1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, 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 & Natural Resources

Oil Conservation Divsiion
1220 S. St. Francis Dr.
Santa Fe, NM 87505

Form C-101
May 27, 2004

Submit to appropriate District Office

☐ AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

[1] Operator Name and Address	[2] OGRID Number
Energen Resources Corporation 2010 Afton Place Farmington, New Mexico 87401	162928 [3] API Number 30- 39 - 30546

[4] Property Code	[5] Property Name	[6] Well No.
21996	San Juan 32-5 Unit	115

[9] Proposed Pool 1	[10] Proposed Pool 2
Basin Fruitland Coal	Basin Fruitland Coal

[7] 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	22	32N	6W		120	South	50	East	Rio Arriba

[8] Proposed 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
D	22	32N	6W		660	North	660	West	Rio Arriba

Additional Well Location

[11] Work Type Code	[12] Well Type Code	[13] Cable/Rotary	[14] Lease Type Code	[15] Ground Level Elevation
New Well	Gas	Rotary	Fee ✓	6322'
[16] Multiple	**[17] Proposed Depth**	**[18] Formation**	**[19] Contractor**	**[20] Spud Date**
Yes	3034' TVD	Fruitland Coal		6/20/2008

Depth to ground water	Distance from nearest fresh water well	Distance from nearest surface water
>100	>1000	>200

Pit: Liner: Synthetic [X] 12 mils thick Clay ☐ Pit Volume 2000 bbls Drilling Method:

Closed-Loop System ☐ Fresh Water [X] Brine [X] Diesel/Oil-based ☐ Gas/Air ☐

[21] Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
12 1/4"	9 5/8"	32.3	550' MD	280	0'
8 3/4"	7"	23	5300' MD	894	0'
6 1/4"	4 1/2"	11.6	9795' MD	N/A	N/A
6 1/4"	4 1/2"	11.6	9783' MD	N/A	N/A

[22] Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

See Operations

PIT, CLOSED LOOP SYSTEM, BELOW GRADE TANK, PROPOSED ALTERNATIVE METHOD OR CLOSURE PLAN TO BE DESIGNED, CONSTRUCTED, OPERATED & CLOSED PURSUANT TO NMOCD RULE 19.15.17 EFFECTIVE 06/16/08

RCVD JUN 9 '08
OIL CONS. DIV.
DIST. 3

NOTIFY AZTEC OCD 24 HRS. PRIOR TO CASING & CEMENT

[23] I hereby certify that the information given above is true and complete to the best of my knowledge and belief. **I further certify that the drilling pit will be constructed according to NMOCD guidelines [X] a general permit ☐; or an (attached) alternative OCD-approved plan ☐.**

Signature:

Printed name: Devin Mills

Title: Drilling Engineer

E-mail Address: devin.mills@energen.com

Date: 6/6/2008

Phone: 505-324-4121

OIL CONSERVATION DIVISION

Approved by:

Title: DEPUTY OIL & GAS INSPECTOR, DIST. #3

Approval Date: JUL 02 2008 Expiration Date: JUL 02 2010

Conditions of Approval:

Attached ☐ Hold C104 for Directional Survey and "As Drilled" plat

JUL 02 2008 AV 8

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, 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 & 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
30-039-30546	71629	Basin Fruitland Coal

[4] Property Code	[5] Property Name	[6] Well Number
21996	San Juan 32-5 Unit	#115

[7] OGRID No.	[8] Operator Name	[9] Elevation
162928	Energen Resources Corporation	6322' GL

