ATS-16-896

SECRETARY'S POTASH

Form 3160-3
(August 2007)

NM OIL CONSERVATION
ARTESIA DISTRICT
JUL 25 2016
RECEIVED

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

1a. Type of work: ☑ DRILL ☐ REENTER	5. Lease Serial No. ~~NMNM 019848~~ NM86024
1b. Type of Well: ☐ Oil Well ☐ Gas Well ☑ Other SWD ☐ Single Zone ☐ Multiple Zone	6. If Indian, Allotee or Tribe Name NA
2. Name of Operator R360 Permian Basin, LLC	7. If Unit or CA Agreement, Name and No. NA
3a. Address ~~3 Waterway Square, Suite 110 The Woodlands, TX, 77380~~ 4507 Carlsbad Hwy, Hobbs NM 88240	8. Lease Name and Well No. Cypress SWD #1
3b. Phone No. (include area code) 832-442-2200	9. API Well No. ~~NM~~ 30-015-43867
4. Location of Well (Report location clearly and in accordance with any State requirements.*) At surface N 32 15' 30.26", W 103 58' 49.82" At proposed prod. zone Same as above.	10. Field and Pool, or Exploratory NA SWD; Devonian
14. Distance in miles and direction from nearest town or post office* 6.10 miles southwest of Loving, NM	11. Sec., T. R. M. or Blk. and Survey or Area S 34 T23S R29E 1590 FSL, 165 FWL
15. Distance from proposed* <500' location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	12. County or Parish Eddy / 13. State NM
16. No. of acres in lease	17. Spacing Unit dedicated to this well
18. Distance from proposed location* <500' to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth 15,780'
20. BLM/BIA Bond No. on file ~~NMB929591818~~ NMB001255	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3012 ASL	22. Approximate date work will start* 02/24/2016
23. Estimated duration 90 Days	

24. Attachments

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	Name (Printed Typed) Luke A Bross	Date 2/24/16
Title Manager, Legislative & Regulatory Affairs		
Approved by (Signature) /s/George MacDonell	Name (Printed Typed)	Date JUL 5 - 2016
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 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.

(Continued on page 2)

*(Instructions on page 2)

Carlsbad Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Approval Subject to General Requirements & Special Stipulations Attached

NM OIL CONSERVATION
ARTESIA DISTRICT
JUL 25 2016
RECEIVED

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
Phone (575) 393-6161 Fax: (575) 393-0720
DISTRICT II
611 S. First St., Artesia, NM 88210
Phone (575) 748-1283 Fax: (575) 748-9720
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone (505) 334-6178 Fax: (505) 334-6170
DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
1223 South St. Francis Dr.
Santa Fe, New Mexico 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-43867	96101	SWD; DEVONIAN

Property Code	Property Name	Well Number
316564	CYPRESS SWD	1

OGRID No.	Operator Name	Elevation
289936	R360 PERMIAN BASIN, LLC	3012

Surface Location

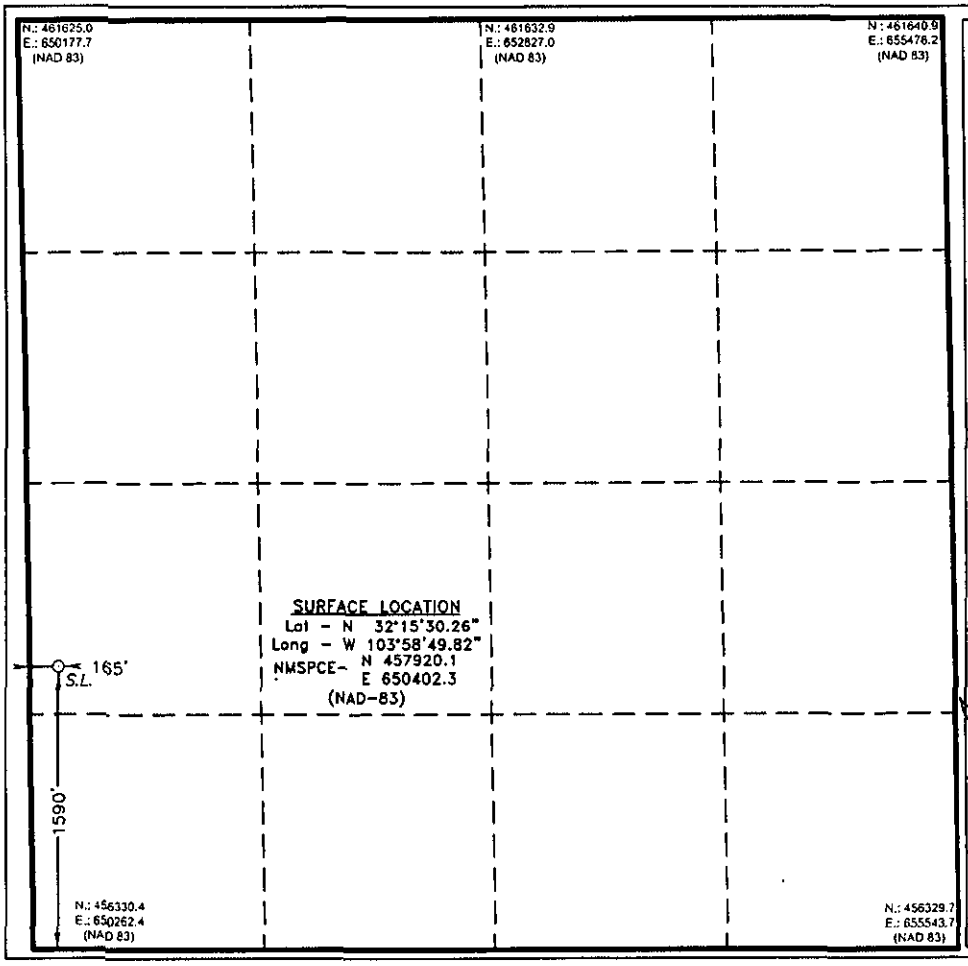
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/EAST LINE	County
L	34	23 S	29 E		1590	SOUTH	165	WEST	EDDY

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/EAST 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 — Date 2/24/16

Luke Bross
Printed Name

Luke.b@R360ES.com
Email Address

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.

FEBRUARY 18, 2016
Date Surveyed

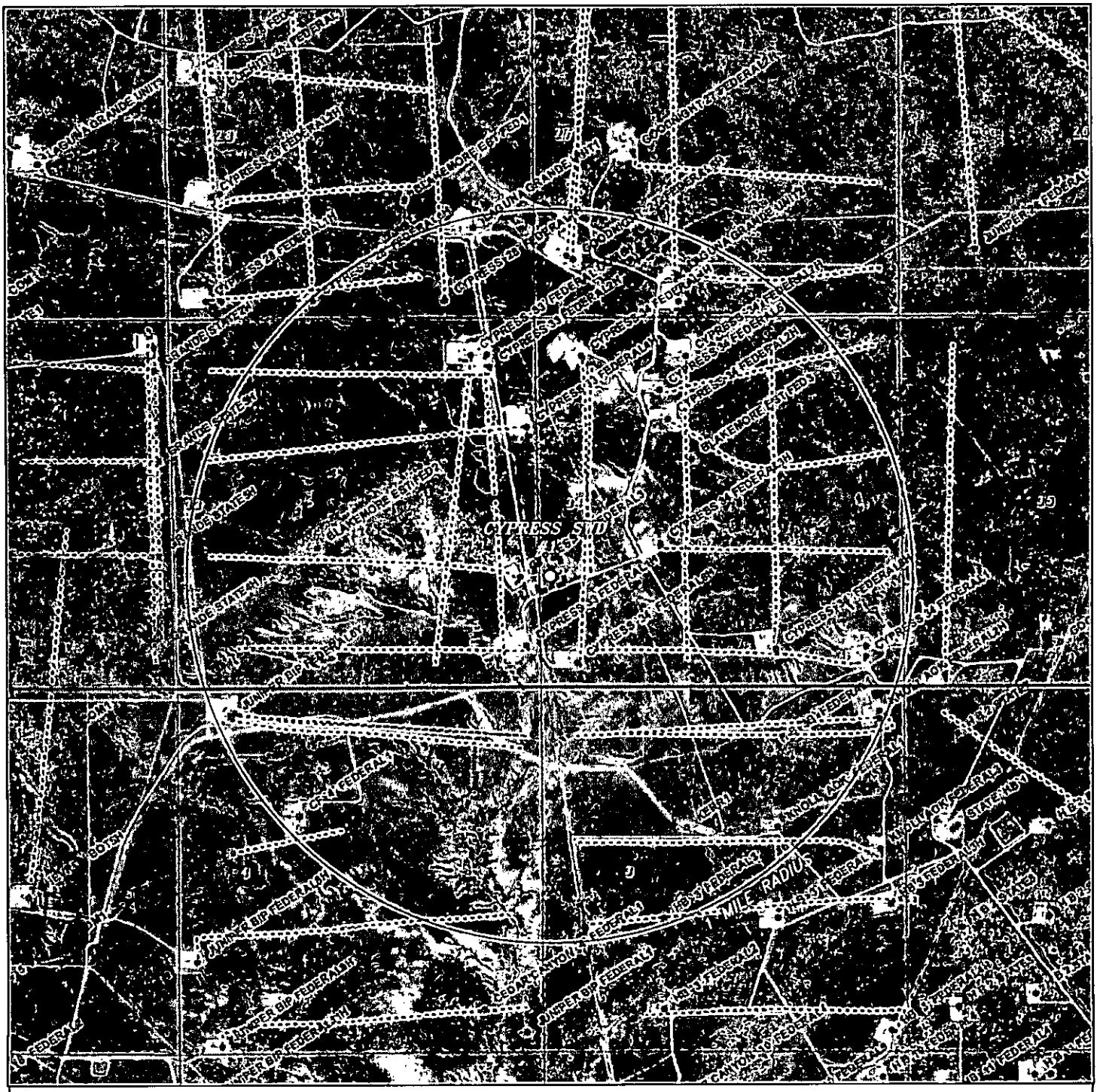
Signature & Seal of Professional Surveyor

NEW MEXICO — REGISTERED PROFESSIONAL LAND SURVEYOR — GARY L. JONES — 7977

Certificate Number Gary L. Jones 7977

BASIN SURVEYS

0' 500' 1000' 1500' 2000'
SCALE: 1" = 1000'
WO Num.: 32173



CYPRESS SWD #1
Located 1590' FSL and 165' FWL
Section 34, Township 23 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

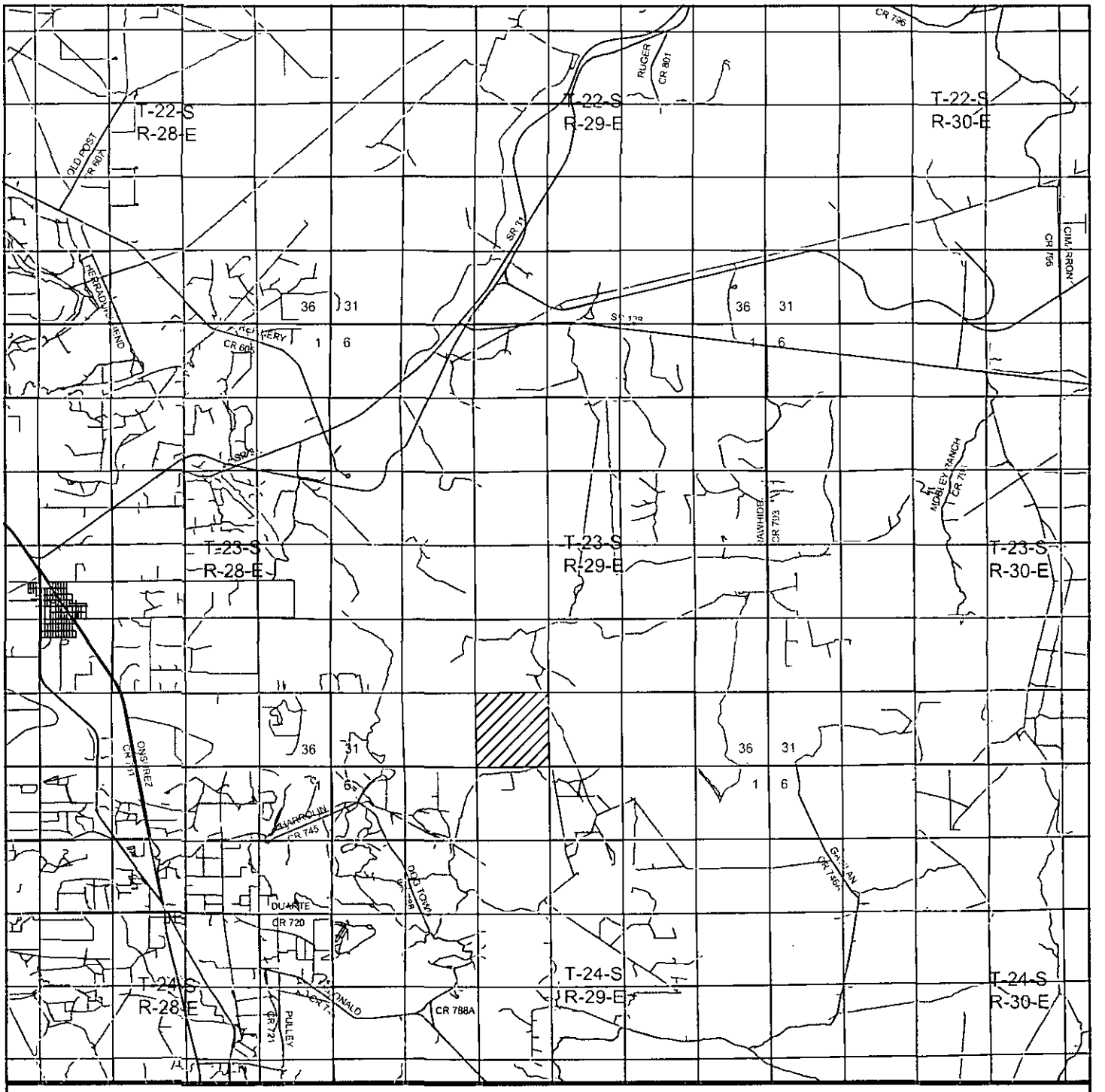
0' 1000' 2000' 3000' 4000'
SCALE: 1" = 2000'

