N.M. Oil Cons. DIV-Dist. 2
1301 W. Grand Avenue
Artesia, NM 88210

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Form 3160-3
(April 2004)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: **NM 100586**

6. If Indian, Allotee or Tribe Name:

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

1a. Type of work: ☑ DRILL ☐ REENTER

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

8. Lease Name and Well No.: **Wagon Wheel "24" Federal #2**

2. Name of Operator: **Cimarex Energy Co.**

9. API Well No.: 30-015-33950

3a. Address: **15 E 5th, Ste 1000, Tulsa, OK 74103**

3b. Phone No. *(include area code)*: **918-585-1100**

10. Field and Pool, or Exploratory: **Exploratory**

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface: **Sec 24-22S-22E; 1345' FSL & 1930' FEL, Eddy County**
At proposed prod. zone: **Same**

11. Sec., T. R. M. or Blk. and Survey or Area: **Sec 24-22S-22E NMPM**

14. Distance in miles and direction from nearest town or post office*: **Approx 25 miles West and 4 miles South of Carlsbad, NM**

12. County or Parish: **Eddy**

13. State: **NM**

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any): **1345'**

16. No. of acres in lease: **1600**

17. Spacing Unit dedicated to this well: **320 Acres**

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: **3400'**

19. Proposed Depth: **10500'**

20. BLM/BIA Bond No. on file: **COB000011**

21. Elevations (Show whether DF, KDB, RT, GL, etc.): **4295.9'**

22. Approximate date work will start*: **09/20/2004**

23. Estimated duration: **45 days**

24. Attachments

CARLSBAD CONTROLLED WATER BASIN

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.

25. Signature: /s/ Steve J. Simonton — Name *(Printed/Typed)*: **Steve J. Simonton** — Date: **08/18/2004**

Title: **Drilling Superintendent**

Approved by *(Signature)*: **/s/ Tony J. Herrell** — Name *(Printed/Typed)*: **/s/ Tony J. Herrell** — Date: FEB 11 2005

Title: FIELD MANAGER — Office: CARLSBAD FIELD OFFICE

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.

APPROVAL FOR 1 YEAR

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)*

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

Witness Surface Casing

Cimarex Energy Co., Wagon Wheel '24' Federal #2 Section 24-T22S-R22E, Eddy County, New Mexico. (Federal Lease No. US NM 100586).

This plan is to accompany Application for "Permit to Drill" the subject well which is located approximately 25 miles West and 4 miles South of Carlsbad, New Mexico. The following is a discussion of pertinent information concerning the possible effect, which the proposed drilling well may have on the environment of the well and road sites and surrounding acreage. A copy will be posted on the derrick floor so that all contractors and sub-contractors will be aware of all items of this plan.

1. **EXISTING ROADS**
   A. **Directions to well**: From the Marathon Indian Basin Gas Plant, go west on Co Rd #401 for approx 1.1 mi, turn left and go south for approx 0.9 mi to a fork in the road. Stay to the right and go SW for approx 0.9 mi to another fork in the road. Stay to the right and go approx 1.1 mi to another fork. Stay to the left and go approx 1.8 mi to a tee, turn left and go approx 1.0 mi, turn right and go NW to cattlegaurd. Go thru cattlegaurd and continue on main road. Go SW 0.4 mi to a bend in the road, go NW 1.1 mi, then turn left and go 0.3 mi to a proposed road survey. Go SW for approx 0.3 miles, turn left and go SE for approx 0.3 mi, turn right and go south for approx 0.4 miles. Proposed location is approx 150' south

   B. **Pad Mitigation**: The topsoil will be stockpiled for surface restoration; will maintain a 3:1 slope ratio. The reserve pit will be lined. The pad will be drained above the cut on the north side of location draining south. Culverts will be placed along the new road construction as necessary to accommodate runoff.. All surface equipment will be painted Fed Juniper Green. Upon completion of drilling the location and surrounding area will be cleared of debris and will be reseeded using the appropriate BLM Seed Mix. During the life of the well, there may be either a compressor or a pump-jack installed. No drilling or construction will take place during those restricted periods of time as determined by the BLM.

