Form 3160-3
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED
FEB 13 2009
Bureau of Land Management
Farmington Field Office

FORM APPROVED
OMB NO. 1004-0137
Expires July 31, 2010

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No. NMSF 079483

1a Type of Work [X] DRILL [ ] REENTER

6. If Indian, Allotee or Tribe Name

1b Type of Well [ ] Oil Well [X] Gas Well [ ] Other [✓] Single Zone [ ] Multiple Zone

7. Unit or CA Agreement Name and No. Need CA

2. Name of Operator
Energen Resources Corporation

8. Lease Name and Well No.
Carson #403

3a. Address
2010 Afton Place Farmington, New Mexico 87401

3b Phone No. (include area code)
(505) 325-6800

9. API Well No.
30-039-30675

4. Location of Well (Report location clearly and in accordance with any State equirements)*

At surface 1785' FNL 1240' FEL (SENE) 8-30N-4W

At proposed prod zone 1700' FNL 760' FWL (SENW) 7-30N-4W

10. Field and Pool, or Exploratory
Pictured Cliffs

11. Sec., T., R., M., or Blk. and Survey or Area
Sec. 8 T 30N R 4W

14. Distance in miles and direction from nearest town or post office*

12. County or Parish
Rio Arriba

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any)	16. No. of Acres in lease	17. Spacing Unit dedicated to this well
1240'	320	N/2

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19 Proposed Depth	20 BLM/BIA Bond No. on file
64'	11214' MD	NZ-57 30N 4W NZ-58 30N 4W

21. Elevations (Show whether DF, KDB, RT, GL, etc.	22. Approximate date work will start*	23. Estimated duration
7264' GL	5/1/2009	40 Days

This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4

DRILLING OPERATIONS AUTHORIZED ARE SUBJECT TO COMPLIANCE WITH ATTACHED "GENERAL REQUIREMENTS".

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No 1, must be attached to this form:

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 required by the BLM

25. Signature	Name (Printed/Typed)	Date
[signature]	Devin Mills	2/11/08

Title
Drilling Engineer

Approved by (Signautre)	Name (Printed/Typed)	Date
[signature]		4/5/2010
Title AFM	Office FFO	

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.

(Continued on page 2)

*(Instructions on page 2)

Hold C104 for Directional Survey and "As Drilled" plat

RCVD NOV 29 '11
OIL CONS. DIV.
DIST. 3

NMOCD ~~OPERATOR~~
AV

A COMPLETE C-144 MUST BE SUBMITTED TO AND APPROVED BY THE NMOCD FOR: A PIT, CLOSED LOOP SYSTEM, BELOW GRADE TANK, OR PROPOSED ALTERNATIVE METHOD, PURSUANT TO NMOCD PART 19.15.17, PRIOR TO THE USE OR CONSTRUCTION OF THE ABOVE APPLICATIONS.

RCVD DEC 7'11
OIL CONS. DIV.
DIST. 3

DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240

DISTRICT II
1301 W. Grand Avenue, Artesia, N.M. 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410

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

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 October 12, 2005

Submit to Appropriate District Office
State Lease – 4 Copies
Fee Lease – 3 Copies

☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-039-30675	72400	EAST BLANCO PICTURED CLIFFS

[4] Property Code	[5] Property Name	[6] Well Number
21185	CARSON	403

[7] OGRID No.	[8] Operator Name	[9] Elevation
162928	ENERGEN RESOURCES CORPORATION	7264

[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
H	8	30N	4W		1785'	NORTH	1240'	EAST	RIO ARRIBA

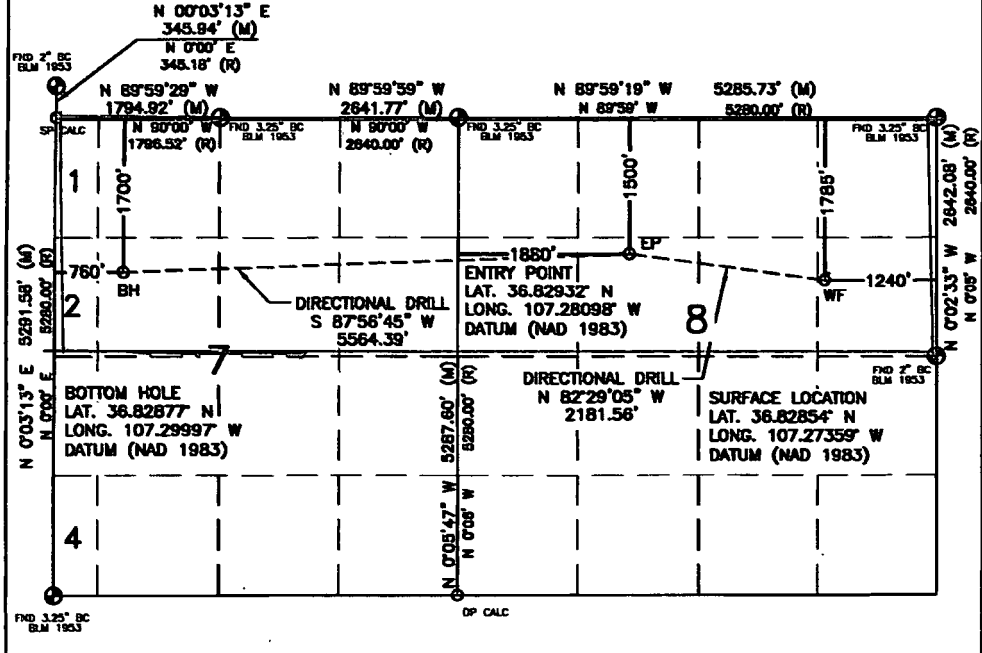
[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	7	30N	4W		1700'	NORTH	760'	WEST	RIO ARRIBA

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
589.01 N/2			R-12868-C

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

[16]



[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 or a compulsory pooling order heretofore entered by the division.

Signature — Date: 12-7-11

Andrew Soto
Printed Name

[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.

