

OCD Artesia

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a Type of Work ☐ DRILL ☒ REENTER

CONFIDENTIAL

1b Type of Well ☒ Oil Well ☐ Gas Well ☒ Other ☒ Single Zone ☐ Multiple Zone2 Name of Operator
CHESAPEAKE OPERATING, INC. E-Mail: linda.good@chk.com

Contact LINDA GOOD

3b Phone No (include area code)
Ph: 405-935-42753a. Address
P O BOX 18496
OKLAHOMA CITY, OK 73154-04965. Lease Serial No
NMNM106690

6. If Indian, Allottee or Tribe Name

7 If Unit or CA Agreement, Name and No

8 Lease Name and Well No.
CHINA GROVE FEDERAL 19. API Well No.
30-015-2767810 Field and Pool, or Exploratory
SWD; DELAWARE11 Sec., T., R., M., or Blk. and Survey or Area
Sec 1 T26S R29E Mer NMP14 Distance in miles and direction from nearest town or post office*
21 MILES SE OF MALAGA, NM12 County or Parish
EDDY13. State
NM15 Distance from proposed location to nearest property or
lease line, ft. (Also to nearest drig. unit line, if any)16. No. of Acres in Lease
320.0017 Spacing Unit dedicated to this well
40.0018 Distance from proposed location to nearest well, drilling,
completed, applied for, on this lease, ft19 Proposed Depth
6000 MD20 BLM/BIA Bond No. on file
NM263421 Elevations (Show whether DF, KB, RT, GL, etc
3052 GL

22 Approximate date work will start

23 Estimated duration

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

25 Signature
(Electronic Submission)Name (Printed/Typed)
LINDA GOOD Ph. 405-935-4275Date
05/14/2010Title
SR. REGULATORY COMPLIANCE SPECApproved by (Signature)
/s/ Don Peterson

Name (Printed/Typed)

Date
AUG 19 2010Title
FIELD MANAGEROffice
CARLSBAD FIELD OFFICEApplication 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

APPROVAL FOR TWO YEARS

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.

Additional Operator Remarks (see next page)

Electronic Submission #86516 verified by the BLM Well Information System
For CHESAPEAKE OPERATING, INC., sent to the Carlsbad

Carlsbad Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVALApproval Subject to General Requirements
& Special Stipulations Attached

** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED **

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

Form C-102
Revised October 15, 2009
Submit one copy to appropriate
District Office

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

☒ AMENDED REPORT

API Number 30-015-27678	Pool Code 96400 77003	Pool Name SWD; Delaware CHERRY CANYON
Property Code 38310	Property Name CHINA GROVE FEDERAL	Well Number 1
GRID No. 147179	Operator Name CHESAPEAKE OPERATING CO.	Elevation 3055'

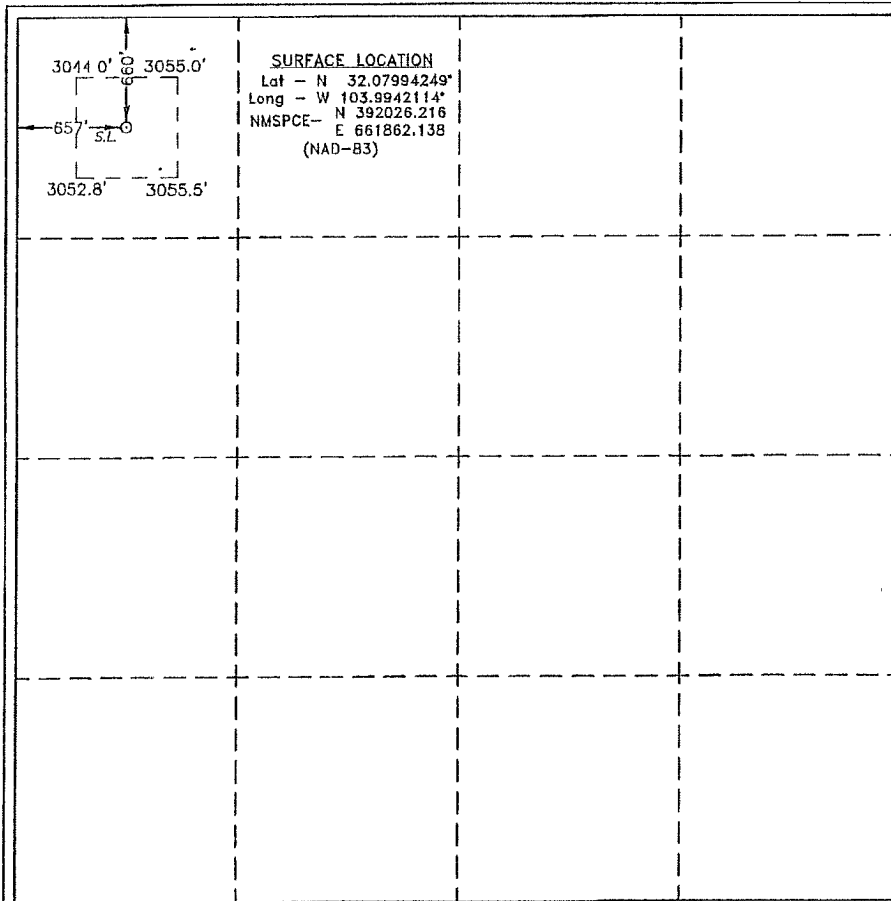
Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	1	26 S	29 E		660	NORTH	657	WEST	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.						

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

Signature: *Bryan Arrant* Date: 3/9/2010

Printed Name: Bryan Arrant

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 Surveyed: MARCH 3, 2010

Signature: *Gary L. Jones*

Professional Surveyor: 7977

Certificate No. Gary L. Jones 7977

BASIN SURVEYS

EXHIBIT A-1

OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

DISTRICT I

P.O. Box 1980, Hobbs, NM 88240

DISTRICT II

P.O. Drawer DD, Artesia, NM 88210

DISTRICT III

1000 Rio Brazos Rd., Artec, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator SOUTHWEST ROYALTIES, INC.			Lease CHINA GROVE FEDERAL		Well No. 1
Unit Letter D	Section 1	Township 26 SOUTH	Range 29 EAST NMPM	County EDDY	

Actual Footage Location of Well:

660 feet from the NORTH line and 660 feet from the WEST line

Ground Level Elev. 3051.9'	Producing Formation Delaware	Pool UNITARY OIL & GAS DELAWARE, N UNDESIGNATED Undesignated-Delaware	Dedicated Acreage: 40 Acres
--------------------------------------	--	---	---------------------------------------

- Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
- If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
- If more than one lease of different ownership is dedicated to the well, have the interest of all owners been consolidated by communitization, unitization, force-pooling, etc.?

☐ Yes ☒ No If answer is "yes" type of consolidation _____

If answer is "no" list of owners and tract descriptions which have actually been consolidated. (Use reverse side of this form necessary.) _____

No allowable will be assigned to the well unit all interests have been consolidated (by communitization, unitization, forced-pooling, otherwise) or until a non-standard unit, eliminating such interest, has been approved by the Division.

OPERATOR CERTIFICATION

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

Signature
[Handwritten Signature]

Printed Name
Joe T. Janica

Position
Agent

Company
Southwest Royalties Inc.

Date
8/17/93

SURVEYOR CERTIFICATION

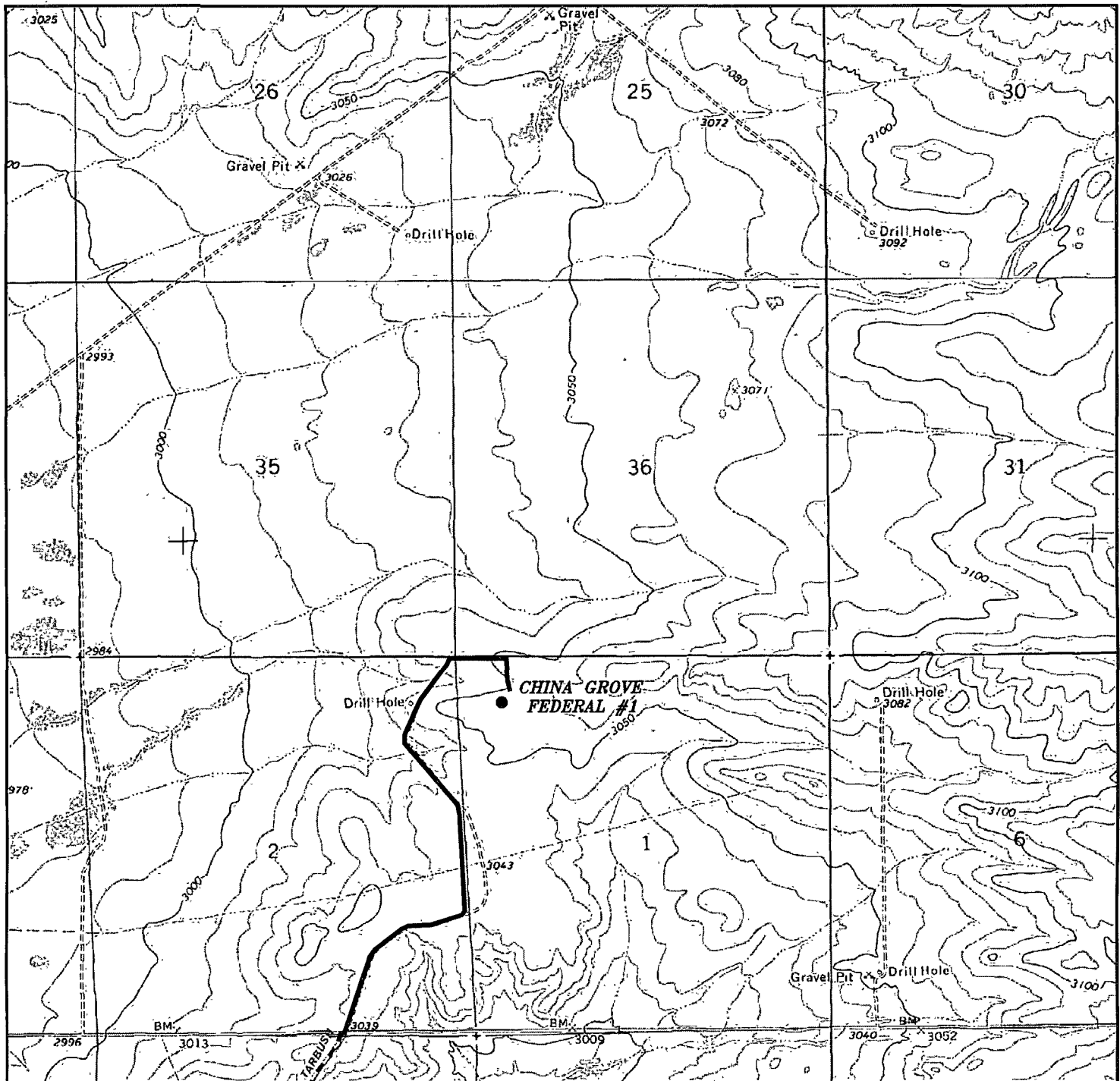
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed
AUGUST 10, 1993

Signature & Seal of Professional Surveyor
[Handwritten Signature]

Certificate No. JOHN W. WEST, 676
RONALD L. JONES, 3235
GARY L. JONES, 7977

Original Plat



CHINA GROVE FEDERAL #1
 Located 660' FSL and 657' FWL
 Section 1, Township 26 South, Range 29 East,
 N.M.P.M., Eddy County, New Mexico.

basin
surveys
 focused on excellence
 in the oilfield

P.O. Box 1786
 1120 N. West County Rd.
 Hobbs, New Mexico 88241
 (575) 393-7316 - Office
 (575) 392-2206 - Fax
 basinsurveys.com