2. **PLANNED ACCESS ROADS:**
   A. **Length and Width:** 4076' of new access road is needed. The existing and new access road right-of-way will be approximately 20 feet wide, with the actual road surface being approximately 16 feet wide.

   B. **Construction:** The 4076' of new access road to the proposed Wagon Wheel "24" #1 well site will be new road construction and will provide all weather access to this property. Native on-site material will be used for surfacing with gravel furnished from a private commercial source. The entire length of location road will be maintained in a prudent manner with a motor grader as an all weather road. Maintenance activity shall include but not be limited to rerocking, reshaping, compacting and crowning said location road as necessary. Any ruts, rills, and eroded areas will be filled, and blocked drainages and culverts will be cleared. Attached is a plat of the proposed location road and detailed section maps showing the location of existing roads.

C. **Turnouts:** No turnouts are proposed

D. **Culverts:** Culverts are proposed as necessary

E. **Cuts and Fills:** An approximately 5.7' fill along the South side of the well site and an approximately 7.2' cut along the North side of the well site will be required. An approximately 1.2' cut along the West side of the well site and an approximately 0.9' cut along the East side of the well site will be required. (see attached plat).

F. **Gates, Cattleguards:** No Gates or Cattleguards are needed

G. **Off Lease ROW:** None

3. **LOCATION OF EXISTING WELLS** —

A. See Attachment II for location of wells within a 1 mile radius:

4. **LOCATION OF EXSITING AND/OR PROPOSED FACILITIES:**

A. **Location of Tank Batteries, Production Facilities, Production Gathering and Service Lines:**

1 In the event of production, production facilities will be located on the drill pad. The actual placement of this equipment will be determined when the well's production characteristics can be evaluated after completion (including compression). The condensate tank will be enclosed by a dike and all BLM standards regarding compressors will be met.

2 The flow-line from this well will have to be constructed. It will be buried gas pipeline that will be approx. 3355.6' in length (See attached pipeline plat) and tie into an existing gas transmission pipeline. The pipe diameter, wall thickness and pipe wall strength will be determined upon the establishment of production and will be in accordance to BLM standards and regulations. The line will be owned and operated by Cimarex Energy Co. and qualifies for APD/ROW process.

3 Produced water, if any, will be stored on the well site in a closed or netted water tank and on regular intervals will be hauled to an approved disposal site.

5. **LOCATION AND TYPE OF WATER SUPPLY**

A. Water will be obtained from a non-federal private source.

6. **SOURCE OF CONSTRUCTION MATERIALS:**

A. No additional construction materials will be required to build the proposed location. The topsoil will be stockpiled for restoration. The dirt from the reserve pit will be back-sloped and saved for use when the pit is rehabilitated.

7. **METHODS FOR HANDLING WASTE DISPOSAL:**

A. A Conventional Drilling System will be used. The drill cuttings, fluids and completion fluids will be placed in the reserve pit. The reserve pit will be fenced with wire mesh on three sides away from the pad during drilling and the fourth side fenced as soon as the rig moves out. The reserve pit will be backfilled and leveled as soon as practical.

B. All garbage and trash will be placed in specially constructed wire mesh containers. Upon cleanup, the refuse in the containers will be hauled to an approved landfill site.

1 All produced water will be collected in tanks until transported to an approved disposal system.

8. **ANCILLARY FACILITIES**:

A. None

9. **WELL SITE LAYOUT**:

A. Attached sketch shows the relative location and dimensions of the well pad, and reserve pit. The well pad will be 300' X 200'. The reserve pit will be 150' X 150'. (see diagram).

10. PLANS FOR RESTORATION OF SURFACE:

A. Pit will be filled and leveled as soon as practical. If well is productive, drilling pad will remain as well service pad. If dry hole, the pad will be ripped and re-seeded per regulations. See Pad Mitigation for details of the surface restoration and seeding details.

11. **OTHER INFORMATION:**

A. **Terrain/Topography** – Gently sloping areas with ridges or mesa tops and Limestone out crops in places

B. **Soil:** *Ector stony loam, 0 to 9 percent slope*- grayish brown stony loam to light colored limestone bedrock

C. **Flora and Fauna:** scrubland community consisting mainly of black grama, blue grama, beargrass, tobosa, sotol, agave, ocotillo, snakeweed, tarbush, and yucca.

