104.62	8.915		
15,800.00	11,842.69	15,863.04	11,905.46	73.67	77.65	94.83	3,455.18	1,268.84	932.60	826.05	106.55	8.753		
15,900.00	11,841.21	15,963.04	11,903.55	75.03	79.04	94.81	3,555.15	1,267.93	932.51	824.02	108.49	8.595		
16,000.00	11,839.73	16,063.04	11,901.63	76.40	80.44	94.78	3,655.13	1,267.01	932.42	821.97	110.45	8.442		
16,100.00	11,838.25	16,163.04	11,899.72	77.78	81.84	94.76	3,755.11	1,266.10	932.33	819.91	112.42	8.293		
16,200.00	11,836.76	16,263.04	11,897.80	79.18	83.26	94.73	3,855.08	1,265.18	932.24	817.83	114.40	8.149		
16,300.00	11,835.28	16,363.04	11,895.89	80.58	84.68	94.70	3,955.06	1,264.26	932.15	815.75	116.40	8.008		
16,400.00	11,833.80	16,463.04	11,893.97	81.99	86.12	94.68	4,055.04	1,263.35	932.06	813.65	118.41	7.871		
16,500.00	11,832.32	16,563.04	11,892.05	83.41	87.56	94.65	4,155.01	1,262.43	931.97	811.53	120.43	7.738		
16,600.00	11,830.84	16,663.04	11,890.14	84.83	89.00	94.62	4,254.99	1,261.51	931.88	809.41	122.47	7.609		
16,700.00	11,829.36	16,763.04	11,888.22	86.27	90.46	94.60	4,354.97	1,260.60	931.79	807.28	124.51	7.484		
16,800.00	11,827.88	16,863.03	11,886.31	87.71	91.92	94.57	4,454.94	1,259.68	931.70	805.14	126.56	7.362		
16,900.00	11,826.39	16,963.03	11,884.39	89.16	93.39	94.54	4,554.92	1,258.77	931.61	802.99	128.63	7.243		
17,000.00	11,824.91	17,063.03	11,882.48	90.62	94.86	94.52	4,654.90	1,257.85	931.52	800.82	130.70	7.127		
17,100.00	11,823.43	17,163.03	11,880.56	92.09	96.34	94.49	4,754.87	1,256.93	931.43	798.66	132.78	7.015		
17,200.00	11,821.95	17,263.03	11,878.64	93.56	97.82	94.47	4,854.85	1,256.02	931.35	796.48	134.87	6.906		
17,300.00	11,820.47	17,363.03	11,876.73	95.03	99.31	94.44	4,954.83	1,255.10	931.26	794.29	136.96	6.799		
17,400.00	11,818.99	17,463.03	11,874.81	96.51	100.81	94.41	5,054.80	1,254.18	931.17	792.10	139.07	6.696		
17,500.00	11,817.51	17,563.03	11,872.90	98.00	102.31	94.39	5,154.78	1,253.27	931.08	789.90	141.18	6.595		
17,600.00	11,816.03	17,663.03	11,870.98	99.49	103.81	94.36	5,254.76	1,252.35	930.99	787.69	143.30	6.497		
17,700.00	11,814.54	17,763.03	11,869.07	100.99	105.32	94.33	5,354.73	1,251.43	930.91	785.48	145.43	6.401		
17,800.00	11,813.06	17,863.02	11,867.15	102.49	106.83	94.31	5,454.71	1,250.52	930.82	783.26	147.56	6.308		
17,900.00	11,811.58	17,963.02	11,865.23	104.00	108.35	94.28	5,554.68	1,249.60	930.73	781.04	149.70	6.218		
18,000.00	11,810.10	18,063.02	11,863.32	105.51	109.87	94.25	5,654.66	1,248.69	930.65	778.81	151.84	6.129		
18,100.00	11,808.62	18,163.02	11,861.40	107.03	111.40	94.23	5,754.64	1,247.77	930.56	776.57	153.99	6.043		
18,200.00	11,807.14	18,263.02	11,859.49	108.55	112.93	94.20	5,854.61	1,246.85	930.47	774.33	156.14	5.959		
18,300.00	11,805.66	18,363.02	11,857.57	110.07	114.46	94.17	5,954.59	1,245.94	930.39	772.08	158.30	5.877		
18,400.00	11,804.17	18,463.02	11,855.66	111.60	115.99	94.15	6,054.57	1,245.02	930.30	769.83	160.47	5.797		
18,500.00	11,802.69	18,563.02	11,853.74	113.13	117.53	94.12	6,154.54	1,244.10	930.22	767.58	162.64	5.720		
18,600.00	11,801.21	18,663.02	11,851.82	114.66	119.07	94.10	6,254.52	1,243.19	930.13	765.32	164.81	5.644		
18,700.00	11,799.73	18,763.02	11,849.91	116.20	120.62	94.07	6,354.50	1,242.27	930.04	763.05	166.99	5.569		
18,800.00	11,798.25	18,863.02	11,847.99	117.74	122.16	94.04	6,454.47	1,241.35	929.96	760.79	169.17	5.497		
18,900.00	11,796.77	18,963.01	11,846.08	119.28	123.71	94.02	6,554.45	1,240.44	929.87	758.51	171.36	5.426		
19,000.00	11,795.29	19,063.01	11,844.16	120.82	125.26	93.99	6,654.43	1,239.52	929.79	756.24	173.55	5.357		
19,100.00	11,793.81	19,163.01	11,842.25	122.37	126.82	93.96	6,754.40	1,238.61	929.70	753.96	175.75	5.290		
19,200.00	11,792.32	19,263.01	11,840.33	123.92	128.38	93.94	6,854.38	1,237.69	929.62	751.68	177.94	5.224		

CC - Min centre to center distance or 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 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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	11,790.84	19,363.01	11,838.41	125.48	129.94	93.91	6,954.36	1,236.77	929.54	749.39	180.15	5.160		
19,400.00	11,789.36	19,463.01	11,836.50	127.03	131.50	93.88	7,054.33	1,235.86	929.45	747.10	182.35	5.097		
19,500.00	11,787.88	19,563.01	11,834.58	128.59	133.06	93.86	7,154.31	1,234.94	929.37	744.81	184.56	5.036		
19,600.00	11,786.40	19,663.01	11,832.67	130.15	134.63	93.83	7,254.29	1,234.02	929.28	742.51	186.77	4.976		
19,700.00	11,784.92	19,763.01	11,830.75	131.72	136.20	93.80	7,354.26	1,233.11	929.20	740.21	188.99	4.917		
19,800.00	11,783.44	19,863.01	11,828.84	133.28	137.77	93.78	7,454.24	1,232.19	929.12	737.91	191.20	4.859		
19,900.00	11,781.95	19,963.00	11,826.92	134.85	139.34	93.75	7,554.21	1,231.28	929.04	735.61	193.43	4.803		
20,000.00	11,780.47	20,063.00	11,825.00	136.42	140.91	93.72	7,654.19	1,230.36	928.95	733.30	195.65	4.748		
20,100.00	11,778.99	20,163.00	11,823.09	137.99	142.49	93.70	7,754.17	1,229.44	928.87	731.00	197.87	4.694		
20,200.00	11,777.51	20,263.00	11,821.17	139.56	144.06	93.67	7,854.14	1,228.53	928.79	728.68	200.10	4.642		
20,300.00	11,776.03	20,363.00	11,819.26	141.14	145.64	93.65	7,954.12	1,227.61	928.71	726.37	202.33	4.590		
20,400.00	11,774.55	20,463.00	11,817.34	142.71	147.22	93.62	8,054.10	1,226.69	928.62	724.06	204.57	4.539		
20,500.00	11,773.07	20,563.00	11,815.43	144.29	148.81	93.59	8,154.07	1,225.78	928.54	721.74	206.80	4.490		
20,600.00	11,771.59	20,663.00	11,813.51	145.87	150.39	93.57	8,254.05	1,224.86	928.46	719.42	209.04	4.441		
20,700.00	11,770.10	20,763.00	11,811.59	147.45	151.97	93.54	8,354.03	1,223.94	928.38	717.10	211.28	4.394		
20,800.00	11,768.62	20,863.00	11,809.68	149.04	153.56	93.51	8,454.00	1,223.03	928.30	714.77	213.53	4.347		
20,900.00	11,767.14	20,962.99	11,807.76	150.62	155.15	93.49	8,553.98	1,222.11	928.22	712.45	215.77	4.302		
21,000.00	11,765.66	21,062.99	11,805.85	152.21	156.74	93.46	8,653.96	1,221.20	928.14	710.12	218.02	4.257		
21,100.00	11,764.18	21,162.99	11,803.93	153.79	158.33	93.43	8,753.93	1,220.28	928.06	707.79	220.27	4.213		
21,200.00	11,762.70	21,262.99	11,802.02	155.38	159.92	93.41	8,853.91	1,219.36	927.97	705.46	222.52	4.170		
21,300.00	11,761.22	21,362.99	11,800.10	156.97	161.51	93.38	8,953.89	1,218.45	927.89	703.13	224.77	4.128		
21,400.00	11,759.74	21,462.99	11,798.18	158.56	163.11	93.35	9,053.86	1,217.53	927.81	700.79	227.02	4.087		
21,500.00	11,758.25	21,562.99	11,796.27	160.16	164.70	93.33	9,153.84	1,216.61	927.73	698.46	229.28	4.046		
21,600.00	11,756.77	21,662.99	11,794.35	161.75	166.30	93.30	9,253.81	1,215.70	927.66	696.12	231.53	4.007		
21,700.00	11,755.29	21,762.99	11,792.44	163.34	167.89	93.27	9,353.79	1,214.78	927.58	693.78	233.79	3.967		
21,800.00	11,753.81	21,862.99	11,790.52	164.94	169.49	93.25	9,453.77	1,213.86	927.50	691.44	236.05	3.929		
21,900.00	11,752.33	21,962.99	11,788.61	166.54	171.09	93.22	9,553.74	1,212.95	927.42	689.10	238.32	3.892		
22,000.00	11,750.85	22,062.98	11,786.69	168.13	172.69	93.19	9,653.72	1,212.03	927.34	686.76	240.58	3.855		
22,063.91	11,749.90	22,126.90	11,785.47	169.16	173.72	93.18	9,717.62	1,211.45	927.29	685.26	242.03	3.831		
22,064.91	11,749.89	22,127.89	11,785.45	169.17	173.73	93.18	9,718.61	1,211.44	927.29	685.24	242.05	3.831	CC, ES, SF	

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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	
0.00	0.00	0.00	0.00	0.00	0.00	103.27	-445.29	1,887.42	1,939.31					
100.00	100.00	83.50	83.50	0.13	0.10	103.27	-445.29	1,887.42	1,939.24	1,939.07	0.16	N/A		
200.00	200.00	183.50	183.50	0.48	0.42	103.27	-445.29	1,887.42	1,939.24	1,938.59	0.64	3,011.583		
300.00	300.00	283.50	283.50	0.84	0.78	103.27	-445.29	1,887.42	1,939.24	1,938.09	1.15	1,685.879		
400.00	400.00	383.50	383.50	1.20	1.14	103.27	-445.29	1,887.42	1,939.24	1,937.58	1.66	1,170.326		
500.00	500.00	483.50	483.50	1.56	1.50	103.27	-445.29	1,887.42	1,939.24	1,937.07	2.16	896.203		
600.00	600.00	583.50	583.50	1.92	1.86	103.27	-445.29	1,887.42	1,939.24	1,936.57	2.67	726.111		
700.00	700.00	683.50	683.50	2.28	2.22	103.27	-445.29	1,887.42	1,939.24	1,936.06	3.18	610.280		
800.00	800.00	783.50	783.50	2.63	2.58	103.27	-445.29	1,887.42	1,939.24	1,935.55	3.68	526.318		
900.00	900.00	883.50	883.50	2.99	2.93	103.27	-445.29	1,887.42	1,939.24	1,935.04	4.19	462.663		
1,000.00	1,000.00	983.50	983.50	3.35	3.29	103.27	-445.29	1,887.42	1,939.24	1,934.54	4.70	412.744		
1,100.00	1,100.00	1,083.50	1,083.50	3.71	3.65	103.27	-445.29	1,887.42	1,939.24	1,934.03	5.21	372.548		
1,200.00	1,200.00	1,183.50	1,183.50	4.07	4.01	103.27	-445.29	1,887.42	1,939.24	1,933.52	5.71	339.486		
1,300.00	1,300.00	1,283.50	1,283.50	4.43	4.37	103.27	-445.29	1,887.42	1,939.24	1,933.02	6.22	311.814		
1,400.00	1,400.00	1,383.50	1,383.50	4.79	4.73	103.27	-445.29	1,887.42	1,939.24	1,932.51	6.73	288.313		
1,500.00	1,500.00	1,483.50	1,483.50	5.14	5.08	103.27	-445.29	1,887.42	1,939.24	1,932.00	7.23	268.106		
1,600.00	1,600.00	1,583.50	1,583.50	5.50	5.44	103.27	-445.29	1,887.42	1,939.24	1,931.50	7.74	250.546		
1,700.00	1,700.00	1,683.50	1,683.50	5.86	5.80	103.27	-445.29	1,887.42	1,939.24	1,930.99	8.25	235.144		
1,800.00	1,800.00	1,783.50	1,783.50	6.22	6.16	103.27	-445.29	1,887.42	1,939.24	1,930.48	8.75	221.527		
1,900.00	1,900.00	1,883.50	1,883.50	6.58	6.52	103.27	-445.29	1,887.42	1,939.24	1,929.98	9.26	209.400		
2,000.00	2,000.00	1,983.50	1,983.50	6.94	6.88	103.27	-445.29	1,887.42	1,939.24	1,929.47	9.77	198.533		
2,100.00	2,100.00	2,083.50	2,083.50	7.29	7.24	103.27	-445.29	1,887.42	1,939.24	1,928.96	10.27	188.737		
2,200.00	2,200.00	2,183.50	2,183.50	7.65	7.59	103.27	-445.29	1,887.42	1,939.24	1,928.45	10.78	179.863		
2,300.00	2,300.00	2,283.50	2,283.50	8.01	7.95	103.27	-445.29	1,887.42	1,939.24	1,927.95	11.29	171.786		
2,400.00	2,400.00	2,383.50	2,383.50	8.37	8.31	103.27	-445.29	1,887.42	1,939.24	1,927.44	11.80	164.403		
2,500.00	2,500.00	2,483.50	2,483.50	8.73	8.67	103.27	-445.29	1,887.42	1,939.24	1,926.93	12.30	157.628		
2,600.00	2,599.99	2,583.49	2,583.49	9.07	9.03	-47.16	-445.29	1,887.42	1,938.35	1,925.55	12.80	151.466		
2,700.00	2,699.91	2,683.41	2,683.41	9.40	9.39	-47.27	-445.29	1,887.42	1,935.68	1,922.40	13.28	145.751		
2,800.00	2,799.69	2,783.19	2,783.19	9.73	9.74	-47.46	-445.29	1,887.42	1,931.24	1,917.48	13.77	140.296		
2,900.00	2,899.27	2,882.77	2,882.77	10.06	10.10	-47.73	-445.29	1,887.42	1,925.06	1,910.81	14.25	135.078		
2,966.63	2,965.47	2,948.97	2,948.97	10.28	10.34	-47.96	-445.29	1,887.42	1,919.98	1,905.40	14.58	131.720		
3,000.00	2,998.59	2,982.09	2,982.09	10.40	10.46	-48.05	-445.29	1,887.42	1,917.25	1,902.51	14.74	130.078		
3,100.00	3,097.85	3,081.35	3,081.35	10.74	10.81	-48.32	-445.29	1,887.42	1,909.09	1,893.86	15.23	125.359		
3,200.00	3,197.10	3,180.60	3,180.60	11.09	11.17	-48.59	-445.29	1,887.42	1,900.97	1,885.25	15.72	120.917		
3,300.00	3,296.36	3,279.86	3,279.86	11.44	11.52	-48.87	-445.29	1,887.42	1,892.90	1,876.68	16.22	116.729		
3,400.00	3,395.61	3,379.11	3,379.11	11.79	11.88	-49.14	-445.29	1,887.42	1,884.87	1,868.16	16.71	112.777		
3,500.00	3,494.87	3,478.37	3,478.37	12.15	12.24	-49.42	-445.29	1,887.42	1,876.89	1,859.68	17.21	109.042		
3,600.00	3,594.12	3,577.62	3,577.62	12.51	12.59	-49.71	-445.29	1,887.42	1,868.95	1,851.24	17.71	105.508		
3,700.00	3,693.37	3,676.87	3,676.87	12.88	12.95	-49.99	-445.29	1,887.42	1,861.06	1,842.84	18.22	102.161		
3,800.00	3,792.63	3,776.13	3,776.13	13.24	13.30	-50.28	-445.29	1,887.42	1,853.21	1,834.49	18.72	98.988		
3,900.00	3,891.88	3,875.38	3,875.38	13.61	13.66	-50.57	-445.29	1,887.42	1,845.41	1,826.19	19.23	95.976		
4,000.00	3,991.14	3,974.64	3,974.64	13.99	14.01	-50.86	-445.29	1,887.42	1,837.66	1,817.93	19.74	93.113		
4,100.00	4,090.39	4,073.89	4,073.89	14.36	14.37	-51.16	-445.29	1,887.42	1,829.96	1,809.72	20.25	90.391		
4,200.00	4,189.65	4,173.15	4,173.15	14.74	14.73	-51.45	-445.29	1,887.42	1,822.31	1,801.55	20.76	87.798		
4,300.00	4,288.90	4,272.40	4,272.40	15.11	15.08	-51.75	-445.29	1,887.42	1,814.70	1,793.44	21.27	85.327		
4,400.00	4,388.16	4,371.66	4,371.66	15.49	15.44	-52.05	-445.29	1,887.42	1,807.15	1,785.37	21.78	82.970		
4,500.00	4,487.41	4,470.91	4,470.91	15.87	15.79	-52.36	-445.29	1,887.42	1,799.65	1,777.35	22.29	80.720		
4,600.00	4,586.67	4,555.85	4,555.85	16.26	16.09	-52.61	-445.66	1,887.59	1,792.48	1,769.71	22.77	78.726		
4,700.00	4,685.92	4,635.14	4,635.12	16.64	16.35	-52.80	-447.45	1,888.44	1,786.42	1,763.20	23.22	76.934		
4,800.00	4,785.18	4,714.73	4,714.61	17.03	16.61	-52.95	-450.75	1,889.99	1,781.52	1,757.85	23.67	75.276		
4,900.00	4,884.43	4,800.00	4,799.69	17.41	16.89	-53.07	-455.95	1,892.43	1,777.77	1,753.64	24.13	73.687		
5,000.00	4,983.69	4,874.47	4,873.87	17.80	17.13	-53.12	-461.89	1,895.22	1,775.12	1,750.56	24.56	72.285		

CC - Min centre to center distance or 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 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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	5,082.94	4,968.09	4,966.98	18.19	17.44	-53.15	-470.67	1,899.35	1,773.35	1,748.31	25.04	70.824		
5,200.00	5,182.20	5,068.07	5,066.42	18.58	17.77	-53.18	-480.13	1,903.79	1,771.64	1,746.10	25.54	69.367		
5,300.00	5,281.45	5,168.05	5,165.85	18.97	18.11	-53.21	-489.58	1,908.24	1,769.93	1,743.89	26.04	67.960		
5,400.00	5,380.70	5,268.03	5,265.28	19.36	18.44	-53.24	-499.04	1,912.68	1,768.22	1,741.67	26.55	66.602		
5,500.00	5,479.96	5,368.01	5,364.72	19.75	18.78	-53.27	-508.50	1,917.13	1,766.51	1,739.46	27.06	65.289		
5,600.00	5,579.21	5,467.99	5,464.15	20.14	19.12	-53.30	-517.96	1,921.57	1,764.80	1,737.24	27.57	64.020		
5,700.00	5,678.47	5,567.97	5,563.58	20.53	19.47	-53.33	-527.42	1,926.02	1,763.09	1,735.02	28.08	62.793		
5,800.00	5,777.72	5,667.96	5,663.02	20.93	19.81	-53.37	-536.87	1,930.46	1,761.39	1,732.80	28.59	61.607		
5,900.00	5,876.98	5,767.94	5,762.45	21.32	20.16	-53.40	-546.33	1,934.91	1,759.68	1,730.57	29.11	60.459		
6,000.00	5,976.23	5,867.92	5,861.88	21.72	20.51	-53.43	-555.79	1,939.35	1,757.97	1,728.35	29.62	59.348		
6,100.00	6,075.49	5,967.90	5,961.32	22.11	20.86	-53.46	-565.25	1,943.80	1,756.27	1,726.13	30.14	58.272		
6,200.00	6,174.74	6,067.88	6,060.75	22.51	21.21	-53.49	-574.71	1,948.25	1,754.56	1,723.90	30.66	57.229		
6,300.00	6,274.00	6,167.86	6,160.18	22.91	21.56	-53.52	-584.16	1,952.69	1,752.85	1,721.68	31.18	56.219		
6,400.00	6,373.25	6,267.84	6,259.62	23.30	21.92	-53.55	-593.62	1,957.14	1,751.15	1,719.45	31.70	55.240		
6,500.00	6,472.51	6,367.82	6,359.05	23.70	22.28	-53.58	-603.08	1,961.58	1,749.45	1,717.22	32.22	54.291		
6,600.00	6,571.76	6,467.80	6,458.48	24.10	22.64	-53.61	-612.54	1,966.03	1,747.74	1,714.99	32.75	53.370		
6,700.00	6,671.02	6,567.78	6,557.92	24.50	22.99	-53.64	-621.99	1,970.47	1,746.04	1,712.77	33.27	52.477		
6,800.00	6,770.27	6,668.92	6,674.48	24.90	23.42	-53.70	-632.48	1,975.40	1,744.07	1,710.22	33.85	51.530		
6,900.00	6,869.53	6,816.43	6,805.67	25.29	23.88	-53.87	-640.67	1,979.25	1,740.48	1,706.03	34.45	50.522		
7,000.00	6,968.78	6,947.31	6,936.46	25.69	24.34	-54.17	-644.77	1,981.17	1,735.10	1,700.06	35.04	49.516		
7,100.00	7,068.04	7,062.38	7,051.54	26.09	24.74	-54.53	-645.29	1,981.42	1,728.20	1,692.60	35.60	48.549		
7,200.00	7,167.29	7,161.64	7,150.79	26.49	25.08	-54.86	-645.29	1,981.42	1,721.12	1,685.00	36.12	47.645		
7,300.00	7,266.54	7,260.89	7,250.04	26.89	25.43	-55.19	-645.29	1,981.42	1,714.10	1,677.45	36.65	46.768		
7,400.00	7,365.80	7,360.15	7,349.30	27.29	25.78	-55.53	-645.29	1,981.42	1,707.14	1,669.96	37.18	45.917		
7,500.00	7,465.05	7,459.40	7,448.55	27.70	26.13	-55.86	-645.29	1,981.42	1,700.24	1,662.53	37.71	45.090		
7,600.00	7,564.31	7,558.66	7,547.81	28.10	26.48	-56.20	-645.29	1,981.42	1,693.40	1,655.16	38.24	44.287		
7,700.00	7,663.56	7,657.91	7,647.06	28.50	26.82	-56.55	-645.29	1,981.42	1,686.61	1,647.84	38.77	43.506		
7,800.00	7,762.82	7,757.17	7,746.32	28.90	27.17	-56.89	-645.29	1,981.42	1,679.89	1,640.59	39.30	42.748		
7,900.00	7,862.07	7,856.42	7,845.57	29.30	27.52	-57.24	-645.29	1,981.42	1,673.23	1,633.40	39.83	42.010		
8,000.00	7,961.33	7,955.68	7,944.83	29.70	27.87	-57.59	-645.29	1,981.42	1,666.63	1,626.27	40.36	41.293		
8,100.00	8,060.58	8,054.93	8,044.08	30.11	28.22	-57.94	-645.29	1,981.42	1,660.10	1,619.20	40.89	40.596		
8,200.00	8,159.84	8,154.19	8,143.34	30.51	28.57	-58.30	-645.29	1,981.42	1,653.63	1,612.20	41.43	39.918		
8,300.00	8,259.09	8,253.44	8,242.59	30.91	28.92	-58.66	-645.29	1,981.42	1,647.22	1,605.26	41.96	39.257		
8,400.00	8,358.35	8,352.70	8,341.85	31.32	29.27	-59.02	-645.29	1,981.42	1,640.88	1,598.39	42.49	38.615		
8,500.00	8,457.60	8,451.95	8,441.10	31.72	29.62	-59.38	-645.29	1,981.42	1,634.61	1,591.58	43.03	37.989		
8,600.00	8,556.86	8,551.21	8,540.36	32.12	29.97	-59.75	-645.29	1,981.42	1,628.40	1,584.84	43.56	37.380		
8,700.00	8,656.11	8,650.46	8,639.61	32.53	30.32	-60.12	-645.29	1,981.42	1,622.26	1,578.16	44.10	36.787		
8,728.63	8,684.53	8,678.88	8,668.03	32.64	30.42	-60.23	-645.29	1,981.42	1,620.51	1,576.26	44.25	36.620		
8,800.00	8,755.44	8,749.79	8,738.94	32.93	30.67	-60.42	-645.29	1,981.42	1,616.52	1,571.88	44.63	36.218		
8,900.00	8,855.03	8,849.38	8,838.53	33.31	31.02	-60.64	-645.29	1,981.42	1,612.06	1,566.91	45.16	35.699		
9,000.00	8,954.82	8,949.17	8,938.32	33.68	31.37	-60.80	-645.29	1,981.42	1,608.92	1,563.25	45.67	35.229		
9,100.00	9,054.75	9,049.10	9,038.25	34.04	31.73	-60.89	-645.29	1,981.42	1,607.07	1,560.89	46.17	34.804		
9,195.26	9,150.00	9,144.35	9,133.50	34.35	32.06	89.48	-645.29	1,981.42	1,606.49	1,559.85	46.64	34.446		
9,200.00	9,154.74	9,149.09	9,138.24	34.37	32.08	89.48	-645.29	1,981.42	1,606.49	1,559.83	46.66	34.430		
9,300.00	9,254.74	9,249.09	9,238.24	34.68	32.43	89.48	-645.29	1,981.42	1,606.49	1,559.35	47.13	34.083		
9,400.00	9,354.74	9,349.09	9,338.24	35.00	32.79	89.48	-645.29	1,981.42	1,606.49	1,558.88	47.61	33.743		
9,500.00	9,454.74	9,449.09	9,438.24	35.32	33.14	89.48	-645.29	1,981.42	1,606.49	1,558.40	48.08	33.409		
9,600.00	9,554.74	9,549.09	9,538.24	35.63	33.49	89.48	-645.29	1,981.42	1,606.49	1,557.93	48.56	33.082		
9,700.00	9,654.74	9,649.09	9,638.24	35.95	33.85	89.48	-645.29	1,981.42	1,606.49	1,557.45	49.04	32.760		
9,800.00	9,754.74	9,749.09	9,738.24	36.27	34.20	89.48	-645.29	1,981.42	1,606.49	1,556.97	49.52	32.444		
9,900.00	9,854.74	9,849.09	9,838.24	36.59	34.56	89.48	-645.29	1,981.42	1,606.49	1,556.49	49.99	32.134		
10,000.00	9,954.74	9,949.09	9,938.24	36.91	34.91	89.48	-645.29	1,981.42	1,606.49	1,556.02	50.47	31.829		

