

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB NO. 1004-0137
Expires March 31, 2007

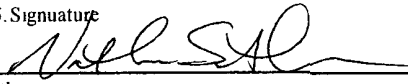
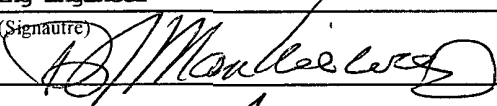
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. USF SF-0794872A
1b. Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator Energen Resources Corporation		7. Unit or CA Agreement Name and No. NM NM-78418A - PC
3a. Address 2198 Bloomfield Hwy Farmington, NM 87401		8. Lease Name and Well No. San Juan 30-4 Unit #21 Z
3b. Phone No. (include area code) 505.325.6800		9. API Well No. 30-039-30241
4. Location of Well (Report location clearly and in accordance with any State requirements)* At surface 2400 fsl, 2300 fel At proposed prod. zone 760 fsl, 110 fel		10. Field and Pool, or Exploratory East Blanco Mesa Verde PC
14. Distance in miles and direction from nearest town or post office* Approximately 10.5 miles NE of Gobernador		11. Sec., T., R., M., or Blk. and Survey or Area (J) S21, T30N, R4W
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any) 110'	16. No. of Acres in lease 1819.52	12. County or Parish Rio Arriba
17. Spacing Unit dedicated to this well 160.00 SE 4 220.00 E/2	18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 50'	13. State NM
19. Proposed Depth 6862' (MD)	20. BLM/BIA Bond No. on file RCVD APR 2 '08 NM 2707 OIL CONS. DIV.	
21. Elevations (Show whether DF, KDB, RT, GL, etc) 7609' GL	22. Approximate date work will start* July 15, 2007	23. Estimated duration DIST. 3 30 days

24. Attachments

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

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

25. Signature 	Name (Printed/Typed) Nathan Smith	Date 4/4/07
Title Drilling Engineer		
Approved by (Signature) 	Name (Printed/Typed) AEM	Date 4/1/08
Title AEM		

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.

*(Instructions on page 2)

NOTIFY AZTEC OCD 24 HRS.
PRIOR TO CASING & CEMENTDRILLING OPERATIONS AUTHORIZED ARE
SUBJECT TO COMPLIANCE WITH ATTACHED
"GENERAL REQUIREMENTS".NMOC
APR 04 2008
AV

Hold C104

for Directional Survey
and "As Drilled" plat
Target BHL is NSL in
operation is subject to technical and
procedural review pursuant to 43 CFR 3165.3
and appeal pursuant to 43 CFR 3165.4

DISTRICT II
811 South First, Artesia, N.M. 88210DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410DISTRICT IV
2040 South Pacheco, Santa Fe, NM 87505

OIL CONSERVATION DIVISION

2040 South Pacheco
Santa Fe, NM 87505Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies207
AMENDED REPORT
-4
AN 10: 92

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number 30-039-30241		2 Pool Code 72400		3 Pool Name East Blanco Pictured Cliffs	
4 Property Code 21994		5 Property Name SAN JUAN 30-4 UNIT			6 Well Number 21/2
7 OGRD No. 162928		8 Operator Name ENERGEN RESOURCES CORPORATION			9 Elevation 7609'

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
J	21	30N	4W		2400'	SOUTH	2300'	EAST	RIO ARriba

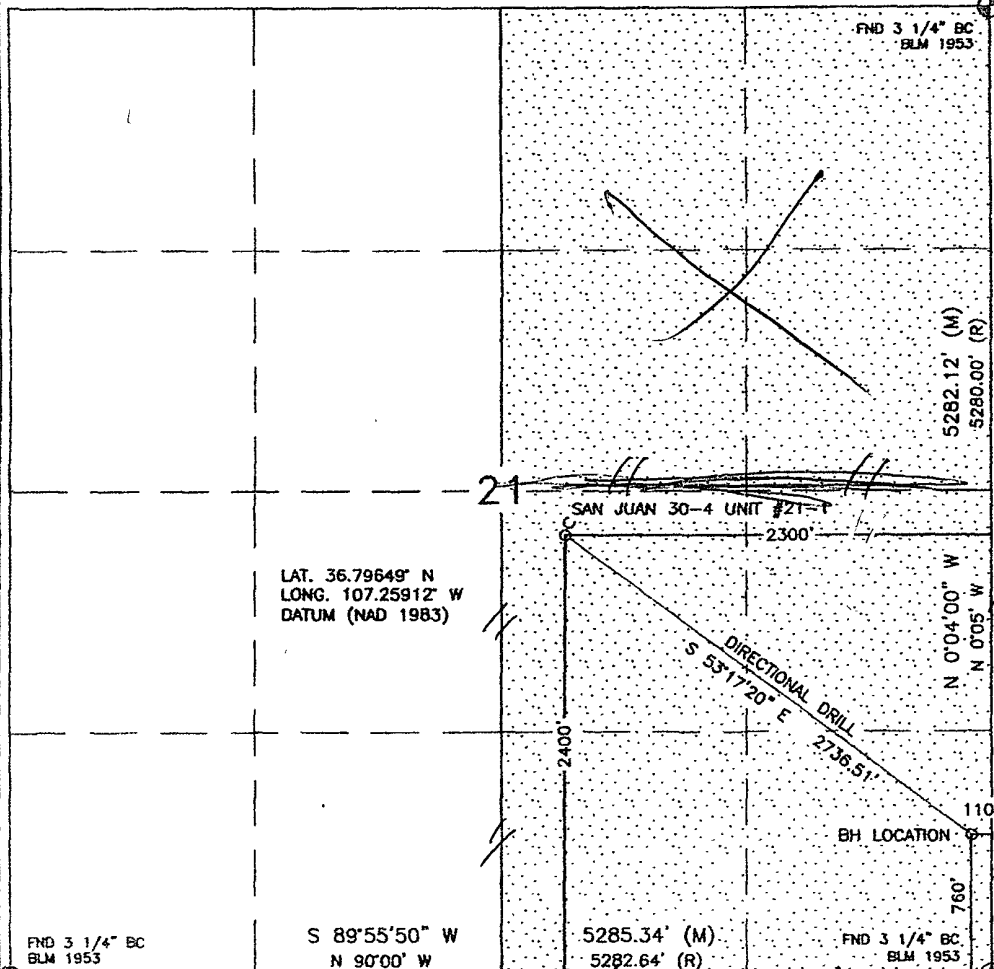
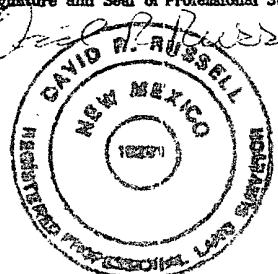
11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	21	30N	4W		760'	SOUTH	110'	EAST	RIO ARriba

12 Dedicated Acres 160.00 320.48 Acres - (E/2)		13 Joint or Infill	14 Consolidation Code	15 Order No.
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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. Signature: <u>Nathan Smith</u> Printed Name: <u>Nathan Smith</u> Title: <u>Drilling Engineer</u> Date: <u>4/4/07</u>	
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: <u>NOVEMBER 20, 2006</u> Signature and Seal of Professional Surveyor: <u>David A. Russell</u>  Certificate Number: <u>10201</u>			

Submit 3 Copies To Appropriate District
Office
District I
1625 N. French Dr., Hobbs, NM 87240
District II
1301 W. Grand Ave., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
May 27, 2004

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

WELL API NO. 30-039-30241
5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name: San Juan 30-4 Unit
8. Well Number 21-1
9. OGRID Number 162928
10. Pool name or Wildcat East Blanco Pictured Cliffs
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 7609' GL
Pit or Below-grade Tank Application <input checked="" type="checkbox"/> or Closure <input type="checkbox"/>
Pit type <u>Drill</u> Depth to Groundwater <u>>100'</u> Distance from nearest fresh water well <u>>1000'</u> Distance from nearest surface water <u>>250'</u>
Pit Liner Thickness: <u>12</u> mil Below-Grade Tank: Volume _____ bbls; Construction Material _____

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other
2. Name of Operator Energen Resources Corporation
3. Address of Operator 2198 Bloomfield Highway, Farmington, NM 87401
4. Well Location

Unit Letter J : 2400 feet from the South line and 2300 feet from the East line
Section 21 Township 30N Range 04W NMPM County Rio Arriba

11. Elevation (Show whether DR, RKB, RT, GR, etc.) 7609' GL

Pit or Below-grade Tank Application ☒ or Closure ☐

Pit type Drill Depth to Groundwater >100' Distance from nearest fresh water well >1000' Distance from nearest surface water >250'

Pit Liner Thickness: 12 mil Below-Grade Tank: Volume _____ bbls; Construction Material _____

12. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐
PULL OR ALTER CASING ☐ MULTIPLE COMPLETION ☐

OTHER: Build drilling pit ☒

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ PLUG AND ABANDONMENT ☐
CASING TEST AND CEMENT JOB ☐

OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Energen Resources plans to build a lined pit according to "OCD Pit and Below-grade Tank Guidelines", as issued on November 1, 2004. Energen anticipates the submittal of a C-144 for closure of this pit in accordance with BLM and "OCD Pit and Below-grade Tank Guidelines".