D. **Ponds and Streams:** None. Playas in the area will be avoided.

E. **Residence and Other Structures:** There are no occupied residences or buildings within one quarter of a mile of the proposed well location

F. **Land Use:** grazing, wildlife, mineral development.

G. **Water Wells:** No water wells are located in Section.

H. **Arroyos, Canyons, etc.:** none.

I. **Well Sign;** Sign identifying and locating the well will be maintained at drill site with the spudding of the well.

J. **Archaeological Resources**: Archaeological Survey is forth coming.

K. **Surface Ownership:** Bureau of Land Management

12. **Operator's Representatives:** Field personnel who can be contacted concerning compliance of the Surface Use Plan are as follows:

Steve Simonton, Drilling Superintendent
Cimarex Energy Co.
15 East 5th Street, Suite 1000
Tulsa, OK 74103
918-295-1710

13. Certification:

I hereby certify that I, or persons under my direct supervision, have inspected the drill site and access route, that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct, and that the work associated with the operations proposed herein will be performed by Cimarex Energy Co., and its contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved.

BY: Steve Simonton, Drilling Superintendent

8/18/04
DATE

CIMAREX ENERGY CO.

WELL NAME: **Wagon Wheel '24' Federal #2**

DRILLING PROGNOSIS

1. Location of Proposed Well: 1345' FSL & 1930' FEL Section 24, T22S-R22E, Eddy County, New Mexico

2. Unprepared Ground Elevation: 4295.9'

3. The geological name of the surface formation is Queen

4. Type of drilling tools will be rotary

5. Proposed drilling depth is 10500'

The estimated tops of important geologic markers are as follows:

ZONES	TOPS (MD)
Queen	Surface
San Andres	564
Glorieta	2149
Yeso	2198
Bone Spring	3167
Bone Spring 3rd SS	6023
Wolfcamp	6167
Cisco	7650
Canyon	7960
Strawn	8176
Atoka	8613
Morrow LS	9197
Middle Morrow	9403
Lower Morrow	9578
Barnett Marker #1	9805

7. The estimated depths at which anticipated water, oil, gas or other mineral bearing formations are expected to be encountered are as follows:

ZONES	DEPTH	FLUID
San Andres	0-1000'	Water
Morrow	9202 - 9803'	Gas

8. **The proposed casing program is as follows:**

Surface: 9-5/8", 36 ppf, J55, STC set at 1,600'; Burst – 2020 psi, Collapse – 3520 psi, Joint Strength – 394,000#, Body Strength – 564,000# WITNESS

Production: 5-1/2", 17 ppf, N80, LTC set at 9800';
Burst – 7740 psi, Collapse – 6280 psi, Joint Strength – 348,000#, Body Strength – 397,000#

9. Cement Program:

Surface 9- 5/8": **Lead:** 550 sx 35:65 Poz C + 5% salt + 6% Bentonite + ¼ #/sk cellophane flake + 0.2% antifoam mixed @ 12.6 ppg, 11.2 gps water, 2.04 ft^3/sk. 200% excess over gauge
Tail: 300 sx Class C + 1% $CaCl_2$ + ¼ #/sk cellophane flake mixed @ 14.8 ppg, 6.29 gps water, 1.34 ft^3/sk 50% excess over gauge

Production 5-1/2" 785 sks 50:50 Poz H + 5% salt + 2% Bentonite + 0.3% Fluid Loss + 0.2% dispersant + 0.2% antifoam + 0.2% retarder mixed @ 14.4 ppg, 6.0 gps, 1.31 ft^3/sk. 30% excess over gauge .

Stage Collar Program:
Not anticipated at this time.

10. Pressure Control Equipment:

A schematic diagram of the final BOP stack showing sizes and pressure ratings is attached. A schematic diagram of the manifold showing sizes and pressure ratings is attached. The BOP will be set on casing head after drilling and setting surface casing. Pressure tests will be done as needed & after nippling up on the surface casing. Ram-Type preventors shall be actuated to test proper functioning at least once a day. The annular-type blowout preventor shall be actuated on the drill pipe at least once each week.

