Form 3160-3
(August 2007)

FORM APPROVED
OMB No 1004-0137
Expires July 31, 2010

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

# APPLICATION FOR PERMIT TO DRILL OR REENTER

5 Lease Serial No. NMNM-099732

6. If Indian, Allotee or Tribe Name: Federal

1a. Type of work: ☑ DRILL ☐ REENTER

7 If Unit or CA Agreement, Name and No.: Federal 21-6-32

1b. Type of Well: ☐ Oil Well ☑ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone

8. Lease Name and Well No.: #4

2. Name of Operator: SG Interests I, Ltd.

9 API Well No.: 30-043-21115

3a. Address: PO Box 2677, Durango, Colorado 81302

3b Phone No. *(include area code)*: 970-259-2701

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: 1925' FSL & 1605' FEL

At proposed prod. zone:

11. Sec., T. R. M. or Blk. and Survey or Area: J, Section 32, T21N, R06W

14. Distance in miles and direction from nearest town or post office*: Approximately 12 miles southwest of Counselors New Mexico

12 County or Parish: Sandoval

13. State: NM

15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig. unit line, if any): 1605'

16. No. of acres in lease: 2361.92

17. Spacing Unit dedicated to this well: E 1/2, 320

RCVD OCT 14'11

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 2155'

19. Proposed Depth: 855'

20 BLM/BIA Bond No. on file: NM1935

OIL CONS. DIV.
DIST. 3

21 Elevations (Show whether DF, KDB, RT, GL, etc.): 6833 GL

22. Approximate date work will start*: 07/01/2011

23. Estimated duration: 1 month

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

24. Attachments

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

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must 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 must 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 BLM.

25. Signature: [signature] — Name *(Printed/Typed)*: William Schwab III — Date: 04/18/2011

Title: Agent for SG Interests

Approved by *(Signature)*: [signature] — Name *(Printed/Typed)*: — Date: 10/11/11

Title: AFM — Office: FFO

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.

(Continued on page 2)

*(Instructions on page 2)

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.

OCT 25 2011
NMOCD

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

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 |
|---|---|---|
| 30-043-21115 | 71629 | Basin Fruitland Coal |

| [4] Property Code | [5] Property Name | [6] Well Number |
|---|---|---|
| 35511 | FEDERAL 21-6-32 | 4 |

| [7] OGRID No. | [8] Operator Name | [9] Elevation |
|---|---|---|
| 20572 | SG INTERESTS I, LTD. | 6833 |

## [10] Surface Location

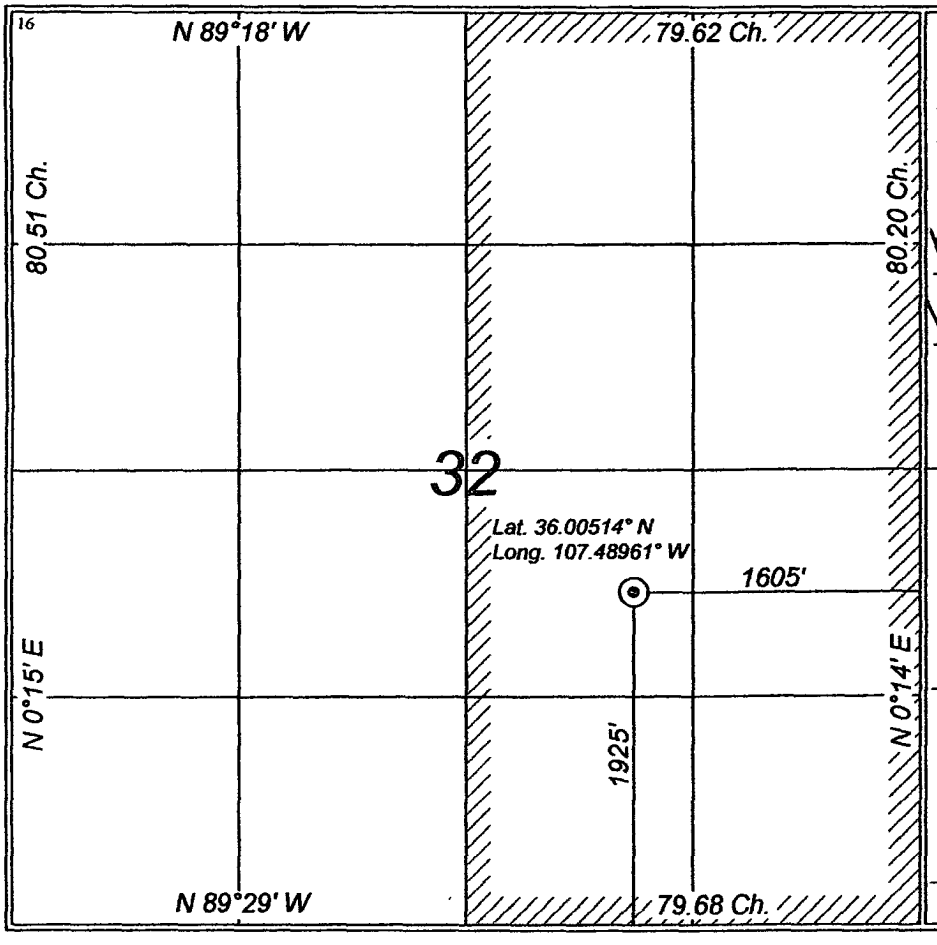
| UL or Lot No | Section | Township | Range | Lot Idn. | Feet from the | North/South Line | Feet from the | East/West Line | County |
|---|---|---|---|---|---|---|---|---|---|
| J | 32 | 21 N | 6 W | | 1925 | South | 1605 | East | Sandoval |