CC - Min centre to center distance or 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 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance								Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,100.00	10,054.74	10,049.09	10,038.24	37.23	35.26	89.48	-645.29	1,981.42	1,606.49	1,555.54	50.95	31.530		
10,200.00	10,154.74	10,149.09	10,138.24	37.56	35.62	89.48	-645.29	1,981.42	1,606.49	1,555.06	51.43	31.236		
10,300.00	10,254.74	10,249.09	10,238.24	37.88	35.97	89.48	-645.29	1,981.42	1,606.49	1,554.58	51.91	30.947		
10,400.00	10,354.74	10,349.09	10,338.24	38.20	36.33	89.48	-645.29	1,981.42	1,606.49	1,554.09	52.39	30.663		
10,500.00	10,454.74	10,449.09	10,438.24	38.53	36.68	89.48	-645.29	1,981.42	1,606.49	1,553.61	52.87	30.383		
10,600.00	10,554.74	10,549.09	10,538.24	38.85	37.04	89.48	-645.29	1,981.42	1,606.49	1,553.13	53.36	30.109		
10,700.00	10,654.74	10,649.09	10,638.24	39.18	37.39	89.48	-645.29	1,981.42	1,606.49	1,552.65	53.84	29.839		
10,800.00	10,754.74	10,749.09	10,738.24	39.50	37.75	89.48	-645.29	1,981.42	1,606.49	1,552.17	54.32	29.574		
10,900.00	10,854.74	10,849.09	10,838.24	39.83	38.10	89.48	-645.29	1,981.42	1,606.49	1,551.68	54.80	29.314		
11,000.00	10,954.74	10,949.09	10,938.24	40.16	38.46	89.48	-645.29	1,981.42	1,606.49	1,551.20	55.29	29.057		
11,100.00	11,054.74	11,049.09	11,038.24	40.48	38.81	89.48	-645.29	1,981.42	1,606.49	1,550.72	55.77	28.805		
11,107.34	11,062.08	11,056.43	11,045.58	40.51	38.84	89.48	-645.29	1,981.42	1,606.49	1,550.68	55.81	28.787 CC		
11,200.00	11,154.74	11,149.01	11,138.13	40.81	39.16	89.43	-643.88	1,981.41	1,606.49	1,550.23	56.25	28.557		
11,300.00	11,254.74	11,246.35	11,234.19	41.14	39.49	88.89	-628.87	1,981.27	1,606.58	1,549.85	56.73	28.320		
11,367.26	11,322.00	11,307.89	11,293.06	41.36	39.68	88.25	-611.07	1,981.11	1,606.90	1,549.87	57.04	28.173		
11,400.00	11,354.72	11,336.60	11,319.80	41.47	39.77	88.37	-600.62	1,981.01	1,607.19	1,550.01	57.18	28.107		
11,450.00	11,404.45	11,379.64	11,358.82	41.61	39.89	87.81	-582.49	1,980.85	1,607.76	1,550.38	57.38	28.018		
11,500.00	11,453.55	11,421.79	11,395.61	41.75	40.00	87.27	-561.94	1,980.66	1,608.46	1,550.89	57.57	27.940		
11,550.00	11,501.66	11,463.14	11,430.14	41.87	40.11	86.74	-539.20	1,980.46	1,609.27	1,551.54	57.73	27.874		
11,600.00	11,548.39	11,500.00	11,459.47	41.97	40.20	86.28	-516.88	1,980.25	1,610.18	1,552.31	57.87	27.824		
11,650.00	11,593.40	11,543.81	11,492.37	42.06	40.30	85.76	-487.98	1,979.99	1,611.14	1,553.14	58.01	27.774		
11,700.00	11,636.35	11,583.27	11,520.04	42.14	40.40	85.30	-459.85	1,979.74	1,612.15	1,554.03	58.12	27.738		
11,750.00	11,676.90	11,622.24	11,545.40	42.20	40.49	84.88	-430.27	1,979.47	1,613.17	1,554.95	58.22	27.708		
11,800.00	11,714.75	11,660.78	11,568.44	42.24	40.58	84.48	-399.39	1,979.19	1,614.18	1,555.87	58.31	27.685		
11,850.00	11,749.62	11,700.00	11,589.71	42.28	40.67	84.11	-366.45	1,978.89	1,615.15	1,556.77	58.39	27.664		
11,900.00	11,781.23	11,736.78	11,607.57	42.31	40.76	83.79	-334.31	1,978.60	1,616.07	1,557.62	58.45	27.648		
11,950.00	11,809.34	11,774.33	11,623.63	42.32	40.85	83.50	-300.37	1,978.29	1,616.92	1,558.40	58.52	27.631		
12,000.00	11,833.75	11,811.65	11,637.36	42.33	40.94	83.25	-265.68	1,977.98	1,617.67	1,559.09	58.58	27.614		
12,050.00	11,854.26	11,850.00	11,649.08	42.34	41.04	83.04	-229.17	1,977.64	1,618.31	1,559.67	58.65	27.593		
12,100.00	11,870.72	11,885.74	11,657.78	42.34	41.13	82.88	-194.51	1,977.33	1,618.84	1,560.12	58.71	27.571		
12,150.00	11,883.00	11,922.59	11,664.48	42.34	41.22	82.76	-158.28	1,977.00	1,619.22	1,560.44	58.79	27.544		
12,200.00	11,891.01	11,959.36	11,668.82	42.34	41.31	82.68	-121.78	1,976.67	1,619.47	1,560.61	58.87	27.511		
12,250.00	11,894.70	12,000.00	11,670.89	42.34	41.42	82.64	-81.20	1,976.30	1,619.58	1,560.62	58.96	27.469		
12,275.75	11,894.90	12,014.98	11,670.93	42.35	41.46	82.64	-66.22	1,976.17	1,619.57	1,560.57	59.00	27.449		
12,300.00	11,894.54	12,037.84	11,670.54	42.35	41.53	82.64	-43.37	1,975.96	1,619.56	1,560.50	59.07	27.420		
12,301.42	11,894.51	12,039.26	11,670.52	42.35	41.53	82.64	-41.95	1,975.94	1,619.56	1,560.49	59.07	27.418		
12,400.00	11,893.05	12,137.84	11,668.80	42.44	41.85	82.63	56.61	1,975.05	1,619.55	1,560.16	59.39	27.271		
12,500.00	11,891.57	12,237.84	11,667.06	42.60	42.23	82.62	156.59	1,974.14	1,619.54	1,559.74	59.80	27.084		
12,600.00	11,890.09	12,337.84	11,665.32	42.84	42.68	82.61	256.57	1,973.24	1,619.53	1,559.24	60.29	26.862		
12,700.00	11,888.61	12,437.84	11,663.58	43.16	43.18	82.60	356.55	1,972.33	1,619.52	1,558.64	60.87	26.606		
12,800.00	11,887.13	12,537.84	11,661.84	43.54	43.74	82.59	456.54	1,971.42	1,619.50	1,557.97	61.53	26.320		
12,900.00	11,885.65	12,637.84	11,660.10	43.98	44.35	82.58	556.52	1,970.51	1,619.49	1,557.22	62.27	26.006		
13,000.00	11,884.17	12,737.84	11,658.36	44.48	45.01	82.57	656.50	1,969.61	1,619.48	1,556.39	63.09	25.669		
13,100.00	11,882.69	12,837.84	11,656.62	45.04	45.73	82.56	756.48	1,968.70	1,619.47	1,555.49	63.98	25.311		
13,200.00	11,881.20	12,937.84	11,654.87	45.65	46.49	82.55	856.46	1,967.79	1,619.46	1,554.51	64.94	24.936		
13,300.00	11,879.72	13,037.84	11,653.13	46.31	47.30	82.55	956.44	1,966.88	1,619.45	1,553.47	65.97	24.547		
13,400.00	11,878.24	13,137.84	11,651.39	47.02	48.15	82.54	1,056.42	1,965.98	1,619.43	1,552.37	67.07	24.146		
13,500.00	11,876.76	13,237.84	11,649.65	47.78	49.04	82.53	1,156.40	1,965.07	1,619.42	1,551.20	68.22	23.737		
13,600.00	11,875.28	13,337.84	11,647.91	48.58	49.97	82.52	1,256.38	1,964.16	1,619.41	1,549.97	69.44	23.322		
13,700.00	11,873.80	13,437.84	11,646.17	49.42	50.94	82.51	1,356.36	1,963.26	1,619.40	1,548.69	70.71	22.903		
13,800.00	11,872.32	13,537.84	11,644.43	50.30	51.94	82.50	1,456.34	1,962.35	1,619.39	1,547.36	72.03	22.483		
13,900.00	11,870.83	13,637.84	11,642.69	51.22	52.97	82.49	1,556.32	1,961.44	1,619.38	1,545.98	73.40	22.063		

CC - Min centre to center distance or 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 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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	11,869.35	13,737.84	11,640.95	52.17	54.04	82.48	1,656.30	1,960.53	1,619.37	1,544.55	74.81	21.645		
14,100.00	11,867.87	13,837.84	11,639.21	53.16	55.13	82.47	1,756.28	1,959.63	1,619.36	1,543.08	76.28	21.230		
14,200.00	11,866.39	13,937.84	11,637.47	54.18	56.25	82.46	1,856.26	1,958.72	1,619.34	1,541.56	77.78	20.820		
14,300.00	11,864.91	14,037.84	11,635.73	55.23	57.40	82.45	1,956.24	1,957.81	1,619.33	1,540.01	79.32	20.415		
14,400.00	11,863.43	14,137.84	11,633.99	56.31	58.57	82.44	2,056.22	1,956.90	1,619.32	1,538.42	80.90	20.016		
14,500.00	11,861.95	14,237.84	11,632.25	57.42	59.77	82.43	2,156.20	1,956.00	1,619.31	1,536.80	82.52	19.624		
14,600.00	11,860.47	14,337.84	11,630.51	58.55	60.98	82.42	2,256.18	1,955.09	1,619.30	1,535.14	84.16	19.240		
14,700.00	11,858.98	14,437.84	11,628.77	59.71	62.21	82.42	2,356.16	1,954.18	1,619.29	1,533.45	85.84	18.864		
14,800.00	11,857.50	14,537.83	11,627.03	60.88	63.47	82.41	2,456.14	1,953.27	1,619.28	1,531.73	87.55	18.496		
14,900.00	11,856.02	14,637.83	11,625.28	62.08	64.74	82.40	2,556.12	1,952.37	1,619.27	1,529.98	89.28	18.136		
15,000.00	11,854.54	14,737.83	11,623.54	63.30	66.03	82.39	2,656.10	1,951.46	1,619.26	1,528.21	91.04	17.786		
15,100.00	11,853.06	14,837.83	11,621.80	64.54	67.33	82.38	2,756.08	1,950.55	1,619.25	1,526.42	92.83	17.443		
15,200.00	11,851.58	14,937.83	11,620.06	65.80	68.65	82.37	2,856.06	1,949.65	1,619.24	1,524.60	94.64	17.110		
15,300.00	11,850.10	15,037.83	11,618.32	67.08	69.99	82.36	2,956.04	1,948.74	1,619.22	1,522.76	96.47	16.785		
15,400.00	11,848.61	15,137.83	11,616.58	68.37	71.33	82.35	3,056.03	1,947.83	1,619.21	1,520.90	98.32	16.469		
15,500.00	11,847.13	15,237.83	11,614.84	69.67	72.69	82.34	3,156.01	1,946.92	1,619.20	1,519.02	100.19	16.162		
15,600.00	11,845.65	15,337.83	11,613.10	70.99	74.06	82.33	3,255.99	1,946.02	1,619.19	1,517.12	102.08	15.863		
15,700.00	11,844.17	15,437.83	11,611.36	72.33	75.45	82.32	3,355.97	1,945.11	1,619.18	1,515.20	103.98	15.572		
15,800.00	11,842.69	15,537.83	11,609.62	73.67	76.84	82.31	3,455.95	1,944.20	1,619.17	1,513.27	105.90	15.289		
15,900.00	11,841.21	15,637.83	11,607.88	75.03	78.24	82.30	3,555.93	1,943.29	1,619.16	1,511.32	107.84	15.015		
16,000.00	11,839.73	15,737.83	11,606.14	76.40	79.66	82.29	3,655.91	1,942.39	1,619.15	1,509.36	109.79	14.748		
16,100.00	11,838.25	15,837.83	11,604.40	77.78	81.08	82.28	3,755.89	1,941.48	1,619.14	1,507.39	111.76	14.488		
16,200.00	11,836.76	15,937.83	11,602.66	79.18	82.51	82.28	3,855.87	1,940.57	1,619.13	1,505.40	113.73	14.236		
16,300.00	11,835.28	16,037.83	11,600.92	80.58	83.95	82.27	3,955.85	1,939.67	1,619.12	1,503.40	115.72	13.991		
16,400.00	11,833.80	16,137.83	11,599.18	81.99	85.39	82.26	4,055.83	1,938.76	1,619.11	1,501.38	117.73	13.753		
16,500.00	11,832.32	16,237.83	11,597.44	83.41	86.85	82.25	4,155.81	1,937.85	1,619.10	1,499.36	119.74	13.522		
16,600.00	11,830.84	16,337.83	11,595.69	84.83	88.31	82.24	4,255.79	1,936.94	1,619.09	1,497.32	121.77	13.297		
16,700.00	11,829.36	16,437.83	11,593.95	86.27	89.77	82.23	4,355.77	1,936.04	1,619.08	1,495.28	123.80	13.078		
16,800.00	11,827.88	16,537.83	11,592.21	87.71	91.25	82.22	4,455.75	1,935.13	1,619.07	1,493.22	125.85	12.866		
16,900.00	11,826.39	16,637.83	11,590.47	89.16	92.73	82.21	4,555.73	1,934.22	1,619.06	1,491.16	127.90	12.659		
17,000.00	11,824.91	16,737.83	11,588.73	90.62	94.21	82.20	4,655.71	1,933.31	1,619.05	1,489.09	129.96	12.458		
17,100.00	11,823.43	16,837.83	11,586.99	92.09	95.70	82.19	4,755.69	1,932.41	1,619.04	1,487.01	132.03	12.262		
17,200.00	11,821.95	16,937.83	11,585.25	93.56	97.20	82.18	4,855.67	1,931.50	1,619.03	1,484.92	134.11	12.072		
17,300.00	11,820.47	17,037.83	11,583.51	95.03	98.70	82.17	4,955.65	1,930.59	1,619.02	1,482.82	136.20	11.887		
17,400.00	11,818.99	17,137.83	11,581.77	96.51	100.21	82.16	5,055.63	1,929.68	1,619.01	1,480.72	138.29	11.707		
17,500.00	11,817.51	17,237.83	11,580.03	98.00	101.72	82.15	5,155.61	1,928.78	1,619.00	1,478.61	140.39	11.532		
17,600.00	11,816.03	17,337.83	11,578.29	99.49	103.23	82.15	5,255.59	1,927.87	1,618.99	1,476.50	142.50	11.362		
17,700.00	11,814.54	17,437.82	11,576.55	100.99	104.75	82.14	5,355.57	1,926.96	1,618.98	1,474.37	144.61	11.196		
17,800.00	11,813.06	17,537.82	11,574.81	102.49	106.27	82.13	5,455.55	1,926.06	1,618.97	1,472.25	146.73	11.034		
17,900.00	11,811.58	17,637.82	11,573.07	104.00	107.80	82.12	5,555.54	1,925.15	1,618.96	1,470.11	148.85	10.876		
18,000.00	11,810.10	17,737.82	11,571.33	105.51	109.33	82.11	5,655.52	1,924.24	1,618.95	1,467.97	150.98	10.723		
18,100.00	11,808.62	17,837.82	11,569.59	107.03	110.86	82.10	5,755.50	1,923.33	1,618.94	1,465.83	153.12	10.573		
18,200.00	11,807.14	17,937.82	11,567.85	108.55	112.40	82.09	5,855.48	1,922.43	1,618.93	1,463.68	155.26	10.427		
18,300.00	11,805.66	18,037.82	11,566.10	110.07	113.94	82.08	5,955.46	1,921.52	1,618.93	1,461.52	157.40	10.285		
18,400.00	11,804.17	18,137.82	11,564.36	111.60	115.48	82.07	6,055.44	1,920.61	1,618.92	1,459.36	159.55	10.147		
18,500.00	11,802.69	18,237.82	11,562.62	113.13	117.03	82.06	6,155.42	1,919.70	1,618.91	1,457.20	161.71	10.011		
18,600.00	11,801.21	18,337.82	11,560.88	114.66	118.58	82.05	6,255.40	1,918.80	1,618.90	1,455.03	163.86	9.880		
18,700.00	11,799.73	18,437.82	11,559.14	116.20	120.13	82.04	6,355.38	1,917.89	1,618.89	1,452.86	166.03	9.751		
18,800.00	11,798.25	18,537.82	11,557.40	117.74	121.68	82.03	6,455.36	1,916.98	1,618.88	1,450.69	168.19	9.625		
18,900.00	11,796.77	18,637.82	11,555.66	119.28	123.24	82.02	6,555.34	1,916.08	1,618.87	1,448.51	170.36	9.503		
19,000.00	11,795.29	18,737.82	11,553.92	120.82	124.80	82.01	6,655.32	1,915.17	1,618.86	1,446.33	172.54	9.383		
19,100.00	11,793.81	18,837.82	11,552.18	122.37	126.36	82.01	6,755.30	1,914.26	1,618.85	1,444.14	174.71	9.266		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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	11,792.32	18,937.82	11,550.44	123.92	127.93	82.00	6,855.28	1,913.35	1,618.84	1,441.95	176.89	9.152		
19,300.00	11,790.84	19,037.82	11,548.70	125.48	129.49	81.99	6,955.26	1,912.45	1,618.83	1,439.76	179.08	9.040		
19,400.00	11,789.36	19,137.82	11,546.96	127.03	131.06	81.98	7,055.24	1,911.54	1,618.82	1,437.56	181.26	8.931		
19,500.00	11,787.88	19,237.82	11,545.22	128.59	132.63	81.97	7,155.22	1,910.63	1,618.82	1,435.36	183.45	8.824		
19,600.00	11,786.40	19,337.82	11,543.48	130.15	134.20	81.96	7,255.20	1,909.72	1,618.81	1,433.16	185.65	8.720		
19,700.00	11,784.92	19,437.82	11,541.74	131.72	135.78	81.95	7,355.18	1,908.82	1,618.80	1,430.96	187.84	8.618		
19,800.00	11,783.44	19,537.82	11,540.00	133.28	137.35	81.94	7,455.16	1,907.91	1,618.79	1,428.75	190.04	8.518		
19,900.00	11,781.95	19,637.82	11,538.25	134.85	138.93	81.93	7,555.14	1,907.00	1,618.78	1,426.54	192.24	8.421		
20,000.00	11,780.47	19,737.82	11,536.51	136.42	140.51	81.92	7,655.12	1,906.09	1,618.77	1,424.33	194.44	8.325		
20,100.00	11,778.99	19,837.82	11,534.77	137.99	142.09	81.91	7,755.10	1,905.19	1,618.76	1,422.12	196.64	8.232		
20,200.00	11,777.51	19,937.82	11,533.03	139.56	143.67	81.90	7,855.08	1,904.28	1,618.76	1,419.90	198.85	8.141		
20,300.00	11,776.03	20,037.82	11,531.29	141.14	145.26	81.89	7,955.06	1,903.37	1,618.75	1,417.69	201.06	8.051		
20,400.00	11,774.55	20,137.82	11,529.55	142.71	146.84	81.88	8,055.04	1,902.47	1,618.74	1,415.47	203.27	7.963		
20,500.00	11,773.07	20,237.82	11,527.81	144.29	148.43	81.88	8,155.03	1,901.56	1,618.73	1,413.24	205.49	7.878		
20,600.00	11,771.59	20,337.81	11,526.07	145.87	150.02	81.87	8,255.01	1,900.65	1,618.72	1,411.02	207.70	7.793		
20,700.00	11,770.10	20,437.81	11,524.33	147.45	151.61	81.86	8,354.99	1,899.74	1,618.71	1,408.79	209.92	7.711		
20,800.00	11,768.62	20,537.81	11,522.59	149.04	153.20	81.85	8,454.97	1,898.84	1,618.70	1,406.57	212.14	7.630		
20,900.00	11,767.14	20,637.81	11,520.85	150.62	154.79	81.84	8,554.95	1,897.93	1,618.70	1,404.34	214.36	7.551		
21,000.00	11,765.66	20,737.81	11,519.11	152.21	156.39	81.83	8,654.93	1,897.02	1,618.69	1,402.11	216.58	7.474		
21,100.00	11,764.18	20,837.81	11,517.37	153.79	157.98	81.82	8,754.91	1,896.11	1,618.68	1,399.87	218.81	7.398		
21,200.00	11,762.70	20,937.81	11,515.63	155.38	159.58	81.81	8,854.89	1,895.21	1,618.67	1,397.64	221.03	7.323		
21,300.00	11,761.22	21,037.81	11,513.89	156.97	161.17	81.80	8,954.87	1,894.30	1,618.66	1,395.40	223.26	7.250		
21,400.00	11,759.74	21,137.81	11,512.15	158.56	162.77	81.79	9,054.85	1,893.39	1,618.66	1,393.17	225.49	7.178		
21,500.00	11,758.25	21,237.81	11,510.41	160.16	164.37	81.78	9,154.83	1,892.49	1,618.65	1,390.93	227.72	7.108		
21,600.00	11,756.77	21,337.81	11,508.66	161.75	165.97	81.77	9,254.81	1,891.58	1,618.64	1,388.69	229.95	7.039		
21,700.00	11,755.29	21,437.81	11,506.92	163.34	167.57	81.76	9,354.79	1,890.67	1,618.63	1,386.45	232.18	6.971		
21,800.00	11,753.81	21,537.81	11,505.18	164.94	169.18	81.75	9,454.77	1,889.76	1,618.62	1,384.20	234.42	6.905		
21,900.00	11,752.33	21,637.81	11,503.44	166.54	170.78	81.74	9,554.75	1,888.86	1,618.62	1,381.96	236.66	6.840		
22,000.00	11,750.85	21,737.81	11,501.70	168.13	172.38	81.74	9,654.73	1,887.95	1,618.61	1,379.72	238.89	6.775		
22,063.91	11,749.90	21,801.72	11,500.59	169.16	173.41	81.73	9,718.63	1,887.37	1,618.60	1,378.28	240.32	6.735		
22,064.91	11,749.89	21,802.72	11,500.57	169.17	173.43	81.73	9,719.62	1,887.36	1,618.60	1,378.26	240.34	6.735 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 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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	103.03	-445.00	1,922.42	1,973.32					
100.00	100.00	83.20	83.20	0.13	0.10	103.03	-445.00	1,922.42	1,973.25	1,973.09	0.16	N/A		
200.00	200.00	183.20	183.20	0.48	0.42	103.03	-445.00	1,922.42	1,973.25	1,972.61	0.64	3,067.786		
300.00	300.00	283.20	283.20	0.84	0.78	103.03	-445.00	1,922.42	1,973.25	1,972.10	1.15	1,716.543		
400.00	400.00	383.20	383.20	1.20	1.14	103.03	-445.00	1,922.42	1,973.25	1,971.60	1.66	1,191.388		
500.00	500.00	483.20	483.20	1.56	1.50	103.03	-445.00	1,922.42	1,973.25	1,971.09	2.16	912.237		
600.00	600.00	583.20	583.20	1.92	1.86	103.03	-445.00	1,922.42	1,973.25	1,970.58	2.67	739.055		
700.00	700.00	683.20	683.20	2.28	2.22	103.03	-445.00	1,922.42	1,973.25	1,970.08	3.18	621.131		
800.00	800.00	783.20	783.20	2.63	2.57	103.03	-445.00	1,922.42	1,973.25	1,969.57	3.68	535.659		
900.00	900.00	883.20	883.20	2.99	2.93	103.03	-445.00	1,922.42	1,973.25	1,969.06	4.19	470.864		
1,000.00	1,000.00	983.20	983.20	3.35	3.29	103.03	-445.00	1,922.42	1,973.25	1,968.55	4.70	420.052		
1,100.00	1,100.00	1,083.20	1,083.20	3.71	3.65	103.03	-445.00	1,922.42	1,973.25	1,968.05	5.20	379.138		
1,200.00	1,200.00	1,183.20	1,183.20	4.07	4.01	103.03	-445.00	1,922.42	1,973.25	1,967.54	5.71	345.486		
1,300.00	1,300.00	1,283.20	1,283.20	4.43	4.37	103.03	-445.00	1,922.42	1,973.25	1,967.03	6.22	317.322		
1,400.00	1,400.00	1,383.20	1,383.20	4.79	4.73	103.03	-445.00	1,922.42	1,973.25	1,966.53	6.73	293.403		
1,500.00	1,500.00	1,483.20	1,483.20	5.14	5.08	103.03	-445.00	1,922.42	1,973.25	1,966.02	7.23	272.837		
1,600.00	1,600.00	1,583.20	1,583.20	5.50	5.44	103.03	-445.00	1,922.42	1,973.25	1,965.51	7.74	254.965		
1,700.00	1,700.00	1,683.20	1,683.20	5.86	5.80	103.03	-445.00	1,922.42	1,973.25	1,965.01	8.25	239.291		
1,800.00	1,800.00	1,783.20	1,783.20	6.22	6.16	103.03	-445.00	1,922.42	1,973.25	1,964.50	8.75	225.432		
1,900.00	1,900.00	1,883.20	1,883.20	6.58	6.52	103.03	-445.00	1,922.42	1,973.25	1,963.99	9.26	213.091		
2,000.00	2,000.00	1,983.20	1,983.20	6.94	6.88	103.03	-445.00	1,922.42	1,973.25	1,963.49	9.77	202.031		
2,100.00	2,100.00	2,083.20	2,083.20	7.29	7.23	103.03	-445.00	1,922.42	1,973.25	1,962.98	10.27	192.062		
2,200.00	2,200.00	2,183.20	2,183.20	7.65	7.59	103.03	-445.00	1,922.42	1,973.25	1,962.47	10.78	183.031		
2,300.00	2,300.00	2,283.20	2,283.20	8.01	7.95	103.03	-445.00	1,922.42	1,973.25	1,961.96	11.29	174.811		
2,400.00	2,400.00	2,383.20	2,383.20	8.37	8.31	103.03	-445.00	1,922.42	1,973.25	1,961.46	11.79	167.297		
2,500.00	2,500.00	2,483.20	2,483.20	8.73	8.67	103.03	-445.00	1,922.42	1,973.25	1,960.95	12.30	160.403		
2,600.00	2,599.99	2,583.19	2,583.19	9.07	9.03	-47.40	-445.00	1,922.42	1,972.37	1,959.57	12.80	154.133		
2,700.00	2,699.91	2,683.11	2,683.11	9.40	9.39	-47.51	-445.00	1,922.42	1,969.71	1,956.43	13.28	148.322		
2,800.00	2,799.69	2,782.89	2,782.89	9.73	9.74	-47.70	-445.00	1,922.42	1,965.30	1,951.53	13.76	142.778		
2,900.00	2,899.27	2,882.47	2,882.47	10.06	10.10	-47.97	-445.00	1,922.42	1,959.14	1,944.89	14.25	137.476		
2,966.63	2,965.47	2,948.67	2,948.67	10.28	10.34	-48.19	-445.00	1,922.42	1,954.08	1,939.51	14.58	134.066		
3,000.00	2,998.59	2,981.79	2,981.79	10.40	10.46	-48.28	-445.00	1,922.42	1,951.36	1,936.62	14.74	132.399		
3,100.00	3,097.85	3,081.05	3,081.05	10.74	10.81	-48.55	-445.00	1,922.42	1,943.24	1,928.01	15.23	127.608		
3,200.00	3,197.10	3,180.30	3,180.30	11.09	11.17	-48.81	-445.00	1,922.42	1,935.16	1,919.44	15.72	123.097		
3,300.00	3,296.36	3,253.72	3,253.72	11.44	11.42	-49.01	-445.18	1,922.75	1,927.66	1,911.51	16.14	119.401		
3,400.00	3,395.61	3,320.93	3,320.91	11.79	11.65	-49.18	-445.93	1,924.09	1,921.82	1,905.27	16.55	116.132		
3,500.00	3,494.87	3,400.00	3,399.91	12.15	11.92	-49.37	-447.55	1,926.99	1,917.75	1,900.77	16.98	112.951		
3,600.00	3,594.12	3,455.82	3,455.63	12.51	12.10	-49.49	-449.17	1,929.90	1,915.27	1,897.93	17.35	110.409		
3,692.48	3,685.91	3,518.34	3,517.97	12.85	12.31	-49.62	-451.45	1,934.00	1,914.55	1,896.83	17.71	108.075		
3,700.00	3,693.37	3,523.43	3,523.04	12.88	12.33	-49.63	-451.66	1,934.37	1,914.55	1,896.81	17.74	107.894		
3,800.00	3,792.63	3,618.66	3,617.91	13.24	12.65	-49.82	-455.69	1,941.61	1,914.91	1,896.69	18.22	105.088		
3,900.00	3,891.88	3,718.44	3,717.31	13.61	13.00	-50.02	-459.92	1,949.20	1,915.31	1,896.59	18.72	102.340		
4,000.00	3,991.14	3,818.23	3,816.72	13.99	13.34	-50.21	-464.15	1,956.79	1,915.73	1,896.52	19.21	99.722		
4,100.00	4,090.39	3,918.01	3,916.13	14.36	13.68	-50.41	-468.37	1,964.38	1,916.17	1,896.46	19.71	97.224		
4,200.00	4,189.65	4,017.79	4,015.53	14.74	14.03	-50.60	-472.60	1,971.97	1,916.64	1,896.43	20.21	94.841		
4,300.00	4,288.90	4,117.58	4,114.94	15.11	14.38	-50.80	-476.83	1,979.56	1,917.13	1,896.42	20.71	92.564		
4,400.00	4,388.16	4,217.36	4,214.34	15.49	14.73	-50.99	-481.06	1,987.15	1,917.64	1,896.42	21.22	90.387		
4,500.00	4,487.41	4,317.15	4,313.75	15.87	15.09	-51.19	-485.29	1,994.74	1,918.17	1,896.45	21.72	88.305		
4,600.00	4,586.67	4,416.93	4,413.15	16.26	15.44	-51.38	-489.52	2,002.33	1,918.73	1,896.50	22.23	86.312		
4,700.00	4,685.92	4,516.72	4,512.56	16.64	15.80	-51.58	-493.75	2,009.92	1,919.30	1,896.56	22.74	84.403		
4,800.00	4,785.18	4,616.50	4,611.97	17.03	16.15	-51.77	-497.97	2,017.51	1,919.90	1,896.65	23.25	82.573		
4,900.00	4,884.43	4,716.29	4,711.37	17.41	16.51	-51.97	-502.20	2,025.10	1,920.52	1,896.76	23.76	80.818		

