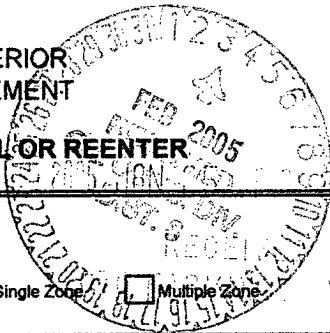


UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT



FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Designation and Serial No.

NMNH 013885

6. If Indian, Allottee or Tribe Name

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

8. Lease Name and Well No.

Crawford 29-12-24 # 103

9. API Well No.

3004532845

10. Field and Pool, or Exploratory
Basin Fruitland Coal

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

A Sec 24, T-29-N, R-12-W

12. County or Parish,

San Juan

13. State

New Mexico

17. Spacing Unit dedicated to this well

314.42 Acres - East Half

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" K-55	24 #	350'	213 sxs, 302 ft3 - 100% Excess
7-7/8"	5-1/2" K-55	15.5#	1800'	299 sxs, 565 ft3 - 100% OH Excess

SEE ATTACHED APD INFORMATION

Latitude: 36 Deg, 42 Min, 58.8 Sec N
Longitude: 108 Deg, 02 Min, 42.1 Sec W

25. Signature

Name(Printed/Typed)

Thomas E. Mullins

Date

1-25-05

Title Engineering Manager

Approved by (Signature)

Name(Printed/Typed)

Office

Date

2-1-05

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 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 reverse)

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

NMOCD

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

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

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

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

DISTRICT IV
1220 South 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 June 10, 2003

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-32845	² Pool Code	³ Pool Name BASIN FRUITLAND COAL
⁴ Property Code 34618	⁵ Property Name CRAWFORD 29-12-24	⁶ Well Number 103
⁷ GRID No. 163458	⁸ Operator Name SYNERGY OPERATING LLC	⁹ Elevation 5685

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
A	24	29-N	12-W	1	890	NORTH	975	EAST	SAN JUAN

¹¹ Bottom Hole Location If Different From Surface

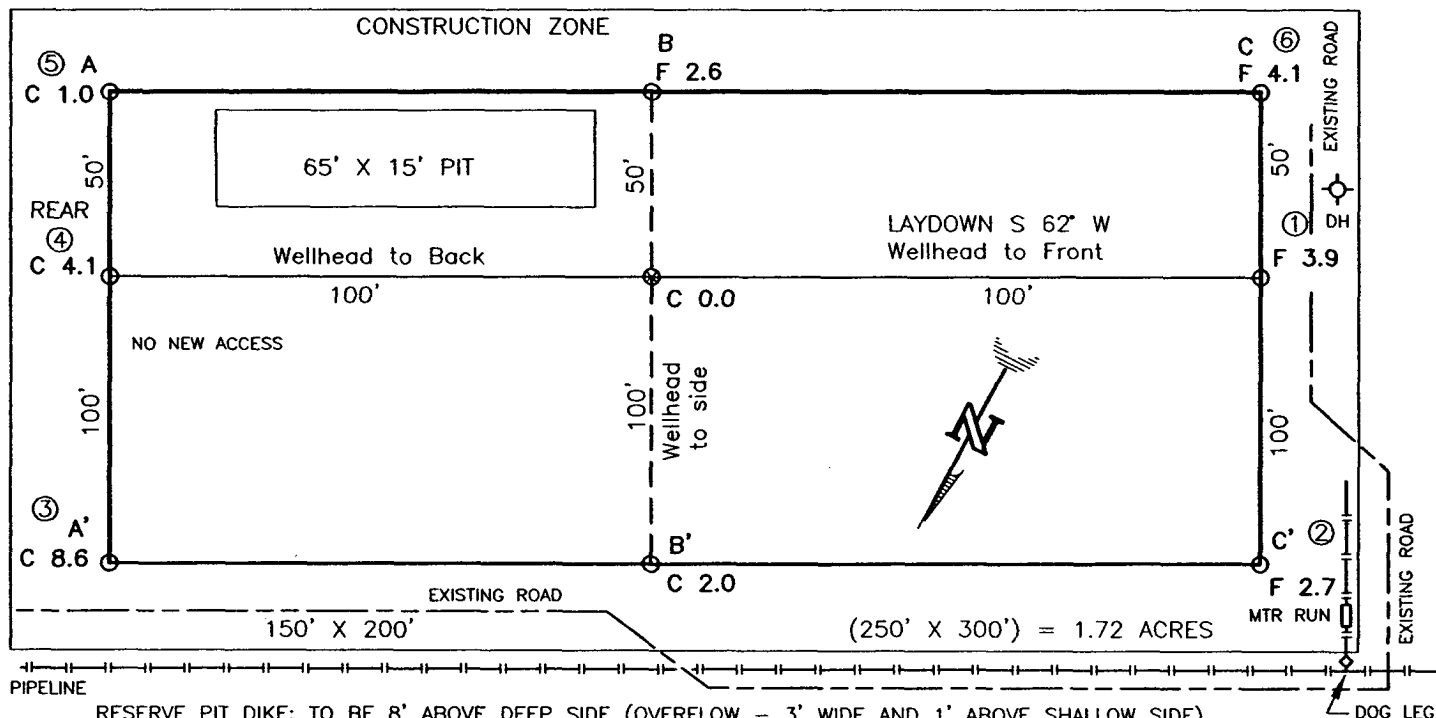
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

