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OIL CONS. DIV.  
DIST. 3

Form 3160-3  
(April 2004)

APR 08 2011

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

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

Farmington Field Office  
Bureau of Land Management

Lease Serial No.  
NOO-C-14-20-7313

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		6. If Indian, Allottee or Tribe Name Navajo Allotted
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		7. If Unit or CA Agreement, Name and No.
2. Name of Operator Dugan Production Corp.		8. Lease Name and Well No. St. Louis Com #91
3a. Address 709 East Murray Drive Farmington, NM 87401		9. API Well No. 30-045-35273
3b. Phone No. (include area code) 505-325-1821		10. Field and Pool, or Exploratory Basin Fruitland Coal
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 990' FNL & 1200' FWL Lat. 36.24569 N At proposed prod. zone Same as above Long. 107.90647 W		11. Sec., T. R. M. or Blk. and Survey or Area D Sec. 9, T23N, R10W NMPM
14. Distance in miles and direction from nearest town or post office* Approx. 35-miles SE of Farmington, New Mexico		12. County or Parish San Juan
15. Distance from proposed* location to nearest property or lease line, ft. 990-Feet (Also to nearest drig. unit line, if any)		13. State NM
16. No. of acres in lease 160.0-Acres		17. Spacing Unit dedicated to this well 320.0 Acres - (N/2)
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. Approx. 1350'		20. BLM/BIA Bond No. On File
21. Elevations (Show whether DF, KDB, RT, GL, etc.) G.L. 6527-Feet		22. Approximate date work will start* ASAP
		23. Estimated duration 5-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:

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

25. Signature <i>Kurt Fagrelus</i>	Name (Printed/Typed) Kurt Fagrelus	Date 4-8-2011
Title Geologist		
Approved by (Signature) <i>[Signature]</i>	Name (Printed/Typed) AFM	Date 4/9/2012
Title AFM	Office PFO	

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)

A water based gel-mud will be used to drill surface and production casing hole. Standard 2,000 psi BOP will be used to drill production hole. The Fruitland coal will be perforated from approximately 840 - 866 feet. The interval will be fracture stimulated.

BLM'S APPROVAL OR ACCEPTANCE OF THIS ACTION DOES NOT RELIEVE THE LESSEE AND OPERATOR FROM OBTAINING ANY OTHER AUTHORIZATION REQUIRED FOR OPERATIONS ON FEDERAL AND INDIAN LANDS

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

NMOCD 4

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

APR 19 2012 ca

NOTIFY AZTEC OCD 24 HRS.  
PRIOR TO CASING & CEMENT

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.

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

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

Form C-102  
Revised October 12, 2005  
Instructions on back  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

☐ AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

'API Number 30-045-35273	'Pool Code 71629	'Pool Name BASIN FRUITLAND COAL
'Property Code 39177	'Property Name ST LOUIS COM	'Well Number 91
'OGRID No. 006515	'Operator Name DUGAN PRODUCTION CORPORATION	'Elevation 6527'