## [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 | [13] Joint or Infill | [14] Consolidation Code | [15] Order No. |
|---|---|---|---|
| 320 (E/2) | | | |

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

Signature 11/22/2010 Date

William Schwab

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.*

10 NOV 2010

Date of Survey

Signature and Seal of Professional Surveyor

William E. Mahnke II

Certificate Number 8466

*Bearings shown are from BLM Plat*

**ENERGY SURVEYORS, INC.**

*P.O. Box 991*
*Farmington, NM 87499*

*e-mail: surveyor_nm@yahoo.com* *Phone: 505-360-8142*

**Access Description for Federal 21-6-32 #4**

From Counselor Trading Post on U.S. Hwy. 550, travel south on U.S. 550 ±0.1 miles, turn right on dirt road with sign "Star Lake Compressor-26 miles". This is the 0 miles point for this description. Follow dirt road (Rd. #46),

9.0 miles- Turn left on to a main road ±300 past a pipeline corridor,
13.0 miles- Turn left at water wells,
14.0 miles- At top of hill, take right fork,
16.4 miles- Turn left at County Road, continue easterly,
17.3 miles- Turn right off road and follow flagged access ±190 feet to location.

# SG INTERESTS I, INC.
# FRUITLAND DRILLING PROGRAM
## TS

**WELL NAME:** Federal 21-6-32 #4

**FIELD NAME:** Basin Fruitland Coal

**LOCATION:** NWSE/4 Section 32, T21N, R6W
1925' FSL, 1605' FEL
UL – J
Lat 36.00514° N, Long -107.48961° W
Sandoval County, New Mexico

**DATE:** January 2011

**PROPOSED TD:** 855'

**DEPTH TO MINERALS:** 680'

**Note:** Review APD Stipulations before moving on location. Review regulatory notification requirements and notify accordingly. Comply with all safety and environmental requirements.

**Notify:** BLM Field Office Manager (Inspection and Enforcement Section) 24 hours before SPUD, CEMENTING OR PLUGGING OPERATIONS at (505) 599-8907.

**Notify:** NMOCD Field Office Manager (Inspection and Enforcement Section) 24 hours before SPUD, CEMENTING OR PLUGGING OPERATIONS at (505) 334-6178. ext 116

**A Copy:** Of the Approved APD and Drilling Procedure will be on location and in the Doghouse at all times during the drilling and cementing operations.

**DIRECTIONS:**

From Counselor Trading Post on US Hwy. 550, travel south ± 0.1 miles, turn right on dirt road with sign "Star Lake Compressor-26 miles". This is the 0 mile point for this description. Follow dirt road (Rd #46):

9.0 miles – Turn left onto a main road ±300' past a pipeline corridor,
13.0 miles – Turn left at water well,
14.0 miles – At top of hill take right fork,
16.4 miles – Turn left at County Road, continue easterly,
17.3 miles – Turn right and follow access road ±190 feet to location.