SEPTEMBER 11, 2008
Date of Survey

Signature and Seal of Professional Surveyor:

David R. Russell

DAVID R. RUSSELL
NEW MEXICO
10201
REGISTERED PROFESSIONAL LAND SURVEYOR

DAVID RUSSELL
Certificate Number 10201

Operations Plan

February 5, 2009

Carson #403

General Information

Location	1785 fnl, 1240 fel at surface 1700 fnl, 760 fwl at bottom senw S8, T30N, R4W Rio Arriba County, New Mexico
Elevations	7264' GL
Total Depth	11,214' (MD), 4316' (TVD)
Formation Objective	East Blanco Pictured Cliffs

Formation Tops

San Jose	Surface
Nacimiento	2300' (TVD)
Ojo Alamo Ss	3407' (TVD), 3463' (MD)
Kirtland Sh	3600' (TVD), 3702' (MD)
Fruitland Fm	3665' (TVD), 3789' (MD)
Top Coal	3980' (TVD), 4280' (MD)
Upper Pictured Cliffs Ss	4042' (TVD), 4403' (MD)
Lower Pictured Cliffs Ss	4246' (TVD), 5026' (MD)
Total Depth	**4316' (TVD), 11,214' (MD)**

Drilling

The 17 ½" wellbore will be drilled with a fresh water mud system.
The 12 ¼" wellbore will be drilled with a low solids fresh water/polymer mud system. Weighting materials will be drill cuttings and if needed barite. Mud density is expected to range from 8.9 ppg to 9.5 ppg.
Projected KOP is 2400' TVD with a BUR of 3.06°/100'.
The 8 ¾" wellbore will be drilled with a low solids fresh water/polymer mud system. Weighting materials will be drill cuttings and if needed barite. Mud density is expected to range from 8.9 ppg to 9.5 ppg
The 6 1/8" wellbore will be drilled with a treated fresh-water/synthetic polymer system with a density range of 8.5 – 8.8 ppg. Anticipated BHP can be as high as 750 psi.

Blowout Control Specifications:

A 3000 psi minimum double ram or annulus BOP stack will be used following nipple up of casing head. During air drilling operations, a Shaffer Type 50 or equivalent rotating head will be installed on top of the stack. A 2" nominal, 2000 psi minimum choke manifold will also be used. An upper Kelly Cock valve handle and drill string valve should be available to fit each drill string and be available on the rig floor during drilling operations. Test Choke Manifold to 1200 psi.

Logging Program:

Open hole logs: None
Mud logs: From 4042' (TVD), 5026' (MD) to TD. (Top of Pictured Cliffs Fm)
Surveys: Surface to KOP every 500' and a minimum of every 250' for directional.

Tubulars

Casing, Tubing, & Casing Equipment:

String	Interval	Wellbore	Casing	Csg Wt	Grade
Surface	0'-200'	17 ½"	13 3/8"	48.0 ppf	H-40 ST&C
Intermediate	0'-4042' (TVD) 4403' (MD)	12 ¼"	9 5/8"	36.0 ppf	J-55 LT&C
2nd Intermediate	3935'-4276' (TVD) 5660' (MD)	8 ¾"	7"	23.0 ppf	J-55 LT&C
Production	4274'-4316' (TVD) 5460'–11214' (MD)	6 ¼"	4 ½"	11.6 ppf	L-80 LT&C
Tubing	0'-5000' (MD)		2 3/8"	4.7 ppf	J-55

Casing Equipment:

Surface Casing: Depending on wellbore conditions, a Texas Pattern Guide Shoe on bottom. Casing centralization with standard bow spring centralizers to achieve optimal standoff.

Intermediate Casing: An auto fill float shoe with auto fill insert float collar on the bottom and top of the first joint respectively and casing centralization with standard bow spring and rigid centralizers to optimize standoff. Two turbolating centralizers at the base of the Ojo Alamo are recommended.

2nd intermediate Casing: An auto fill float shoe with auto fill insert float collar on the bottom and top of the first joint respectively and casing centralization with standard bow spring and rigid centralizers to optimize standoff. The liner will be hung off in the 9 5/8" casing and use a liner top packer.

Liner: An auto fill float shoe with an auto fill float two joints above it will make up the shoe. Casing centralization will be done with standard bow spring and rigid centralizers to optimize standoff. The liner will be hung off in the 7" casing and use a liner top packer.

Wellhead

3000 psi 11" x 13 3/8" casing head. 11" x 9 5/8"x 4 ½" 3000 psi Flanged Wellhead.

Cementing

Surface Casing: 135 sks of class "G" with 2.0 % $CaCl_2$ and ¼ #/sk Flocele (15.6 ppg, 1.18 ft^3/sk , 158 ft^3 of slurry, 20% excess to circulate to surface). WOC 12 hours. Pressure test surface casing to 750 psi for 30 min. Test BOP to 250 psi for 15 min and 1200 psi for 15 min.

Intermediate Casing: Depending on wellbore conditions, cement may consist of 817 sks 65/35 with 6.0 % Bentonite, 2.0 % $CaCl_2$, 10 #/sk Gilsonite, and ½ #/sk Flocele (12.3 ppg, 1.93 ft^3/sk) and a tail of 120 sks Sks of class "G" with ¼ #/sk Flocele (15.4 ppg, 1.18 ft^3/sk). (1660 ft^3 of slurry, 20 % excess to circulate to surface). Test casing to 1200 psi for 30 min.

2nd Intermediate Casing: Depending on wellbore conditions, cement may consist of 222 sks of class "G" with ¼ pps of Flocele (15.6 ppg, 1.18 ft^3/sk, 262 ft^3 of slurry with 20% excess)

Production Casing: Will not be cemented.

Other Information

1) If lost circulation is encountered, sufficient LCM will be added to the mud system to maintain well control. The intermediate string may need to be cemented in multiple stages with a slurry design deviated from that listed above.
2) If high reservoir pressures or water flows are encountered slurry design may need to be deviated to from those listed above to satisfy wellbore and formation conditions.
3) No abnormal temperatures or pressures are anticipated.