CC - Min centre to center distance or 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 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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	4,983.69	4,816.07	4,810.78	17.80	16.87	-52.16	-506.43	2,032.69	1,921.17	1,896.89	24.28	79.133		
5,100.00	5,082.94	4,915.86	4,910.18	18.19	17.23	-52.35	-510.66	2,040.28	1,921.83	1,897.04	24.79	77.515		
5,200.00	5,182.20	5,015.64	5,009.59	18.58	17.59	-52.55	-514.89	2,047.87	1,922.52	1,897.21	25.31	75.959		
5,300.00	5,281.45	5,115.43	5,108.99	18.97	17.95	-52.74	-519.12	2,055.46	1,923.23	1,897.41	25.83	74.464		
5,400.00	5,380.70	5,215.21	5,208.40	19.36	18.32	-52.94	-523.34	2,063.05	1,923.97	1,897.62	26.35	73.024		
5,500.00	5,479.96	5,315.00	5,307.81	19.75	18.68	-53.13	-527.57	2,070.64	1,924.72	1,897.85	26.87	71.639		
5,600.00	5,579.21	5,414.78	5,407.21	20.14	19.05	-53.32	-531.80	2,078.23	1,925.50	1,898.11	27.39	70.304		
5,700.00	5,678.47	5,514.56	5,506.62	20.53	19.41	-53.52	-536.03	2,085.82	1,926.30	1,898.38	27.91	69.017		
5,800.00	5,777.72	5,614.35	5,606.02	20.93	19.78	-53.71	-540.26	2,093.41	1,927.12	1,898.68	28.43	67.776		
5,900.00	5,876.98	5,714.13	5,705.43	21.32	20.15	-53.90	-544.49	2,101.00	1,927.96	1,899.00	28.96	66.578		
6,000.00	5,976.23	5,813.92	5,804.83	21.72	20.51	-54.09	-548.71	2,108.59	1,928.82	1,899.34	29.48	65.422		
6,100.00	6,075.49	5,913.70	5,904.24	22.11	20.88	-54.29	-552.94	2,116.18	1,929.71	1,899.70	30.01	64.305		
6,200.00	6,174.74	6,013.49	6,003.65	22.51	21.25	-54.48	-557.17	2,123.77	1,930.62	1,900.08	30.54	63.225		
6,300.00	6,274.00	6,113.27	6,103.05	22.91	21.62	-54.67	-561.40	2,131.36	1,931.55	1,900.48	31.06	62.181		
6,400.00	6,373.25	6,213.06	6,202.46	23.30	21.99	-54.86	-565.63	2,138.95	1,932.50	1,900.91	31.59	61.171		
6,500.00	6,472.51	6,312.84	6,301.86	23.70	22.36	-55.06	-569.86	2,146.54	1,933.47	1,901.35	32.12	60.194		
6,600.00	6,571.76	6,412.63	6,401.27	24.10	22.73	-55.25	-574.09	2,154.13	1,934.47	1,901.82	32.65	59.248		
6,700.00	6,671.02	6,512.41	6,500.67	24.50	23.10	-55.44	-578.31	2,161.72	1,935.49	1,902.31	33.18	58.331		
6,800.00	6,770.27	6,612.20	6,600.08	24.90	23.47	-55.63	-582.54	2,169.31	1,936.53	1,902.81	33.71	57.443		
6,900.00	6,869.53	6,711.98	6,699.49	25.29	23.85	-55.82	-586.77	2,176.90	1,937.59	1,903.34	34.24	56.582		
7,000.00	6,968.78	6,811.76	6,798.89	25.69	24.22	-56.01	-591.00	2,184.49	1,938.67	1,903.89	34.78	55.747		
7,100.00	7,068.04	6,911.55	6,898.30	26.09	24.59	-56.20	-595.23	2,192.08	1,939.77	1,904.46	35.31	54.936		
7,200.00	7,167.29	7,011.33	6,997.70	26.49	24.97	-56.39	-599.46	2,199.67	1,940.90	1,905.05	35.84	54.149		
7,300.00	7,266.54	7,111.12	7,097.11	26.89	25.34	-56.58	-603.68	2,207.26	1,942.04	1,905.67	36.38	53.386		
7,400.00	7,365.80	7,210.90	7,196.51	27.29	25.71	-56.77	-607.91	2,214.85	1,943.21	1,906.30	36.91	52.644		
7,500.00	7,465.05	7,310.69	7,295.92	27.70	26.09	-56.96	-612.14	2,222.44	1,944.40	1,906.95	37.45	51.923		
7,600.00	7,564.31	7,410.47	7,395.32	28.10	26.46	-57.15	-616.37	2,230.03	1,945.61	1,907.63	37.98	51.222		
7,700.00	7,663.56	7,510.26	7,494.73	28.50	26.84	-57.34	-620.60	2,237.62	1,946.85	1,908.32	38.52	50.540		
7,800.00	7,762.82	7,610.04	7,594.14	28.90	27.21	-57.53	-624.83	2,245.21	1,948.10	1,909.04	39.06	49.878		
7,900.00	7,862.07	7,709.83	7,693.54	29.30	27.59	-57.72	-629.06	2,252.80	1,949.37	1,909.78	39.60	49.233		
8,000.00	7,961.33	7,809.61	7,792.95	29.70	27.96	-57.91	-633.28	2,260.39	1,950.67	1,910.54	40.13	48.605		
8,100.00	8,060.58	7,909.40	7,892.35	30.11	28.34	-58.10	-637.51	2,267.98	1,951.99	1,911.32	40.67	47.994		
8,200.00	8,159.84	8,083.91	8,066.46	30.51	28.98	-58.47	-643.19	2,278.17	1,951.61	1,910.19	41.41	47.124		
8,300.00	8,259.09	8,259.80	8,242.29	30.91	29.60	-58.96	-645.00	2,281.42	1,947.07	1,904.96	42.11	46.242		
8,400.00	8,358.35	8,359.05	8,341.55	31.32	29.94	-59.27	-645.00	2,281.42	1,940.78	1,898.14	42.63	45.521		
8,500.00	8,457.60	8,458.30	8,440.80	31.72	30.28	-59.58	-645.00	2,281.42	1,934.55	1,891.38	43.16	44.819		
8,600.00	8,556.86	8,557.56	8,540.06	32.12	30.62	-59.89	-645.00	2,281.42	1,928.37	1,884.68	43.69	44.134		
8,700.00	8,656.11	8,656.81	8,639.31	32.53	30.95	-60.20	-645.00	2,281.42	1,922.25	1,878.03	44.22	43.467		
8,728.63	8,684.53	8,685.23	8,667.73	32.64	31.05	-60.29	-645.00	2,281.42	1,920.51	1,876.13	44.38	43.279		
8,800.00	8,755.44	8,756.15	8,738.64	32.93	31.29	-60.44	-645.00	2,281.42	1,916.52	1,871.76	44.75	42.825		
8,900.00	8,855.03	8,855.73	8,838.23	33.31	31.63	-60.62	-645.00	2,281.42	1,912.06	1,866.79	45.27	42.236		
9,000.00	8,954.82	8,955.53	8,938.02	33.68	31.97	-60.75	-645.00	2,281.42	1,908.91	1,863.14	45.78	41.698		
9,100.00	9,054.75	9,055.45	9,037.95	34.04	32.32	-60.82	-645.00	2,281.42	1,907.06	1,860.78	46.28	41.209		
9,195.26	9,150.00	9,150.70	9,133.20	34.35	32.64	89.55	-645.00	2,281.42	1,906.48	1,859.74	46.74	40.792		
9,200.00	9,154.74	9,155.44	9,137.94	34.37	32.66	89.55	-645.00	2,281.42	1,906.48	1,859.72	46.76	40.773		
9,300.00	9,254.74	9,255.44	9,237.94	34.68	33.00	89.55	-645.00	2,281.42	1,906.48	1,859.25	47.23	40.368		
9,400.00	9,354.74	9,355.44	9,337.94	35.00	33.34	89.55	-645.00	2,281.42	1,906.48	1,858.78	47.70	39.970		
9,500.00	9,454.74	9,455.44	9,437.94	35.32	33.69	89.55	-645.00	2,281.42	1,906.48	1,858.31	48.17	39.579		
9,600.00	9,554.74	9,555.44	9,537.94	35.63	34.03	89.55	-645.00	2,281.42	1,906.48	1,857.84	48.64	39.195		
9,700.00	9,654.74	9,655.44	9,637.94	35.95	34.38	89.55	-645.00	2,281.42	1,906.48	1,857.37	49.11	38.818		
9,800.00	9,754.74	9,755.44	9,737.94	36.27	34.72	89.55	-645.00	2,281.42	1,906.48	1,856.89	49.59	38.448		
9,900.00	9,854.74	9,855.44	9,837.94	36.59	35.07	89.55	-645.00	2,281.42	1,906.48	1,856.42	50.06	38.084		