## DRILLING SKELETON:

| Interval | Hole Size | Casing Size | Depth |
|---|---|---|---|
| Surface | 12-1/4" | 8-5/8" | 180' |
| Production | 7-7/8" | 4-1/2" | 855' |

## MUD PROGRAM:

| Interval | Mud Type | Mud Weight | Funnel Viscosity | Water Loss |
|---|---|---|---|---|
| 0 - 180' | Native | 8.5 - 9.1 | 30 - 50 | N/C |
| 180'-855' | Native/LSND | 8.5 - 9.1 | 30 - 50 | 8 - 10 |

**CORE PROGRAM:** None

**ELECTRICAL LOGGING PROGRAM:** Openhole logs will include a GR/Caliper and a Formation Density log from TD to the surface casing shoe.

## CASING AND CEMENTING PROGRAM:

| Interval | Size, Wt, Grade, Thread | Depth | Cement |
|---|---|---|---|
| Surface | 8-5/8", 24#, J-55, ST&C | 180' | 128 sx Type 5<br>2% CaCl, ¼#sx celloflake |
| Production | 4-1/2", 10.5#, J-55, ST&C | TD | 255 sx Type 5<br>¼#/sx celloflake, 3# Gilsonite |

## WELLHEAD:

WHI 3000# 8-5/8" W92 Casing Head, 7-1/16" x 4-1/2" W2F Flanged Tubing Head, 7-1/16" x 2-3/8" Mandrel, 7-1/16" x 2-3/8" Threaded Hanger Flange.

## BLOWOUT PREVENTION EQUIPMENT REQUIREMENTS:

| Description | Rating |
|---|---|
| Double Ram Type Preventer | 2000 psi |
| Rotating Head | 2000 psi |

BOPE testing will be done by third party testers in accordance with Onshore Order No. 2. The test must be performed and recorded using a test pump, calibrated test gauges and properly calibrated strip or chart recorder. The test gauges and recorders must be of the proper range and resolution commensurate with the authorized test pressure. The test must be recorded in the driller's log and will include a low pressure test requirement of 250 psig held for 5 minutes and a high pressure test requirement held for 10 minutes. Casing pressure tests must be held for 30 minutes with no more than 10 percent pressure drop during the test.

## GEOLOGIC PROGNOSIS:

**Elevations:** GL ~ 6833', KB ~ 6838'

**Formation Tops:**

| Formation | Depth |
|---|---|
| Ojo Alamo | 255' |
| Kirtland | 305' |
| Fruitland | 585' |
| Coal Top | 680' |
| PC | 705' |
| Total Depth | 855' |

**Note:** TD will be 150' below the lowest coal. The company man will be on location once the coal(s) are penetrated until TD to monitor drilling breaks and to insure that 150' of rathole is drilled. When the hole is logged, if a coal zone is indicated within 150' of bottom, additional hole is to be drilled to provide 150' of rathole.

## MUD PROGRAM:

Fresh water will be used to drill the surface hole. The 7-7/8" hole should be drilled with fresh water / polymer and a LSND mud as necessary for hole stability just before the top of the Fruitland formation is encountered.

At the top of the Fruitland formation mud weights should be sufficient to control pressures; viscosity should be in the 30 - 50 sec range with a water loss of 8 – 10 cc, as needed.

The Fruitland Coals are expected to be under-pressured to normal-pressured and may encounter lost circulation. LCM should be stored on location and used as needed in the event of lost circulation. Barite should also be on location in the event an over-pressured zone is encountered and a kick is taken.

## CASING AND CEMENTING PROCEDURE:

**Note:** Notify BLM, & NMOCD 24 hours prior to spud and testing of BOP's and cementing. 505-599-8907. Note **the new (June 1, 2005) Federal (BLM) requirements for the testing and test recording of the Blow-out Preventer Equipment.** A copy is attached to the approved APD.

### Surface Casing:

1. Drill to a minimum of 185' to accommodate tallied 8 5/8" casing plus 3'. Casing tally to be taken on location.
2. Use a landing joint of 8 5/8" casing to set casing at ground level. Guide shoe on casing should be not more than 2 feet off bottom. Casing head flange to be set at ground level.
3. Displace hole with casing volume of fresh water ahead of cement.
4. Pump Type 5 cement with 2% CaCl at 5-7 barrel per minute. Displace with fresh water when pre-flush returns are observed at the surface. Do not over-displace.
6. Hold pressure for a minimum of three hours. SDFN. BOPE Test next day.

    a. Wait on cement a minimum of 8 hours or until surface samples are hard *, whichever is longer **before** nippling up the BOP. Pressure test casing and BOP to 1500 psig for 30 minutes. Low pressure test BOP and Casing 250# for 10 minutes.