W.O. Number: JMS 22449

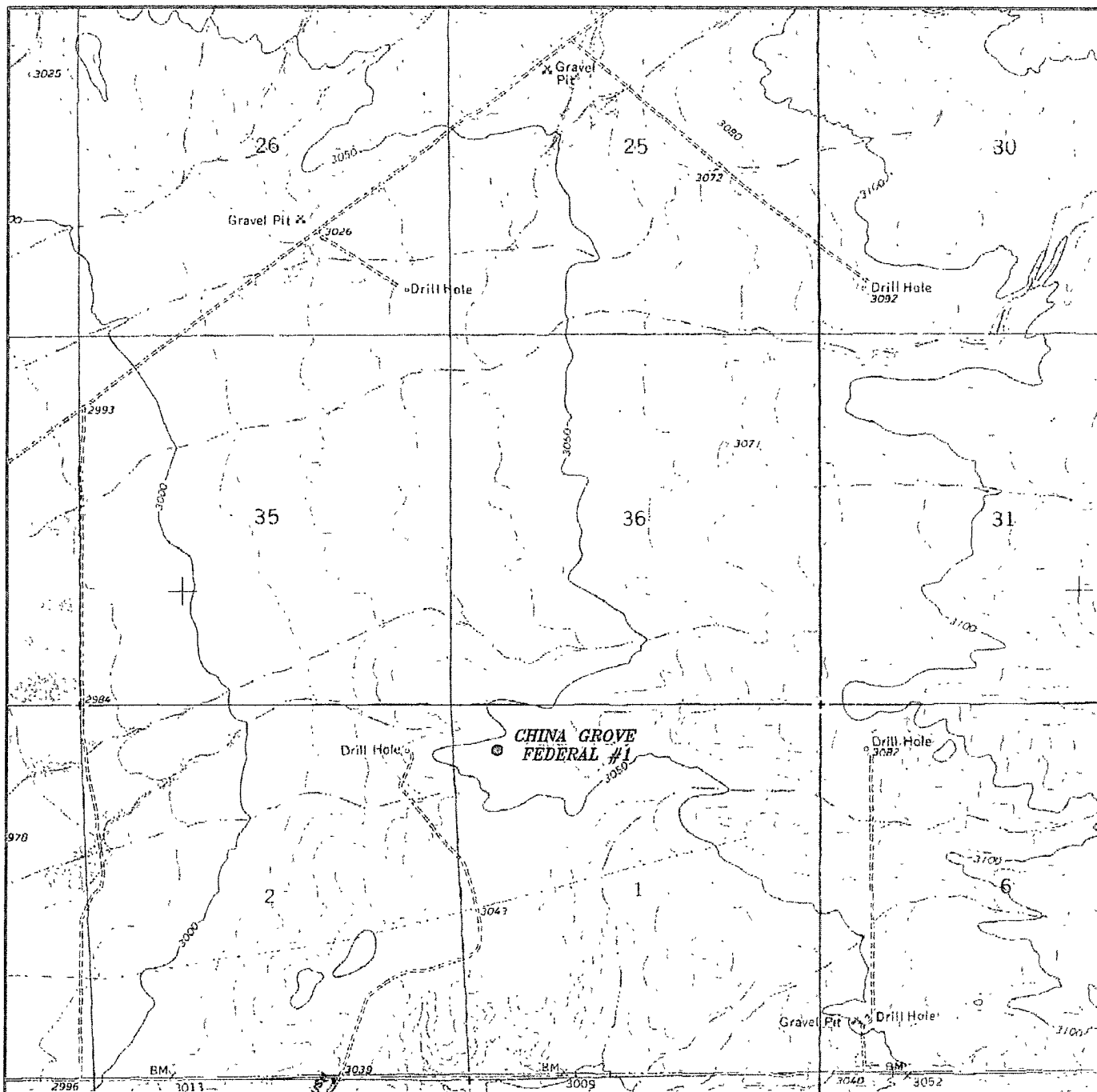
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Scale: 1" = 2000'

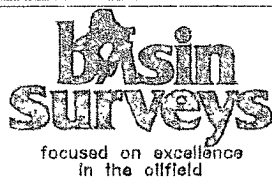
Date: 03-10-2010

CHESAPEAKE
OPERATING CO.

EXHIBIT A-6



CHINA GROVE FEDERAL #1
 Located 660' FSL and 657' FWL
 Section 1, Township 26 South, Range 29 East,
 N.M.P.M., Eddy County, New Mexico.



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W.O. Number: JMS 22449

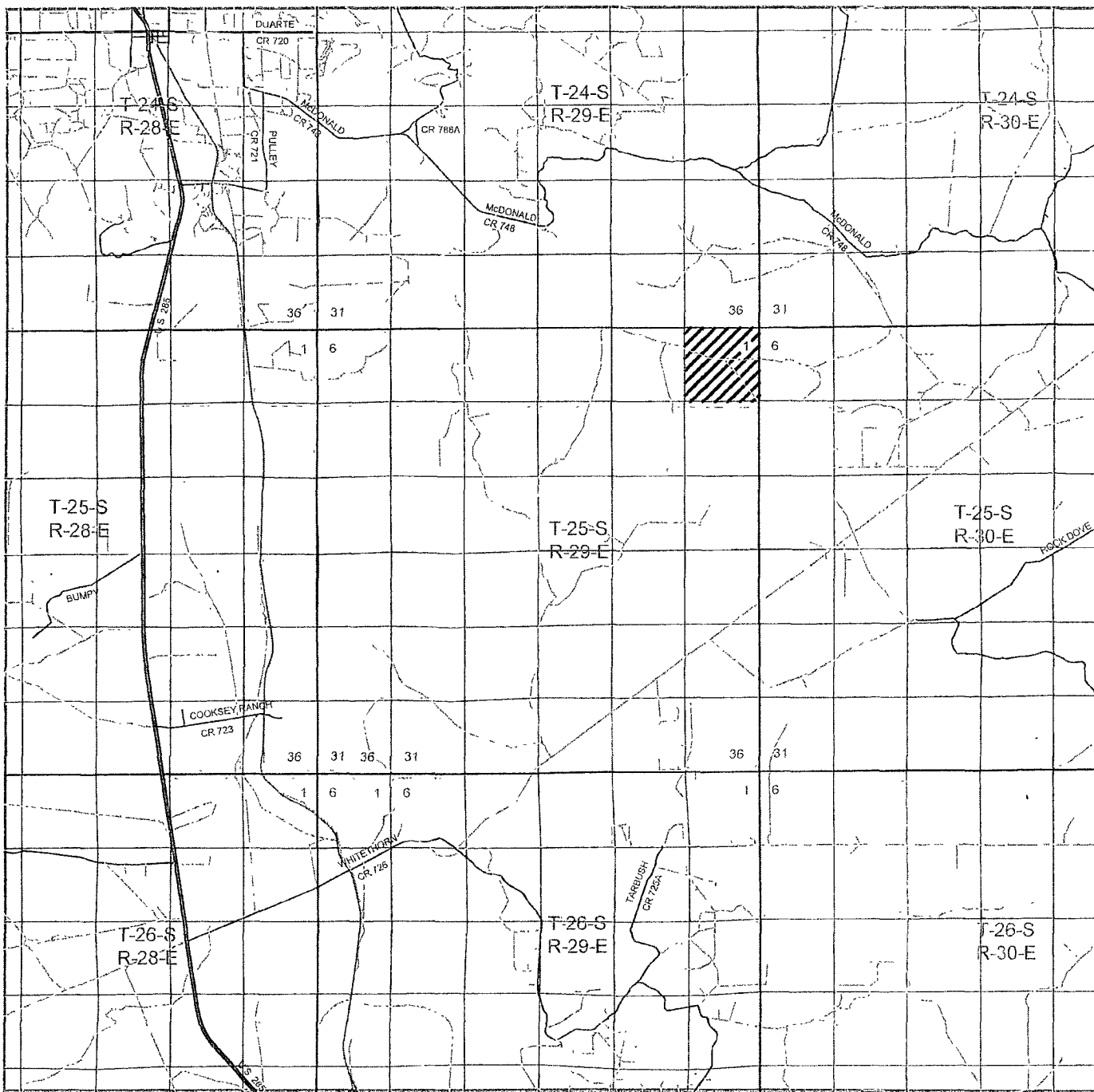
Survey Date: 03-03-2010

Scale: 1" = 2000'

Date: 03-10-2010

**CHESAPEAKE
 OPERATING CO.**

EXHIBIT A-3



CHINA GROVE FEDERAL #1
 Located 660' FSL and 657' FWL
 Section 1, Township 26 South, Range 29 East,
 N.M.P.M., Eddy County, New Mexico.



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 Hobbs, New Mexico 88241
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basinsurveys.com

W.O. Number. JMS 22449

Survey Date: 03-03-2010

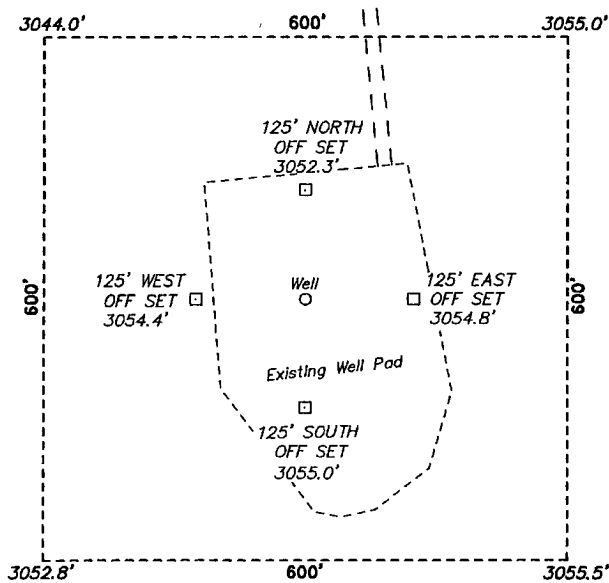
Scale: 1" = 2 Miles

Date: 03-10-2010

**CHESAPEAKE
 OPERATING CO.**

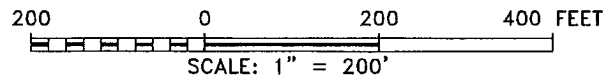
EXHIBIT A-4

SECTION 1, TOWNSHIP 26 SOUTH, RANGE 29 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



CHESAPEAKE OPERATING CO.
CHINA GROVE FEDERAL #1
ELEV. - 3055'

Lat - N 32.07994249°
Long - W 103.9942114°
NMSPCE - N 392026.216
E 661862.138
(NAD-83)



CHESAPEAKE OPERATING CO.

REF: CHINA GROVE FEDERAL #1 / WELL PAD TOPO

THE CHINA GROVE FEDERAL #1 LOCATED 660'
FROM THE NORTH LINE AND 657' FROM THE WEST LINE OF
SECTION 1, TOWNSHIP 26 SOUTH, RANGE 29 EAST,
N.M.P.M., EDDY COUNTY, NEW MEXICO.

BASIN SURVEYS P.O. BOX 1786-HOBBS, NEW MEXICO

W.O. Number: 22449 Drawn By: J. SMALL

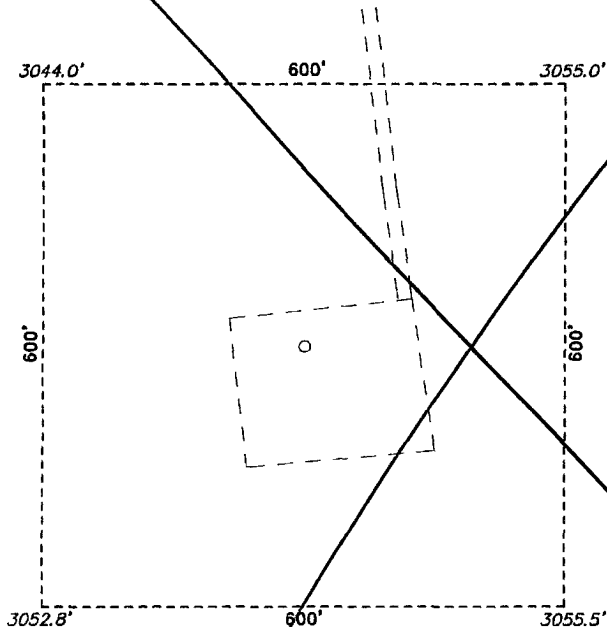
Date: 03-10-2010 Disk: JMS 22449

Survey Date: 03-03-2010 Sheet 1 of 1 Sheets

EXHIBIT A-2

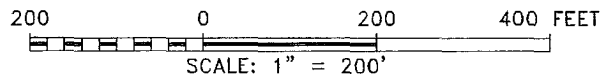
SECTION 1, TOWNSHIP 26 SOUTH, RANGE 29 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.

Replaced
6/28/10
TEN



CHESAPEAKE OPERATING CO.
CHINA GROVE FEDERAL #1
ELEV. - 3055'

Lat - N 32.07994249°
Long - W 103.9942114°
NMSPCE- N 392026.216
E 661862.138
(NAD-83)



CHESAPEAKE OPERATING CO.

REF: CHINA GROVE FEDERAL #1 / WELL PAD TOPO

THE CHINA GROVE FEDERAL #1 LOCATED 660'
FROM THE NORTH LINE AND 657' FROM THE WEST LINE OF
SECTION 1, TOWNSHIP 26 SOUTH, RANGE 29 EAST,
N.M.P.M., EDDY COUNTY, NEW MEXICO.