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☒ , a general permit ☐ or an (attached) alternative OCD-approved plan ☐

SIGNATURE Vicki Donaghey TITLE Regulatory Analyst DATE 04/04/07

Type or print name Vicki Donaghey

E-mail address: vdonaghe@energen.com

Telephone No. 505.325.6800

For State Use Only

Deputy Oil & Gas Inspector,
District #3

APPROVED BY [Signature] TITLE _____

DATE APR 04 2008

Conditions of Approval, if any:

Operations Plan

April 4, 2007

San Juan 30-4 Unit #211 21Z

General Information

Location	2400' fsl, 2300' fel at surface 760' fsl, 110' fel at bottom sese S21, T30N, R4W Rio Arriba County, New Mexico
Elevations	7609' GL
Total Depth	6862' (MD), 4590' (TVD)
Formation Objective	East Blanco Pictured Cliffs

Formation Tops

San Jose	Surface
Nacimiento	450' (TVD)
Ojo Alamo Ss	3712' (TVD)
Kirtland Sh	3945' (TVD)
Fruitland Fm	4112' (TVD), 4137' (MD)
Top Coal	4211' (TVD), 4271' (MD)
Bottom Coal	4283' (TVD), 4395' (MD)
Upper Pictured Cliffs Ss	4315' (TVD), 4467' (MD)
Lower Pictured Cliffs Ss	4513' (TVD), 5163' (MD)
Total Depth	4590' (TVD), 6862' (MD)

Drilling

The 12 1/4" wellbore will be drilled with a fresh water mud system.

The 8 3/4" 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 3750' TVD with a BUR of 9.32°/100'.

The 6 1/4" wellbore will be drilled with a treated fresh water/synthetic polymer system with a density range of 8.5 to 8.8 ppg. Anticipated BHP can be as high as 750 psi.

Blowout Control Specifications:

A 2000 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.

Logging Program:

Open hole logs: None

Mud logs: From 4112' (TVD), 4137' (MD) to TD. (Top of Fruitland 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'	12 1/4"	9 5/8"	32.3 ppf	H-40 ST&C
Intermediate	0'-4550' (TVD) 5600' (MD)	8 3/4"	7"	23.0 ppf	J-55 LT&C
Tubing	0'-5500' (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: Depending on wellbore conditions, a Cement nose guide shoe with self fill insert float collar on top of bottom joint 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.

Liner: None initially. Production lateral will be left open to monitor production without a liner. If necessary, ECP's will be ran in pre-drilled liner string every 400' and inflated with cement prior to fracture stimulating.

Wellhead

3000 psi 11" x 9 5/8" casing head. 9 5/8" x 7" x 2 3/8" 3000 psi Flanged Wellhead .

Cementing

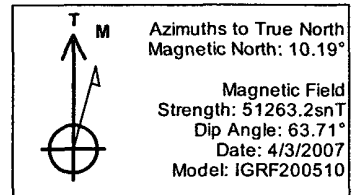
Surface Casing: 125 sks Std (class B) with 2.0 % CaCl₂ and 1/4 #/sk Flocele (15.6 ppg, 1.18 ft³/sk 148 ft³ of slurry, 100% excess to circulate to surface). WOC 12 hours. Pressure test surface casing to 750 psi for 30 min.

Intermediate Casing: Before cementing, circulate hole at least 1 1/2 hole volumes of mud and reduce funnel viscosity to minimum to aide in hole cleanout. Depending on wellbore conditions, cement may consist of 800 sks 65/35 with 6.0 % Bentonite, 2.0 % CaCl₂, 10 #/sk Gilsonite, and 1/2 #/sk Flocele (12.3 ppg, 1.93 ft³/sk) and a tail of 125 sks Sks with 1/4 #/sk Flocele (15.6 ppg, 1.18 ft³/sk). (1402 ft³ of slurry, 100 % excess to circulate to surface). Test casing to 1200 psi for 30 min.