¹² Dedicated 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 LOT 4 LOT 5 LOT 10	<p>CALC'D. COR. 270' WC FD 3 1/4" B.L.M. BC 1974 LAT: 36°42'58.8" N (NAD 83) LONG: 108°02'42.1" W (NAD 83)</p> <p>LOT 3 LOT 6 LOT 7 LOT 9</p> <p>FD 3 1/4" B.L.M. BC 1974</p> <p>LOT 2 LOT 8</p> <p>975'</p> <p>S 00-02-54 W 2632.6' (M)</p> <p>24</p> <p>FEB 2005 REGISTERED OIL CONSERV. DIV. DIST. 3</p>	<p>LOT 1</p> <p>975'</p> <p>2550.6' (M)</p> <p>N 89-51-17 W</p>	<p>¹⁷ OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>Thomas E. Mullins</i> Signature THOMAS E. MULLINS Printed Name ENGINEERING MANAGER Title 12-26-2004 Date</p> <p>¹⁸ SURVEYOR CERTIFICATION</p> <p>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.</p> <p>NOVEMBER 10, 2004 Date of Survey Signature and Seal of Registered Professional Surveyor: <i>John A. Vukovich</i> 14831 Certificate Number</p>
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SYNERGY OPERATING LLC
 CRAWFORD 29-12-24 NO. 103, 890' FNL 975' FEL
 SECTION 24, T29N, R12W, N.M.P.M., SAN JUAN COUNTY, N. M.
 GROUND ELEVATION: 5685', DATE: NOVEMBER 10, 2004



RESERVE PIT DIKE: TO BE 8' ABOVE DEEP SIDE (OVERFLOW - 3' WIDE AND 1' ABOVE SHALLOW SIDE).
 BLOW PIT: OVERFLOW PIPE HALFWAY BETWEEN TOP AND BOTTOM AND TO EXTEND OVER PLASTIC LINER AND INTO BLOW PIT.

NOTE: DAGGETT ENTERPRISES, INC. IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES. NEW MEXICO ONE CALL TO BE NOTIFIED 48 HOURS PRIOR TO EXCAVATION OR CONSTRUCTION.

ELEV. A-A'

C/L

ELEV.	1	2	3	4	5
5700					
5690					
5680					
5670					

ELEV. B-B'

C/L

ELEV.	1	2	3	4	5
5700					
5690					
5680					
5670					

ELEV. C-C'

C/L

ELEV.	1	2	3	4	5
5700					
5690					
5680					
5670					

NOTE: CONTRACTOR SHOULD CALL ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED BURIED PIPELINES OR CABLES ON WELL PAD AND OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.

DATE:	REVISED BY:
DATE:	REVISED BY:
Daggett Enterprises, Inc. Surveying and Oil Field Services P. O. Box 15088 • Farmington, NM 87401 Phone (505) 326-1772 • Fax (505) 326-6019 NEW MEXICO L.S. No. 14831	
DRAWN BY: G.V. ROW#: SYOP003	DATE: 11/18/04 ROW#: SYOP003

Synergy Operating LLC

Operations Plan

Well Name: Crawford 29-12-24 #103

Location: Unit A, 890' FNL, 975' FEL, Sec. 24, T-29-N, R-12-W, San Juan Co. NM
Latitude 36° 42' 58.8" N, Longitude 108° 02' 42.1" W

Field: Basin Fruitland Coal

Elevation: 5685' GL

GEOLOGIC PROGRAM (Offset Well Crawford Gas Com B # 1)

Formations:	Tops/Depth	Fluids
Nacimiento	Surface	None
Ojo Alamo	433'	Possible fresh water aquifer
Kirtland	772'	None
Fruitland	1377'	Natural gas & produced water
Pictured Cliffs	1702'	Natural gas & produced water
TOTAL Depth	1800'	

Logging Program:

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

Mudlogs, Cores, DST's:

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

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.

