17-261

OIL CONSERVATION
ARTESIA DISTRICT
APR 10 2017
RECEIVED

Form 3160-3
(March 2012)

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: NMNM29234

6. If Indian, Allotee or Tribe Name:

1a. Type of work: ☑ DRILL ☐ REENTER SWD-1667

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

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

8. Lease Name and Well No.: SAND DUNES SWD 2 (317614)

2. Name of Operator: MESQUITE SWD INC (161968)

9. API Well No.: 30-015-44131

3a. Address: 602 S Canyon Street Carlsbad NM 88221

3b. Phone No. *(include area code)*: (575)887-0980

10. Field and Pool, or Exploratory: SWD / DEVONIAN (96101)

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface: NESW / 2600 FSL / 2500 FWL / LAT 32.23174 / LONG -103.800299

At proposed prod. zone: NESW / 2600 FSL / 2500 FWL / LAT 32.23174 / LONG -103.800299

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 8 / T24S / R31E / NMP

14. Distance in miles and direction from nearest town or post office*

12. County or Parish: EDDY

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any): 40 feet

16. No. of acres in lease: 1280

17. Spacing Unit dedicated to this well: 0

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 872 feet

19. Proposed Depth: 18000 feet / 18000 feet

20. BLM/BIA Bond No. on file: FED: NMB000612

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3515 feet

22. Approximate date work will start*: 03/01/2017

23. Estimated duration: 45 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)*	Date
(Electronic Submission)	Melanie Wilson / Ph: (575)914-1461	12/27/2016

Title: Regulatory Analyst

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575)234-5959	04/04/2017

Title	Office
Supervisor Multiple Resources	CARLSBAD

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

*(Instructions on page 2)

APPROVED WITH CONDITIONS

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
DISTRICT II
811 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 & Natural Resources Department
OIL CONSERVATION DIVISION
1220 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
30-015-44131	96101	SWD; Devonian

Property Code	Property Name	Well Number
317614	SAND DUNES SWD	2

OGRID No.	Operator Name	Elevation
161968	MESQUITE SWD	3514.5'

Surface Location

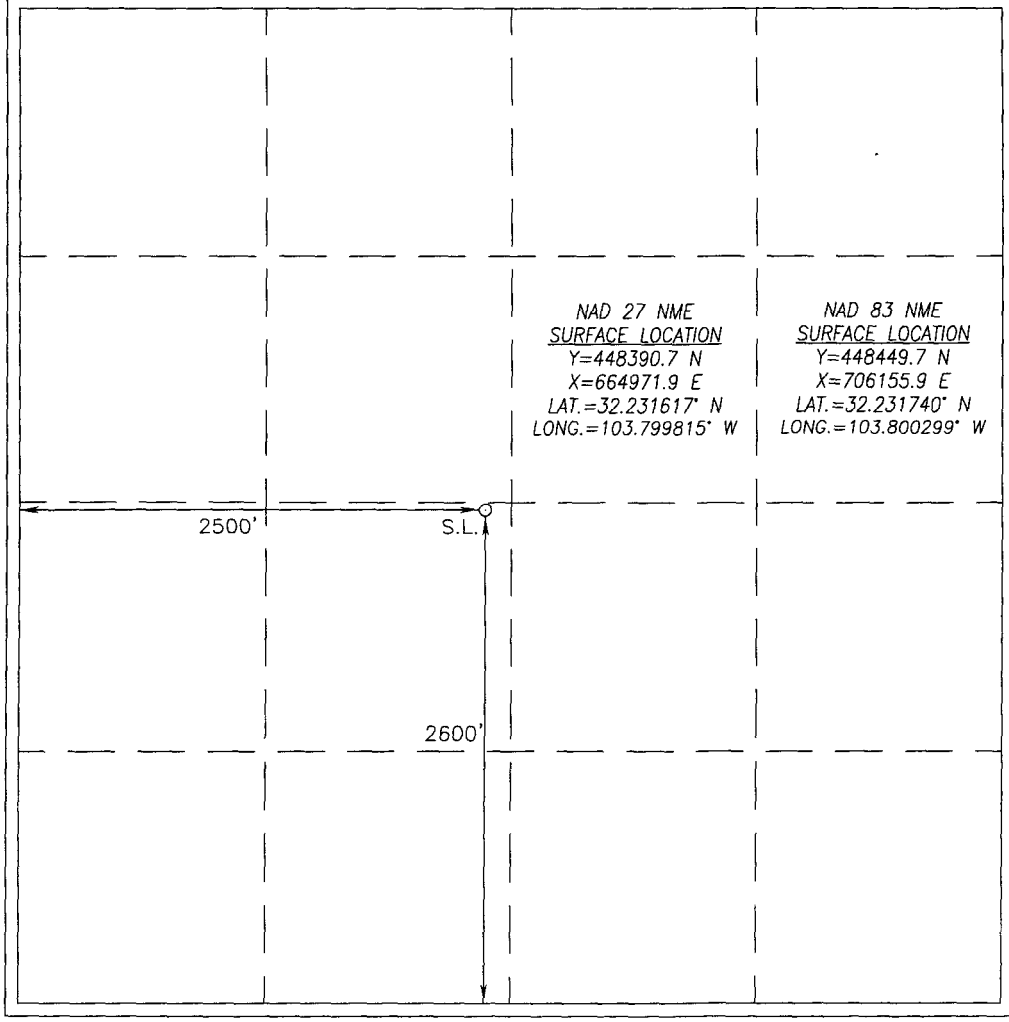
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	8	24-S	31-E		2600	SOUTH	2500	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
			SWD-1667

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 herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Melanie J. Wilson 01/18/2017
Signature Date

Melanie J. Wilson
Printed Name

mjp1692@gmail.com
E-mail 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 supervision, and that the same is true and correct to the best of my belief.

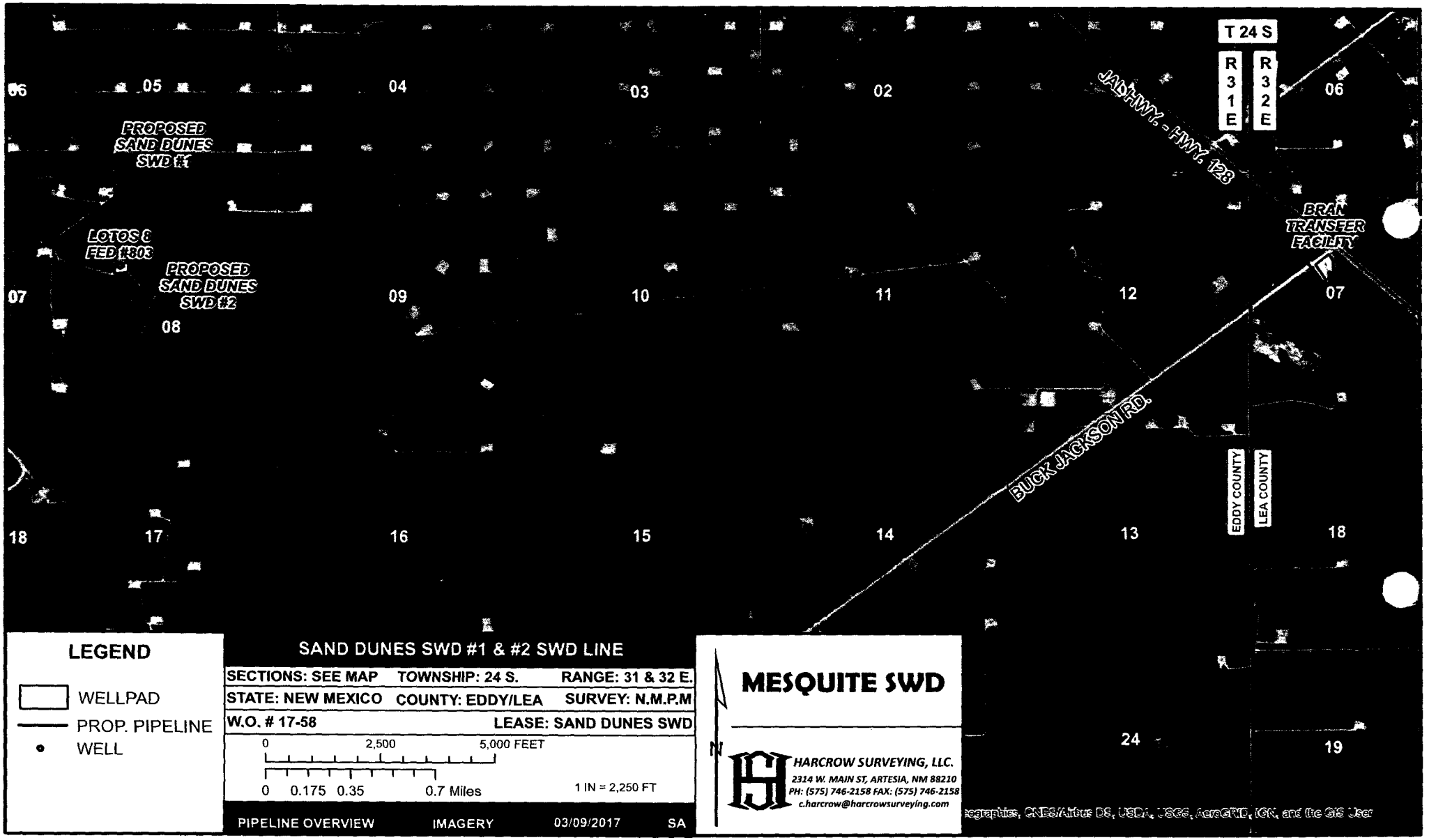
JANUARY 11, 2017
Date of Survey

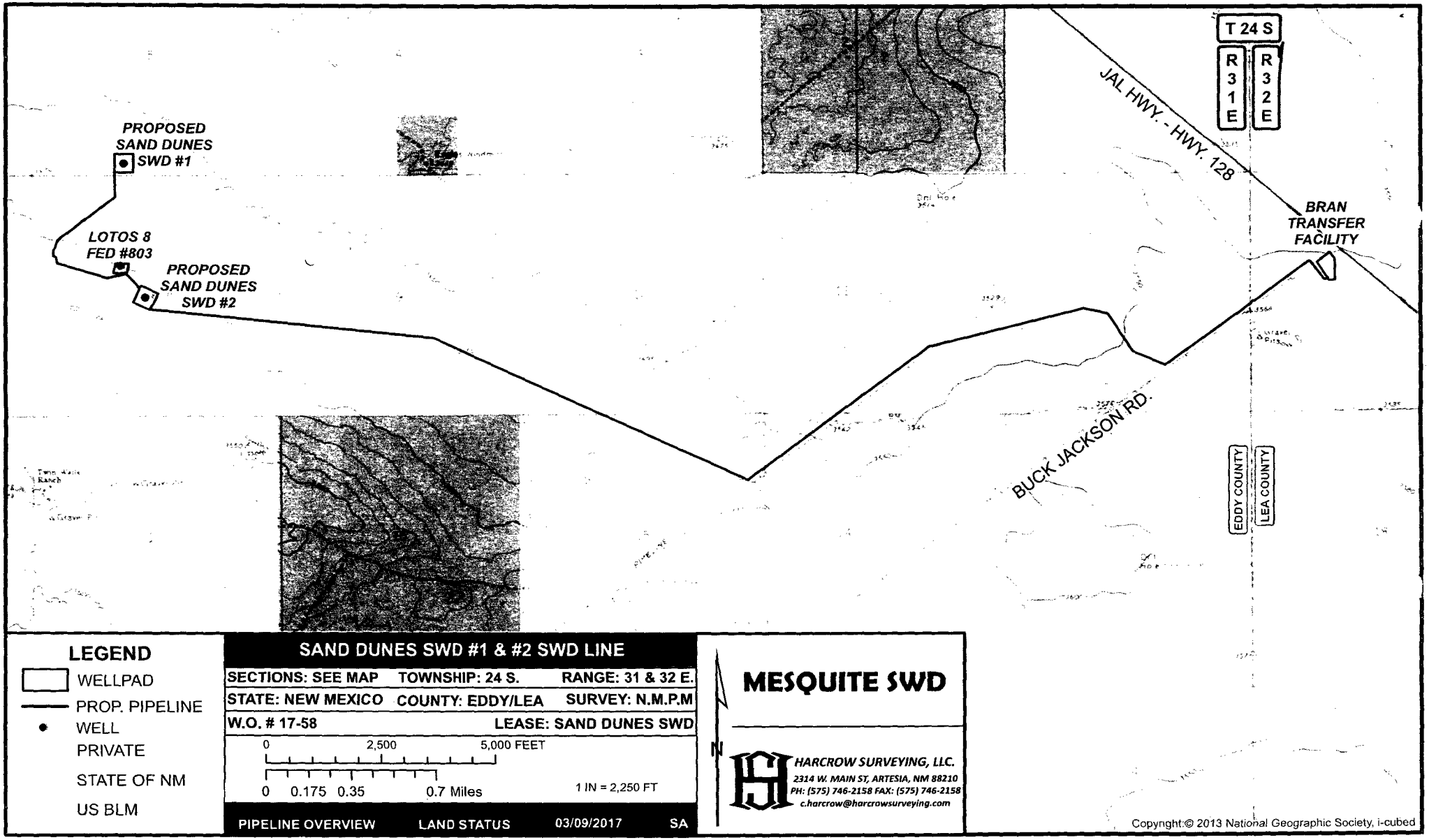
Signature & Seal of Professional Surveyor

CHAD L. HARCROW
NEW MEXICO
17777
LICENSED PROFESSIONAL SURVEYOR

Chad Harcrow 1/13/17
Certificate No. CHAD HARCROW 17777

W.O. # 17-34 DRAWN BY: JH


T 24 S
R 31 E
R 32 E
06
05
04
03
02
06
PROPOSED SAND DUNES SWD #1
LOTOS 8 FED #803
PROPOSED SAND DUNES SWD #2
07
09
10
11
12
07
08
JAL HWY. - HWY. 128
BRA TRANSFER FACILITY
BUCK JACKSON RD.
EDDY COUNTY
LEA COUNTY
18
17
16
15
14
13
18
24
19
LEGEND
WELLPAD
PROP. PIPELINE
WELL
SAND DUNES SWD #1 & #2 SWD LINE
SECTIONS: SEE MAP
TOWNSHIP: 24 S.
RANGE: 31 & 32 E.
STATE: NEW MEXICO
COUNTY: EDDY/LEA
SURVEY: N.M.P.M
W.O. # 17-58
LEASE: SAND DUNES SWD
0 2,500 5,000 FEET
0 0.175 0.35 0.7 Miles
1 IN = 2,250 FT
PIPELINE OVERVIEW
IMAGERY
03/09/2017
SA
MESQUITE SWD
N
HARCROW SURVEYING, LLC.
2314 W. MAIN ST, ARTESIA, NM 88210
PH: (575) 746-2158 FAX: (575) 746-2158
c.harcrow@harcrowsurveying.com
eographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User