11 **Drilling Mud Prognosis:**

DEPTH INTERVAL	WEIGHT (ppg)	VISCOSITY (Sec/Qt)	FLUID LOSS (ml/30 min)	MUD TYPE
0-1000	8.4 – 9.0	27 - 40	NC	Fresh water, native
1000 - 2300	8.4 – 8.6	28 - 32	NC	Fresh water, gel sweeps
2300 – 9800	8.4 – 9.5	28 – 45	NC-10	Low Solids / Lightly dispersed

12. The testing, logging, and coring programs are as follows:

Neutron – Density: Surface to TD

Laterlog: Base of Intermediate to TD

Sonic: Base of Intermediate to TD

Formation Tester: 10 to 20 settings in Morrow.

Possible DST in Wolfcamp

Possible DST in Morrow

13. Abnormal temperatures are not anticipated to be encountered nor any other potential hazards such as Hydrogen Sulfide Gas. Low risk H_2S equipment will be used.

Estimated Bottom hole pressures: Morrow - +/- **4800** psi

14. The anticipated starting date is sometime around September 17, 2004 with duration of drilling/completion operations for approximately 45 days thereafter.

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 and Natural Resources Department

OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

Form C-102
Revised JUNE 10, 2003
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name

Property Code	Property Name	Well Number
	WAGON WHEEL FEDERAL	2
OGRID No.	**Operator Name**	**Elevation**
	CIMAREX ENERGY COMPANY	4296'

Surface Location

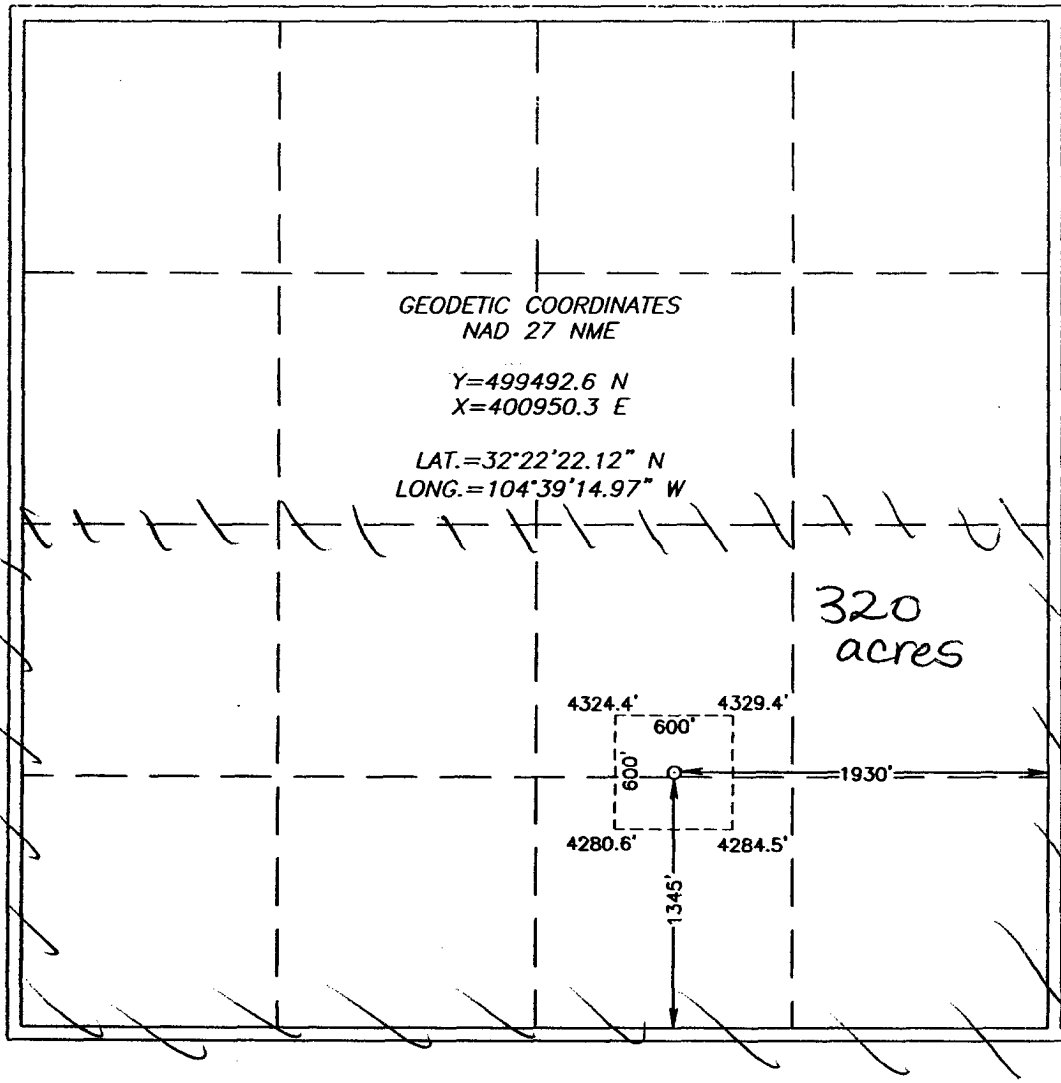
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	24	22-S	22-E		1345'	SOUTH	1930'	EAST	EDDY