DRILLING PROGRAM

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

Mud Program: Freshwater based mud system will be utilized. Water sourced from commercial suppliers.

Depth	Type	Viscosity	#'s/Gal
0-350'	Spud	40-50	8.4-8.9
350'-TD	Low Solids, Non-dispersed	30-60	8.4-9.5*

* Barite will be used as a weighting material if needed

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

All BOP systems will be in accordance with MMS Onshore Oil & gas Order No2. 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:

Surface – TD: An 11" 2000# or 3000# double gate BOP Stack & choke manifold will be utilized. Prior to drilling out the surface casing, the rams will be tested to 1000#.

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.

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' – 350'	1.3125"
7-7/8"	5.500"	15.5#/ft	J-55	0' – TD(1800'+/-)	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, float collar and 8-5/8" casing to surface. A centralizer will be run 10' above the shoe, secured with a stop ring, and three more centralizers will be applied around the collars of the bottom most three casing joints. Surface casing will be run to a minimum depth of 330' to ensure protection of surface waters.

5-1/2" Production Casing: Cement guide shoe w/ auto-fill, 1-Jt 5-1/2" casing as shoe joint, float collar, and 5-1/2" casing to surface. A centralizer will be run 10' above the shoe, secured with a stop ring, and three more centralizers will be applied around the collars of the bottom most three casing joints. Additional centralizers will be deployed every fifth joint from the third most bottom joint to surface. Turbolizers will be used around the first casing collar below the base of the Ojo Alamo and a second on the first casing collar above the base of the Ojo Alamo. The Ojo Alamo will be covered with cement.

Wellhead Equipment:

A 8-5/8" x 5-1/2" 3000# wellhead will be screwed on to the top joint of the 8-5/8" surface casing.

Exhibit #1

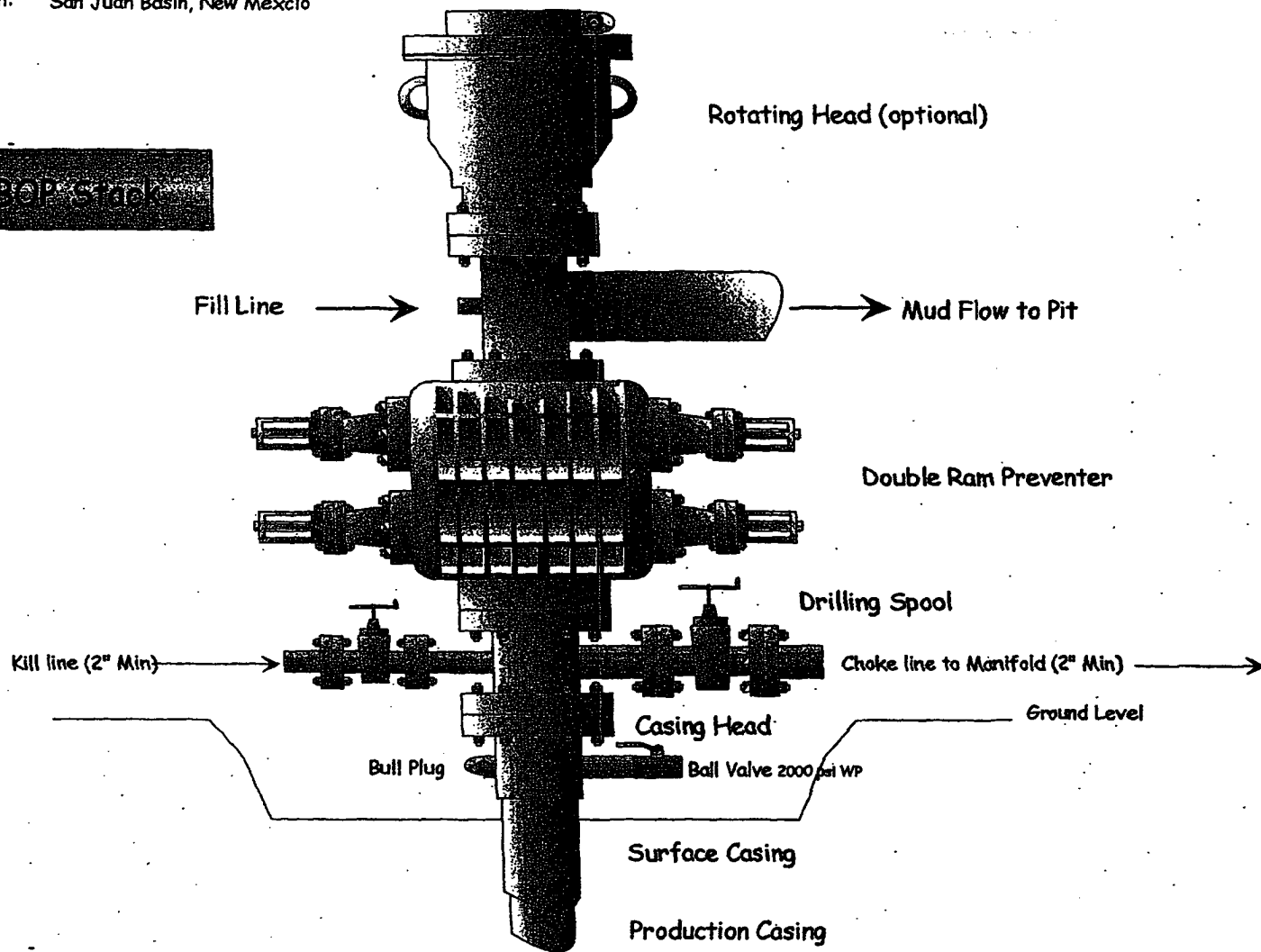
Well Control Equipment Schematic for 2M Service