[10] Surface Location

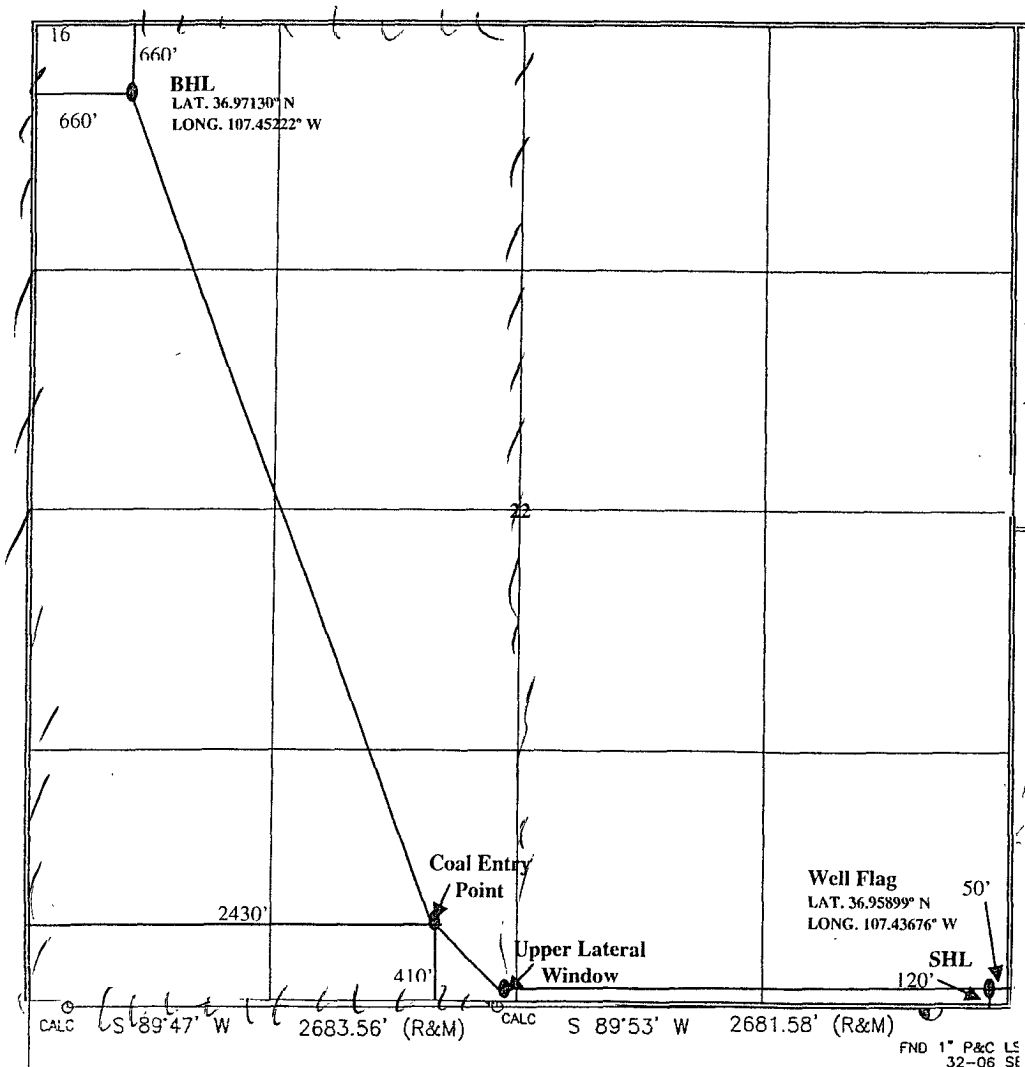
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	22	32N	6W		120	South	50	East	Rio Arriba

[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
D	22	32N	6W		660	North	660	West	San Juan

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
320			

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

DIST. 3

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 a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

OIL CONS. DIV.

RCVD JUL 1 '08

5/13/2008

Signature Date

Devin Mills
Printed Name

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.

AUGUST 6, 2007
Date of Survey

Signature and Seal of Professional Surveyor:

Operations Plan
June 6, 2008

San Juan 32-5 Unit #115

General Information

Location	120' fsl, 50' fel at surface 660' fnl, 660' fwl at bottom sese S22, T32N, R6W Rio Arriba, New Mexico
Elevations	6322' GL
Total Depth	9763' +/- (MD); 3034' +/- (TVD)
Formation Objective	Basin Fruitland Coal