CC - Min centre to center distance or 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 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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	
10,000.00	9,954.74	9,955.44	9,937.94	36.91	35.41	89.55	-645.00	2,281.42	1,906.48	1,855.94	50.53	37.726		
10,100.00	10,054.74	10,055.44	10,037.94	37.23	35.76	89.55	-645.00	2,281.42	1,906.48	1,855.47	51.01	37.375		
10,200.00	10,154.74	10,155.44	10,137.94	37.56	36.10	89.55	-645.00	2,281.42	1,906.48	1,854.99	51.49	37.030		
10,300.00	10,254.74	10,255.44	10,237.94	37.88	36.45	89.55	-645.00	2,281.42	1,906.48	1,854.52	51.96	36.690		
10,400.00	10,354.74	10,355.44	10,337.94	38.20	36.79	89.55	-645.00	2,281.42	1,906.48	1,854.04	52.44	36.357		
10,500.00	10,454.74	10,455.44	10,437.94	38.53	37.14	89.55	-645.00	2,281.42	1,906.48	1,853.56	52.92	36.029		
10,600.00	10,554.74	10,555.44	10,537.94	38.85	37.49	89.55	-645.00	2,281.42	1,906.48	1,853.09	53.39	35.706		
10,700.00	10,654.74	10,655.44	10,637.94	39.18	37.83	89.55	-645.00	2,281.42	1,906.48	1,852.61	53.87	35.389		
10,800.00	10,754.74	10,755.44	10,737.94	39.50	38.18	89.55	-645.00	2,281.42	1,906.48	1,852.13	54.35	35.077		
10,900.00	10,854.74	10,855.44	10,837.94	39.83	38.53	89.55	-645.00	2,281.42	1,906.48	1,851.65	54.83	34.770		
11,000.00	10,954.74	10,955.44	10,937.94	40.16	38.88	89.55	-645.00	2,281.42	1,906.48	1,851.17	55.31	34.469		
11,100.00	11,054.74	11,055.44	11,037.94	40.48	39.22	89.55	-645.00	2,281.42	1,906.48	1,850.69	55.79	34.172		
11,200.00	11,154.74	11,155.44	11,137.94	40.81	39.57	89.55	-645.00	2,281.42	1,906.48	1,850.21	56.27	33.880		
11,300.00	11,254.74	11,255.44	11,237.94	41.14	39.92	89.55	-645.00	2,281.42	1,906.48	1,849.73	56.75	33.592		
11,361.10	11,315.84	11,316.61	11,299.04	41.34	40.13	89.48	-642.72	2,281.40	1,906.48	1,849.43	57.05	33.420		
11,367.26	11,322.00	11,322.74	11,305.15	41.36	40.15	89.46	-642.14	2,281.39	1,906.48	1,849.40	57.08	33.402		
11,400.00	11,354.72	11,355.19	11,337.33	41.47	40.26	89.86	-637.99	2,281.36	1,906.48	1,849.25	57.23	33.313		
11,450.00	11,404.45	11,404.41	11,385.55	41.61	40.41	89.71	-628.24	2,281.27	1,906.49	1,849.04	57.45	33.184		
11,500.00	11,453.55	11,453.22	11,432.38	41.75	40.56	89.57	-614.52	2,281.14	1,906.52	1,848.86	57.66	33.066		
11,550.00	11,501.66	11,501.65	11,477.52	41.87	40.70	89.43	-597.02	2,280.98	1,906.55	1,848.70	57.85	32.958		
11,600.00	11,548.39	11,550.00	11,520.95	41.97	40.83	89.29	-575.81	2,280.79	1,906.59	1,848.57	58.02	32.859		
11,650.00	11,593.40	11,597.43	11,561.67	42.06	40.94	89.16	-551.52	2,280.57	1,906.64	1,848.46	58.18	32.770		
11,700.00	11,636.35	11,644.83	11,600.21	42.14	41.04	89.04	-523.96	2,280.32	1,906.69	1,848.36	58.33	32.689		
11,750.00	11,676.90	11,691.92	11,636.13	42.20	41.13	88.92	-493.52	2,280.04	1,906.75	1,848.29	58.46	32.614		
11,800.00	11,714.75	11,738.74	11,669.24	42.24	41.20	88.81	-460.43	2,279.74	1,906.81	1,848.22	58.59	32.547		
11,850.00	11,749.62	11,785.31	11,699.38	42.28	41.27	88.71	-424.95	2,279.42	1,906.86	1,848.16	58.70	32.484		
11,900.00	11,781.23	11,831.66	11,726.42	42.31	41.32	88.62	-387.32	2,279.08	1,906.92	1,848.10	58.81	32.424		
11,950.00	11,809.34	11,877.81	11,750.23	42.32	41.36	88.54	-347.81	2,278.72	1,906.96	1,848.05	58.92	32.368		
12,000.00	11,833.75	11,923.78	11,770.72	42.33	41.38	88.47	-306.68	2,278.35	1,907.01	1,847.99	59.02	32.313		
12,050.00	11,854.26	11,969.60	11,787.79	42.34	41.47	88.41	-264.17	2,277.96	1,907.04	1,847.92	59.12	32.259		
12,100.00	11,870.72	12,015.30	11,801.38	42.34	41.59	88.36	-220.55	2,277.57	1,907.07	1,847.85	59.22	32.205		
12,150.00	11,883.00	12,060.90	11,811.44	42.34	41.71	88.32	-176.09	2,277.16	1,907.08	1,847.76	59.32	32.150		
12,200.00	11,891.01	12,106.42	11,817.91	42.34	41.84	88.30	-131.04	2,276.75	1,907.09	1,847.66	59.42	32.095		
12,250.00	11,894.70	12,151.90	11,820.80	42.34	41.96	88.28	-85.66	2,276.34	1,907.08	1,847.55	59.53	32.038		
12,275.75	11,894.90	12,175.48	11,820.87	42.35	42.03	88.28	-62.09	2,276.13	1,907.07	1,847.49	59.58	32.007		
12,300.00	11,894.54	12,199.55	11,820.45	42.35	42.10	88.28	-38.02	2,275.91	1,907.06	1,847.42	59.64	31.974		
12,400.00	11,893.05	12,299.55	11,818.71	42.44	42.43	88.27	61.96	2,275.00	1,907.02	1,847.06	59.96	31.804		
12,500.00	11,891.57	12,399.55	11,816.97	42.60	42.83	88.26	161.94	2,274.09	1,906.98	1,846.62	60.37	31.590		
12,600.00	11,890.09	12,499.55	11,815.23	42.84	43.27	88.26	261.92	2,273.19	1,906.95	1,846.09	60.86	31.334		
12,700.00	11,888.61	12,599.55	11,813.49	43.16	43.78	88.25	361.90	2,272.28	1,906.91	1,845.47	61.44	31.039		
12,800.00	11,887.13	12,699.55	11,811.75	43.54	44.34	88.24	461.88	2,271.37	1,906.87	1,844.78	62.09	30.709		
12,900.00	11,885.65	12,799.55	11,810.00	43.98	44.95	88.23	561.86	2,270.46	1,906.83	1,844.00	62.83	30.347		
13,000.00	11,884.17	12,899.55	11,808.26	44.48	45.61	88.22	661.84	2,269.56	1,906.80	1,843.14	63.65	29.957		
13,100.00	11,882.69	12,999.55	11,806.52	45.04	46.32	88.22	761.82	2,268.65	1,906.76	1,842.22	64.54	29.543		
13,200.00	11,881.20	13,099.55	11,804.78	45.65	47.07	88.21	861.80	2,267.74	1,906.72	1,841.22	65.50	29.109		
13,300.00	11,879.72	13,199.55	11,803.04	46.31	47.87	88.20	961.78	2,266.83	1,906.68	1,840.15	66.53	28.658		
13,400.00	11,878.24	13,299.55	11,801.30	47.02	48.72	88.19	1,061.76	2,265.93	1,906.64	1,839.02	67.63	28.193		
13,500.00	11,876.76	13,399.55	11,799.56	47.78	49.60	88.18	1,161.74	2,265.02	1,906.61	1,837.82	68.78	27.718		
13,600.00	11,875.28	13,499.55	11,797.82	48.58	50.52	88.18	1,261.72	2,264.11	1,906.57	1,836.57	70.00	27.237		
13,700.00	11,873.80	13,599.55	11,796.07	49.42	51.48	88.17	1,361.70	2,263.20	1,906.53	1,835.26	71.27	26.750		
13,800.00	11,872.32	13,699.55	11,794.33	50.30	52.47	88.16	1,461.68	2,262.29	1,906.49	1,833.90	72.60	26.262		
13,900.00	11,870.83	13,799.55	11,792.59	51.22	53.50	88.15	1,561.66	2,261.39	1,906.46	1,832.49	73.97	25.773		

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 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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	11,869.35	13,899.55	11,790.85	52.17	54.55	88.15	1,661.64	2,260.48	1,906.42	1,831.03	75.39	25.287		
14,100.00	11,867.87	13,999.55	11,789.11	53.16	55.64	88.14	1,761.62	2,259.57	1,906.38	1,829.52	76.86	24.804		
14,200.00	11,866.39	14,099.54	11,787.37	54.18	56.75	88.13	1,861.60	2,258.66	1,906.34	1,827.98	78.37	24.326		
14,300.00	11,864.91	14,199.54	11,785.63	55.23	57.89	88.12	1,961.58	2,257.76	1,906.31	1,826.39	79.91	23.854		
14,400.00	11,863.43	14,299.54	11,783.89	56.31	59.05	88.11	2,061.56	2,256.85	1,906.27	1,824.77	81.50	23.390		
14,500.00	11,861.95	14,399.54	11,782.14	57.42	60.23	88.11	2,161.54	2,255.94	1,906.23	1,823.11	83.12	22.933		
14,600.00	11,860.47	14,499.54	11,780.40	58.55	61.44	88.10	2,261.53	2,255.03	1,906.20	1,821.42	84.78	22.485		
14,700.00	11,858.98	14,599.54	11,778.66	59.71	62.67	88.09	2,361.51	2,254.13	1,906.16	1,819.70	86.46	22.047		
14,800.00	11,857.50	14,699.54	11,776.92	60.88	63.91	88.08	2,461.49	2,253.22	1,906.12	1,817.95	88.18	21.617		
14,900.00	11,856.02	14,799.54	11,775.18	62.08	65.17	88.07	2,561.47	2,252.31	1,906.08	1,816.17	89.92	21.198		
15,000.00	11,854.54	14,899.54	11,773.44	63.30	66.45	88.07	2,661.45	2,251.40	1,906.05	1,814.36	91.69	20.788		
15,100.00	11,853.06	14,999.54	11,771.70	64.54	67.75	88.06	2,761.43	2,250.50	1,906.01	1,812.53	93.48	20.389		
15,200.00	11,851.58	15,099.54	11,769.96	65.80	69.06	88.05	2,861.41	2,249.59	1,905.97	1,810.67	95.30	20.000		
15,300.00	11,850.10	15,199.54	11,768.21	67.08	70.39	88.04	2,961.39	2,248.68	1,905.94	1,808.80	97.14	19.621		
15,400.00	11,848.61	15,299.54	11,766.47	68.37	71.73	88.04	3,061.37	2,247.77	1,905.90	1,806.90	99.00	19.252		
15,500.00	11,847.13	15,399.54	11,764.73	69.67	73.08	88.03	3,161.35	2,246.86	1,905.86	1,804.98	100.88	18.892		
15,600.00	11,845.65	15,499.54	11,762.99	70.99	74.44	88.02	3,261.33	2,245.96	1,905.83	1,803.05	102.78	18.543		
15,700.00	11,844.17	15,599.54	11,761.25	72.33	75.82	88.01	3,361.31	2,245.05	1,905.79	1,801.09	104.69	18.203		
15,800.00	11,842.69	15,699.54	11,759.51	73.67	77.21	88.00	3,461.29	2,244.14	1,905.75	1,799.12	106.63	17.873		
15,900.00	11,841.21	15,799.54	11,757.77	75.03	78.60	88.00	3,561.27	2,243.23	1,905.71	1,797.14	108.58	17.552		
16,000.00	11,839.73	15,899.54	11,756.03	76.40	80.01	87.99	3,661.25	2,242.33	1,905.68	1,795.14	110.54	17.240		
16,100.00	11,838.25	15,999.54	11,754.28	77.78	81.42	87.98	3,761.23	2,241.42	1,905.64	1,793.12	112.52	16.936		
16,200.00	11,836.76	16,099.54	11,752.54	79.18	82.85	87.97	3,861.21	2,240.51	1,905.60	1,791.09	114.51	16.641		
16,300.00	11,835.28	16,199.54	11,750.80	80.58	84.28	87.96	3,961.19	2,239.60	1,905.57	1,789.05	116.51	16.355		
16,400.00	11,833.80	16,299.54	11,749.06	81.99	85.72	87.96	4,061.17	2,238.70	1,905.53	1,787.00	118.53	16.076		
16,500.00	11,832.32	16,399.54	11,747.32	83.41	87.17	87.95	4,161.15	2,237.79	1,905.50	1,784.94	120.56	15.806		
16,600.00	11,830.84	16,499.54	11,745.58	84.83	88.63	87.94	4,261.13	2,236.88	1,905.46	1,782.86	122.60	15.542		
16,700.00	11,829.36	16,599.54	11,743.84	86.27	90.09	87.93	4,361.11	2,235.97	1,905.42	1,780.78	124.65	15.287		
16,800.00	11,827.88	16,699.54	11,742.10	87.71	91.56	87.93	4,461.09	2,235.07	1,905.39	1,778.68	126.71	15.038		
16,900.00	11,826.39	16,799.54	11,740.35	89.16	93.03	87.92	4,561.07	2,234.16	1,905.35	1,776.58	128.77	14.796		
17,000.00	11,824.91	16,899.54	11,738.61	90.62	94.51	87.91	4,661.05	2,233.25	1,905.31	1,774.46	130.85	14.561		
17,100.00	11,823.43	16,999.53	11,736.87	92.09	96.00	87.90	4,761.03	2,232.34	1,905.28	1,772.34	132.94	14.332		
17,200.00	11,821.95	17,099.53	11,735.13	93.56	97.49	87.89	4,861.01	2,231.43	1,905.24	1,770.21	135.03	14.110		
17,300.00	11,820.47	17,199.53	11,733.39	95.03	98.98	87.89	4,961.00	2,230.53	1,905.20	1,768.07	137.13	13.893		
17,400.00	11,818.99	17,299.53	11,731.65	96.51	100.48	87.88	5,060.98	2,229.62	1,905.17	1,765.93	139.24	13.683		
17,500.00	11,817.51	17,399.53	11,729.91	98.00	101.99	87.87	5,160.96	2,228.71	1,905.13	1,763.77	141.36	13.477		
17,600.00	11,816.03	17,499.53	11,728.17	99.49	103.50	87.86	5,260.94	2,227.80	1,905.10	1,761.62	143.48	13.278		
17,700.00	11,814.54	17,599.53	11,726.42	100.99	105.02	87.85	5,360.92	2,226.90	1,905.06	1,759.45	145.61	13.083		
17,800.00	11,813.06	17,699.53	11,724.68	102.49	106.53	87.85	5,460.90	2,225.99	1,905.02	1,757.28	147.74	12.894		
17,900.00	11,811.58	17,799.53	11,722.94	104.00	108.06	87.84	5,560.88	2,225.08	1,904.99	1,755.10	149.89	12.710		
18,000.00	11,810.10	17,899.53	11,721.20	105.51	109.58	87.83	5,660.86	2,224.17	1,904.95	1,752.92	152.03	12.530		
18,100.00	11,808.62	17,999.53	11,719.46	107.03	111.11	87.82	5,760.84	2,223.27	1,904.92	1,750.73	154.18	12.355		
18,200.00	11,807.14	18,099.53	11,717.72	108.55	112.65	87.82	5,860.82	2,222.36	1,904.88	1,748.54	156.34	12.184		
18,300.00	11,805.66	18,199.53	11,715.98	110.07	114.18	87.81	5,960.80	2,221.45	1,904.84	1,746.34	158.50	12.018		
18,400.00	11,804.17	18,299.53	11,714.24	111.60	115.72	87.80	6,060.78	2,220.54	1,904.81	1,744.14	160.67	11.855		
18,500.00	11,802.69	18,399.53	11,712.49	113.13	117.27	87.79	6,160.76	2,219.63	1,904.77	1,741.93	162.84	11.697		
18,600.00	11,801.21	18,499.53	11,710.75	114.66	118.81	87.78	6,260.74	2,218.73	1,904.74	1,739.72	165.02	11.542		
18,700.00	11,799.73	18,599.53	11,709.01	116.20	120.36	87.78	6,360.72	2,217.82	1,904.70	1,737.50	167.20	11.392		
18,800.00	11,798.25	18,699.53	11,707.27	117.74	121.91	87.77	6,460.70	2,216.91	1,904.66	1,735.28	169.38	11.245		
18,900.00	11,796.77	18,799.53	11,705.53	119.28	123.47	87.76	6,560.68	2,216.00	1,904.63	1,733.06	171.57	11.101		
19,000.00	11,795.29	18,899.53	11,703.79	120.82	125.02	87.75	6,660.66	2,215.10	1,904.59	1,730.83	173.77	10.961		
19,100.00	11,793.81	18,999.53	11,702.05	122.37	126.58	87.74	6,760.64	2,214.19	1,904.56	1,728.60	175.96	10.824		

CC - Min centre to center distance or 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 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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	11,792.32	19,099.53	11,700.31	123.92	128.14	87.74	6,860.62	2,213.28	1,904.52	1,726.36	178.16	10.690		
19,300.00	11,790.84	19,199.53	11,698.56	125.48	129.70	87.73	6,960.60	2,212.37	1,904.49	1,724.12	180.36	10.559		
19,400.00	11,789.36	19,299.53	11,696.82	127.03	131.27	87.72	7,060.58	2,211.47	1,904.45	1,721.88	182.57	10.431		
19,500.00	11,787.88	19,399.53	11,695.08	128.59	132.84	87.71	7,160.56	2,210.56	1,904.42	1,719.64	184.78	10.306		
19,600.00	11,786.40	19,499.53	11,693.34	130.15	134.41	87.71	7,260.54	2,209.65	1,904.38	1,717.39	186.99	10.184		
19,700.00	11,784.92	19,599.53	11,691.60	131.72	135.98	87.70	7,360.52	2,208.74	1,904.34	1,715.14	189.21	10.065		
19,800.00	11,783.44	19,699.53	11,689.86	133.28	137.55	87.69	7,460.50	2,207.84	1,904.31	1,712.89	191.42	9.948		
19,900.00	11,781.95	19,799.52	11,688.12	134.85	139.13	87.68	7,560.49	2,206.93	1,904.27	1,710.63	193.64	9.834		
20,000.00	11,780.47	19,899.52	11,686.37	136.42	140.71	87.67	7,660.47	2,206.02	1,904.24	1,708.37	195.87	9.722		
20,100.00	11,778.99	19,999.52	11,684.63	137.99	142.28	87.67	7,760.45	2,205.11	1,904.20	1,706.11	198.09	9.613		
20,200.00	11,777.51	20,099.52	11,682.89	139.56	143.86	87.66	7,860.43	2,204.20	1,904.17	1,703.85	200.32	9.506		
20,300.00	11,776.03	20,199.52	11,681.15	141.14	145.45	87.65	7,960.41	2,203.30	1,904.13	1,701.58	202.55	9.401		
20,400.00	11,774.55	20,299.52	11,679.41	142.71	147.03	87.64	8,060.39	2,202.39	1,904.10	1,699.31	204.78	9.298		
20,500.00	11,773.07	20,399.52	11,677.67	144.29	148.61	87.63	8,160.37	2,201.48	1,904.06	1,697.04	207.02	9.198		
20,600.00	11,771.59	20,499.52	11,675.93	145.87	150.20	87.63	8,260.35	2,200.57	1,904.03	1,694.77	209.26	9.099		
20,700.00	11,770.10	20,599.52	11,674.19	147.45	151.79	87.62	8,360.33	2,199.67	1,903.99	1,692.50	211.50	9.003		
20,800.00	11,768.62	20,699.52	11,672.44	149.04	153.38	87.61	8,460.31	2,198.76	1,903.96	1,690.22	213.74	8.908		
20,900.00	11,767.14	20,799.52	11,670.70	150.62	154.97	87.60	8,560.29	2,197.85	1,903.92	1,687.94	215.98	8.815		
21,000.00	11,765.66	20,899.52	11,668.96	152.21	156.56	87.59	8,660.27	2,196.94	1,903.89	1,685.66	218.22	8.724		
21,100.00	11,764.18	20,999.52	11,667.22	153.79	158.15	87.59	8,760.25	2,196.04	1,903.85	1,683.38	220.47	8.635		
21,200.00	11,762.70	21,099.52	11,665.48	155.38	159.75	87.58	8,860.23	2,195.13	1,903.82	1,681.10	222.72	8.548		
21,300.00	11,761.22	21,199.52	11,663.74	156.97	161.34	87.57	8,960.21	2,194.22	1,903.78	1,678.81	224.97	8.462		
21,400.00	11,759.74	21,299.52	11,662.00	158.56	162.94	87.56	9,060.19	2,193.31	1,903.75	1,676.53	227.22	8.378		
21,500.00	11,758.25	21,399.52	11,660.26	160.16	164.54	87.56	9,160.17	2,192.41	1,903.71	1,674.24	229.48	8.296		
21,600.00	11,756.77	21,499.52	11,658.51	161.75	166.14	87.55	9,260.15	2,191.50	1,903.68	1,671.95	231.73	8.215		
21,700.00	11,755.29	21,599.52	11,656.77	163.34	167.74	87.54	9,360.13	2,190.59	1,903.64	1,669.66	233.99	8.136		
21,800.00	11,753.81	21,699.52	11,655.03	164.94	169.34	87.53	9,460.11	2,189.68	1,903.61	1,667.36	236.24	8.058		
21,900.00	11,752.33	21,799.52	11,653.29	166.54	170.94	87.52	9,560.09	2,188.77	1,903.58	1,665.07	238.50	7.981		
22,000.00	11,750.85	21,899.52	11,651.55	168.13	172.54	87.52	9,660.07	2,187.87	1,903.54	1,662.78	240.76	7.906		
22,063.91	11,749.90	21,963.43	11,650.44	169.16	173.56	87.51	9,723.97	2,187.29	1,903.52	1,661.31	242.21	7.859		
22,064.91	11,749.89	21,964.42	11,650.42	169.17	173.58	87.51	9,724.97	2,187.28	1,903.52	1,661.29	242.23	7.858	CC, ES, SF	

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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 #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	3.80	3.80	0.00	0.00	-90.70	-0.85	-69.99	70.00					
100.00	100.00	103.80	103.80	0.13	0.14	-90.70	-0.85	-69.99	70.00	69.81	0.19	373.677		
200.00	200.00	203.80	203.80	0.48	0.50	-90.70	-0.85	-69.99	70.00	69.30	0.69	100.845		
300.00	300.00	303.80	303.80	0.84	0.86	-90.70	-0.85	-69.99	70.00	68.79	1.20	58.280		
400.00	400.00	403.80	403.80	1.20	1.21	-90.70	-0.85	-69.99	70.00	68.29	1.71	40.982		
500.00	500.00	503.80	503.80	1.56	1.57	-90.70	-0.85	-69.99	70.00	67.78	2.21	31.602		
600.00	600.00	603.80	603.80	1.92	1.93	-90.70	-0.85	-69.99	70.00	67.27	2.72	25.716		
700.00	700.00	703.80	703.80	2.28	2.29	-90.70	-0.85	-69.99	70.00	66.77	3.23	21.678		
800.00	800.00	803.80	803.80	2.63	2.65	-90.70	-0.85	-69.99	70.00	66.26	3.74	18.736		
900.00	900.00	903.80	903.80	2.99	3.01	-90.70	-0.85	-69.99	70.00	65.75	4.24	16.498		
1,000.00	1,000.00	1,003.80	1,003.80	3.35	3.37	-90.70	-0.85	-69.99	70.00	65.25	4.75	14.737		
1,100.00	1,100.00	1,103.80	1,103.80	3.71	3.72	-90.70	-0.85	-69.99	70.00	64.74	5.26	13.316		
1,200.00	1,200.00	1,203.80	1,203.80	4.07	4.08	-90.70	-0.85	-69.99	70.00	64.23	5.76	12.144		
1,300.00	1,300.00	1,303.80	1,303.80	4.43	4.44	-90.70	-0.85	-69.99	70.00	63.72	6.27	11.163		
1,400.00	1,400.00	1,403.80	1,403.80	4.79	4.80	-90.70	-0.85	-69.99	70.00	63.22	6.78	10.328		
1,500.00	1,500.00	1,503.80	1,503.80	5.14	5.16	-90.70	-0.85	-69.99	70.00	62.71	7.28	9.609		
1,600.00	1,600.00	1,603.80	1,603.80	5.50	5.52	-90.70	-0.85	-69.99	70.00	62.20	7.79	8.984		
1,700.00	1,700.00	1,703.80	1,703.80	5.86	5.87	-90.70	-0.85	-69.99	70.00	61.70	8.30	8.435		
1,800.00	1,800.00	1,803.80	1,803.80	6.22	6.23	-90.70	-0.85	-69.99	70.00	61.19	8.81	7.949		
1,900.00	1,900.00	1,903.80	1,903.80	6.58	6.59	-90.70	-0.85	-69.99	70.00	60.68	9.31	7.516		
2,000.00	2,000.00	2,003.80	2,003.80	6.94	6.95	-90.70	-0.85	-69.99	70.00	60.18	9.82	7.128		
2,100.00	2,100.00	2,103.80	2,103.80	7.29	7.31	-90.70	-0.85	-69.99	70.00	59.67	10.33	6.778		
2,200.00	2,200.00	2,203.80	2,203.80	7.65	7.67	-90.70	-0.85	-69.99	70.00	59.16	10.83	6.461		
2,300.00	2,300.00	2,303.80	2,303.80	8.01	8.03	-90.70	-0.85	-69.99	70.00	58.66	11.34	6.172		
2,400.00	2,400.00	2,403.80	2,403.80	8.37	8.38	-90.70	-0.85	-69.99	70.00	58.15	11.85	5.908		
2,415.35	2,415.35	2,419.15	2,419.15	8.43	8.44	-90.70	-0.85	-69.99	70.00	58.07	11.92	5.870 CC		
2,500.00	2,500.00	2,503.75	2,503.75	8.73	8.74	-90.70	-0.85	-69.99	70.00	57.64	12.35	5.666 ES		
2,600.00	2,599.99	2,602.33	2,602.31	9.07	9.08	119.09	-1.74	-71.04	71.70	58.87	12.83	5.588		
2,700.00	2,699.91	2,700.00	2,699.91	9.40	9.40	119.68	-4.23	-73.98	76.66	63.39	13.28	5.775		
2,800.00	2,799.69	2,798.82	2,798.52	9.73	9.73	120.54	-8.40	-78.90	84.89	71.15	13.73	6.181		
2,900.00	2,899.27	2,896.42	2,895.71	10.06	10.06	121.49	-14.14	-85.67	96.38	82.19	14.18	6.796		
2,966.63	2,965.47	2,961.11	2,960.00	10.28	10.28	122.11	-18.82	-91.20	105.84	91.36	14.48	7.310		
3,000.00	2,998.59	2,993.40	2,992.03	10.40	10.39	122.42	-21.42	-94.27	111.04	96.41	14.63	7.591		
3,100.00	3,097.85	3,091.17	3,088.87	10.74	10.73	122.79	-30.08	-104.49	127.53	112.44	15.09	8.450		
3,200.00	3,197.10	3,189.77	3,186.52	11.09	11.08	123.03	-38.95	-114.96	144.18	128.61	15.57	9.259		
3,300.00	3,296.36	3,288.37	3,284.16	11.44	11.43	123.21	-47.82	-125.43	160.83	144.77	16.06	10.015		
3,400.00	3,395.61	3,386.98	3,381.81	11.79	11.79	123.36	-56.69	-135.90	177.48	160.93	16.55	10.725		
3,500.00	3,494.87	3,485.58	3,479.45	12.15	12.15	123.49	-65.56	-146.37	194.13	177.09	17.04	11.391		
3,600.00	3,594.12	3,584.18	3,577.09	12.51	12.52	123.59	-74.43	-156.84	210.79	193.25	17.54	12.017		
3,700.00	3,693.37	3,682.79	3,674.74	12.88	12.88	123.68	-83.30	-167.30	227.44	209.40	18.04	12.606		
3,800.00	3,792.63	3,781.39	3,772.38	13.24	13.25	123.76	-92.17	-177.77	244.09	225.55	18.55	13.161		
3,900.00	3,891.88	3,879.99	3,870.02	13.61	13.63	123.83	-101.04	-188.24	260.75	241.69	19.05	13.685		
4,000.00	3,991.14	3,978.59	3,967.67	13.99	14.00	123.89	-109.91	-198.71	277.40	257.84	19.56	14.179		
4,100.00	4,090.39	4,077.20	4,065.31	14.36	14.38	123.94	-118.78	-209.18	294.06	273.98	20.08	14.647		
4,200.00	4,189.65	4,175.80	4,162.95	14.74	14.76	123.99	-127.65	-219.65	310.71	290.12	20.59	15.089		
4,300.00	4,288.90	4,274.40	4,260.60	15.11	15.15	124.03	-136.52	-230.12	327.37	306.26	21.11	15.509		
4,400.00	4,388.16	4,373.01	4,358.24	15.49	15.53	124.07	-145.39	-240.59	344.02	322.39	21.63	15.906		
4,500.00	4,487.41	4,471.61	4,455.89	15.87	15.92	124.10	-154.26	-251.05	360.68	338.53	22.15	16.284		
4,600.00	4,586.67	4,570.21	4,553.53	16.26	16.30	124.13	-163.12	-261.52	377.33	354.66	22.67	16.643		
4,700.00	4,685.92	4,668.82	4,651.17	16.64	16.69	124.16	-171.99	-271.99	393.99	370.79	23.20	16.985		
4,800.00	4,785.18	4,767.42	4,748.82	17.03	17.08	124.19	-180.86	-282.46	410.65	386.92	23.72	17.310		
4,900.00	4,884.43	4,866.02	4,846.46	17.41	17.48	124.21	-189.73	-292.93	427.30	403.05	24.25	17.620		

