

RCVD OCT 26 '07

OIL CONS. DIV.

DIST. 3

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OCT 3 2007

Form 3160-3  
(April 2004)UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED

OMB No 1004-0137

Expires March 31, 2007

## APPLICATION FOR PERMIT TO DRILL OR REENTER

5 Lease Designation and Serial No

NM-014375

6. If Indian, Allottee or Tribe Name

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

8. Lease Name and Well No.

Beck 29-12-10 #108

9. API Well No

30-045-34452

10. Field and Pool, or Exploratory

Basin Fruitland Coal/Fulcher Kutz PC

11. Sec., T, R, M, or Blk. and Survey or Area

N Sec. 8, T-29-N, R-12-W  
10

12. County or Parish,

San Juan

13 State

New Mexico

17. Spacing Unit dedicated to this well

FC: 321.42-acres (S/2)

PC: 161.42-acres (SW/4)

20. BLM/BIA Bond No. on file

NM-2559

23. Estimated duration

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

2. A Drilling Plan

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.

4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).

5. Operator certification.

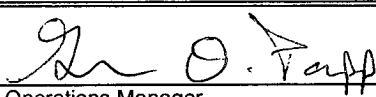
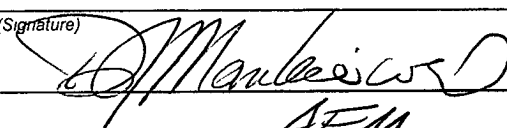
6. Such other site specific information and/or plans as may be required by the authorized officer

Size of Hole	Grade, Size of Casing	Weight per Foot	Setting Depth	Quantity of Cement
12-1/4"	8-5/8" J-55	24 #	205'	160-sxs, 189 ft3 - 100% Excess
7-7/8"	5-1/2" J-55	15.5#	1850'	280-sxs, 504 ft3 - 100% OH Excess

## SEE ATTACHED APD INFORMATION

Latitude: 36.73710-Deg North

Longitude: 108.09030-Deg West

25 Signature 	Name (Printed/Typed) Glen O. Papp	Date 9-28-07
Title Operations Manager		
Approved by (Signature) 	Name (Printed/Typed) AFM	Date 10/25/07
Title AFM	Office FEO	

Application approval does not warrant or certify 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 any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

\*(In:

Obtain a pit permit from NMOCD  
prior to constructing locationDRILL  
SUB.  
"GEN

NMOCD

OCT 30 2007

NOTIFY AZTEC OCD 24 HRS.  
PRIOR TO CASING & CEMENT

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

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

State of New Mexico  
Energy, Minerals & Natural Resources Department.

Form C-102  
Revised October 12, 2005

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

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

es Department

**RECEIVED**

Submit to

VISION- 1967

OCT 3 2007

Dr. OCT 3 1961  
Bureau of Land Management  
Birmingham Field Office  
RECREATION PLANT

State Lease - 4 Copies  
Fee Lease - 3 Copies

☐ AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number 30045-34452	<sup>2</sup> Pool Code 71629/71200	<sup>3</sup> Pool Name BASIN FRUITLAND COAL/ FULCHER KUTZ PICTURED CLIFFS
<sup>4</sup> Property Code 36804	<sup>5</sup> Property Name BECK 29-12-10	<sup>6</sup> Well Number 108
<sup>7</sup> GRID No. 163458	<sup>8</sup> Operator Name SYNERGY OPERATING, L.L.C.	<sup>9</sup> Elevation 5603'

<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	10	29N	12W	8	1165'	SOUTH	1510'	WEST	SAN JUAN

<sup>11</sup> 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
<sup>12</sup> Dedicated Acres FC: 321.45 AC. - (S/2) PC: 161.42 AC. - (SW/4)			<sup>13</sup> Joint or Infill		<sup>14</sup> Consolidation Code		<sup>15</sup> Order No.		

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

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 207-PA 87-07 Date

Signature GLEN O. PAPP  
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.