<sup>10</sup> Surface Location

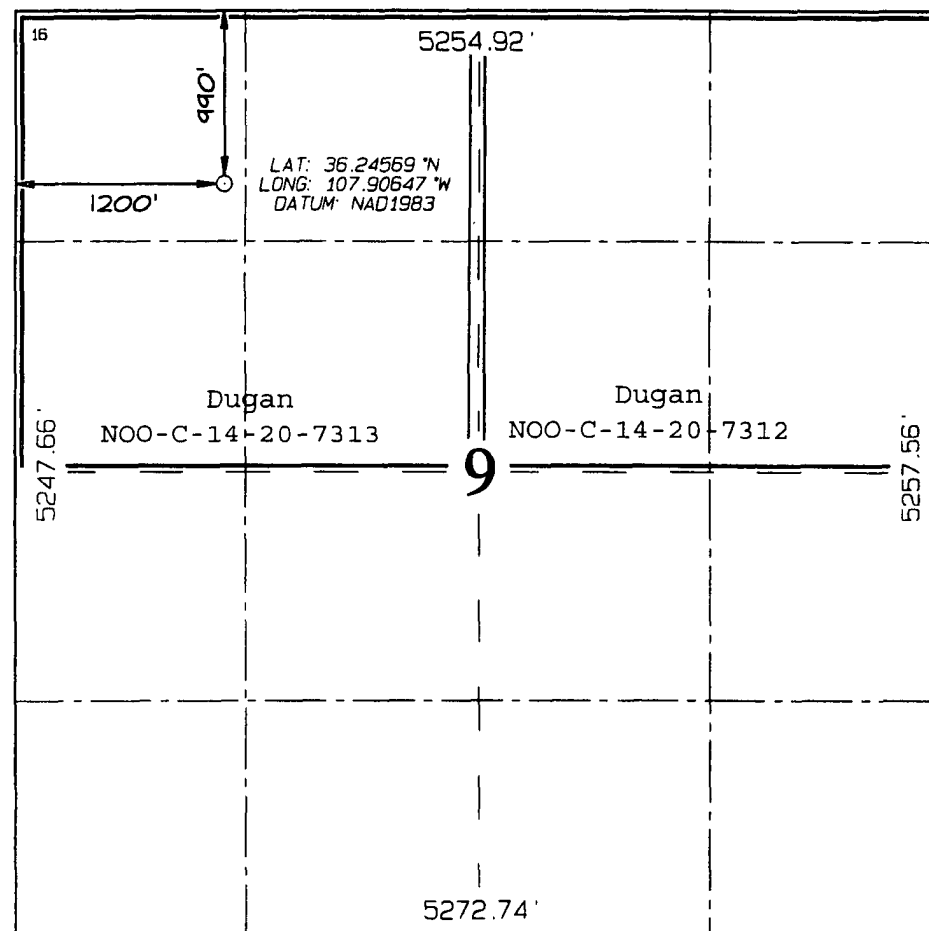
U. or lot no	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	9	23N	10W		990	NORTH	1200	WEST	SAN JUAN

<sup>11</sup>Bottom Hole Location If Different From Surface

UL or lot no	Section	Township	Range	Lot (ch	Feet from the	North/South line	Feet from the	East/West line	County
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12 Dedicated Acres	320.0 Acres - (N/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



**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 unless a 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 working interest, is not a compulsory pooling agreement or a compulsory pooling order heretofore entered by the Division.

Kurt Fegelin 1/5/2010  
Signature Date

Kurt Fagrelius

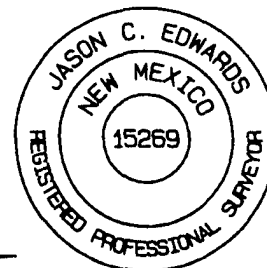
Printed Name \_\_\_\_\_

<sup>18</sup> 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: AUGUST 26, 2009

Signature and Seal of Professional Surveyor



JASON C. EDWARDS  
Certificate Number 15269

**EXHIBIT B**  
**OPERATIONS PLAN**  
St. Louis Com #91

**APPROXIMATE FORMATION TOPS:**

Ojo Alamo	75'
Kirtland	165'
Fruitland	560'
Pictured Cliffs	870'
<b>Total Depth</b>	<b>1020'</b>

Catch samples every 10 feet from 750-feet to total depth.

**LOGGING PROGRAM:**

Run cased hole GR-CCL-CNL from total depth to surface.

**CASING PROGRAM:**

Hole Size	Casing Size	Wt./ft.	Setting Depth	Grade and Condition
12-1/4"	8-5/8"	24#	120'	J-55
7-7/8"	5-1/2"	15.5#	1020'	J-55

Plan to drill a 12-1/4" hole and set 120' of 8-5/8" OD, 24#, J-55 surface casing. Then plan to drill a 7-7/8" hole to total depth with gel-water mud program to test the Fruitland Coal. 5-1/2", 15.5#, J-55 production casing will be run and cemented. Cased hole GR-CCL-CNL log will be run. Productive zone will be perforated and fractured. After frac, the well will be cleaned out and production equipment will be installed.

**CEMENTING PROGRAM:**

Surface: Cement to surface with 75-cf Class B + 2% CaCl<sub>2</sub>.  
Circulate to surface.