Energen Resources

30-4
Sec. 8 T 30N R 4W
Carson 403
Wellbore #1

Plan: Design #1

APD REPORT

10 February, 2009

Energen

APD REPORT

Company:	Energen Resources	**Local Co-ordinate Reference:**	Well Carson 403
Project:	30-4	**TVD Reference:**	WELL @ 7279.0ft (Original Well Elev)
Site:	Sec. 8 T 30N R 4W	**MD Reference:**	WELL @ 7279 0ft (Original Well Elev)
Well:	Carson 403	**North Reference:**	True
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Design #1	**Database:**	EDM 2003.21 Single User Db

Project 30-4

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. 8 T 30N R 4W

Site Position:		**Northing:**	2,122,479.26ft	**Latitude:**	36° 49' 42.744 N
From:	Lat/Long	**Easting:**	1,340,850.74ft	**Longitude:**	107° 16' 24.924 W
Position Uncertainty:	0.0 ft	**Slot Radius:**	"	**Grid Convergence:**	-0.61 °

Well Carson 403

Well Position	**+N/-S**	0.0 ft	**Northing:**	2,122,479.26 ft	**Latitude:**	36° 49' 42.744 N
	+E/-W	0.0 ft	**Easting:**	1,340,850.74 ft	**Longitude:**	107° 16' 24.924 W
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	ft	**Ground Level:**	7,264.0 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	2/2/2009	9.97	63.70	51,106

Design Design #1

Audit Notes:

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

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	270.63

Survey Tool Program **Date** 2/3/2009

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0 0	11,214.0	Design #1 (Wellbore #1)	MWD	MWD - Standard

Planned Survey

MD (ft)	TVD (ft)	Inc (°)	Azi (azimuth) (°)	Build (°/100ft)	V. Sec (ft)	Northing (ft)	Easting (ft)
0.0	0.0	0.00	0.00	0.00	0.0	2,122,479.26	1,340,850.74
100.0	100.0	0.00	0.00	0.00	0 0	2,122,479.26	1,340,850.74
200.0	200.0	0.00	0.00	0.00	0.0	2,122,479.26	1,340,850.74
13 3/8"							
300.0	300.0	0.00	0.00	0.00	0.0	2,122,479.26	1,340,850.74
400.0	400.0	0.00	0.00	0.00	0.0	2,122,479 26	1,340,850.74
500.0	500.0	0.00	0.00	0.00	0.0	2,122,479.26	1,340,850.74
600.0	600.0	0.00	0 00	0.00	0 0	2,122,479.26	1,340,850.74
700.0	700.0	0.00	0.00	0 00	0.0	2,122,479.26	1,340,850.74
800 0	800.0	0.00	0.00	0.00	0.0	2,122,479.26	1,340,850.74
900.0	900.0	0.00	0.00	0.00	0.0	2,122,479.26	1,340,850.74
1,000.0	1,000 0	0.00	0.00	0.00	0.0	2,122,479.26	1,340,850 74

Energen
APD REPORT

Company:	Energen Resources	**Local Co-ordinate Reference:**	Well Carson 403
Project:	30-4	**TVD Reference:**	WELL @ 7279.0ft (Original Well Elev)
Site:	Sec. 8 T 30N R 4W	**MD Reference:**	WELL @ 7279.0ft (Original Well Elev)
Well:	Carson 403	**North Reference:**	True
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Design #1	**Database:**	EDM 2003.21 Single User Db

Planned Survey

MD (ft)	TVD (ft)	Inc (°)	Azi (azimuth) (°)	Build (°/100ft)	V. Sec (ft)	Northing (ft)	Easting (ft)
1,100.0	1,100.0	0.00	0.00	0.00	0.0	2,122,479.26	1,340,850.74
1,200.0	1,200.0	0.00	0.00	0.00	0.0	2,122,479.26	1,340,850.74
1,300.0	1,300.0	0.00	0.00	0.00	0.0	2,122,479.26	1,340,850.74
1,400.0	1,400.0	0.00	0.00	0.00	0.0	2,122,479.26	1,340,850.74
1,500.0	1,500.0	0.00	0.00	0.00	0.0	2,122,479.26	1,340,850.74
1,600.0	1,600.0	0.00	0.00	0.00	0.0	2,122,479.26	1,340,850.74
1,700.0	1,700.0	0.00	0.00	0.00	0.0	2,122,479.26	1,340,850.74
1,800.0	1,800.0	0.00	0.00	0.00	0.0	2,122,479.26	1,340,850.74
1,900.0	1,900.0	0.00	0.00	0.00	0.0	2,122,479.26	1,340,850.74
2,000.0	2,000.0	0.00	0.00	0.00	0.0	2,122,479.26	1,340,850.74
2,100.0	2,100.0	0.00	0.00	0.00	0.0	2,122,479.26	1,340,850.74
2,200.0	2,200.0	0.00	0.00	0.00	0.0	2,122,479.26	1,340,850.74
2,300.0	2,300.0	0.00	0.00	0.00	0.0	2,122,479.26	1,340,850.74
Nacimiento							
2,400 0	2,400.0	0.00	0.00	0.00	0.0	2,122,479.26	1,340,850.74
2,500.0	2,500.0	3.06	278.31	3.06	2.6	2,122,479.68	1,340,848.10
2,600.0	2,599.6	6.12	278.31	3.06	10.6	2,122,480.92	1,340,840.20
2,700.0	2,698.7	9.18	278.31	3.06	23.8	2,122,482.98	1,340,827.05
2,800.0	2,797.0	12.24	278.31	3.06	42.2	2,122,485.87	1,340,808.69
2,900.0	2,894.1	15.30	278.31	3.06	65.8	2,122,489.56	1,340,785.18
3,000.0	2,989.8	18.36	278.31	3.06	94.5	2,122,494.05	1,340,756.58
3,100.0	3,083.8	21.42	278.31	3.06	128.2	2,122,499.33	1,340,722.98
3,200.0	3,175.9	24.48	278.31	3.06	166.8	2,122,505.37	1,340,684.46
3,300.0	3,265.7	27.54	278.31	3.06	210.3	2,122,512.18	1,340,641.14
3,400.0	3,353.1	30.60	278.31	3.06	258.4	2,122,519.71	1,340,593.15
3,463.0	3,406.8	32.53	278.31	3.06	291.12	2,122,524.83	1,340,560.57
Ojo Alamo							
3,500.0	3,437.8	33.66	278.31	3.06	311.12	2,122,527.96	1,340,540.62
3,600.0	3,519.5	36.72	278.31	3.06	368.2	2,122,536.90	1,340,483.69
3,700.0	3,598.0	39.78	278.31	3.06	429.6	2,122,546.50	1,340,422.54
3,702.0	3,599.6	39.84	278.31	3.06	430.8	2,122,546.70	1,340,421.27
Kirtland							
3,789.0	3,665.1	42.50	278.31	3.06	487.6	2,122,555.59	1,340,364.70
Fruitland							
3,800.0	3,673.2	42.84	278.31	3.06	495.0	2,122,556.74	1,340,357.33
3,900 0	3,744.6	45.90	278.31	3.06	564.3	2,122,567.59	1,340,288.26
4,000.0	3,812.3	48.96	278.31	3.06	637.2	2,122,579.01	1,340,215.51
4,100.0	3,875.9	52.02	278.31	3.06	713.7	2,122,590.98	1,340,139.31
4,200.0	3,935.3	55.08	278.31	3.06	793.4	2,122,603 46	1,340,059.85
4,280.0	3,979.7	57.53	278.31	3.06	859.4	2,122,613.78	1,339,994.10
Upper Coal							
4,300.0	3,990.3	58.14	278.31	3.06	876.1	2,122,616.41	1,339,977.38
4,374.0	4,028.1	60.40	278.31	3.06	939.2	2,122,626.27	1,339,914.54
Lower Coal							
4,400.0	4,040 8	61.20	278.31	3.06	961.7	2,122,629.79	1,339,892.12