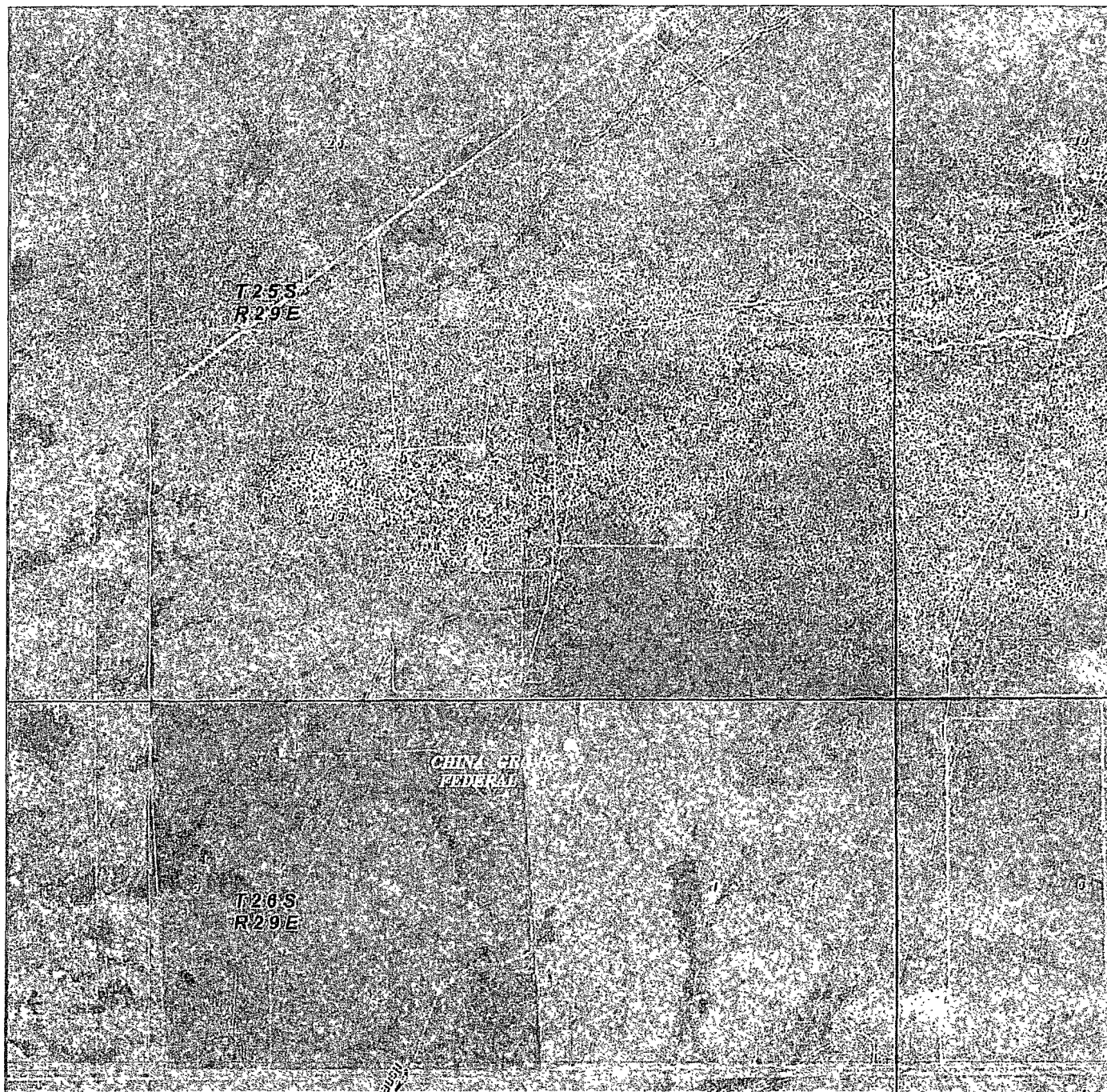
BASIN SURVEYS P.O. BOX 1786-HOBBS, NEW MEXICO

W.O. Number: 22449 Drawn By: J. SMALL

Date: 03-10-2010 Disk: JMS 22449

Survey Date: 03-03-2010 Sheet 1 of 1 Sheets

EXHIBIT A-2



CHINA GROVE FEDERAL #1
 Located 660' FSL and 657' FWL
 Section 1, Township 26 South, Range 29 East,
 N.M.P.M., Eddy County, New Mexico.



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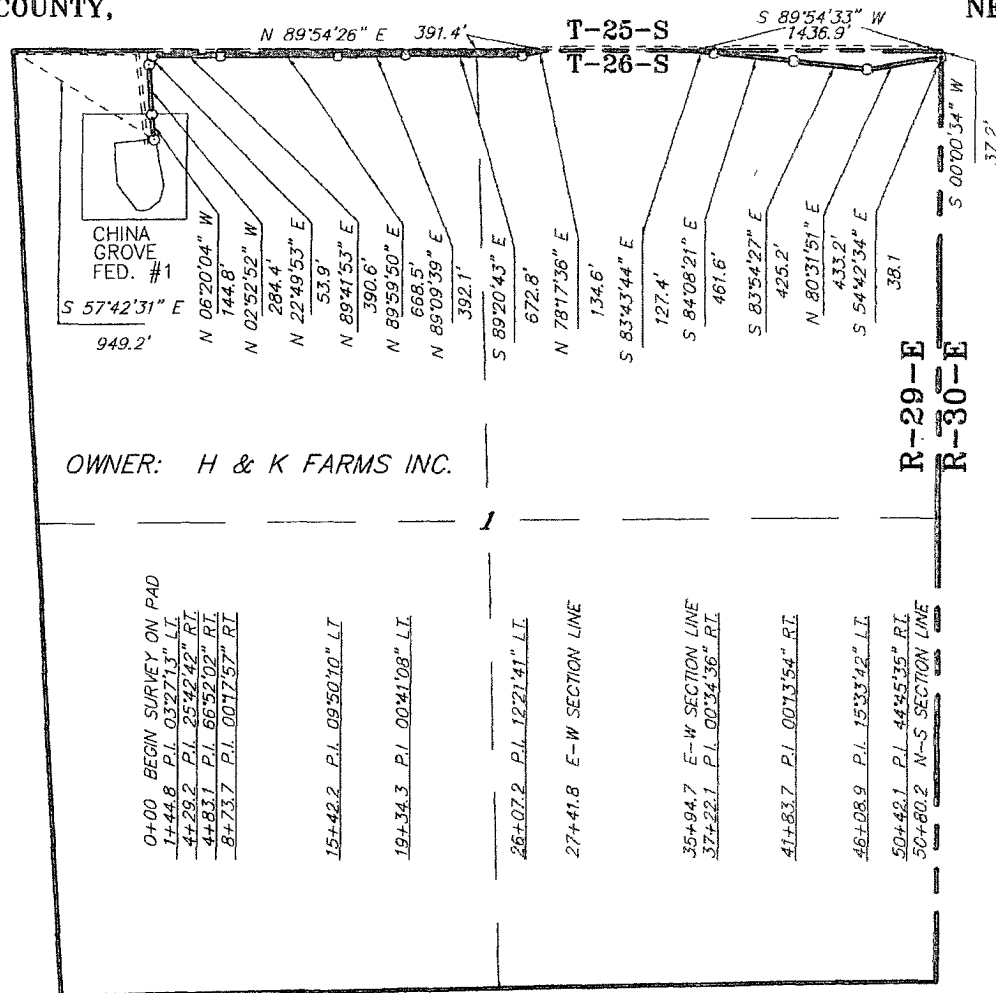
Scale: 1" = 2000'

YELLOW TINT - USA LAND
 BLUE TINT - STATE LAND
 NATURAL COLOR - FEE LAND

**CHESAPEAKE
 OPERATING CO.**

EXHIBIT A-5

SECTION 1, TOWNSHIP 26 SOUTH, RANGE 29 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.

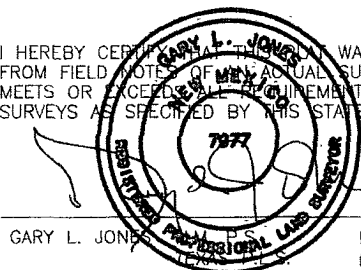


LEGAL DESCRIPTION

A STRIP OF LAND 30.0 FEET WIDE, LOCATED IN SECTION 13, TOWNSHIP 9 SOUTH, RANGE 7 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO AND BEING 15.0 FEET LEFT AND RIGHT OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY.

BEGINNING AT A POINT WHICH LIES S.57°42'31"E, 949.2 FEET FROM THE NORTHWEST CORNER OF SAID SECTION 1; THENCE N.06°20'04"W, 144.8 FEET; THENCE N.02°52'52"W, 284.4 FEET; THENCE N.22°49'53"E, 53.9 FEET; THENCE N.89°41'53"E, 390.6 FEET; THENCE N.89°59'50"E, 668.5 FEET; N.89°09'39"E, 392.1 FEET; THENCE S.89°20'43"E, 672.8 FEET; THENCE N.78°17'36"E, 134.6 FEET; TO A POINT ON THE NORTH SECTION LINE WHICH LIES N.89°54'26"E, 391.4 FEET FROM THE NORTH QUARTER CORNER OF SAID SECTION 1. THENCE BEGINNING AGAIN AT A POINT ON THE NORTH SECTION LINE WHICH LIES S.89°54'33"W, 1436.9 FEET FROM THE NORTHEAST CORNER OF SAID SECTION 1; THENCE S.83°43'44"E, 127.4 FEET; THENCE S.84°08'21"E, 461.6 FEET; THENCE S.83°54'27"E, 425.2 FEET; THENCE N.80°31'51"E, 433.2 FEET; THENCE S.54°42'34"E, 38.1 FEET TO A POINT ON THE EAST SECTION LINE WHICH LIES S.00°00'51"W, 37.2 FEET FROM THE NORTHEAST CORNER OF SAID SECTION 1. SAID STRIP OF LAND BEING 4227.3 FEET OR 256.20 RODS IN LENGTH

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED FROM FIELD NOTES OF AN ACTUAL SURVEY AND MEETS OR EXCEEDS ALL REQUIREMENTS FOR LAND SURVEYS AS SPECIFIED BY THIS STATE.



GARY L. JONES, P.S. No. 7977
No. 5074

BASIN SURVEYS P.O. BOX 1786-HOBBS, NEW MEXICO

W.O. Number: 22578 Drawn By: James Presley

Date: 04/06/10 Disk: JLP #1 - CHE22578

1000 0 1000 2000 FEET

CHESAPEAKE OPERATING INC.

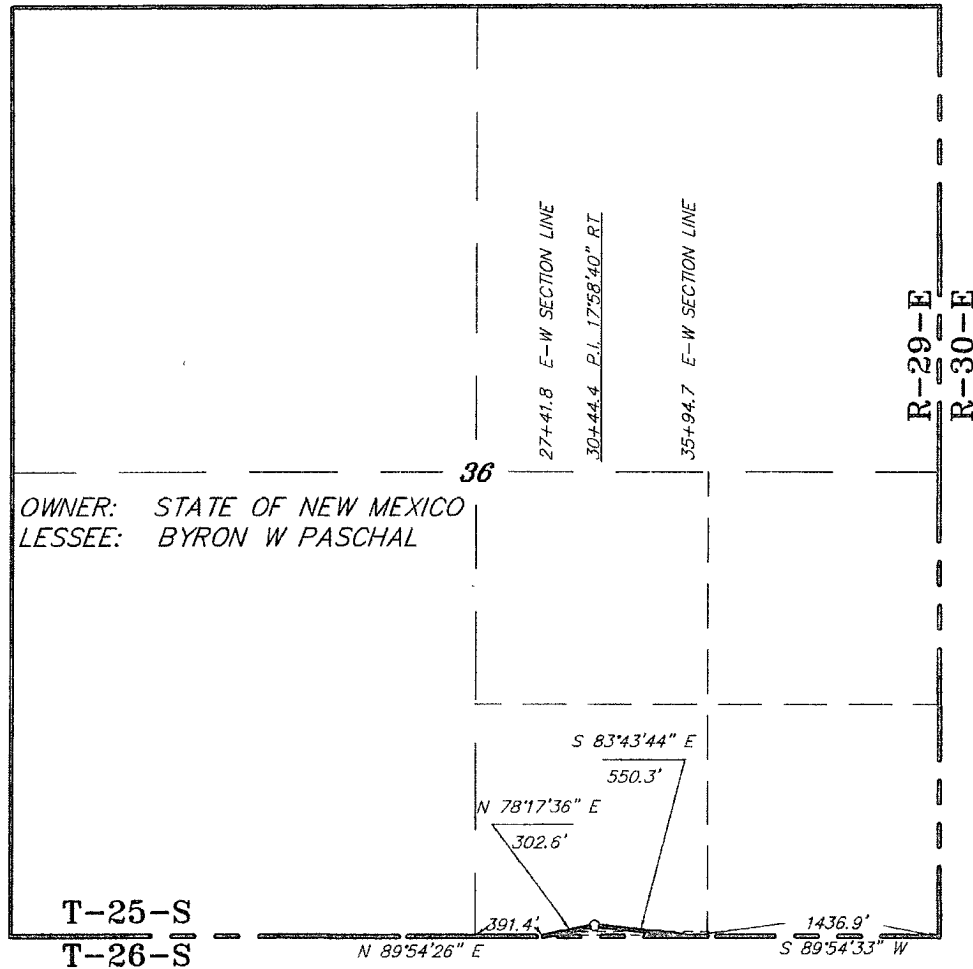
REF: PROPOSED PIPELINE FOR THE CHINA GROVE FEDERAL #1

A PIPELINE CROSSING FEE LAND IN
SECTION 1, TOWNSHIP 26 SOUTH, RANGE 28 EAST,
N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 03/31/10 Sheet 1 of 3 Sheets

EXHIBIT D2

SECTION 36, TOWNSHIP 25 SOUTH, RANGE 29 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



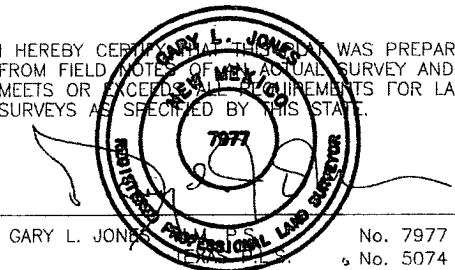
LEGAL DESCRIPTION

A STRIP OF LAND 30.0 FEET WIDE, LOCATED IN SECTION 36, TOWNSHIP 25 SOUTH, RANGE 29 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO AND BEING 15.0 FEET LEFT AND RIGHT OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY.