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

Dedicated Acres	Joint or Infill	Consolidation Code	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



OPERATOR CERTIFICATION

I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.

Signature

Steve J. Simonton

Printed Name

Drlg Supt.

Title

8-18-04

Date

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 supervison, and that the same is true and correct to the best of my belief.

JULY 13, 2004

Date Surveyed JR

Signature & Seal of Professional Surveyor

GARY G. EIDSON
NEW MEXICO
12641
REGISTERED PROFESSIONAL SURVEYOR

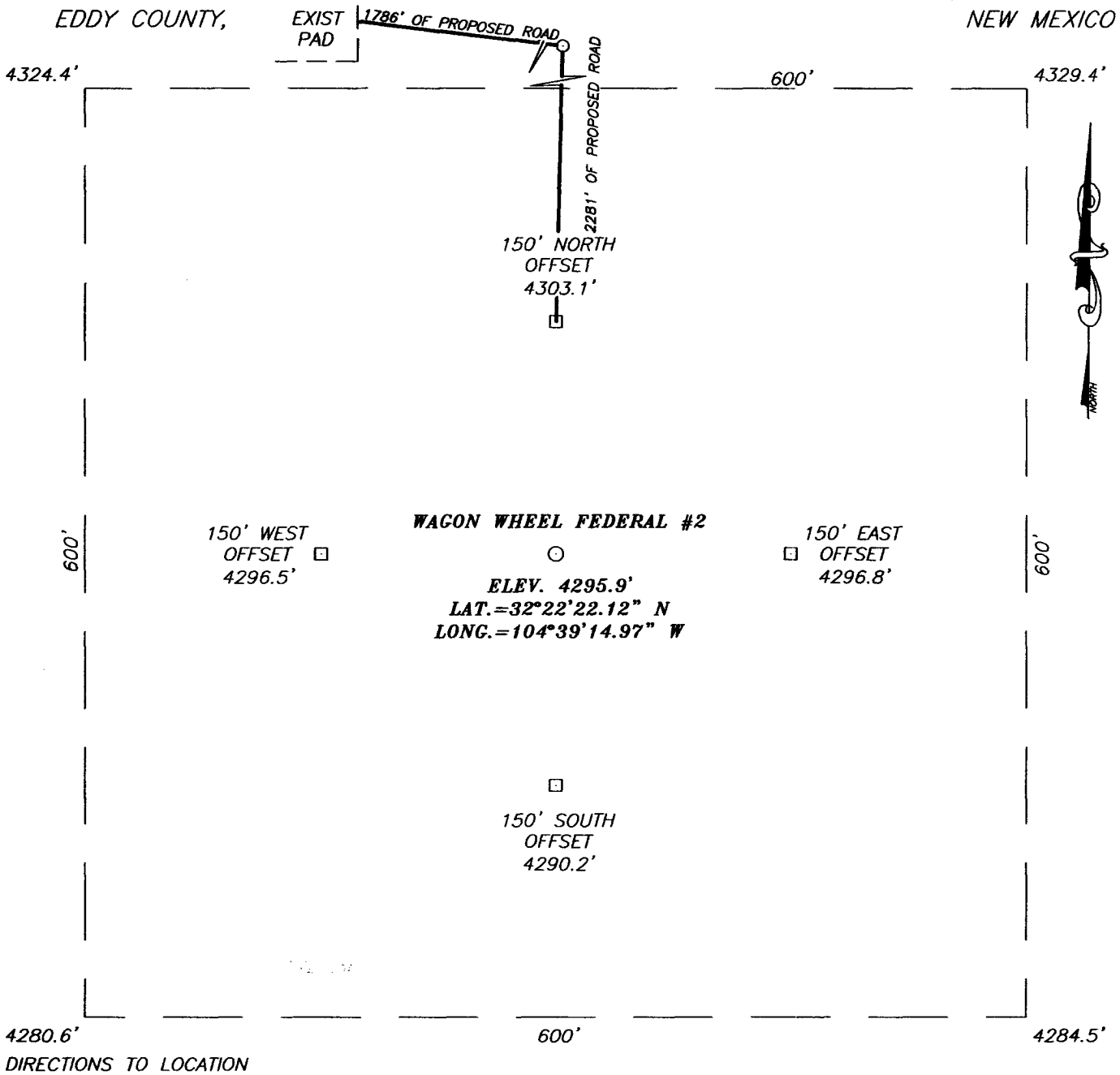
7/26/04

04.11.0864

Certificate No. GARY EIDSON 12641

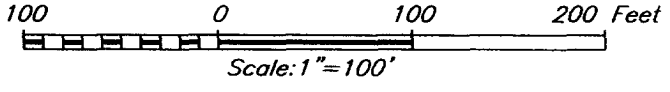
SECTION 24, TOWNSHIP 22 SOUTH, RANGE 22 EAST, N.M.P.M.,

EDDY COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