JULY 25, 2007

Date of Survey

Signature and Seal of Professional Surveyor:

Signature and Seal of Professional Surveyor:  




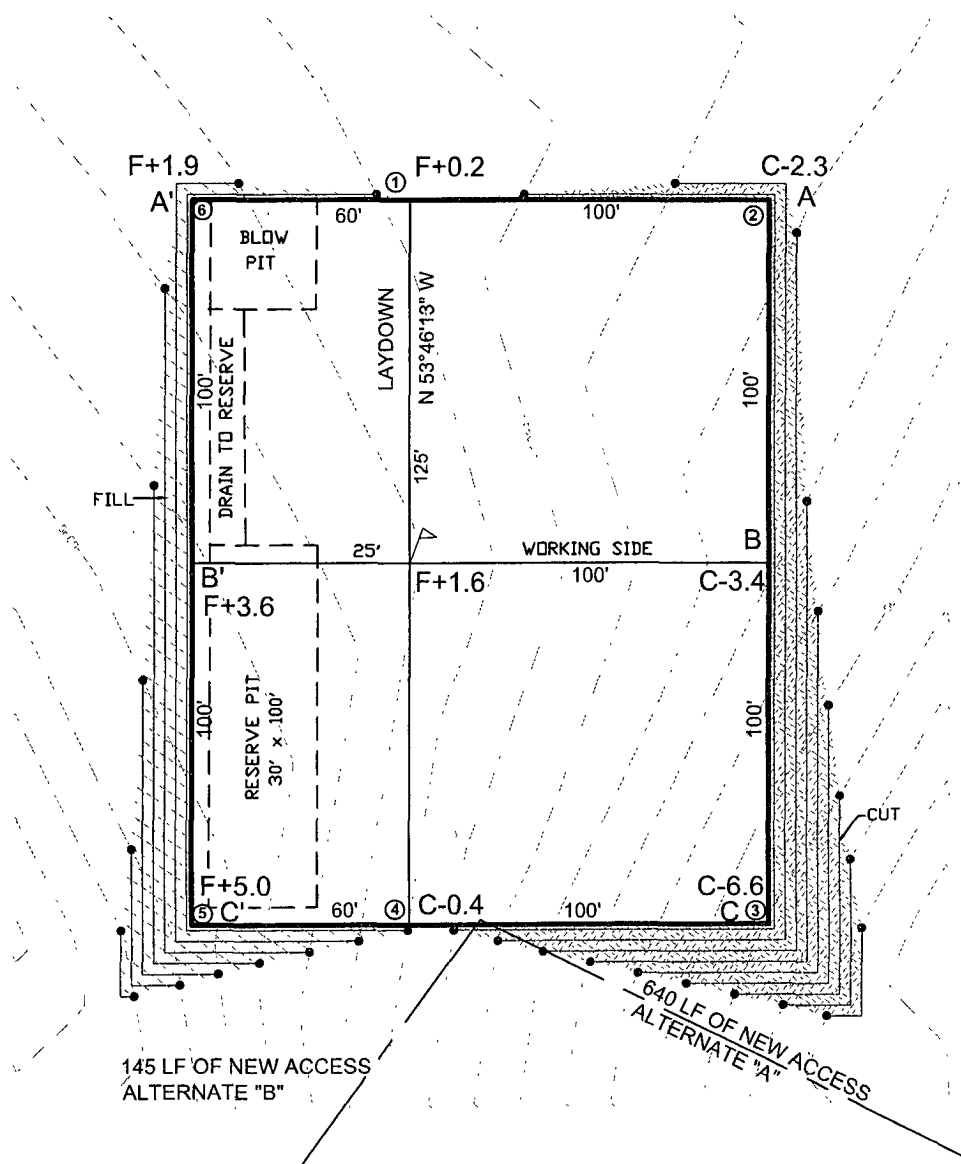
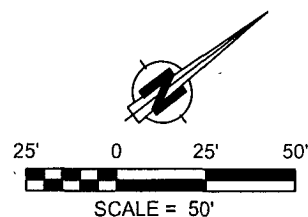
DAVID RUSSELL