BEGINNING AT A POINT ON THE SOUTH SECTION LINE WHICH LIES N.89°54'26\"E., 391.4 FEET FROM THE SOUTH QUARTER CORNER OF SAID SECTION 36; THENCE N.78°17'36\"E., 302.6 FEET; THENCE S.83°43'44\"E., 550.3 FEET; TO A POINT ON THE SOUTH SECTION LINE WHICH LIES S.89°54'33\"W., 1436.9 FEET FROM THE SOUTHEAST CORNER OF SAID SECTION 36 SAID STRIP OF LAND BEING 852.9 FEET OR 51.69 RODS IN LENGTH, AND CONTAINING 0.59 ACRES OF LAND MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS.

SW/4 SE/4 51.69 RODS 0.59 ACRES

I HEREBY CERTIFY THAT THIS MAP WAS PREPARED FROM FIELD NOTES OF AN ACTUAL SURVEY AND MEETS OR EXCEEDS ALL REQUIREMENTS FOR LAND SURVEYS AS SPECIFIED BY THIS STATE.



GARY L. JONES, P.S. No. 7977
No. 5074

BASIN SURVEYS P.O. BOX 1786—HOBBS, NEW MEXICO

W.O. Number: 22578 Drawn By: James Presley

Date: 04/06/10 Disk: JLP #1 — CHE22578

1000 0 1000 2000 FEET

CHESAPEAKE OPERATING INC.

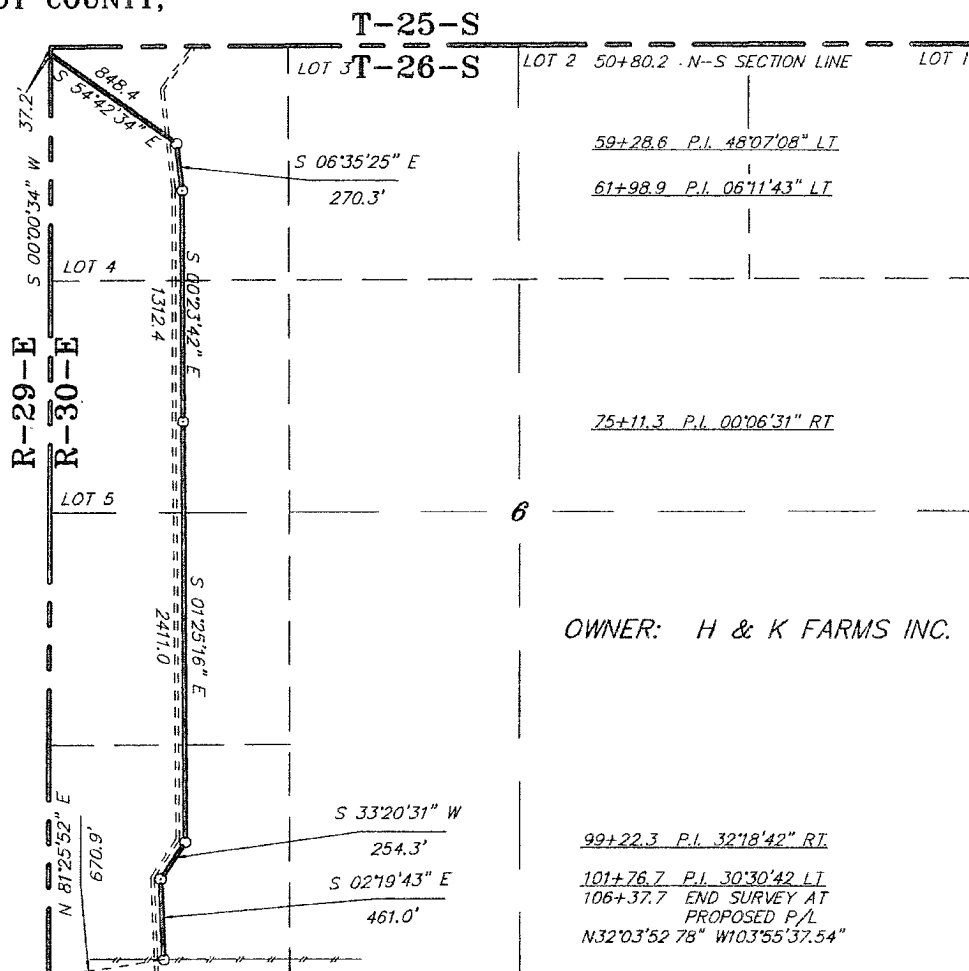
REF: PROPOSED PIPELINE FOR THE CHINA GROVE FEDERAL #1

A PIPELINE CROSSING STATE LAND IN
SECTION 36, TOWNSHIP 25 SOUTH, RANGE 29 EAST,
N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 03/31/10 Sheet 2 of 3 Sheets

EXHIBIT D-3

SECTION 6, TOWNSHIP 26 SOUTH, RANGE 30 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.

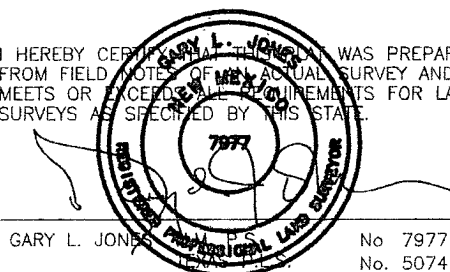


LEGAL DESCRIPTION

A STRIP OF LAND 30.0 FEET WIDE, LOCATED IN SECTION 6, TOWNSHIP 26 SOUTH, RANGE 30 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO AND BEING 15.0 FEET LEFT AND RIGHT OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY

BEGINNING AT A POINT ON THE WEST SECTION LINE WHICH LIES S 00°00'34\"W, 37.2 FEET FROM THE NORTHWEST CORNER OF SAID SECTION 6; THENCE S.54°42'34\"E., 848.4 FEET; THENCE S.06°35'25\"E., 270.3 FEET; THENCE S 00°23'42\"E., 1312.4 FEET; THENCE S.01°25'16\"E., 2411.0 FEET; THENCE S.33°20'31\"W, 254.3 FEET; THENCE S.02°19'43\"E., 461.0 TO THE END OF THIS LINE WHICH LIES N.81°25'52\"E., 670.9 FEET FROM THE SOUTHWEST CORNER OF SAID SECTION 6. SAID STRIP OF LAND BEING 5557.5 FEET OR 336.82 RODS IN LENGTH.

I HEREBY CERTIFY THAT THIS SURVEY WAS PREPARED FROM FIELD NOTES OF AN ACTUAL SURVEY AND MEETS OR EXCEEDS ALL REQUIREMENTS FOR LAND SURVEYS AS SPECIFIED BY THIS STATE.



GARY L. JONES

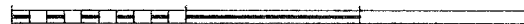
No. 7977
No. 5074

BASIN SURVEYS P.O. BOX 1786 - HOBBS, NEW MEXICO

W.O. Number: 22578 Drawn By. James Presley

Date: 04/06/10 Disk: JLP #1 - CHE22578

1000 0 1000 2000 FEET



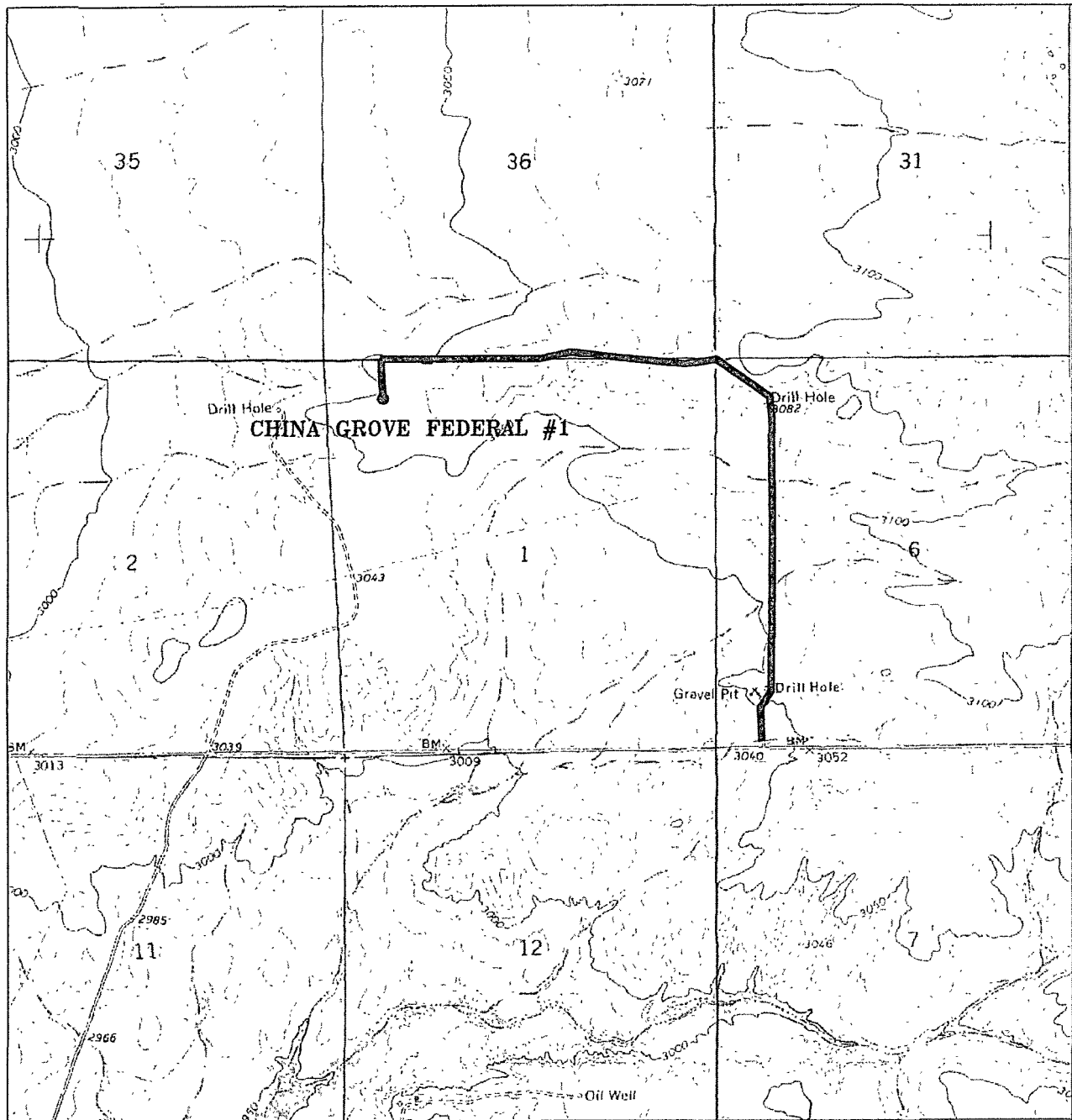
CHESAPEAKE OPERATING INC.

REF: PROPOSED PIPELINE FOR THE CHINA GROVE FEDERAL #1

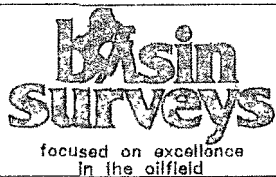
A PIPELINE CROSSING FEE LAND IN
SECTION 6, TOWNSHIP 26 SOUTH, RANGE 30 EAST,
N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date. 03/31/10 Sheet 3 of 3 Sheets

EXHIBIT D-4



PROPOSED PIPELINE FOR FOR THE CHINA GROVE FEDERAL #1
Section 1, Township 26 South, Range 29 East,
N.M.P.M., Eddy County, New Mexico.



P.O. Box 1786
 1120 N. West County Rd.
 Hobbs, New Mexico 88241
 (575) 393-7316 - Office
 (575) 392-2206 - Fax
 basinsurveys.com

W.O. Number: 22578

Survey Date: 03/31/10

Scale: 1" = 2000'

Date: 04/06/10

CHESAPEAKE
OPERATING
INC.