FROM THE MARATHON INDIAN BASIN GAS PLANT, GO WEST ON CO. RD. #401 FOR APPROX. 1.1 MILES, TURN LEFT AND GO SOUTH FOR APPROX. 0.9 MILES TO A FORK IN THE ROAD. STAY TO THE RIGHT AND GO SW FOR APPROX. 0.9 MILES TO ANOTHER FORK IN THE ROAD. STAY TO THE RIGHT AND GO APPROX. 1.1 MILES TO ANOTHER FORK. STAY TO THE LEFT AND GO APPROX. 1.8 MILES TO A TEE, TURN LEFT AND GO APPROX. 1.0 MILES, TURN RIGHT AND GO NW TO CATTLEGUARD. GO THRU CATTLEGUARD AND CONTINUE ON MAIN ROAD. GO SW 0.4 MILES TO A BEND IN THE ROAD, GO NW 1.1 MILES, THEN TURN LEFT AND GO 0.3 MILES TO A PROPOSED ROAD SURVEY. GO SW FOR APPROX. 0.3 MILES, TURN LEFT AND GO SE FOR APPROX. 0.3 MILES, TURN RIGHT AND GO SOUTH FOR APPROX. 0.4 MILES. PROPOSED LOCATION IS APPROX. 150' SOUTH



Scale: 1"=100'

PROVIDING SURVEYING SERVICES SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(505) 393-3117

CIMAREX ENERGY COMPANY

WAGON WHEEL FEDERAL #2 WELL
LOCATED 1345 FEET FROM THE SOUTH LINE
AND 1930 FEET FROM THE EAST LINE OF SECTION 24,
TOWNSHIP 22 SOUTH, RANGE 22 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.