Production Stage- Cement w/160-sx Premium Lite FM 3% BWOC Calcium Chloride + 0.25 lbs/sx Celloflake + 5 lbs/sk LCM-1 + 0.4% BWOC FL-52 + 8% BWOC Bentonite + 0.4% BWOC Sodium Metasilicate + 112.3% fresh water (12.1 lb/gal, 2.13 cu ft/sx - 165-cu ft slurry). Tail w/163-sx Type III cement + 1 lb/sk Calcium Chloride + 0.25 lb/sx Celloflake + 0.2% BWOC FL-52 + 59% fresh water (14.6 lb/gal, 1.38 cu ft/sx-110-cu ft slurry).

Total cement slurry for production stage is 275-cf  
Circulate cement to surface.

An adequate spacer will be pumped ahead of the cement slurry to help prevent mud contamination of the cement. An adequate number of casing centralizers will be run through useable water zones to ensure that casing is centralized through these zones. The adequate number of centralizers will be determined based on API standards. Centralizers to impart a swirling action around the casing will be used just below and into the base of the lowest usable water zone. These devices will assist mud displacement, increase cement bonding potential and create an effective hydraulic seal. A chronological log will be kept which records the pump rate, pressure, slurry density, and slurry volume for the cement job. The log will be sent to the BLM after completion of the job.

**Maximum Anticipated Bottom Hole Pressure** - 300 psi.

**Drilling Fluid** - will be fresh water with bentonite 8.9#/gal.

**WELLHEAD EQUIPMENT:**

Huber 8-5/8"x5-1/2" casing head, 1000# WP, tested to 2000#.  
Huber 5-1/2"x2-7/8" tubing head, 1000# WP, tested to 2000#.

**Blow-Out Preventer Equipment (BOPE): Exhibit D.**

Annular preventer, double ram, or 2 rams with one being blind and one being a pipe ram.  
Kill line (2" minimum)  
1 kill line valve (2" minimum)  
1 choke line valve  
2 adjustable chokes  
Upper kelly cock valve with handle available.  
Safety valve and subs to fit all drill string connections in use.  
Pressure gauge on choke manifold.  
2" minimum choke line.  
Fill-up line.

Working pressure for all BOPE will be 2,000 psi or greater.

Will test BOPE (blind rams, pipe rams, choke manifold and surface casing) separately. Each test will include a low pressure test to 250-psig held for five minutes and a high pressure test to 800-psig held for thirty minutes (with no more than a 10-percent pressure drop during the duration of the tests). If a 10-percent or greater pressure drop occurs; a packer will be run to isolate the surface casing and BOPE to locate the source of the leak.