Company:	Energen Resources	**Local Co-ordinate Reference:**	Well Carson 403
Project:	30-4	**TVD Reference:**	WELL @ 7279.0ft (Original Well Elev)
Site:	Sec. 8 T 30N R 4W	**MD Reference:**	WELL @ 7279.0ft (Original Well Elev)
Well:	Carson 403	**North Reference:**	True
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Design #1	**Database:**	EDM 2003.21 Single User Db

Planned Survey

MD (ft)	TVD (ft)	Inc (°)	Azi (azimuth) (°)	Build (°/100ft)	V. Sec (ft)	Northing (ft)	Easting (ft)
4,402.5	4,042.0	61 28	278.31	3.06	963.8	2,122,630.13	1,339,889.97
9 5/8"							
4,403.0	4,042.3	61.29	278.31	3.06	964.3	2,122,630.20	1,339,889.52
Picture Cliffs							
4,500.0	4,086.6	64.26	278.31	3.06	1,049.7	2,122,643.58	1,339,804.32
4,600.0	4,127.6	67.32	278.31	3.06	1,140.1	2,122,657.73	1,339,714.23
4,700.0	4,163.7	70.38	278.31	3.06	1,232.5	2,122,672.19	1,339,622.11
4,800.0	4,194.7	73.44	278.31	3.06	1,326.7	2,122,686.94	1,339,528 21
4,900 0	4,220.7	76.50	278.31	3.06	1,422.4	2,122,701.92	1,339,432.82
5,000.0	4,241.4	79.56	278.31	3.06	1,519.4	2,122,717.09	1,339,336.19
5,026 0	4,245.9	80 36	278.31	3.06	1,544.7	2,122,721.06	1,339,310.89
Lower PC							
5,100.0	4,256.9	82.62	278.31	3.06	1,617.3	2,122,732.42	1,339,238.60
5,200.0	4,267 1	85.68	278.31	3.06	1,715.8	2,122,747.85	1,339,140.34
5,300.0	4,272.0	88.74	278.31	3.06	1,814.8	2,122,763.34	1,339,041.68
5,312.8	4,272.2	89.13	278.31	3.06	1,827.5	2,122,765.33	1,339,029 02
5,400.0	4,273.4	89.25	275.64	0.13	1,914.1	2,122,776.84	1,338,942.62
5,500.0	4,274.6	89.38	272.59	0 13	2,013.9	2,122,785.09	1,338,842.97
5,600.0	4,275.6	89.52	269.53	0.14	2,113.9	2,122,788.00	1,338,743.03
5,652.0	4,276.0	89.59	267.94	0.14	2,165.9	2,122,787.41	1,338,691.04
7"							
5,652.1	4,276.0	89.59	267.94	0.14	2,166.0	2,122,787.41	1,338,690.92
5,700.0	4,276.3	89.59	267.94	0.00	2,213 8	2,122,786.20	1,338,643.06
5,800.0	4,277.1	89.59	267.94	0.00	2,313.7	2,122,783.67	1,338,543 09
5,900.0	4,277.8	89.59	267.94	0.00	2,413.6	2,122,781.14	1,338,443.13
6,000.0	4,278.5	89.59	267.94	0.00	2,513.5	2,122,778.61	1,338,343.16
6,100.0	4,279.2	89.59	267.94	0.00	2,613.4	2,122,776.08	1,338,243.20
6,200.0	4,279.9	89.59	267.94	0.00	2,713.3	2,122,773.56	1,338,143.23
6,300 0	4,280.7	89.59	267.94	0.00	2,813.1	2,122,771.03	1,338,043.27
6,400.0	4,281.4	89.59	267.94	0.00	2,913.0	2,122,768.50	1,337,943.30
6,500.0	4,282.1	89.59	267.94	0.00	3,012.9	2,122,765.97	1,337,843.34
6,600.0	4,282.8	89.59	267.94	0.00	3,112.8	2,122,763.44	1,337,743.37
6,700.0	4,283.5	89.59	267.94	0.00	3,212.7	2,122,760.91	1,337,643.41
6,800.0	4,284.3	89.59	267.94	0 00	3,312.6	2,122,758.38	1,337,543.44
6,900.0	4,285.0	89.59	267.94	0.00	3,412.5	2,122,755.85	1,337,443.47
7,000.0	4,285.7	89.59	267 94	0.00	3,512.4	2,122,753.32	1,337,343 51
7,100.0	4,286.4	89.59	267.94	0.00	3,612.2	2,122,750.79	1,337,243.54
7,200.0	4,287.1	89.59	267.94	0.00	3,712.1	2,122,748 27	1,337,143.58
7,300.0	4,287.9	89.59	267.94	0.00	3,812.0	2,122,745.74	1,337,043.61
7,400.0	4,288 6	89.59	267.94	0 00	3,911.9	2,122,743.21	1,336,943.65
7,500 0	4,289 3	89.59	267.94	0.00	4,011.8	2,122,740.68	1,336,843.68
7,600 0	4,290.0	89.59	267.94	0.00	4,111.7	2,122,738.15	1,336,743.72
7,700 0	4,290.7	89.59	267.94	0.00	4,211.6	2,122,735.62	1,336,643.75
7,800.0	4,291.4	89.59	267.94	0.00	4,311.5	2,122,733.09	1,336,543.79
7,900.0	4,292.2	89.59	267.94	0.00	4,411.3	2,122,730.56	1,336,443 82