EXHIBIT D-5

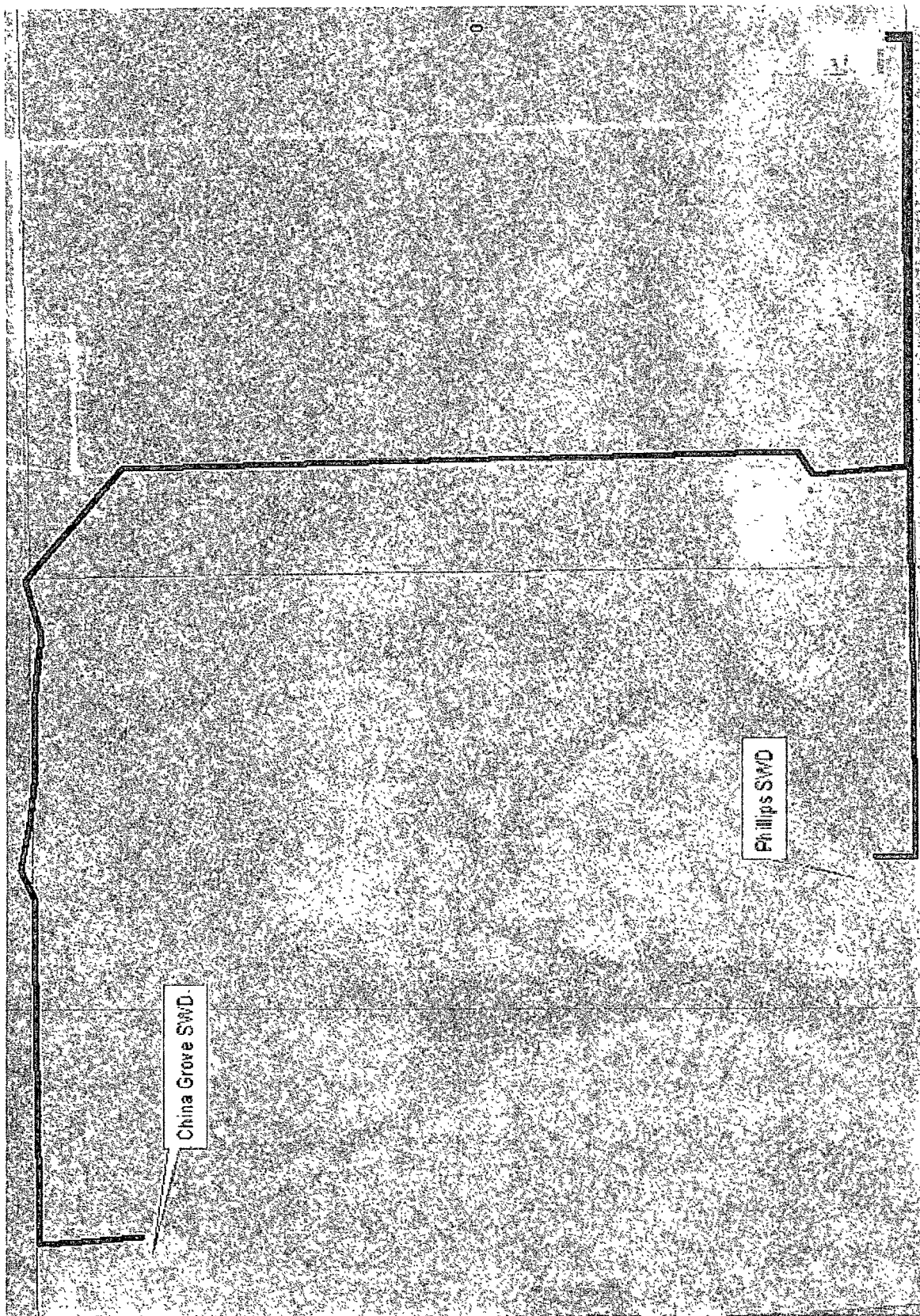


EXHIBIT D-6

Additional Operator Remarks:

Chesapeake Operating, Inc. respectfully requests permission to re-enter this well to 6000' to convert to a salt water disposal well.

Please find the Surface Use Plan and Re-Entry Plan as required by Onshore Order No. 1.

Attached are the Exhibit A-1 to A-3 Survey plats, Exhibit B 1 mile radius plat, Exhibit C Workover Rig, Exhibit D Flow line plats, Exhibit E Arch Survey, Exhibit F Flow Line Arch Survey and Exhibit G Reclamation Diagram.

Chesapeake Operating, Inc. has an agreement with the grazing lessee.

Please be advised that Chesapeake Operating, Inc. is considered to be the Operator of the above mentioned well. Chesapeake Operating, Inc. agrees to be responsible under the terms and conditions of the lease for the operations conducted upon the lease lands.

(CHK PN 631415)

RE-ENTRY PLAN

Page 1

ONSHORE OIL & GAS ORDER NO. 1
Approval of Operations on Onshore
Federal and Indian Oil and Gas Leases

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (CFR 43, Part 3160) and the approved Application for Permit to Drill or Re-enter. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling and completion operations.

Approval of this application 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.

1. FORMATION TOPS

The estimated tops of important geologic markers are as follows:

Formation	Subsea KBTVD	Depth KBTVD
BASE OF SALT	-179'	3,239'
BELL CANYON SAND	-244'	3,304'
CHERRY CANYON	-1,034'	4,094'
BRUSHY CANYON	-2,335'	5,395'

2. ESTIMATED DEPTH OF WATER, OIL, GAS & OTHER MINERAL BEARING FORMATIONS

The estimated depths at which the top and bottom of the anticipated water, oil, gas or other mineral bearing formations are expected to be encountered are as follows:

Substance	Formation	Depth
Oil/Gas	Bell Canyon Sand	3,304'
Oil/Gas	Brushy Canyon	5,395'

All shows of fresh water and minerals will be reported and protected.

3. Top of Cement by CBL is @ 3224'.

4. Existing Casing:

8 5/8" 24# & 32# J-55 0-3,230' ID – 7.921', Drift – 7.796', Burst – 2,950 psi
5 1/2" 15.5# J-55 1,922'-5,850' ID – 4.950", Drift – 4.825", Burst – 4,810 psi

China Grove Federal 1
Eddy County, New Mexico
Re-enter and Convert to SWD Procedure

Date: August 4, 2010

Location: 660' FNL & 660' FWL Sec. 1-T26S-R29E

Casing: 8 5/8" 24# & 32# J-55 0-3,230' ID – 7.921', Drift – 7.796', Burst – 2,950 psi
5 1/2" 15.5# J-55 1,922'-5,850' ID – 4.950", Drift – 4.825", Burst – 4,810 psi

PBTD/TD: 0'/5,850'

Current Perfs: Brushy Canyon 5,324-5,392' (below CIBP)

Propose Perfs: Cherry Canyon 4200-5122'

Recommended Procedure:

1. Dig out casing and secure casing stub. MIRU PU. NU BOP. Unload, rack and tally 2 7/8" work string.
2. RIH w/ 7 5/8" bit and drill collars on tbg. Drill out cement plugs to 5 1/2" casing stub @ 1,922'. POH w/ bit.
3. RIH w/ 5 1/2" 15.5# J-55 casing with bell collar on bottom. Set bell collar down on top of casing stub. Cement 5 1/2" casing with 350 sxs Class C cement (mixed at 1.5 cu ft/sxs) bringing cement back to surface. WOC.
4. RIH w/ 4 3/4" bit. Drill out cement at casing splice, and cement plugs down to CIBP @ 5,612'. Do not drill out cement on top of CIBP. Pressure test casing to 500 psi. POH w/ bit.
5. RU wireline co. Perforate Cherry Canyon 5092-5122', 1 spf w/ HSC gun.
6. RIH w/ packer on 2 7/8" tbg to 5,000'. Acidize perfs 5092-5122' w/ 5,000 gal 15% NEFE acid. Frac perfs per frac recommendation (anticipate 50,000# sand in X-linked fluid at 30 BPM). POH w/ packer.
7. RU wireline co. Set Composite BP @ 5,000'. Perforate Cherry Canyon 4510-60', 4660-4710', 1 spf w/ HSC gun.
8. RIH w/ packer on 2 7/8" tbg to 4,400'. Acidize perfs 4510-4710' w/ 5,000 gal 15% NEFE acid, dropping 150 perf balls evenly throughout job. Release packer and drop down through perfs and knock off balls. Pull packer back up to 4,400'. Frac perfs per frac recommendation (anticipate 50,000# sand in X-linked fluid at 30 BPM). POH w/ packer.
9. RU wireline co. Set Composite BP @ 4,450'. Perforate Cherry Canyon 4200-50', 4265-4,300' 1 spf w/ HSC gun.

10. RIH w/ packer on 2 7/8" tbg to 4,100'. Acidize perfs 4200-4300' w/ 5,000 gal 15% NEFE acid, dropping 125 perf balls evenly throughout job. Release packer and drop down through perfs and knock off balls. Pull packer back up to 4,100'. Frac perfs per frac recommendation (anticipate 50,000# sand in X-linked fluid at 30 BPM). POH w/ packer.
11. RIH w/ 4 3/4" bit and drill collars on tubing. Drill BP's @ 4,450' and 5,000'. Cleanout to PBTD. POH w/ bit laying down 2 7/8" workstring.
12. RIH w/ 2 3/8" plastic lined tbg and 5 1/2" Lock-set packer to 4,150'. Load back side with packer fluid. Set packer and pressure test to 500 psi.
13. ND BOP. NU WH. Rig down.

RE-ENTRY PLAN

Page 3

7. We plan to drill out the CIBP's with salt water. mud weight 8.4#/gal - per operator
8. BOP EQUIPMENT: 2060
Will have a ~~3000~~ psi rig stack (see proposed schematic, Exhibit F) for drill out; this system will be tested to ~~3000~~ psi working pressure.
9. Choke Manifold:
None.

A closed system will be utilized consisting of above ground steel tanks. All wastes accumulated during drilling operations will be contained in a portable trash cage and removed from location and deposited in an approved sanitary landfill.

10. ABNORMAL PRESSURES AND HYDROGEN SULFIDE
 - a. The estimated bottom hole pressure is 2500. No abnormal pressures or temperatures are anticipated.
 - b. Hydrogen sulfide gas is not anticipated.

BLOWOUT PREVENTOR SCHEMATIC

CHESAPEAKE OPERATING INC

WELL : China Grove Federal 1

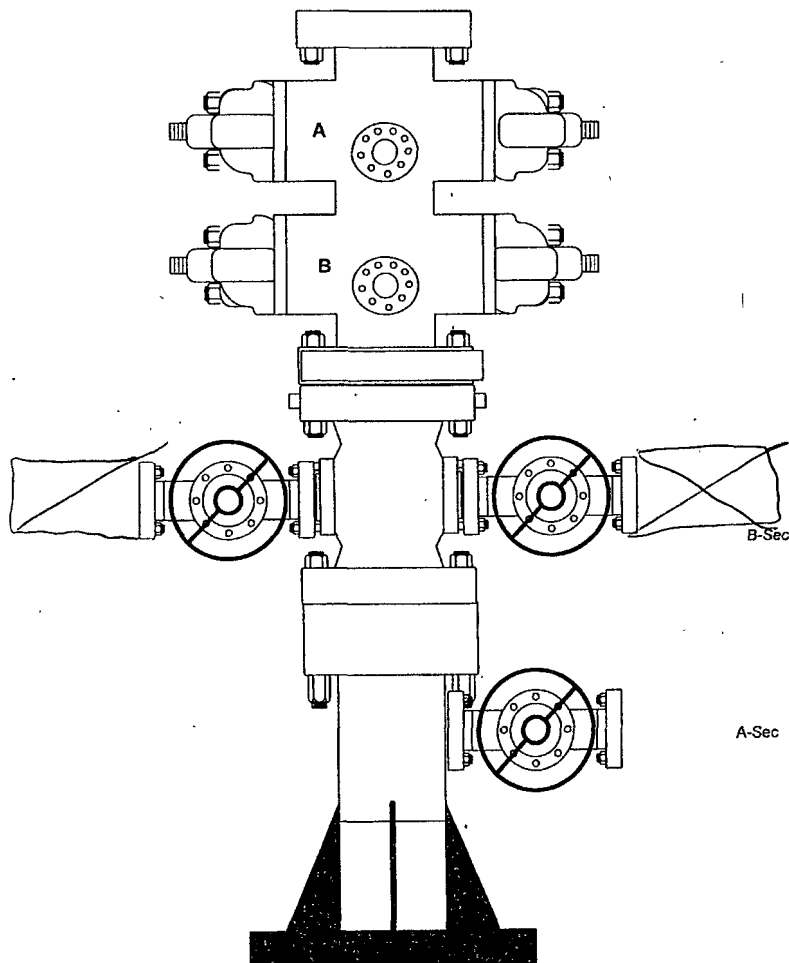
RIG :