PROPOSED SAND DUNES SWD #1
LOTOS 8 FED #803
PROPOSED SAND DUNES SWD #2
T 24 S
R 3 1 E
R 3 2 E
JAL HWY. - HWY. 128
BRAN TRANSFER FACILITY
BUCK JACKSON RD.
EDDY COUNTY
LEA COUNTY
LEGEND
WELLPAD
PROP. PIPELINE
WELL
PRIVATE
STATE OF NM
US BLM
SAND DUNES SWD #1 & #2 SWD LINE
SECTIONS: SEE MAP
TOWNSHIP: 24 S.
RANGE: 31 & 32 E.
STATE: NEW MEXICO
COUNTY: EDDY/LEA
SURVEY: N.M.P.M
W.O. # 17-58
LEASE: SAND DUNES SWD
0 2,500 5,000 FEET
0 0.175 0.35 0.7 Miles
1 IN = 2,250 FT
PIPELINE OVERVIEW
LAND STATUS
03/09/2017
SA
N
MESQUITE SWD
HARCROW SURVEYING, LLC.
2314 W. MAIN ST, ARTESIA, NM 88210
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c.harcrow@harcrowsurveying.com
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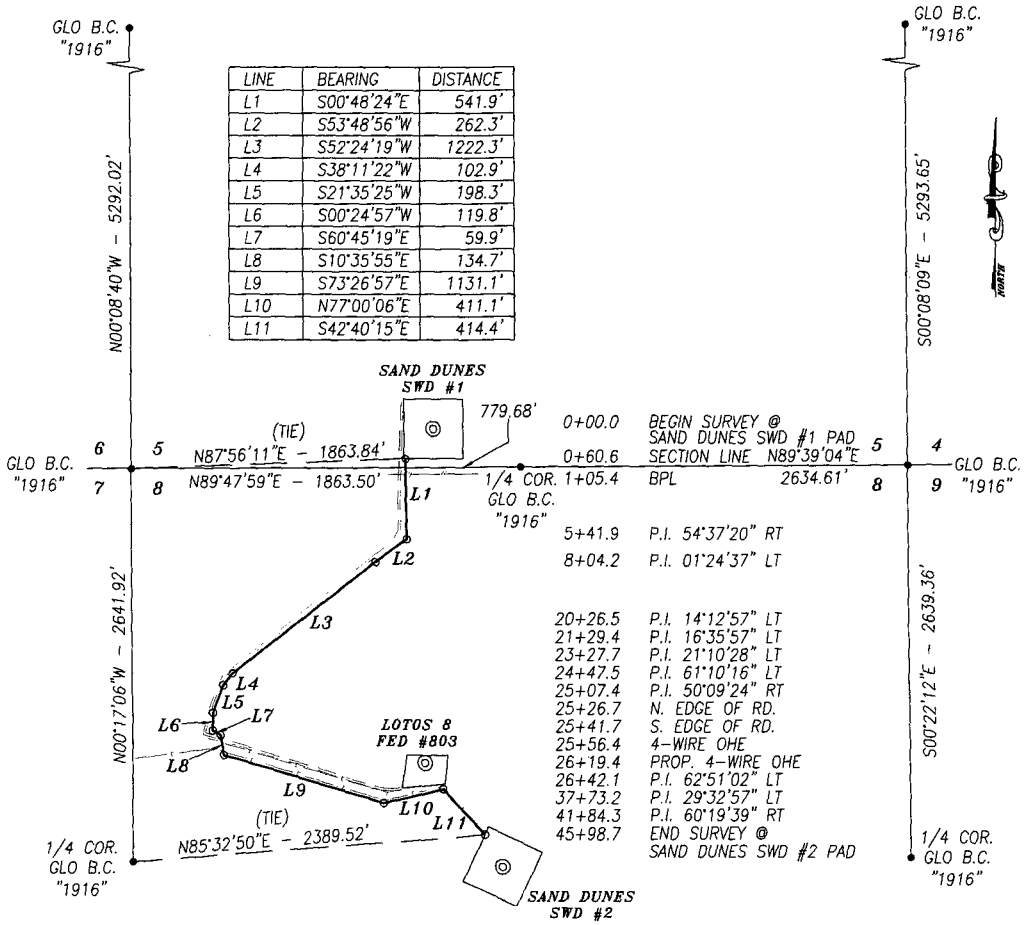
SWD LINE PLAT
MESQUITE SWD

A PROPOSED SWD PIPELINE FROM THE SAND DUNES SWD #1
TO THE SAND DUNES SWD #2 IN
SECTIONS 5 & 8, TOWNSHIP 24 SOUTH, RANGE 31 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



LINE	BEARING	DISTANCE
L1	S00°48'24"E	541.9'
L2	S53°48'56"W	262.3'
L3	S52°24'19"W	1222.3'
L4	S38°11'22"W	102.9'
L5	S21°35'25"W	198.3'
L6	S00°24'57"W	119.8'
L7	S60°45'19"E	59.9'
L8	S10°35'55"E	134.7'
L9	S73°26'57"E	1131.1'
L10	N77°00'06"E	411.1'
L11	S42°40'15"E	414.4'

DESCRIPTION

A STRIP OF LAND 30.0 FEET WIDE AND 4598.7 FEET OR 278.71 RODS OR 0.871 MILES IN LENGTH CROSSING USA LAND IN SECTIONS 5 & 8, TOWNSHIP 24 SOUTH, RANGE 31 EAST, EDDY COUNTY, NEW MEXICO AND BEING 15.0 FEET LEFT AND 15.0 FEET RIGHT OF THE ABOVE PLATTED CENTERLINE SURVEY

BASIS OF BEARING:
BEARINGS SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.

CERTIFICATION
I, CHAD HARCROW, A NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR CERTIFY THAT I DIRECTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

CHAD L. HARCROW NEW MEXICO 17777 LICENSED PROFESSIONAL SURVEYOR

Chad Harcrow 3/14/17
CHAD HARCROW N.M.P.S. NO. 17777 DATE

HARCROW SURVEYING, LLC
2314 W. MAIN ST, ARTESIA, N.M. 88210
PH: (575) 746-2158 FAX: (575) 746-2158
c.harcrow@harcrowsurveying.com

1000 0 1000 2000 FEET
SCALE: 1"=1000'

MESQUITE SWD

SURVEY OF A PROPOSED SWD PIPELINE LOCATED IN SECTIONS 5 & 8, TOWNSHIP 24 SOUTH, RANGE 31 EAST, NMPM, EDDY COUNTY, NEW MEXICO

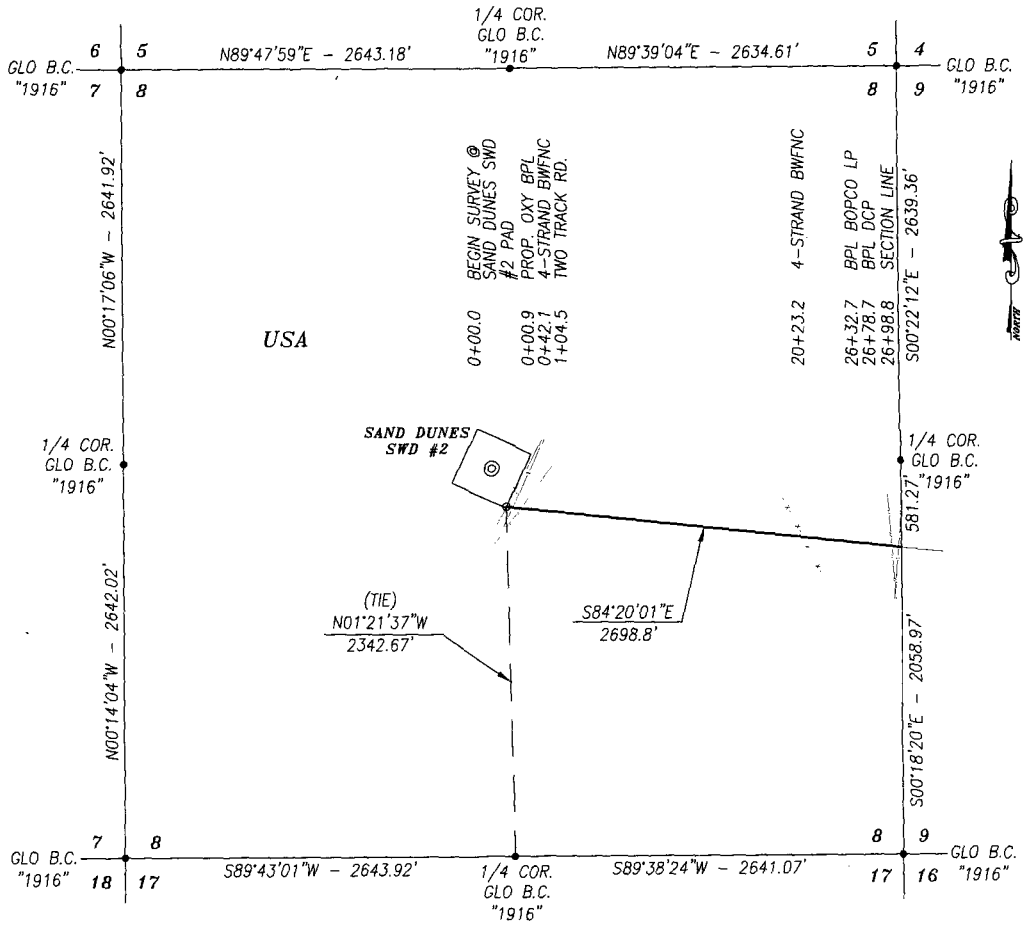
SURVEY DATE: MARCH 10, 2017		
DRAFTING DATE: MARCH 13, 2017		PAGE 1 OF 1
APPROVED BY: CH	DRAWN BY: JH	FILE: 17-58

SWD LINE PLAT
MEQUITE SWD

A PROPOSED SWD PIPELINE FROM THE SAND DUNES SWD #2 TO THE BRAN TRANSFER FACILITY IN

SECTION 8, TOWNSHIP 24 SOUTH, RANGE 31 EAST, N.M.P.M.,

EDDY COUNTY, NEW MEXICO.



DESCRIPTION

A STRIP OF LAND 30.0 FEET WIDE AND 2698.8 FEET OR 163.56 RODS OR 0.511 MILES IN LENGTH CROSSING USA LAND IN SECTION 8, TOWNSHIP 24 SOUTH, RANGE 31 EAST, EDDY COUNTY, NEW MEXICO AND BEING 15.0 FEET LEFT AND 15.0 FEET RIGHT OF THE ABOVE PLATTED CENTERLINE SURVEY.

BASIS OF BEARING:
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CERTIFICATION
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1000 0 1000 2000 FEET
SCALE: 1"=1000'

MESQUITE SWD

SURVEY OF A PROPOSED SWD PIPELINE LOCATED IN SECTION 8, TOWNSHIP 24 SOUTH, RANGE 31 EAST, NMPM, EDDY COUNTY, NEW MEXICO

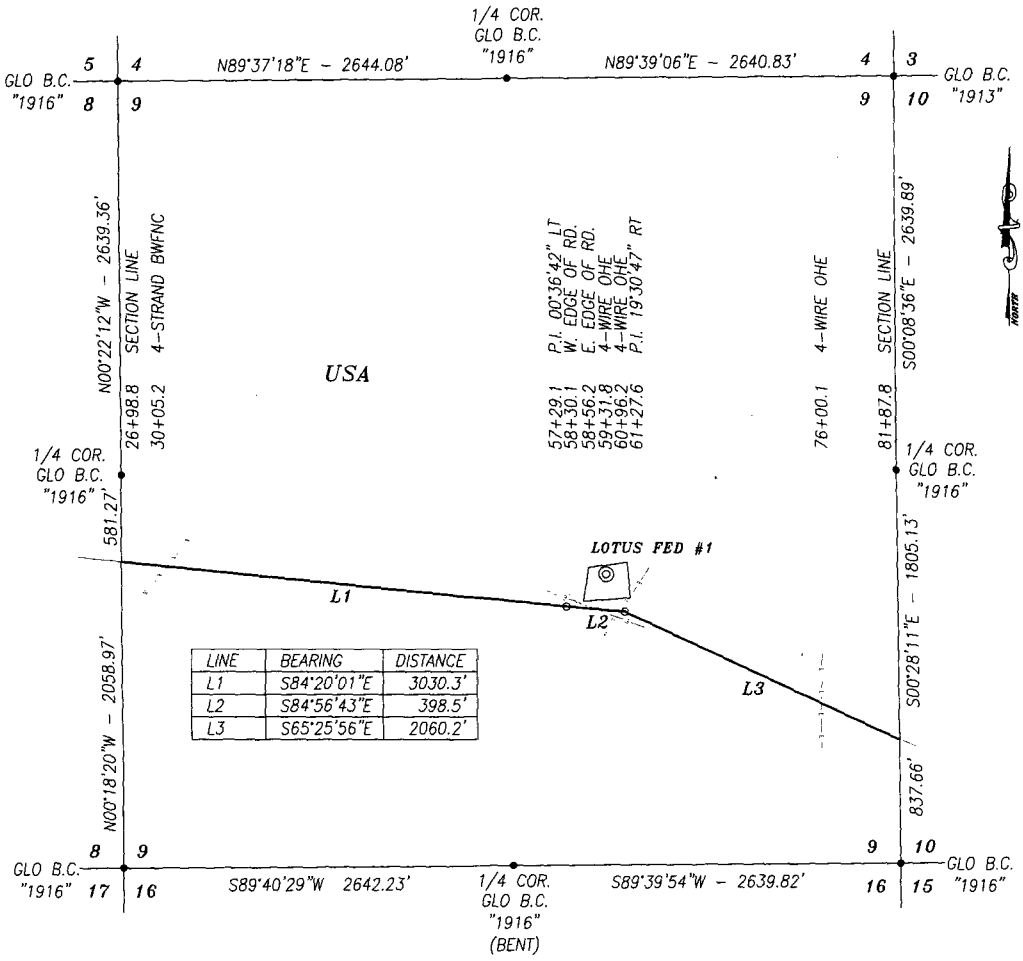
SURVEY DATE: MARCH 10, 2017		
DRAFTING DATE: MARCH 13, 2017		PAGE 1 OF 6
APPROVED BY: CH	DRAWN BY: JH	FILE: 17-58

SWD LINE PLAT
MEQUITE SWD

A PROPOSED SWD PIPELINE FROM THE SAND DUNES SWD #2 TO THE BRAN TRANSFER FACILITY IN

SECTION 9, TOWNSHIP 24 SOUTH, RANGE 31 EAST, N.M.P.M.,

EDDY COUNTY, NEW MEXICO.



LINE	BEARING	DISTANCE
L1	S84°20'01"E	3030.3'
L2	S84°56'43"E	398.5'
L3	S65°25'56"E	2060.2'

DESCRIPTION

A STRIP OF LAND 30.0 FEET WIDE AND 5489.0 FEET OR 332.67 RODS OR 1.040 MILES IN LENGTH CROSSING USA LAND IN SECTION 9, TOWNSHIP 24 SOUTH, RANGE 31 EAST, EDDY COUNTY, NEW MEXICO AND BEING 15.0 FEET LEFT AND 15.0 FEET RIGHT OF THE ABOVE PLATTED CENTERLINE SURVEY.

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CERTIFICATION
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Chad Harcrow 3/14/17

CHAD HARCROW N.M.P.S. NO. 17777 DATE

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c.harcrow@harcrowsurveying.com

1000 0 1000 2000 FEET
SCALE: 1"=1000'

MESQUITE SWD

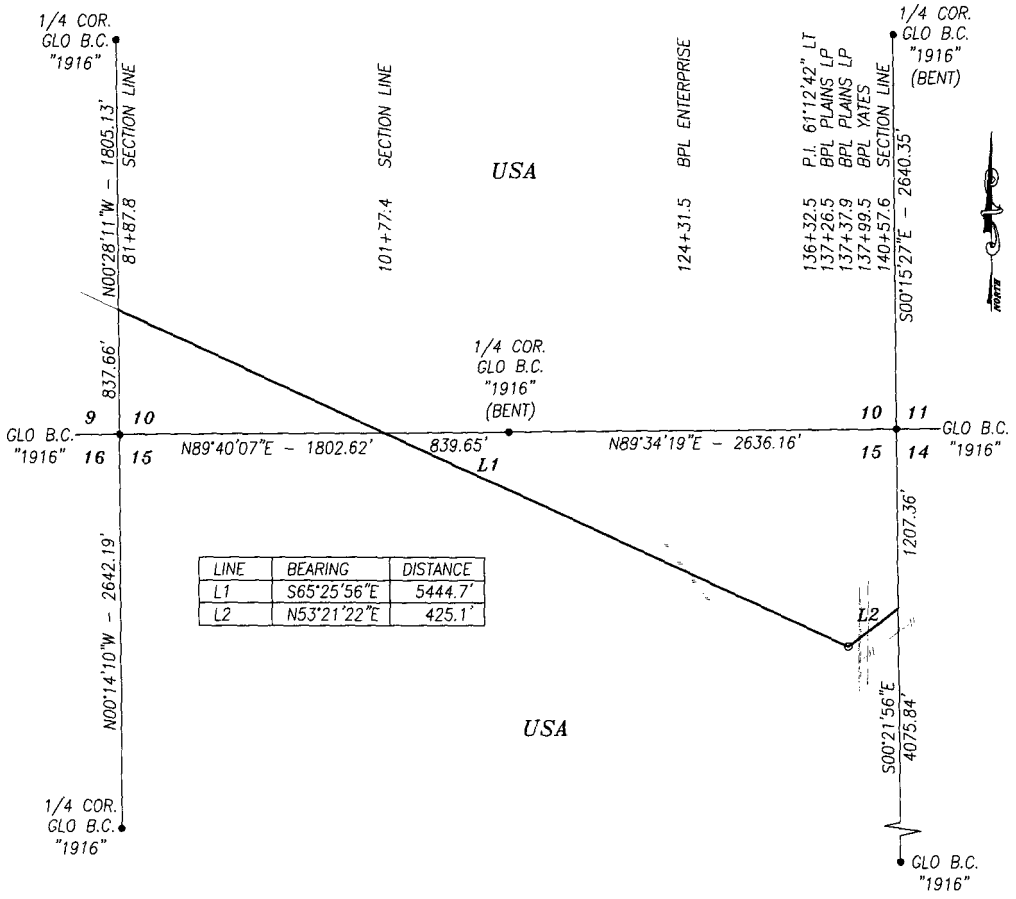
SURVEY OF A PROPOSED SWD PIPELINE LOCATED IN SECTION 9, TOWNSHIP 24 SOUTH, RANGE 31 EAST, NMPM, EDDY COUNTY, NEW MEXICO

SURVEY DATE: MARCH 10, 2017	
DRAFTING DATE: MARCH 13, 2017	PAGE 2 OF 6
APPROVED BY: CH / DRAWN BY: JH	FILE: 17-58

SWD LINE PLAT
MEQUITE SWD

A PROPOSED SWD PIPELINE FROM THE SAND DUNES SWD #2 TO THE BRAN TRANSFER FACILITY IN

SECTIONS 10 & 15, TOWNSHIP 24 SOUTH, RANGE 31 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



LINE	BEARING	DISTANCE
L1	S65°25'56"E	5444.7'
L2	N53°21'22"E	425.1'

DESCRIPTION

A STRIP OF LAND 30.0 FEET WIDE AND 5869.8 FEET OR 355.75 RODS OR 1.112 MILES IN LENGTH CROSSING USA LAND IN SECTIONS 10 & 15, TOWNSHIP 24 SOUTH, RANGE 31 EAST, EDDY COUNTY, NEW MEXICO AND BEING 15.0 FEET LEFT AND 15.0 FEET RIGHT OF THE ABOVE PLATTED CENTERLINE SURVEY.

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CHAD HARCROW N.M.P.S. NO. 17777 DATE

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1000 0 1000 2000 FEET
SCALE: 1"=1000'

MESQUITE SWD

SURVEY OF A PROPOSED SWD PIPELINE LOCATED IN SECTIONS 10 & 15, TOWNSHIP 24 SOUTH, RANGE 31 EAST, NMPM, EDDY COUNTY, NEW MEXICO

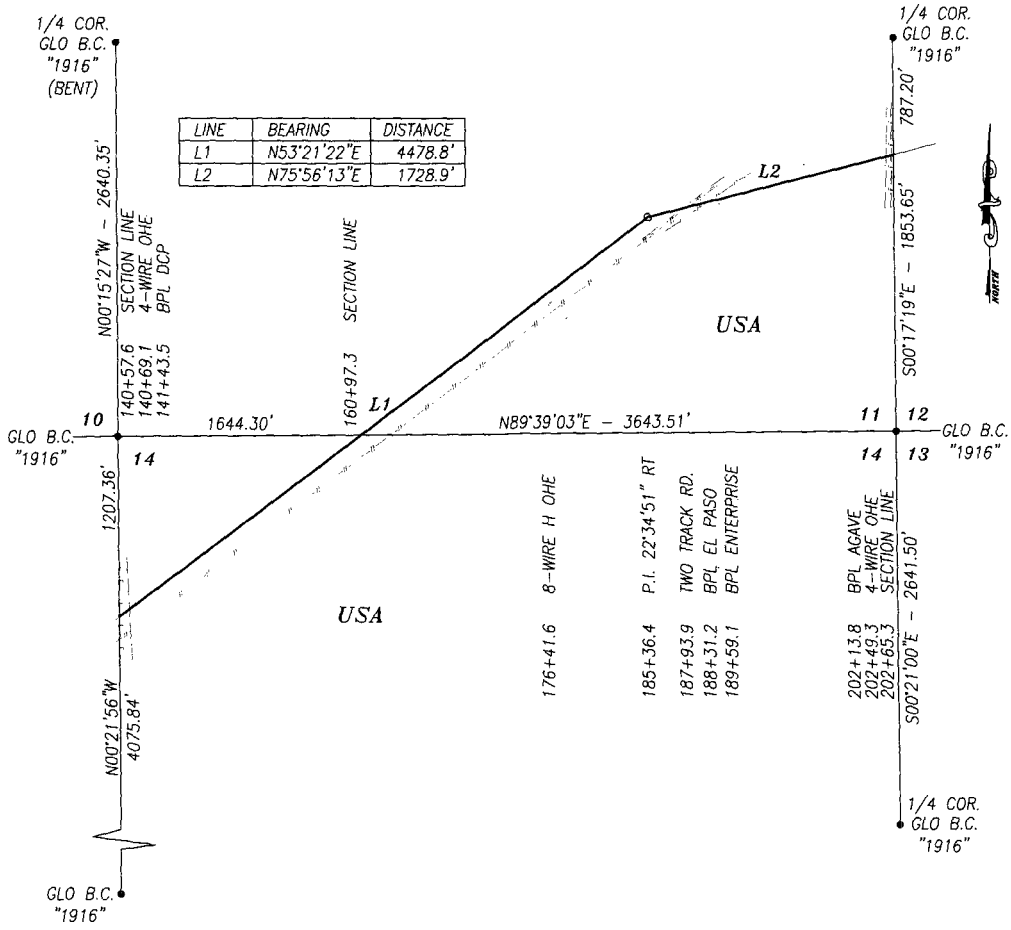
SURVEY DATE: MARCH 10, 2017		
DRAFTING DATE: MARCH 13, 2017		PAGE 3 OF 6
APPROVED BY: CH	DRAWN BY: JH	FILE: 17-58

SWD LINE PLAT
MEQUITE SWD

A PROPOSED SWD PIPELINE FROM THE SAND DUNES SWD #2 TO THE BRAN TRANSFER FACILITY IN

SECTIONS 11 & 14, TOWNSHIP 24 SOUTH, RANGE 31 EAST, N.M.P.M.,

EDDY COUNTY, NEW MEXICO.



DESCRIPTION

A STRIP OF LAND 30.0 FEET WIDE AND 6207.7 FEET OR 376.22 RODS OR 1.176 MILES IN LENGTH CROSSING USA LAND IN SECTIONS 11 & 14, TOWNSHIP 24 SOUTH, RANGE 31 EAST, EDDY COUNTY, NEW MEXICO AND BEING 15.0 FEET LEFT AND 15.0 FEET RIGHT OF THE ABOVE PLATTED CENTERLINE SURVEY.

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CHAD L. HARCROW NEW MEXICO 17777 LICENSED PROFESSIONAL SURVEYOR

Chad Harcrow 3/14/17

CHAD HARCROW N.M.P.S. NO. 17777 DATE

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PH: (575) 746-2158 FAX: (575) 746-2158
c.harcrow@harcrowsurveying.com

1000 0 1000 2000 FEET
SCALE: 1"=1000'

MESQUITE SWD

SURVEY OF A PROPOSED SWD PIPELINE LOCATED IN SECTIONS 11 & 14, TOWNSHIP 24 SOUTH, RANGE 31 EAST, NMPM, EDDY COUNTY, NEW MEXICO

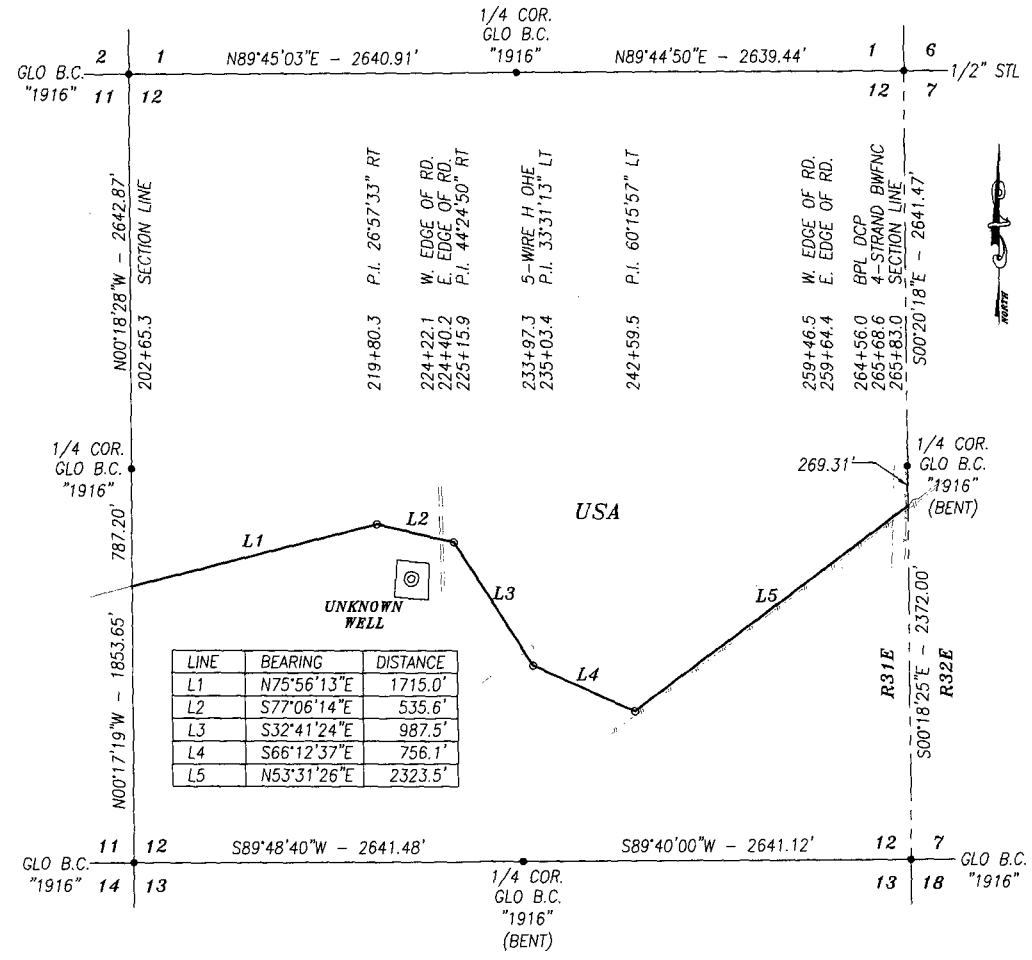
SURVEY DATE: MARCH 10, 2017		
DRAFTING DATE: MARCH 13, 2017		PAGE 4 OF 6
APPROVED BY: CH	DRAWN BY: JH	FILE: 17-58

SWD LINE PLAT
MEQUITE SWD

A PROPOSED SWD PIPELINE FROM THE SAND DUNES SWD #2 TO THE BRAN TRANSFER FACILITY IN

SECTION 12, TOWNSHIP 24 SOUTH, RANGE 31 EAST, N.M.P.M.,

EDDY COUNTY, NEW MEXICO.



LINE	BEARING	DISTANCE
L1	N75°56'13"E	1715.0'
L2	S77°06'14"E	535.6'
L3	S32°41'24"E	987.5'
L4	S66°12'37"E	756.1'
L5	N53°31'26"E	2323.5'

DESCRIPTION

A STRIP OF LAND 30.0 FEET WIDE AND 6317.7 FEET OR 382.89 RODS OR 1.197 MILES IN LENGTH CROSSING USA LAND IN SECTION 12, TOWNSHIP 24 SOUTH, RANGE 31 EAST, EDDY COUNTY, NEW MEXICO AND BEING 15.0 FEET LEFT AND 15.0 FEET RIGHT OF THE ABOVE PLATTED CENTERLINE SURVEY.

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CHAD L. HARCROW NEW MEXICO 17777 LICENSED PROFESSIONAL SURVEYOR

Chad Harcrow 3/14/17

CHAD HARCROW N.M.P.S. NO. 17777 DATE

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1000 0 1000 2000 FEET
SCALE: 1"=1000'

MESQUITE SWD

SURVEY OF A PROPOSED SWD PIPELINE LOCATED IN SECTION 12, TOWNSHIP 24 SOUTH, RANGE 31 EAST, NMPM, EDDY COUNTY, NEW MEXICO

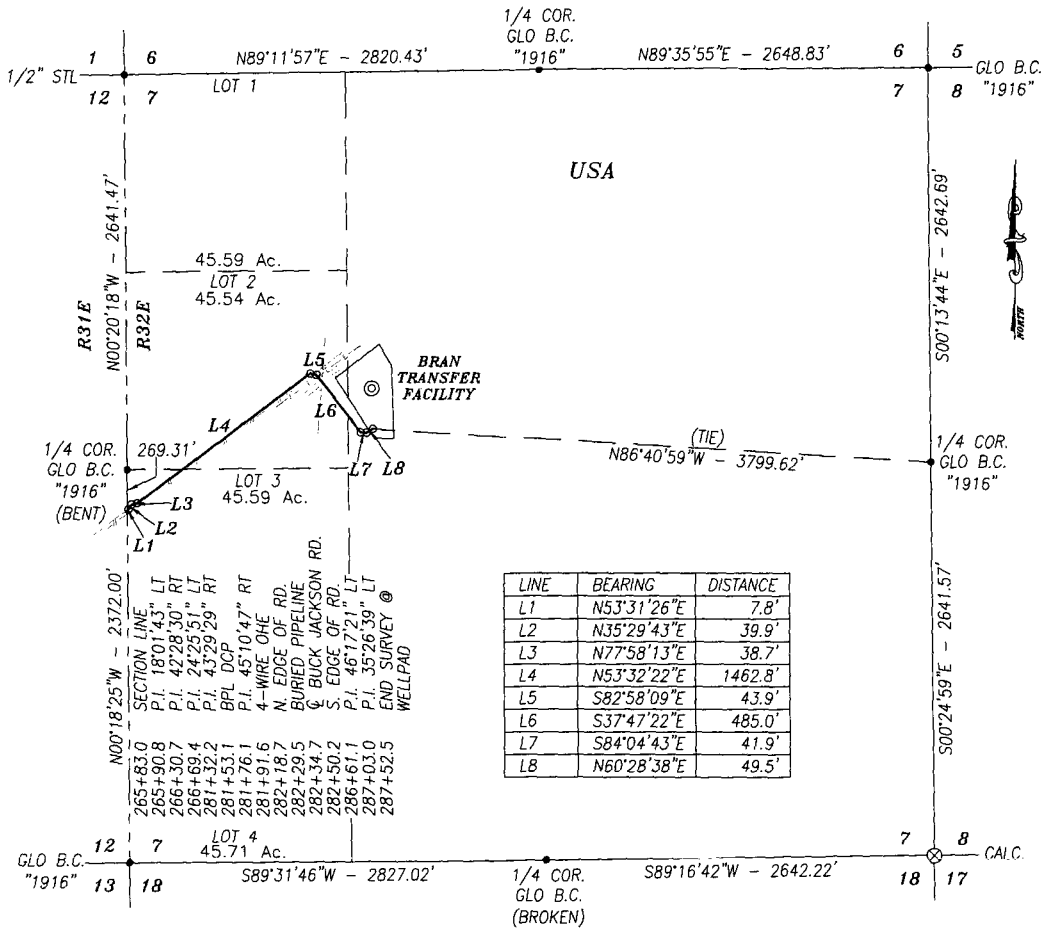
SURVEY DATE: MARCH 10, 2017		
DRAFTING DATE: MARCH 13, 2017		PAGE 5 OF 6
APPROVED BY: CH	DRAWN BY: JH	FILE: 17-58

SWD LINE PLAT
MEQUITE SWD

A PROPOSED SWD PIPELINE FROM THE SAND DUNES SWD #2 TO THE BRAN TRANSFER FACILITY IN

SECTION 7, TOWNSHIP 24 SOUTH, RANGE 32 EAST, N.M.P.M.,

LEA COUNTY, NEW MEXICO.



LINE	BEARING	DISTANCE
L1	N53°31'26"E	7.8'
L2	N35°29'43"E	39.9'
L3	N77°58'13"E	38.7'
L4	N53°32'22"E	1462.8'
L5	S82°58'09"E	43.9'
L6	S37°47'22"E	485.0'
L7	S84°04'43"E	41.9'
L8	N60°28'38"E	49.5'

DESCRIPTION

A STRIP OF LAND 30.0 FEET WIDE AND 2169.5 FEET OR 131.48 RODS OR 0.411 MILES IN LENGTH CROSSING USA LAND IN SECTION 7, TOWNSHIP 24 SOUTH, RANGE 32 EAST, LEA COUNTY, NEW MEXICO AND BEING 15.0 FEET LEFT AND 15.0 FEET RIGHT OF THE ABOVE PLATTED CENTERLINE SURVEY.

BASIS OF BEARING:
BEARINGS SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.

CERTIFICATION
I, CHAD HARCROW, A NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR CERTIFY THAT I DIRECTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

CHAD L. HARCROW NEW MEXICO 17777 LICENSED PROFESSIONAL SURVEYOR

Chad Harcrow 3/14/17

CHAD HARCROW N.M.P.S. NO. 17777 DATE

HARCROW SURVEYING, LLC
2314 W. MAIN ST, ARTESIA, N.M. 88210
PH: (575) 746-2158 FAX: (575) 746-2158
c.harcrow@harcrowsurveying.com

1000 0 1000 2000 FEET

SCALE: 1"=1000'

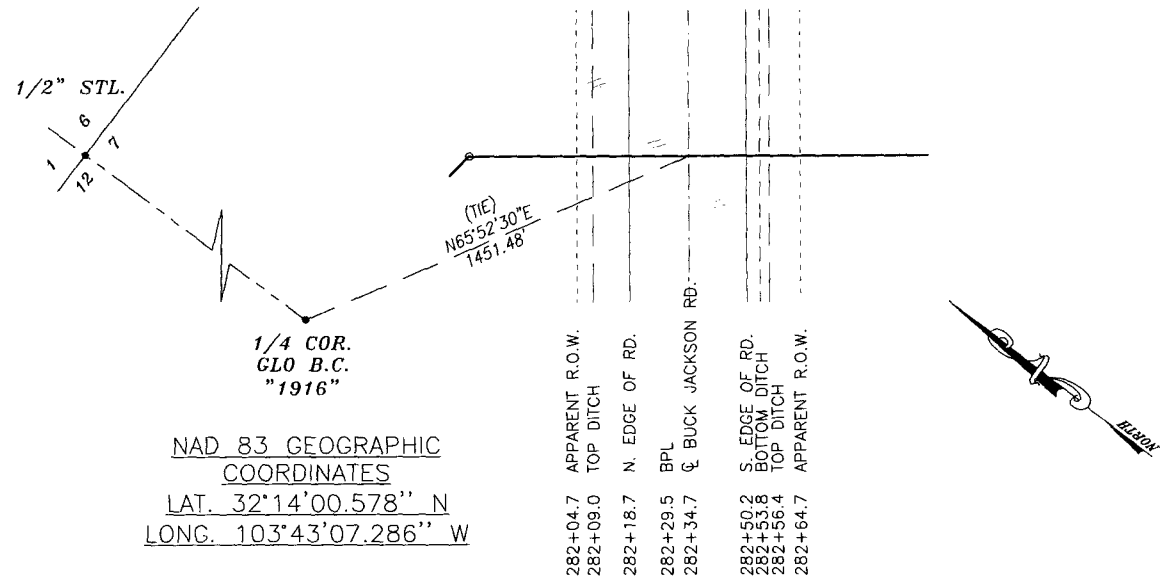
MESQUITE SWD

SURVEY OF A PROPOSED SWD PIPELINE LOCATED IN SECTION 7, TOWNSHIP 24 SOUTH, RANGE 32 EAST, NMPM, LEA COUNTY, NEW MEXICO

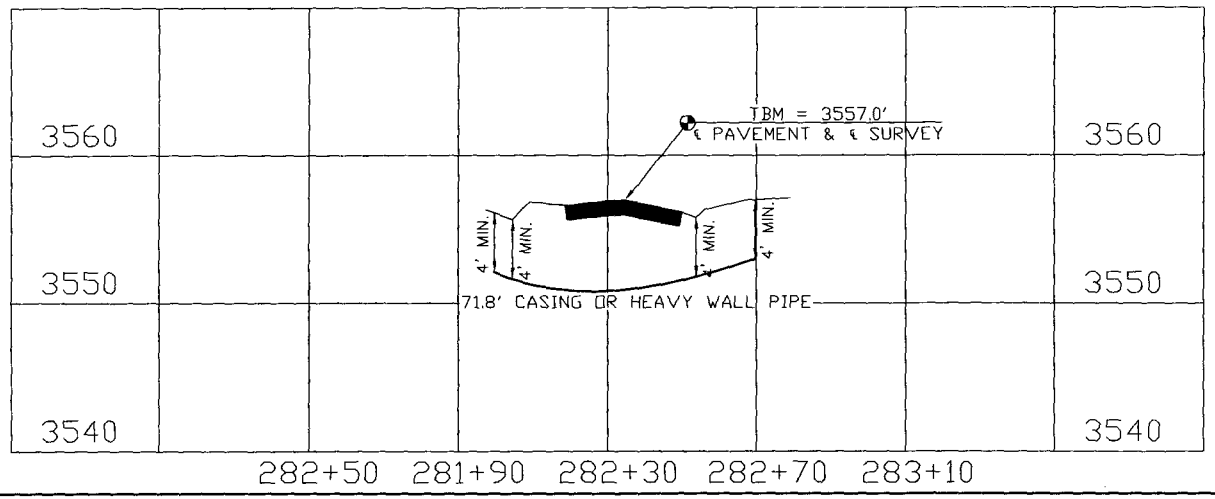
SURVEY DATE: MARCH 10, 2017		
DRAFTING DATE: MARCH 13, 2017		PAGE 6 OF 6
APPROVED BY: CH	DRAWN BY: JH	FILE: 17-58

ROAD BORED PLAT
MESQUITE SWD

SAND DUNES SWD #2 SWD LINE CROSSING BUCK JACKSON RD. IN
SECTION 7, TOWNSHIP 24 SOUTH,
RANGE 32 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.



NAD 83 GEOGRAPHIC
COORDINATES
LAT. 32°14'00.578" N
LONG. 103°43'07.286" W



INSPECTORS FIELD BORE REPORT

LOCATION: _____

BORE NAME: _____

CENTERLINE STATION: _____

DATE: _____

INSPECTOR: _____

AFE: _____

ALIGNMENT SHEET #: _____

BASIS OF BEARING:
BEARINGS SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.

HARCROW SURVEYING, LLC
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40 0 40 80 FEET
SCALE: 1"=40'

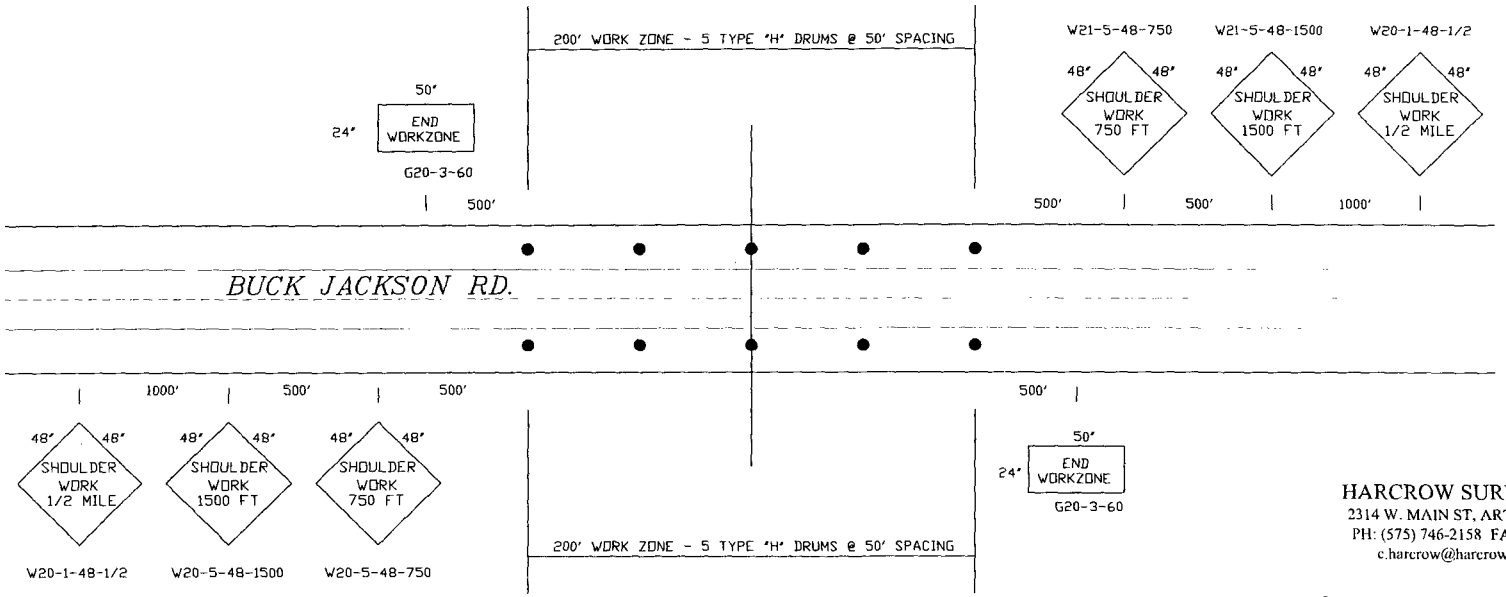
MESQUITE SWD

PROPOSED PIPELINE CROSSING BUCK JACKSON RD. LOCATED IN SECTION 7 , TOWNSHIP 24 SOUTH, RANGE 32 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO

SURVEY DATE: MARCH 10, 2017		
DRAFTING DATE: MARCH 14, 2017		PAGE 1 OF 2
APPROVED BY: CH	DRAWN BY: JH	FILE: 17-58

ROAD BORE PLAT
MESQUITE SWD

SAND DUNES SWD #2 SWD LINE CROSSING BUCK JACKSON RD. IN
SECTION 7, TOWNSHIP 24 SOUTH, RANGE 32 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.



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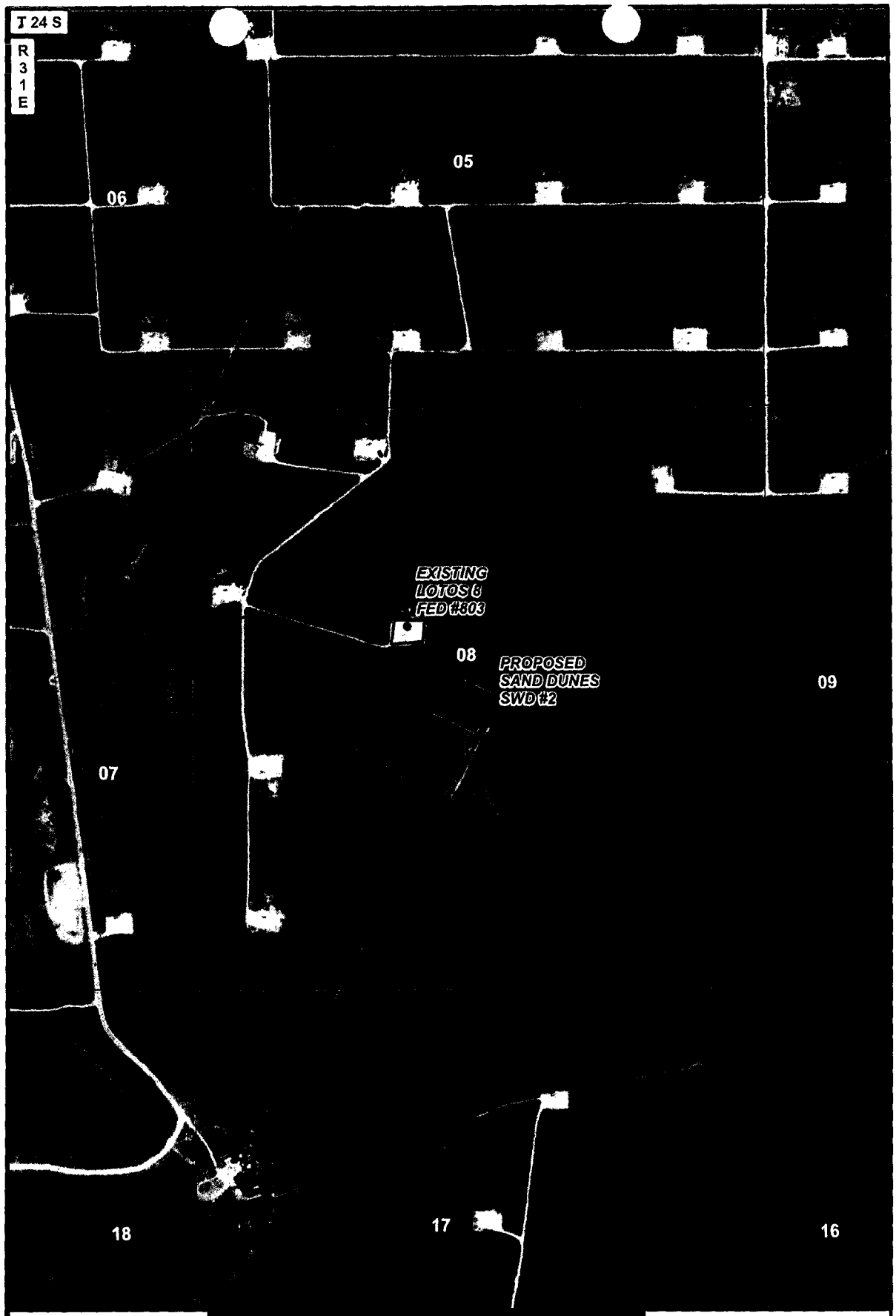
c.harcrow@harcrowsurveying.com

40 0 40 80 FEET
SCALE: 1"=40'

CONSTRUCTION TRAFFIC CONTROL

MESQUITE SWD		
PROPOSED SWD PIPELINE CROSSING BUCK JACKSON RD. LOCATED IN SECTION 7, TOWNSHIP 24 SOUTH, RANGE 32 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO		
SURVEY DATE: MARCH 10, 2017		
DRAFTING DATE: MARCH 14, 2017		PAGE 2 OF 2
APPROVED BY: CH	DRAWN BY: JH	FILE: 17-58



LEGEND

- EXISTING POWERLINE
- WELLPAD
- PROP. POWERLINE
- WELL

SAND DUNES SWD #2 POWERLINE

SECTION: 08	TOWNSHIP: 24 S.	RANGE: 31 E.
STATE: NEW MEXICO	COUNTY: EDDY	SURVEY: N.M.P.M
W.O. # 17-57		LEASE: SAND DUNES SWD

0 2,500 FEET

0 0.05 0.1 0.2 Miles

1 IN = 1,000 FT

POWERLINE OVERVIEW | IMAGERY | 03/09/2017 | SA

MESQUITE SWD

N

HARCROW SURVEYING, LLC.
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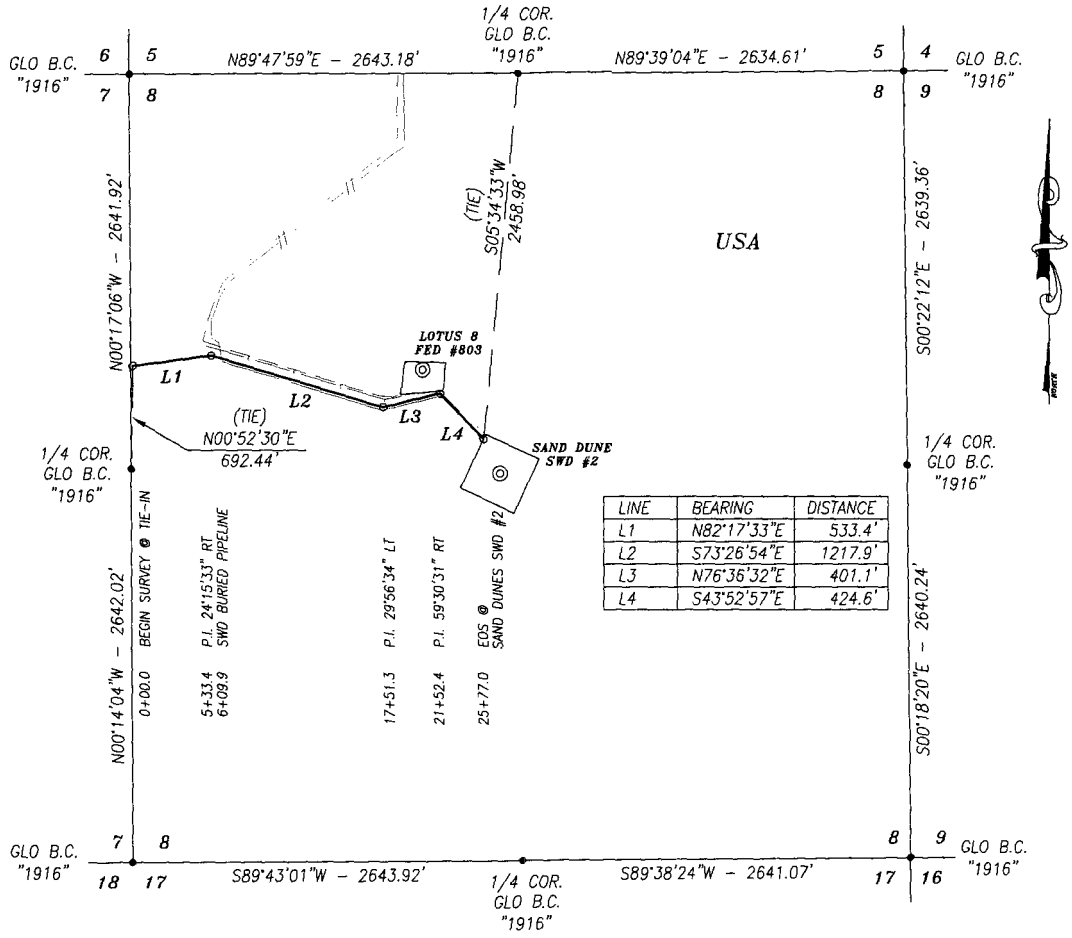
c.harcrow@harcrowsurveying.com

POWERLINE PLAT
MESQUITE SWD

A PROPOSED POWERLINE FROM AN EXISTING POWERLINE TO THE SAND DUNES SWD #2 IN *SECTION 8, TOWNSHIP 24 SOUTH, RANGE 31 EAST, N.M.P.M.,* EDDY COUNTY, NEW MEXICO.



LINE	BEARING	DISTANCE
L1	N82°17'33"E	533.4'
L2	S73°26'54"E	1217.9'
L3	N76°36'32"E	401.1'
L4	S43°52'57"E	424.6'

DESCRIPTION

A STRIP OF LAND 30.0 FEET WIDE AND 2577.0 FEET OR 156.18 RODS OR 0.488 MILES IN LENGTH CROSSING USA LAND IN SECTION 8, TOWNSHIP 24 SOUTH, RANGE 31 EAST, EDDY COUNTY, NEW MEXICO AND BEING 15.0 FEET LEFT AND 15.0 FEET RIGHT OF THE ABOVE PLATTED CENTERLINE SURVEY.

BASIS OF BEARING:
BEARINGS SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.

CERTIFICATION
I, CHAD HARCROW, A NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR CERTIFY THAT I DIRECTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

CHAD L. HARCROW NEW MEXICO 17777 LICENSED PROFESSIONAL SURVEYOR

Chad Harcrow 3/13/17
CHAD HARCROW N.M.P.S. NO. 17777 DATE

HARCROW SURVEYING, LLC
2314 W. MAIN ST, ARTESIA, N.M. 88210
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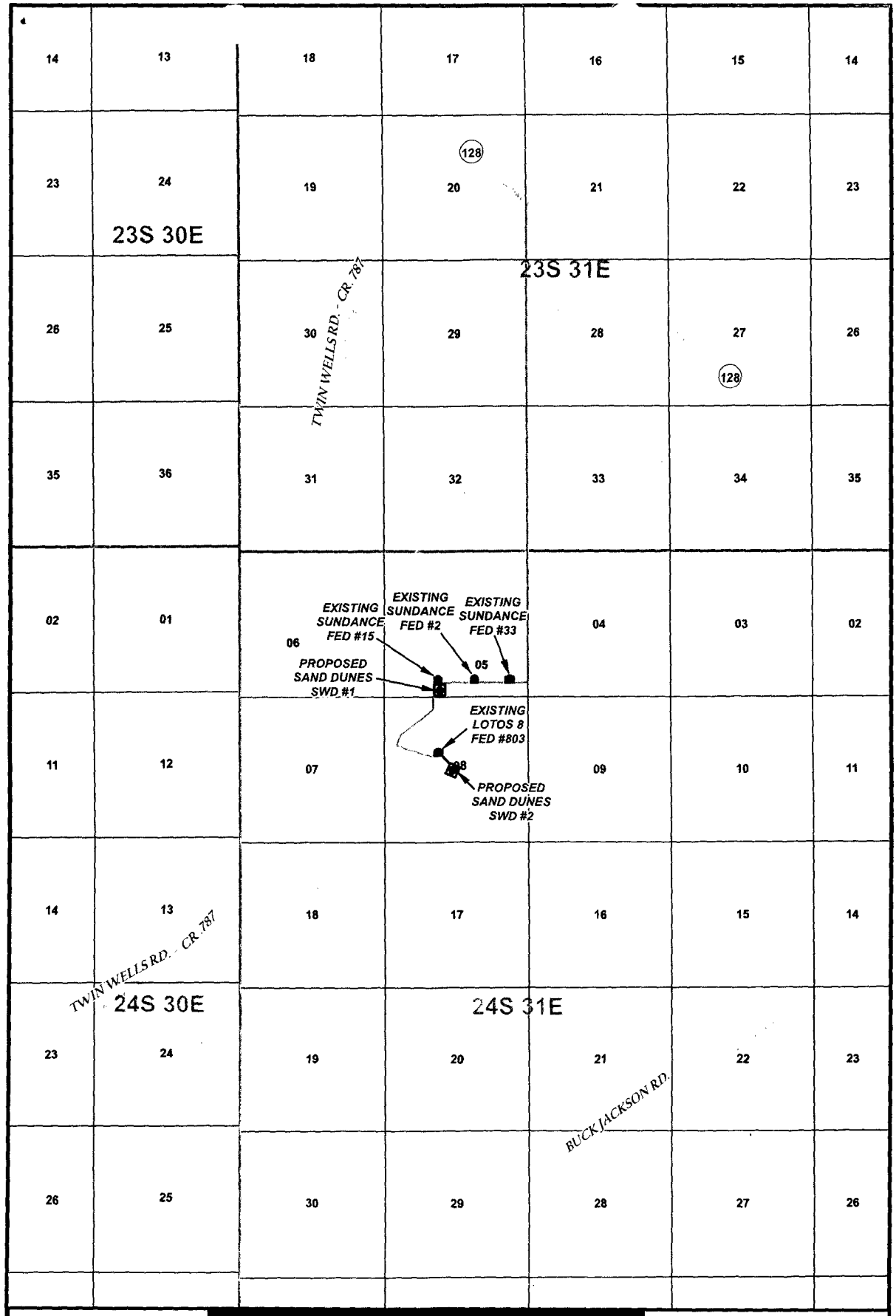
c.harcrow@harcrowsurveying.com

1000 0 1000 2000 FEET
SCALE: 1"=1000'

MESQUITE SWD

SURVEY OF A PROPOSED POWERLINE LOCATED IN SECTION 8, TOWNSHIP 24 SOUTH, RANGE 31 EAST, NMPM, EDDY COUNTY, NEW MEXICO

SURVEY DATE: MARCH 7, 2017	
DRAFTING DATE: MARCH 13, 2017	PAGE 1 OF 1
APPROVED BY: CH / DRAWN BY: SA	FILE: 17-57



LEGEND

- WELL
- WELLPAD
- PROP. ROAD
- EXIST. ROAD

SAND DUNES SWD #2 ACCESS ROAD

SECTION: 8	TOWNSHIP: 24 S.	RANGE: 31 E.
STATE: NEW MEXICO	COUNTY: EDDY	SURVEY: N.M.P.M
W.O. # 17-63		LEASE: SAND DUNES SWD

0 2,500 5,000 7,500 10,000 FEET

0 0.275 0.55 1.1 Miles

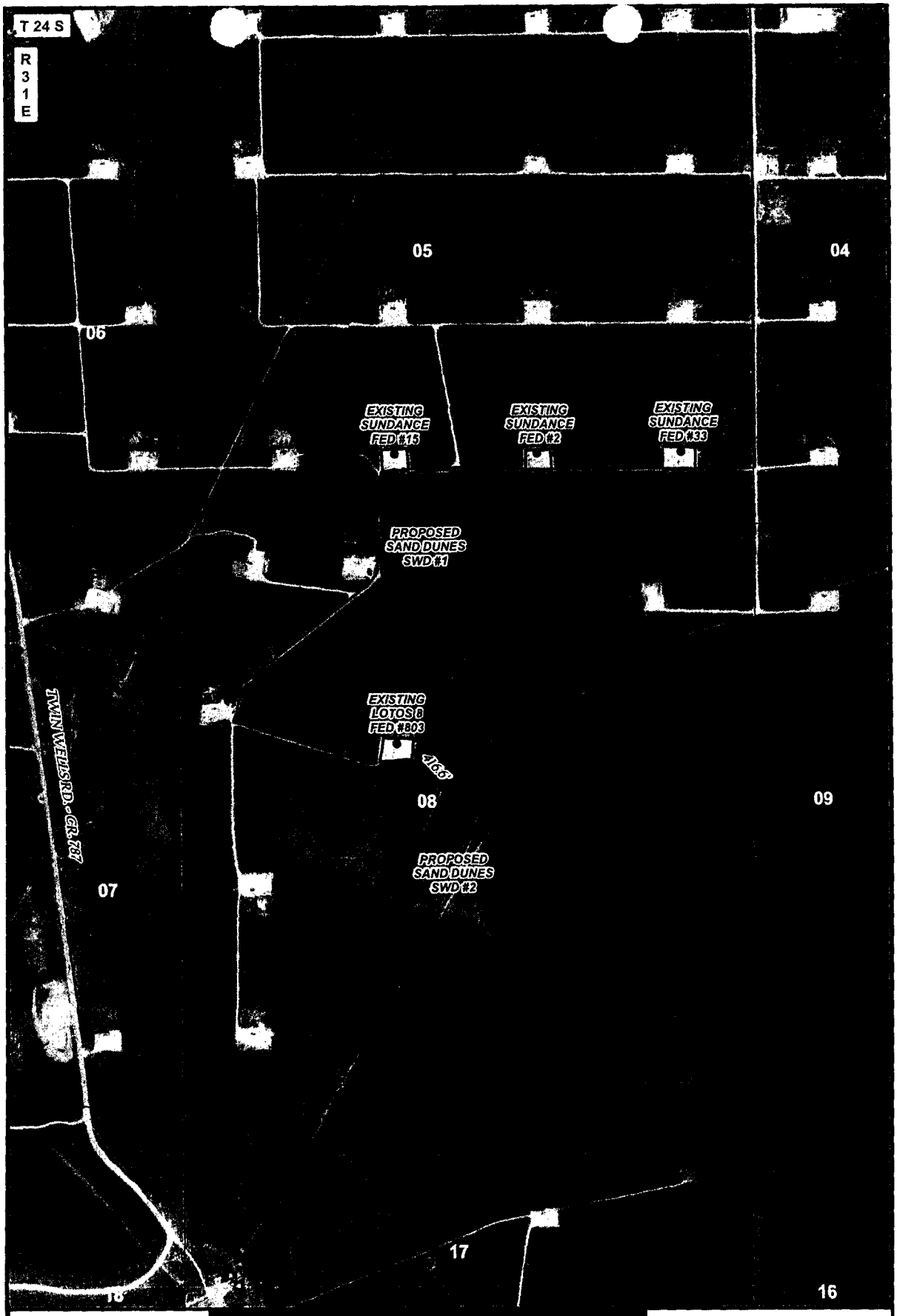
1 IN = 4,000 FT

PIPELINE OVERVIEW | VICINITY | 1/17/2016 | S.P.

MESQUITE SWD

N

HARCROW SURVEYING, LLC.
2314 W. MAIN ST, ARTESIA, NM 88210
PH: (575) 746-2158 FAX: (575) 746-2158
c.harcrow@harcrowsurveying.com



LEGEND

- WELL
- WELLPAD
- PROP. ROAD
- EXIST. ROAD

SAND DUNES SWD #2 ACCESS ROAD

SECTION: 8	TOWNSHIP: 24 S.	RANGE: 31 E.
STATE: NEW MEXICO	COUNTY: EDDY	SURVEY: N.M.P.M
W.O. # 17-63		LEASE: SAND DUNES SWD

0 2,500 FEET

0 0.05 0.1 0.2 Miles

1 IN = 1,000 FT

PIPELINE OVERVIEW IMAGERY 1/17/2016 S.P.

MESQUITE SWD

N

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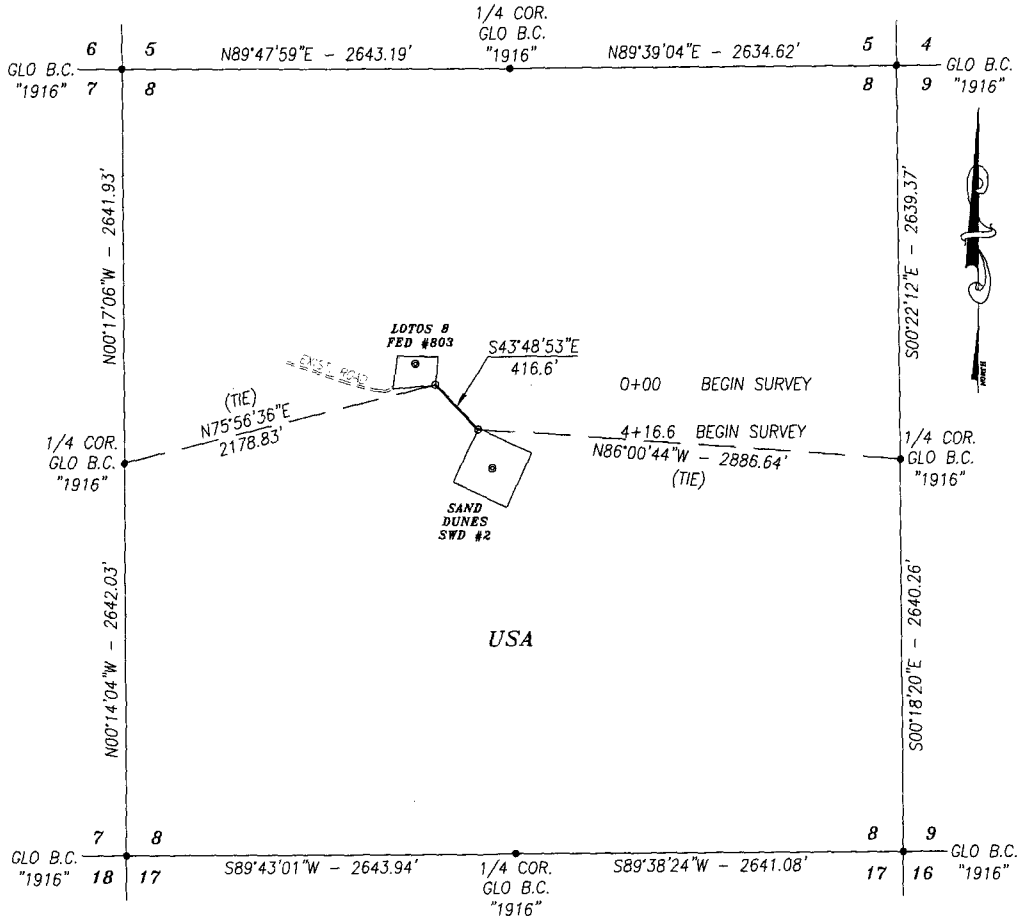
c.harcrow@harcrowsurveying.com

ACCESS ROAD PLAT
MESQUITE SWD

A PROPOSED ACCESS ROAD FROM THE LOTOS 8 FED #803 TO THE SAND DUNES SWD # IN

SECTION 8, TOWNSHIP 24 SOUTH, RANGE 31 EAST, N.M.P.M.,

EDDY COUNTY, NEW MEXICO.



DESCRIPTION

A STRIP OF LAND 30.0 FEET WIDE AND 416.6 FEET OR 25.25 RODS OR 0.079 MILES IN LENGTH CROSSING USA LAND IN SECTION 8, TOWNSHIP 24 SOUTH, RANGE 31 EAST, EDDY COUNTY, NEW MEXICO AND BEING 15.0 FEET LEFT AND 15.0 FEET RIGHT OF THE ABOVE PLATTED CENTERLINE SURVEY.

BASIS OF BEARING:
BEARINGS SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.

CERTIFICATION
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CHAD L. HARCROW NEW MEXICO 17777 LICENSED PROFESSIONAL SURVEYOR

Chad Harcrow 1/17/17

CHAD HARCROW N.M.P.S. NO. 17777 *DATE*

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c.harcrow@harcrowsurveying.com

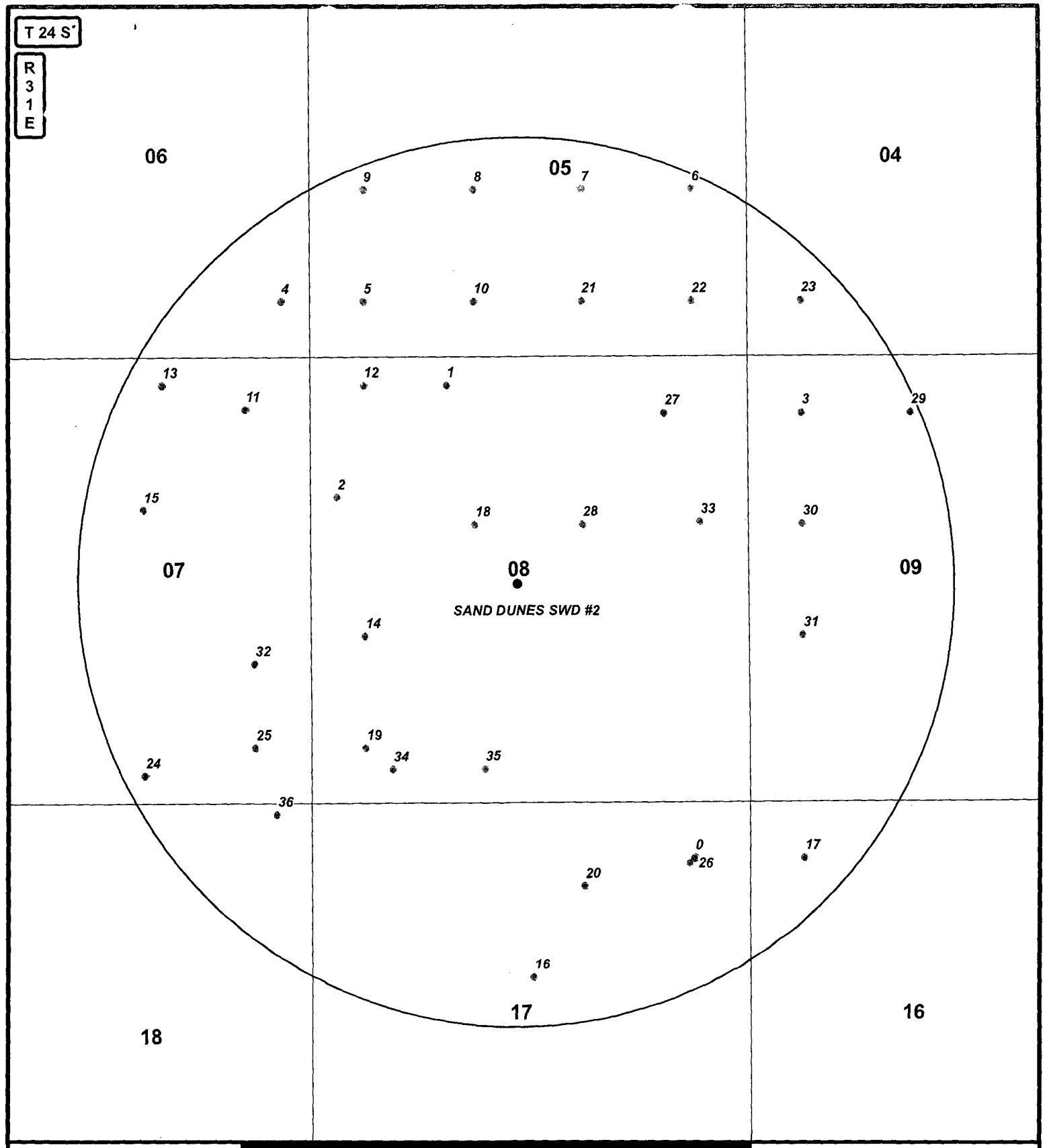
1000 0 1000 2000 FEET

SCALE: 1"=1000'

COG OPERATING, LLC

SURVEY OF A PROPOSED ACCESS ROAD LOCATED IN SECTION 8, TOWNSHIP 24 SOUTH, RANGE 31 EAST, NMPM, EDDY COUNTY, NEW MEXICO

SURVEY DATE: JANUARY 11, 2017		
DRAFTING DATE: JANUARY 17, 2017		PAGE 1 OF 1
APPROVED BY: CH	DRAWN BY: SP	FILE: 17-63



LEGEND

● WELL

SAND DUNES SWD #2

SEC: 8	TWP: 24 S.	RGE: 31 E.	ELEV. 3514.5'
STATE: NEW MEXICO	COUNTY: EDDY 2600' FSL & 2500' FWL		
W.O. # 17-34	LEASE: SAND DUNES SWD	SURVEY: N.M.P.M	

0 2,500 FEET

0 0.1 0.2 0.4 Miles

1 IN = 1,500 FT

1 MILE MAP 01/18/2017 J.H.

MESQUITE SWD

HARCROW SURVEYING, LLC.
2314 W. MAIN ST, ARTESIA, NM 88210
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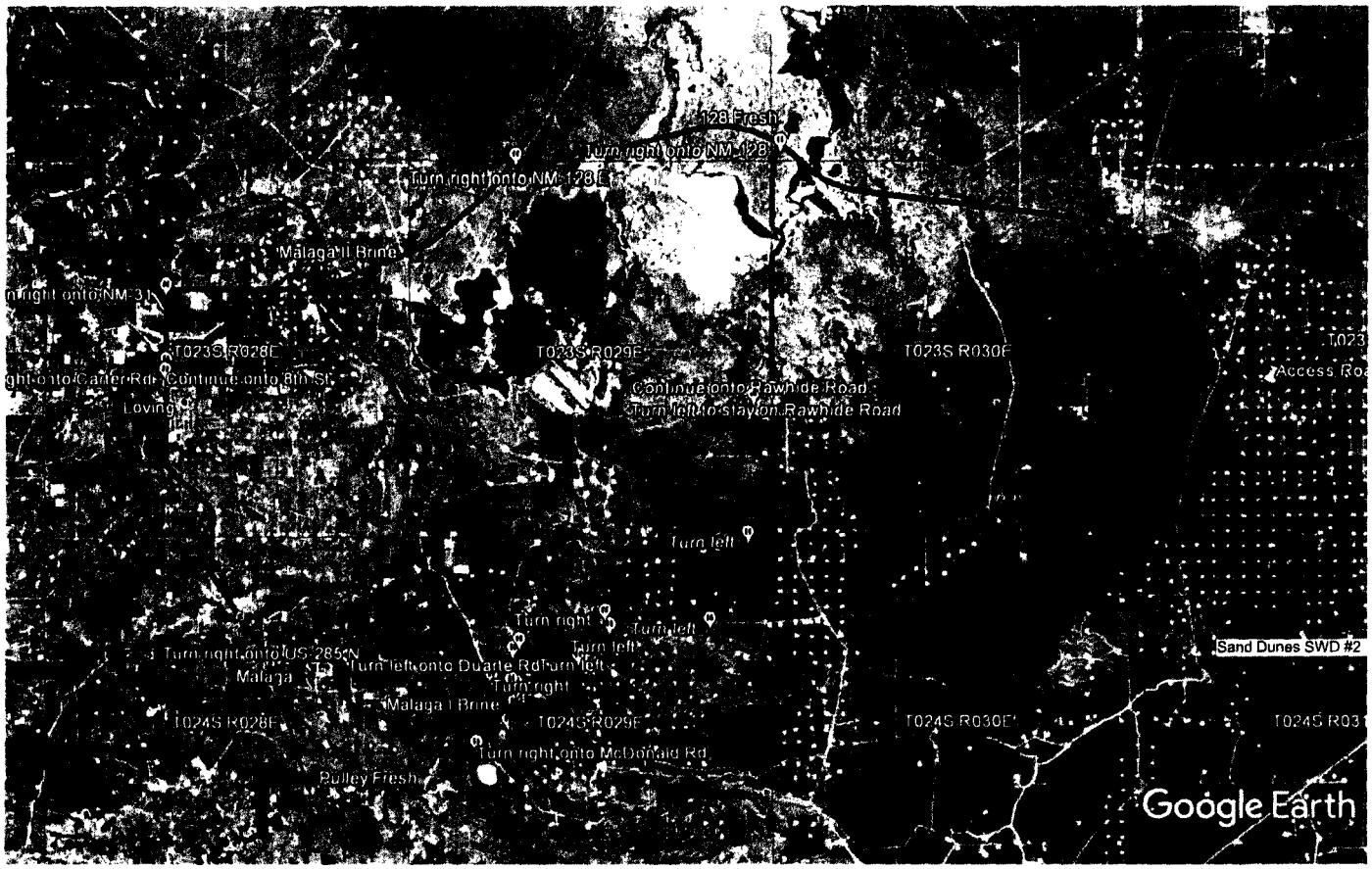
c.harcrow@harcrowsurveying.com



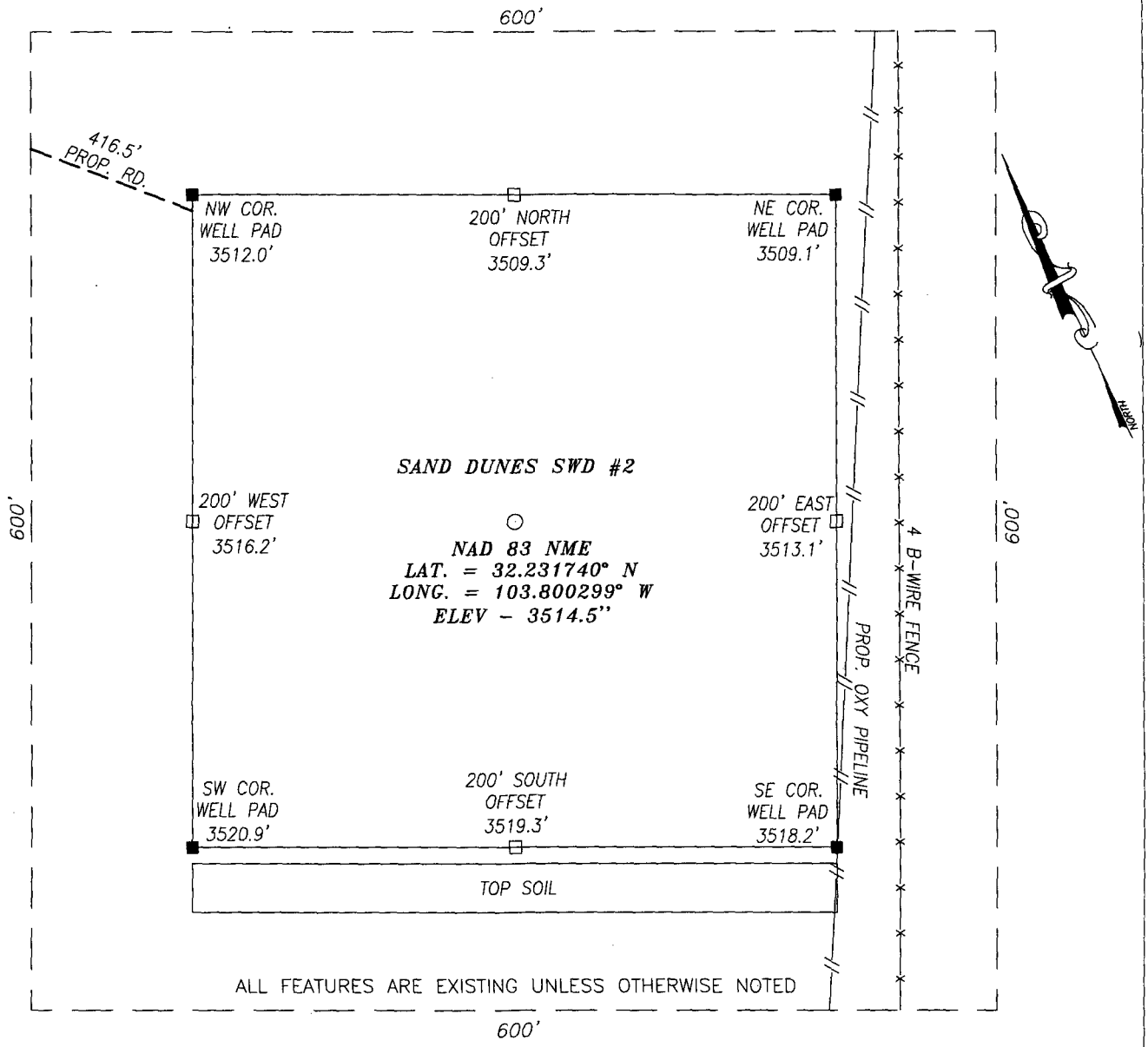
Google Earth

miles 10

km 10

SECTION 8, TOWNSHIP 24 SOUTH, RANGE 31 EAST, N.M.P.M.,

EDDY COUNTY NEW MEXICO



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF HWY. 128 AND TWIN WELLS RD. HEAD SOUTHEASTERLY ON 128 FOR 1.1 MI.; THEN TURN RIGHT (SOUTH) AND GO APPROX. 3.3 MI.; THEN TURN RIGHT (WEST) FOR APPROX. .7 MI.; THEN GO LEFT (SOUTHERLY) FOR APPROX. .5 MI.; THEN TURN LEFT (SOUTHEASTERLY) AND GO APPROX. .3 MI. TO THE EXISTING LOTOS 8 FED #803 WELLPAD. THE PROPOSED SWD LIES APPROX. 680 FEET SOUTHEAST OF THE SOUTHEAST CORNER OF EXISTING WELLPAD.

100 0 100 200 Feet

Scale: 1"=100'

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MESQUITE SWD

SAND DUNES SWD #2
LOCATED 2600 FEET FROM THE SOUTH LINE AND 2500 FEET FROM THE WEST LINE OF SECTION 8, TOWNSHIP 24 SOUTH, RANGE 31 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO

SURVEY DATE: JANUARY 11,2017		PAGE: 1 OF 1
DRAFTING DATE: JANUARY 13, 2017		
APPROVED BY: CH	DRAWN BY: JH	FILE: 17-34

Mesquite SWD, Inc.

Sand Dunes SWD #2 Casing Detail Page

Input of Tubular Descriptions							Returned - DIMENSIONS and STRENGTH Specifications						
Tubulars	Size	Wt / Ft	Grade	Yld	Cplg #	VLookup #	ID	Drift ID	Cplg OD	Collapse	Burst	Joint/1K	Yield/1K
Conductor	30	157.55	X	42	33	989.7004233	29	28.812	30	220	1220	1946	1946.216649
SURFACE	20	133	K	55	4	79.58561541	18.73	18.542	21	1500	3060	2123	2124.73019
INTERMEDIATE	13.375	68	HCP	110	4	51.88042678	12.415	12.29	14.375	2850	6910	2079	2138.972208
PRODUCTION	9.625	47	LS	140	4	35.51279318	8.681	8.625	10.625	7100	12010	1839	1900.130239
LINER	7.625	39	SM	125	4		See Attached Spec Sheet						

Evaluation of Surface Casing

OD Cplg inches	Body (1000 lbs)	Joint (1000 lbs)	Collapse (psi)	Burst (psi)
21.00	2,125	2,123	1,500	3,060
2.50	19.97	19.95	4.3	1.42

Evaluation of Intermediate Casing

OD Cplg inches	Body (1000 lbs)	Joint (1000 lbs)	Collapse (psi)	Burst (psi)
14.375	2,139	2,079	2,850	6,910
1.56	7.44	7.23	1.32	1.24

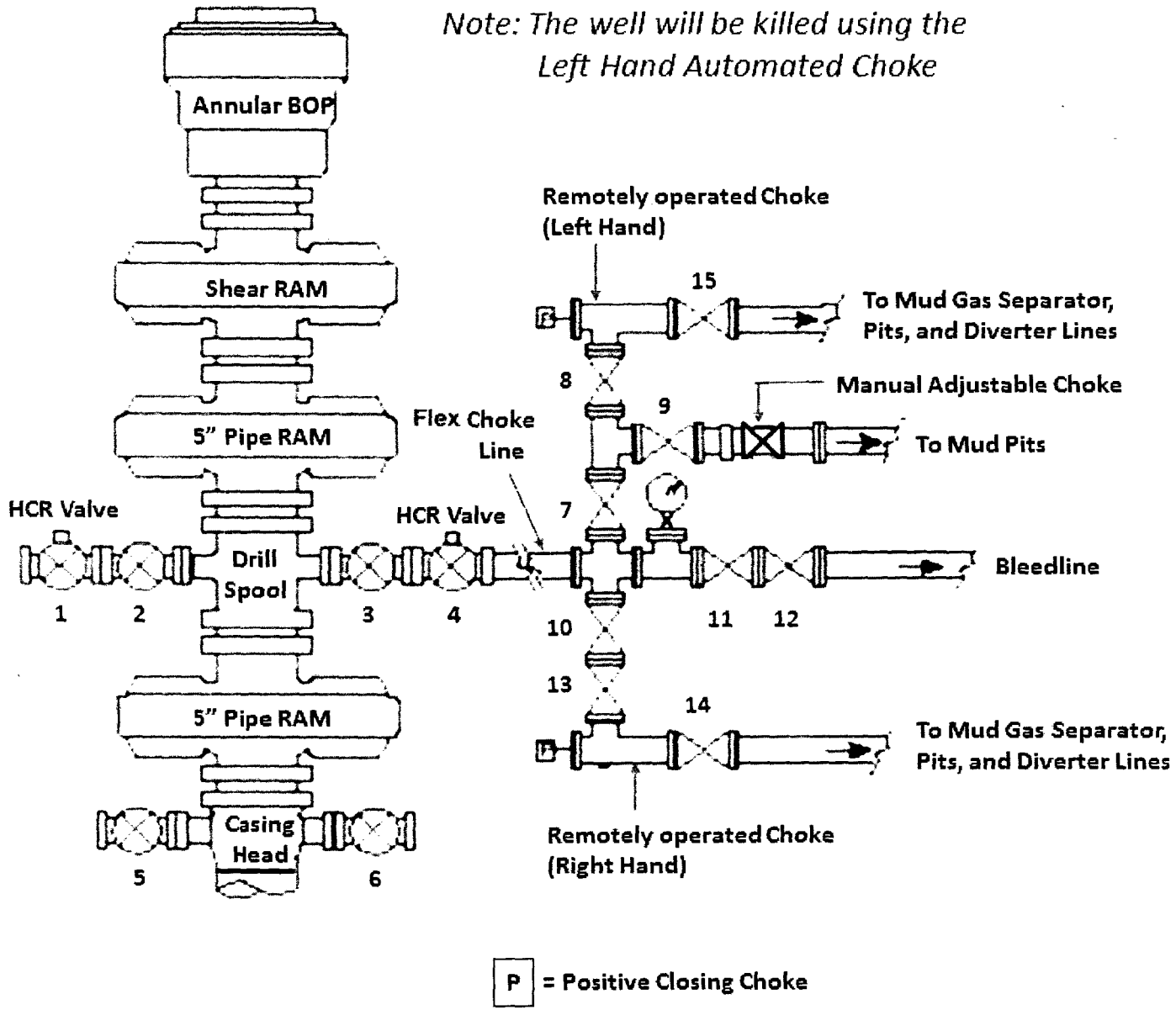
Evaluation of Production Casing

OD Cplg inches	Body (1000 lbs)	Joint (1000 lbs)	Collapse (psi)	Burst (psi)
10.625	1,900	1,839	7,100	12,010
0.81	3.40	3.29	0.13	1.18

Evaluation of Liner

OD Cplg inches	Body (1000 lbs)	Joint (1000 lbs)	Collapse (psi)	Burst (psi)
See Attached Spec Sheet				

10M BOP/BOPE/Choke Diagram



New Mexico Office of the State Engineer
Water Column/Average Depth to Water

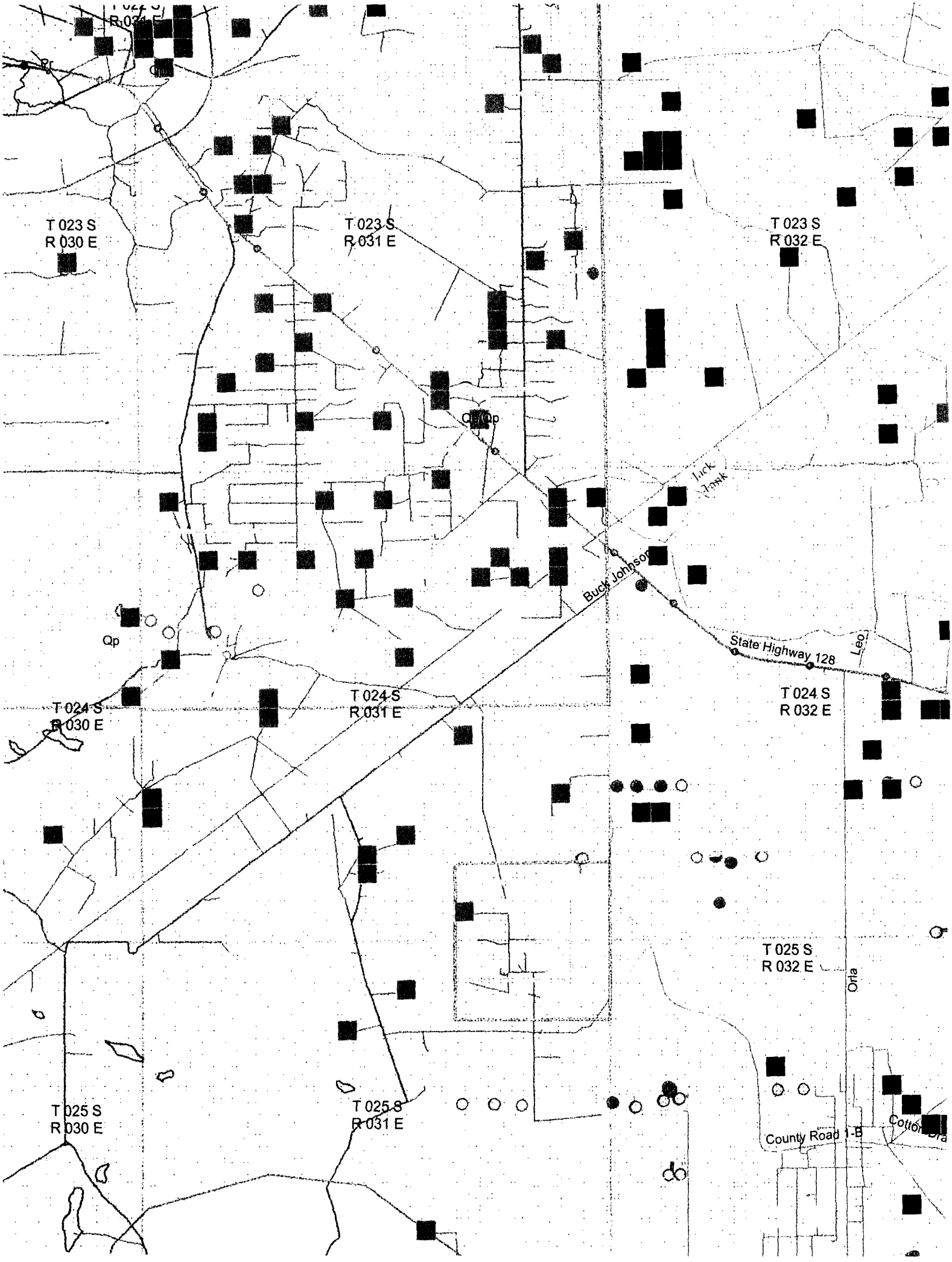
(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Sub-basin Code	County	Q 64	Q 16	Q 4	Sec	Twn	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 02783	CUB	ED	3	3	1	04	24S	31E	613911	3568461	2292	708		
C 02783 POD2	C	ED	3	3	1	04	24S	31E	613911	3568461	2292	672		
C 02784	C	ED	4	2	4	04	24S	31E	613911	3568461	2292	584		
C 02661		ED	3	3	1	04	24S	31E	613969	3568485*	2339	708		
C 02785		ED	3	3	1	04	24S	31E	613969	3568485*	2339	692		
C 02440	C	ED		2	3	10	24S	31E	616103	3566599*	3210	350		
C 03702 POD1	CUB	ED	4	1	4	24	24S	30E	610092	3563204	4257	20		
C 03558 POD1	CUB	ED	1	2	2	25	24S	30E	610412	3562651	4502	20	0	20
C 03558 POD2	CUB	ED	1	2	2	25	24S	30E	610412	3562651	4502	20	0	20
C 03558 POD3	CUB	ED	1	2	2	25	24S	30E	610412	3562651	4502	25	0	25
C 03558 POD4	CUB	ED	1	2	2	25	24S	30E	610412	3562651	4502	25	0	25
C 03558 POD5	CUB	ED	1	2	2	25	24S	30E	610412	3562651	4502	30	0	30
C 02460	C	ED			3	02	24S	31E	617496	3568022*	4873	320		
C 02460 POD2	C	ED			3	02	24S	31E	617496	3568022*	4873	320		
C 02780		ED	2	3	2	23	24S	30E	608535	3563857*	5052	505		
C 02464	C	ED	3	4	1	02	24S	31E	617589	3568530*	5149	320	205	115
C 02781		ED	4	3	2	23	24S	30E	608535	3563657*	5156	624		
C 02782		ED	4	3	2	23	24S	30E	608535	3563657*	5156	808		
C 02405	C	ED		4	1	02	24S	31E	617690	3568631*	5283	275	160	115
C 02110		ED		4	3	23	24S	30E	608036	3562950*	5965	600	400	200
C 02954 EXPL		ED	3	1	4	20	23S	31E	613114	3572906*	6504	905		
C 02348	C	ED	1	4	3	26	23S	31E	617648	3571068	6655	700	430	270
C 03908 POD1	CUB	ED	3	4	3	34	23S	30E	606331	3569300	7177	760		
C 03908 POD4	CUB	ED	3	2	1	34	23S	30E	606333	3569605	7303	1137		
C 02095	CUB	ED		2	3	34	23S	30E	606337	3569759*	7368	554	440	114
C 02258	C	ED		3	2	26	23S	31E	618055	3571853*	7501	662		

***UTM location was derived from PLSS - see Help**


T 023 S
R 030 E
T 023 S
R 031 E
T 023 S
R 032 E
Qp
Qp/Qp
Buck Johnson
State Highway 128
T 024 S
R 030 E
T 024 S
R 031 E
T 024 S
R 032 E
T 025 S
R 032 E
Orla
T 025 S
R 030 E
T 025 S
R 031 E
County Road 1-B

Hydrogen Sulfide Drilling Operations Plan

Mesquite SWD, Inc.
Sand Tank SWD #2
2600 FSL & 2630' FWL
Section 8 – T24S – R31E
Eddy County, New Mexico

1. H2S Detection and Alarm Systems
    A. H2S detectors and audio alarm system to be located at bell nipple, end of flow line (mud pit) and on derrick floor or doghouse.
2. Windsock and/or wind streamers
    A. Windsock at mudpit area should be high enough to be visible.
    B. Windsock at briefing area should be high enough to be visible.
3. Condition Flags and Signs
    A. Warning sign on access road to location.
    B. Flags to be displayed on sign at entrance to location. Green flag, normal safe condition. Yellow flag indicates potential pressure and danger. Red flag, danger, H2S present in dangerous concentration. Only emergency personnel admitted to location.
4. Well control equipment
    A. See "Pressure Control Equipment"
5. Communication
    A. While working under masks chalkboards will be used for communication.
    B. Hand signals will be used where chalk board is inappropriate.
    C. Two way radio will be used to communicate off location in case emergency help is required. In most cases cellular telephones will be available at most drilling foreman's trailer or living quarters.
6. Drillstem testing is not anticipated.
7. Drilling contractor supervisor will be required to be familiar with the effects H2S has on tubular goods and other mechanical equipment.
8. If H2S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas separator will be brought into service along with H2S scavengers if necessary

Mesquite SWD, Inc.
Sand Tank SWD #2
2600 FSL & 2630' FWL
Section 8 – T24S – R31E
Eddy County, New Mexico

EMERGENCY CALL LIST

Mesquite SWD, Inc.	575-706-1840
Clay Wilson	575-706-1840
Riley Neatherlin	575-706-7288
Kay Havenor	575-626-4518

EMERGENCY RESPONSE NUMBERS

State Police	575-748-9718
State Police Lea Co.	575-392-5588
Eddy County Sheriff	575-746-2701
Lea County Sheriff	575-396-3611
Emergency Medical Services	911 or 575-746-2701
Artesia Fire and Ambulance	575-746-5050
Maljamar Fire and Ambulance	575-674-4100
Artesia General Hospital 702 N. 13th St. Artesia	575-748-3333
Carlsbad Medical Center 2430 West Pierce Street	575-887-4100
Lea County Emergency Response	575-396-8602
Lea County Ambulance Eunice	911 or 575-396-8602
Carlsbad Police Department	575-885-2111
Eddy County Emergency Management	575-887-9511
Carlsbad Fire Department	575-885-3125

Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Certificate

General Information		Hose Specifications	
Customer	PRECISION DRILLING	Hose Assembly Type	Choke & Kill
MWH Sales Representative	TYLER HILL	Certification	API 7K
Date Assembled	8/19/2014	Hose Grade	MUD
Location Assembled	OKC	Hose Working Pressure	10000
Sales Order #	268122	Hose Lot # and Date Code	7448-07/11
Customer Purchase Order #	245230	Hose I.D. (Inches)	3"
Assembly Serial # (Pick Ticket #)	268122-2	Hose O.D. (Inches)	5.36"
Hose Assembly Length	36'	Armor (yes/no)	YES

Fittings			
End A		End B	
Stem (Part and Revision #)	R3.0X64WB	Stem (Part and Revision #)	R3.0X64WB
Stem (Heat #)	MM141420	Stem (Heat #)	MM141420
Ferrule (Part and Revision #)	RF3.0	Ferrule (Part and Revision #)	RF3.0
Ferrule (Heat #)	J0965	Ferrule (Heat #)	J0965
Connection (Part #)	4 1/16 10K	Connection (Part #)	4 1/16 10K
Connection (Heat #)		Connection (Heat #)	
Dies Used	5.37"	Dies Used	5.45

Hydrostatic Test Requirements		
Test Pressure (psi)	15,000	*Hose assembly was tested with ambient water temperature.*
Test Pressure Hold Time (minutes)	15 1/2	

Date Tested	Tested By	Approved By
8/19/2014		

Midwest Hose & Specialty, Inc.

Internal Hydrostatic Test Graph

August 19, 2014

Customer: Precision Drilling

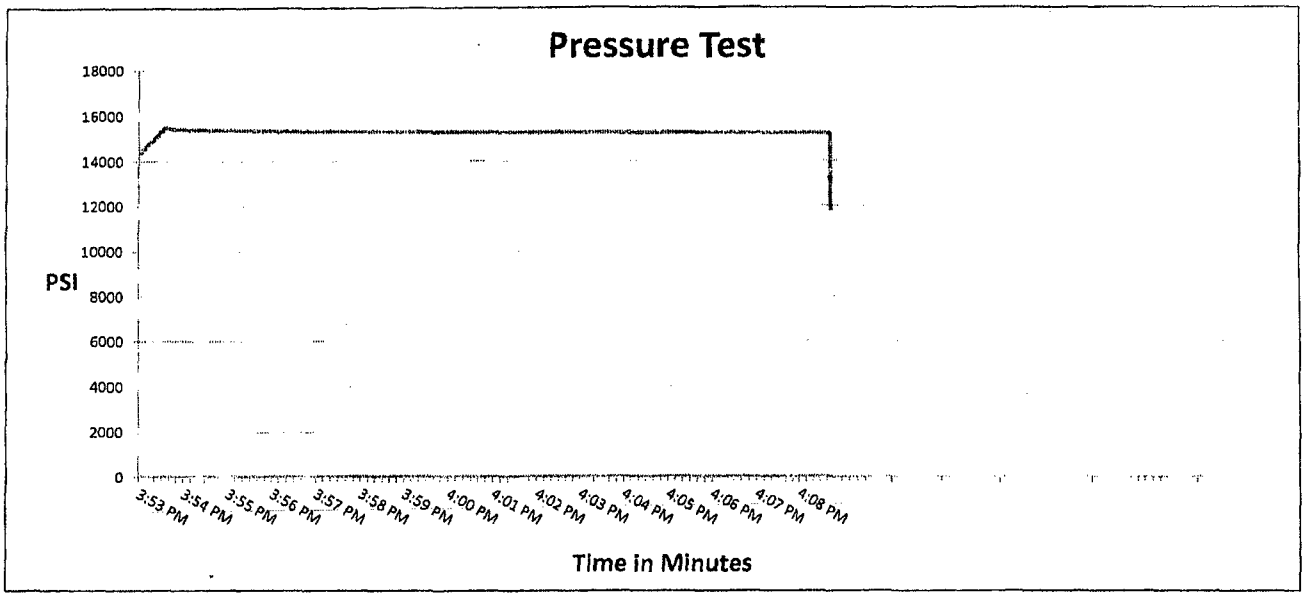
Pick Ticket #: 268122

Hose Specifications

Hose Type	Length
Ck	36'
I.D.	**O.D.**
3"	4.79"
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.**
5.37"	5.36"
Hose Serial #	**Hose Assembly Serial #**
7448	268122-2



Test Pressure	Time Held at Test Pressure	Actual Burst Pressure	Peak Pressure
15000 PSI	15 2/4 Minutes		15556 PSI

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

Tested By: *Charles Ash*

Approved By: *Ryan Adams*

Midwest Hose
& Specialty, Inc.