Energen
APD REPORT

Company:	Energen Resources	**Local Co-ordinate Reference:**	Well Carson 403
Project:	30-4	**TVD Reference:**	WELL @ 7279.0ft (Original Well Elev)
Site:	Sec. 8 T 30N R 4W	**MD Reference:**	WELL @ 7279.0ft (Original Well Elev)
Well:	Carson 403	**North Reference:**	True
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Design #1	**Database:**	EDM 2003.21 Single User Db

Planned Survey

MD (ft)	TVD (ft)	Inc (°)	Azi (azimuth) (°)	Build (°/100ft)	V. Sec (ft)	Northing (ft)	Easting (ft)
8,000.0	4,292.9	89.59	267.94	0.00	4,511.2	2,122,728.03	1,336,343.86
8,100.0	4,293.6	89.59	267.94	0.00	4,611.1	2,122,725.50	1,336,243.89
8,200 0	4,294.3	89.59	267.94	0.00	4,711.0	2,122,722.97	1,336,143.93
8,300.0	4,295.0	89.59	267.94	0.00	4,810.9	2,122,720.45	1,336,043.96
8,400.0	4,295.8	89.59	267.94	0.00	4,910.8	2,122,717.92	1,335,944.00
8,500.0	4,296.5	89.59	267.94	0.00	5,010.7	2,122,715.39	1,335,844.03
8,600.0	4,297.2	89.59	267.94	0.00	5,110.6	2,122,712.86	1,335,744.07
8,700.0	4,297.9	89.59	267.94	0.00	5,210.4	2,122,710.33	1,335,644.10
8,800.0	4,298.6	89.59	267.94	0.00	5,310.3	2,122,707.80	1,335,544.14
8,900.0	4,299.4	89.59	267.94	0.00	5,410.2	2,122,705.27	1,335,444.17
9,000.0	4,300.1	89.59	267.94	0.00	5,510.1	2,122,702.74	1,335,344.20
9,100.0	4,300.8	89.59	267.94	0.00	5,610 0	2,122,700.21	1,335,244.24
9,200.0	4,301.5	89.59	267.94	0.00	5,709.9	2,122,697.68	1,335,144.27
9,300.0	4,302.2	89.59	267.94	0.00	5,809.8	2,122,695.16	1,335,044.31
9,400.0	4,303.0	89 59	267.94	0.00	5,909.6	2,122,692.63	1,334,944.34
9,500.0	4,303.7	89.59	267.94	0.00	6,009.5	2,122,690.10	1,334,844.38
9,600.0	4,304.4	89.59	267.94	0.00	6,109.4	2,122,687.57	1,334,744.41
9,700.0	4,305.1	89.59	267.94	0.00	6,209.3	2,122,685.04	1,334,644.45
9,800.0	4,305.8	89.59	267.94	0.00	6,309.2	2,122,682.51	1,334,544.48
9,900.0	4,306.6	89.59	267.94	0.00	6,409.1	2,122,679.98	1,334,444.52
10,000.0	4,307.3	89.59	267.94	0.00	6,509.0	2,122,677.45	1,334,344.55
10,100.0	4,308.0	89 59	267.94	0.00	6,608.9	2,122,674.92	1,334,244.59
10,200.0	4,308.7	89.59	267.94	0.00	6,708.7	2,122,672.39	1,334,144.62
10,300.0	4,309.4	89.59	267.94	0.00	6,808.6	2,122,669.87	1,334,044.66
10,400.0	4,310.1	89.59	267.94	0.00	6,908.5	2,122,667.34	1,333,944.69
10,500.0	4,310.9	89.59	267.94	0.00	7,008.4	2,122,664.81	1,333,844.73
10,600.0	4,311.6	89.59	267.94	0.00	7,108.3	2,122,662.28	1,333,744.76
10,700.0	4,312.3	89.59	267.94	0.00	7,208.2	2,122,659.75	1,333,644.80
10,800.0	4,313.0	89.59	267.94	0.00	7,308.1	2,122,657.22	1,333,544.83
10,900.0	4,313.7	89.59	267.94	0.00	7,408.0	2,122,654.69	1,333,444.87
11,000.0	4,314.5	89.59	267.94	0.00	7,507.8	2,122,652.16	1,333,344.90
11,100.0	4,315.2	89.59	267.94	0.00	7,607.7	2,122,649.63	1,333,244.94
11,200.0	4,315.9	89.59	267.94	0.00	7,707.6	2,122,647.10	1,333,144.97
11,214.0	4,316.0	89.59	267.94	0.00	7,721.6	2,122,646.75	1,333,130.99

Energen
APD REPORT

Company:	Energen Resources	**Local Co-ordinate Reference:**	Well Carson 403
Project:	30-4	**TVD Reference:**	WELL @ 7279.0ft (Original Well Elev)
Site:	Sec. 8 T 30N R 4W	**MD Reference:**	WELL @ 7279.0ft (Original Well Elev)
Well:	Carson 403	**North Reference:**	True
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Design #1	**Database:**	EDM 2003.21 Single User Db

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
11,214.0	4,316.0	4 1/2"	4-1/2	6-1/8
5,652.0	4,276.0	7"	7	8-3/4
4,402.5	4,042.0	9 5/8"	9-5/8	12-1/4
200.0	200.0	13 3/8"	13-3/8	17-1/2

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,374.0	4,028.1	Lower Coal		0.00	
2,300.0	2,300.0	Nacimiento		0.00	
3,789.0	3,665.1	Fruitland		0.00	
4,280.0	3,979.7	Upper Coal		0.00	
3,463.0	3,406.8	Ojo Alamo		0.00	
4,403.0	4,042.3	Picture Cliffs		0.00	
5,026.0	4,245.9	Lower PC		0.00	
3,702.0	3,599.6	Kirtland		0.00	