Survey Date: 07/20/04	Sheet 1 of 1 Sheets		
W.O. Number: 04.11.0864	Dr By: J. RIVERO	Rev 1:N/A	
Date: 07/21/04	Disk: CD#10	04110864	Scale: 1"=100'

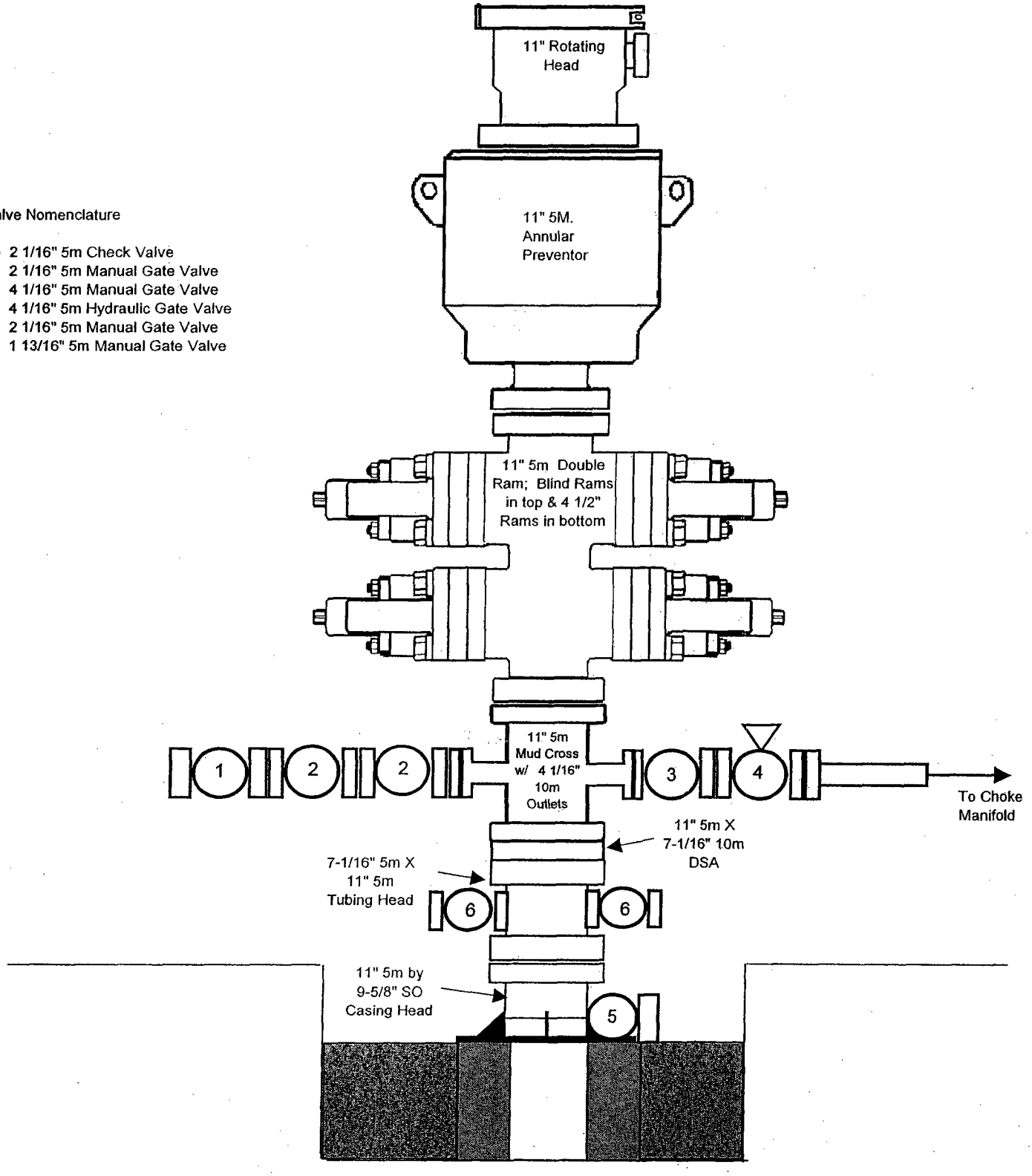
CIMAREX ENERGY CO.