CC - Min centre to center distance or 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 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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	4,983.69	4,964.62	4,944.10	17.80	17.87	124.24	-198.60	-303.40	443.96	419.18	24.78	17.916		
5,100.00	5,082.94	5,063.23	5,041.75	18.19	18.26	124.26	-207.47	-313.87	460.61	435.30	25.31	18.199		
5,200.00	5,182.20	5,161.83	5,139.39	18.58	18.66	124.28	-216.34	-324.34	477.27	451.43	25.84	18.469		
5,300.00	5,281.45	5,260.43	5,237.03	18.97	19.05	124.30	-225.21	-334.80	493.93	467.55	26.37	18.728		
5,400.00	5,380.70	5,359.04	5,334.68	19.36	19.45	124.31	-234.08	-345.27	510.58	483.67	26.91	18.976		
5,500.00	5,479.96	5,457.64	5,432.32	19.75	19.85	124.33	-242.95	-355.74	527.24	499.80	27.44	19.213		
5,600.00	5,579.21	5,556.24	5,529.97	20.14	20.25	124.34	-251.82	-366.21	543.89	515.92	27.98	19.441		
5,700.00	5,678.47	5,654.85	5,627.61	20.53	20.65	124.36	-260.69	-376.68	560.55	532.04	28.51	19.659		
5,800.00	5,777.72	5,753.45	5,725.25	20.93	21.05	124.37	-269.56	-387.15	577.21	548.16	29.05	19.869		
5,900.00	5,876.98	5,852.05	5,822.90	21.32	21.45	124.38	-278.43	-397.62	593.86	564.27	29.59	20.070		
6,000.00	5,976.23	5,950.65	5,920.54	21.72	21.85	124.40	-287.30	-408.09	610.52	580.39	30.13	20.264		
6,100.00	6,075.49	6,049.26	6,018.18	22.11	22.25	124.41	-296.17	-418.55	627.18	596.51	30.67	20.451		
6,200.00	6,174.74	6,147.86	6,115.83	22.51	22.66	124.42	-305.04	-429.02	643.83	612.63	31.21	20.631		
6,300.00	6,274.00	6,246.46	6,213.47	22.91	23.06	124.43	-313.91	-439.49	660.49	628.74	31.75	20.804		
6,400.00	6,373.25	6,345.07	6,311.12	23.30	23.46	124.44	-322.78	-449.96	677.15	644.86	32.29	20.971		
6,500.00	6,472.51	6,443.67	6,408.76	23.70	23.87	124.45	-331.65	-460.43	693.80	660.97	32.83	21.132		
6,600.00	6,571.76	6,542.27	6,506.40	24.10	24.27	124.45	-340.52	-470.90	710.46	677.08	33.37	21.287		
6,700.00	6,671.02	6,640.88	6,604.05	24.50	24.68	124.46	-349.38	-481.37	727.12	693.20	33.92	21.438		
6,800.00	6,770.27	6,739.48	6,701.69	24.90	25.08	124.47	-358.25	-491.84	743.77	709.31	34.46	21.583		
6,900.00	6,869.53	6,838.08	6,799.33	25.29	25.49	124.48	-367.12	-502.30	760.43	725.42	35.01	21.723		
7,000.00	6,968.78	6,936.68	6,896.98	25.69	25.90	124.49	-375.99	-512.77	777.09	741.53	35.55	21.859		
7,100.00	7,068.04	7,035.29	6,994.62	26.09	26.30	124.49	-384.86	-523.24	793.74	757.65	36.10	21.990		
7,200.00	7,167.29	7,133.89	7,092.26	26.49	26.71	124.50	-393.73	-533.71	810.40	773.76	36.64	22.117		
7,300.00	7,266.54	7,232.49	7,189.91	26.89	27.12	124.51	-402.60	-544.18	827.06	789.87	37.19	22.240		
7,400.00	7,365.80	7,331.10	7,287.55	27.29	27.53	124.51	-411.47	-554.65	843.71	805.98	37.73	22.360		
7,500.00	7,465.05	7,429.70	7,385.20	27.70	27.94	124.52	-420.34	-565.12	860.37	822.09	38.28	22.476		
7,600.00	7,564.31	7,528.30	7,482.84	28.10	28.34	124.52	-429.21	-575.58	877.03	838.20	38.83	22.588		
7,700.00	7,663.56	7,626.91	7,580.48	28.50	28.75	124.53	-438.08	-586.05	893.68	854.31	39.37	22.697		
7,800.00	7,762.82	7,725.51	7,678.13	28.90	29.16	124.53	-446.95	-596.52	910.34	870.42	39.92	22.803		
7,900.00	7,862.07	7,824.11	7,775.77	29.30	29.57	124.54	-455.82	-606.99	927.00	886.52	40.47	22.905		
8,000.00	7,961.33	7,922.71	7,873.41	29.70	29.98	124.54	-464.69	-617.46	943.65	902.63	41.02	23.005		
8,100.00	8,060.58	8,021.32	7,971.06	30.11	30.39	124.55	-473.56	-627.93	960.31	918.74	41.57	23.102		
8,200.00	8,159.84	8,119.92	8,068.70	30.51	30.80	124.55	-482.43	-638.40	976.97	934.85	42.12	23.196		
8,300.00	8,259.09	8,218.52	8,166.34	30.91	31.21	124.56	-491.30	-648.87	993.62	950.96	42.67	23.288		
8,400.00	8,358.35	8,317.13	8,263.99	31.32	31.62	124.56	-500.17	-659.33	1,010.28	967.06	43.22	23.377		
8,500.00	8,457.60	8,415.73	8,361.63	31.72	32.03	124.57	-509.04	-669.80	1,026.94	983.17	43.77	23.464		
8,600.00	8,556.86	8,514.33	8,459.28	32.12	32.44	124.57	-517.91	-680.27	1,043.59	999.28	44.32	23.549		
8,700.00	8,656.11	8,612.94	8,556.92	32.53	32.86	124.57	-526.77	-690.74	1,060.25	1,015.38	44.87	23.631		
8,728.63	8,684.53	8,641.16	8,584.87	32.64	32.97	124.58	-529.31	-693.74	1,065.02	1,019.99	45.02	23.654		
8,800.00	8,755.44	8,711.60	8,654.62	32.93	33.27	124.69	-535.65	-701.22	1,076.53	1,031.12	45.42	23.704		
8,900.00	8,855.03	8,810.45	8,752.51	33.31	33.68	124.74	-544.54	-711.71	1,091.41	1,045.45	45.96	23.749		
9,000.00	8,954.82	8,909.44	8,850.54	33.68	34.09	124.67	-553.45	-722.22	1,104.82	1,058.33	46.49	23.766		
9,100.00	9,054.75	9,008.49	8,948.62	34.04	34.51	124.47	-562.36	-732.74	1,116.78	1,069.77	47.01	23.756		
9,195.26	9,150.00	9,102.84	9,042.06	34.35	34.90	-85.44	-570.84	-742.75	1,126.86	1,079.36	47.49	23.726		
9,200.00	9,154.74	9,107.53	9,046.71	34.37	34.92	-85.46	-571.27	-743.25	1,127.33	1,079.81	47.52	23.724		
9,300.00	9,254.74	9,206.56	9,144.77	34.68	35.33	-85.95	-580.17	-753.77	1,137.29	1,089.28	48.01	23.687		
9,400.00	9,354.74	9,305.59	9,242.83	35.00	35.75	-86.44	-589.08	-764.28	1,147.33	1,098.82	48.51	23.652		
9,500.00	9,454.74	9,404.62	9,340.90	35.32	36.16	-86.91	-597.99	-774.79	1,157.46	1,108.45	49.01	23.619		
9,600.00	9,554.74	9,503.64	9,438.96	35.63	36.58	-87.38	-606.90	-785.31	1,167.66	1,118.16	49.50	23.589		
9,700.00	9,654.74	9,602.67	9,537.02	35.95	36.99	-87.84	-615.80	-795.82	1,177.94	1,127.94	50.00	23.560		
9,800.00	9,754.74	9,701.70	9,635.09	36.27	37.41	-88.29	-624.71	-806.34	1,188.29	1,137.80	50.49	23.534		
9,900.00	9,854.74	9,800.72	9,733.15	36.59	37.82	-88.73	-633.62	-816.85	1,198.72	1,147.73	50.99	23.510		

CC - Min centre to center distance or 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 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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 #2													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
10,000.00	9,954.74	9,919.69	9,851.08	36.91	38.31	-89.23	-643.74	-828.79	1,208.69	1,157.10	51.59	23.430		
10,100.00	10,054.74	10,050.73	9,981.45	37.23	38.83	-89.63	-652.25	-838.84	1,216.31	1,164.09	52.22	23.293		
10,200.00	10,154.74	10,182.52	10,112.95	37.56	39.31	-89.90	-657.89	-845.49	1,221.35	1,168.53	52.82	23.125		
10,300.00	10,254.74	10,314.76	10,245.12	37.88	39.77	-90.03	-660.60	-848.69	1,223.76	1,170.39	53.38	22.927		
10,400.00	10,354.74	10,428.19	10,358.54	38.20	40.13	-90.04	-660.85	-848.99	1,223.99	1,170.13	53.86	22.724		
10,500.00	10,454.74	10,528.19	10,458.54	38.53	40.44	-90.04	-660.85	-848.99	1,223.99	1,169.67	54.32	22.533		
10,600.00	10,554.74	10,628.19	10,558.54	38.85	40.75	-90.04	-660.85	-848.99	1,223.99	1,169.21	54.78	22.344		
10,700.00	10,654.74	10,728.19	10,658.54	39.18	41.06	-90.04	-660.85	-848.99	1,223.99	1,168.75	55.24	22.159		
10,800.00	10,754.74	10,828.19	10,758.54	39.50	41.37	-90.04	-660.85	-848.99	1,223.99	1,168.29	55.70	21.976		
10,900.00	10,854.74	10,928.19	10,858.54	39.83	41.68	-90.04	-660.85	-848.99	1,223.99	1,167.83	56.16	21.795		
11,000.00	10,954.74	11,028.19	10,958.54	40.16	41.99	-90.04	-660.85	-848.99	1,223.99	1,167.37	56.62	21.618		
11,100.00	11,054.74	11,128.19	11,058.54	40.48	42.31	-90.04	-660.85	-848.99	1,223.99	1,166.91	57.08	21.443		
11,200.00	11,154.74	11,228.19	11,158.54	40.81	42.62	-90.04	-660.85	-848.99	1,223.99	1,166.45	57.54	21.270		
11,206.85	11,161.59	11,235.04	11,165.39	40.83	42.64	-90.04	-660.85	-848.99	1,223.99	1,166.41	57.58	21.258		
11,300.00	11,254.74	11,326.69	11,256.87	41.14	42.92	-89.85	-656.70	-849.03	1,224.03	1,166.03	58.00	21.105		
11,367.26	11,322.00	11,390.74	11,319.89	41.36	43.08	-89.32	-645.46	-849.12	1,224.22	1,165.93	58.29	21.003		
11,400.00	11,354.72	11,421.05	11,349.20	41.47	43.15	-88.48	-637.71	-849.19	1,224.40	1,165.98	58.42	20.959		
11,450.00	11,404.45	11,466.72	11,392.46	41.61	43.25	-87.97	-623.13	-849.31	1,224.75	1,166.15	58.60	20.899		
11,500.00	11,453.55	11,511.66	11,433.77	41.75	43.32	-87.48	-605.46	-849.46	1,225.19	1,166.42	58.76	20.849		
11,550.00	11,501.66	11,555.95	11,473.00	41.87	43.39	-87.01	-584.94	-849.64	1,225.69	1,166.78	58.90	20.809		
11,600.00	11,548.39	11,600.00	11,510.34	41.97	43.44	-86.55	-561.58	-849.84	1,226.24	1,167.22	59.02	20.776		
11,650.00	11,593.40	11,642.79	11,544.78	42.06	43.47	-86.12	-536.21	-850.05	1,226.84	1,167.72	59.12	20.753		
11,700.00	11,636.35	11,685.45	11,577.15	42.14	43.49	-85.72	-508.43	-850.29	1,227.45	1,168.26	59.19	20.736		
11,750.00	11,676.90	11,727.69	11,607.06	42.20	43.50	-85.35	-478.63	-850.54	1,228.08	1,168.82	59.25	20.726		
11,800.00	11,714.75	11,769.54	11,634.46	42.24	43.51	-85.00	-447.00	-850.81	1,228.69	1,169.39	59.30	20.720		
11,850.00	11,749.62	11,811.05	11,659.28	42.28	43.50	-84.69	-413.74	-851.10	1,229.27	1,169.94	59.33	20.718		
11,900.00	11,781.23	11,850.00	11,680.33	42.31	43.48	-84.43	-380.98	-851.38	1,229.82	1,170.47	59.36	20.720		
11,950.00	11,809.34	11,893.24	11,701.02	42.32	43.45	-84.18	-343.03	-851.70	1,230.32	1,170.94	59.38	20.720		
12,000.00	11,833.75	11,934.00	11,717.86	42.33	43.42	-83.98	-305.92	-852.02	1,230.75	1,171.35	59.40	20.721		
12,050.00	11,854.26	11,974.59	11,731.96	42.34	43.38	-83.82	-267.87	-852.34	1,231.10	1,171.69	59.41	20.721		
12,100.00	11,870.72	12,015.05	11,743.30	42.34	43.33	-83.69	-229.04	-852.67	1,231.38	1,171.95	59.43	20.719		
12,150.00	11,883.00	12,055.42	11,751.86	42.34	43.28	-83.61	-189.60	-853.01	1,231.57	1,172.11	59.46	20.714		
12,200.00	11,891.01	12,100.00	11,758.06	42.34	43.23	-83.56	-145.46	-853.38	1,231.67	1,172.18	59.49	20.704		
12,215.94	11,892.66	12,108.57	11,758.86	42.34	43.22	-83.56	-136.93	-853.46	1,231.67	1,172.17	59.50	20.701		
12,250.00	11,894.70	12,136.01	11,760.55	42.34	43.18	-83.56	-109.54	-853.69	1,231.66	1,172.14	59.52	20.692		
12,275.75	11,894.90	12,156.77	11,760.96	42.35	43.15	-83.58	-88.80	-853.87	1,231.62	1,172.08	59.55	20.683		
12,300.00	11,894.54	12,179.49	11,760.78	42.35	43.12	-83.59	-66.08	-854.06	1,231.60	1,172.03	59.57	20.673		
12,400.00	11,893.05	12,279.49	11,759.82	42.44	43.00	-83.61	33.92	-854.91	1,231.53	1,171.78	59.75	20.611		
12,500.00	11,891.57	12,379.49	11,758.87	42.60	42.90	-83.64	133.91	-855.76	1,231.47	1,171.45	60.02	20.518		
12,600.00	11,890.09	12,479.48	11,757.91	42.84	42.82	-83.66	233.90	-856.62	1,231.40	1,171.03	60.37	20.397		
12,700.00	11,888.61	12,579.48	11,756.96	43.16	43.08	-83.68	333.89	-857.47	1,231.33	1,170.52	60.81	20.249		
12,800.00	11,887.13	12,679.48	11,756.00	43.54	43.52	-83.71	433.88	-858.32	1,231.26	1,169.93	61.34	20.074		
12,900.00	11,885.65	12,779.48	11,755.05	43.98	43.99	-83.73	533.87	-859.17	1,231.20	1,169.25	61.94	19.876		
13,000.00	11,884.17	12,879.48	11,754.09	44.48	44.52	-83.76	633.86	-860.03	1,231.13	1,168.50	62.63	19.657		
13,100.00	11,882.69	12,979.48	11,753.14	45.04	45.09	-83.78	733.85	-860.88	1,231.06	1,167.66	63.40	19.418		
13,200.00	11,881.20	13,079.48	11,752.18	45.65	45.71	-83.81	833.84	-861.73	1,231.00	1,166.76	64.24	19.163		
13,300.00	11,879.72	13,179.48	11,751.23	46.31	46.38	-83.83	933.83	-862.58	1,230.93	1,165.78	65.15	18.893		
13,400.00	11,878.24	13,279.47	11,750.27	47.02	47.09	-83.85	1,033.82	-863.43	1,230.86	1,164.73	66.13	18.611		
13,500.00	11,876.76	13,379.47	11,749.32	47.78	47.84	-83.88	1,133.81	-864.29	1,230.80	1,163.61	67.18	18.320		
13,600.00	11,875.28	13,479.47	11,748.36	48.58	48.64	-83.90	1,233.80	-865.14	1,230.73	1,162.44	68.30	18.021		
13,700.00	11,873.80	13,579.47	11,747.41	49.42	49.48	-83.93	1,333.79	-865.99	1,230.67	1,161.20	69.47	17.716		
13,800.00	11,872.32	13,679.47	11,746.45	50.30	50.36	-83.95	1,433.78	-866.84	1,230.60	1,159.90	70.70	17.407		

CC - Min centre to center distance or 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 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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 #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		
13,900.00	11,870.83	13,779.47	11,745.50	51.22	51.27	-83.98	1,533.77	-867.70	1,230.54	1,158.56	71.98	17.096		
14,000.00	11,869.35	13,879.47	11,744.54	52.17	52.22	-84.00	1,633.76	-868.55	1,230.47	1,157.16	73.31	16.783		
14,100.00	11,867.87	13,979.46	11,743.59	53.16	53.20	-84.02	1,733.75	-869.40	1,230.41	1,155.71	74.70	16.472		
14,200.00	11,866.39	14,079.46	11,742.63	54.18	54.21	-84.05	1,833.74	-870.25	1,230.34	1,154.21	76.13	16.161		
14,300.00	11,864.91	14,179.46	11,741.68	55.23	55.25	-84.07	1,933.73	-871.10	1,230.28	1,152.68	77.60	15.854		
14,400.00	11,863.43	14,279.46	11,740.72	56.31	56.32	-84.10	2,033.72	-871.96	1,230.21	1,151.10	79.11	15.550		
14,500.00	11,861.95	14,379.46	11,739.77	57.42	57.42	-84.12	2,133.71	-872.81	1,230.15	1,149.48	80.67	15.250		
14,600.00	11,860.47	14,479.46	11,738.81	58.55	58.54	-84.15	2,233.70	-873.66	1,230.09	1,147.83	82.26	14.954		
14,700.00	11,858.98	14,579.46	11,737.86	59.71	59.69	-84.17	2,333.69	-874.51	1,230.02	1,146.14	83.88	14.664		
14,800.00	11,857.50	14,679.45	11,736.90	60.88	60.86	-84.19	2,433.69	-875.37	1,229.96	1,144.42	85.54	14.379		
14,900.00	11,856.02	14,779.45	11,735.95	62.08	62.05	-84.22	2,533.68	-876.22	1,229.90	1,142.67	87.22	14.100		
15,000.00	11,854.54	14,879.45	11,734.99	63.30	63.26	-84.24	2,633.67	-877.07	1,229.84	1,140.90	88.94	13.828		
15,100.00	11,853.06	14,979.45	11,734.04	64.54	64.49	-84.27	2,733.66	-877.92	1,229.77	1,139.09	90.68	13.561		
15,200.00	11,851.58	15,079.45	11,733.08	65.80	65.74	-84.29	2,833.65	-878.78	1,229.71	1,137.26	92.45	13.301		
15,300.00	11,850.10	15,179.45	11,732.13	67.08	67.01	-84.32	2,933.64	-879.63	1,229.65	1,135.40	94.25	13.047		
15,400.00	11,848.61	15,279.45	11,731.17	68.37	68.29	-84.34	3,033.63	-880.48	1,229.59	1,133.53	96.06	12.800		
15,500.00	11,847.13	15,379.44	11,730.22	69.67	69.59	-84.37	3,133.62	-881.33	1,229.53	1,131.63	97.90	12.559		
15,600.00	11,845.65	15,479.44	11,729.26	70.99	70.90	-84.39	3,233.61	-882.18	1,229.47	1,129.70	99.76	12.324		
15,700.00	11,844.17	15,579.44	11,728.31	72.33	72.23	-84.41	3,333.60	-883.04	1,229.41	1,127.76	101.64	12.096		
15,800.00	11,842.69	15,679.44	11,727.35	73.67	73.56	-84.44	3,433.59	-883.89	1,229.34	1,125.81	103.54	11.873		
15,900.00	11,841.21	15,779.44	11,726.40	75.03	74.92	-84.46	3,533.58	-884.74	1,229.28	1,123.83	105.45	11.657		
16,000.00	11,839.73	15,879.44	11,725.44	76.40	76.28	-84.49	3,633.57	-885.59	1,229.22	1,121.84	107.38	11.447		
16,100.00	11,838.25	15,979.44	11,724.49	77.78	77.65	-84.51	3,733.56	-886.45	1,229.16	1,119.83	109.33	11.243		
16,200.00	11,836.76	16,079.43	11,723.53	79.18	79.04	-84.54	3,833.55	-887.30	1,229.10	1,117.81	111.29	11.044		
16,300.00	11,835.28	16,179.43	11,722.58	80.58	80.43	-84.56	3,933.54	-888.15	1,229.04	1,115.78	113.27	10.851		
16,400.00	11,833.80	16,279.43	11,721.62	81.99	81.84	-84.58	4,033.53	-889.00	1,228.99	1,113.73	115.25	10.663		
16,500.00	11,832.32	16,379.43	11,720.67	83.41	83.25	-84.61	4,133.52	-889.85	1,228.93	1,111.67	117.25	10.481		
16,600.00	11,830.84	16,479.43	11,719.71	84.83	84.67	-84.63	4,233.51	-890.71	1,228.87	1,109.60	119.27	10.303		
16,700.00	11,829.36	16,579.43	11,718.76	86.27	86.10	-84.66	4,333.50	-891.56	1,228.81	1,107.52	121.29	10.131		
16,800.00	11,827.88	16,679.43	11,717.80	87.71	87.54	-84.68	4,433.49	-892.41	1,228.75	1,105.42	123.33	9.963		
16,900.00	11,826.39	16,779.43	11,716.85	89.16	88.98	-84.71	4,533.48	-893.26	1,228.69	1,103.32	125.37	9.800		
17,000.00	11,824.91	16,879.42	11,715.89	90.62	90.43	-84.73	4,633.47	-894.12	1,228.63	1,101.20	127.43	9.642		
17,100.00	11,823.43	16,979.42	11,714.94	92.09	91.89	-84.76	4,733.47	-894.97	1,228.58	1,099.08	129.49	9.488		
17,200.00	11,821.95	17,079.42	11,713.98	93.56	93.36	-84.78	4,833.46	-895.82	1,228.52	1,096.95	131.57	9.338		
17,300.00	11,820.47	17,179.42	11,713.03	95.03	94.83	-84.80	4,933.45	-896.67	1,228.46	1,094.81	133.65	9.192		
17,400.00	11,818.99	17,279.42	11,712.07	96.51	96.30	-84.83	5,033.44	-897.52	1,228.40	1,092.66	135.74	9.050		
17,500.00	11,817.51	17,379.42	11,711.12	98.00	97.79	-84.85	5,133.43	-898.38	1,228.35	1,090.51	137.84	8.911		
17,600.00	11,816.03	17,479.42	11,710.16	99.49	99.27	-84.88	5,233.42	-899.23	1,228.29	1,088.34	139.95	8.777		
17,700.00	11,814.54	17,579.41	11,709.21	100.99	100.77	-84.90	5,333.41	-900.08	1,228.23	1,086.17	142.06	8.646		
17,800.00	11,813.06	17,679.41	11,708.25	102.49	102.26	-84.93	5,433.40	-900.93	1,228.18	1,084.00	144.18	8.518		
17,900.00	11,811.58	17,779.41	11,707.30	104.00	103.77	-84.95	5,533.39	-901.79	1,228.12	1,081.82	146.31	8.394		
18,000.00	11,810.10	17,879.41	11,706.34	105.51	105.27	-84.98	5,633.38	-902.64	1,228.07	1,079.63	148.44	8.273		
18,100.00	11,808.62	17,979.41	11,705.39	107.03	106.78	-85.00	5,733.37	-903.49	1,228.01	1,077.43	150.58	8.155		
18,200.00	11,807.14	18,079.41	11,704.43	108.55	108.30	-85.02	5,833.36	-904.34	1,227.95	1,075.23	152.72	8.040		
18,300.00	11,805.66	18,179.41	11,703.48	110.07	109.82	-85.05	5,933.35	-905.20	1,227.90	1,073.03	154.87	7.928		
18,400.00	11,804.17	18,279.40	11,702.52	111.60	111.34	-85.07	6,033.34	-906.05	1,227.84	1,070.82	157.03	7.819		
18,500.00	11,802.69	18,379.40	11,701.57	113.13	112.87	-85.10	6,133.33	-906.90	1,227.79	1,068.60	159.19	7.713		
18,600.00	11,801.21	18,479.40	11,700.61	114.66	114.40	-85.12	6,233.32	-907.75	1,227.74	1,066.38	161.35	7.609		
18,700.00	11,799.73	18,579.40	11,699.66	116.20	115.93	-85.15	6,333.31	-908.60	1,227.68	1,064.16	163.52	7.508		
18,800.00	11,798.25	18,679.40	11,698.70	117.74	117.47	-85.17	6,433.30	-909.46	1,227.63	1,061.93	165.70	7.409		
18,900.00	11,796.77	18,779.40	11,697.75	119.28	119.00	-85.20	6,533.29	-910.31	1,227.57	1,059.70	167.88	7.312		
19,000.00	11,795.29	18,879.40	11,696.79	120.82	120.55	-85.22	6,633.28	-911.16	1,227.52	1,057.46	170.06	7.218		