Checked By: _____ Approved By: _____ Date: 2/9/09

PROJECT DETAILS: 30-1

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

System Datum: Mean Sea Level

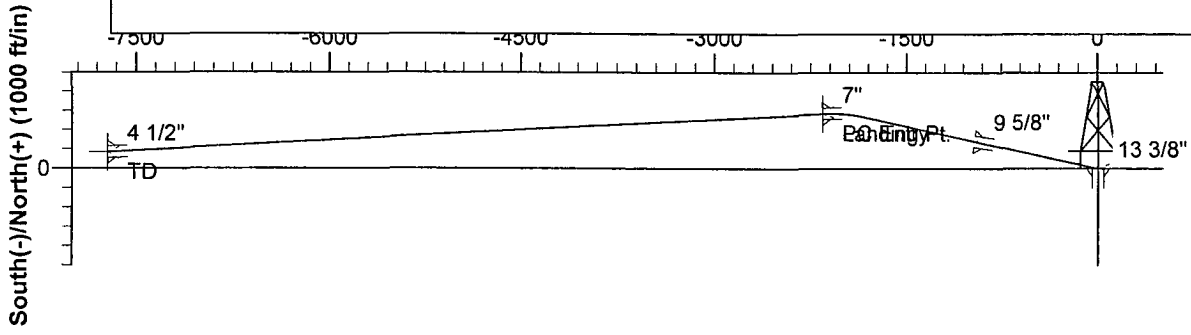
Azimuths to True North
Magnetic North: 9.97°

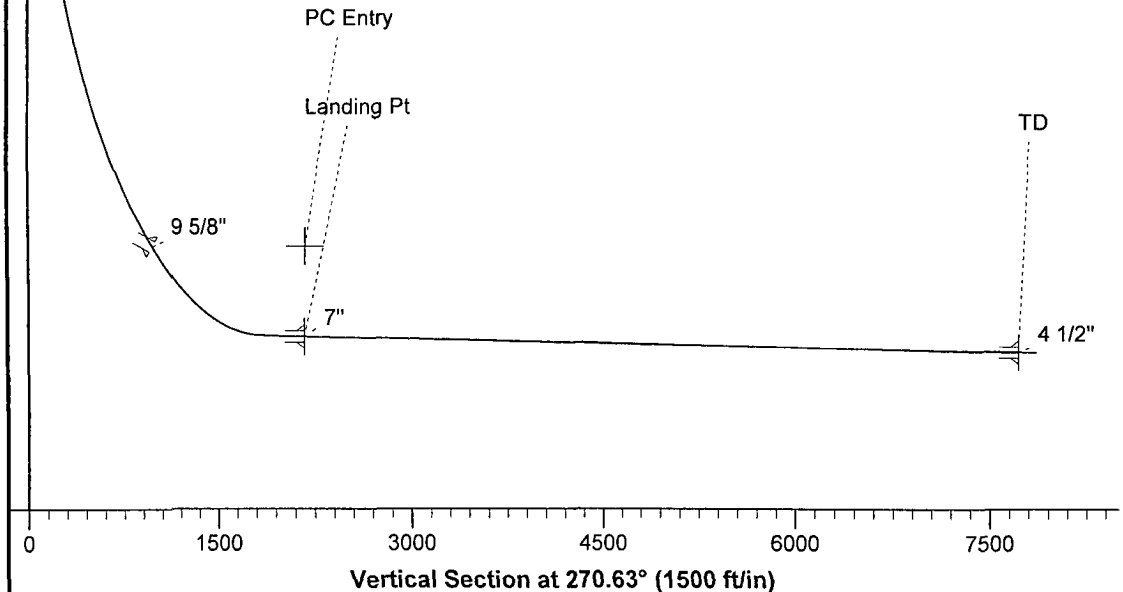
Magnetic Field
Strength: 51106.2snT
Dip Angle: 63.70°
Date: 2/2/2009
Model: IGRF200510

13 3/8"

SECTION DETAILS

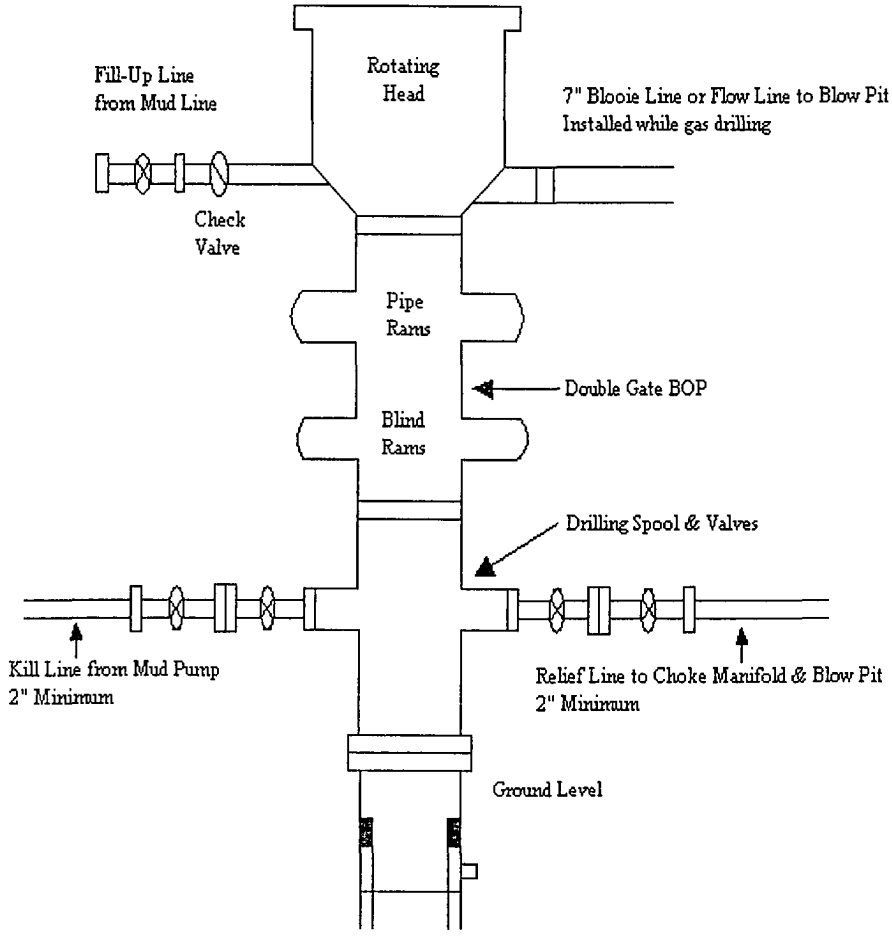
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	2400.0	0.00	0.00	2400.0	0.0	0.0	0.00	0.00	0.0	
3	5312.8	89.13	278.31	4272.2	266.5	-1824.7	3.06	278.31	1827.5	
4	5652.1	89.59	267.94	4276.0	285.0	-2163.0	3.06	-87.55	2166.0	Landing Pt.
5	11214.0	89.59	267.94	4316.0	84.8	-7721.1	0.00	0.00	7721.6	TD