COUNTY : Eddy

STATE: New Mexico

OPERATION: Re-entry to convert well to Salt Water Disposal

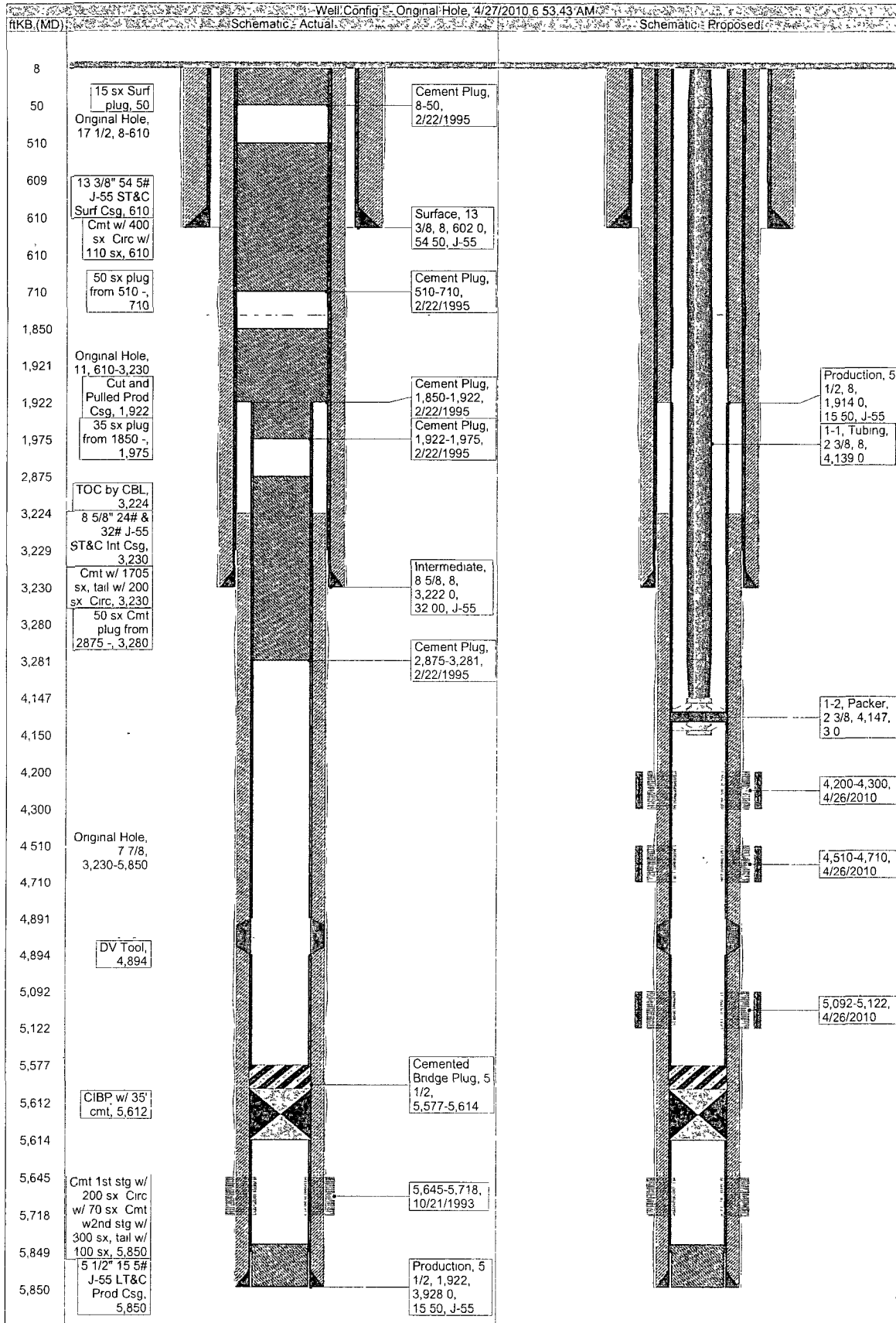
SIZE	PRESSURE	DESCRIPTION
A	7-1/16"	3000 psi
B	7-1/16"	3000 psi
B-sec	11" 3M x 7-1-16" 5M	
A-Sec	8-5/8" SOW x 11 x 3M	



WORKOVER PROPOSAL WBD

WELL: China Grove Federal 1
 FIELD: North Brushy Draw - Delaware
 COUNTY / STATE: EDDY / NEW MEXICO
 LOCATION: SEC 1-26S-29E, 660 FNL & 660 FWL
 ELEVATION: 3,052.00 GR 3,060.00 RKB

API: 3001527678
 SPUD DATE: 9/27/1993



CHESAPEAKE OPERATING, INC.

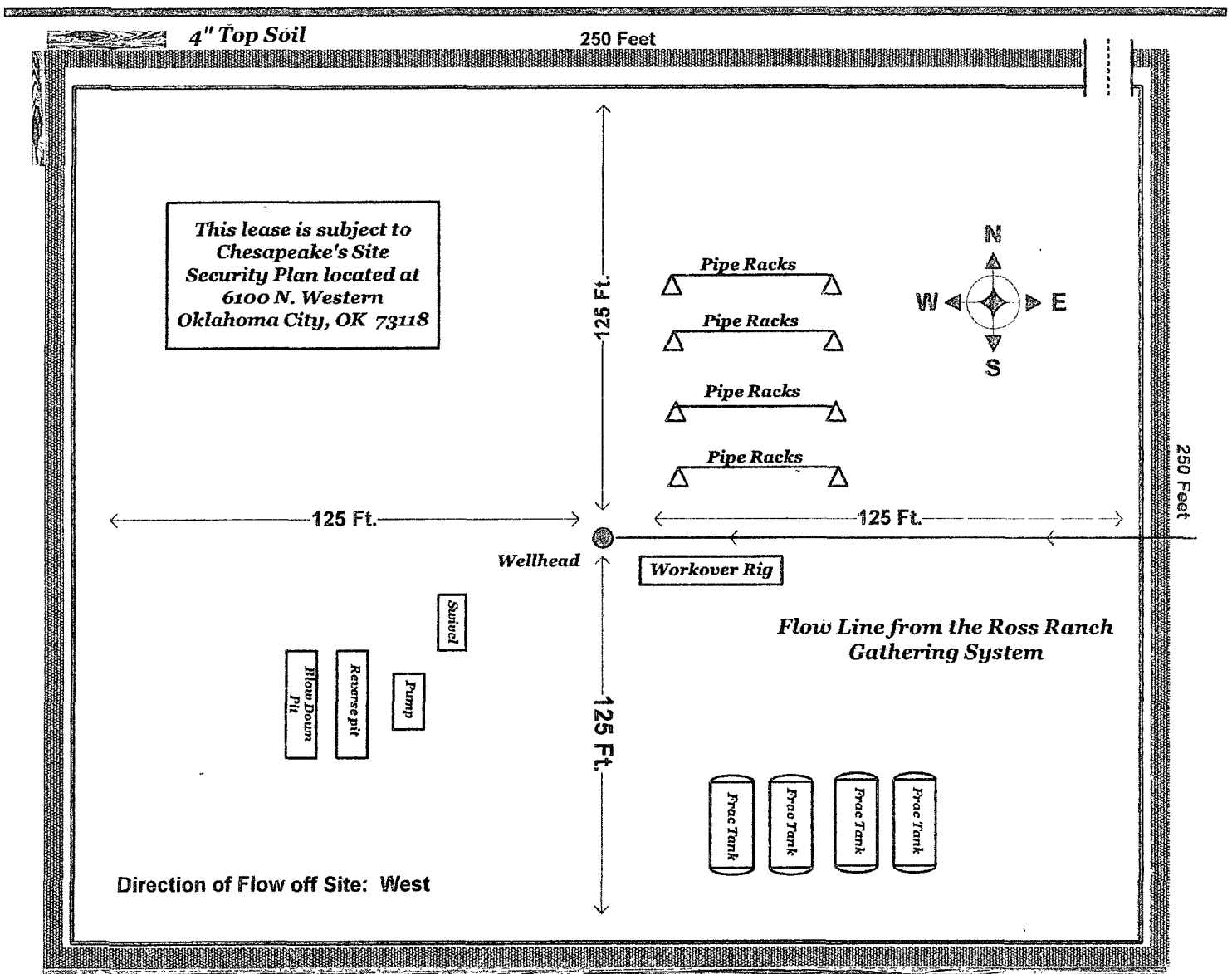


China Grove Federal #1

Lat: N 32.07994249 – Long.: W 103.9942114

S1/T26S/R29E – 660 FNL & 657 FWL

Eddy Co., New Mexico



Little or no topsoil exists on the south half of the location

Prepared by: Jackie Reynolds
Date: 3-15-2010

Approved by:
Date:

EXHIBIT C

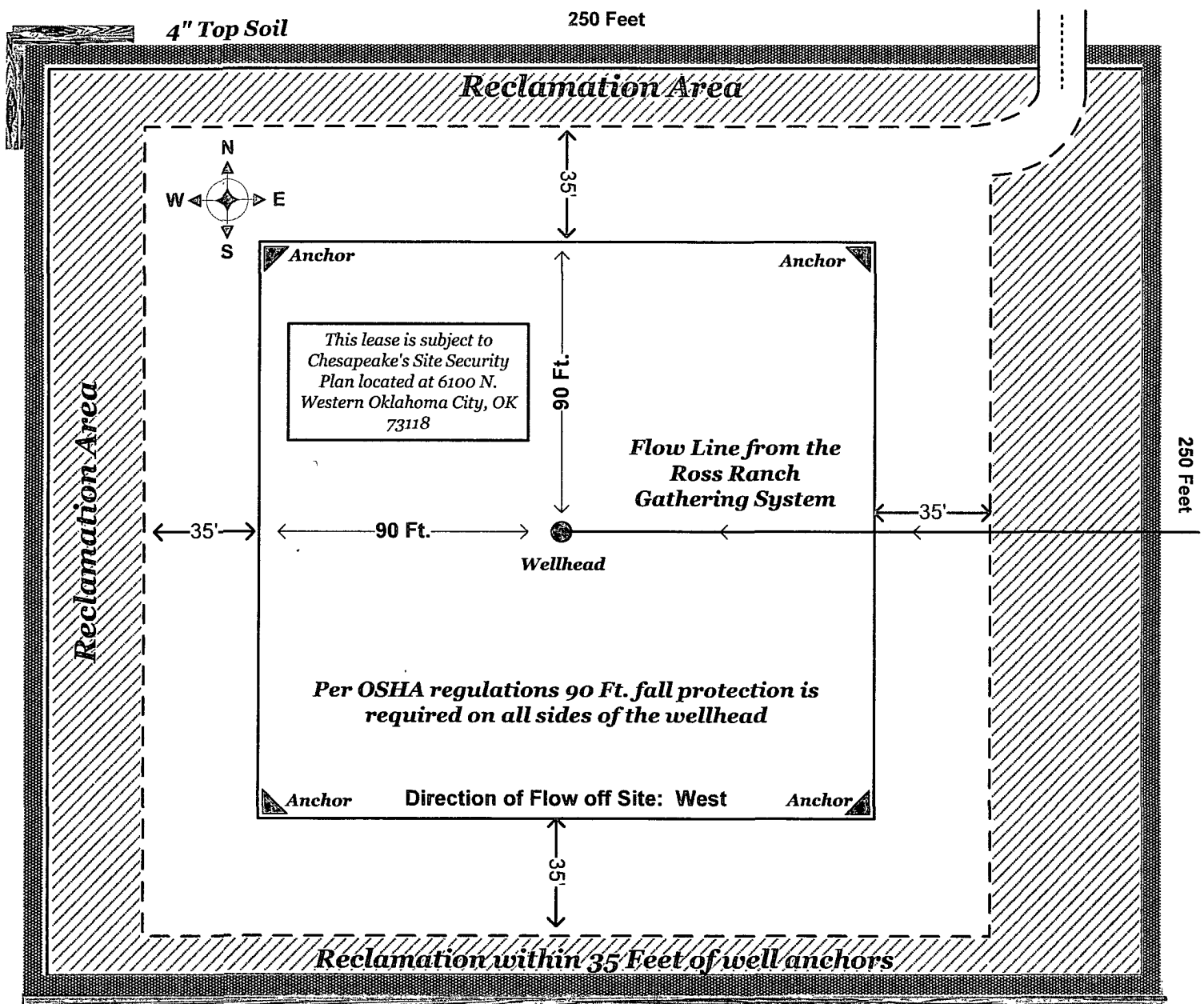


China Grove Federal #1

Lat: N 32.07994249 – Long.: W 103.9942114

S1/T26S/R29E – 660 FNL & 657 FWL

Eddy Co., New Mexico



Little or no topsoil exists on the south half of the location

CHESAPEAKE OPERATING, INC.