Other Information

- 1) This well will initially be an open hole completion with no liner.
- 2) 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.
- 3) 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.
- 4) No abnormal temperatures or pressures are anticipated. This gas is dedicated.

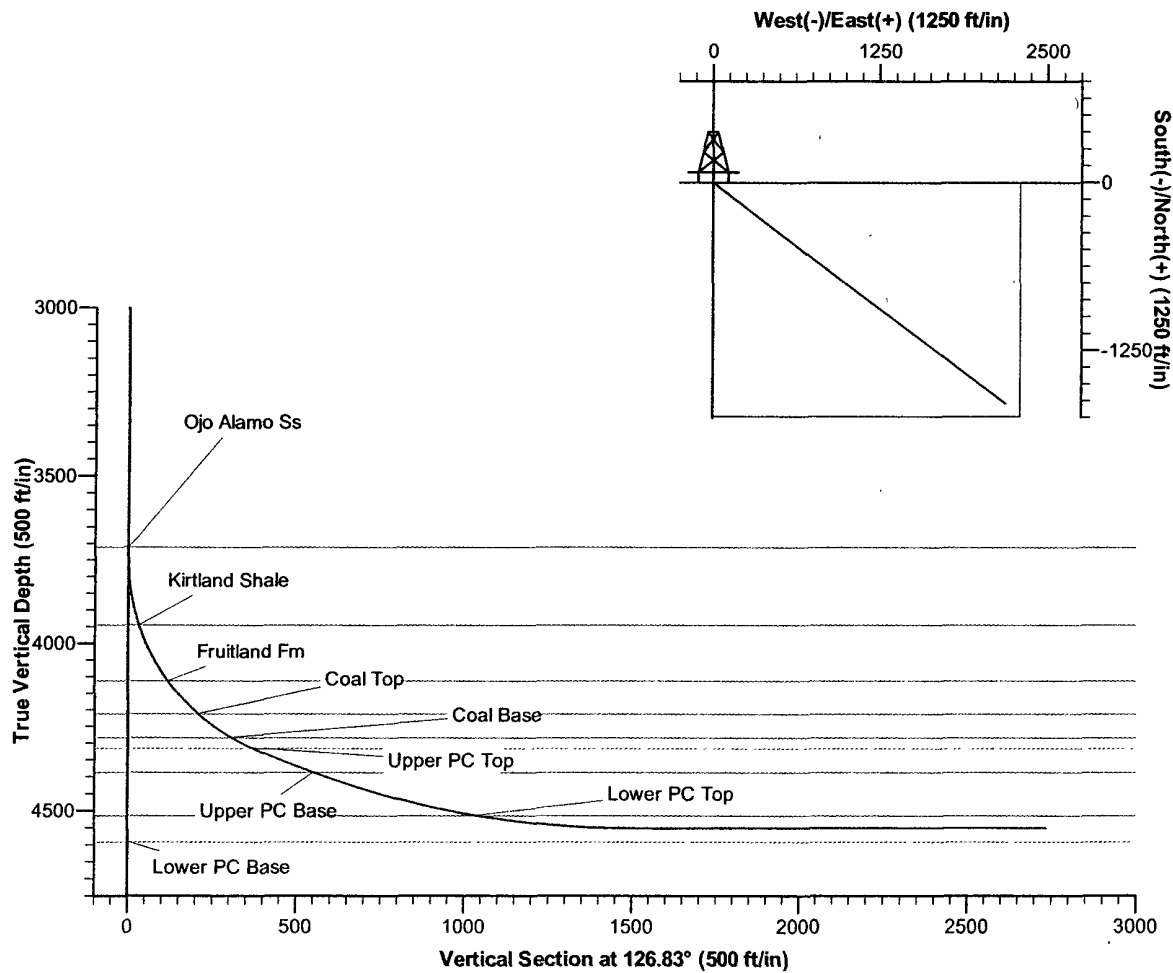
Project: SJ BR; S21, T30N, R4W
Site: Cabresto Mesa
Well: San Juan 30-4 Unit #21-1
Wellbore: Main Lateral
Plan: Plan #1 (San Juan 30-4 Unit #21-1/Main Lateral)



PROJECT DETAILS: SJ BR; S21, T30N, R4W	
Geodetic System:	US State Plane 1983
Datum:	North American Datum 1983
Ellipsoid:	GRS 1980
Zone:	New Mexico Western Zone
System Datum:	Mean Sea Level

SURFACE LOCATION	
Easting:	2891213.24
Northing:	2109747.12

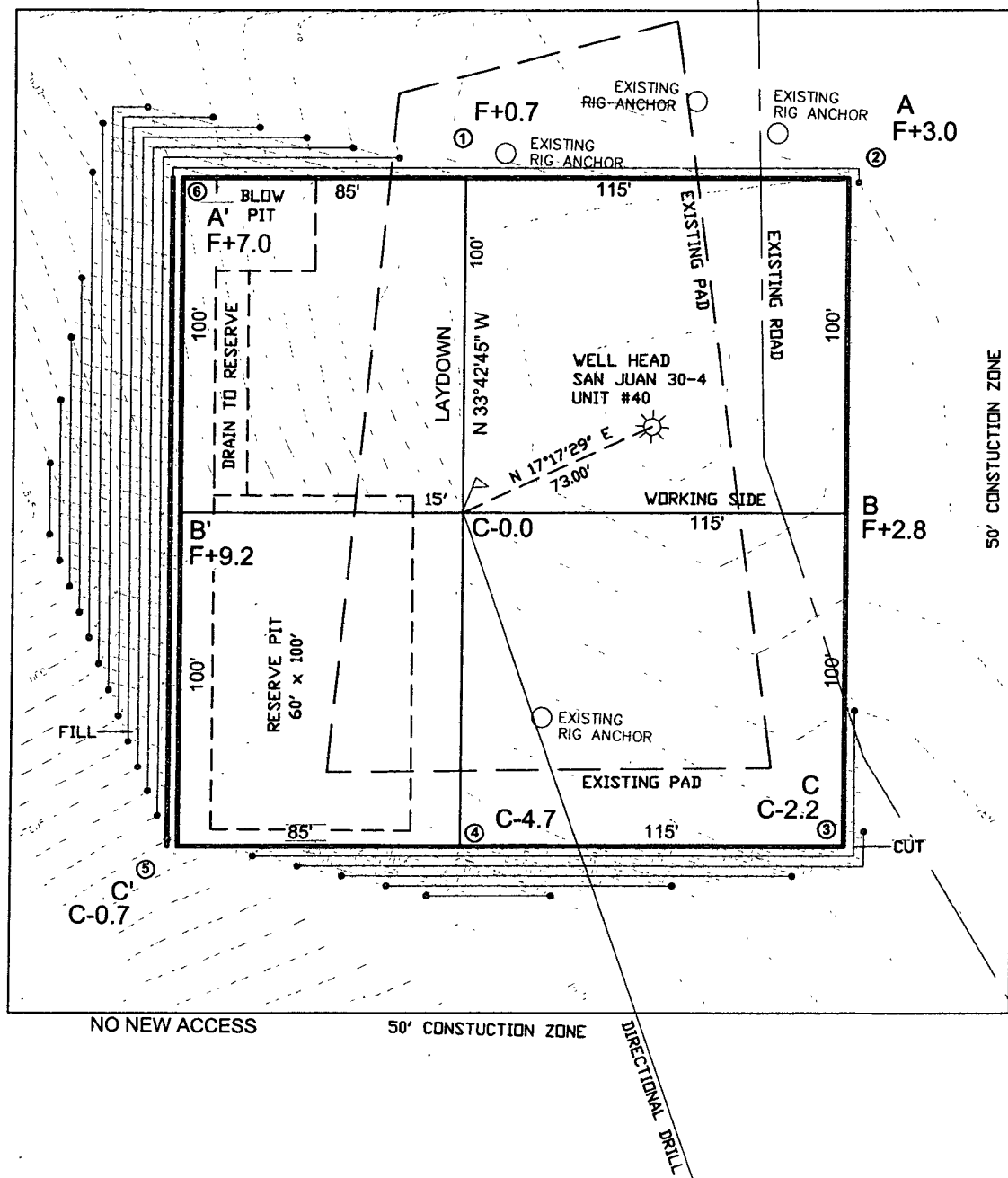
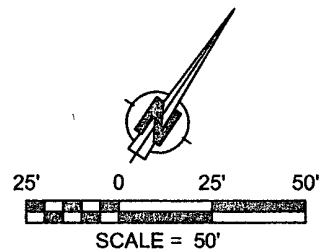
SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	3750.0	0.00	0.00	3750.0	0.0	0.0	0.00	0.00	0.0	
3	4479.6	68.00	126.83	4320.0	-230.5	307.7	9.32	126.83	384.5	
4	4559.7	68.00	126.83	4350.0	-275.0	367.2	0.00	0.00	458.7	
5	5614.3	90.00	126.83	4550.0	-891.8	1190.7	2.09	0.00	1487.6	
6	6862.3	90.00	126.83	4550.0	-1639.9	2189.6	0.00	0.00	2735.6	



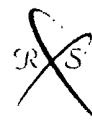
LATITUDE: 36.79649°N
LONGITUDE: 107.25912°W
DATUM: NAD 83

ENERGEN RESOURCES CORPORATION

SAN JUAN 30-4 UNIT #21-1
2400' FSL & 2300' FEL
LOCATED IN THE NW/4 SE/4 OF
SECTION 21, T30N, R4W, N.M.P.M.,
RIO ARriba COUNTY, NEW MEXICO
GROUND ELEVATION: 7609', NAVD 88
FINISHED PAD ELEVATION: 7609', NAVD 88



1 FOOT CONTOUR INTERVAL SHOWN
SCALE: 1" = 50'
JOB No.: ERG121
DATE: 11/22/06; REV1

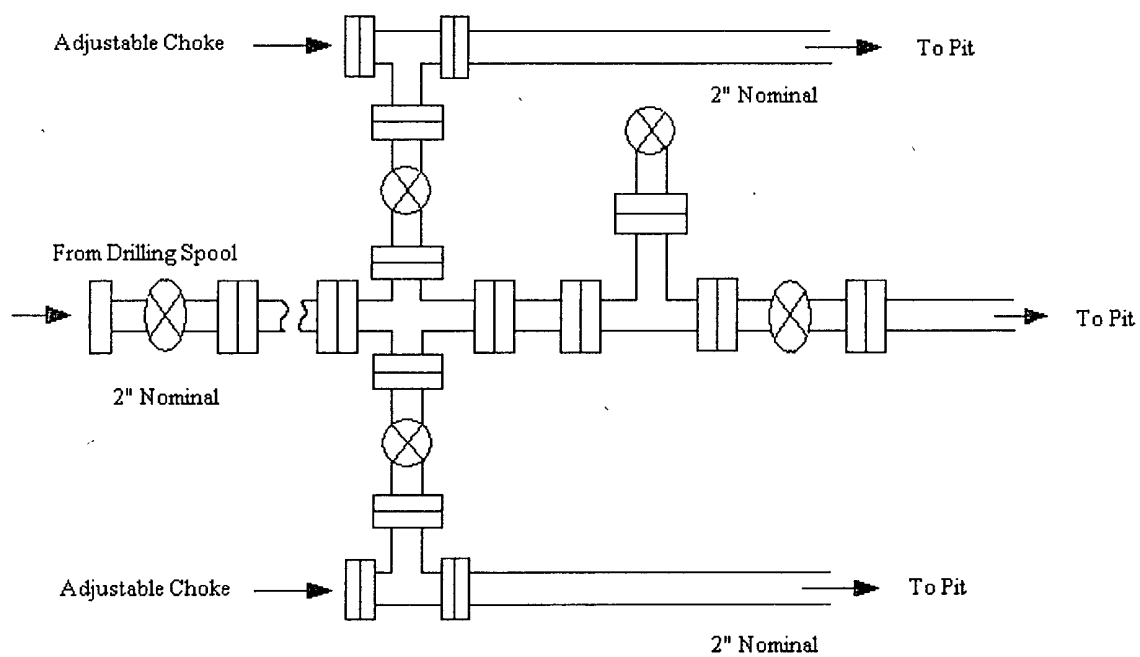


Russell Surveying
1409 W. Aztec Blvd. #5
Aztec, New Mexico 87410
(505) 334-8637

FINISHED PAD ELEVATION: 7609', NAVD 88

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1409 W. Aztec Blvd. #5
Aztec, New Mexico 87410
(505) 334-8637

Energen Resources Corporation
Typical 2000 psi Choke Manifold Configuration



Choke manifold installed from surface to TD

Energen Resources Corporation

Typical BOP Configuration for Gas Drilling