Formation Tops

San Jose	Surface
Nacimiento	1087' (TVD), 1094' (MD)
Ojo Alamo Ss	2264' (TVD), 3053' (MD)
Kirtland Sh	2367' (TVD), 3287' (MD)
Fruitland Fm	2774' (TVD), 4279' (MD)
Target Coal Top (1)	**2954' (TVD), 5022' (MD)**
Target Coal Base (1)	**2978' (TVD), 9783' (MD)**
Target Coal Top (2)	**3027' (TVD), 5267' (MD)**
Target Coal Base (2)	**3034' (TVD), 9763' (MD)**
Total Depth	**3034' (TVD), 9763' (MD)**

Drilling

The 12 ¼" wellbore will be drilled with a fresh water mud system.
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 8.3 ppg to 11 ppg. Kick off point is anticipated to be at 650 ft (TVD) with a build up rate of 3.98°/100 ft. This wellbore will be landed in the bottom coal at ± 3027' (TVD), 5267' (MD)
The lower lateral will be 6 ¼" and drilled out the bottom of the 7" intermediate it will follow the lower coal seam.
A whipstock will be set 30 vertical feet above the top of the upper coal bearing zone in the western half of Sec. 22. A 6 ¼" window will be milled and a curve built and landed at 90 degrees in the middle portion of the target coal zone. The window will be milled with a top mill that is undergauge and the remilled with a full size mill in order to minimize the open hole section before directional tools are run preferably no longer than 10'. Directional control needs to be established as soon at possible to avoid the 7" casing. The upper coal seam will be followed.
The 6 ¼" wellbores will be drilled with a fresh water system or $CaCl_2$ brine as wellbore and formation pressures dictate.

Blowout Control Specifications:

A 2000 psi minimum double ram or annulus BOP stack (figure 1) will be used following nipple up of casing head. 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: Gamma Ray MWD and mud logs.
Coring: None
Surveys: Surface, 500 TVD, and KOP of 650 TVD'. Every 250' while directional drilling to TD.

Tubulars

Casing, Tubing, & Casing Equipment:

String	Interval	Wellbore	Casing	Csg Wt	Grade
Surface	0'-550'	12 ¼"	9 5/8"	32.3 ppf	H-40 ST&C
Intermediate	550'-5300' (MD)				
	3027' (TVD)	8 ¾"	7"	23.0 ppf	J-55 LT&C
Production	5270'-9795' (MD)	6 ¼"	4 ½"	11.6 ppf	J-55 LT&C
	3034' (TVD)				
	5276'-9783' (MD)	6 ¼"	4 ½"	11.6 ppf	J-55 LT&C
	2978' (TVD)				
Tubing	0'- 5053' (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 centralizers to optimize standoff. Two turbolating centralizers at the base of the Ojo Alamo and a two joint shoe track are recommended.

Production Liners: Bull nose guide shoe on the bottom of the first joint. Perforated liner to be run in both producing intervals. The upper lateral liner will be hung off the 7" casing.

Wellhead

3000 psi 11" x 9 5/8" casing head. 9 5/8" x 7" x 2 3/8" 5000psi Flanged wellhead.

Cementing

Surface Casing: 280 sks Std (class B) with 2.0 % $CaCl_2$ and ¼ #/sk Flocele (15.6 ppg, 1.18 ft^3/sk 331 ft^3 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 ½ hole volumes of mud and reduce funnel viscosity to minimum to aide in hole cleanout. Depending on wellbore conditions, cement may consist of 657 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 237 sks of Type V cement with 5.0 #/sk Gilsonite, and ¼ #/sk Flocele (15.4ppg, 1.18 ft^3/sk). (1548 ft^3 of slurry, 100 % excess to circulate to surface).

Production: Open Hole Completions – NO CEMENT

Other Information

1) This well will be an open hole completion
2) If lost circulation is encountered, sufficient LCM will be added to the mud system to maintain well control. The production 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 for the region are anticipated.
BHP can be as high as 1700 psi.
5) This gas is dedicated.