CC - Min centre to center distance or 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 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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	11,793.81	18,979.39	11,695.84	122.37	122.09	-85.24	6,733.27	-912.01	1,227.47	1,055.22	172.25	7.126		
19,200.00	11,792.32	19,079.39	11,694.88	123.92	123.64	-85.27	6,833.26	-912.87	1,227.41	1,052.98	174.44	7.036		
19,300.00	11,790.84	19,179.39	11,693.93	125.48	125.19	-85.29	6,933.25	-913.72	1,227.36	1,050.73	176.63	6.949		
19,400.00	11,789.36	19,279.39	11,692.97	127.03	126.74	-85.32	7,033.24	-914.57	1,227.31	1,048.48	178.83	6.863		
19,500.00	11,787.88	19,379.39	11,692.02	128.59	128.30	-85.34	7,133.24	-915.42	1,227.26	1,046.22	181.03	6.779		
19,600.00	11,786.40	19,479.39	11,691.06	130.15	129.86	-85.37	7,233.23	-916.27	1,227.20	1,043.97	183.24	6.697		
19,700.00	11,784.92	19,579.39	11,690.11	131.72	131.42	-85.39	7,333.22	-917.13	1,227.15	1,041.71	185.44	6.617		
19,800.00	11,783.44	19,679.39	11,689.15	133.28	132.98	-85.42	7,433.21	-917.98	1,227.10	1,039.44	187.66	6.539		
19,900.00	11,781.95	19,779.38	11,688.20	134.85	134.54	-85.44	7,533.20	-918.83	1,227.05	1,037.18	189.87	6.463		
20,000.00	11,780.47	19,879.38	11,687.24	136.42	136.11	-85.46	7,633.19	-919.68	1,227.00	1,034.91	192.09	6.388		
20,100.00	11,778.99	19,979.38	11,686.29	137.99	137.68	-85.49	7,733.18	-920.54	1,226.95	1,032.64	194.31	6.314		
20,200.00	11,777.51	20,079.38	11,685.33	139.56	139.25	-85.51	7,833.17	-921.39	1,226.89	1,030.37	196.53	6.243		
20,300.00	11,776.03	20,179.38	11,684.38	141.14	140.82	-85.54	7,933.16	-922.24	1,226.84	1,028.09	198.75	6.173		
20,400.00	11,774.55	20,279.38	11,683.42	142.71	142.39	-85.56	8,033.15	-923.09	1,226.79	1,025.81	200.98	6.104		
20,500.00	11,773.07	20,379.38	11,682.47	144.29	143.97	-85.59	8,133.14	-923.94	1,226.74	1,023.53	203.21	6.037		
20,600.00	11,771.59	20,479.37	11,681.51	145.87	145.55	-85.61	8,233.13	-924.80	1,226.69	1,021.25	205.45	5.971		
20,700.00	11,770.10	20,579.37	11,680.56	147.45	147.13	-85.64	8,333.12	-925.65	1,226.64	1,018.96	207.68	5.906		
20,800.00	11,768.62	20,679.37	11,679.60	149.04	148.71	-85.66	8,433.11	-926.50	1,226.59	1,016.68	209.92	5.843		
20,900.00	11,767.14	20,779.37	11,678.65	150.62	150.29	-85.68	8,533.10	-927.35	1,226.54	1,014.39	212.16	5.781		
21,000.00	11,765.66	20,879.37	11,677.69	152.21	151.87	-85.71	8,633.09	-928.21	1,226.50	1,012.10	214.40	5.721		
21,100.00	11,764.18	20,979.37	11,676.74	153.79	153.46	-85.73	8,733.08	-929.06	1,226.45	1,009.80	216.64	5.661		
21,200.00	11,762.70	21,079.37	11,675.78	155.38	155.04	-85.76	8,833.07	-929.91	1,226.40	1,007.51	218.89	5.603		
21,300.00	11,761.22	21,179.36	11,674.83	156.97	156.63	-85.78	8,933.06	-930.76	1,226.35	1,005.21	221.13	5.546		
21,400.00	11,759.74	21,279.36	11,673.87	158.56	158.22	-85.81	9,033.05	-931.62	1,226.30	1,002.92	223.38	5.490		
21,500.00	11,758.25	21,379.36	11,672.92	160.16	159.81	-85.83	9,133.04	-932.47	1,226.25	1,000.62	225.64	5.435		
21,600.00	11,756.77	21,479.36	11,671.96	161.75	161.40	-85.86	9,233.03	-933.32	1,226.21	998.32	227.89	5.381		
21,700.00	11,755.29	21,579.36	11,671.01	163.34	162.99	-85.88	9,333.02	-934.17	1,226.16	996.01	230.14	5.328		
21,800.00	11,753.81	21,679.36	11,670.05	164.94	164.59	-85.90	9,433.02	-935.02	1,226.11	993.71	232.40	5.276		
21,900.00	11,752.33	21,779.36	11,669.10	166.54	166.18	-85.93	9,533.01	-935.88	1,226.06	991.41	234.66	5.225		
22,000.00	11,750.85	21,879.35	11,668.14	168.13	167.78	-85.95	9,633.00	-936.73	1,226.02	989.10	236.92	5.175		
22,059.41	11,749.97	21,938.19	11,667.58	169.08	168.72	-85.97	9,691.83	-937.23	1,225.99	987.73	238.26	5.146		
22,063.91	11,749.90	21,938.19	11,667.58	169.16	168.72	-85.97	9,691.83	-937.23	1,226.00	987.68	238.32	5.144		
22,064.91	11,749.89	21,938.19	11,667.58	169.17	168.72	-85.97	9,691.83	-937.23	1,226.00	987.67	238.34	5.144 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 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design Trinity Fed/Santa Fe Fed - Trinity Fed Com 703H - OH - Plan #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	2.30	2.30	0.00	0.00	-90.69	-0.42	-34.99	34.99					
100.00	100.00	102.30	102.30	0.13	0.13	-90.69	-0.42	-34.99	34.99	34.81	0.18	190.843		
200.00	200.00	202.30	202.30	0.48	0.49	-90.69	-0.42	-34.99	34.99	34.30	0.69	50.696		
300.00	300.00	302.30	302.30	0.84	0.85	-90.69	-0.42	-34.99	34.99	33.80	1.20	29.229		
400.00	400.00	402.30	402.30	1.20	1.21	-90.69	-0.42	-34.99	34.99	33.29	1.70	20.534		
500.00	500.00	502.30	502.30	1.56	1.57	-90.69	-0.42	-34.99	34.99	32.78	2.21	15.826		
600.00	600.00	602.30	602.30	1.92	1.93	-90.69	-0.42	-34.99	34.99	32.27	2.72	12.874		
700.00	700.00	702.30	702.30	2.28	2.28	-90.69	-0.42	-34.99	34.99	31.77	3.23	10.850		
800.00	800.00	802.30	802.30	2.63	2.64	-90.69	-0.42	-34.99	34.99	31.26	3.73	9.376		
900.00	900.00	902.30	902.30	2.99	3.00	-90.69	-0.42	-34.99	34.99	30.75	4.24	8.255		
1,000.00	1,000.00	1,002.30	1,002.30	3.35	3.36	-90.69	-0.42	-34.99	34.99	30.25	4.75	7.373		
1,100.00	1,100.00	1,102.30	1,102.30	3.71	3.72	-90.69	-0.42	-34.99	34.99	29.74	5.25	6.662		
1,200.00	1,200.00	1,202.30	1,202.30	4.07	4.08	-90.69	-0.42	-34.99	34.99	29.23	5.76	6.075		
1,300.00	1,300.00	1,302.30	1,302.30	4.43	4.44	-90.69	-0.42	-34.99	34.99	28.73	6.27	5.584		
1,400.00	1,400.00	1,402.30	1,402.30	4.79	4.79	-90.69	-0.42	-34.99	34.99	28.22	6.77	5.166		
1,500.00	1,500.00	1,502.30	1,502.30	5.14	5.15	-90.69	-0.42	-34.99	34.99	27.71	7.28	4.806		
1,600.00	1,600.00	1,602.30	1,602.30	5.50	5.51	-90.69	-0.42	-34.99	34.99	27.20	7.79	4.493		
1,700.00	1,700.00	1,702.30	1,702.30	5.86	5.87	-90.69	-0.42	-34.99	34.99	26.70	8.29	4.219		
1,800.00	1,800.00	1,802.30	1,802.30	6.22	6.23	-90.69	-0.42	-34.99	34.99	26.19	8.80	3.976		
1,900.00	1,900.00	1,902.30	1,902.30	6.58	6.59	-90.69	-0.42	-34.99	34.99	25.68	9.31	3.759		
2,000.00	2,000.00	2,002.30	2,002.30	6.94	6.94	-90.69	-0.42	-34.99	34.99	25.18	9.82	3.565		
2,100.00	2,100.00	2,102.30	2,102.30	7.29	7.30	-90.69	-0.42	-34.99	34.99	24.67	10.32	3.390		
2,200.00	2,200.00	2,202.30	2,202.30	7.65	7.66	-90.69	-0.42	-34.99	34.99	24.16	10.83	3.231		
2,300.00	2,300.00	2,302.30	2,302.30	8.01	8.02	-90.69	-0.42	-34.99	34.99	23.66	11.34	3.087		
2,400.00	2,400.00	2,402.30	2,402.30	8.37	8.38	-90.69	-0.42	-34.99	34.99	23.15	11.84	2.955		
2,500.00	2,500.00	2,502.30	2,502.30	8.73	8.74	-90.69	-0.42	-34.99	34.99	22.64	12.35	2.833 CC, ES		
2,600.00	2,599.99	2,602.29	2,602.29	9.07	9.10	120.75	-0.42	-34.99	35.64	22.80	12.84	2.775 SF		
2,700.00	2,699.91	2,702.21	2,702.21	9.40	9.45	125.84	-0.42	-34.99	37.80	24.47	13.33	2.836		
2,800.00	2,799.69	2,801.99	2,801.99	9.73	9.81	133.04	-0.42	-34.99	41.97	28.16	13.81	3.038		
2,900.00	2,899.27	2,901.57	2,901.57	10.06	10.17	140.86	-0.42	-34.99	48.69	34.39	14.30	3.405		
2,966.63	2,965.47	2,967.77	2,967.77	10.28	10.41	145.79	-0.42	-34.99	54.76	40.13	14.62	3.744		
3,000.00	2,998.59	3,000.89	3,000.89	10.40	10.52	148.04	-0.42	-34.99	58.17	43.39	14.79	3.934		
3,100.00	3,097.85	3,100.00	3,099.99	10.74	10.86	152.31	-1.45	-35.79	68.93	53.67	15.26	4.517		
3,200.00	3,197.10	3,199.22	3,199.13	11.09	11.19	153.57	-4.52	-38.17	80.09	64.36	15.73	5.093		
3,300.00	3,296.36	3,298.42	3,298.12	11.44	11.52	152.90	-9.63	-42.13	91.44	75.24	16.20	5.646		
3,400.00	3,395.61	3,397.46	3,396.74	11.79	11.84	150.94	-16.74	-47.65	103.05	86.38	16.67	6.182		
3,500.00	3,494.87	3,496.34	3,494.96	12.15	12.18	148.17	-25.77	-54.66	115.11	97.97	17.15	6.714		
3,600.00	3,594.12	3,595.43	3,593.31	12.51	12.51	145.64	-35.32	-62.06	127.52	109.89	17.63	7.234		
3,700.00	3,693.37	3,694.51	3,691.65	12.88	12.86	143.56	-44.86	-69.46	140.12	122.01	18.11	7.735		
3,800.00	3,792.63	3,793.60	3,790.00	13.24	13.20	141.83	-54.40	-76.86	152.88	134.27	18.61	8.217		
3,900.00	3,891.88	3,892.68	3,888.35	13.61	13.55	140.36	-63.94	-84.27	165.75	146.65	19.10	8.678		
4,000.00	3,991.14	3,991.77	3,986.69	13.99	13.90	139.11	-73.48	-91.67	178.72	159.12	19.60	9.118		
4,100.00	4,090.39	4,090.85	4,085.04	14.36	14.26	138.02	-83.02	-99.07	191.76	171.66	20.10	9.539		
4,200.00	4,189.65	4,189.94	4,183.39	14.74	14.61	137.08	-92.56	-106.47	204.86	184.25	20.61	9.940		
4,300.00	4,288.90	4,289.02	4,281.73	15.11	14.97	136.25	-102.11	-113.87	218.00	196.89	21.12	10.324		
4,400.00	4,388.16	4,388.11	4,380.08	15.49	15.33	135.51	-111.65	-121.28	231.19	209.56	21.63	10.689		
4,500.00	4,487.41	4,487.20	4,478.43	15.87	15.70	134.85	-121.19	-128.68	244.41	222.27	22.14	11.039		
4,600.00	4,586.67	4,586.28	4,576.77	16.26	16.07	134.26	-130.73	-136.08	257.66	235.00	22.66	11.372		
4,700.00	4,685.92	4,685.37	4,675.12	16.64	16.43	133.73	-140.27	-143.48	270.93	247.75	23.17	11.691		
4,800.00	4,785.18	4,784.45	4,773.47	17.03	16.80	133.24	-149.81	-150.88	284.22	260.53	23.69	11.995		
4,900.00	4,884.43	4,883.54	4,871.81	17.41	17.18	132.81	-159.36	-158.29	297.53	273.32	24.22	12.286		
5,000.00	4,983.69	4,982.62	4,970.16	17.80	17.55	132.40	-168.90	-165.69	310.86	286.12	24.74	12.565		