**Certificate Number**

10201

LATITUDE: 36.73710°N  
LONGITUDE: 108.09030°W  
DATUM: NAD 83

**SYNERGY OPERATING, L.L.C.**  
BECK 29-12-10 #108  
1165' FSL & 1510' FWL  
LOCATED IN THE SE/4 SW/4 OF SECTION 10,  
T29N, R12W, N.M.P.M.,  
SAN JUAN COUNTY, NEW MEXICO  
GROUND ELEVATION: 5603', NAVD 88  
FINISHED PAD ELEVATION: 5604.4', NAVD88



1 FOOT CONTOUR INTERVAL SHOWN  
SCALE: 1" = 50'  
JOB No.: SYN066  
DATE: 08/06/07



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

# SYNERGY OPERATING, L.L.C.

BECK 29-12-10 #108

1165' FSL & 1510' FWL

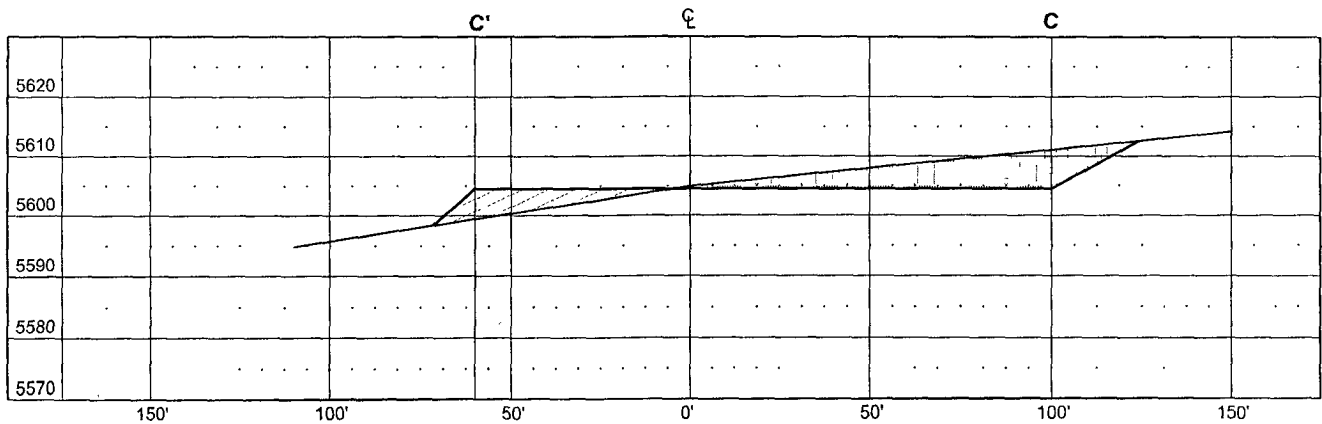
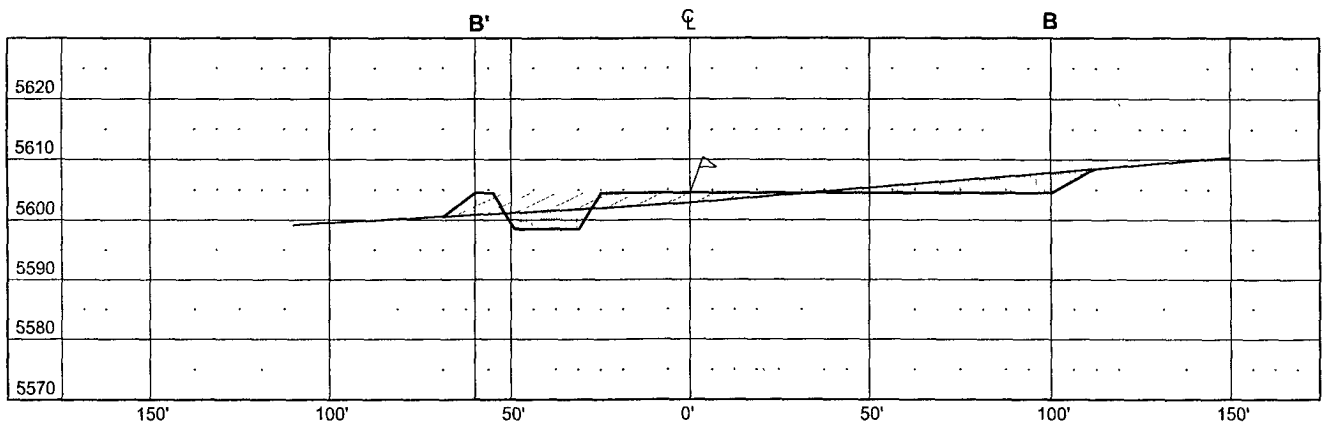
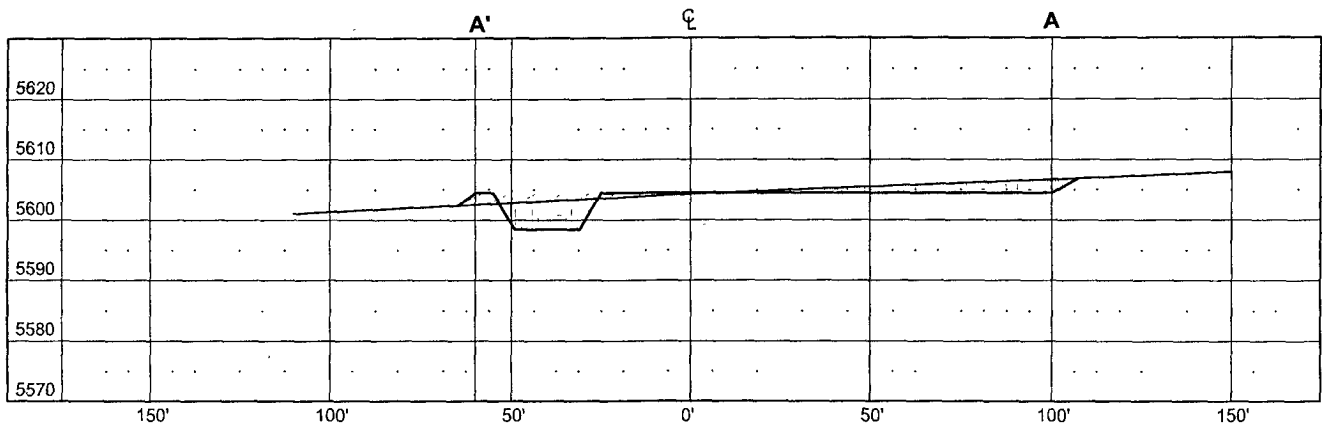
LOCATED IN THE SE/4 SW/4 OF SECTION 10,

T29N, R12W, N.M.P.M.,

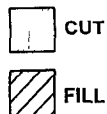
SAN JUAN COUNTY, NEW MEXICO

GROUND ELEVATION: 5603', NAVD 88

FINISHED PAD ELEVATION: 5604.4', NAVD88



VERT. SCALE: 1" = 30'  
HORZ. SCALE: 1" = 50'  
JOB No.: SYN066  
DATE: 07/25/07



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

# Synergy Operating LLC

## Drilling Plan

(As per 43 CFR Part 3160, Onshore Oil & Gas Order No.1)

**Well Name:** Beck 29-12-10 #108

**Location:** Unit N, 1165' FSL, 1510' FWL, Sec. 10, T-29-N, R-12-W, San Juan Co. NM  
Latitude 36.73710° N, Longitude 108.09030° W

**Field:** Basin Fruitland Coal / Fulcher Kutz Pictured Cliffs

**Elevation:** 5603' GL

### A, B) GEOLOGIC DATA

<b>Formations:</b>	<b>Tops/Depth</b>	<b>Fluids</b>
Base of Ojo Alamo	413'	None
Fruitland	1245'	None
Fruitland Sand	1495'	Natural gas & produced water
Lower Fruitland Coal	1630'	Natural gas & produced water
Pictured Cliffs	1665'	Natural gas & produced water
TOTAL Depth	1850'	

### C) OPERATOR'S MINIMUM SPECIFICATIONS FOR BOPE

#### **Pressure Control / Blow Out Preventers (BOP's):**

All BOP systems will be in accordance with MMS Onshore Oil & gas Order No 2. Until the drilling contract has been let, the exact make, model and pressure rating of BOP's is unknown. A typical double gate BOP with a rotating head is shown in the attached Exhibit #1. A typical Choke & Kill manifold is also shown in the attached Exhibit #1.

An upper kelly cock valve with handle and drill string safety valves for each size of drill pipe will be available on the rig floor.

#### **BOP Testing:**

205' (Surface Csg Shoe) – TD: An 11" 2000# or 3000# double gate BOP Stack & choke manifold will be utilized. All BOP systems will be tested in accordance with MMS Onshore Oil & gas Order No 2. A test plug will be used to test the BOPE, and the resultant pressures will be recorded using a test pump, calibrated test gauges and a calibrated chart recorder. A low pressure test of 250 PSIG will be held for 10-minutes, and a high pressure test will be tested to 1000 PSIG for 10-minutes. Prior to drilling out the surface casing, the 8-5/8" 24# surface casing will be tested to 1000 PSIG for 30-minutes.

Pipe rams will be hydraulically actuated at least once a day. The blind rams will be function tested on each pipe trip. All ram function testing and BOP pressure testing will be recorded on the daily IADC drilling logs.

## **D) OPERATOR'S PROPOSED CASING PROGRAM**

### **Casing & Tubing Program:**

All casing shall be new and constructed to API standards.

Hole Size	OD	Weight	Grade	GL Set Depth	Clearance Hole/Collar
12-1/4"	8.625"	24#/ft	J-55	0' – 205'	1.3125"
7-7/8"	5.500"	15.5#/ft	J-55	0' – TD(1850'+/-)	0.9125"
2-3/8"	2.375"	4.7#/ft	J-55	Unknown	

### **Float Equipment & Centralizers:**

**8-5/8" Surface Casing:** Cement Guide Shoe, 1-Jt 8-5/8" casing as shoe joint and 8-5/8" casing to surface. Centralizers will be on the bottom three joints, the bottom most centralizer will be run 10' above the shoe, secured with a stop ring. The other two centralizers will be secured around the collars. Surface casing will be run to a minimum depth of 205' to ensure protection of surface waters.

**5-1/2" Production Casing:** A cement nose guide shoe, 1-Jt 5-1/2" casing as shoe joint, float collar w/ auto-fill, and 5-1/2" casing to surface. A turbolizer will be run 10' above the shoe, secured with a stop ring, and two centralizers will be applied around the collars of the bottom most casing joints. Additional centralizers will be deployed every sixth joint from the third most bottom joint to surface.

## **E) CEMENTING PROGRAM**

**8-5/8" Surface Casing:** Pump 160-sxs (180-ft<sup>3</sup>) Type V Cement w/ 3% CaCl<sub>2</sub> + 1/4-#/sx Celloflake. Yield = 1.18 ft<sup>3</sup>/sx, Slurry Weight = 15.6 PPG. Cement volume is 100% of annular excess to ensure circulation to surface. Wait on Cement (WOC) for 8-Hours. Pressure test surface casing to 1000# for 30-Minutes.

### **5-1/2" Production Casing:**

**Lead Slurry:** Pump 180-sxs (371-ft<sup>3</sup>) Type V Cement w/ 2% Sodium Metasilicate + 1/4-#/sx Celloflake + 3-#/sx Pheno-Seal. Yield = 2.06 ft<sup>3</sup>/sx, Slurry Weight = 12.5 PPG.

**Tail Slurry:** Pump 100-sxs (133-ft<sup>3</sup>) Type V Cement w/ 2% CaCl<sub>2</sub> + 1/4-#/sx Celloflake + 2-#/sx Pheno-Seal. Yield = 1.33 ft<sup>3</sup>/sx, Slurry Weight = 15.6 PPG.

Total slurry volume is 504-ft<sup>3</sup>.

The projected annular open hole volume from 1850' to surface casing set depth is: 285-ft<sup>3</sup>, the annular volume from surface casing set depth-to-the surface is: 39.5-ft<sup>3</sup>. Cement volume is 100% excess of annular openhole volume for the lead cement slurry, to ensure circulation to surface. The job is designed to circulate the cement to surface.

## **F) CHARACTERISTICS OF THE PROPOSED CIRCLATING MEDIUM**

**Mud Program:** A freshwater based mud system will be utilized. Water sourced from commercial suppliers.

<u>Depth</u>	<u>Type</u>	<u>Viscosity</u>	<u>PPG</u>
0-205'	Spud	40-50	8.4-8.9
205'-TD	Low Solids, Non-dispersed	30-60	8.4-9.5*

\* Barite will be used as a weighting material if needed

## **G) TESTING, LOGGING, AND CORING PROCEDURES**

### **Logging Program:**

- A) Open Hole: GR + Density + Neutron: TD to Surface Csg Shoe
- B) Cased Hole: GR-CCL

### **Mudlogs, Cores, DST's:**

No mudlogs, coring or drill-stem testing (DST's) are scheduled.

## **H) ANTICIPATED DOWNHOLE CONDITIONS**

It is not anticipated that any abnormal temperatures, abnormal pressures or hydrogen sulfide gas will be encountered. The maximum anticipated formation pressures are expected to be less than 1000-PSIG.

## **I) OTHER FACETS OF THE PROPOSED OPERATION**

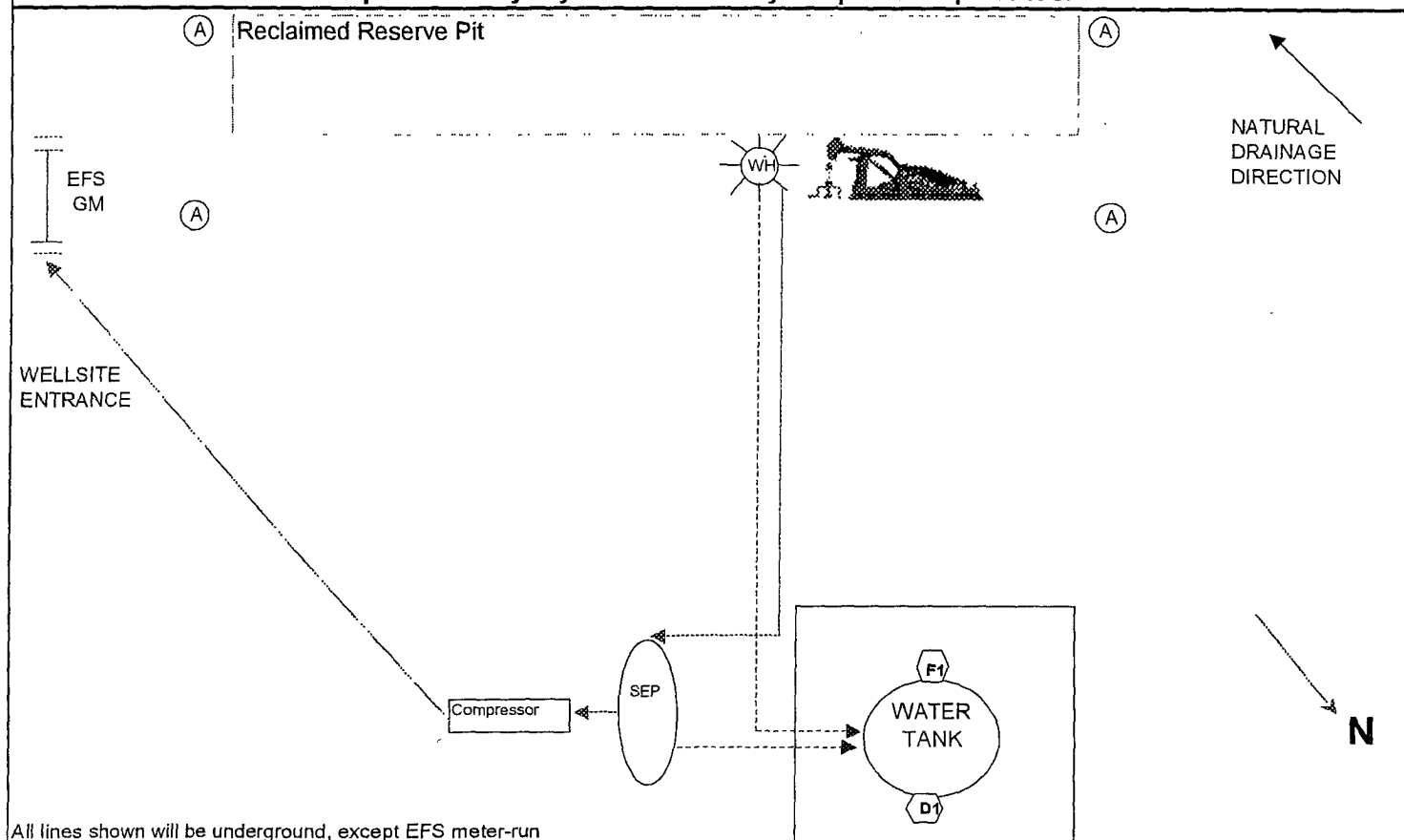
**Drilling Contractor:** A local rotary drilling company is yet to be determined.

**Estimated Drilling Time:** Spud date will occur after the APD has been approved, the location built and a drilling contractor selected and scheduled. Once drilling operations commence, it is anticipated that the drilling phase should be completed within four (4) to five (5) days.

**Estimated Completion Time:** Rig completion activities are estimated to take approximately five (5) days. Surface facilities anticipated will include a rod pumping unit, separator, one four-hundred (400) bbl water production tank and a well-site compressor with noise abating sound walls. No oil production is anticipated from this well.

**Reserve Pit Construction/Closure:** The attached plat depicts the planned reserve pit and the proposed dimensions. The pit will be lined with an approved lining material, a minimum of a 12 mils in thickness. The pit will be constructed and closed per the November 1, 2004 NMOCD pit guideline information. A form C-144 will be prepared and submitted for the reserve pit in conjunction with this APD submittal.

**Wellhead Equipment:** A 8-5/8" x 5-1/2" 2000# bradenhead will be screwed on to the top joint of the 8-5/8" surface casing.

Lease Name: **Beck 29-12-10 #108**Company: **Synergy Operating**Date: **09/28/07****Proposed Facility Layout if successfully completed for production**Lease Name: **Beck 29-12-10 #108**Federal / Indian / State / Fee No: **NM-014375**API No: **30-045-XXXXX**

C / A No: \_\_\_\_\_

Unit Letter: **N** Well Footages: **1165' FSL** **1510' FWL**Legal Description (SEC, TNSHP, RNg): **SEC. 10, T29N, R12W**Latitude: **36.73710-Deg North** Longitude: **108.09030-Deg West**County, ST.: **San Juan Co., NM**Producing Zone(s): **Basin Fruitland Coal**

Water Line

Gas Line



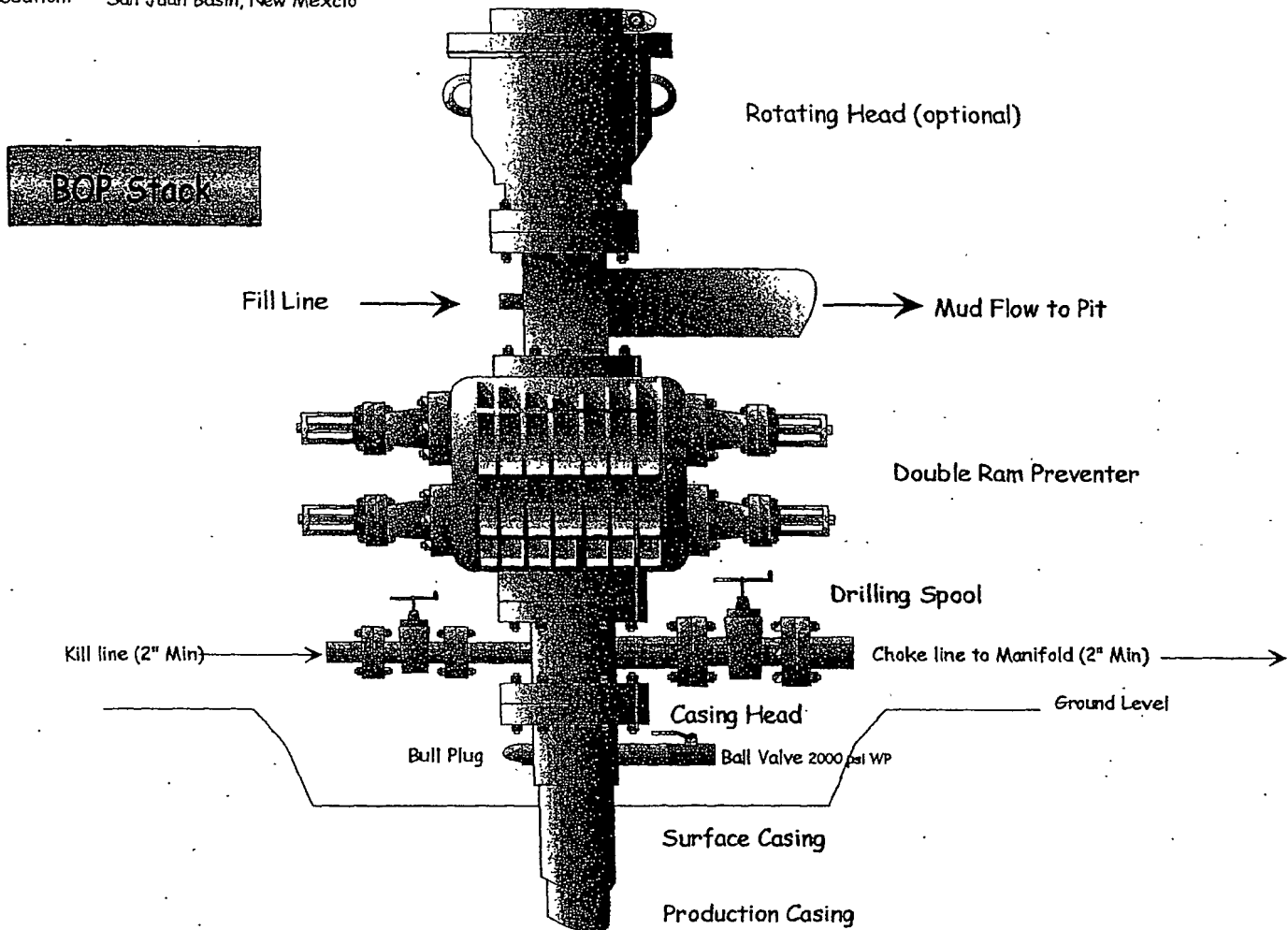
# Exhibit #1

## Well Control Equipment Schematic for 2M Service

Attachment to Drilling Technical Program

### Typical BOP setup

Location: San Juan Basin, New Mexico



### Choke & Kill Manifold