Attachment to Drilling Technical Program

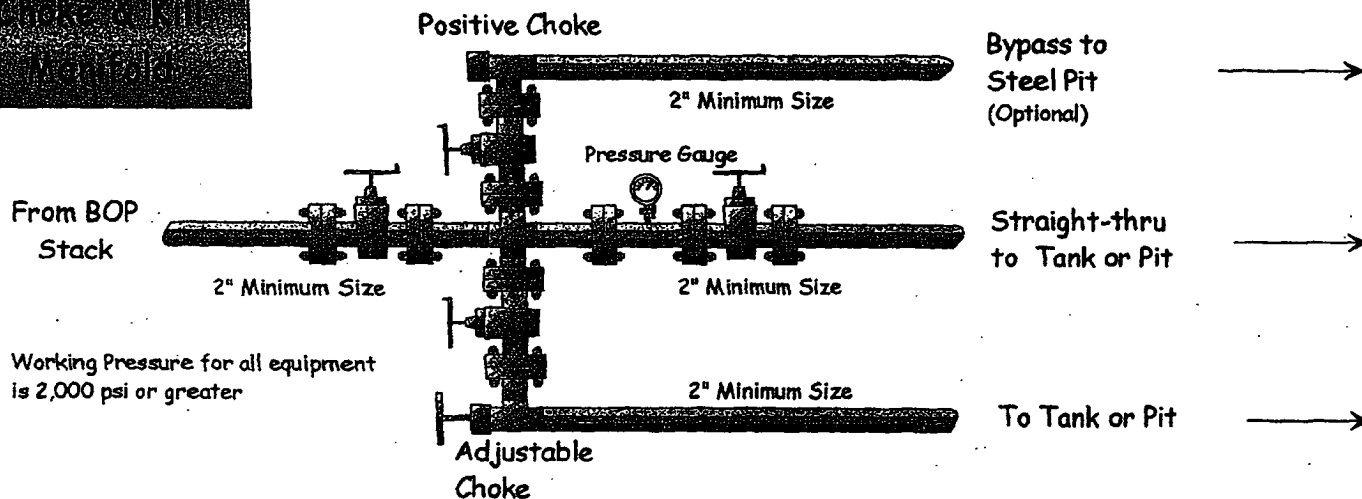
Typical BOP setup

Location: San Juan Basin, New Mexico

BOP Stack



Choke & Kill Manifold



Working Pressure for all equipment is 2,000 psi or greater