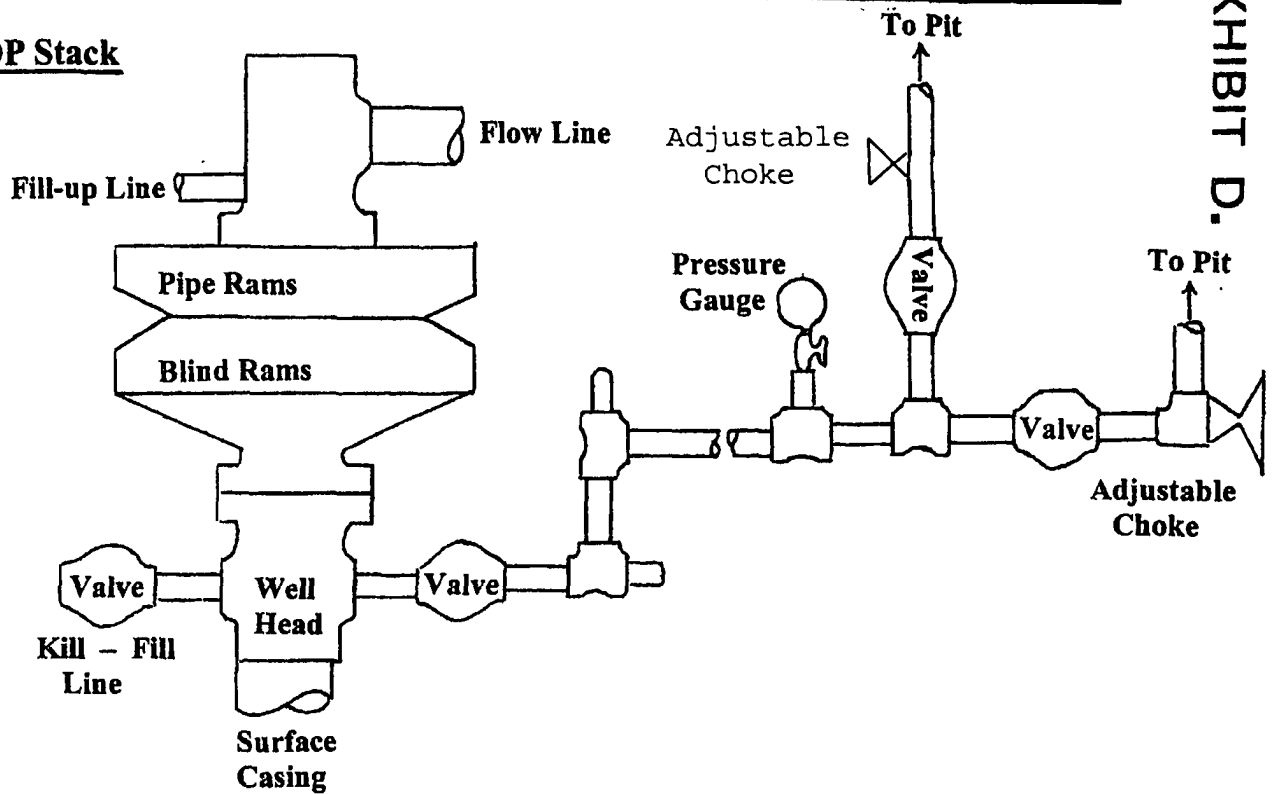
**Contacts:** Dugan Prod. Corp. Office & Radio Dispatch: 325-1821

<u>Mark Brown</u>	<u>Kurt Fagrelus</u>	<u>John Alexander</u>
327-3632 (H)	325-4327 (H)	325-6927 (H)
320-8247 (M)	320-8248 (M)	320-1935 (M)

# Well Control Equipment Schematic for 2,000 psi BOP

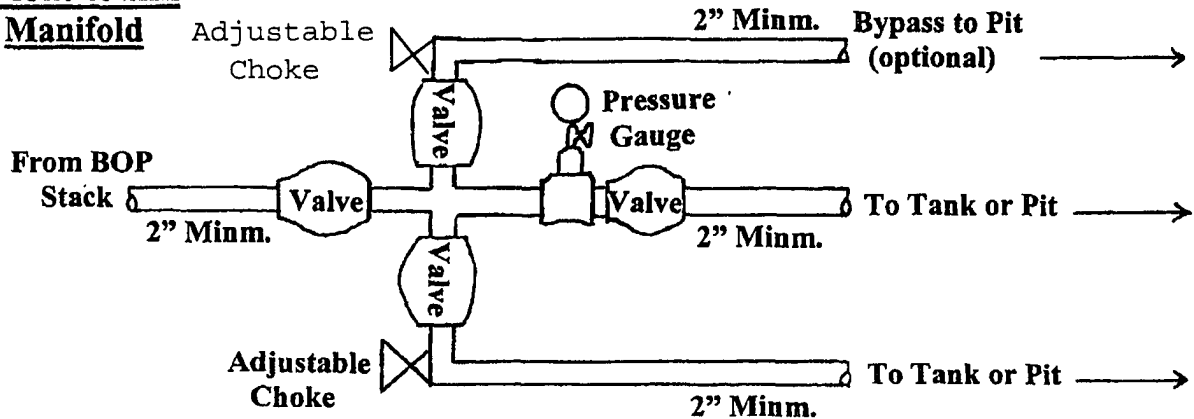
EXHIBIT D.

## BOP Stack



## Choke & Kill

### Manifold



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

DUGAN PRODUCTION CORP.  
St. Louis Com #91