W.O. Number: KAN 32173

Survey Date: 02-18-2016

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

R360 ENVIRONMENTAL SOLUTIONS



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0 1 MI 2 MI 3 MI 4 MI

SCALE: 1" = 2 MILES

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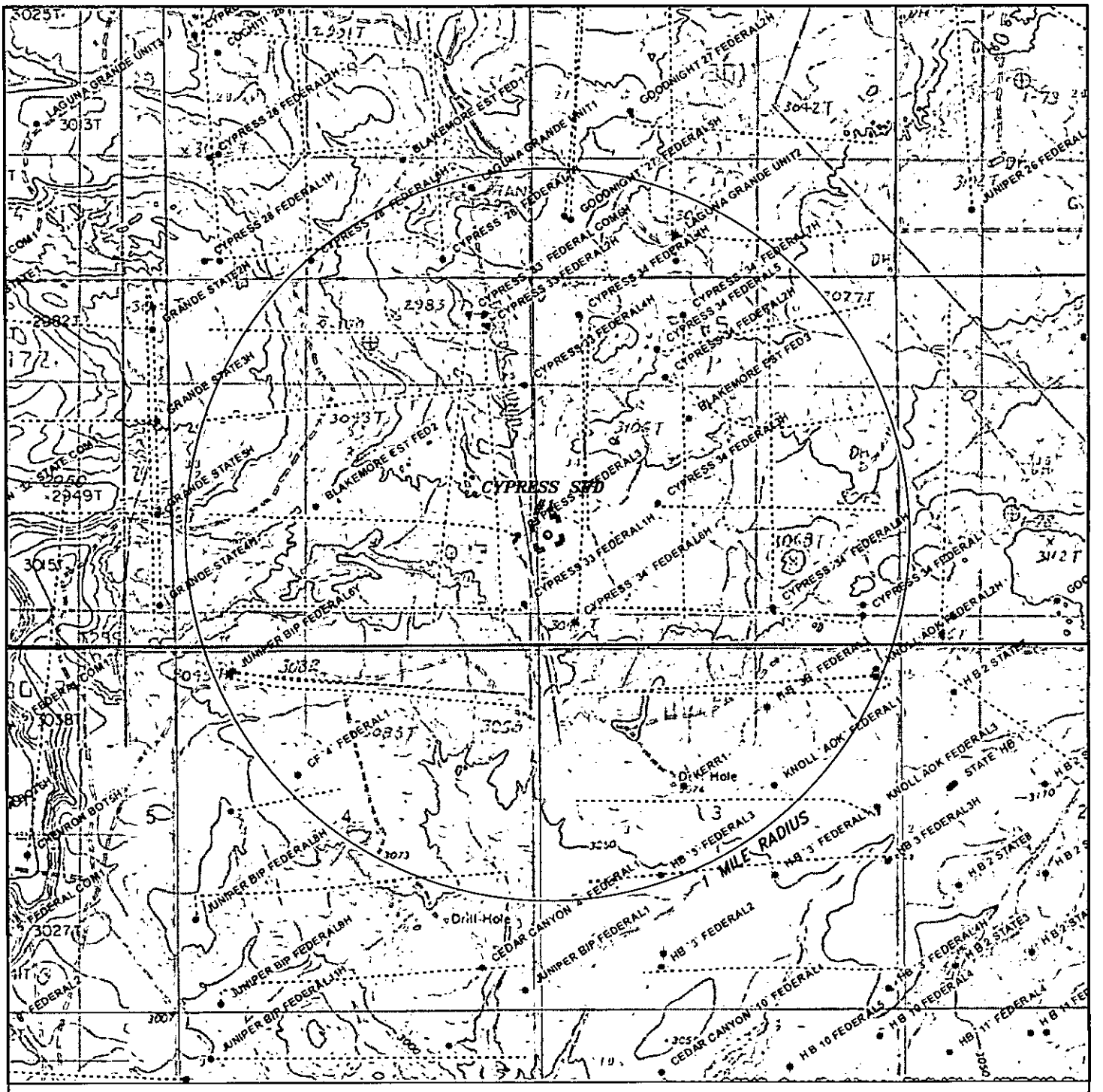

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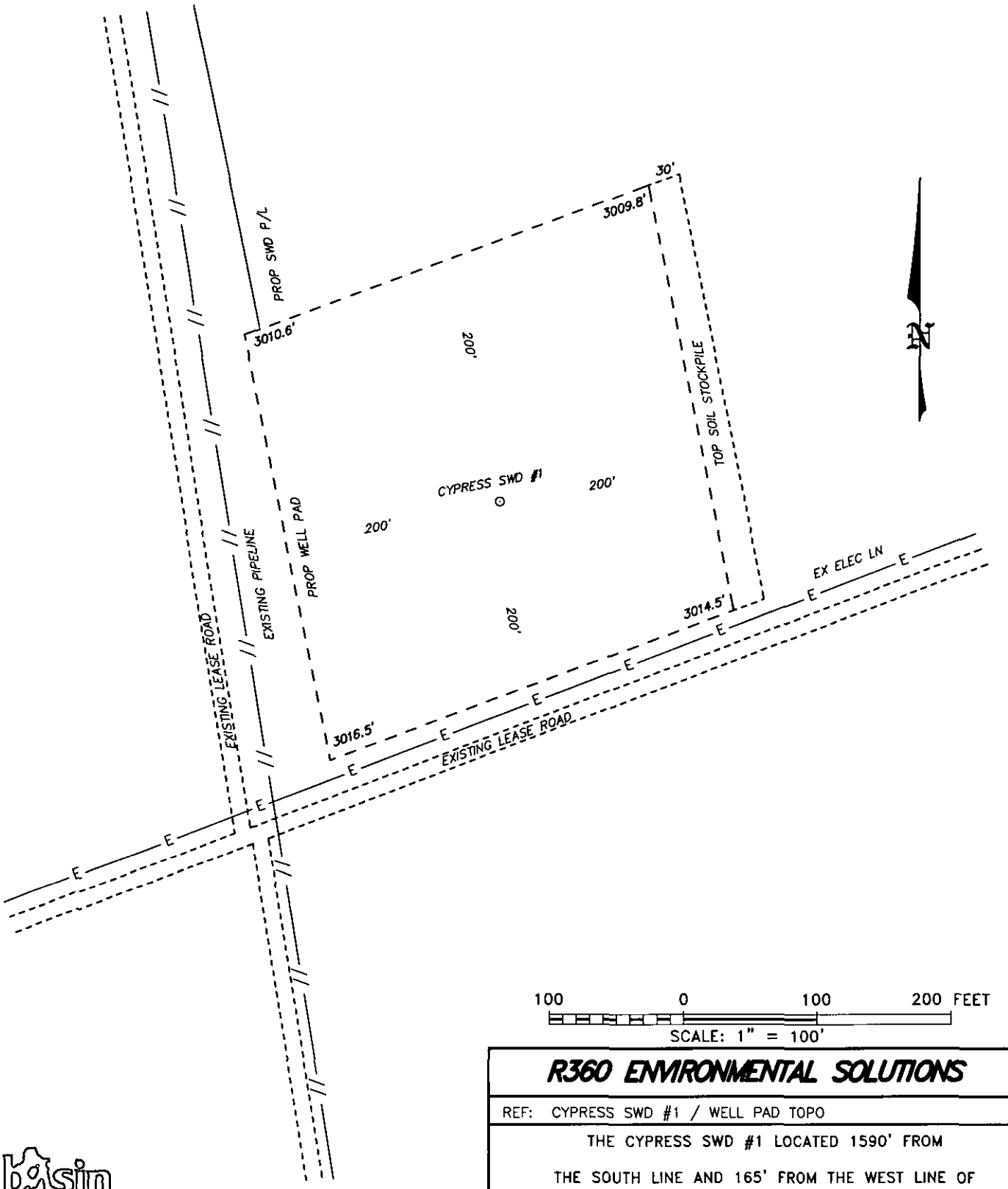
NATURAL COLOR - FEE LAND

N

R360 ENVIRONMENTAL SOLUTIONS

SECTION 34, TOWNSHIP 23 SOUTH, RANGE 29 EAST. N.M.P.M.,

EDDY COUNTY, **NEW MEXICO.**



R360 ENVIRONMENTAL SOLUTIONS

REF: CYPRESS SWD #1 / WELL PAD TOPO

THE CYPRESS SWD #1 LOCATED 1590' FROM THE SOUTH LINE AND 165' FROM THE WEST LINE OF SECTION 34, TOWNSHIP 23 SOUTH, RANGE 29 EAST. N.M.P.M., EDDY COUNTY, NEW MEXICO.

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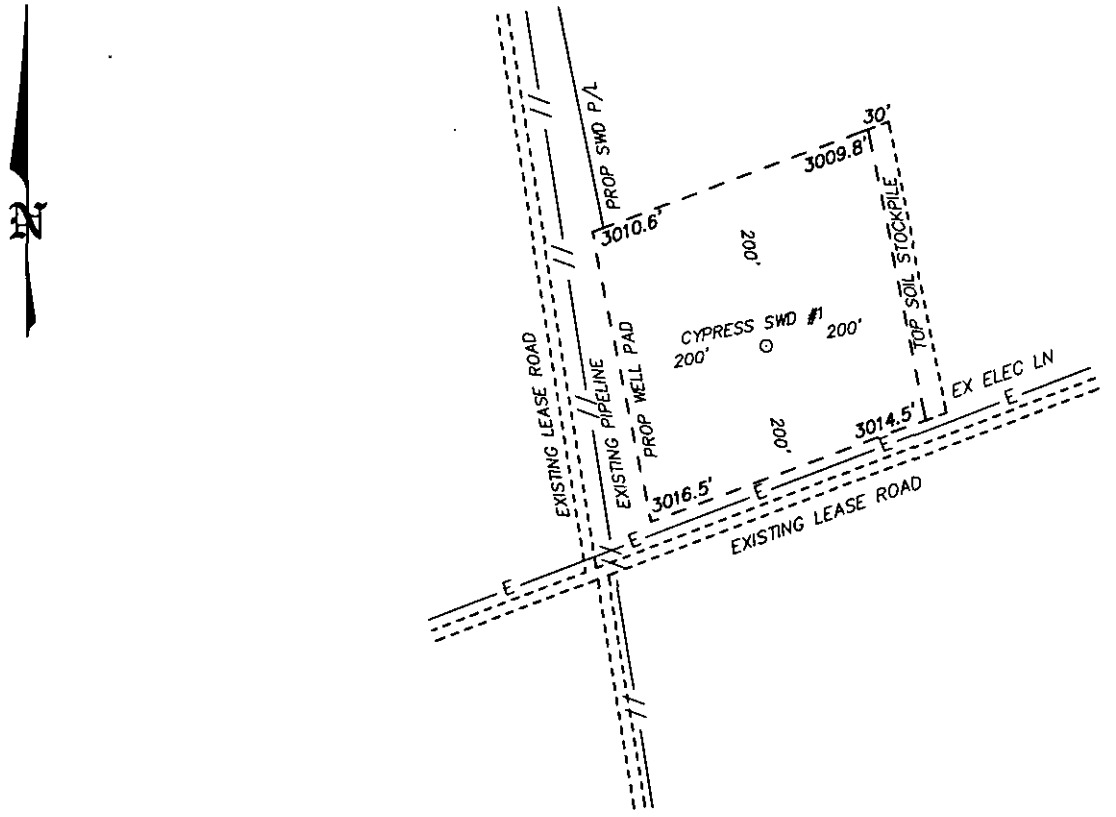
W.O. Number: 32173	Drawn By: K. NORRIS	Date: 02-22-2016	Survey Date: 02-18-2016	Sheet 1 of 1 Sheets

SECTION 34, TOWNSHIP 23 SOUTH, RANGE 29 EAST. N.M.P.M.,

EDDY COUNTY, **NEW MEXICO.**



R360 ENVIRONMENTAL SOLUTIONS
CYPRESS SWD #1
ELEV. - 3012'
Lat - N 32°15'30.26"
Long - W 103°58'49.82"
NMSPCE- N 457920.1
E 650402.3
(NAD-83)

LOVING, NM IS ±5 MILES TO THE WEST-NORTHWEST OF LOCATION.

200 0 200 400 FEET
SCALE: 1" = 200'

Directions to Location:

FROM INTERSECTION OF CR 793 AND CR 128 GO SOUTH 4.0 MILES, THEN WEST 3.5 MILES TO LEASE ROAD; SOUTH 1.8 MILES TO LEASE ROAD, GO WEST 0.2 MILES TO "T" AND PROPOSED PAD.

R360 ENVIRONMENTAL SOLUTIONS

REF: CYPRESS SWD #1 / WELL PAD TOPO

THE CYPRESS SWD #1 LOCATED 1590' FROM THE SOUTH LINE AND 165' FROM THE WEST LINE OF SECTION 34, TOWNSHIP 23 SOUTH, RANGE 29 EAST. N.M.P.M., EDDY COUNTY, NEW MEXICO.

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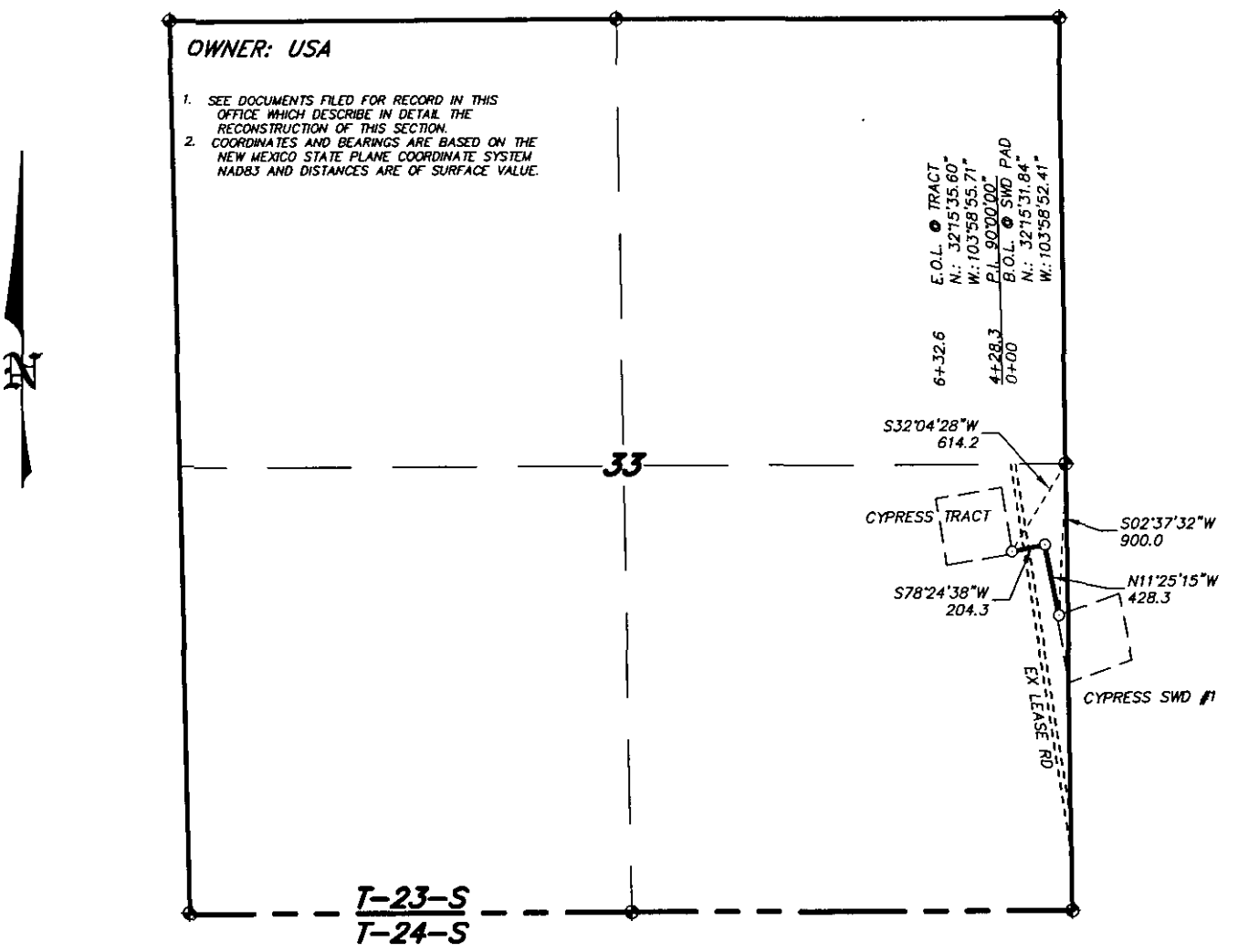
W.O. Number: 32173	Drawn By: K. NORRIS	Date: 02-22-2016	Survey Date: 02-18-2016	Sheet 1 of 1 Sheets

SECTION 33, TOWNSHIP 23 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 33, TOWNSHIP 23 SOUTH, RANGE 29 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO AND BEING 15.0 FEET LEFT AND RIGHT OF THE ABOVE PLATTED CENTERLINE SURVEY.

SECTION 33 = 632.6 FEET = 38.34 RODS = 0.12 MILES = 0.44 ACRES

I HEREBY CERTIFY THAT THIS PLAT 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 — NEW MEXICO — No. 7977 — PROFESSIONAL LAND SURVEYOR

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

1000 0 1000 2000 FEET

R360 ENVIRONMENTAL SOLUTIONS

REF: PROPOSED SWD PIPELINE TO LOADING TRACT

A PIPELINE CROSSING USA LAND IN

SECTION 33, TOWNSHIP 23 SOUTH, RANGE 29 EAST,

N.M.P.M., EDDY COUNTY, NEW MEXICO.

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PROPOSED SWD PIPELINE TO LOADING TRACT
Section 33, Township 23 South, Range 29 East, N.M.P.M., Eddy County, New Mexico.

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0' 1000' 2000' 3000' 4000'
SCALE: 1" = 2000'

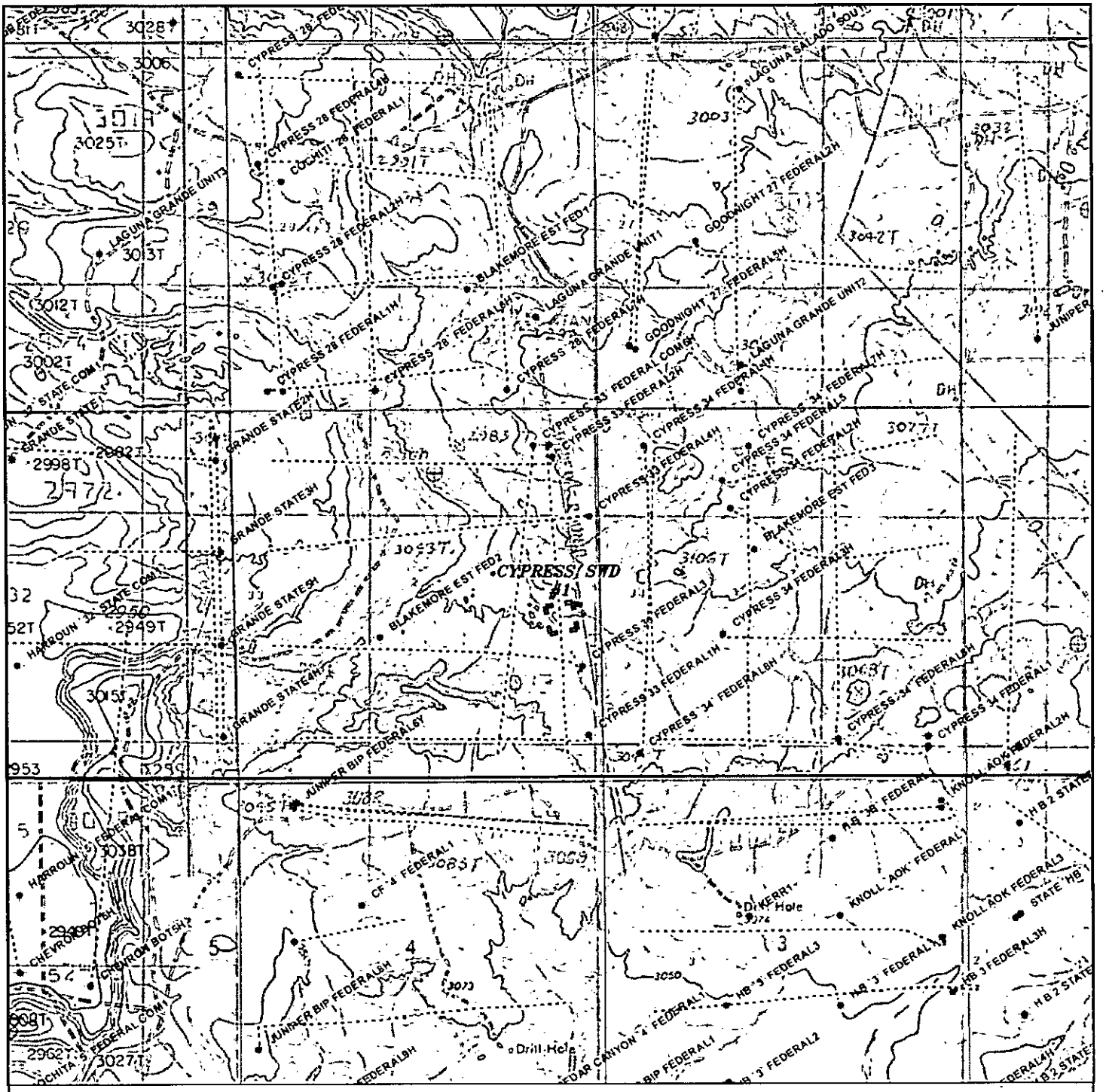
W.O. Number: KAN 32173

Survey Date: 02-18-2016

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

N

R360 ENVIRONMENTAL SOLUTIONS



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R360 ENVIRONMENTAL SOLUTIONS

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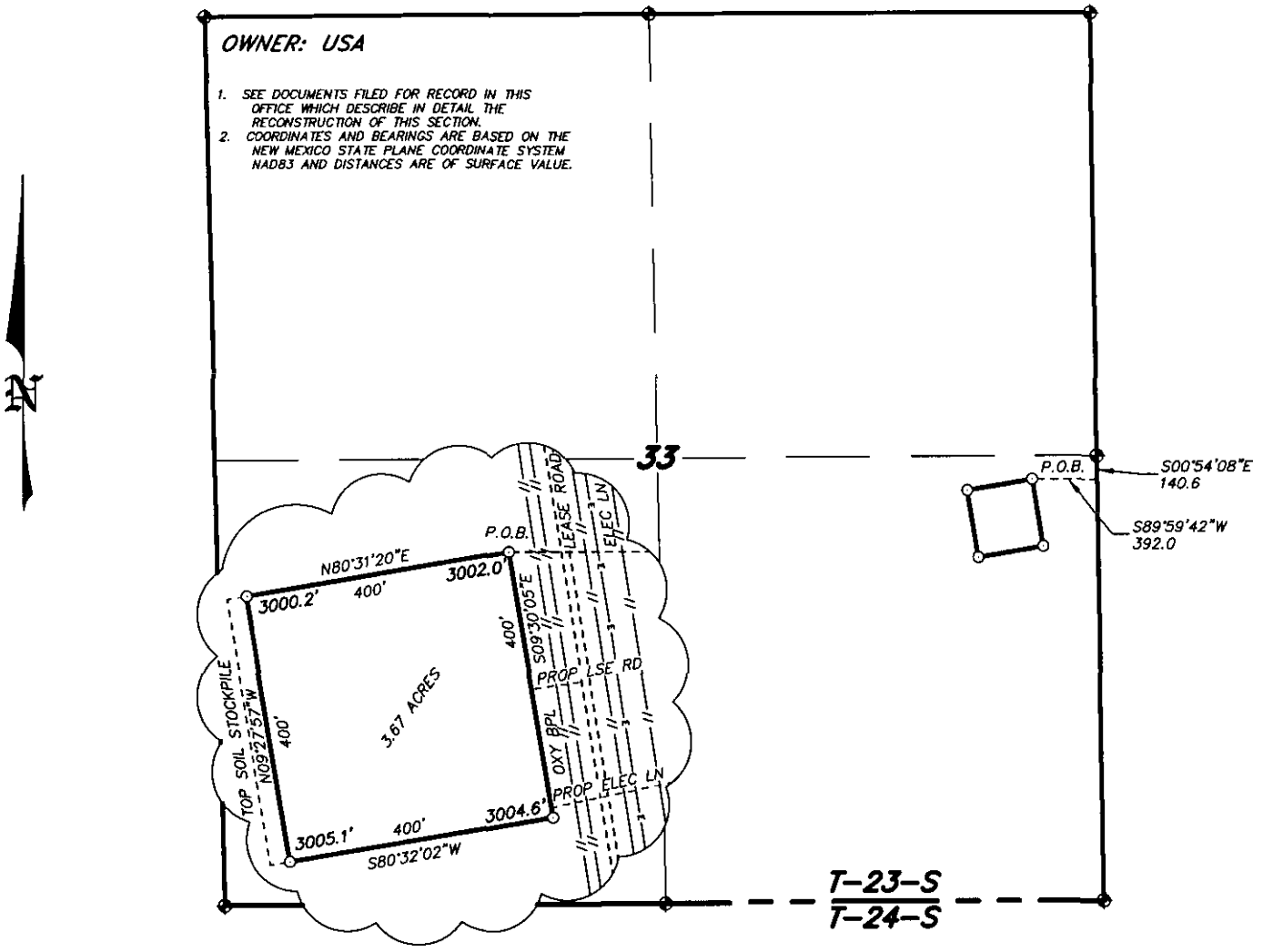
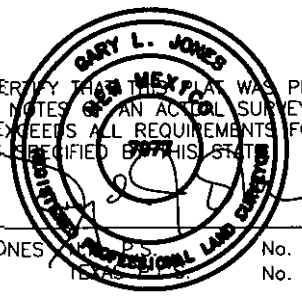


LEGAL DESCRIPTION

A TRACT OF LAND LOCATED IN SECTION 33, TOWNSHIP 23 SOUTH, RANGE 29 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT WHICH LIES S.00°54'08"E., 140.6 FEET AND S.89°59'42"W., 392.0 FEET FROM THE EAST QUARTER CORNER OF SAID SECTION 33; THENCE S.09°30'05"E., 400.0 FEET; THENCE S.80°32'02"W., 400.0 FEET; THENCE N.09°27'57"W., 400.0 FEET; THENCE N.80°31'20"E., 400.0 FEET TO THE POINT OF BEGINNING. SAID TRACT OF LAND CONTAINING 3.67 ACRES, MORE OR LESS.



I HEREBY CERTIFY THAT THIS PLAT 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
TEXAS No. 5074

1000 0 1000 2000 FEET

R360 ENVIRONMENTAL SOLUTIONS

REF: PROPOSED CYPRESS LOADING TRACT

A TRACT OF LAND LOCATED ON USA LAND IN SECTION 33, TOWNSHIP 23 SOUTH, RANGE 29 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.

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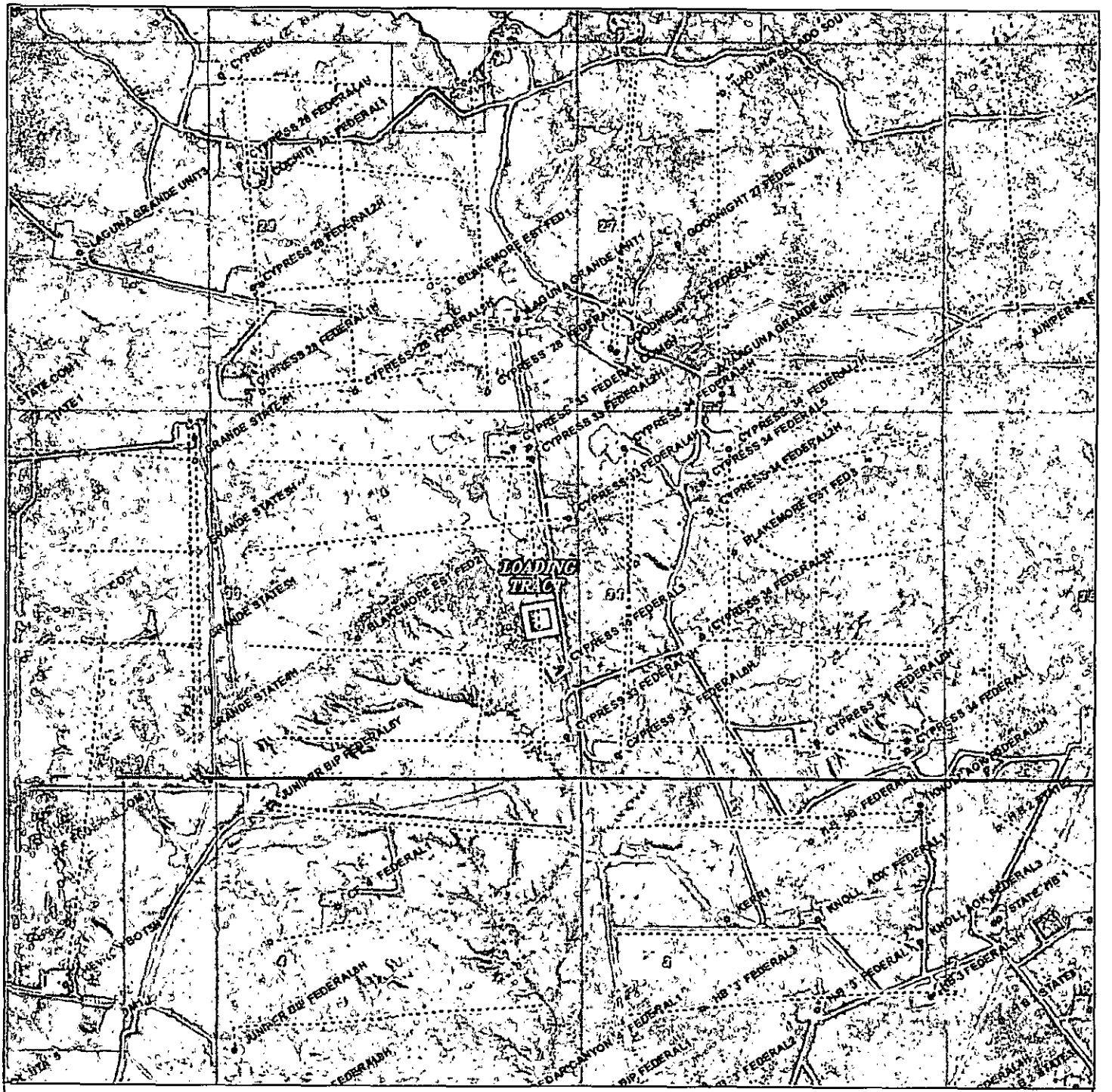

PROPOSED CYPRESS LOADING TRACT
Section 33, Township 23 South, Range 29 East, N.M.P.M., Eddy County, New Mexico.

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0' 1000' 2000' 3000' 4000'
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W.O. Number: KAN 32173

Survey Date: 02-18-2016

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BLUE TINT - STATE LAND
NATURAL COLOR - FEE LAND

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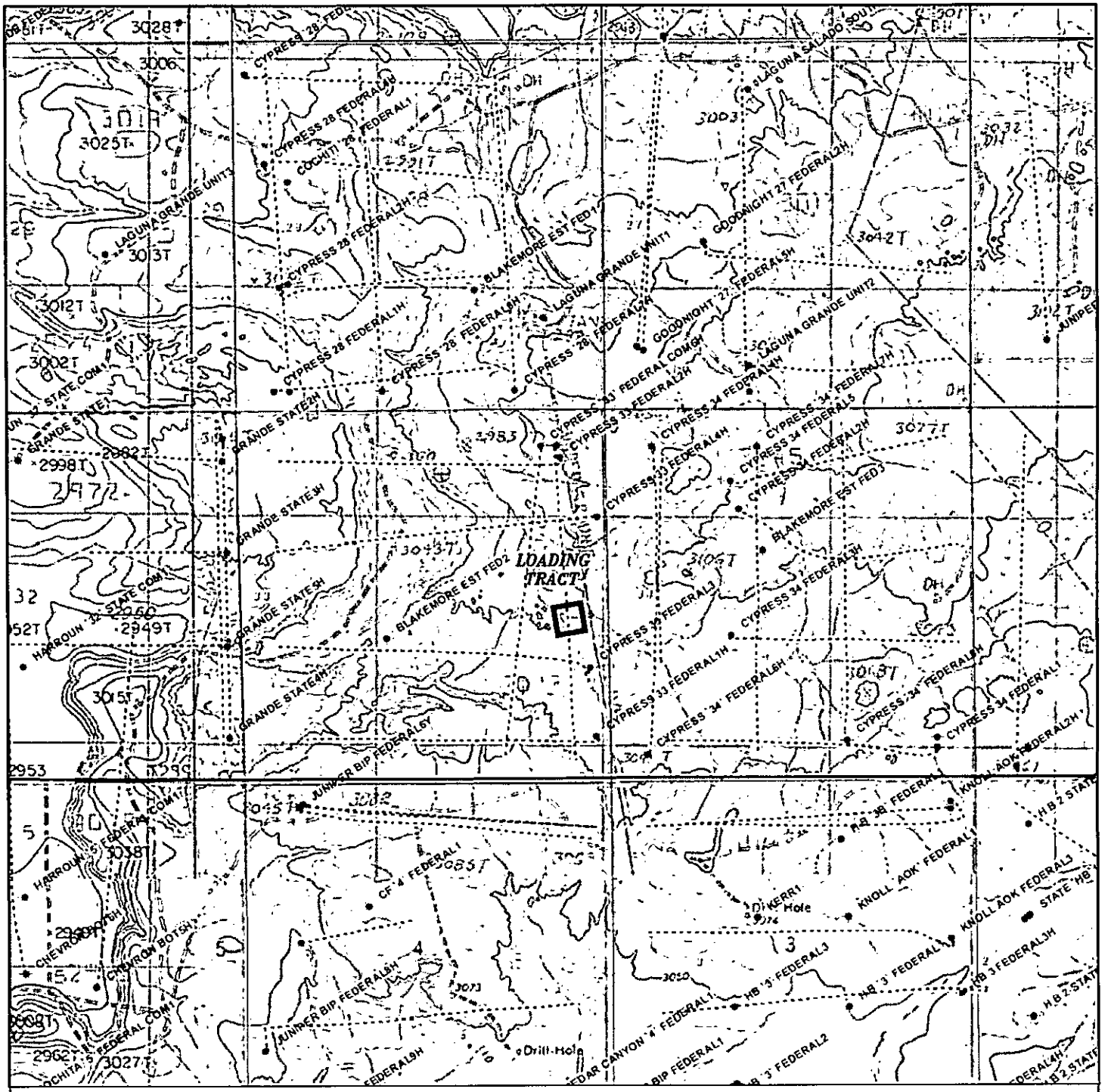

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R360 ENVIRONMENTAL SOLUTIONS

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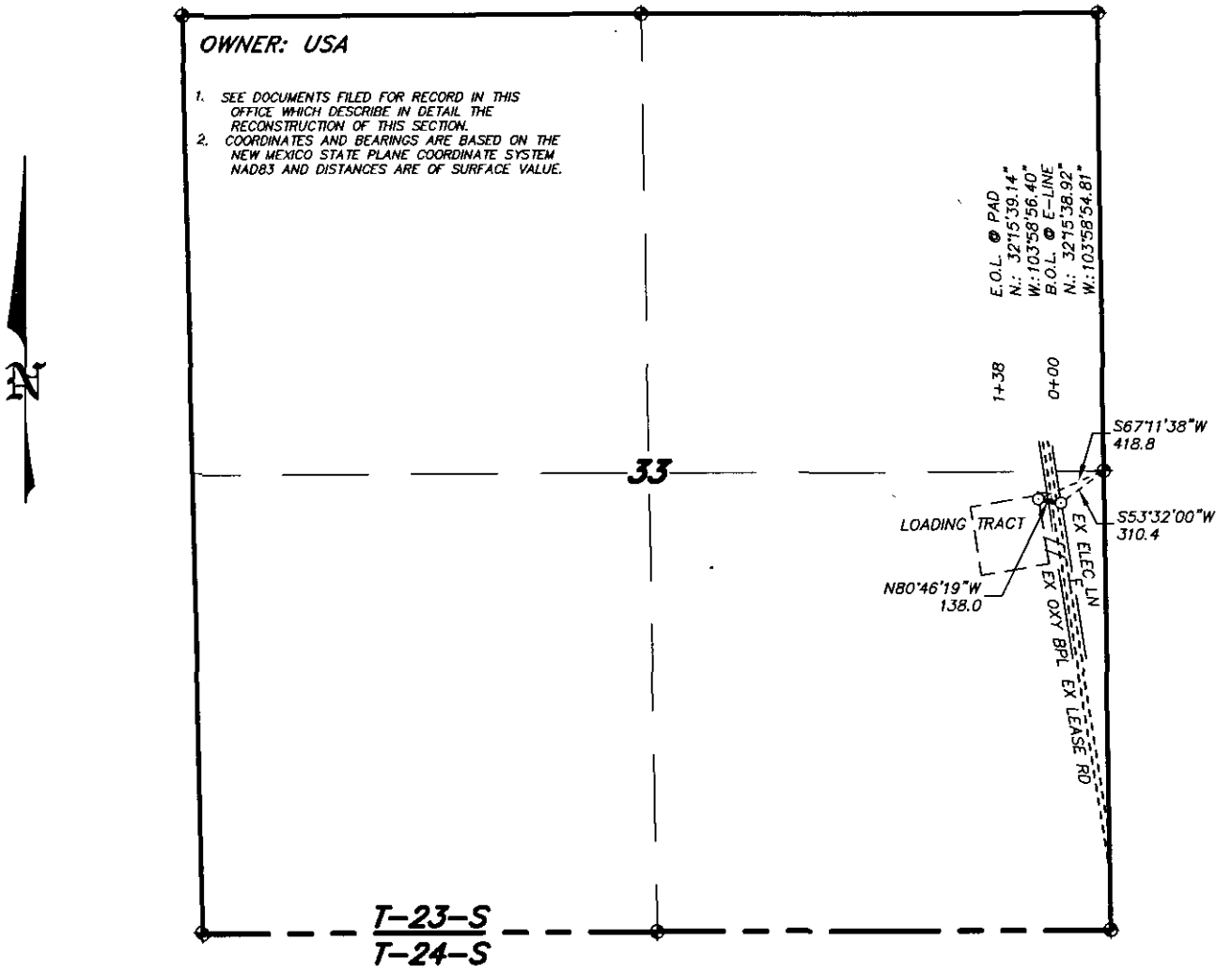
EDDY COUNTY, **NEW MEXICO.**



LEGAL DESCRIPTION

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SECTION 33 = 138.0 FEET = 8.36 RODS = 0.03 MILES = 0.09 ACRES

I HEREBY CERTIFY THAT THIS PLAT 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 — NEW MEXICO — 7977 — REGISTERED PROFESSIONAL LAND SURVEYOR

GARY L. JONES, TEXAS No. 7977
NEW MEXICO No. 5074

1000 0 1000 2000 FEET

R360 ENVIRONMENTAL SOLUTIONS

REF: PROPOSED ELECTRIC LINE TO CYPRESS LOADING TRACT

AN ELECTRIC LINE CROSSING USA LAND IN
SECTION 33, TOWNSHIP 23 SOUTH, RANGE 29 EAST,
N.M.P.M., EDDY COUNTY, NEW MEXICO.

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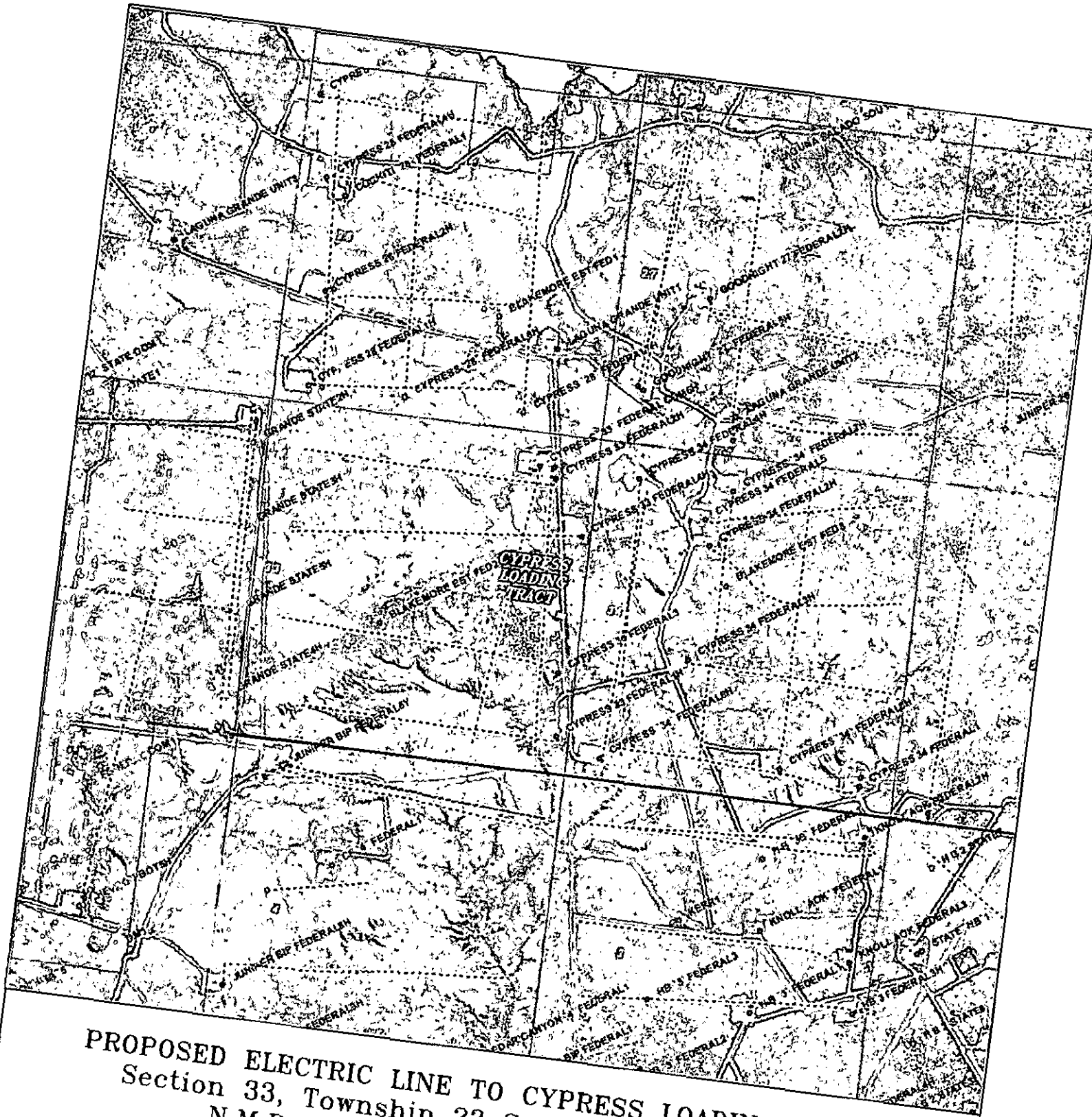

PROPOSED ELECTRIC LINE TO CYPRESS LOADING TRACT
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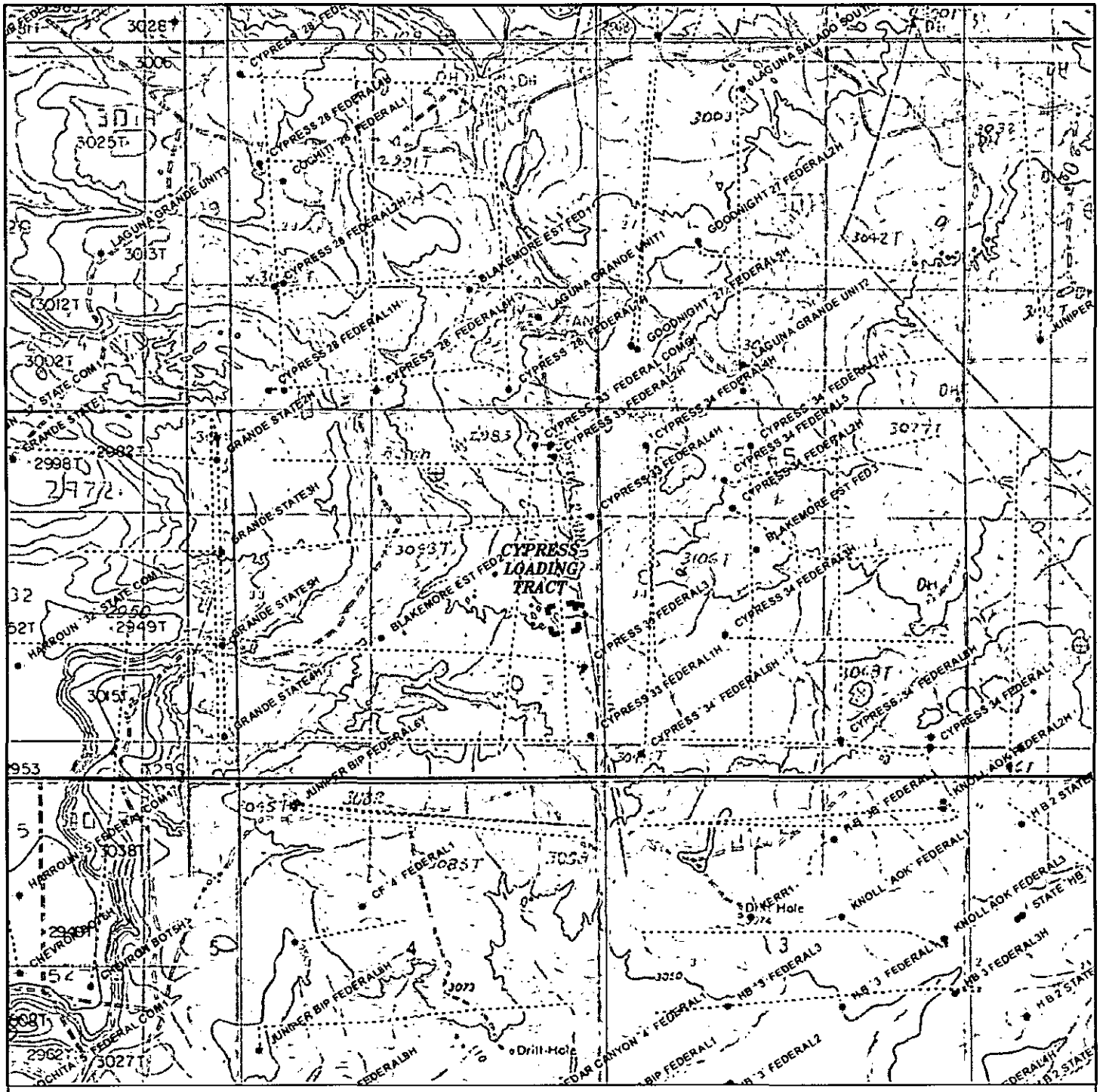

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YELLOW TINT – USA LAND
BLUE TINT – STATE LAND
NATURAL COLOR – FEE LAND

N

R360 ENVIRONMENTAL SOLUTIONS

Cambrian Management
EXECUTIVE SUMMARY WELLBORE DIAGRAM

WELL NAME:	R 360 Cypress			STATE:	New Mexico		Permit #			Job #	
LOCATION:	T 23 S, R 29 E Sec 33 NE 1/4 SE 1/4			COUNTY:	Eddy		Spud	TD	Rig Release	rig Days	
LOCATION:				DATE		Drill				0	
ELEVATION:						Complete				0	
API#							TVD	15780	PBTD		
Drill Contractor	TBD			PREPARED	A Rickard		Total Depth	15,780			
	DEPTH	HOLE SIZE	CASING SIZE	WEIGHT	GRADE	THREAD	CMT	CMT VOL	TOC	centralizers	DV Depth
Conductor CASING:						See cement slurries below					
Surf CASING:	600	26"	20"	106 4 ppf	J55	LTC	See cement tab on bottom		surface	TBD	none
1st Int CASING:	3200	17 1/2	13 3/8"	68 ppf	J-55	LTC			surface	TBD	none
2nd Int CASING:	9930	12 1/4"	9 5/8"	53.5	L-80	LTC			surface	TBD	6000
Prod Casing	14780	8 1/2"	7"	35/29/35	CL80-P110-HCL	LTC			surface	Temp Survey	na
Tubing	14780	5 7/8"	4 1/2"	11 6	P110-L80	8rnd LTC					

Water Board Depth

Last updated

Regulator Mark Larson
Drilling Dallas
Complete Andy
Workover

Surface

Vendor Type Rating

C
B
A

20" casing @ 600'

Date

Initial Potential
Oil(BOPD)
Gas (MCFD)
Water (BPD)
GOR
Flowing/Pumping
Choke
Flowing Tbg psi
Csg Pressure
Oil Gravity

13-3/8" @ ~1600'
No DVT, will circulate cement to surface

ECP/DVT 9-5/8" @ 6000' or last good circulation
Contingency: Cem vol depth adjusted Proportionately

9.625" @ ~9930' TD

Geology

	Formation	Depth (top)
1	Rustler/ Salado	Surface
2	Delaware Mountain Grou	2940
3	Bone Spring	6990
4	Wolfcamp	9930
5	Strawn	11950
6	Atoka	12260
7	Barnett	12870
8	Morrow	13720
9	Mississippian Lime	14250
10	Woodford Shale	14640
11	Siluro-Devonian	14780

7" TD @ 14,780'
No DVT

Production Equip

Type of lift Depth

	Items	Length	ID	OD
1	#NAME?			

CLS100

5000' 4 1/2 p110 9300' 4 1/2 L80
Arrowset 1X w/ O/O tool
F nipple R nipple

12,230' 7" p110
2500' 7" HCL80 ???
7" @ 14,780'

5 7/8" Open Hole Completion

5 7/8" >> TD 15,780' +/-

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-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: _____ Secondary Recovery _____ Pressure Maintenance __X__ Disposal _____ Storage
Application qualifies for administrative approval? _____ Yes _____ No

II. OPERATOR: R360 Permian Basin, LLC (a wholly owned subsidiary of Waste Connections, Inc.)

ADDRESS: 3 Waterway Square Place, Suite 110, The Woodlands, Texas 77380

CONTACT PARTY: Chris Ruane, Director of Engineering PHONE: (832) 442-2204

III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? _____ Yes __X__ No
If yes, give the Division order number authorizing the project: _____

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).

*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

NAME: Luke Bross TITLE: Legislative & Regulatory Affairs

SIGNATURE: Luke Bross DATE: 12-2-15

E-MAIL ADDRESS: _____

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

(1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.

(2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.

(3) A description of the tubing to be used including its size, lining material, and setting depth.

(4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

(1) The name of the injection formation and, if applicable, the field or pool name.

(2) The injection interval and whether it is perforated or open-hole.

(3) State if the well was drilled for injection or, if not, the original purpose of the well.

(4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.

(5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

(1) The name, address, phone number, and contact party for the applicant;

(2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;

(3) The formation name and depth with expected maximum injection rates and pressures; and,

(4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

Side 1

INJECTION WELL DATA SHEET

OPERATOR: R360 Permian Basin, LLC

WELL NAME & NUMBER: Cypress SWD #1

WELL LOCATION: 2280' FSL/560' FEL | I | 33 | 23 S | 29 E

FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

WELLBORE SCHEMATIC

See Attached

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: See Attached Casing Size: See Attached

Cemented with: See Attached sx. *or* _____ ft³

Top of Cement: See Attached Method Determined: _____

Intermediate Casing

Hole Size: See Attached Casing Size: See Attached

Cemented with: See Attached sx. *or* _____ ft³

Top of Cement: See Attached Method Determined: _____

Production Casing

Hole Size: See Attached Casing Size: See Attached

Cemented with: See Attached sx. *or* _____ ft³

Top of Cement: _____ Method Determined: _____

Total Depth: _____

Injection Interval

14,780' feet to 15,780'

(Perforated or Open Hole; indicate which)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: 4.5" Lining Material: Composite Fiberglass (CLS100)

Type of Packer: Arrowset 1X

Packer Setting Depth: TBD

Other Type of Tubing/Casing Seal (if applicable): _____

Additional Data

1. Is this a new well drilled for injection? X Yes _____ No

   If no, for what purpose was the well originally drilled? _____

2. Name of the Injection Formation: Devonian

3. Name of Field or Pool (if applicable): SWD Devonian

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. N/A

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: Delaware (2,940'), Bone Springs (6,990'), Wolfcamp (9,930'), Strawn (11,950'), Atoka (12,260'), Morrow (12,870'), Barnett (13,720'), Mississippian Lime (14,250'), Woodford Shale (14,640')

Cypress SWD Drilling Plan

1. **Location:**

   Legal: 1590' FSL 165' FWL Unit L Section 34, Township 23 S, Range 29 E

   Eddy County, New Mexico

   GPS Coordinates: 32° 15' 30.26", -103° 58' 49.82"

   O&G Lease #: NMNM 019848

2. **Elevation Above Sea Level:** 3,012'

3. **Geologic Name of Surface Formation:** Alluvium

4. **Proposed Drilling Depth:** 15,780'

5. **Estimated Tops of All Geologic Formations:**

Formation	Estimated Top (feet)	Bearing
Triassic		<10' of perched water @ 40' BGS
Dewey Lake		
Salado		N/A
Tansil		N/A
Yates		N/A
Capitan		N/A
Delaware Mountain	2940	Hydrocarbons
Bone Spring	6990	Hydrocarbons
Wolfcamp	9930	Hydrocarbons
Strawn	11950	Hydrocarbons
Atoka	12260	Hydrocarbons
Barnett	12870	Hydrocarbons
Morrow	13720	Hydrocarbons
Mississippian Lime	14250	Hydrocarbons
Woodford Shale	14640	Hydrocarbons
Siluro- Devonian (Target)	**14780**	**N/A**
Montoya		N/A
Simpson		N/A
Ellenberger		N/A

6. **Proposed Casing Program:** See COA

Name	Hole (inches)	Size (inches)	Setting Depth (Feet)	Grade	Weight (lbs/ft)	Thread	Condition	Burst SF	Coll. SF	Ten. SF
Surface	26	20	~~600'~~ 350	J55	106.~~4~~ 5	LTC	New	1.2	1.125	1.6
1st Intermediate	17 ½	13 3/8	~~3,200'~~ 3090	J55	68	~~LTC~~ BTC	New	1.2	1.125	1.6
2nd Intermediate	12 ¼	9 5/8	9930'	L80	53.5	LTC	New	1.2	1.125	1.6
Production	8 ½	7	0-120	HCL80	35	LTC	New	1.2	1.125	1.6
Production	8 ½	7	120-12,230'	P-110	29	LTC	New	1.2	1.125	1.6
Production	8 ½	7	12,230'-14,780'	HCL80	35	LTC	New	1.2	1.125	1.6
Tubing	$5\frac{7}{8}$	4 ½	0-5,000	P-110	11.6	LTC	New	1.2	1.125	1.6
Tubing	$5\frac{7}{8}$	4 ½	5,000-14,780'	L-80	11.6	LTC	New	1.2	1.125	1.6
Open Hole	5.875		14,780-15,780'	NA	NA	NA	NA			
DVT's	Only DVT planned right now is at 6000'.									

7. **Drilling Procedure:** Spud well and drill down each interval to total depth of that interval, staying in compliance with OCD/BLM rules and regulations and following this APD drilling plan. Each casing string will be cemented and cement will be circulated to surface. There are DV Tools in the casing strings to insure getting cement all the way to surface. Mud weights are spelled out below in paragraph 10 – Types and Characteristics of mud system. After reaching total casing depth of 14,780', OH Logs (Paragraph 12) will be run 14,780'-9930" GR-CNL to surf, we will cement the 7" as spelled out in this APD. We will pick up a 5 7/8" bit to drill the injection interval for the open-hole completion; OH logs (see Paragraph 12) will be run TD-14,780'. The depths from 14,780' to 15,780' will not have a casing string, thus an "open-hole" completion. The Devonian target zone for injecting is a depleted zone considered to be under pressured and will be drilled with cut brine 8.4-8.9 PPG. The injection tubing will be set to depth of 14,780' inside the 7". All intervals will be logged prior to running casing per BLM/OCD requirements.

See COA

8. **Pressure Controls:** A 10M 13-5/8" BOP system (~~Double~~ Triple Ram and Annular preventer) and 2 power chokes installed on manifold and 1 manual choke per BLM Onshore Order 2, will be installed and tested prior to drilling out the surface casing shoe. The BOP system used to drill the intermediate hole will be test per BLM Onshore Oil and Gas Order 2. See COA

A 10M 13-5/8" BOP system (~~Double~~ Ram and Annular preventer) will be installed and tested prior to drilling out the intermediate casing shoe. The BOP system used to drill the production hole will be test per BLM Onshore Oil and Gas Order 2.

The pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These tests will be logged in the daily driller's log. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. In addition to the rams and annular preventer, additional BOP accessories, include a Kelly cock, floor safety valve, choke lines, and choke manifold rated at ~~5,000~~ 10000 psi WP.

9. **Cement Program:** Surface ~~600~~ 350 See COA' TD

Surface: Float/Landing Collar set @ 558'. We will circulate cement to surface

Interval	Amount (sacks)	Ft of Fill	Excess (%)	PPG	Ft^3/sx	Volume (ft^3)	Cement Type
Lead	340	300	100	13.5	1.69	575	Class C + 2% Gel + 0.2% Antifoam + 0.125 lb/sk Polyflake
Tail	500	300	100	14.8	1.33	660	Class C + 0.125 lb/sk Polyflake

First Intermediate: TD @ ~~1600~~ 3090 See COA' Stage 1 Float/Landing Collar set @ 1800. We will circulate cement to surface.

13 3/8 Contingency Cement design as follows:

If hole conditions warrant and we will adjust DVT depth per circulation requirements. The current estimated setting is 1800' and cement volumes will be adjusted proportionally to maintain equivalent excess in all slurries.

Interval	Amount (sacks)	Ft of Fill	Excess (%)	PPG	Ft^3/sx	Volume (ft^3)	Cement Type
Stage 1 Lead	453	800'	100	11.9	2.45	1112	Class C + 2% Sodium Metasilicate + 0.1% Dispersant + 0.2% Antifoam + 0.2% Retarder
Stage 1 Tail	677	600'	100	14.8	1.33	900	Class C + 0.125 lbs/sk Polyflake
Stage 2 Lead	760	1500'	100	11.9	2.45	1862	Class C + 2% Sodium Metasilicate + 0.1% Dispersant + 0.2% Antifoam
Stage 2 Tail	311	300'	100	14.8	1.34	417	Class C + 1% Calcium Chloride + 0.125 lbs/sk Polyflake

Second Intermediate: TD @9930', float collar set at 9888' Stage 1 Float/Landing Collar set @ 6000'

9 5/8 Contingency Cement design as follows:

If hole conditions warrant and we will adjust ECP/DVT depth per circulation requirements. The current estimated setting is 6000' and cement volumes will be adjusted proportionally to maintain equivalent excess in all slurries.

Interval	Amount (sacks)	Ft of Fill	Excess (%)	PPG	Ft^3/sx	Volume (ft^3)	Cement Type
Stage 1 Lead	555	3330	50	11	2.82	1564	TXI + 2% Sodium Metasilicate + 0.2 % Dispersant + 0.2% Antifoam + 0.4% Retarder
Stage 1 Tail	293	600	50	16.4	1.07	314	Class H + 0.3% Retarder + 0.2% Antifoam
Stage 2 Lead	918	5700	50	11.9	2.45	2248	Class C + 2% Sodium Metasilicate + 0.2 % Dispersant + 0.2% Antifoam + 0.4% Retarder
Stage 2 Tail	132	300	50	16.4	1.07	141	Class C + 1% Calcium Chloride + 0.125 lbs/sk Polyflake

Production: Stage 1 Float/Landing Collar set @ 14,780', NO DVT. We will circulate cement to surface.

7" Contingency Cement design as follows:

No DVT planned for this section

Interval	Amount (sacks)	Ft of Fill	Excess (%)	PPG	Ft^3/sx	Volume (ft^3)	Cement Type
Lead 1	465	8930	30	11.5	2.50	1162	50:50 POZ:H + 0.1 lb/sk D65 Dispersant + 0.3 lb/sk D201 Retarder + 8% D20 Gel + 0.2% D208 Viscosifier + 3 lb/sk D42 Kolite + 0.125 lb/sk D130 Polyflake
Lead 2	644	5250	30	13.5	1.29	831	TXI + 1.5 gal/sk GASBLOK +0.08 gal/sk D80 Dispersant + 0.04 gal/sk D801 Retarder + 0.05 gal/sk D175A Antifoam + 2% D176 Expanding Agent
Tail	105	600	30	16.4	1.09	115	Class H + 0.4% D167 Fluid loss + 0.3% D800 Retarder + 2% D176 Expanding agent

~~The contingency ECP/DVT tool setting depth may change and cement will be adjusted accordingly.~~

10. **Type and Characteristics of Mud System:**

Depth MD/TVD (ft)	Mud Type	Mud Density (ppg)	Viscosity (sec/1000cc)	Plastic Viscosity (cP)	Yield Point ($lb/100ft^2$)	API Fluid Loss (cc)	pH	LGS %
120 – 450	New Gel/Soda Spud Mud	8.8 – 9.2	60 – 70	12 – 28	12 – 34	20	+/-9.0	<6
450 – 2,900	Brine Water	10.0 – 10.1	29 – 30	0 – 1	0 – 1	NC	9.5 – 10.0	<6
2,900 – 7660	Existing Brine to New Zan D/White Starch/ Barite	10.0 -10.1	29 – 30	0 – 1	0 – 1	NC	9.5 – 10.0	<6
7660 – 14,780'		10.1 – 11.5	36 – 44	6 – 14	12 – 18	10 – 12	9.5 – 10.0	<6
14,780' 15,780'	*Cut brine*	*8.4 - 8.9*	*28 - 30*	*0 - 1*	*0 - 1*	*NC*	*9. – 9.5*	*<6*

Our goal for all DVT and ECP is to run with full intentions of running the 2 stage job. This will help insure good tail cement and help insure cement to surface.

11. **Air Drilling Description:** Not applicable.

12. **Testing, Coring, and Logging Procedures:** See COA

A. Mud logging program: 2 man unit from 2,900' (setting depth of salt string) to TD.

B. Electric logging program: open hole logs CNL / LDT / CAL / GR, DLL / SGR (CNL/GR from base of Intermediate casing to surface) from 15,550 to Intermediate casing and TD-15,550
Cased Hole Logs
CBL w/ CCL from base of Intermediate casing to surface (if cement is not circulated to surface)
CBL w/ CCL from production casing DV tool at 8,000' to 3,000' (estimated top of cement at 4,000')

C. No DST's or cores are planned

D. Sonic log: not required but available if needed

13. **Expected Bottom Hole Pressure and Temperature:** 6,440 psi , 170° F.

14. **Abnormal Conditions:**

15. **H_2S Plan:** Breathing equipment will be available on location. If H_2S is encountered the operator will comply with the Onshore Oil and Gas Order No. 6. The H_2S measured amounts and formation will be reported to the BLM. Please see the attached H_2S Plan and the H_2S awareness map.

16. **Directional or Horizontal Survey:** The well is neither directional nor horizontal.

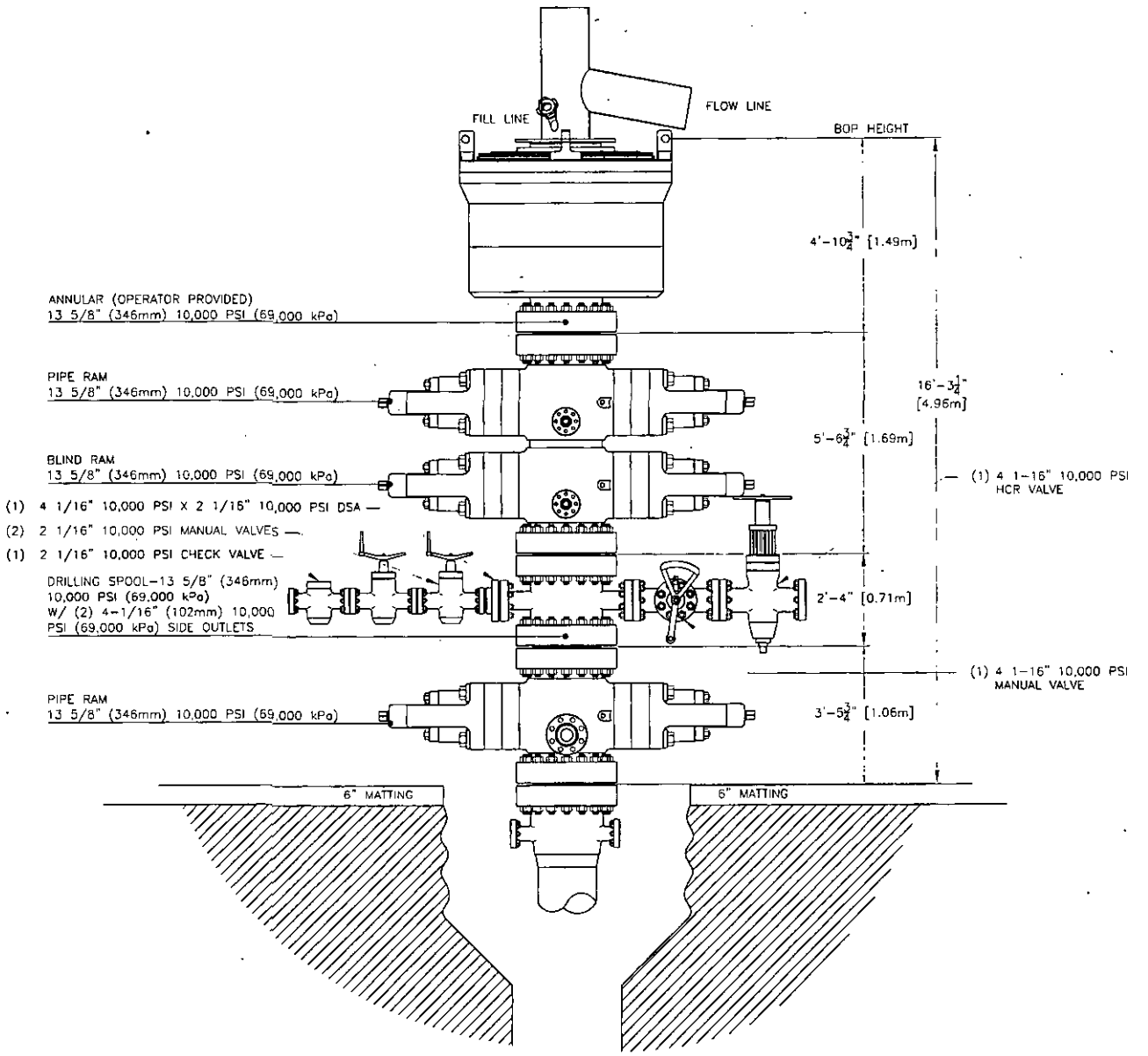
17. **Unit Well Current Unit POD:** The well is not in a unit or current unit POD.

18. **Work Schedule:** To be determined.

19. **Completion plans:** MIRU well service unit. PU 2 7/8" PH-6 work string. TIH, release retrievable bridge plug and pull out of hole. Pick up treating packer. TIH to 14,780' and set. Test back side to 1000 psi. Acidize down tubing with five stages – 8000 gallons 15% HCL each stage followed by 1500 lbs of rock salt each stage. Release packer and pull out of hole.
Trip in hole with tubing with notched collar. Circulate clean to TD. Pull out of the hole and pick up 7" Arrow Set 1X packer. Trip in the hole to 14,780'. Set blanking plug and on/off tool. Release packer and pull out of hole, laying down 2 7/8" work string. Pick up 4 ½" lined injection tubing. Trip in hole and get on on/off tool. Release packer. Space out. Reset packer. Release on/off tool again. Circulate packer fluid. Get back on on/off tool. Nipple down BOP and nipple up well head. Schedule and perform MIT on tubing casing annulus per OCD and BLM guidelines. Turn well over to R360 for plumbing up surface facilities.

BOP LAYOUT

RIG XXX



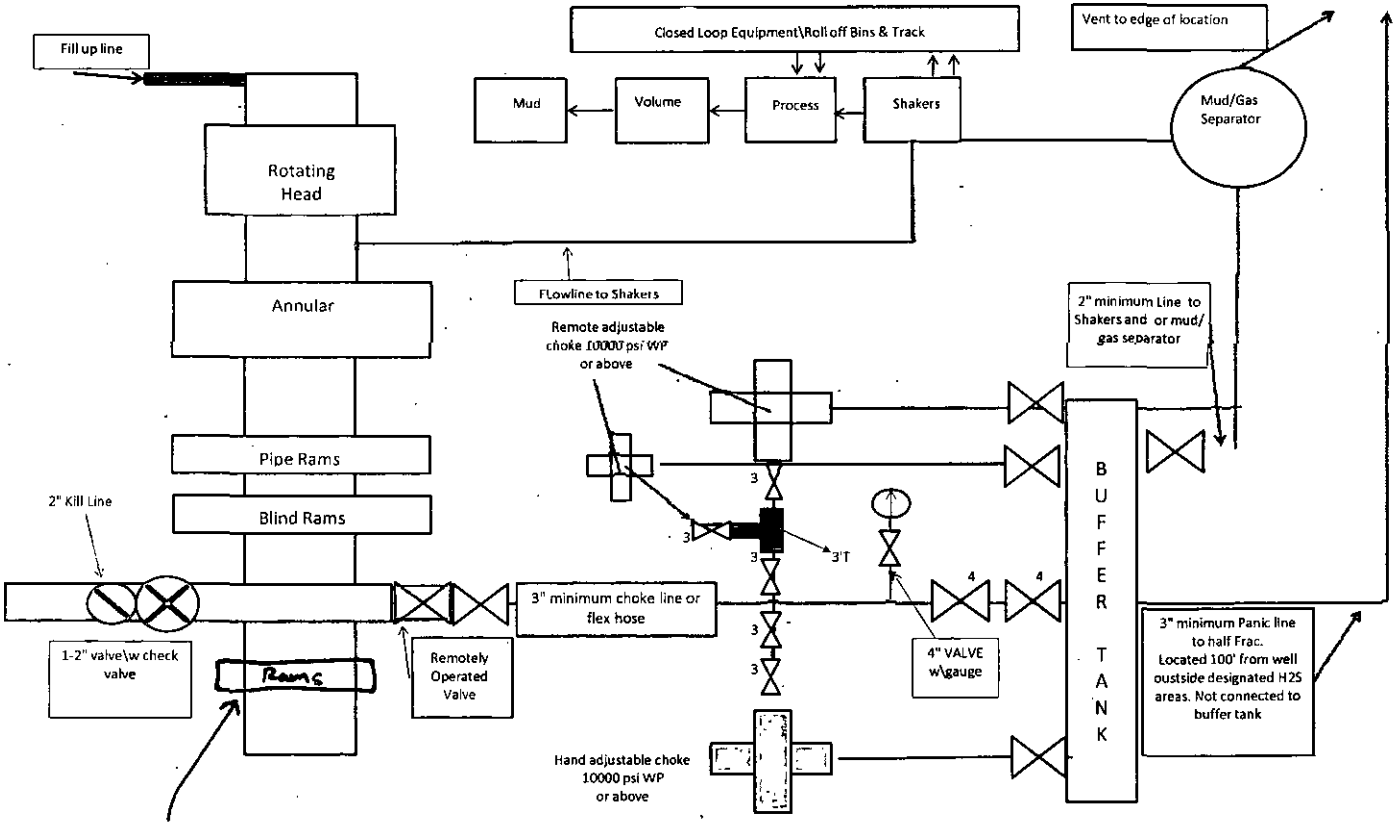
NOTE: CASING BOWL SET AT MATTING LEVEL AND ½" ALLOWANCE FOR RING GASKET GAP.

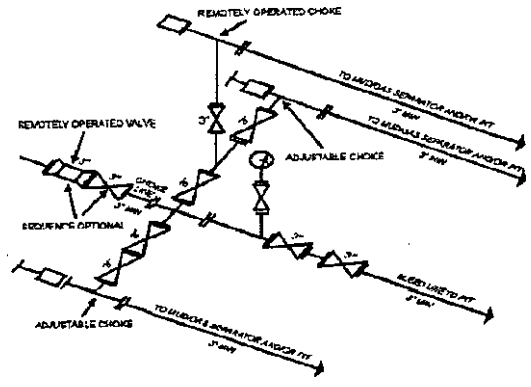
STACK COMPONENTS REPRESENTED ARE SUBJECT TO AVAILABILITY, PLEASE CONFIRM WITH WELL CONTROL DEPARTMENT MANAGER.

EQUIPMENT REPRESENTATION ONLY
NOT DRAWN TO SCALE

PRECISION DRILLING

DATE: 2016/03/08
DWG No.: BOP-XXX-011
DWG BY : MRK





Pipe Rams Required

3

McVay 11" or 13 5/8" X 10-M BOP (~~2~~ Rams and Rotating Head) & Closed Loop System Equipment Schematic
Diagram C

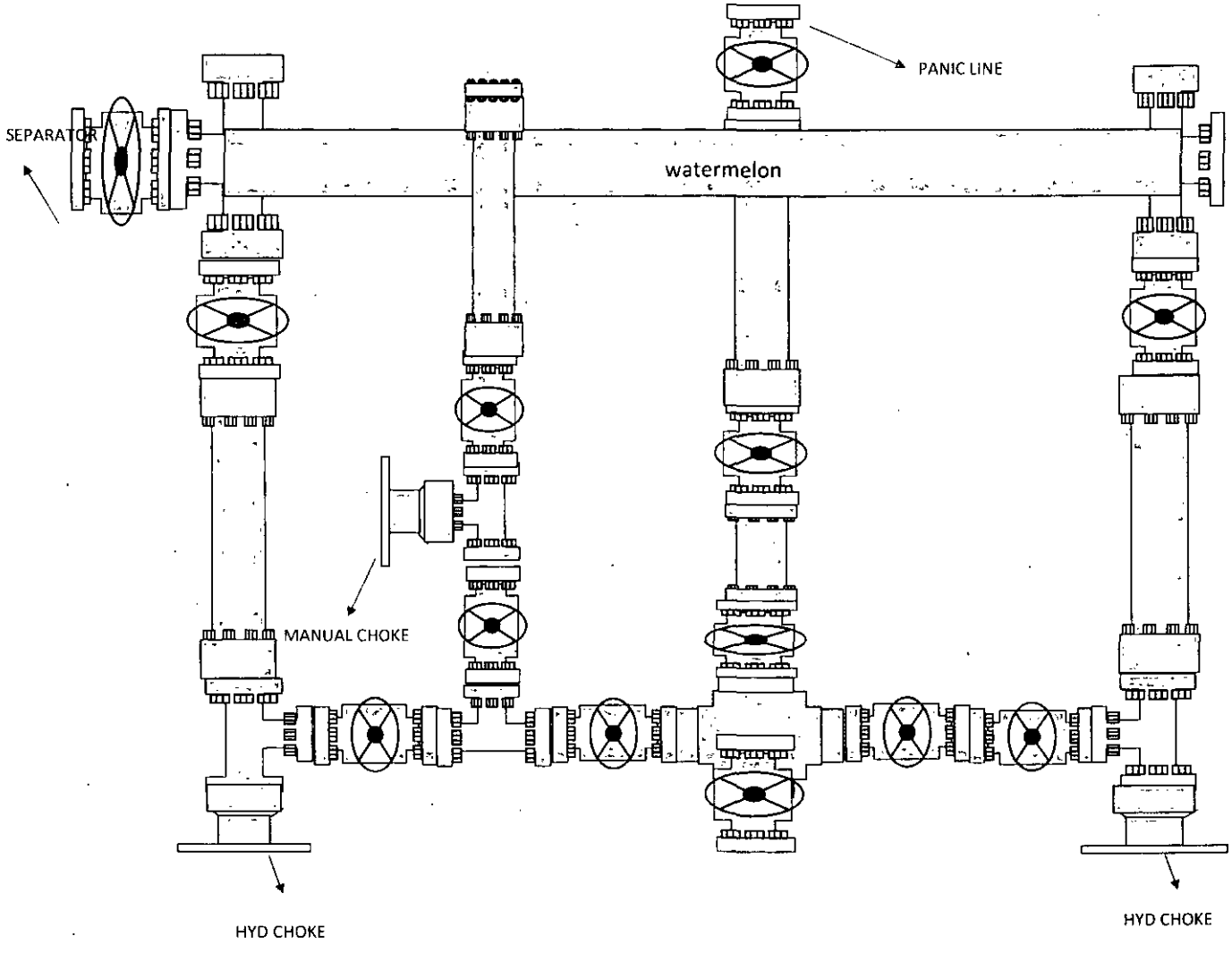
Note: all valves & lines on choke manifold are 3" unless otherwise noted. Exact manifold configuration may vary.

CYPRESS #1

R360 ~~ONEONE~~ SWD

ALL 3" TRIPLE CHOKE MANIFOLD

WITH 1 MANUAL CHOKE AND 2 HYDRAULIC CHOKE



Certificate of Conformance

CHK HOSE, 4"ID X 42' 6", 10K PSI

RIG/PLANT		
RIG 120		
ADDITIONAL CODE	SDRL CODE	TOTAL PGS
REMARKS		
29010000		
MAIN TAG NUMBER		DISCIPLINE
20032236-61012		
CLIENT PO NUMBER		
29		
CLIENT DOCUMENT NUMBER		

REFERENCE	REFERENCE DESCRIPTION
829847	CHK HOSE, 4"ID X 42' 6", 10K PSI

National Oilwell Varco
12950 W. Little York
Houston, TX 77041
Phone 713-937-5000
Fax 713-849-6147

DOCUMENT NUMBER	REV
20032236-61012-COC-001	01

NATIONAL OILWELL VARCO

Document number	20032236-61012-COC-001
Revision	01

NOV CERTIFICATE OF CONFORMANCE

Certificate of Conformance	
Equipment Name	CHK HOSE, 4"ID X 42' 6", 10K PSI
Part Number	20032236
Serial Number	20032236-61012
Customer	NOV-GALENA PARK-CO 514
Rig	RIG 120
Customer Purchase Order	29
NOV Sales Order	829847
Date of Manufacturing	AUGUST 2011
Quantity	ONE (1)

NOV certifies that the above equipment:

Was manufactured and inspected in accordance with NOV specifications and customer purchase order requirements.

Prepared By: _____
Angela Gomez
Documentation Specialist

Certified By: _____
Quality Department

This is an example this diagram must be present on site for the actual flex hose being used

Midwest Hose & Specialty, Inc.

Internal Hydrostatic Test Graph

Date

Customer: Houston

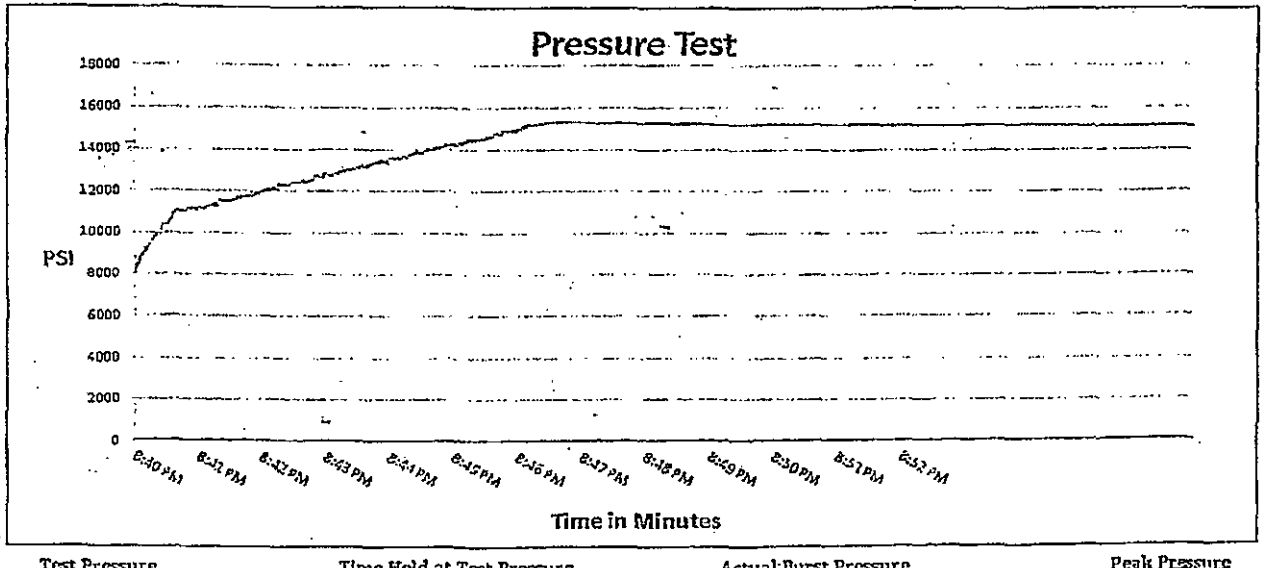
Pick Ticket #: 94260

Hose Specifications

Hose Type	Length
C & K	45'
I.D.	O.D.
4"	6.09"
Working Pressure	Burst Pressure
10000 PSI	Standard Safety Multiplier Applies

Verification

Type of Fitting	Coupling Method
4 1/16 10K	Swage
Die Size	Final O.D.
6.36"	6.25"
Hose Serial #	Hose Assembly Serial #
5544	79793



Test Pressure	Time Held at Test Pressure	Actual Burst Pressure	Peak Pressure
15000 PSI	11 Minutes		15483 PSI

Comments: Hose assembly pressure tested with water at ambient temperature.

Tested By: *Zac Mcconnell*

x

Approved By: *Kim Thomas*

Exhibit F-1 – Co-Flex Hose Hydrostatic Test

Cypress SWD - 1

R360 Permian Basin, LLC

34 - 23S - 29E

Eddy County, NM

H_2S Plan

1. Hydrogen Sulfide Training

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

A. The hazards and characteristics of hydrogen sulfide (H_2S).
B. The proper use and maintenance of personal protective equipment and life support systems.
C. The proper use of H_2S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds,
D. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

A. The effects of H_2S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
B. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
C. The contents and requirements of the H_2S Drilling Operations Plan and the Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H_2S zone (within 3 days or 500 feet) and weekly H_2S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H_2S Drilling Operations Plan and the Public Protection Plan. This plan shall be available at the well site. All personnel will be required to carry documentation that they have received the proper training.

2. H_2S Safety Equipment and Systems

All H_2S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H_2S.

A. Well Control Equipment:
- Flare line.
- Choke manifold with remotely operated choke.
- Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.
- Auxiliary equipment to include: annular preventer, mud-gas separator, rotating head.

B. Protective equipment for essential personnel:
- Mark II Surviveair 30-minute units located in the dog house and at briefing areas.

C. H_2S detection and monitoring equipment:

- (2) Portable H_2S monitor positioned on location for best coverage and response. These units have warning lights and audible sirens when H_2S levels of 20 ppm are reached.

D. Visual warning systems:
- Caution/Danger signs shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See attached example.

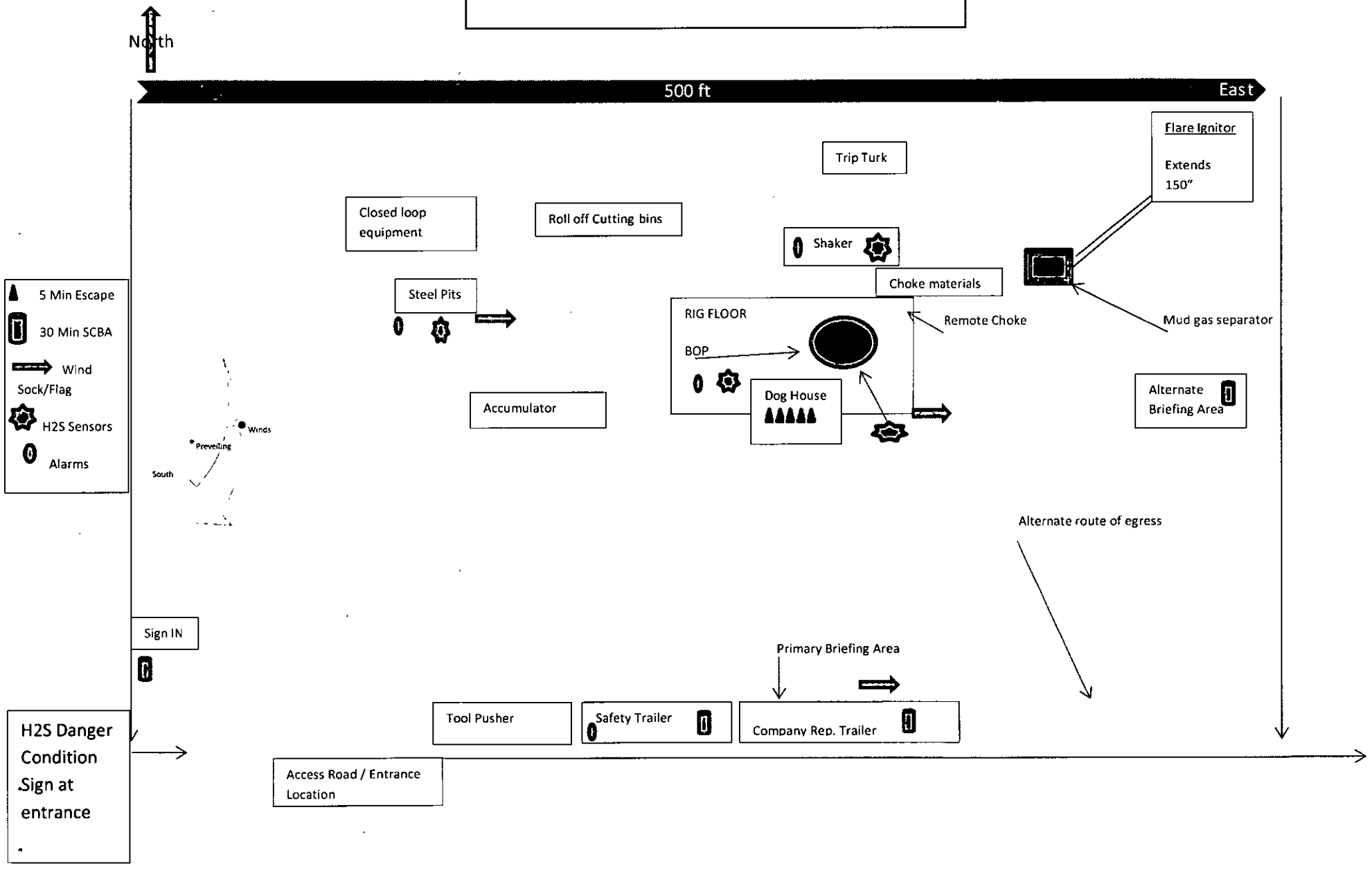
E. Mud Program:
- The mud program has been designed to minimize the volume of H_2S circulated to the surface.

F. Metallurgy:
- All drill strings, casings, tubing, wellhead, blowout preventers, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H_2S service.

G. Communication:
- Company vehicles equipped with cellular telephone.

R360 Permian Basin LLC has conducted a review to determine if an H_2S contingency plan is required for the above referenced well. We were able to conclude that any potential hazardous volume would be minimal. H_2S concentrations of wells in this area from surface to TD are low enough; therefore, we do not believe that an H_2S contingency plan is necessary.

Contingency Plan for Cypress #1 SWD



WARNING

YOU ARE ENTERING AN H_2S AREA
AUTHORIZED PERSONNEL ONLY

1. BEARDS OR CONTACT LENSES NOT ALLOWED
2. HARD HATS REQUIRED
3. SMOKING IN DESIGNATED AREAS ONLY
4. BE WIND CONSCIOUS AT ALL TIMES
5. CHECK IN WITH R360 FOREMAN AT MAIN OFFICE

R360 PERMIAN BASIN

1-832-442-2200

R360 Environmental Solutions Inc.

Cypress SWD #1 APD

Surface Use Plan

1. Existing & Proposed Access Roads

A. The well site survey and elevation plat for the proposed well is attached with this application. It was staked by Basin Surveys, Hobbs, New Mexico.

B. All roads to the location are shown in the Vicinity Map. The existing lease roads are illustrated and are adequate for travel during drilling and production operations. Upgrading existing roads prior to drilling the well will be done where necessary.

C. Directions to location: From intersection of CR 793 and CR 128 go south 4.0 miles, then west 3.5 miles to lease road; South 1.8 miles to lease road, go west 0.2 miles to "T", thence north 0.1 miles to proposed pad.

D. Routine grading and maintenance of existing roads will be conducted as necessary to maintain their condition as long as any operations continue on this lease. Roads will be maintained according to specifications in Section 2A of this Surface Use Plan.

2. Proposed Access Road:

No access roads are planned to be constructed. If any road is required it will be constructed as follows:

A. The maximum width of the running surface will be 30'. The road will be crowned, ditched and constructed of 6" rolled and compacted caliche. Ditches will be at 3:1 slope and 4 feet wide. Water will be diverted where necessary to avoid ponding, prevent erosion, maintain good drainage, and to be consistent with local drainage patterns.

B. The average grade will be less than 2%.

C. Turnouts will be intervisible with interval spacing distance less than 1000 feet..

D. No culverts, cattleguard, gates, low water crossings or fence cuts are necessary.

E. Surfacing material will consist of native caliche. Caliche will be obtained from the actual well site if available. If not available onsite, caliche will be hauled from the nearest BLM approved caliche pit.

3. Location of Existing Well:

The One-Mile Radius Map shows existing wells within a one-mile radius of surface hole location and the bottom hole location.

4. Location of Existing and/or Proposed Facilities:

A. An SWD facility will be constructed on private land owned by R360 Permian Basin LLC as shown in the figure attachments.

B. The facility will be installed according to API specifications.

C. Any additional caliche will be obtained from the actual well site. If caliche does not exist or is not plentiful from the well site, the caliche will be hauled from a BLM approved caliche pit. Any additional construction materials will be purchased from contractors.

D. It will be necessary to run electric power if this well is productive. Power will be provided by local energy company and they will submit a separate plan and ROW for service to the well location.

E. Rehabilitation plans will include the following:
- The original topsoil from the well site will be returned to the location, and the site will be re-contoured as close as possible to the original site.

5. Location and Type of Water Supply:

The well will be drilled with combination brine and fresh water mud system as outlined in the drilling plan. The water will be obtained from commercial water stations in the area and hauled to location by transport truck over the existing and proposed access road. If a commercial fresh water source is nearby, fast line may be laid along existing road ROW's and fresh water pumped to the well. No water well will be drilled on the location.

6. Source of Construction Materials :

Obtaining caliche: Caliche will be obtained from the existing caliche pit at R360 Halfway Facility or from a BLM approved Caliche pit.

7. Methods of Handling Water Disposal:

A. The well will be drilled utilizing a closed loop mud system. Drill cuttings will be held in roll-off style mud boxes and taken to an NMOCD approved disposal site.

B. Drilling fluids will be contained in steel mud pits.

C. Water produced from the well during completion will be held temporarily in steel tanks and then taken to an NMOCD approved commercial disposal facility.

D. Garbage and trash produced during drilling or completion operations will be collected in a trash bin and hauled to an approved landfill. No toxic waste or hazardous chemicals will be produced by this operation.

E. Human waste and grey water will be properly contained and disposed of. Proper disposal and elimination of waste and grey water may include but are not limited to portable septic systems and/or portable waste gathering systems (i.e. portable toilets). Human waste and grey water will be disposed at an approved facility.

F. After the rig is moved out and the well is either completed or abandoned, all waste materials will be cleaned up within 30 days.

8. Ancillary Facilities:

No airstrip, campsite or other facilities will be built as a result of the operation on this well.

9. Well Site Layout:

A. The drill pad layout, with elevations staked by Basin Surveys, is shown in the Elevation Plat.

B. The Closed-Loop exhibit shows the proposed orientation of closed loop system and access road. No permanent living facilities are planned, but a temporary foreman/toolpusher's trailer will be on location during the drilling operations.

10. Plans for Restoration of the Surface:

A. Interim reclamation will take place after the well has been completed. The pad will be downsized by reclaiming the areas not needed for production operations. The portions of the pad that are not needed for production operations will be re-contoured to its original state as much as possible. The caliche that is removed will be reused to either build another pad site or for road repairs within the lease. The stockpiled topsoil will then be spread out reclaimed area and reseeded with a BLM approved seed mixture. In the event that the well must be worked over or maintained, it may be necessary to drive, park, and/or operate machinery on reclaimed land. This area will be repaired or reclaimed after work is complete.

B. Final Reclamation: Upon plugging and abandoning the well all caliche for well pad and lease road will be removed and surface will be recountoured to reflect its surroundings as much as possible. Caliche will be recycled for road repair or reused for another well pad within the lease. If any topsoil remains, it will be spread out and the area will be reseeded with a BLM approved mixture and re-vegetated as per BLM orders.

11. Surface Ownership:

A. The surface is owned by the U.S. Government and is administered by the Bureau of Land Management. The surface is multiple uses with the primary uses of the region for grazing of livestock and the production of oil and gas.

B. The proposed road routes and surface location will be restored as directed by the BLM.

12. Other Information:

A. The area around the well site is grassland and the topsoil is sandy. The vegetation is moderately sparse with native prairie grasses, some mesquite and shinnery oak. No wildlife was observed but it is likely that mule deer, rabbits, coyotes and rodents traverse the area.

B. There is no permanent or live water in the immediate area.

C. There are no dwellings within 2 miles of this location.

13. Bond Coverage:

Bond Coverage is Statewide Bonds # NMB929591818

R360 Environmental Solutions Inc.

Cypress #1 APD

Operator Certification

I hereby certify that I, or persons under my direct supervision, have inspected the drill site and access road proposed herein; that I am familiar with the conditions that presently 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 herein 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 R360 Permian Basin LLC, 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 false statements.

Executed this 29th day of December, 2015.

Signed: _____

Printed Name:	Luke Bross
Position:	Legislative and Regulatory Affairs Manager
Address:	3 Waterway Square Place, Suite 110
	The Woodlands, Texas 77380
Telephone	(832) 442-2204
Email:	Lukeb@r360es.com

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	R360 Permian Basin LLC
LEASE NO.:	NM86024
WELL NAME & NO.:	1-Cypress SWD
SURFACE HOLE FOOTAGE:	1590'/S & 165'/W
BOTTOM HOLE FOOTAGE	'/ & '/
LOCATION:	Section 34, T. 23 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.

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)

Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken: Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 feet from the source of the noise.

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

This authorization is subject to your Certificate of Participation and/or Certificate of Inclusion under the New Mexico Candidate Conservation Agreement. Because it involves surface disturbing activities covered under your Certificate, your Habitat Conservation Fund Account with the Center of Excellence for Hazardous Materials Management (CEHMM) will be debited according to Exhibit B Part 2 of the Certificate of Participation.

The operator shall supply the BLM with a copy of a mudlog over the permitted disposal interval and estimated insitu water salinity based on open-hole logs. If hydrocarbon shows occur while drilling, the operator shall notify the BLM.

The operator shall run and provide a CBL on the 7-inch casing from TD to surface. The operator shall provide to the BLM a summary of formation depth picks based on mudlog and geophysical logs along with a copy of the mudlog and open hole logs from TD to top of wolfcamp

A NOI sundry with the completion procedure for this well shall be submitted and approved prior to commencing completion work. The procedure will be reviewed to verify that the completion proposal will allow the operator to:

1. **Properly evaluate the injection zone utilizing open hole logs, swab testing along any other method to confirm that hydrocarbons cannot be produced in paying quantities. This evaluation shall be reviewed by the BLM prior to injection commencing.**
2. **Restrict the injection fluid to the approved formation.**
3. **If a step rate test will be run an NOI sundry shall be submitted to the BLM for approval**

If off-lease water will be disposed in this well, the operator shall provide proof of right-of-way approval.

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 entire perimeter of the well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad.

- The compacted berm shall be constructed at a minimum of 12 inches high with impermeable mineral material (e.g. caliche).
- No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad.
- The topsoil stockpile shall be located outside the bermed well pad.
- Topsoil, either from the well pad or surrounding area, shall not be used to construct the berm.
- No storm drains, tubing or openings shall be placed in the berm.
- If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.
- The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed.
- Any access road entering the well pad shall be constructed so that the integrity of the berm height surrounding the well pad is not compromised. (Any access road crossing the berm cannot be lower than the berm height.)

Tank Battery Liners and Berms:
Tank battery locations and all facilities 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, situating values 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 values, 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.

Directional Drilling:
Kick off for directional drilling will occur at least 100 feet below the bottom of the cave occurrence zone. 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) 234-5909 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 strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

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. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing
The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. 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 twenty-five (25) 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.

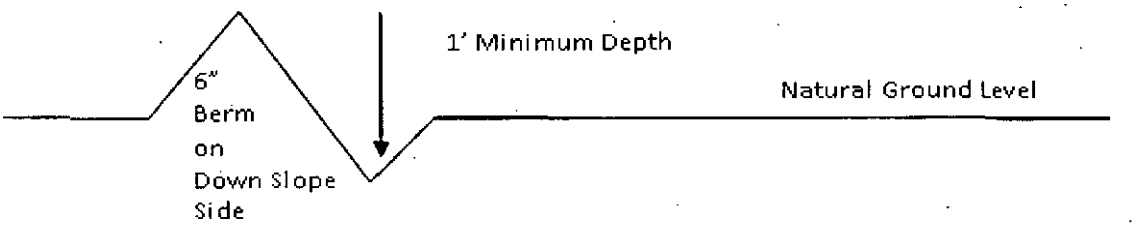
Ditching
Ditching shall be required on both sides of the road.

Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

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

Cattleguards
An appropriately sized cattleguard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattleguards on the access road route 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 cattleguards that are in place and are utilized during lease operations.

Fence Requirement
Where entry is granted 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 fences.

Public Access

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

Construction Steps

1. Salvage topsoil
2. Construct road
3. Redistribute topsoil
4. Revegetate slopes

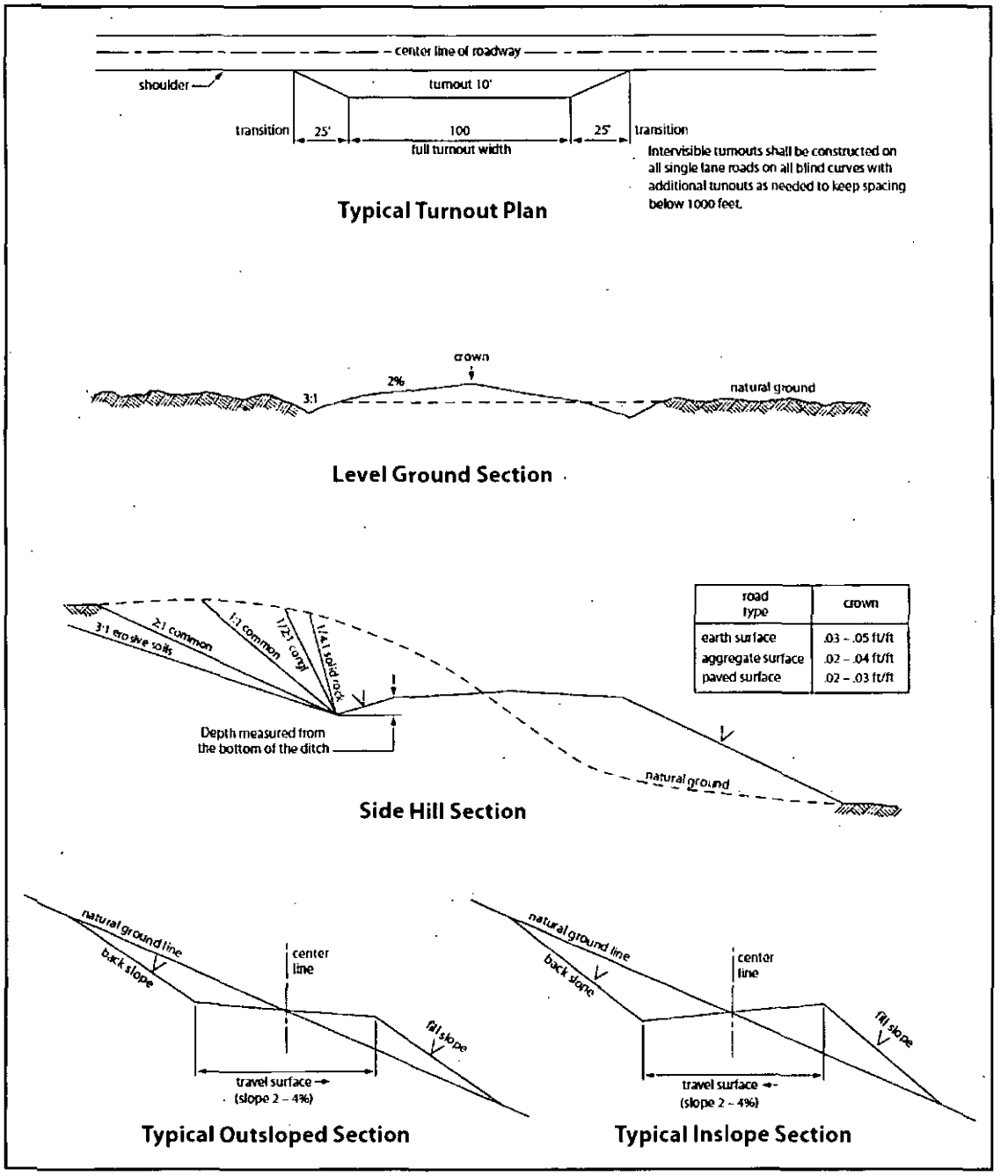


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

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

1. **Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide *is encountered, provide measured values 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 is located, this does not include the dog house or stairway area.

4. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.).

The initial wellhead installed on the well will remain on the well with spools used as needed.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) for Potash Areas:
After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) *until cement has been in place at least 24 hours. WOC time will be recorded in the* driller's log. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Medium Cave/Karst
Possible lost circulation in the Rustler, Bell Canyon, Cherry Canyon, Brushy Canyon, and Bone Spring Lime.
Possible Water Flows in the Castile and Salado
Abnormal pressures may be encountered below the 3rd Bone Spring Sandstone.

1. The **20** inch surface casing shall be set at approximately **350** feet (**in a competent bed below the Magenta Dolomite, which is a Member of the Rustler, and if salt is encountered, set casing at least 25 feet above the salt**) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
    b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.
    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
    d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **13-3/8** inch 1st intermediate casing, which shall be set at approximately **3090** feet, (basal anhydrite of the Castile Formation) is:

Medium Cave/Karst: If cement does not circulate to surface on the intermediate casing, the cement on the production casing must come to surface.

Operator has proposed DV tool at depth of 1800', but will adjust cement proportionately if moved. DV tool/ECP shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range.

a. First stage to DV tool:
☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.

b. Second stage above DV tool:
☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to Potash.**

Formation below the 13-3/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe and the mud weight for the bottom of the hole. Report results to BLM office.

3. The minimum required fill of cement behind the **9-5/8** inch 2nd intermediate casing which shall be set at approximately **9930** feet is:

Operator has proposed DV tool at depth of 6000', but will adjust cement proportionately if moved. DV tool/ECP shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range.

a. First stage to DV tool:
☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.

b. Second stage above DV tool:
☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to Potash. Additional cement maybe required, excess cement calculates to only 23%**

Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe and the mud weight for the bottom of the hole. Report results to BLM office.

4. The minimum required fill of cement behind the **7** inch production is:

☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to Potash. Additional cement maybe required, excess cement calculates to only 11%**

Formation below the 7" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe and the mud weight for the bottom of the hole. Report results to BLM office.

Open Hole completion from 14780' to TD of 15780'

Special Requirements:

The operator shall supply the BLM with a copy of a mudlog over the permitted disposal interval and estimated insitu water salinity based on open-hole logs. If hydrocarbon shows occur while drilling, the operator shall notify the BLM.

The operator shall run and provide a CBL on the 7-inch casing from TD to surface. The operator shall provide to the BLM a summary of formation depth picks based on mudlog and geophysical logs along with a copy of the mudlog and open hole logs from TD to top of wolfcamp

4. 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 the 20" surface casing shoe shall be **10,000 (10M)** psi. **10M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure (BOP Stack shall have triple rams & annular preventer).**

3. **Variance approved to use flex line from BOP to choke manifold**. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in

service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor. If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).

4. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In potash areas, 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. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time.

    a. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**.

    b. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
    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. This test shall be performed prior to the test at full stack pressure.

D. WELL COMPLETION

Special Requirements:

The operator shall supply the BLM with a copy of a mudlog over the permitted disposal interval and estimated insitu water salinity based on open-hole logs. If hydrocarbon shows occur while drilling, the operator shall notify the BLM.

The operator shall run and provide a CBL on the 7-inch casing from TD to surface.

The operator shall provide to the BLM a summary of formation depth picks based on mudlog and geophysical logs along with a copy of the mudlog and open hole logs from TD to top of wolfcamp

1. **Properly evaluate the injection zone for potential production (This well is considered a hydrocarbon producer until proven otherwise)**

    a. **Swab testing shall be done in all cases.**
    b. **In addition to swab testing the operator shall utilize other reservoir evaluation methods (i.e. evaluation of mud logs, petrophysical analysis of open-hole logs and formation water analysis from swab testing) to confirm that hydrocarbons cannot be produced in paying quantities. This evaluation summary report shall be reviewed by the BLM prior to injection commencing.**
    c. A "no hydrocarbon " subsequent sundry evaluation report shall be filed and reviewed by the BLM prior to injection of disposal fluids. Attach electric copies of the supportive logs and reports to this sundry submitted via BLM's Well Information System.

2. Restrict the injection fluid to the approved formation.

3. **Notify BLM as work begins. Some procedures may be witnessed. In Eddy County 575-361-2822. Note the contact, time, & date in your subsequent report.**

4. **If a step rate test will be run an NOI sundry shall be submitted to the BLM for approval. (Stabilized injection rates and pressures are required: after the daily disposal volume rates and injection pressures have leveled out for about 3 months a NOI for a SRT procedure may be approved.)**

5. Conduct a Mechanical Integrity Test of the tubing/casing annulus after a tubing, packer or casing seal is established.

6. The minimum test pressure should be 500 psig for 30 minutes or 300 psig for 60 minutes, with a minimum 200 psig differential between tubing and casing pressure (at test time) but no more than 70% of casing burst pressure as described by Onshore Order 2.III.B.1.h. (The tubing or reservoir pressure may need to be reduced). **Verify all annular casing vents are plumbed to surface and those valves open to the surface during this pressure test.** An alternate method for a BLM approved MIT is to have the fluid filled system open to atmospheric pressure and have a loss of less than five barrels in 30 days witnessed by a BLM authorized officer.

7. Document the pressure test on a one hour full rotation calibrated (within 6 months) recorder chart registering within 25 to 85 per cent of its full range. Greater than 10% pressure leakoff will be viewed as a failed MIT. Less than 10% pressure leakoff will be evaluated site specifically and may restrict injection approval.

8. The setting depths and descriptions of inside casing injection equipment is to be included in the subsequent sundry.

9. Compliance with a NMOCD Administrative Order is required.

a. Approved injection pressure compliance is required.

b. If injection pressure exceeds the approved pressure you are required to reduce that pressure and notify the BLM within 24 hours.

c. When injection pressure is within 50 psig of the maximum pressure, install automation equipment that will prevent exceeding that maximum. Submit a subsequent report (Sundry Form 3160-5) describing the installed automation equipment within 30 days.

10. Stimulation injection pressures are not to exceed BLM's permitted wellhead pressure or the well's frac pressure established by a BLM approved step rate test for Class II water injection wells.

11. Unexplained significant variations of rate or pressure to be reported within 5 days of notice.

12. The casing/tubing annulus is required to be monitored for communication with injection fluid or loss of casing integrity. A "Best Management Practice" is to maintain the annulus full of packer fluid at atmospheric pressure. A BLM inspector may request verification of a full annular fluid level at any time.

13. File intermediate **subsequent sundry** Form 3160-**5** within 30 days of any interrupted workover procedures and a complete (dated daily) workover subsequent sundry.

14. Submit the BLM Form 3160-**4 Recompletion Report** within 30 days of the date all BLM approved procedures are complete. **Include formation tops on every well Recompletion Report.** The operator shall provide to the BLM their formation depth picks based on mud log and geophysical logs along with a copies of the mud log and open-hole logs.

15. The subsequent report is to include all stimulation injection pressures. Report maximum/minimum injection rate (BPM) and max/min stimulation injection pressures (psig).

16. Submit a (BLM Form 3160-**5** subsequent report (daily reports) via BLM's Well Information System; https://www.blm.gov/wispermits/wis/SP describing (dated daily) all wellbore activity including the Mechanical Integrity Test chart document.

17. If off-lease water will be disposed in this well, the operator shall provide proof of right-of-way approval.

18. Disposal fluid from another lease, communitization, or unit agreement require BLM Reality surface right-of-way agreement **approvals** and if applicable, authorization from the surface owner prior to injection.

19. Disposal of fluid from another operator requires that the well be designated as a commercial well and involves BLM Reality or other surface owner right-of-way agreement **approval** prior to injection.

If off-lease water will be disposed in this well, the operator shall provide proof of right-of-way approval.

E. 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.
Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

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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.

Exclosure Netting (Open-top Tanks)
Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening
The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing

hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Exclosures
The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures
Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

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** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

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).

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

NMOCD CONDITION OF APPROVAL

The *New!* Gas Capture Plan (GCP) notice is posted on the NMOCD website under Announcements. The Plan became effective May 1, 2016. A copy of the GCP form is included with the NOTICE and is also in our FORMS section under Unnumbered Forms. Please review filing dates for all applicable activities currently approved or pending and submit accordingly. Failure to file a GCP may jeopardize the operator's ability to obtain C-129 approval to flare gas after the initial 60-day completion period.