Project: San Juan 32-5 Unit
Site: Sec. 22 ; T 32N R 6W
Well: San Juan Unit #115
Wellbore: Motherbore
Plan: Design #1 (San Juan Unit #115/Motherbore)

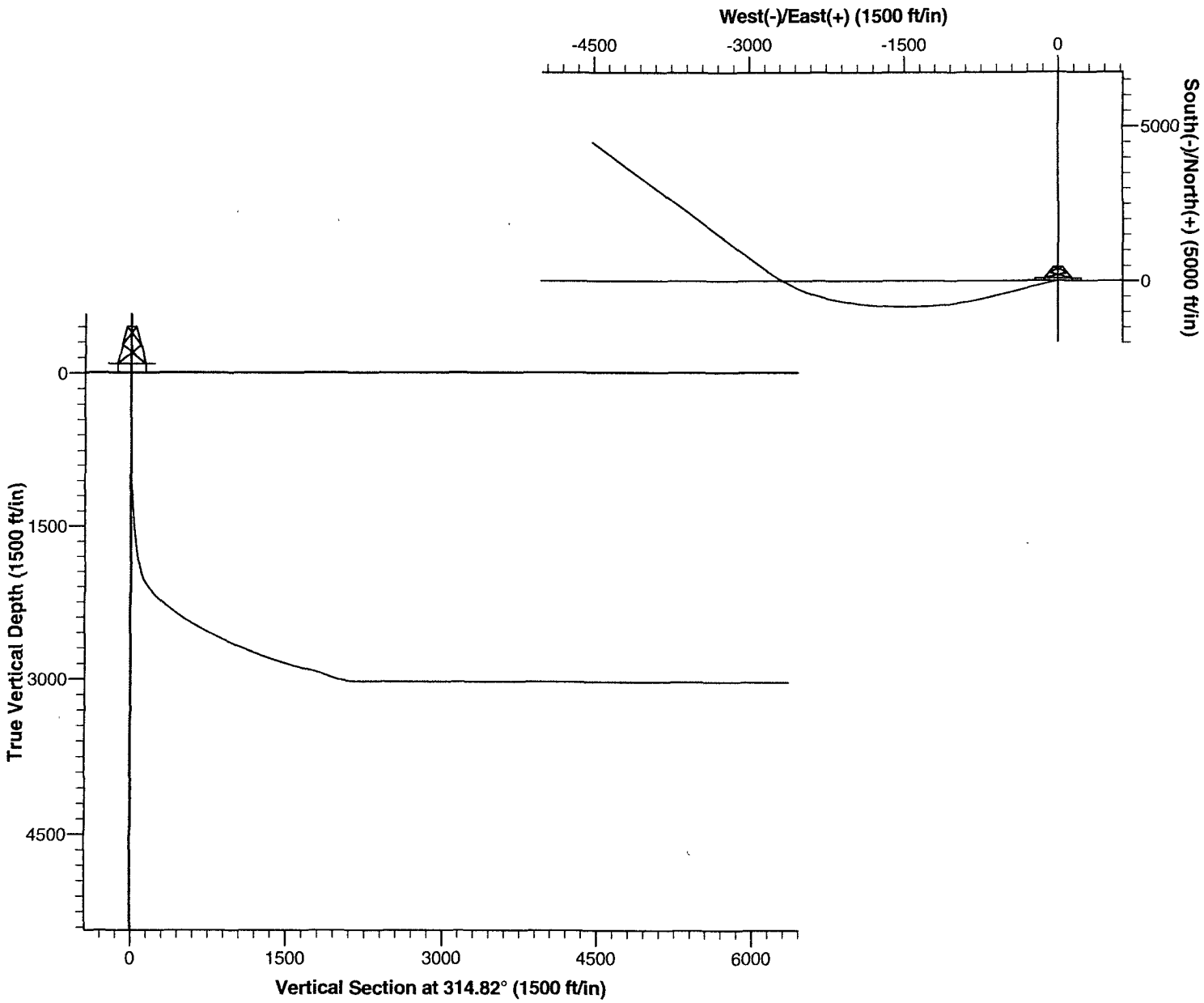
PROJECT DETAILS: San Juan 32-5 Unit	
Geodetic System:	US State Plane 1983
Datum:	North American Datum 1983
Ellipsoid:	GRS 1980
Zone:	New Mexico Central Zone
System Datum:	Mean Sea Level