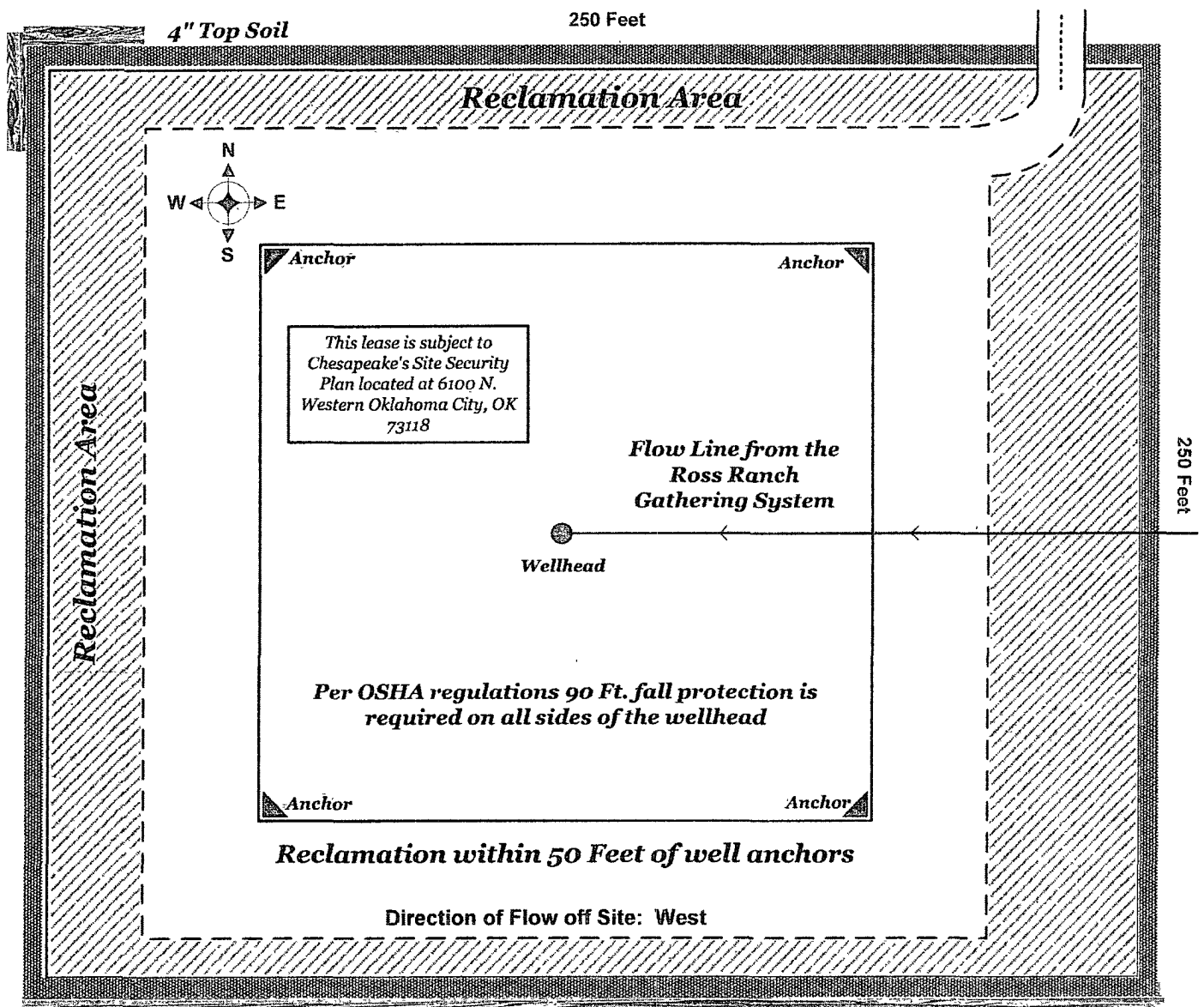


China Grove Federal #1

Lat: N 32.07994249 – Long.: W 103.9942114

S1/T26S/R29E – 660 FNL & 657 FWL

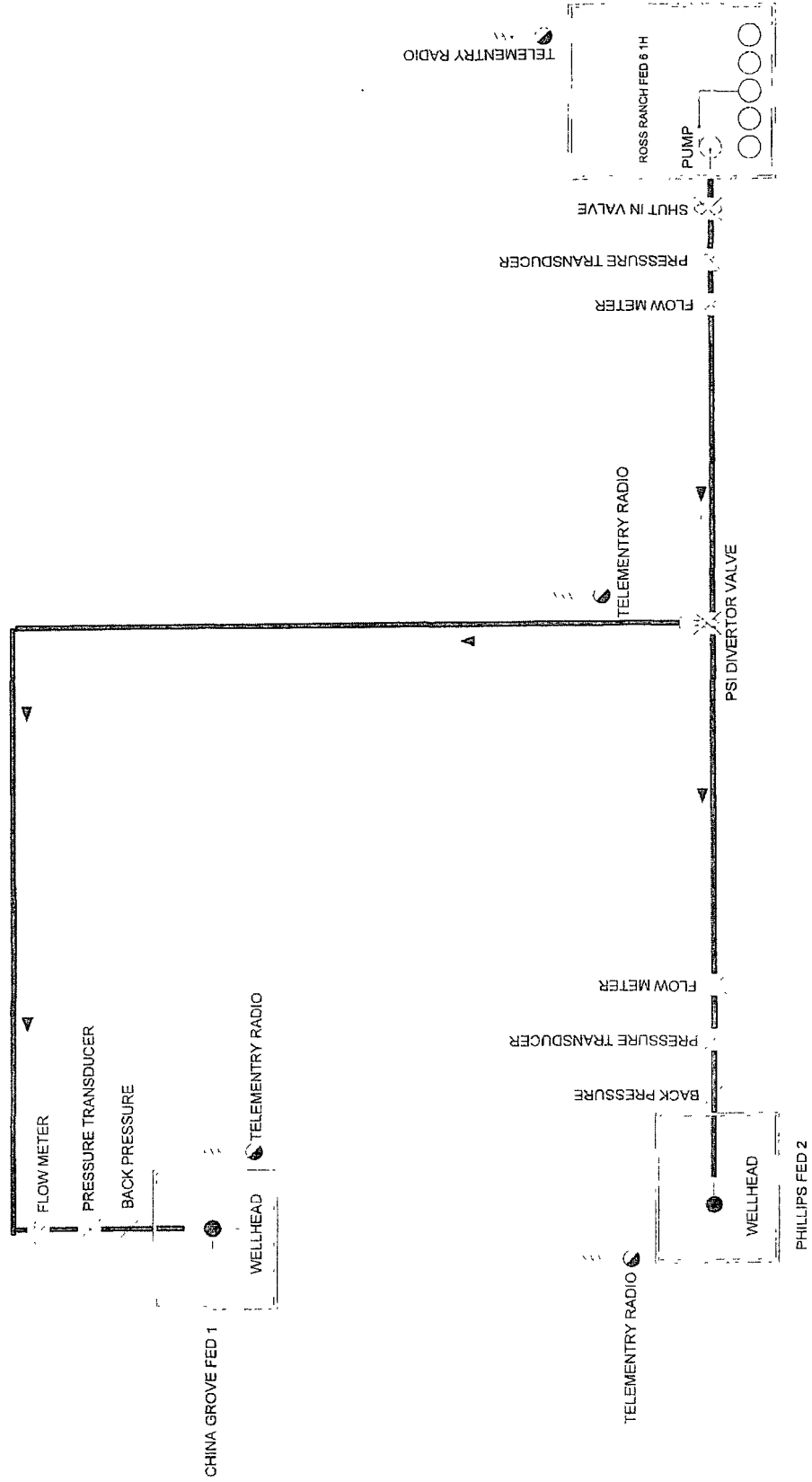
Eddy Co., New Mexico



Little or no topsoil exists on the south half of the location



ROSS RANCH SWD LINE



ONSHORE OIL & GAS ORDER NO. 1
Approval of Operations on Onshore
Federal and Indian Oil and Gas Leases

1. EXISTING ROADS

- a. Existing county and lease roads will be used to enter proposed access road.
- b. Location, access, and vicinity plats attached hereto. See Exhibits A-1 to A-6.

2. EXISTING ACCESS ROAD

- a. An existing access road 1400' in length and 14' in travel way width with a maximum disturbance area of 30' will be used, and in accordance with guidelines set forth in the BLM Onshore Orders. No turnouts are expected.
- b. In order to level the location, cut and fill will be required. Please see attached Well Location and Acreage Dedication Plat – Exhibits A-1 to A-6.
- c. A locking gate will be installed at the site entrance.
- d. Any fences cut will be repaired. Cattle guards will be installed, if needed.
- e. Surface disturbance and vehicular travel will be limited to the approved location and approved access route. Any additional area needed will be approved in advance.
- f. Corrected driving directions:
From Hwy 285 & Whitehorn Rd (aka Longhorn Rd) follow Whitehorn Rd easterly 9.0 miles to Tarbush Rd, follow Tarbush northerly 2.3 miles to pipeline rd, continue north across pipeline rd on lease rd and follow for 1.3 miles to lease road, turn east and follow for 0.15 miles to proposed lease road on south side of road, follow to location. – See Exhibit A-6.
- g. Chesapeake will build and maintain proposed lease road and use and improve (as necessary) the existing pipeline road from the county road to the proposed lease road. Improvements to pipeline road may include, but is not limited to: patch, blade, water, and roll (compact) road as necessary to accommodate daily operations on the proposed site.

3. LOCATION OF EXISTING WELLS WITHIN A 1-MILE RADIUS OF THE PROPOSED LOCATION – see Exhibit B.

4. LOCATION OF FACILITIES & WORK OVER RIG – Exhibit C

Starting at the Ross Ranch 6 Federal 1H, Flow and Pressure well be monitored at the pump on Ross Ranch 6 Federal 1H, and at injection wells, via Flow Rate Meters, and Pressure Transducers.

Flow and or Pressure differential will be transmitted via radio from the injection wells back to Ross Ranch 6 Federal 1H.

If a Flow or Pressure differential occurs between the Pump or Injection wells the PLC controlling the Pump will receive this differential from the radio's, and Shut down the pump, and Shut-in the main valve.

Injection line will be 2 7/8 plastic coated tubing, buried 3' in the ground. Pressure will be 2000 psi

5. RIGHT-OF-WAYS

A right-of-way will be required for the buried pipeline route to the Ross Ranch 6 Fed 1H water gathering system (See Exhibit D-1 to D-6) and for the road route to the nearest county road – See Exhibit A-6.

6. LOCATION AND TYPE OF WATER SUPPLY

Water will be obtained from a private water source. Chesapeake Operating, Inc. will ensure all proper notifications and filings are made with the state.

7. CONSTRUCTION MATERIALS

No construction materials will be used from Section 1-26S-29E. All material (i.e. shale) will be acquired from private or commercial sources.

8. METHODS FOR HANDLING WASTE DISPOSAL

A closed system will be utilized consisting of above ground steel tanks. All wastes accumulated during drilling operations will be contained in a portable trash cage and removed from location and deposited in an approved sanitary landfill.

We will have potables for sewage and will be disposed at a sewage disposal.

9. ANCILLARY FACILITIES

None

10. PLANS FOR RECLAMATION OF THE SURFACE

The location will be restored to as near as original condition as possible. Reclamation of the surface shall be done in strict compliance with the existing New Mexico Oil Conservation Division regulations.

Backfilling leveling, and contouring are planned as soon as the workover rig and steel tanks are removed. Wastes and spoils materials will be hauled to disposal immediately after drilling is completed. If production is obtained, the unused area will be restored as soon as possible. The rehabilitation will begin after the workover rig is removed. – See Exhibit G.

11. SURFACE & MINERAL OWNERSHIP

United States of America
Department of Interior
Bureau of Land Management

GRAZING LESSEE

Byron Paschal
P.O. Box 992
Pecos, TX 79772

(Chesapeake Operating, Inc. has an agreement with the grazing lessee)

12. ADDITIONAL INFORMATION

A Class III cultural resource inventory report was prepared by Boone Archaeological Services, Carlsbad, New Mexico for the proposed location. A copy of the report has been sent to the BLM office under separate cover. See Exhibit E.

An Archeological Survey was also done for the flow line route. – See Exhibit F

Chesapeake Operating, Inc. agrees to be responsible under the terms and conditions of the lease for the operations conducted upon the lease lands.