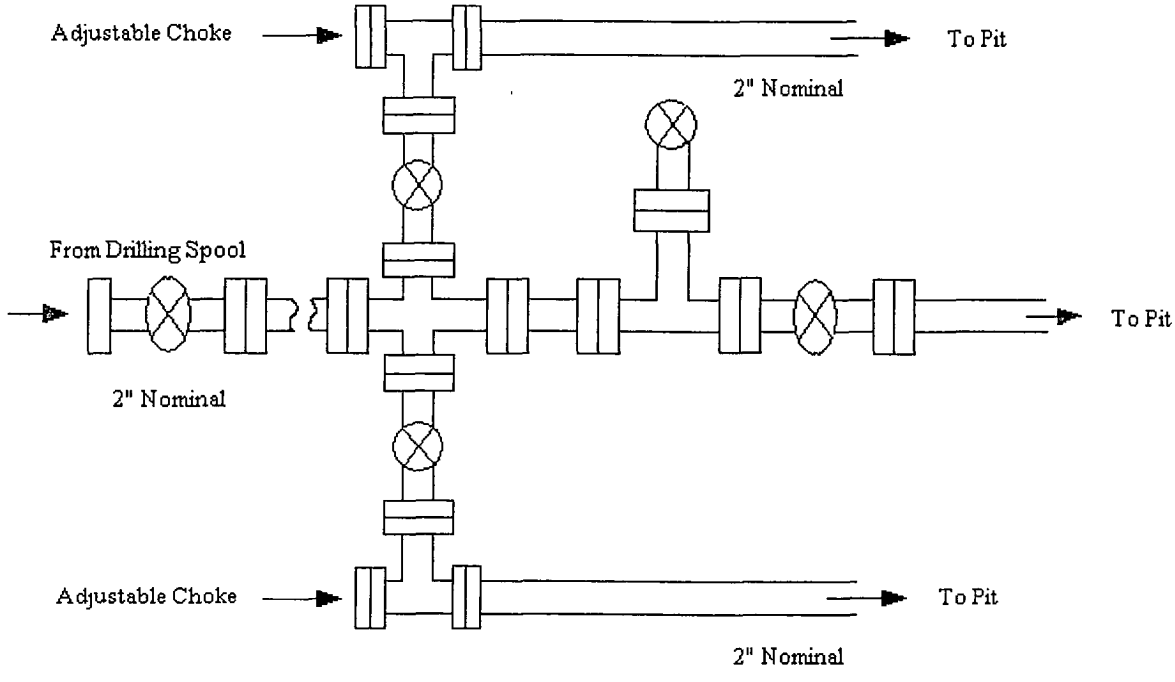
Energen Resources Corporation

Typical BOP Configuration for Gas Drilling



Energen Resources Corporation

Typical 2000 psi Choke Manifold Configuration



Choke manifold installed from surface to TD

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Farmington District Office
1235 La Plata Highway - Suite A
Farmington, New Mexico 87401
www blm gov/nm

TAKE PRIDE IN AMERICA

In Reply Refer To
3162.3-1(21110)

Energen Resources Corporation
#403 Carson
NMSF -079483
S: SE¼NE¼ Sec. 8, T. 30 N., R. 4 W.
BH: SE¼NW¼ Sec. 7, T. 30 N., R. 4 W.
Rio Arriba County, New Mexico

Above Data Required on Well Sign

GENERAL REQUIREMENTS FOR OIL AND GAS OPERATIONS ON FEDERAL AND INDIAN LEASES

In addition to those requirements set forth in the laws, regulations and Onshore Orders, these requirements apply generally to all oil and gas operations on Federal and Indian leases. They apply specifically to the above described well. Special requirements that apply and are effective for this well, if any, are check-marked in Section VII of these General Requirements. The failure of the operator to comply with these requirements and the filing to required reports will result in strict enforcement of 43 CFR 3163.1 or 5 3163.2.

I. GENERAL

A. Full compliance with all applicable laws, regulations, and Onshore Orders, with the approved Permit to drill, and with the approved Surface Use and Operations Plan is required. Lessees and/or operators and fully accountable for the actions of their contractors and subcontractors.

B. Each well shall have a well sign in legible condition from spud date to final abandonment. The sign should show the operator's name, lease serial number, or unit name, well number, location of the well, and whether lease is Tribal or Allotted, (See 43 CFR 3162.6(b)).

C. A complete copy of the approved Application for Permit to Drill, along with any conditions of approval, shall be available to authorized personnel at the drill site whenever active drilling operations are under way.

D. For Wildcat wells only, a drilling operations progress report is to be submitted, to the BLM-Field Office, weekly from the spud date until the well is completed and the Well Completion Report (Form 3160-4) is filed. The report should be on 8-1/2 x 11 inch paper, and each page should identify the well by; operator's name, well number, location and lease number.

E. As soon as practical, notice is required of all blowouts, fires and accidents involving life-threatening injuries or loss of life. (See NTL-3A).