WAGON WHEEL "24" FEDERAL 2

Proposed Blowout Preventor Stack

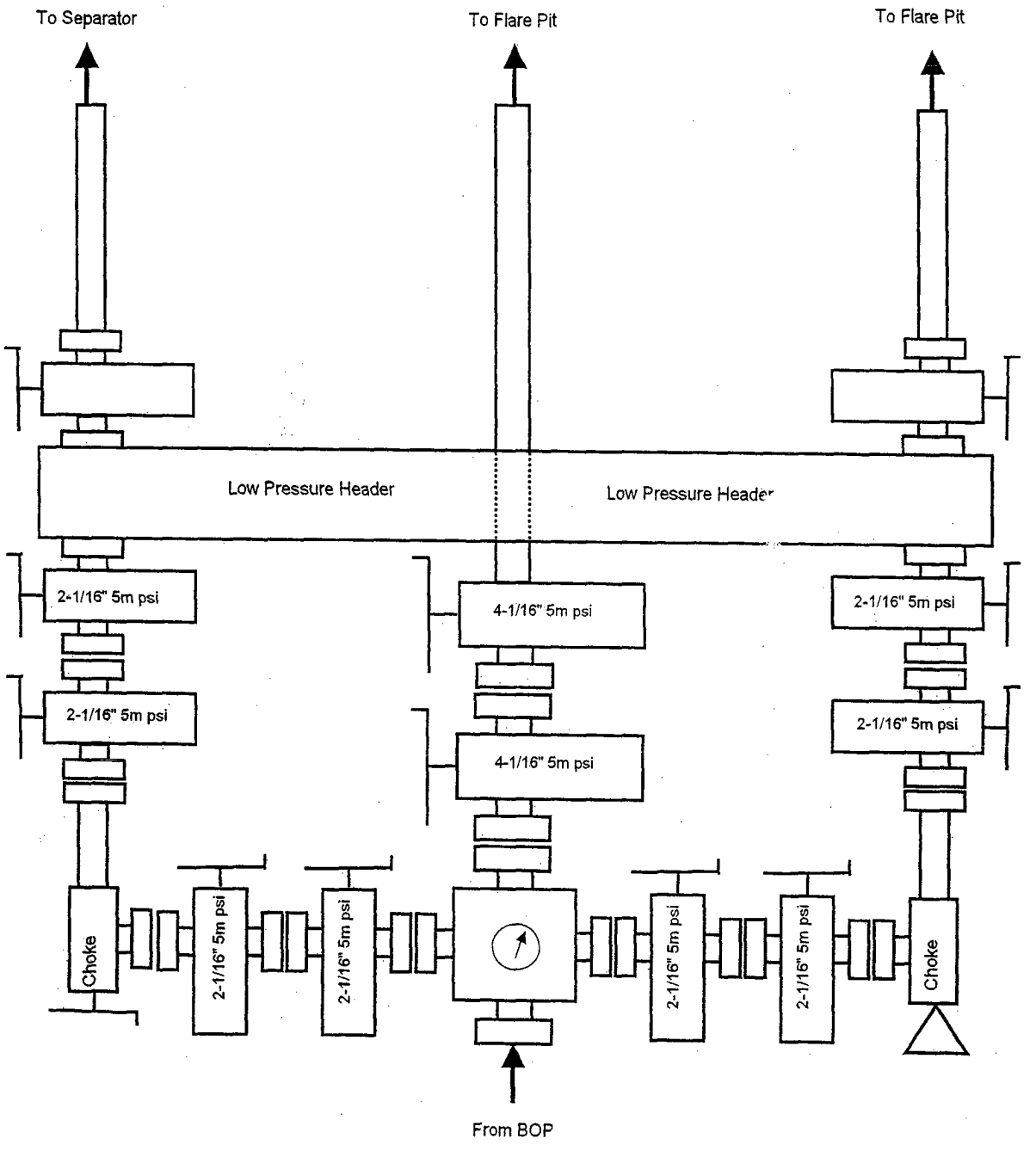
Valve Nomenclature

1.) 2 1/16" 5m Check Valve
2.) 2 1/16" 5m Manual Gate Valve
3.) 4 1/16" 5m Manual Gate Valve
4.) 4 1/16" 5m Hydraulic Gate Valve
5.) 2 1/16" 5m Manual Gate Valve
6.) 1 13/16" 5m Manual Gate Valve



CIMAREX ENERGY CO. – WAGON WHEEL "24" FEDERAL #2

Choke Manifold



CIMAREX ENERGY CO.,
Wagon Wheel "29" #2
Section 29-T22S-R22E,
Eddy County, New Mexico.