ONSHORE ORDER NO. 1
Chesapeake Operating, Inc.
China Grove Federal 1
660' FNL & 657' FWL,
Section 1-26S-29E
Eddy County, NM

CONFIDENTIAL – TIGHT HOLE

Lease No. NMNM106690

REVISED -- SURFACE USE PLAN

Page 4

13. OPERATOR'S REPRESENTATIVES

District Manager

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Oklahoma City, OK 73154
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405-623-5880 (Cell)
rob.jones@chk.com

Sr. Asset Manager

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Sr. Field Representative

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Sr. Reg. Compliance Specialist

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Landman

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ONSHORE ORDER NO. 1
Chesapeake Operating, Inc.
China Grove Federal 1
660' FNL & 657' FWL,
Section 1-26S-29E
EDDY County, New Mexico

CONFIDENTIAL - TIGHT HOLE
Lease No. NMNM106690

OPERATOR CERTIFICATION

CERTIFICATION

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

Executed this 12th day of May, 2010

Name: 
Bud Cravey, Sr. Field Representative

Address: 2010 Rankin Highway, Midland, TX 79701

Telephone: 432-238-7293

E-mail: bud.cravey@chk.com

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	CHESAPEAKE OPERATING
LEASE NO.:	NM106690
WELL NAME & NO.:	1-CHINA GROVE FEDERAL
SURFACE HOLE FOOTAGE:	0660' FNL & 0657' FEL
BOTTOM HOLE FOOTAGE:	
LOCATION:	Section 1, T. 26 S., R 29 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
 - Fence Requirement
 - Cave/Karst
- ☒ **Construction**
 - Notification
 - Topsoil
 - Exclude Reserve Pit Soil
 - Closed Loop System
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
 - Waste Material and Fluids
 - CIT Requirement
- ☒ **Production (Post Drilling)**
 - Well Structures & Facilities
 - Pipelines
- ☐ **Interim Reclamation**
- ☐ **Final Abandonment & Reclamation**

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Fence Requirement:

Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. Once the work is completed, the fence will be restored to its prior condition, or better. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Cave/Karst

Cave and Karst

****** Depending on location, additional Drilling, Casing, and Cementing procedures may be required by engineering to protect critical karst groundwater recharge areas.

Cave/Karst Surface Mitigation

The following stipulations will be applied to minimize impacts during construction, drilling and production.

Construction:

In the advent that any underground voids are opened up during construction activities, construction activities will be halted and the BLM will be notified immediately.

No Blasting:

No blasting will be utilized for pad construction. The pad will be constructed and leveled by adding the necessary fill and caliche.

Pad Berming:

The pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the pad. All sides will be bermed.

Tank Battery Liners and Berms:

Tank battery locations will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.

Leak Detection System:

A method of detecting leaks is required. The method could incorporate gauges to measure loss, siting valves and lines so they can be visually inspected, or installing electronic sensors to alarm when a leak is present. Leak detection plan will be submitted to BLM for approval.

Automatic Shut-off Systems:

Automatic shut off, check valves, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

Cave/Karst Subsurface Mitigation

The following stipulations will be applied to protect cave/karst and ground water concerns:

Rotary Drilling with Fresh Water:

Fresh water will be used as a circulating medium in zones where caves or karst features are expected. SEE ALSO: Drilling COAs for this well.

Lost Circulation:

ALL lost circulation zones from the surface to the base of the cave occurrence zone will be logged and reported in the drilling report.

Regardless of the type of drilling machinery used, if a void of four feet or more and circulation losses greater than 70 percent occur simultaneously while drilling in any cave-bearing zone, the BLM will be notified immediately by the operator. The BLM will assess the situation and work with the operator on corrective actions to resolve the problem.

Abandonment Cementing:

Upon well abandonment in high cave karst areas additional plugging conditions of approval may be required. The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

Pressure Testing:

Annual pressure monitoring will be performed by the operator on all casing annuli and reported in a sundry notice. If the test results indicated a casing failure has occurred, remedial action will be undertaken to correct the problem to the BLM's approval.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5972 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall stockpile the topsoil in a low profile manner in order to prevent wind/water erosion of the topsoil. The topsoil to be stripped is approximately 4 inches in depth. The topsoil will be used for interim and final reclamation.

*Soil over the old reserve pit shall not be stockpiled with the topsoil.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. ON LEASE ACCESS ROADS

Road Width

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed thirty (30) feet.

Surfacing

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning

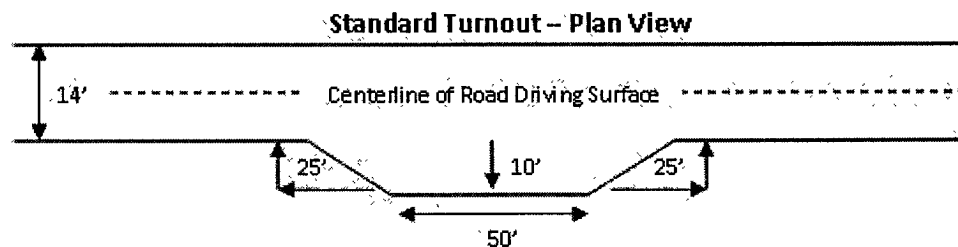
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching

Ditching shall be required on both sides of the road.

Turnouts

Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:

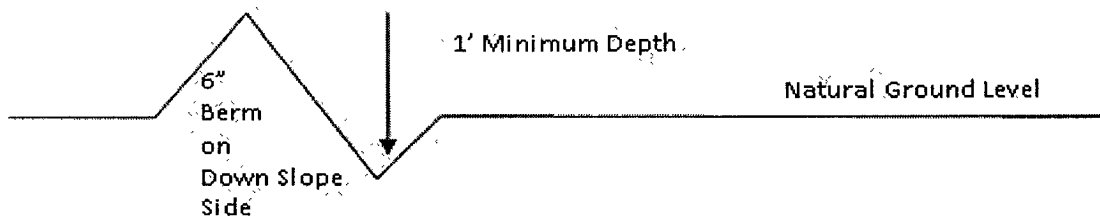


Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$400 \text{ foot road with } 4\% \text{ road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

Culvert Installations

Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

Cattleguards

An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

A gate shall be constructed and fastened securely to H-braces.

Fence Requirement

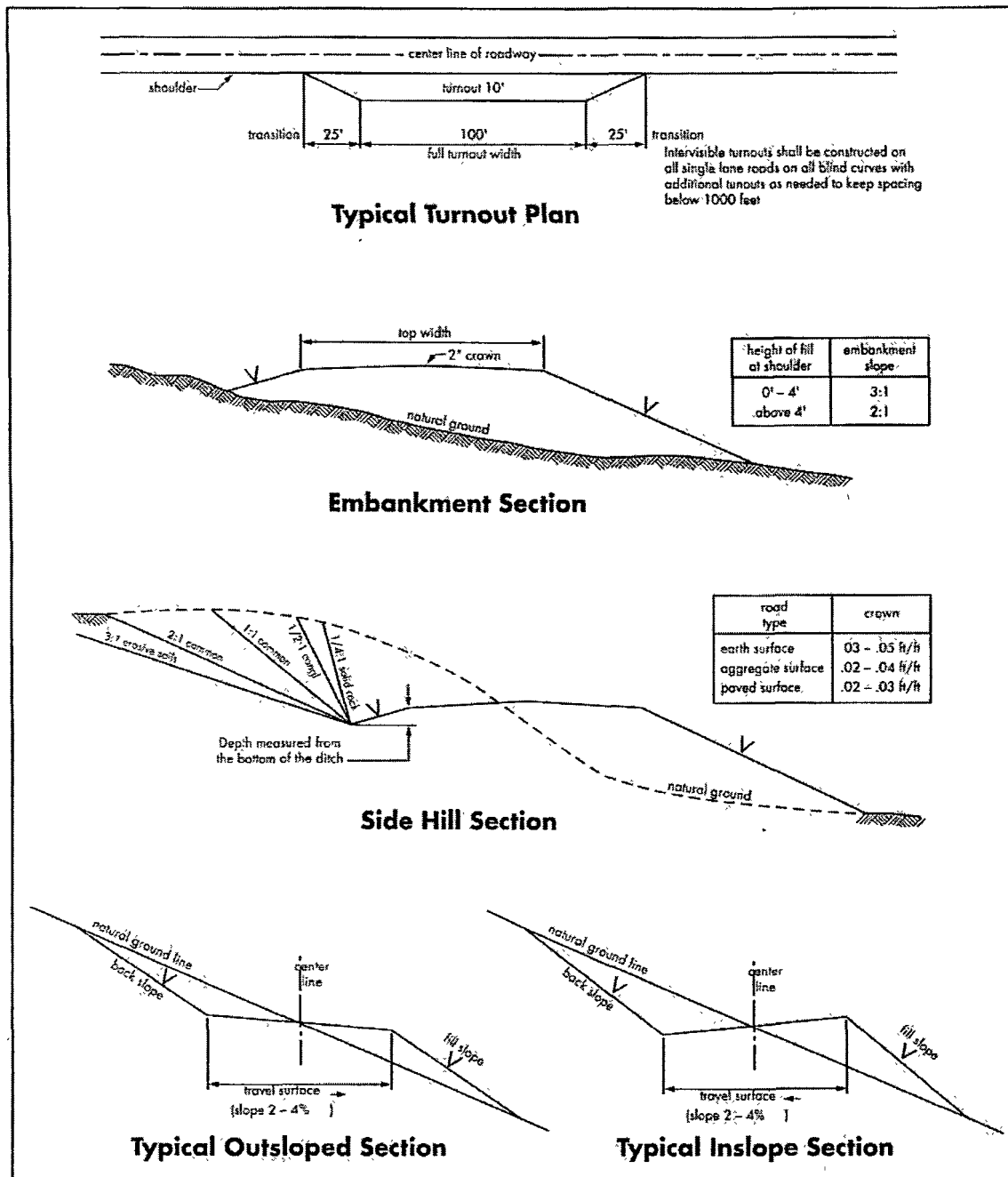
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Figure 1 – Cross Sections and Plans For Typical Road Sections



VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

- a. Spudding well
- b. Setting and/or Cementing of all casing strings
- c. BOPE tests

☒ **Eddy County**

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(575) 361-2822

1. **Although Hydrogen Sulfide has not been reported in the area, it is always a potential hazard. If Hydrogen Sulfide is encountered, please report measured amounts and formations to the BLM.**
2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a “Major” violation.**
3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

B. CASING – Re-entry

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

Wait on cement (WOC) time prior to drilling out for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

1. The 13-3/8" surface casing is set at 610 feet with cement circulated to surface.
2. The 8-5/8" intermediate casing is set at 3,230 feet with cement circulated to surface.
3. The 5-1/2" production casing was set at 5,650 feet with TOC at 3,224', when the well was plugged the casing was cut and pulled at 1,922 feet.
4. The minimum required fill of cement behind the 5-1/2 inch production casing is:

☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office.

A CIT is to be performed on the 5-1/2" production casing, after the tie back to surface, per Onshore Oil and Gas Order 2.III.B.1.h. Test pressure to be 1,500 psi.

5. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below 8-5/8 inch intermediate shoe plug shall be **2000 (2M) psi**.
3. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips or where the float does not hold, the minimum wait time before cut-off is eight hours after bumping the plug or when the cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. BOP/BOPE testing can begin after the above conditions are satisfied.

- b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (18 hours) or potash (24 hours) prior to initiating the test.
- c. The results of the test shall be reported to the appropriate BLM office.
- d. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**
- e. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. WELL COMPLETION

A NOI sundry with the procedure to complete this well shall be submitted and approved prior to commencing completion work. The procedure will be reviewed to verify that the completion will allow the operator to restrict the injection fluid to the approved formation.

F. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

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VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Containment Structures

The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

Painting Requirement

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color
Shale Green, Munsell Soil Color Chart # 5Y 4/2

B. PIPELINES

A copy of the APD and attachments, including conditions of approval, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
2. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.
3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless

the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of holder, regardless of fault. Upon failure of holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized right-of-way.

6. The pipeline will be buried with a minimum cover of **36** inches between the top of the pipe and ground level.

7. Blading of all vegetation in the right-of-way will not be allowed. Blading is defined as the complete removal of brush and ground vegetation. Clearing of brush species will be allowed. Clearing defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface. In areas where clearing is allowed, maximum width of these operations will not exceed **30** feet. Blading is only allowed within the width of the pipeline trench.

8. The holder shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately 4-6 inches in depth. The topsoil will be segregated from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.

9. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

10. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in rows, piles, or berms, unless otherwise approved by the Authorized Officer. The entire right-of-way shall be recontoured to match the surrounding landscape. The backfilled soil shall be compacted and a 6 inch berm will be left over the ditch line to allow for settling back to grade.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

<input type="checkbox"/> seed mixture 1	<input checked="" type="checkbox"/> seed mixture 3
<input type="checkbox"/> seed mixture 2	<input type="checkbox"/> seed mixture 4

13. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2.

14. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.

15. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder before maintenance begins. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway. As determined necessary during the life of the pipeline, the Authorized Officer may ask the holder to construct temporary deterrence structures.

16. Any cultural and/or paleontological resources (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

IX. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

X. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Seed Mixture 3, for Shallow Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

<u>Species</u>	<u>lb/acre</u>
Plains Bristlegrass (<i>Setaria magrostachya</i>)	1.0
Green Spangletop (<i>Leptochloa dubia</i>)	2.0
Side oats Grama (<i>Bouteloua curtipendula</i>)	5.0

*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed