State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary-Designate

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

Jami Bailey, Division Director
Oil Conservation Division

New Mexico Oil Conservation Division approval and conditions listed below are made in accordance with OCD Rule 19.15.7.11 and are in addition to the actions approved by BLM on the following 3160-4 or 3160-5 form.

Operator Signature Date: July 26, 2013

Well information:

frmWellFilterSub																	
API WELL #	Well Name	Well #	Operator Name	Type	Stat	County	Surf_Owner	UL	Sec	Twp	N/S	Rng	W/E	Feet	NS	Ft	EW
30-039-31151-00-00	CANYON LARGO UNIT	513	HUNTINGTON ENERGY, LLC	G	N	Rio Arriba	F	P	33	25	N	7	W	505	S	158	E

Conditions of Approval:

*Notify NMOCD 24hrs prior to beginning operations.
***Hold C104 For Directional Survey and "As Drilled" plat**
***If cemented, the production casing must be cemented a minimum of 100 feet into the intermediate (next shallower) string**
***Submit sundry to cancel Pool Basin Dakota 71599**

AUG 15 2013

NMOCD Approved by Signature — Date

1220 South St. Francis Drive • Santa Fe, New Mexico 87505
Phone (505) 476-3460 • Fax (505) 476-3462 • www.emnrd.state.nm.us/ocd

Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED
AUG 06 2013
Farmington Field Office
Bureau of Land Management

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

5. Lease Serial No.
NMSF078876

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

1. Type of Well
☐ Oil Well ☒ Gas Well ☐ Other

8. Well Name and No.
CANYON LARGO UNIT 513

2. Name of Operator
HUNTINGTON ENERGY LLC
Contact: CATHERINE SMITH
E-Mail: csmith@huntingtonenergy.com

9. API Well No.
30-039-31151-00-X1

3a. Address
908 NW 71ST ST
OKLAHOMA CITY, OK 73116

3b. Phone No. (include area code)
Ph: 405-840-9876 Ext: 129
Fx: 405-840-2011

10. Field and Pool, or Exploratory
~~BASIN DAKOTA~~
DuFers Point (Gallup)

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 33 T25N R7W SESE 505FSL 158FEL
36.351350 N Lat, 107.571950 W Lon

11. County or Parish, and State
RIO ARRIBA COUNTY, NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Change to Original APD
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

RCVD AUG 7 '13
OIL CONS. DIV.
DIST. 3

Huntington Energy, L.L.C. respectfully requests to change the above referenced well to a Horizontal well. The original APD for this well was approved on January 17, 2013. A new Operations Plan, C-102 Survey Plat, BOP Stack/Choke Manifold Diagram, and Directional Drilling Plan are attached.

The well name has changed and will now be: CLU 2507 33 513 #1H.

CONDITIONS OF APPROVAL
Adhere to previously issued stipulations.

BLM'S APPROVAL OR ACCEPTANCE OF THIS ACTION DOES NOT RELIEVE THE LESSEE AND OPERATOR FROM OBTAINING ANY OTHER AUTHORIZATION REQUIRED FOR OPERATIONS ON FEDERAL AND INDIAN LANDS

14. I hereby certify that the foregoing is true and correct.
Electronic Submission #215051 verified by the BLM Well Information System
For HUNTINGTON ENERGY LLC, sent to the Farmington
Committed to AFMSS for processing by TROY SALYERS on 08/07/2013 (13TLS0224SE)

Name *(Printed/Typed)* CATHERINE SMITH — Title REGULATORY

Signature (Electronic Submission) — Date 07/26/2013

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By TROY SALYERS — Title PETROLEUM ENGINEER — Date 08/07/2013

Conditions of approval, if any, are attached. Approval of this notice 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.

Office Farmington

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.

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

NMOCD

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) 476-3460 Fax: (505) 476-3462

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-039-31151	19859	Dufer's Point

4 Property Code	5 Property Name	6 Well Number
40078	CLU 2507 33 513	1H

7 OGRID No.	8 Operator Name	9 Elevation
208706	HUNTINGTON ENERGY, LLC	6986

10 Surface Location

UL or Lot No.	Section	Township	Range	Lot Idn.	Feet from the	North/South Line	Feet from the	East/West Line	County
P	33	25 N	7 W		505	South	158	East	Rio Arriba

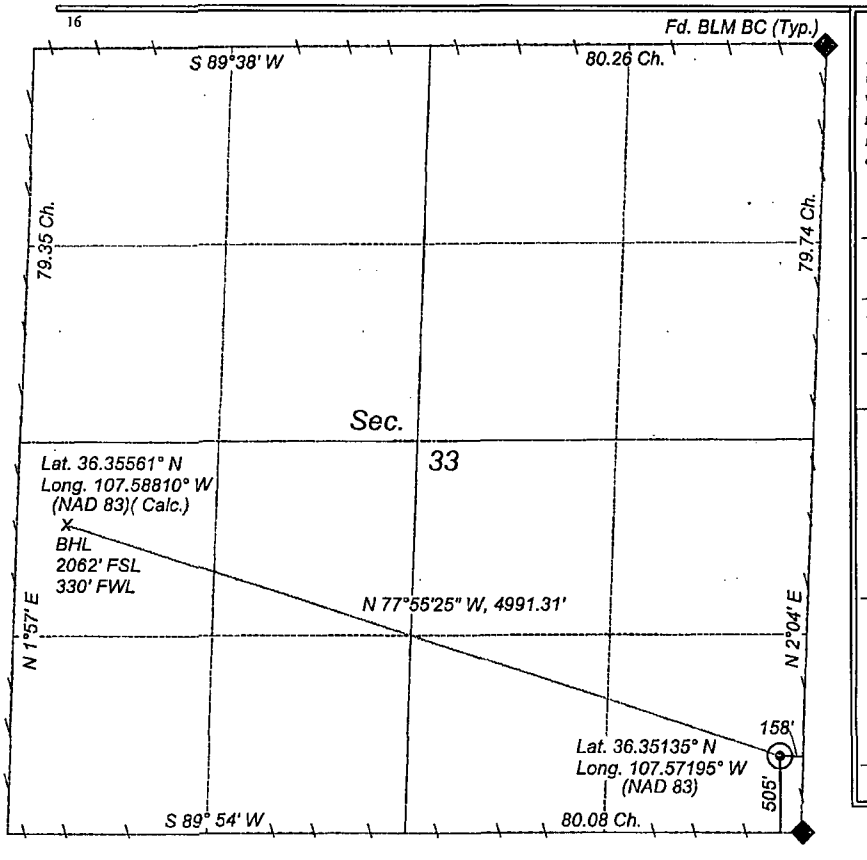
11 Bottom Hole Location If Different From Surface

UL or Lot No.	Section	Township	Range	Lot Idn.	Feet from the	North/South Line	Feet from the	East/West Line	County
M	33	25 N	7 W		2062	South	330	West	Rio Arriba

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
640			

RCVD AUG 7'13
OIL CONS. DIV.
DIST. 3

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.



17 OPERATOR CERTIFICATION

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

Catherine Smith 8/6/2013
Signature Date

Catherine Smith
Printed Name

csmith@huntingtonenergy.com
E-mail Address

18 SURVEYOR CERTIFICATION

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

Date of Survey: July 2013

Signature and Seal of Professional Surveyor:

NEW MEXICO # 8466 REGISTERED PROFESSIONAL LAND SURVEYOR William E. Mahnke II

Certificate Number 8466

Rev. 06 Aug 2013

OPERATIONS PLAN (REVISED 7/30/13)

Well Name:	**CLU 2507 33 513 #1H**
Location:	SHL: 505' FSL, 158' FEL, SESE, Lot P, Sec 33, T25N-R7W
	BHL: 2062' FSL & 330' FWL, NWSW, Sec 33, T25N-R7W
	Rio Arriba County, NM
Elevation:	6986' GL

Geological Markers:

Formation Tops:	Measured Depth (Tops)	
San Jose	Surface	
Ojo Alamo	1906'	Possible Water
Kirtland	2090'	
Fruitland	2419'	
Picture Cliffs	2543'	
Lewis Shale	2639'	
Heurfanito Bentonite	2927'	
Chacra	3415'	
Cliff House	4117'	
Menefee	4143'	
Point Lookout	4879'	
Mancos	5024'	Oil/Gas
Gallup	5961'	Oil/Gas
TD	10869' MD, 6075' TVD	

Casing and Cementing Program:

Casing Program:

Hole Size	Depth Interval	Csg. Size	Wt.	Grade
17 ½"	0 – 350'	13 ⅜"	61.0#	J-55
12 ¼"	0 – 5238'	9 ⅝"	40.0#	N-80
*8 ¾"	0 – 10869'	5 ½"	17.0#	N-80

*Hole size may be reduced to 7 7/8" after the curve has been achieved.

Cementing:

Surface casing – 13 ⅜"

10 bbl Fresh Water Spacer, Cement to surface w/450 sx Premium cement w/2% calcium chloride and .125#/sx Poly E-Flake (92.69 bbls, 15.8 ppg, yld: 1.17 cu ft/sk).
WOC 8 hr. prior to drilling out surface casing. Test casing to 600 psi for 30 minutes.
10 Centralizers to be installed.

Intermediate Casing – 9 ⅝"

Lead with 1095 sx Hall. Light Premium w/5#/sk Kol-Seal, .125 lb/sk Poly E-Flake (368.99 bbls, 12.4 ppg, 1.90 cu ft/sk). Tail w/220 sx Premium Cement, .2% Halad (R) (44.76 bbls, 15.8 ppg, 1.15 cut ft/sk). Cmt to Surface.
82 Centralizers to be installed. Test casing to 1500 psi for 30 minutes.

Pilot Hole Plug Back –

Spot 500' cement plug in 8 ¾" hole to facilitate kick-off point at ±5400'. Kick off plug from ±5200'-5700'. Kick off Plug info:
Tuned Spacer III, 2 lbm/bbl Fe-2, 144.2 lbm/bbl Baroid 41 (11.50 ppg, 25.42 bbls)
Plug Cement: 255 sx cement: 94 lbm/sk Premium Cement, 3% KCL, 0.2% HR-5 (17 ppg, 1.00 cu ft/sk, 45.33 bbls); Tuned Spacer III, 2 lbm/bbl Fe-2, 144.2 lbm (11.50 ppg, 4.58 bbls)

**Production Casing – 5 ½"

Tuned Spacer: 1 gal/bbl Musol A, 146.5 lbm/bbl Barite, 1 gal/bbl SEM-7 (11.50 lbm/gal, 40 bbls). Lead w/50 sx Premium Cement, 0.15% HALAD-766 (10.22 bbls, 15.8ppg, 1.15 cuft/sk) Foamed Lead Cmt: 525 sx 50/50 Poz Premium, 0.15% HALAD-766, 0.2% Versaset, 1.5% Chem Foamer 760, Totetank (184.99 bbls, 13.0 ppg, 1.44 cu ft/sk). Tail Cement: 105 sx 50/50 Poz Premium 0.15% HALAD-766, 0.2% Versaset (22.99 bbls, 13.5 ppg, 1.29 cu ft/ sk). Displacement: Clay Web, 0.5 gal/bbl CLA-Web (8.34 lbm/gal, 235.55 bbl) Est TOC @ ±5500'. 113 Centralizers to be installed. Test casing to 1500 psi for 30 minutes.

**Packers may be used in lieu of 5 ½" cementing. A Notice of Intent Sundry will be filed if change will be made.

Pressure Control Equipment:

See Attached BOPE & Choke Manifold Schematic for a diagram of pressure control equipment.

Pressure control configuration will be designed to meet and exceed 2M standards.
All equipment will have 3M pressure ratings.

Drilling Fluids:

Mud Program:

Interval	Type	Weight	Vis.	Fluid Loss	Invert Ratio
0 – 350'	Spud	8.4-8.9	40-50	no control	
350 – 5238'	LSND	8.4-9.0	40-60	8-12	
5238-10869'	OBM	7.0-8.5	4-12	4-12	70/30 – 90/10

Closed Loop equipment will be utilized for solids control. A lined cutting pit will be utilized for water based cuttings from upper hole sections. Cuttings from production hole will be hauled off to approved disposal site.

Pressures and Hazards:

No abnormal pressures or temperatures are anticipated.
No hydrogen sulfide gas is expected based on nearby well production.
Maximum bottom hole pressure will be ±1800 psi.

- Anticipated pore pressure

Fruitland Coal	300 psi
Pictured Cliffs	500 psi
Gallup	±1800 psi

Tests, Logs, Coring:

Mud log – 2000' to TD
LWD (Gamma Ray, Resistivity, Neutron-Density)
Cores & DST's – 360' core from 5740' to 6100'

Directional Plan:

The wellbore directional plan and survey plat (C-102) are attached.

The production hole will be landed and drilled within target formation horizontally utilizing LWD equipment to help steer the wellbore. Adjustments will be made to the directional plan as formation and hole indicates during drilling.

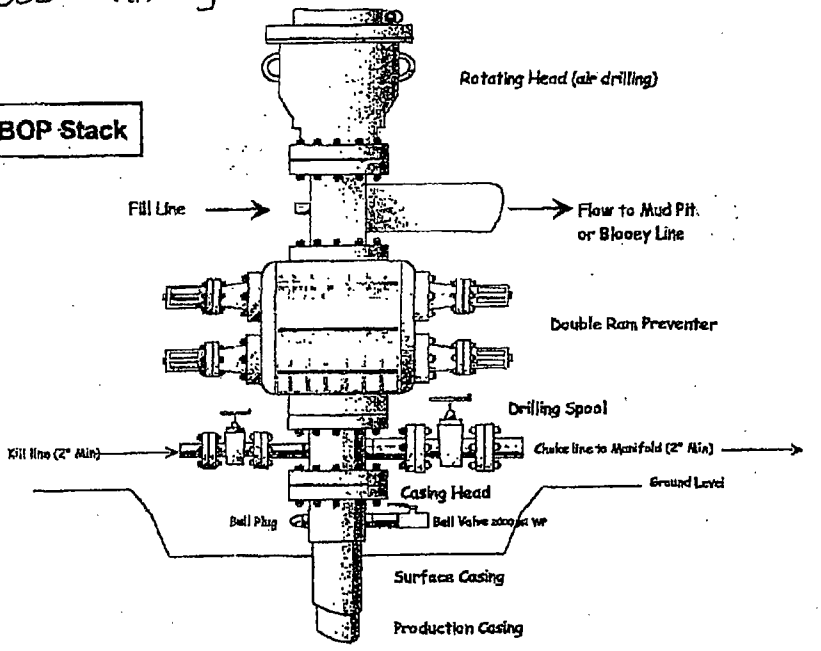
The 9 5/8" casing will be set and cemented, a vertical hole will be drilled to 6100'. At Approximately 5900', a core barrel will be picked up and a 200' core will be obtained. The hole will be drilled out and open hole logs will be run from TD to 5238'.

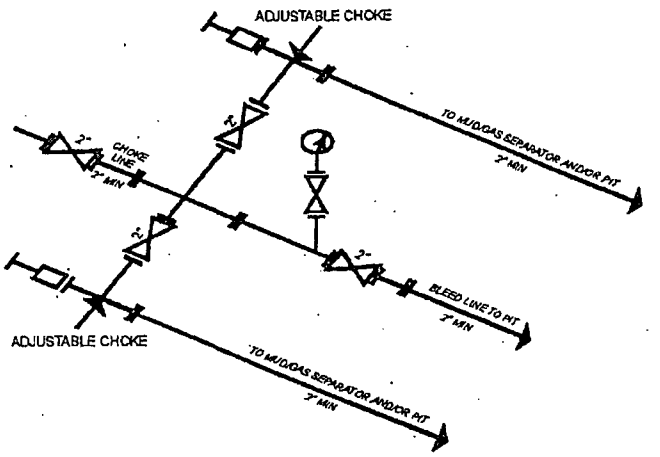
Other Information:

- If lost circulation is encountered, sufficient LCM will be added to the mud system to maintain well control.
- This gas is dedicated.

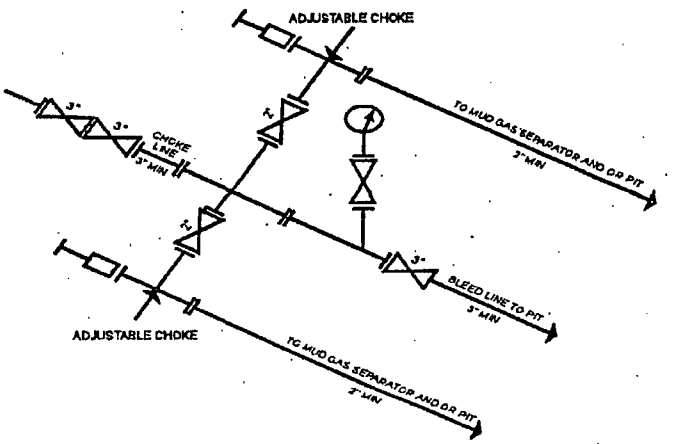
3000 # RATING

BOP Stack





2M CHOKE MANIFOLD EQUIPMENT - CONFIGURATION OF CHOKES MAY VARY



3M CHOKE MANIFOLD EQUIPMENT - CONFIGURATION OF CHOKES MAY VARY

[54 FR 39528, Sept. 27, 1989]

Huntington Energy

Rio Arriba (NM83C)
Sec 33-T25N-R7W
CLU #5-13H

Wellbore #1

Plan: 07-18-13 10 degrees

Standard Planning Report

18 July, 2013

Huntington Energy

Project: Rio Arriba (NM83C)
Site: Sec 33-T25N-R7W
Well: CLU #5-13H
Wellbore: Wellbore #1
Design: 07-18-13 10 degrees

Azimuths to True North
Magnetic North: 9.52°

Magnetic Field
Strength: 50384.6snT
Dip Angle: 63.12°
Date: 07/09/2013
Model: IGRF2010

Wolverine Directional

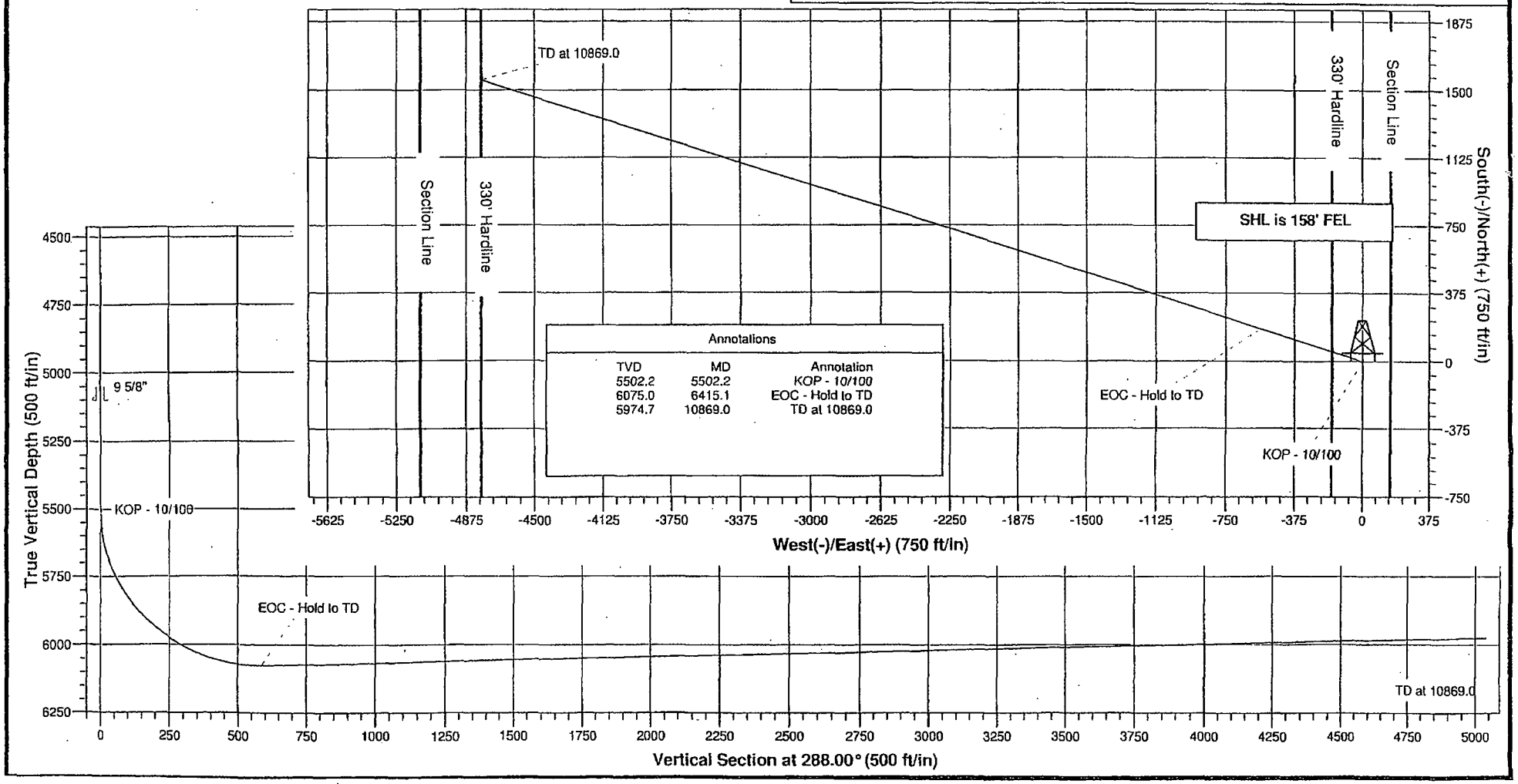
WELL DETAILS: CLU #5-13H

Ground Level: 0.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1951962.29	1248756.08	36° 21' 25.695 N	107° 34' 48.498 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	5502.2	0.00	0.00	5502.2	0.0	0.0	0.00	0.00	0.0	
3	6415.1	91.29	288.00	6075.0	181.0	-557.2	10.00	288.00	585.9	
4	10869.0	91.29	288.00	5974.7	1557.0	-4792.0	0.00	0.00	5038.6	



Wolverine Directional, LLC
Planning Report

Database:	EDM 2003.21 Single User Db	**Local Co-ordinate Reference:**	Well CLU #5-13H
Company:	Huntington Energy	**TVD Reference:**	WELL @ 0.0ft (Original Well Elev)
Project:	Rio Arriba (NM83C)	**MD Reference:**	WELL @ 0.0ft (Original Well Elev)
Site:	Sec 33-T25N-R7W	**North Reference:**	True
Well:	CLU #5-13H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	07-18-13 10 degrees		

Project Rio Arriba (NM83C)

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Central Zone		

Site Sec 33-T25N-R7W

Site Position:		**Northing:**	1,951,962.29ft	**Latitude:**	36° 21' 25.695 N
From:	Lat/Long	**Easting:**	1,248,756.08ft	**Longitude:**	107° 34' 48.498 W
Position Uncertainty:	0.0 ft	**Slot Radius:**	"	**Grid Convergence:**	-0.79 °

Well CLU #5-13H

Well Position	**+N/-S**	0.0 ft	**Northing:**	1,951,962.29 ft	**Latitude:**	36° 21' 25.695 N
	+E/-W	0.0 ft	**Easting:**	1,248,756.08 ft	**Longitude:**	107° 34' 48.498 W
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	ft	**Ground Level:**	0.0ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	07/09/13	9.52	63.12	50,385

Design 07-18-13 10 degrees

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	288.00

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,502.2	0.00	0.00	5,502.2	0.0	0.0	0.00	0.00	0.00	0.00	
6,415.1	91.29	288.00	6,075.0	181.0	-557.2	10.00	10.00	0.00	288.00	
10,869.0	91.29	288.00	5,974.7	1,557.0	-4,792.0	0.00	0.00	0.00	0.00	

Wolverine Directional, LLC

Planning Report

Database:	EDM 2003.21 Single User Db	**Local Co-ordinate Reference:**	Well CLU #5-13H
Company:	Huntington Energy	**TVD Reference:**	WELL @ 0.0ft (Original Well Elev)
Project:	Rio Arriba (NM83C)	**MD Reference:**	WELL @ 0.0ft (Original Well Elev)
Site:	Sec 33-T25N-R7W	**North Reference:**	True
Well:	CLU #5-13H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	07-18-13 10 degrees		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
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2,000.0	0.00	.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
9 5/8"									
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00

Wolverine Directional, LLC

Planning Report

Database:	EDM 2003.21 Single User Db	**Local Co-ordinate Reference:**	Well CLU #5-13H
Company:	Huntington Energy	**TVD Reference:**	WELL @ 0.0ft (Original Well Elev)
Project:	Rio Arriba (NM83C)	**MD Reference:**	WELL @ 0.0ft (Original Well Elev)
Site:	Sec 33-T25N-R7W	**North Reference:**	True
Well:	CLU #5-13H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	07-18-13 10 degrees		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,502.2	0.00	0.00	5,502.2	0.0	0.0	0.0	0.00	0.00	0.00
KOP - 10/100									
5,550.0	4.78	288.00	5,549.9	0.6	-1.9	2.0	10.00	10.00	0.00
5,600.0	9.78	288.00	5,599.5	2.6	-7.9	8.3	10.00	10.00	0.00
5,650.0	14.78	288.00	5,648.4	5.9	-18.0	19.0	10.00	10.00	0.00
5,700.0	19.78	288.00	5,696.1	10.4	-32.2	33.8	10.00	10.00	0.00
5,750.0	24.78	288.00	5,742.3	16.3	-50.2	52.8	10.00	10.00	0.00
5,800.0	29.78	288.00	5,786.8	23.4	-72.0	75.7	10.00	10.00	0.00
5,850.0	34.78	288.00	5,829.0	31.6	-97.3	102.4	10.00	10.00	0.00
5,900.0	39.78	288.00	5,868.8	41.0	-126.1	132.6	10.00	10.00	0.00
5,950.0	44.78	288.00	5,905.8	51.4	-158.1	166.3	10.00	10.00	0.00
6,000.0	49.78	288.00	5,939.7	62.7	-193.0	203.0	10.00	10.00	0.00
6,050.0	54.78	288.00	5,970.3	74.9	-230.7	242.5	10.00	10.00	0.00
6,100.0	59.78	288.00	5,997.3	87.9	-270.6	284.6	10.00	10.00	0.00
6,150.0	64.78	288.00	6,020.5	101.6	-312.7	328.8	10.00	10.00	0.00
6,200.0	69.78	288.00	6,039.8	115.9	-356.6	374.9	10.00	10.00	0.00
6,250.0	74.78	288.00	6,055.1	130.6	-401.9	422.5	10.00	10.00	0.00
6,300.0	79.78	288.00	6,066.1	145.6	-448.2	471.3	10.00	10.00	0.00
6,350.0	84.78	288.00	6,072.8	160.9	-495.3	520.8	10.00	10.00	0.00
6,400.0	89.78	288.00	6,075.2	176.4	-542.8	570.8	10.00	10.00	0.00
6,415.1	91.29	288.00	6,075.0	181.0	-557.2	585.9	10.00	10.00	0.00
EOC - Hold to TD									
6,500.0	91.29	288.00	6,073.1	207.3	-637.9	670.7	0.00	0.00	0.00
6,600.0	91.29	288.00	6,070.9	238.2	-733.0	770.7	0.00	0.00	0.00
6,700.0	91.29	288.00	6,068.6	269.1	-828.1	870.7	0.00	0.00	0.00
6,800.0	91.29	288.00	6,066.3	299.9	-923.2	970.7	0.00	0.00	0.00
6,900.0	91.29	288.00	6,064.1	330.8	-1,018.2	1,070.6	0.00	0.00	0.00
7,000.0	91.29	288.00	6,061.8	361.7	-1,113.3	1,170.6	0.00	0.00	0.00
7,100.0	91.29	288.00	6,059.6	392.6	-1,208.4	1,270.6	0.00	0.00	0.00
7,200.0	91.29	288.00	6,057.3	423.5	-1,303.5	1,370.6	0.00	0.00	0.00
7,300.0	91.29	288.00	6,055.1	454.4	-1,398.6	1,470.5	0.00	0.00	0.00
7,400.0	91.29	288.00	6,052.8	485.3	-1,493.6	1,570.5	0.00	0.00	0.00
7,500.0	91.29	288.00	6,050.6	516.2	-1,588.7	1,670.5	0.00	0.00	0.00
7,600.0	91.29	288.00	6,048.3	547.1	-1,683.8	1,770.5	0.00	0.00	0.00
7,700.0	91.29	288.00	6,046.1	578.0	-1,778.9	1,870.4	0.00	0.00	0.00
7,800.0	91.29	288.00	6,043.8	608.9	-1,874.0	1,970.4	0.00	0.00	0.00
7,900.0	91.29	288.00	6,041.6	639.8	-1,969.0	2,070.4	0.00	0.00	0.00
8,000.0	91.29	288.00	6,039.3	670.7	-2,064.1	2,170.4	0.00	0.00	0.00
8,100.0	91.29	288.00	6,037.1	701.6	-2,159.2	2,270.3	0.00	0.00	0.00
8,200.0	91.29	288.00	6,034.8	732.5	-2,254.3	2,370.3	0.00	0.00	0.00
8,300.0	91.29	288.00	6,032.6	763.4	-2,349.4	2,470.3	0.00	0.00	0.00
8,400.0	91.29	288.00	6,030.3	794.3	-2,444.5	2,570.3	0.00	0.00	0.00
8,500.0	91.29	288.00	6,028.1	825.1	-2,539.5	2,670.2	0.00	0.00	0.00
8,600.0	91.29	288.00	6,025.8	856.0	-2,634.6	2,770.2	0.00	0.00	0.00
8,700.0	91.29	288.00	6,023.6	886.9	-2,729.7	2,870.2	0.00	0.00	0.00
8,800.0	91.29	288.00	6,021.3	917.8	-2,824.8	2,970.2	0.00	0.00	0.00
8,900.0	91.29	288.00	6,019.1	948.7	-2,919.9	3,070.1	0.00	0.00	0.00
9,000.0	91.29	288.00	6,016.8	979.6	-3,014.9	3,170.1	0.00	0.00	0.00
9,100.0	91.29	288.00	6,014.6	1,010.5	-3,110.0	3,270.1	0.00	0.00	0.00
9,200.0	91.29	288.00	6,012.3	1,041.4	-3,205.1	3,370.1	0.00	0.00	0.00
9,300.0	91.29	288.00	6,010.1	1,072.3	-3,300.2	3,470.0	0.00	0.00	0.00
9,400.0	91.29	288.00	6,007.8	1,103.2	-3,395.3	3,570.0	0.00	0.00	0.00

Wolverine Directional, LLC

Planning Report

Database:	EDM 2003.21 Single User Db	**Local Co-ordinate Reference:**	Well CLU #5-13H
Company:	Huntington Energy	**TVD Reference:**	WELL @ 0.0ft (Original Well Elev)
Project:	Rio Arriba (NM83C)	**MD Reference:**	WELL @ 0.0ft (Original Well Elev)
Site:	Sec 33-T25N-R7W	**North Reference:**	True
Well:	CLU #5-13H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	07-18-13 10 degrees		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,500.0	91.29	288.00	6,005.6	1,134.1	-3,490.4	3,670.0	0.00	0.00	0.00
9,600.0	91.29	288.00	6,003.3	1,165.0	-3,585.4	3,769.9	0.00	0.00	0.00
9,700.0	91.29	288.00	6,001.1	1,195.9	-3,680.5	3,869.9	0.00	0.00	0.00
9,800.0	91.29	288.00	5,998.8	1,226.8	-3,775.6	3,969.9	0.00	0.00	0.00
9,900.0	91.29	288.00	5,996.6	1,257.7	-3,870.7	4,069.9	0.00	0.00	0.00
10,000.0	91.29	288.00	5,994.3	1,288.6	-3,965.8	4,169.8	0.00	0.00	0.00
10,100.0	91.29	288.00	5,992.1	1,319.4	-4,060.8	4,269.8	0.00	0.00	0.00
10,200.0	91.29	288.00	5,989.8	1,350.3	-4,155.9	4,369.8	0.00	0.00	0.00
10,300.0	91.29	288.00	5,987.6	1,381.2	-4,251.0	4,469.8	0.00	0.00	0.00
10,400.0	91.29	288.00	5,985.3	1,412.1	-4,346.1	4,569.7	0.00	0.00	0.00
10,500.0	91.29	288.00	5,983.1	1,443.0	-4,441.2	4,669.7	0.00	0.00	0.00
10,600.0	91.29	288.00	5,980.8	1,473.9	-4,536.2	4,769.7	0.00	0.00	0.00
10,700.0	91.29	288.00	5,978.5	1,504.8	-4,631.3	4,869.7	0.00	0.00	0.00
10,800.0	91.29	288.00	5,976.3	1,535.7	-4,726.4	4,969.6	0.00	0.00	0.00
10,869.0	91.29	288.00	5,974.7	1,557.0	-4,792.0	5,038.6	0.00	0.00	0.00
TD at 10869.0									

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
5,100.0	5,100.0	9 5/8"	9-5/8	12-1/4

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
5,502.2	5,502.2	0.0	0.0	KOP - 10/100
6,415.1	6,075.0	181.0	-557.2	EOC - Hold to TD
10,869.0	5,974.7	1,557.0	-4,792.0	TD at 10869.0