        1. **Note**: The BLM requirement is a minimum of ~~250~~ 500 psi @ 60degrees F compressive strength **before** BOP may be nippled up.

        2. **Notes:** Use a standard 8 5/8" guide shoe, 3 centralizers and 1 stop ring. Set insert on top of first joint. Bakerlok shoe, and bottom two joints of casing.

## Production Casing:

1. Roll casing off truck with thread protectors in place.
2. Visually inspect, rabbit, number, and tally casing on racks. Remove thread protectors and clean threads. Use quick release protectors while running casing. Do not move or roll casing without thread protectors in place.
3. Change out pipe rams to accommodate 4-1/2" casing.
4. Bakerlok 4-1/2" float shoe to bottom of first joint of casing.
5. Bakerlok 4-1/2" differential float collar to top of first joint of casing. Bakerlok second joint of casing into top of float collar. Run "marker joint" 100' above top coal as per openhole logs.
6. Casing should be made up to proper torque (1320 ft-lb for 10.5# or 1540 ft-lb for 11.6#) using an API thread compound.
7. Casing should be run no faster than 2 feet per second (20 seconds per 40 foot joint). At the first indication of mud loss, the running time should be doubled to 40 seconds per joint (1 foot per second).
8. Break circulation at 300 feet and one joint above TD. Circulate a minimum of 15 minutes. Make sure that the hole is not flowing. Adjust mud properties as necessary. Circulate the last joint of casing to TD. Kick pumps in slowly to minimize surge pressures.
9. Turbolizing centralizers should be run on **each joint** of casing. A stop-ring should be used to hold the first centralizer in place. Place the remaining centralizers on collars.
10. After casing is landed at TD, circulate hole until mud properties measured at the flowline are within the ranges given in the "Mud Program" of this drilling prognosis.
11. Rig up rotational cementing head and return lines. Chixson should be long enough to allow 25'-30' reciprocation.
12. Pump 10 barrels of fresh water. Pump 20 barrel chemical wash. Pump cement slurry. Wash lines.
13. Drop top plug and displace with water. Do not over-displace. Pipe should be rotated at 10-20 RPM or reciprocated at least 20 feet every two to three minutes throughout displacement.
14. Bump plug with 500 psi over final displacement pressure. Hold pressure for 5 minutes. If plug does not bump, hold initial shut down pressure on casing for 5 minutes. Then check to see that float is holding (flow back into cement pump tank).
15. Set slips, cut off casing and nipple down BOP. A thread protector or some other appropriate obstruction should be place on the top of the casing stub to prevent loss of material downhole.

**Cement Slurry Designs and Notes**

| Slurry | Cement & Additives | Water Requirements | Weight | Yield |
|---|---|---|---|---|
| Surface | Type 5 + 1/4#/sx celloflake, and 2% CaCl | 5.0 gals/sx | 15.8 ppg | 1.15 cu. ft/sx |

Calculate slurry using estimated volume + 100% excess.

| | | | | |
|---|---|---|---|---|
| Production | Type 5 + 1/4#/sx celloflake, and 3# gilsonite | 5.0 gals/sx | 15.8 ppg | 1.15 cu. ft/sx |

Calculate slurry using caliper volume + 50% excess. Cement volume shown in this prognosis is based on hole and casing size and surface/long string annular volumes plus percentage excess shown above.

**Notes:**

1. Pump rates should be a minimum of 4 BPM through displacement.
2. Slurry weights should be measured using a mud balance at least every 10 minutes during mixing.
3. At least two samples of the tail should be caught and monitored at room temperature for thickening time.
4. Run Temperature Log if cement does not circulate.