CC - Min centre to center distance or 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 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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	5,082.94	5,081.71	5,068.51	18.19	17.92	132.03	-178.44	-173.09	324.20	298.94	25.26	12.832		
5,200.00	5,182.20	5,180.79	5,166.85	18.58	18.30	131.69	-187.98	-180.49	337.55	311.76	25.79	13.088		
5,300.00	5,281.45	5,279.88	5,265.20	18.97	18.68	131.38	-197.52	-187.89	350.92	324.60	26.32	13.333		
5,400.00	5,380.70	5,378.96	5,363.55	19.36	19.06	131.09	-207.06	-195.30	364.29	337.44	26.85	13.569		
5,500.00	5,479.96	5,478.05	5,461.90	19.75	19.43	130.82	-216.61	-202.70	377.67	350.29	27.38	13.794		
5,600.00	5,579.21	5,577.13	5,560.24	20.14	19.82	130.57	-226.15	-210.10	391.06	363.15	27.91	14.011		
5,700.00	5,678.47	5,676.22	5,658.59	20.53	20.20	130.33	-235.69	-217.50	404.46	376.02	28.44	14.220		
5,800.00	5,777.72	5,775.31	5,756.94	20.93	20.58	130.11	-245.23	-224.90	417.86	388.88	28.98	14.420		
5,900.00	5,876.98	5,874.39	5,855.28	21.32	20.96	129.91	-254.77	-232.31	431.27	401.76	29.51	14.614		
6,000.00	5,976.23	5,973.48	5,953.63	21.72	21.35	129.71	-264.31	-239.71	444.68	414.64	30.05	14.799		
6,100.00	6,075.49	6,072.56	6,051.98	22.11	21.73	129.53	-273.86	-247.11	458.10	427.52	30.58	14.978		
6,200.00	6,174.74	6,171.65	6,150.32	22.51	22.12	129.36	-283.40	-254.51	471.53	440.40	31.12	15.151		
6,300.00	6,274.00	6,270.73	6,248.67	22.91	22.51	129.19	-292.94	-261.91	484.95	453.29	31.66	15.318		
6,400.00	6,373.25	6,369.82	6,347.02	23.30	22.89	129.04	-302.48	-269.32	498.38	466.18	32.20	15.478		
6,500.00	6,472.51	6,468.90	6,445.36	23.70	23.28	128.89	-312.02	-276.72	511.82	479.08	32.74	15.633		
6,600.00	6,571.76	6,567.99	6,543.71	24.10	23.67	128.76	-321.56	-284.12	525.25	491.97	33.28	15.783		
6,700.00	6,671.02	6,667.07	6,642.06	24.50	24.06	128.62	-331.10	-291.52	538.69	504.87	33.82	15.928		
6,800.00	6,770.27	6,766.16	6,740.40	24.90	24.45	128.50	-340.65	-298.92	552.13	517.77	34.36	16.068		
6,900.00	6,869.53	6,865.24	6,838.75	25.29	24.84	128.38	-350.19	-306.32	565.58	530.67	34.90	16.204		
7,000.00	6,968.78	6,964.33	6,937.10	25.69	25.23	128.27	-359.73	-313.73	579.03	543.58	35.45	16.335		
7,100.00	7,068.04	7,063.42	7,035.44	26.09	25.62	128.16	-369.27	-321.13	592.47	556.48	35.99	16.462		
7,200.00	7,167.29	7,162.50	7,133.79	26.49	26.01	128.06	-378.81	-328.53	605.93	569.39	36.53	16.585		
7,300.00	7,266.54	7,261.59	7,232.14	26.89	26.41	127.96	-388.35	-335.93	619.38	582.30	37.08	16.704		
7,400.00	7,365.80	7,360.67	7,330.48	27.29	26.80	127.86	-397.90	-343.33	632.83	595.21	37.62	16.820		
7,500.00	7,465.05	7,459.76	7,428.83	27.70	27.19	127.77	-407.44	-350.74	646.29	608.12	38.17	16.932		
7,600.00	7,564.31	7,558.84	7,527.18	28.10	27.59	127.68	-416.98	-358.14	659.75	621.03	38.71	17.041		
7,700.00	7,663.56	7,657.93	7,625.52	28.50	27.98	127.60	-426.52	-365.54	673.21	633.95	39.26	17.147		
7,800.00	7,762.82	7,757.01	7,723.87	28.90	28.37	127.52	-436.06	-372.94	686.67	646.86	39.81	17.250		
7,900.00	7,862.07	7,856.10	7,822.22	29.30	28.77	127.44	-445.60	-380.34	700.13	659.77	40.35	17.349		
8,000.00	7,961.33	7,955.18	7,920.56	29.70	29.16	127.37	-455.15	-387.75	713.59	672.69	40.90	17.446		
8,100.00	8,060.58	8,054.27	8,018.91	30.11	29.56	127.30	-464.69	-395.15	727.06	685.61	41.45	17.541		
8,200.00	8,159.84	8,153.35	8,117.26	30.51	29.95	127.23	-474.23	-402.55	740.52	698.52	42.00	17.632		
8,300.00	8,259.09	8,252.44	8,215.60	30.91	30.35	127.16	-483.77	-409.95	753.99	711.44	42.55	17.722		
8,400.00	8,358.35	8,351.53	8,313.95	31.32	30.75	127.10	-493.31	-417.35	767.46	724.36	43.10	17.808		
8,500.00	8,457.60	8,450.61	8,412.30	31.72	31.14	127.03	-502.85	-424.76	780.92	737.28	43.64	17.893		
8,600.00	8,556.86	8,549.70	8,510.64	32.12	31.54	126.97	-512.39	-432.16	794.39	750.20	44.19	17.975		
8,700.00	8,656.11	8,648.78	8,608.99	32.53	31.94	126.92	-521.94	-439.56	807.86	763.12	44.74	18.056		
8,728.63	8,684.53	8,677.15	8,637.15	32.64	32.05	126.90	-524.67	-441.68	811.72	766.82	44.90	18.078		
8,800.00	8,755.44	8,747.91	8,707.38	32.93	32.33	126.93	-531.48	-446.97	820.94	775.65	45.29	18.126		
8,900.00	8,855.03	8,847.18	8,805.91	33.31	32.73	126.84	-541.04	-454.38	832.52	786.69	45.83	18.164		
9,000.00	8,954.82	8,946.53	8,904.52	33.68	33.13	126.60	-550.61	-461.80	842.57	796.20	46.37	18.171		
9,100.00	9,054.75	9,045.89	9,003.14	34.04	33.53	126.20	-560.18	-469.23	851.11	804.22	46.90	18.149		
9,195.26	9,150.00	9,140.49	9,097.03	34.35	33.91	-83.92	-569.29	-476.29	857.89	810.51	47.38	18.105		
9,200.00	9,154.74	9,145.19	9,101.70	34.37	33.93	-83.95	-569.74	-476.64	858.20	810.79	47.41	18.102		
9,300.00	9,254.74	9,244.44	9,200.21	34.68	34.33	-84.63	-579.30	-484.06	864.71	816.80	47.91	18.049		
9,400.00	9,354.74	9,343.70	9,298.73	35.00	34.73	-85.31	-588.85	-491.47	871.34	822.93	48.41	17.999		
9,500.00	9,454.74	9,442.95	9,397.24	35.32	35.12	-85.97	-598.41	-498.89	878.09	829.18	48.91	17.952		
9,600.00	9,554.74	9,542.21	9,495.76	35.63	35.52	-86.62	-607.97	-506.30	884.96	835.55	49.41	17.909		
9,700.00	9,654.74	9,641.46	9,594.27	35.95	35.92	-87.26	-617.53	-513.72	891.94	842.03	49.91	17.870		
9,800.00	9,754.74	9,740.72	9,692.78	36.27	36.32	-87.90	-627.09	-521.13	899.03	848.62	50.41	17.833		
9,900.00	9,854.74	9,839.97	9,791.30	36.59	36.72	-88.52	-636.64	-528.55	906.23	855.32	50.91	17.800		
10,000.00	9,954.74	9,953.71	9,904.34	36.91	37.17	-89.15	-646.56	-536.24	912.86	861.37	51.49	17.730		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,100.00	10,054.74	10,070.32	10,020.57	37.23	37.62	-89.62	-653.98	-541.99	917.74	865.69	52.05	17.631		
10,200.00	10,154.74	10,187.39	10,137.49	37.56	38.04	-89.91	-658.60	-545.58	920.79	868.19	52.60	17.507		
10,300.00	10,254.74	10,304.71	10,254.79	37.88	38.45	-90.02	-660.40	-546.97	921.97	868.85	53.12	17.357		
10,400.00	10,354.74	10,406.97	10,357.04	38.20	38.77	-90.03	-660.42	-546.99	921.99	868.41	53.58	17.206		
10,500.00	10,454.74	10,506.97	10,457.04	38.53	39.09	-90.03	-660.42	-546.99	921.99	867.95	54.04	17.060		
10,600.00	10,554.74	10,606.97	10,557.04	38.85	39.41	-90.03	-660.42	-546.99	921.99	867.49	54.50	16.916		
10,700.00	10,654.74	10,706.97	10,657.04	39.18	39.73	-90.03	-660.42	-546.99	921.99	867.02	54.97	16.774		
10,800.00	10,754.74	10,806.97	10,757.04	39.50	40.05	-90.03	-660.42	-546.99	921.99	866.56	55.43	16.634		
10,900.00	10,854.74	10,906.97	10,857.04	39.83	40.37	-90.03	-660.42	-546.99	921.99	866.10	55.89	16.496		
11,000.00	10,954.74	11,006.97	10,957.04	40.16	40.69	-90.03	-660.42	-546.99	921.99	865.64	56.35	16.360		
11,100.00	11,054.74	11,106.97	11,057.04	40.48	41.01	-90.03	-660.42	-546.99	921.99	865.17	56.82	16.227		
11,200.00	11,154.74	11,206.97	11,157.04	40.81	41.34	-90.03	-660.42	-546.99	921.99	864.71	57.28	16.095		
11,300.00	11,254.74	11,306.97	11,257.04	41.14	41.66	-90.03	-660.42	-546.99	921.99	864.24	57.75	15.965		
11,367.26	11,322.00	11,374.23	11,324.30	41.36	41.88	-90.03	-660.42	-546.99	921.99	863.93	58.06	15.879		
11,400.00	11,354.72	11,406.95	11,357.02	41.47	41.99	-89.59	-660.42	-546.99	921.98	863.77	58.21	15.838		
11,450.00	11,404.45	11,456.68	11,406.75	41.61	42.15	-89.90	-660.42	-546.99	921.96	863.53	58.43	15.778		
11,460.26	11,414.59	11,466.82	11,416.89	41.64	42.18	-90.00	-660.42	-546.99	921.96	863.48	58.48	15.766		
11,500.00	11,453.55	11,505.78	11,455.85	41.75	42.31	-90.47	-660.42	-546.99	921.99	863.35	58.64	15.723		
11,550.00	11,501.66	11,555.09	11,505.14	41.87	42.46	-91.23	-659.46	-547.00	922.19	863.35	58.83	15.675		
11,600.00	11,548.39	11,605.79	11,555.56	41.97	42.61	-92.00	-654.29	-547.04	922.56	863.56	59.01	15.635		
11,650.00	11,593.40	11,657.75	11,606.55	42.06	42.75	-92.77	-644.40	-547.13	923.11	863.95	59.16	15.604		
11,700.00	11,636.35	11,711.03	11,657.68	42.14	42.87	-93.53	-629.50	-547.25	923.82	864.53	59.29	15.581		
11,750.00	11,676.90	11,765.71	11,708.49	42.20	42.98	-94.27	-609.34	-547.43	924.67	865.28	59.40	15.567		
11,800.00	11,714.75	11,821.84	11,758.40	42.24	43.07	-94.99	-583.71	-547.64	925.65	866.17	59.48	15.562		
11,850.00	11,749.62	11,879.46	11,806.78	42.28	43.14	-95.67	-552.45	-547.91	926.71	867.17	59.54	15.565		
11,900.00	11,781.23	11,938.59	11,852.90	42.31	43.20	-96.32	-515.48	-548.23	927.83	868.25	59.57	15.575		
11,950.00	11,809.34	11,999.22	11,895.97	42.32	43.23	-96.93	-472.86	-548.59	928.95	869.37	59.58	15.591		
12,000.00	11,833.75	12,061.29	11,935.16	42.33	43.25	-97.47	-424.76	-549.00	930.05	870.47	59.58	15.610		
12,050.00	11,854.26	12,124.72	11,969.59	42.34	43.25	-97.96	-371.53	-549.45	931.07	871.50	59.57	15.630		
12,100.00	11,870.72	12,189.37	11,998.41	42.34	43.23	-98.37	-313.70	-549.95	931.97	872.41	59.56	15.649		
12,150.00	11,883.00	12,255.07	12,020.83	42.34	43.21	-98.69	-251.99	-550.47	932.71	873.16	59.55	15.663		
12,200.00	11,891.01	12,321.59	12,036.19	42.34	43.17	-98.93	-187.31	-551.02	933.26	873.70	59.56	15.669		
12,250.00	11,894.70	12,388.67	12,043.99	42.34	43.14	-99.07	-120.73	-551.59	933.59	874.00	59.60	15.665		
12,275.75	11,894.90	12,423.34	12,044.96	42.35	43.12	-99.11	-86.07	-551.89	933.67	874.05	59.63	15.659		
12,300.00	11,894.54	12,449.03	12,044.67	42.35	43.11	-99.11	-60.38	-552.11	933.68	874.03	59.66	15.651		
12,400.00	11,893.05	12,549.03	12,043.45	42.44	43.12	-99.13	39.61	-552.96	933.71	873.88	59.83	15.605		
12,500.00	11,891.57	12,649.03	12,042.22	42.60	43.22	-99.14	139.60	-553.81	933.75	873.65	60.10	15.537		
12,600.00	11,890.09	12,749.03	12,041.00	42.84	43.43	-99.16	239.58	-554.66	933.78	873.33	60.45	15.448		
12,700.00	11,888.61	12,849.03	12,039.78	43.16	43.74	-99.17	339.57	-555.52	933.81	872.93	60.88	15.338		
12,800.00	11,887.13	12,949.03	12,038.55	43.54	44.12	-99.19	439.56	-556.37	933.84	872.44	61.40	15.208		
12,900.00	11,885.65	13,049.03	12,037.33	43.98	44.57	-99.21	539.55	-557.22	933.87	871.87	62.00	15.061		
13,000.00	11,884.17	13,149.03	12,036.11	44.48	45.07	-99.22	639.54	-558.07	933.91	871.22	62.69	14.898		
13,100.00	11,882.69	13,249.03	12,034.88	45.04	45.63	-99.24	739.53	-558.93	933.94	870.50	63.44	14.721		
13,200.00	11,881.20	13,349.03	12,033.66	45.65	46.23	-99.25	839.52	-559.78	933.97	869.70	64.27	14.531		
13,300.00	11,879.72	13,449.03	12,032.44	46.31	46.89	-99.27	939.50	-560.63	934.00	868.83	65.18	14.330		
13,400.00	11,878.24	13,549.03	12,031.21	47.02	47.59	-99.28	1,039.49	-561.48	934.04	867.89	66.15	14.120		
13,500.00	11,876.76	13,649.03	12,029.99	47.78	48.34	-99.30	1,139.48	-562.34	934.07	866.88	67.19	13.903		
13,600.00	11,875.28	13,749.03	12,028.77	48.58	49.13	-99.32	1,239.47	-563.19	934.10	865.82	68.28	13.680		
13,700.00	11,873.80	13,849.03	12,027.54	49.42	49.96	-99.33	1,339.46	-564.04	934.13	864.69	69.44	13.452		
13,800.00	11,872.32	13,949.03	12,026.32	50.30	50.83	-99.35	1,439.45	-564.89	934.17	863.51	70.66	13.221		
13,900.00	11,870.83	14,049.03	12,025.10	51.22	51.74	-99.36	1,539.44	-565.75	934.20	862.27	71.93	12.988		
14,000.00	11,869.35	14,149.03	12,023.87	52.17	52.68	-99.38	1,639.42	-566.60	934.23	860.99	73.24	12.755		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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	11,867.87	14,249.03	12,022.65	53.16	53.66	-99.39	1,739.41	-567.45	934.26	859.65	74.61	12.522		
14,200.00	11,866.39	14,349.03	12,021.43	54.18	54.67	-99.41	1,839.40	-568.30	934.30	858.28	76.02	12.290		
14,300.00	11,864.91	14,449.03	12,020.20	55.23	55.71	-99.43	1,939.39	-569.16	934.33	856.85	77.48	12.060		
14,400.00	11,863.43	14,549.03	12,018.98	56.31	56.78	-99.44	2,039.38	-570.01	934.36	855.39	78.97	11.832		
14,500.00	11,861.95	14,649.03	12,017.76	57.42	57.87	-99.46	2,139.37	-570.86	934.40	853.89	80.50	11.607		
14,600.00	11,860.47	14,749.03	12,016.53	58.55	58.99	-99.47	2,239.36	-571.71	934.43	852.35	82.07	11.385		
14,700.00	11,858.98	14,849.03	12,015.31	59.71	60.14	-99.49	2,339.34	-572.57	934.46	850.78	83.68	11.167		
14,800.00	11,857.50	14,949.03	12,014.08	60.88	61.31	-99.50	2,439.33	-573.42	934.50	849.18	85.31	10.954		
14,900.00	11,856.02	15,049.03	12,012.86	62.08	62.50	-99.52	2,539.32	-574.27	934.53	847.55	86.98	10.744		
15,000.00	11,854.54	15,149.02	12,011.64	63.30	63.71	-99.54	2,639.31	-575.12	934.56	845.89	88.67	10.540		
15,100.00	11,853.06	15,249.02	12,010.41	64.54	64.94	-99.55	2,739.30	-575.98	934.60	844.20	90.39	10.339		
15,200.00	11,851.58	15,349.02	12,009.19	65.80	66.18	-99.57	2,839.29	-576.83	934.63	842.49	92.14	10.144		
15,300.00	11,850.10	15,449.02	12,007.97	67.08	67.45	-99.58	2,939.27	-577.68	934.66	840.75	93.91	9.953		
15,400.00	11,848.61	15,549.02	12,006.74	68.37	68.73	-99.60	3,039.26	-578.53	934.70	839.00	95.70	9.767		
15,500.00	11,847.13	15,649.02	12,005.52	69.67	70.03	-99.61	3,139.25	-579.39	934.73	837.22	97.52	9.585		
15,600.00	11,845.65	15,749.02	12,004.30	70.99	71.34	-99.63	3,239.24	-580.24	934.76	835.42	99.35	9.409		
15,700.00	11,844.17	15,849.02	12,003.07	72.33	72.66	-99.64	3,339.23	-581.09	934.80	833.60	101.20	9.237		
15,800.00	11,842.69	15,949.02	12,001.85	73.67	74.00	-99.66	3,439.22	-581.94	934.83	831.76	103.07	9.070		
15,900.00	11,841.21	16,049.02	12,000.63	75.03	75.35	-99.68	3,539.21	-582.80	934.87	829.90	104.96	8.907		
16,000.00	11,839.73	16,149.02	11,999.40	76.40	76.71	-99.69	3,639.19	-583.65	934.90	828.03	106.87	8.748		
16,100.00	11,838.25	16,249.02	11,998.18	77.78	78.09	-99.71	3,739.18	-584.50	934.94	826.15	108.79	8.594		
16,200.00	11,836.76	16,349.02	11,996.96	79.18	79.47	-99.72	3,839.17	-585.35	934.97	824.25	110.72	8.445		
16,300.00	11,835.28	16,449.02	11,995.73	80.58	80.86	-99.74	3,939.16	-586.21	935.00	822.34	112.67	8.299		
16,400.00	11,833.80	16,549.02	11,994.51	81.99	82.27	-99.75	4,039.15	-587.06	935.04	820.41	114.62	8.157		
16,500.00	11,832.32	16,649.02	11,993.29	83.41	83.68	-99.77	4,139.14	-587.91	935.07	818.48	116.60	8.020		
16,600.00	11,830.84	16,749.02	11,992.06	84.83	85.10	-99.79	4,239.13	-588.76	935.11	816.53	118.58	7.886		
16,700.00	11,829.36	16,849.02	11,990.84	86.27	86.53	-99.80	4,339.11	-589.62	935.14	814.57	120.57	7.756		
16,800.00	11,827.88	16,949.02	11,989.62	87.71	87.97	-99.82	4,439.10	-590.47	935.18	812.60	122.58	7.629		
16,900.00	11,826.39	17,049.02	11,988.39	89.16	89.41	-99.83	4,539.09	-591.32	935.21	810.62	124.59	7.506		
17,000.00	11,824.91	17,149.02	11,987.17	90.62	90.86	-99.85	4,639.08	-592.17	935.25	808.63	126.62	7.386		
17,100.00	11,823.43	17,249.02	11,985.95	92.09	92.32	-99.86	4,739.07	-593.03	935.28	806.63	128.65	7.270		
17,200.00	11,821.95	17,349.02	11,984.72	93.56	93.78	-99.88	4,839.06	-593.88	935.32	804.62	130.70	7.156		
17,300.00	11,820.47	17,449.02	11,983.50	95.03	95.25	-99.90	4,939.05	-594.73	935.35	802.61	132.75	7.046		
17,400.00	11,818.99	17,549.02	11,982.28	96.51	96.73	-99.91	5,039.03	-595.58	935.39	800.59	134.80	6.939		
17,500.00	11,817.51	17,649.02	11,981.05	98.00	98.21	-99.93	5,139.02	-596.44	935.42	798.56	136.87	6.835		
17,600.00	11,816.03	17,749.02	11,979.83	99.49	99.70	-99.94	5,239.01	-597.29	935.46	796.52	138.94	6.733		
17,700.00	11,814.54	17,849.02	11,978.61	100.99	101.19	-99.96	5,339.00	-598.14	935.49	794.48	141.02	6.634		
17,800.00	11,813.06	17,949.02	11,977.38	102.49	102.69	-99.97	5,438.99	-598.99	935.53	792.43	143.10	6.538		
17,900.00	11,811.58	18,049.02	11,976.16	104.00	104.19	-99.99	5,538.98	-599.85	935.56	790.37	145.19	6.444		
18,000.00	11,810.10	18,149.01	11,974.94	105.51	105.70	-100.01	5,638.97	-600.70	935.60	788.31	147.29	6.352		
18,100.00	11,808.62	18,249.01	11,973.71	107.03	107.21	-100.02	5,738.95	-601.55	935.64	786.24	149.39	6.263		
18,200.00	11,807.14	18,349.01	11,972.49	108.55	108.72	-100.04	5,838.94	-602.41	935.67	784.17	151.50	6.176		
18,300.00	11,805.66	18,449.01	11,971.27	110.07	110.24	-100.05	5,938.93	-603.26	935.71	782.09	153.61	6.091		
18,400.00	11,804.17	18,549.01	11,970.04	111.60	111.76	-100.07	6,038.92	-604.11	935.74	780.01	155.73	6.009		
18,500.00	11,802.69	18,649.01	11,968.82	113.13	113.29	-100.08	6,138.91	-604.96	935.78	777.93	157.85	5.928		
18,600.00	11,801.21	18,749.01	11,967.60	114.66	114.82	-100.10	6,238.90	-605.82	935.81	775.84	159.98	5.850		
18,700.00	11,799.73	18,849.01	11,966.37	116.20	116.35	-100.11	6,338.89	-606.67	935.85	773.74	162.11	5.773		
18,800.00	11,798.25	18,949.01	11,965.15	117.74	117.89	-100.13	6,438.87	-607.52	935.89	771.64	164.24	5.698		
18,900.00	11,796.77	19,049.01	11,963.93	119.28	119.43	-100.15	6,538.86	-608.37	935.92	769.54	166.38	5.625		
19,000.00	11,795.29	19,149.01	11,962.70	120.82	120.97	-100.16	6,638.85	-609.23	935.96	767.43	168.52	5.554		
19,100.00	11,793.81	19,249.01	11,961.48	122.37	122.51	-100.18	6,738.84	-610.08	936.00	765.33	170.67	5.484		
19,200.00	11,792.32	19,349.01	11,960.26	123.92	124.06	-100.19	6,838.83	-610.93	936.03	763.21	172.82	5.416		

CC - Min centre to center distance or 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 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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	11,790.84	19,449.01	11,959.03	125.48	125.61	-100.21	6,938.82	-611.78	936.07	761.10	174.97	5.350		
19,400.00	11,789.36	19,549.01	11,957.81	127.03	127.16	-100.22	7,038.81	-612.64	936.11	758.98	177.13	5.285		
19,500.00	11,787.88	19,649.01	11,956.59	128.59	128.72	-100.24	7,138.79	-613.49	936.14	756.86	179.28	5.222		
19,600.00	11,786.40	19,749.01	11,955.36	130.15	130.28	-100.26	7,238.78	-614.34	936.18	754.73	181.45	5.160		
19,700.00	11,784.92	19,849.01	11,954.14	131.72	131.84	-100.27	7,338.77	-615.19	936.22	752.61	183.61	5.099		
19,800.00	11,783.44	19,949.01	11,952.92	133.28	133.40	-100.29	7,438.76	-616.05	936.25	750.48	185.78	5.040		
19,900.00	11,781.95	20,049.01	11,951.69	134.85	134.96	-100.30	7,538.75	-616.90	936.29	748.34	187.95	4.982		
20,000.00	11,780.47	20,149.01	11,950.47	136.42	136.53	-100.32	7,638.74	-617.75	936.33	746.21	190.12	4.925		
20,100.00	11,778.99	20,249.01	11,949.25	137.99	138.10	-100.33	7,738.73	-618.60	936.36	744.07	192.29	4.869		
20,200.00	11,777.51	20,349.01	11,948.02	139.56	139.67	-100.35	7,838.71	-619.46	936.40	741.93	194.47	4.815		
20,300.00	11,776.03	20,449.01	11,946.80	141.14	141.24	-100.37	7,938.70	-620.31	936.44	739.79	196.65	4.762		
20,400.00	11,774.55	20,549.01	11,945.58	142.71	142.81	-100.38	8,038.69	-621.16	936.47	737.65	198.83	4.710		
20,500.00	11,773.07	20,649.01	11,944.35	144.29	144.39	-100.40	8,138.68	-622.01	936.51	735.50	201.01	4.659		
20,600.00	11,771.59	20,749.01	11,943.13	145.87	145.97	-100.41	8,238.67	-622.87	936.55	733.36	203.19	4.609		
20,700.00	11,770.10	20,849.01	11,941.91	147.45	147.54	-100.43	8,338.66	-623.72	936.59	731.21	205.38	4.560		
20,800.00	11,768.62	20,949.01	11,940.68	149.04	149.12	-100.44	8,438.65	-624.57	936.62	729.06	207.56	4.512		
20,900.00	11,767.14	21,049.01	11,939.46	150.62	150.71	-100.46	8,538.63	-625.42	936.66	726.91	209.75	4.466		
21,000.00	11,765.66	21,149.01	11,938.24	152.21	152.29	-100.47	8,638.62	-626.28	936.70	724.76	211.94	4.420		
21,100.00	11,764.18	21,249.00	11,937.01	153.79	153.87	-100.49	8,738.61	-627.13	936.74	722.60	214.14	4.375		
21,200.00	11,762.70	21,349.00	11,935.79	155.38	155.46	-100.51	8,838.60	-627.98	936.78	720.45	216.33	4.330		
21,300.00	11,761.22	21,449.00	11,934.57	156.97	157.05	-100.52	8,938.59	-628.83	936.81	718.29	218.52	4.287		
21,400.00	11,759.74	21,549.00	11,933.34	158.56	158.64	-100.54	9,038.58	-629.69	936.85	716.13	220.72	4.245		
21,500.00	11,758.25	21,649.00	11,932.12	160.16	160.23	-100.55	9,138.57	-630.54	936.89	713.97	222.92	4.203		
21,600.00	11,756.77	21,749.00	11,930.90	161.75	161.82	-100.57	9,238.55	-631.39	936.93	711.81	225.12	4.162		
21,700.00	11,755.29	21,849.00	11,929.67	163.34	163.41	-100.58	9,338.54	-632.24	936.97	709.65	227.32	4.122		
21,800.00	11,753.81	21,949.00	11,928.45	164.94	165.01	-100.60	9,438.53	-633.10	937.00	707.49	229.52	4.082		
21,900.00	11,752.33	22,049.00	11,927.23	166.54	166.60	-100.61	9,538.52	-633.95	937.04	705.32	231.72	4.044		
22,000.00	11,750.85	22,149.00	11,926.00	168.13	168.20	-100.63	9,638.51	-634.80	937.08	703.16	233.92	4.006		
22,002.51	11,750.81	22,151.51	11,925.97	168.17	168.24	-100.63	9,641.01	-634.82	937.08	703.10	233.98	4.005		
22,063.91	11,749.90	22,206.36	11,925.30	169.16	169.11	-100.64	9,695.86	-635.29	937.13	701.88	235.25	3.984		
22,064.91	11,749.89	22,206.36	11,925.30	169.17	169.11	-100.64	9,695.86	-635.29	937.14	701.88	235.26	3.983		

CC - Min centre to center distance or 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 704H
Project:	Lea County, NM (NAD83)	TVD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Reference Site:	Trinity Fed/Santa Fe Fed	MD Reference:	3095.3' GE + 30' KB @ 3125.30usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Santa Fe Fed Com 704H	Survey Calculation Method:	Minimum Curvature
Well 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 3095.3' GE + 30' KB @ 3125.30usft

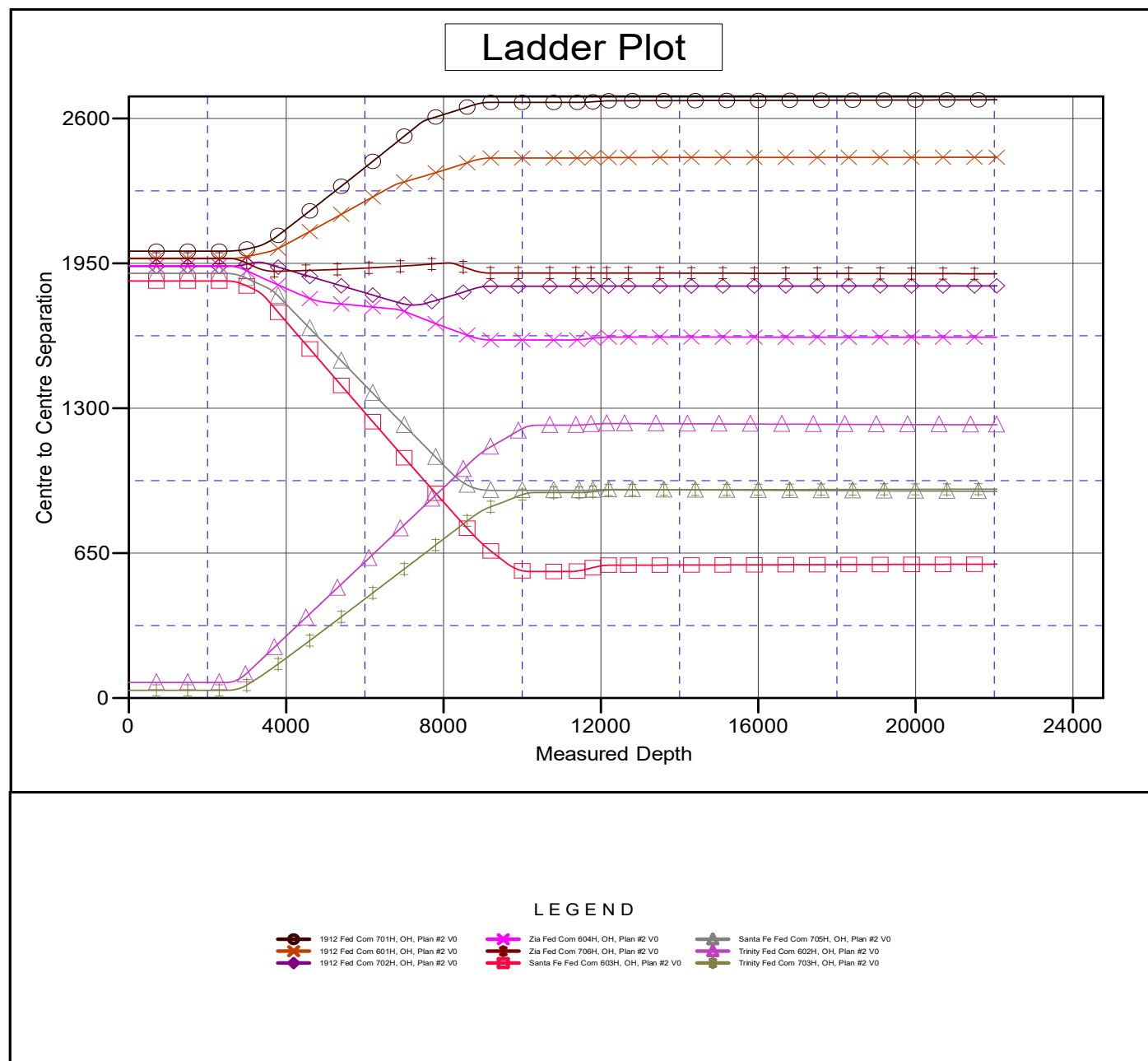
Coordinates are relative to: Santa Fe Fed Com 704H

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

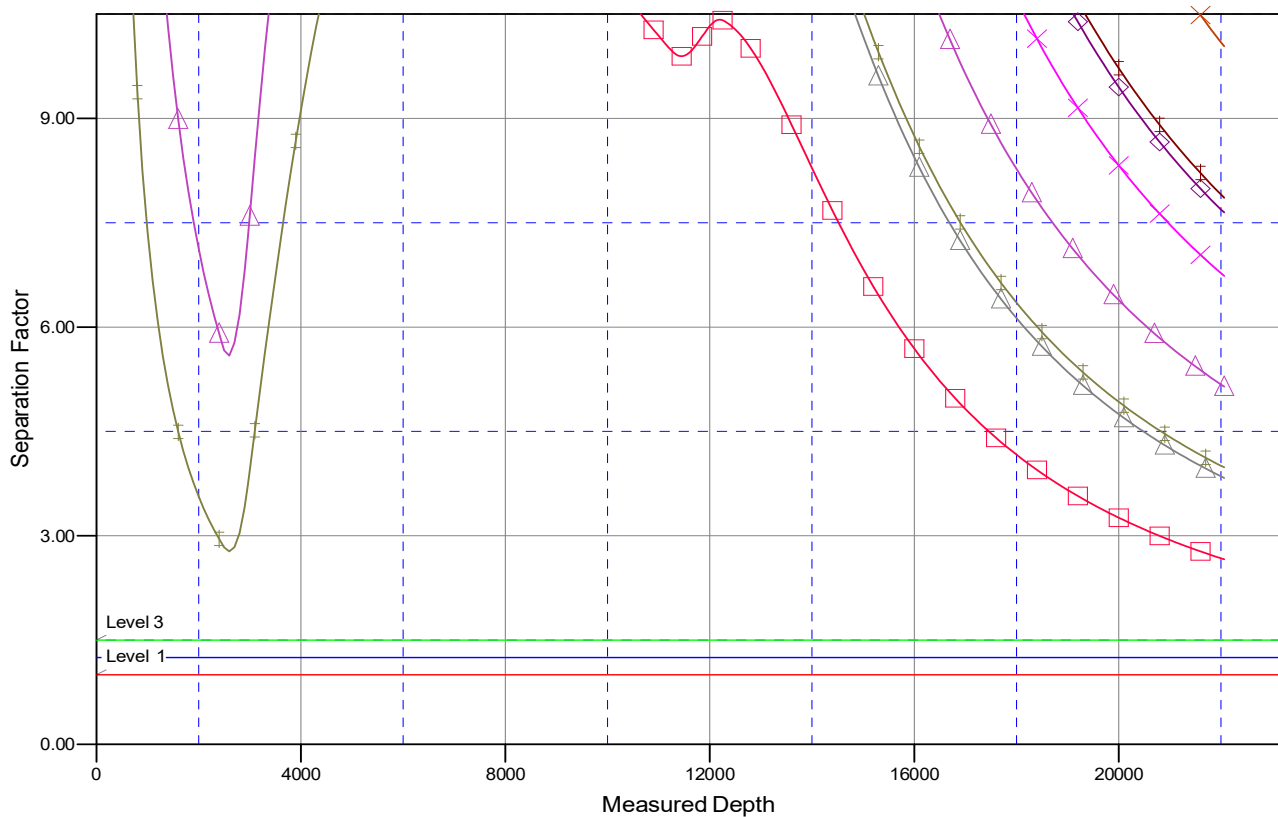


Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well Santa Fe Fed Com 704H
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Reference Depths are relative to 3095.3' GE + 30' KB @ 3125.30usft
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 Central Meridian is -104.333334

Coordinates are relative to: Santa Fe Fed Com 704H
 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	Santa Fe Fed Com 705H, OH, Plan #2 V0
1912 Fed Com 601H, OH, Plan #2 V0	Zia Fed Com 706H, OH, Plan #2 V0	Trinity Fed Com 602H, OH, Plan #2 V0
1912 Fed Com 702H, OH, Plan #2 V0	Santa Fe Fed Com 603H, OH, Plan #2 V0	Trinity Fed Com 703H, OH, Plan #2 V0

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

**PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL**

OPERATOR'S NAME: 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: WELL NAME & NO.: SURFACE HOLE FOOTAGE: BOTTOM HOLE FOOTAGE: LOCATION: COUNTY:	FRANKLIN MOUNTAIN ENERGY LLC TRINITY FEDERAL 703H 710'/S & 2619'/W 150'/N & 2102'/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 ZIA FED COM 604H 250'/S & 742'/E 150'/N & 650'/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 ZIA FED COM 706H 250'/S & 707'/E 150'/N & 350'/E Section 24, T.25 S., R.35 E., NMP 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**
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 - Topsoil
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 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
- ☒ **Production (Post Drilling)**
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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

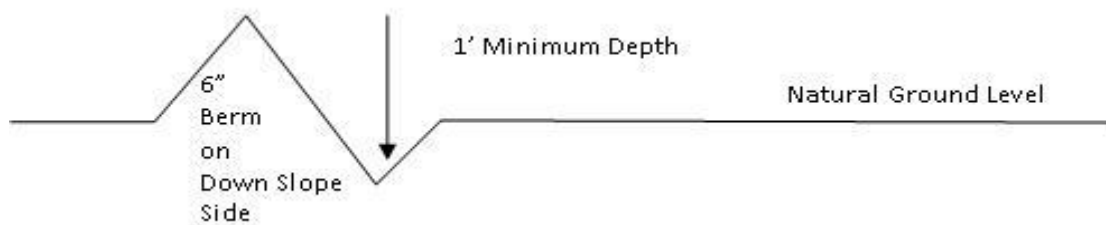
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

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

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

Cross Section of a Typical Lead-off Ditch



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

Formula for Spacing Interval of Lead-off Ditches

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

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

Cattle guards

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

Fence Requirement

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

Public Access

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

Construction Steps

1. Salvage topsoil
2. Construct road

3. Redistribute topsoil
4. Revegetate slopes

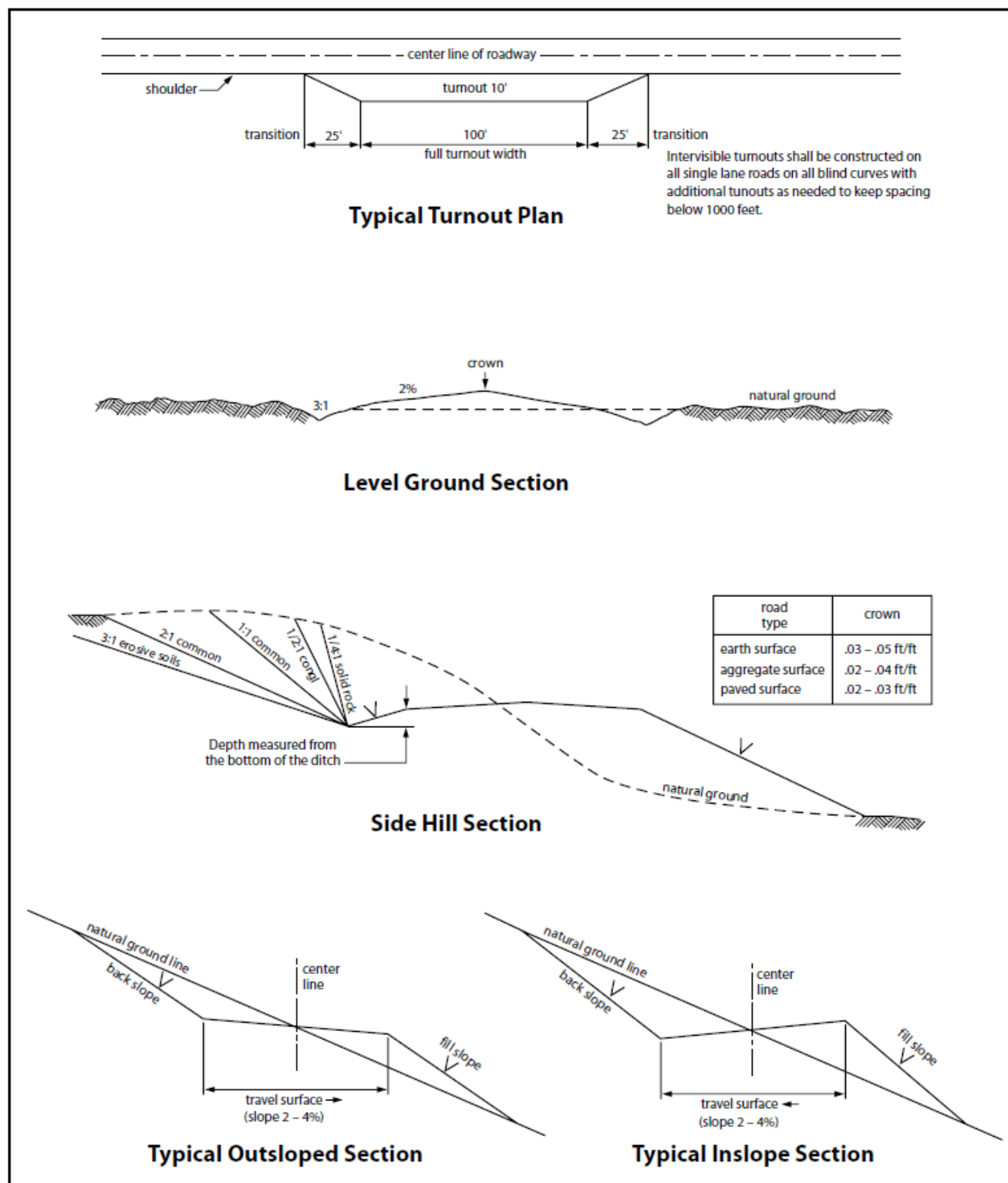


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities

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

Exclosure Netting (Open-top Tanks)

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

Chemical and Fuel Secondary Containment and Exclosure Screening

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

Open-Vent Exhaust Stack Exclosures

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

Containment Structures

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

Painting Requirement

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

B. BURIED PIPELINE STIPULATIONS

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

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

1. The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
2. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.
3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.
4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil or other pollutant should be discharged from the pipeline system, impacting

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

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

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

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

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

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

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

10. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in rows, piles, or berms, unless

otherwise approved by the Authorized Officer. The entire right-of-way shall be recontoured to match the surrounding landscape. The backfilled soil shall be compacted and a 6 inch berm will be left over the ditch line to allow for settling back to grade.

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

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

☐ seed mixture 1	☒ seed mixture 3
☒ seed mixture 2	☐ seed mixture 4
☐ seed mixture 2/LPC	☐ Aplomado Falcon Mixture

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

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

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

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

17. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist,

which includes associated roads, pipeline corridor and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

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

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

19. Special Stipulations:

Wildlife:

Lesser Prairie-Chicken

Oil and gas activities will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

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

Hydrology:

When crossing ephemeral drainages, the pipeline(s) will be buried to a minimum depth of 48 inches from the top of pipe to ground level. Erosion control methods such as gabions and/or rock aprons should be placed on both up and downstream sides of the pipeline crossing. In addition, curled (weed free) wood/straw fiber wattles/logs and/or silt fences should be placed on the downstream side for sediment control during construction and maintained until soils and vegetation have stabilized. Water bars should be placed within the ROW to divert and dissipate surface runoff. A pipeline access road is not permitted to cross these ephemeral drainages. Traffic should be diverted to a preexisting route. Additional seeding may be required in floodplains and drainages to restore energy dissipating vegetation.

Prior to pipeline installation/construction a leak detection plan will be developed. The method(s) could incorporate gauges to detect pressure drops, situating valves and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.

Range:

Cattleguards

Where a permanent cattleguard is approved, an appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s). Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations. A gate shall be constructed on one side of the cattleguard and fastened securely to H-braces.

Fence Requirement

Where entry granted across a fence line, the fence must be braced and tied off on both sides of the passageway prior to cutting. Once the work is completed, the fence will be restored to its prior condition, or better. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Livestock Watering Requirement

Any damage to structures that provide water to livestock throughout the life of the well, caused by operations from the well site, must be immediately corrected by the operator. The operator must notify the BLM office (575-234-5972) and the private surface landowner or the grazing allotment holder if any damage occurs to structures that provide water to livestock.

C. STIPULATIONS FOR OVERHEAD ELECTRIC LINES

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

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

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 *et seq.* (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b.

A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

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

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

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

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

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

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

8. Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply

with those abandonment procedures as prescribed by the Authorized Officer.

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

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

11. Special Stipulations:

Wildlife:

Lesser Prairie-Chicken

Oil and gas activities will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

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

Hydrology:

Any water erosion that may occur due to the construction of overhead electric line and during the life of the power line will be quickly corrected and proper measures will be taken to prevent future erosion. A power pole should not be placed in drainages, playas, wetlands, riparian areas, or floodplains and must span across the features at a distance away that would not promote further erosion.

Range:

Cattleguards

Where a permanent cattleguard is approved, an appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s). Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations. A gate shall be constructed on one side of the cattleguard and fastened securely to H-braces.

Fence Requirement

Where entry granted across a fence line, the fence must be braced and tied off on both sides of the passageway prior to cutting. Once the work is completed, the fence will be restored to its prior condition, or better. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Livestock Watering Requirement

Any damage to structures that provide water to livestock throughout the life of the well, caused by operations from the well site, must be immediately corrected by the operator. The operator must notify the BLM office (575-234-5972) and the private surface landowner or the grazing allotment holder if any damage occurs to structures that provide water to livestock.

D. STIPULATIONS FOR OIL AND GAS RELATED SITES

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

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

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant and for all response costs, penalties, damages, claims, and other costs arising from the provisions of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. Chap. 82, Section 6901 et. seq., from the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. Chap. 109, Section 9601 et. seq., and from other applicable environmental statutes.
2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, et. seq.) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized by this grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act, Section 102b. A copy of any report required or

requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

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

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

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

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

7. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" designated by the Rocky Mountain Five-State Interagency Committee. The color selected for this project is **Shale Green**, Munsell Soil Color Chart Number 5Y 4/2.

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

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

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

11. Once the site is no longer in service or use, the site must undergo final abandonment. At final abandonment, the site and access roads must undergo "final" reclamation so that the character and productivity of the land are restored. Earthwork for final reclamation must be completed within six (6) months of the abandonment of the site. All pads and facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact. After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

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

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

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

() seed mixture 1

(X) seed mixture 3

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

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

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

16. The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an

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

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

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

19. Special Stipulations:

Wildlife:

Lesser Prairie-Chicken

Oil and gas activities will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

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

Hydrology:

The entire well pad(s) will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. The compacted berm shall be constructed at a minimum of 12 inches with impermeable mineral material (e.g. caliche). Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed. Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion. Stockpiling of topsoil is required. The top soil shall be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and not used for berming or erosion control. If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.

Tank battery locations will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank or 24 hour production, whichever is greater. Automatic shut off, check valves, or similar systems will be installed for tanks to minimize the effects of catastrophic line failures used in production or drilling.

Range:

Cattleguards

Where a permanent cattleguard is approved, an appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s). Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations. A gate shall be constructed on one side of the cattleguard and fastened securely to H-braces.

Fence Requirement

Where entry granted across a fence line, the fence must be braced and tied off on both sides of the passageway prior to cutting. Once the work is completed, the fence will be restored to its prior condition, or better. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Livestock Watering Requirement

Any damage to structures that provide water to livestock throughout the life of the well, caused by operations from the well site, must be immediately corrected by the operator. The operator must notify the BLM office (575-234-5972) and the private surface landowner or the grazing allotment holder if any damage occurs to structures that provide water to livestock.

VIII. INTERIM RECLAMATION

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

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

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

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

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

IX. FINAL ABANDONMENT & RECLAMATION

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

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

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

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

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

Seed Mixture 2, for Sandy Sites

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

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

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

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

*Pounds of pure live seed:

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

Seed Mixture 3, for Shallow Sites

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

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

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

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

*Pounds of pure live seed:

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

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Franklin Mountain Energy LLC
LEASE NO.:	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/Escape 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 704H

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)	3,095'	30'	30'	0	Sand/Gravels/unconsolidated
Rustler	2,401'	724'			Carbonates
Salado	1,798'	1,327'			Salt, Carbonate & Clastics
Base Salt	-1,003'	4,128'			Shaley Carbonate & Shale
Lamar	-1,769'	4,894'			Carbonate & Clastics
Bell Canyon	-1,821'	4,946'			Sandstone - oil/gas/water
Cherry Canyon	-2,854'	5,979'			Sandstone - oil/gas/water
Brushy Canyon	-4,156'	7,281'			Sand/carb/shales - oil/gas/water
Bone Spring Lime	-5,407'	8,532'			Shale/Carbonates - oil/gas
Avalon	-5,430'	8,555'			Shale/Carbonates - oil/gas
First Bone Spring Sand	-6,819'	9,944'			Sandstone - oil/gas/water
Second Bone Spring Carbonates	-6,947'	10,072'			Shale/Carbonates - oil/gas
Second Bone Spring Sand	-7,341'	10,466'			Sandstone - oil/gas/water
Third Bone Spring Carbonates	-7,870'	10,995'			Shale/Carbonates - oil/gas
Third Bone Spring Sand	-8,493'	11,618'			Sandstone - oil/gas/water
Wolfcamp	-8,744'	11,869'			Overpressure shale/sand- Oil/Gas
HZ Target	-8,771'	11,896'			Overpressure shale/sand- Oil/Gas
Wolfcamp A	-8,779'	11,904'			Overpressure Shale - Oil/Gas
Wolfcamp B	-8,971'	12,096'			Overpressure Shale - Oil/Gas

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

Upper Permian Sands	0- 400'	Fresh Water
Delaware Sands	4,946'	Oil
Bone Spring	9,944'	Oil
Wolfcamp	11,869'	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	12000	1.11	1.27	1.81	1.24
Long string 5 1/2"	23	P-110	14520	14520	729	Anaconda 656	22063	1.32	1.41	1.2	1.08



Preliminary plan is to set 7 5/8" string before entering Wolfcamp formation at 11,833'TVD/12,000'MD at 63° Inc due too potential overpressure. Safety factors calculated assuming the well is vertical.

Cementing Program:

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

String Type	Hole Size	Casing Size	Setting Depth	Sacks	Type of cmt	Lead Yield ft ³ /sk	Water gal/sk	TOC ft	Sacks	Type of cmt	Tail Yield ft ³ /sk	Water gal/sk	TOC	Excess
Surf	17.5	13.375	1300	795	Extenda Cem, 13.5 ppg Class C, 3lb/sk Kol-Seal	1.747	9.06	0	334	HalCem TM, 14.8 ppg, Class C, 1% CaCl ₂ , 0.125pps Celo-Flake	1.349	6.51	1000	100%
Int1	12.25	9.625	5400	1167	0.125pps Poly-E-Flake Neocem TM, 11.5 ppg, Class C 5% Salt,	2.444	14.32	0	153	HalCem TM, 14.8 ppg, Class C, 0.1% HR 800 .125 pps Poly-E-Flake	1.334	6.42	5100	100%
Int2	8.75	7.625	12000	340	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	11000	50%
Prod	6.75	5.5	22063	815	ppg, Gas Migration Control	1.357	6.65	11000						20%

5. Minimum Specifications for Pressure Control:

The minimum blowout preventer equipment (BOPE) shown in Exhibit #1 will consist of a single ram, mud cross and double ram-type (10,000 psi WP) preventer and an annular preventer (5,000-psi WP). Both units will be hydraulically operated, and the ram-type will be equipped with blind rams on bottom and 4 ½" x 7" variable pipe rams on top. All BOPE will be tested in accordance with Onshore Oil & Gas order No. 2.

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

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

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

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



6. Types and characteristics of the proposed mud system:

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

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 – 1,300'	Fresh - Gel	8.6-8.8	28-34	N/c
1,300' – 12,000'	Brine	8.8-10.2	28-34	N/c
12,000' – 22,063' 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 11,894' TVD (deepest point of the well) is 195F with an estimated maximum bottom-hole pressure (BHP) at the same point of 7,731 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 22165

CONDITIONS OF APPROVAL

Operator:		OGRID:	Action Number:	Action Type:
FRANKLIN MOUNTAIN ENERGY LLC	44 Cook Street	373910	22165	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