F. Prior approval by the BLM-Authorized Office (Drilling and Production Section) is required for variance from the approved drilling program and before commencing plugging operations, plug back work casing repair work, corrective cementing operations, or suspending drilling operations

indefinitely. Emergency approval may be obtained orally, but such approval is contingent upon filing of a notice of intent (on a Sundry Notice, Form 3160-5) within three business days (original and three copies of Federal leases and an original and four copies on Indian leases). **Any changes to the approved plan or any questions regarding drilling operations should be directed to BLM during regular business hours at 505-599-8900. Emergency program changes after hours should be directed to Jim Lovato at 505-334-1266, Steve Mason at 505-326-0253 or Wayne Townsend at 505-327-2186.**

G. The District Office Manager, Inspection and Enforcement Section, phone number (505-599-8907) is to be notified at least 24 hours in advance of any spudding, cementing, or plugging operations so that a BLM representative may witness the operations.

H. Unless drilling operations are commenced within two years, approval of the Application for Permit to Drill well expire. A written request for a two years extension may be granted if submitted prior to expiration.

I. From the time drilling operations are initiated and until drilling operations are completed, a member of the drilling crew or the tool pusher shall maintain rig surveillance at all time, unless the well is secured with blowout preventers or cement plugs.

J. If for any reason, drilling operations are suspended for more than 90 days, a written notice must be provided to this office outlining your plans for this well.

II. REPORTING REQUIREMENTS

A. For reporting purposes, all leases, communitization agreements or unit agreements are to be referenced by the numbers and prefixes affixed to the respective contract documents by the issuing agency at the time of issue.

B. The following reports shall be filed with the BLM-Authorized Officer within 30 days after the work is completed.

1. Original and three copies on Federal and Original and four copies on Indian leases of Sundry Notice (Form 3150-5), giving complete information concerning.

   a. Setting of each string of casing. Show size and depth of hole, grade and weight of casing, depth set, depth of any and all cementing tools that are used, amount (in cubic feet) and types of cement used, whether cement circulated to surface and all cement tops in the casing annulus, casing test method and results, and the date work was done. Show spud date on first report submitted.

   b. Intervals tested, perforated (include; size, number and location of perforations), acidized, or fractured; and results obtained. Show date work was done (a Sundry Notice is not required if a Completion Report is submitted within 30 days of the operation).

   c. Subsequent Report of Abandonment, show the manner in which the well was plugged, including depths where casing was cut and pulled, intervals (by depths) where cement plugs were replaced, and dates of the operations.

2. Well Completion Report (Form 3160-4) will be submitted with 30 days after well has been completed.

   a. Initial Bottom Hole Pressure (BHP) for the producing formations. Show the BHP on the completion report. The pressure may be: 1) measured with a bottom hole bomb, or; 2) calculated based on shut in surface pressures (minimum seven day buildup) and fluid level shot.

3. Submit a cement evaluation log, if cement is not circulated to surface.

III. DRILLER'S LOG

The following shall be entered in the daily driller's log: 1) Blowout preventer pressures tests, including test pressures and results. 2) Blowout preventer tests for proper functioning, 3) Blowout prevention drills conducted, 4) Casing run, including size, grade, weight, and depth set, 5) How pipe was cemented, including amount of cement, type, whether cement circulated to surface, location of cementing tools, etc., 6) Waiting on cement time for each casing string, 7) Casing pressure tests after cementing, including test pressure and results and 8) Estimated amounts of oil and gas recovered and/or produced during drill stem test.

IV. GAS FLARING

Gas produced from this well may not be vented or flared beyond an initial, authorized test period of *__ Days or 50 MMCF following its (completion)(recompletion), whichever first occurs, without the prior, written approval of the authorized officer. Should gas be vented or flared without approval beyond the test period authorized above, you may be directed to shut-in the well until the gas can be captured or approval to continue venting or flaring as uneconomic is granted, and you shall be required to compensate the lessor for the portion of the gas vented or flared without approval which is determined to have been avoidably lost.

*30 days, unless a longer test period specifically is approved by the authorized officer. The 30-day period beings when the casing is first perforated for cased holes, and then Total Depth (TD) is reached for open hold completion.

V. SAFETY

A. All rig heating stoves are to be of the explosion-proof type.

B. Rig safety lines are to be installed.

C. Hard hats must be utilized.

VI. CHANGE OF PLANS OR ABANDONMENT

A. Any changes of plans required in order to mitigate unanticipated conditions encountered during drilling operations, will require approval as set forth in Section 1.F.

B. If the well is dry it is to be plugged in accord with 43 CFR 3162.3-4, approval of the proposed plugging program is required as set forth in Section 1.F. The report should show the total depth reached, the reason for plugging, and the proposed intervals, by depths, where

cement plugs are to be placed, type of plugging mud, etc. A Subsequent Report of Abandonment is required as set forth in Section 11.B.1c.

C. Unless a well has been properly cased and cemented, or properly plugged, the drilling rig must not be moved from the drill site without prior approval from the BLM-Authorized Officer.

VII. SPECIAL STIPLATIONS

The following special requirements apply and are effective when **checked**:

A. ☒ Communitization Agreement covering the acreage dedicated to the well must be filed for approval with the Bureau of Land Management, Farmington District Office, Branch of Reservoir Management, 1235 La Plata Highway, Suite A, Farmington, New Mexico 87401. The effective date of the agreement must be Prior to any sales.

B. ☐ The BLM-Authorized Officer requires testing all components of well control systems at the pressure requirements set forth in Onshore Oil and Gas Order No. 2, Section III. A. 1., plus a 30% safety factor, and does not elect to utilize the discretionary authority for requiring the testing of selected components at the A. P. L. working pressures.

C. ☒ Note Attachments

D. ☒ The required wait on cement (WOC) time will be a minimum of ~~250~~ 500 psi compressive strength at 60 degrees. Blowout preventor (BOP) nipple-up operations may then be initiated.

VIII. PHONE NUMBERS

A. For BOPE tests, cementing, and plugging operations the phone number is 505-599-8907 and must be called 24 hours in advance in order that a BLM representative may witness the operations.

B. Emergency program changes after hours contact:

Jim Lovato at (505) 320-7378,
Steve Mason at (505) 326-0253 or
Wayne Townsend at (505) 327-2186
Troy Salyers at (505) 360-9815