## NOTIFICATION SCHEDULE

### Purpose or Reason

| Regulatory | Phone Number | Comments |
|---|---|---|
| BLM | 505-599-8907 | Notify 24 hours before spud, testing BOP's, running casing, or cementing. |
| BLM | 505-899-8900 | Changes or questions regarding approved plans or drilling ops. |
| BLM | | Emergency program changes after normal business hours. |
| | 505-327-2186 | Wayne Townsend |
| | 505-326-0253 | Steve Mason |
| | 505-334-1266 | Jim Lovato |
| NMOCD | 505-334-6178 X 116 | Notify 24hrs before cementing. |
| | | Monica Kuehling |
| | | ~~Henry Villanueva~~ Brandon Powell |

### Drilling Issues

| | | |
|---|---|---|
| Tripp Schwab<br>tripp@nikaenergy.com | 970-259-2701 | Office |
| | 970-769-3589 | Mobile |
| | 970-769-3589 | Home (Durango) |
| | 303-422-3112 | Home (Denver) |
| | 303-913-9287 | Mobile (LeAnne) |

**SG Interests I, Ltd.**
**(Agent: Nika Energy Operating, LLC)**
**PO Box 2677**
**Durango, CO 81302**
**(970) 259-2701**

**Federal 21-6-32 #4**
**NWSE/4 (UL, J) Sec 32, 21N-R6W**
**1925' FSL & 1605' FEL**
**Sandoval County, New Mexico**

## EIGHT POINT DRILLING PROGRAM

### 1. Estimated Formation Tops:

| | |
|---|---|
| Ojo Alamo | 255' |
| Kirtland | 305' |
| Fruitland | 585' |
| Coal Top | 680' |
| PC | 705' |
| Total Depth | 855' |

### 2. Estimated Depth of Anticipated Minerals:

| | |
|---|---|
| Fruitland (Gas) | 680' |

### 3. Minimum Specifications for Pressure Control Equipment:

BOP equipment and accessories will meet or exceed BLM requirements outlined in 43 CFR Part 3160.

A 2000 psig double ram hydraulic BOP will be used (see attached diagram). Accessories to the BOP will meet BLM requirements for a 2000 psig system. The accumulator system capacity will be sufficient to close all BOPE with a 50% safety factor. Fill line, kill line and line to choke manifold will be 2". BOP's will be function tested every 24 hours and will be recorded on IADC log.

Surface casing will be tested to 1500 psig for 30 minutes.

Accessories to BOPE will include upper and lower Kelly cocks with handles, stabbing valve to fit drill pipe on floor at all times, string float at bit, 2000 psig choke manifold with 2" adjustable and 2" positive chokes, and pressure gauge.

## 4. Casing and Cementing Program:

| Hole Size | Interval | Csg Size | Wt, Grd, Jt |
|---|---|---|---|
| 12-1/4" | 0-180' | 8-5/8" | 24.0#, J-55, STC |
| 7-7/8" | 0-855' | 4-1/2" | 10.5#, J-55, STC |

Surface Casing will be cemented with 128 sx (147 cu ft) Type 5 w/2% CaCl and 1/4#/sx of celloflake (Yield = 1.15 cuft/sx, Weight = 15.8 #/gal). Cement volumes include 100% excess to circulate cement to surface. A guide shoe, insert float and three (3) centralizers will be used. WOC time is 8 hours. The casing will be pressure tested to 1500 psig.

Production Casing will be cemented with 255 sx (293 cu ft) Type 5 w/ 3# gilsonite and 1/4#/sx celloflake (Yield = 1.15 cuft/sx, Weight = 15.8 #/gal). Cement volume includes 50% excess to circulate cement to surface. In the event cement is not circulated a temperature survey will be run to determine the actual cement top. Cementing equipment will include a guide shoe, float collar and 7 centralizers. Class B or G may be used depending on availability of Type 5.

## 5. Mud Program:

A native water based mud system (FW) will be used initially followed by a low-solids, non-dispersed gel system (LSND) as needed to condition the hole for logs. Adequate amounts of lost circulation and weighting material will be on location if needed as well as sorbitive agents to handle potential spills of fuel or lubricants.

| Depth | Type | Wt (ppg) | Vis (sec) | Wtr loss |
|---|---|---|---|---|
| 0-180' | FW | ± 8.5 | 30-33 | NC |
| 180'-TD | FW & LSND | ± 8.7-9.1 | 30-50 | 8-10 cc |

## 6. Testing, Coring and Logging Program:

No DST's or cores are planned. Openhole logs, if run, will include GR, Induction, Density and Caliper Logs. The GR-Density logs will be run from TD to the top of the Fruitland formation. GR-Induction-Caliper logs will be run from TD to the bottom of the surface casing.

## 7. Anticipated Abnormal Pressures and Temperatures:

No abnormal pressures or temperatures are expected in this well. Maximum anticipated Fruitland reservoir pressure is 300 psig with a normal temperature gradient.