Azimuths to True North
Magnetic North: 10.15°

Magnetic Field
Strength: 51236.0snT
Dip Angle: 63.80°
Date: 5/12/2008
Model: IGRF200510

SECTION DETAILS

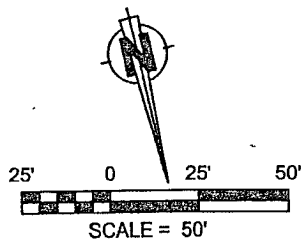
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	650.0	0.00	0.00	650.0	0.0	0.0	0.00	0.00	0.0	
3	2386.7	69.11	231.51	1995.1	-576.6	-725.1	3.98	231.51	107.9	
4	4805.5	77.15	333.43	2925.0	-110.0	-2600.0	3.98	106.34	1766.7	UL Window 115
5	4940.6	68.18	330.10	2965.2	3.6	-2660.9	7.04	-160.93	1890.0	
6	5267.2	89.91	337.80	3027.0	290.0	-2800.0	7.04	20.07	2190.5	LL Top Target 115
7	9795.4	89.91	337.80	3034.0	4482.6	-4510.9	0.00	0.00	6359.4	LL Bottom Target 115

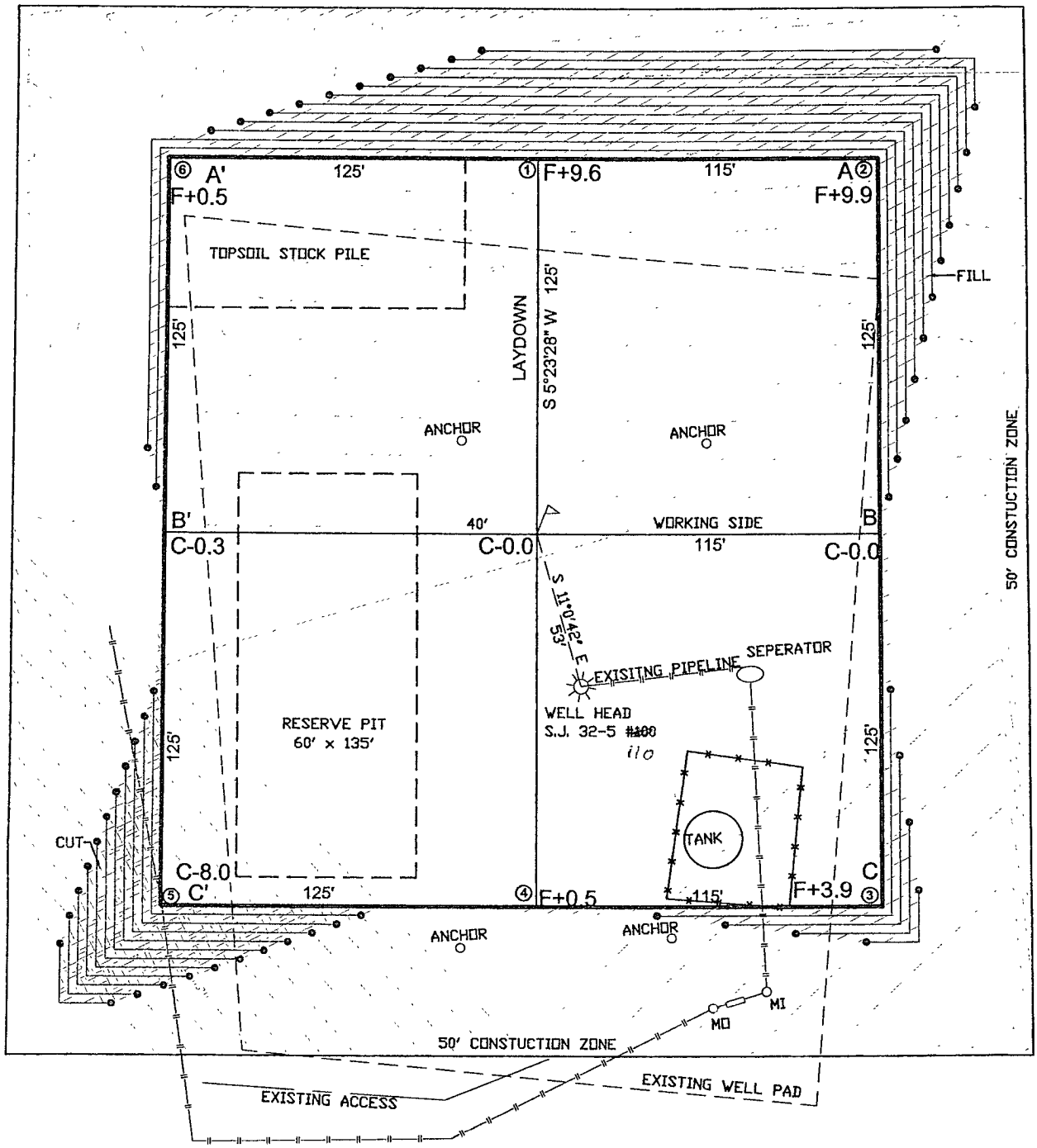


LATITUDE: 36.95899°N
LONGITUDE: 107.43678°W
DATUM: NAD 83

ENERGEN RESOURCES CORPORATION

32-5 UNIT #115
120' FSL & 50' FEL
LOCATED IN THE SE/4 SE/4 OF SECTION 22,
T32N, R6W, N.M.P.M.,
RIO ARRIBA, NEW MEXICO
GROUND ELEVATION: 6322', NAVD 88
FINISHED PAD ELEVATION: 6321.9', NAVD 88



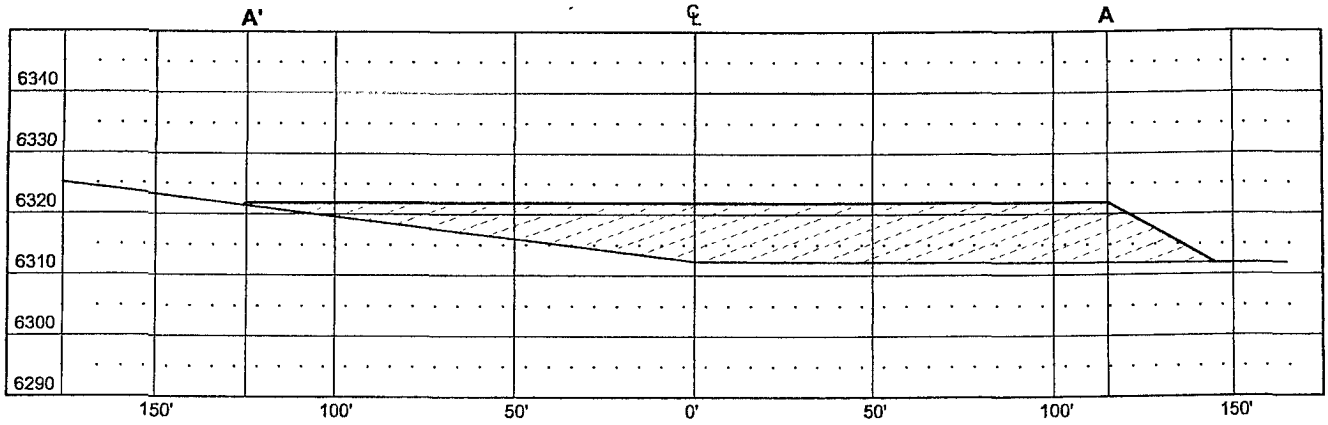


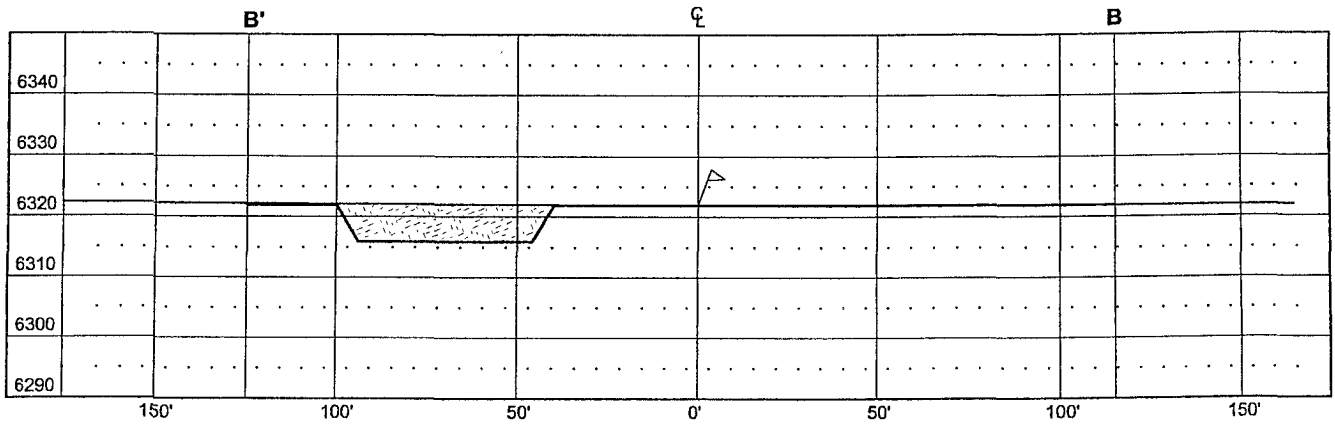
1 FOOT CONTOUR INTERVAL SHOWN
SCALE: 1" = 50'
JOB No.: ERG181
DATE: 08/20/07

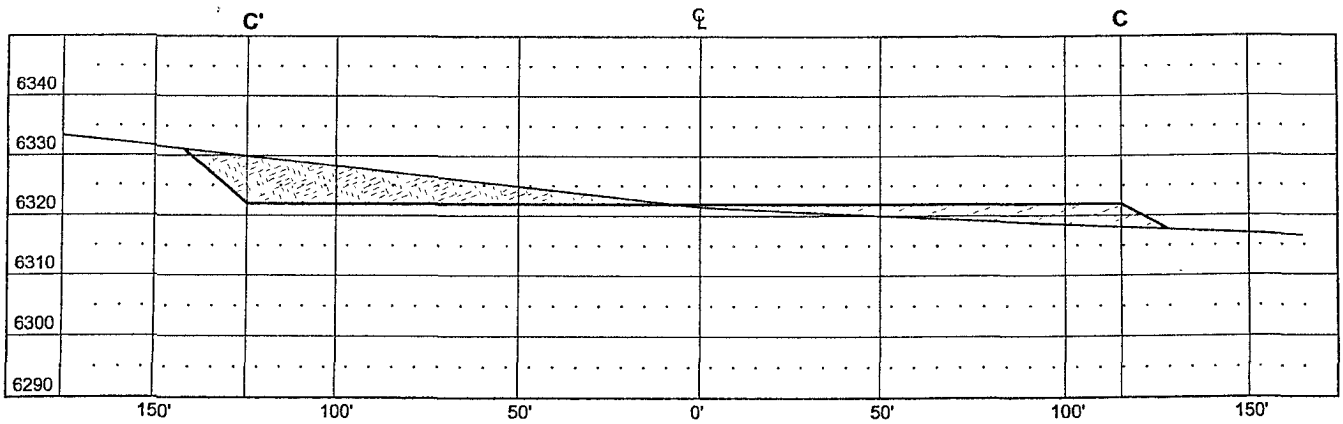
Russell Surveying
1409 W. Aztec Blvd. #2
Aztec, New Mexico 87410
(505) 334-8637

ENERGEN RESOURCES CORPORATION

32-5 UNIT #115
120' FSL & 50' FEL
LOCATED IN THE SE/4 SE/4 OF SECTION 22,
T32N, R6W, N.M.P.M.,
RIO ARRIBA, NEW MEXICO
GROUND ELEVATION: 6322', NAVD 88
FINISHED PAD ELEVATION: 6321.9', NAVD 88







VERT. SCALE: 1" = 30'
HORZ. SCALE: 1" = 50'
JOB No.: ERG181
DATE: 08/20/07

CUT
FILL

Russell Surveying
1409 W. Aztec Blvd. #2
Aztec, New Mexico 87410
(505) 334-8637

ENERGEN
RESOURCES

Geologic Prognosis

Company:	Energen Resources
Project:	2008 Drilling Plan
Area:	32-5 Unit
Operator:	Energen Resources
Well Name:	San Juan 32-5 Unit #115
Surface Location:	T32N R6W Sec 22
Footage (SHL):	120' FSL 120' FEL
Footage (BHL):	760' FNL 760' FWL
County/State:	Rio Arriba/ New Mexico
Surveyed GL:	6,322
KB (est):	6,337

Formation	***Thickness(ft.)***	***Depth(TVD ft.)***	***Structural Elev. (ft.)***
San Jose		surface	6,322
Nacimiento	1,177	1,087	5,250
Ojo Alamo SS	103	2,264	4,073
Kirtland Sh	407	2,367	3,970
Fruitland Fm	280	2,774	3,563
Top Target Coal (Upper Lateral)	24	2,954	3,383
Base Target Coal (Upper Lateral)		2,978	3,359
Top Target Coal (Lower Lateral)	7	3,027	3,310
Base Target Coal (Lower Lateral)		3,034	3,303
Pictured Cliffs		NDE	NDE

New Mexico Energy, Minerals and Natural Resources Department

Bill Richardson
Governor

Joanna Prukop
Cabinet Secretary
Reese Fullerton
Deputy Cabinet Secretary

Mark Fesmire
Division Director
Oil Conservation Division

May 28, 2008

Energen Resources Corporation
Attn: Mr. David M. Poage
2010 Afton Place
Farmington, NM 87401

Administrative Order NSL-5828

Re: San Juan 32-5 Well No. 115
API No. 30-0
Unit P, Section 22-32N-6W
Rio Arriba County

Dear Mr. Poage:

Reference is made to the following:

(a) your application **(administrative application reference No. pKVR08-10252740)** submitted to the New Mexico Oil Conservation Division (the Division) in Santa Fe, New Mexico on April 11, 2008, and

(b) the Division's records pertinent to this request.

Energen Resources Corporation (Energen) has requested to drill the above-referenced well as a horizontal well in the Fruitland Coal formation, at a location that will be unorthodox under Division Rule 111. The proposed surface location, point of penetration and terminus of the well are as follows:

Surface Location:	120 feet from the South line and 50 feet from the East line (Unit P) of Section 22, Township 32 North, Range 6 West, NMPM Rio Arriba County, New Mexico
Point of Penetration:	50 feet from the South line and 2630 feet from the West line (Unit N) of said Section 22, Rio Arriba County.
Terminus	660 feet from the North line and 660 feet from the West line (Unit D) of said Section 22, San Juan County.

The W/2 of Section 22 will be dedicated to the proposed well to form a standard 320-acre spacing unit and project area in the Basin-Fruitland Gas Pool (71629). This location is governed by Rule 7.A(1) of the Special Rules and Regulations for the Basin-Fruitland Coal Gas Pool, as amended by Order No. R-8768-F, effective July 17, 2003, which provides generally that a well shall be located at least 660 feet from any unit boundary. This location is unorthodox because portions of the producing interval will be less than 660 feet from the eastern and southern boundaries of the project area, and therefore outside the producing area.

Your application has been duly filed under the provisions of Division Rules 104.F and 1210.A(2).

It is our understanding that you are seeking this location for geologic reasons, in order to maximize the amount of the target formation in the project area penetrated by the horizontal portion of the wellbore.

It is also understood no notice of this application to offsetting operators or owners is required because Enregen is 100% owner of the working interest in the offsetting units.

Pursuant to the authority conferred by Division Rule 104.F(2), the above-described unorthodox location is hereby approved.

This approval is subject to your being in compliance with all other applicable Division rules, including, but not limited to Division Rule 40.

Jurisdiction of this case is retained for the entry of such further orders as the Division may deem necessary.

Sincerely,

Mark E. Fesmire, P.E.
Director

MEF/db

cc: New Mexico Oil Conservation Division - Aztec
United States Bureau of Land Management - Farmington