## 8. Operations:

Anticipated spud date is May 2011 or as soon as permits are received and work can be scheduled. Estimated drilling time is 4 - 5 days. The Fruitland will be completed as a cased hole completion, perforated and hydraulically fracture stimulated. Completion operations are expected to take 5 - 7 days and will commence as soon after completion of drilling operations and scheduling allow.

# 2-M SYSTEM

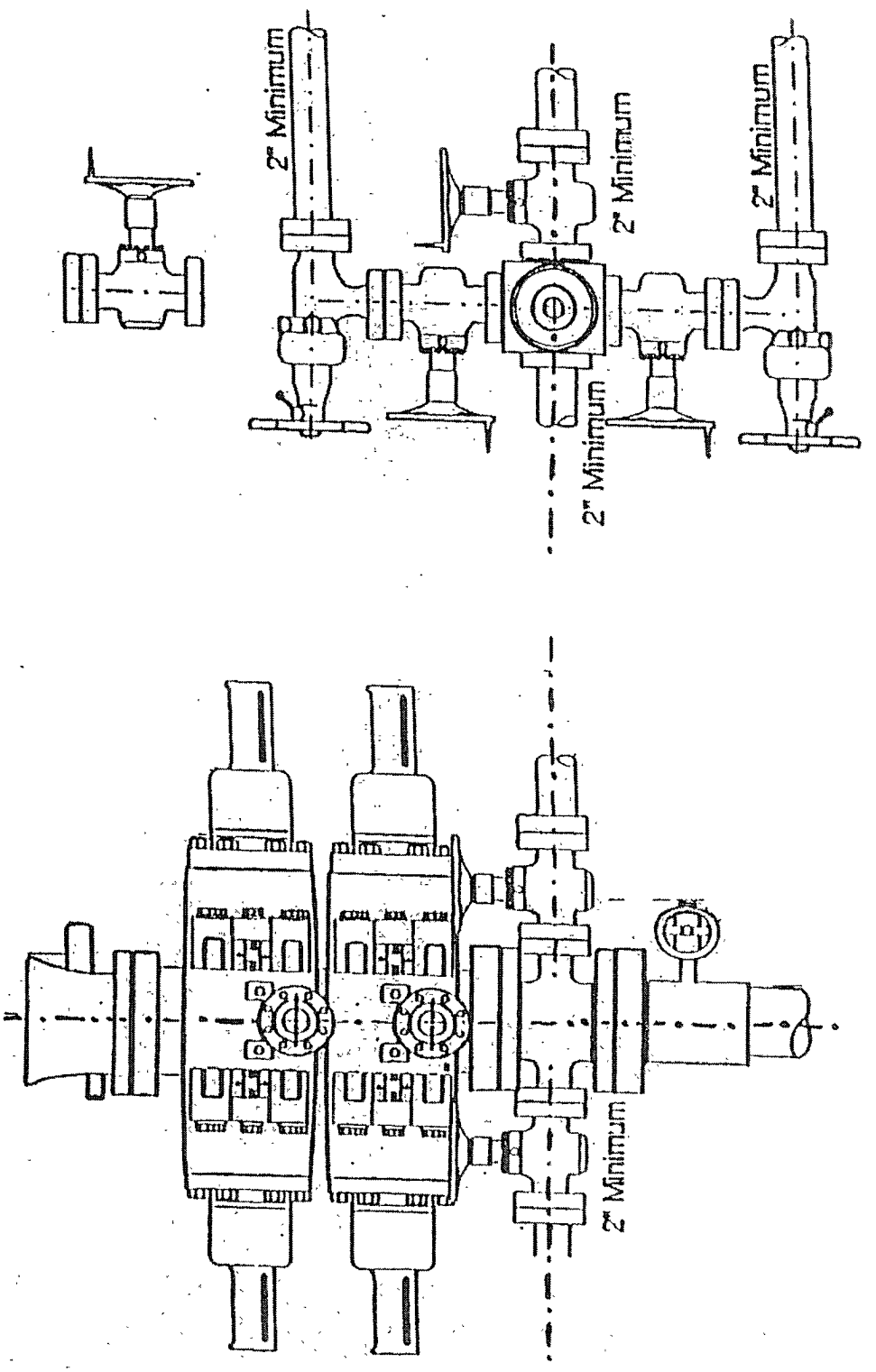



Exhibit 1