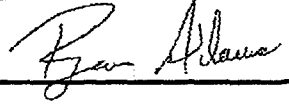
Certificate of Conformity	
Customer: **PRECISION DRILLING**	*Customer P.O.#* **245230**
Sales Order # **268122**	*Date Assembled:* **8/19/2014**

Specifications			
Hose Assembly Type:	**Choke & Kill**		
Assembly Serial #	**268122-2**	*Hose Lot # and Date Code*	**7448-07/11**
Hose Working Pressure (psi)	**10000**	*Test Pressure (psi)*	**15000**

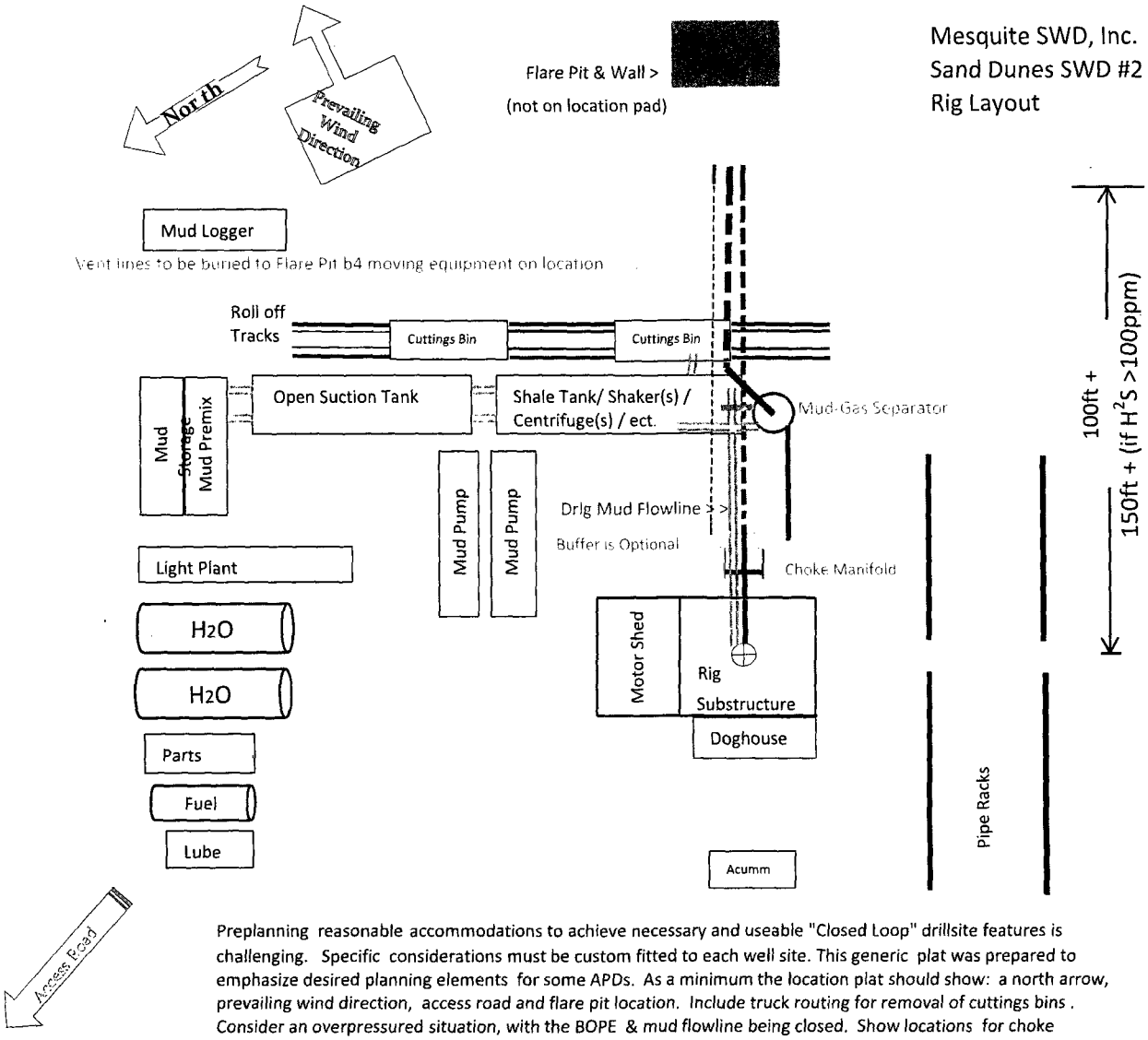
We hereby certify that the above material supplied for the referenced purchase order to be true according to the requirements of the purchase order and current industry standards.

Supplier:
Midwest Hose & Specialty, Inc.
3312 S I-35 Service Rd
Oklahoma City, OK 73129

Comments:

Approved By	*Date*
	**8/20/2014**

Mesquite SWD, Inc.
Sand Dunes SWD #2
Rig Layout



Preplanning reasonable accommodations to achieve necessary and useable "Closed Loop" drillsite features is challenging. Specific considerations must be custom fitted to each well site. This generic plat was prepared to emphasize desired planning elements for some APDs. As a minimum the location plat should show: a north arrow, prevailing wind direction, access road and flare pit location. Include truck routing for removal of cuttings bins. Consider an overpressured situation, with the BOPE & mud flowline being closed. Show locations for choke manifold, mud gas separator, and a piping system to vent overpressured fluid and all gas to the flare pit.

Tool Pusher Housing	Company man Housing

Surface Use & Operating Plan

Sand Dunes SWD #2

- Surface Tenant: Richardson Cattle Company, PO Box 487, Carlsbad, NM 88221, Twin Wells Allotment No. 77042.
- New Road: 417' of new road
- Facilities: SWD facilities will be installed on well pad

- **Well Site Information**
  V Door: South
  Topsoil: South
  Interim Reclamation: No IR planned. SWD facilities will require full pad.

Notes

Onsite: On-site was done by Jeff Robertson and Fernando Banos (BLM); Riley Neatherlin, Todd Suter and Melanie Wilson (Mesquite SWD, Inc.) on January 11, 2017.

SURFACE USE AND OPERATING 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 Harcrow Surveying, Artesia, NM.

B. All roads to the location are shown on the Access Road Maps attachment. The existing lease roads are illustrated in green and are adequate for travel during drilling and disposal operations. Upgrading existing roads prior to drilling the well will be done where necessary. Proposed new access road is shown in red on the Access Road attachment and is shown in detail on the Access Road Plat attachment.

C. Directions to location: See 600 x 600 plat

D. Based on current road maintenance performed on other roads serving existing wells, we anticipate maintaining the lease roads leading to the proposed well pad at least once a year on dry conditions and twice a year in wetter conditions.

2. Proposed Access Road:

The Access Road Plat shows that 417' of new access road will be required for this location. If any road is required it will be constructed as follows:

The maximum width of the running surface will be 14'. 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.

A. The average grade will be less than 1%.

B. No turnouts are planned.

C. No cattleguard, culvert, gates, low water crossings or fence cuts are necessary.

D. 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 the proposed wellbore.

4. Location of Existing and/or Proposed Facilities:

A. There are currently no water disposal facilities at this well site.

B. Upon successfully completion of this SWD well, we plan to install a disposal facility consisting of two desanders, two gun barrels, four oil tanks and six injection tanks.

C. We plan to bring produced water to this facility via a buried pipeline, which will be permitted under separate ROW.

D. 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 the nearest BLM approved caliche pit in Section 4-T24S-R31E. Alternate source will be

E. a BLM caliche pit in Section 24-T24S-R30E. Any additional construction materials will be purchased from contractors.

1) It will be necessary to run electric power to the facility. Power will be provided by Xcel Energy and ROW for powerlines to well location is requested. The power line route is shown in the Power Line Map attached.

2) If completion of the well is successful, 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 program. The water will be obtained from a private source. Fresh water will come from Mesquite SWD, Inc.'s 128 Fresh water well in Section 31-T22S-R30E and the alternate source is Mesquite SWD, Inc.'s Pulley Fresh water well in Section 26-T24S-R28E. Brine water will come from Mesquite SWD, Inc.'s Malaga I Brine Station in Section 12-T23S-R28E and the alternate source is Mesquite SWD, Inc.'s Malaga II Brine Station in Section 20-T24S-R29E. No water well will be drilled on the location.

6. Source of Construction Materials and Location "Turn-Over" Procedure:

Obtaining caliche: One primary way of obtaining caliche to build locations and roads will be by "turning over" the location. This means, caliche will be obtained from the actual well site. Amount will vary for each pad. The procedure below has been approved by BLM personnel:

A. Equipment that is needed to construct the proposed location will be as follows: Two dozers to flip the site for caliche and to move topsoil, one blade to level the surface, one morograder to roll and compact this site, one backhoe to dig the cellar, one water truck to water location and dust abatement and two dump trucks to haul surface material. If caliche is not available onsite and have to haul caliche from a private pit, in addition to equipment mentioned above we will have 10 belly dumps and one front end loader.

B. The time line to complete construction will be approximately 10 days.

C. The top 6 inches of topsoil is pushed off and stockpiled along the south side of the location. Maximum height of the topsoil stock pile will be 3'.

D. An approximate 160' X 160' area is used within the proposed well site to remove caliche.

E. Subsoil is removed and stockpiled within the surveyed well pad.

F. When caliche is found, material will be stock piled within the pad site to build the location and road.

G. Then subsoil is pushed back in the hole and caliche is spread accordingly across entire location and road.

H. There will be no interim reclamation. Once well is drilled, the stock piled top soil will be seeded in place.

I. Neither caliche, nor subsoil will be stock piled outside of the well pad. Topsoil will be stockpiled along the edge of the pad as depicted in the Well Site Layout or survey plat.

In the event that no caliche is found onsite, caliche will be hauled in from the BLM caliche pit in Section 4-T24S-R31E ore the BLM caliche pit in Section 24-T24S-R30E.

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 R360's disposal site located at 4507 West Carlsbad Highway, Hobbs, NM 88240.

B. Drilling fluids will be contained in steel mud pits and taken to R360's disposal site located at 4507 West Carlsbad Highway, Hobbs, NM 88240.

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. R360's disposal site located at 4507 West Carlsbad Highway, Hobbs, NM 88240.

D. This is a commercial SWD, therefore no water will be produced from this well.

E. Garbage and trash produced during drilling or completion operations will be collected in a trash bin and hauled to an approved landfill-Lea Landfill LLC. Located at Mile Marker 64, Highway 62-180 East, P O Box 3247, Carlsbad, NM 88221. No toxic waste or hazardous chemicals will be produced by this operation.

F. Human waste and grey water will need to 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).

G. After the rig is moved out and the well is either completed or abandoned, all waste materials will be cleaned up within 30 days. In the event of a dry hole only a dry hole marker will remain.

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 Harcrow Surveying, is shown in the Elevation Plat. Dimensions of the pad and pits are shown on the Rig Layout. V door direction is south. Topsoil, if available, will be stockpiled per BLM specifications. Because the pad is almost level no major cuts will be required.

B. The Rig Layout 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. No Interim Reclamation is planned as proposed facilities will require use of the entire well pad. Should IR be possible, it will take place within six months after the well has been completed. The pad will be downsized by reclaiming the areas not needed for disposal operations. The portions of the pad that are not needed for disposal 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 within six months. 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 re-seeded with a BLM approved mixture and re-vegetated as per BLM orders. When required by BLM, the well pad site will be restored to match pre-construction grades.

11. Sedimentation and Erosion Control

The north/northeast side of the pad will be bermed to prevent erosion.

12. Surface Ownership:

A. The surface is owned 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 surface tenant is Richardson Cattle Co, PO Box 487, Carlsbad, NM 88221.

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

13. 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. 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.

D. If needed, a Cultural Resources Examination is being prepared by Boone Arch Services of NM, LLC., 2030 North Canal, Carlsbad, New Mexico, 88220, phone # 575-885-1352 and the results will be forwarded to your office in the near future. Otherwise, **Mesquite SWD, Inc. will be participating in the Permian Basin MOA Program.**

14. Bond Coverage:

Bond Coverage is Statewide Bonds # NMB000612.

15. Operator's Representative:

The Mesquite SWD, Inc. representative responsible for assuring compliance with the surface use plan is as follows:

Riley Neatherlin
Production Manager
Mesquite SWD, Inc.
602 S Canyon Street
Carlsbad, NM 88220
Phone (575) 706-7288

Sheryl Baker
Drilling Manager
Mesquite SWD, Inc.
602 S Canyon Street
Carlsbad, NM 88220
Phone (575) 200-0227

PECOS DISTRICT
DRILLING OPERATIONS
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Mesquite SWD Inc
LEASE NO.:	NM29234
WELL NAME & NO.:	Sand Dunes SWD – 2
SURFACE HOLE FOOTAGE:	2600'/FSL & 2630'/FWL
BOTTOM HOLE FOOTAGE	'/FL & '/FL
LOCATION:	Sec. 8, T. 24 S, R. 31 E
COUNTY:	Eddy County

I. 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. **Although Hydrogen Sulfide has not been reported in the area, it is always a potential hazard. If Hydrogen Sulfide is encountered, report measured amounts and formations to the BLM.**

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a "Major" violation.**

3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works 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 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.**

II. 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 Water Basin:
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 at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements.

Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

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

Possibility of water flows in the Salado, and Castile.
Possibility of lost circulation in the Red Beds, Rustler, and Delaware.
Abnormal pressures may be encountered within the 3rd Bone Spring Sandstone and subsequent formations.

Surface casing shall be kept fluid filled while running into hole to meet BLM minimum collapse requirements.

A. The **20** inch surface casing shall be set at approximately **800** 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.
    1. 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.
    2. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**

3. 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.
4. If cement falls back, remedial cementing will be done prior to drilling out that string.

B. The minimum required fill of cement behind the **13-3/8** inch 1st intermediate casing, which shall be set at approximately **4230** feet (**Lamar Limestone or the basal anhydrite of the Castile Formation**), is:

☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.

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 (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

C. The minimum required fill of cement behind the **9-5/8** inch 2nd intermediate casing is:

☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Excess calculates to 19% - Additional cement will be required.**

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.

D. The minimum required fill of cement behind the **4-1/2** inch production Liner is:

☒ Cement as proposed by operator. Operator shall provide method of verification.

E. **Open hole completion from 16500 to 18000.**

F. 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.

III. PRESSURE CONTROL

A. 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 53.

B. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi **(Operator installing 10M testing to 3,000 psi)**.

1. **For surface casing only:** If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent service company required.

C. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **13-3/8** 1st intermediate casing shoe shall be **5000 (5M)** psi **(Operator installing 10M testing to 5,000 psi)**. **5M 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.**

D. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8** 2nd intermediate 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.**

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

1. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

2. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

3. 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.

4. The results of the test shall be reported to the appropriate BLM office.

5. 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.**

6. 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.

7. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp** formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

IV. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** formation, and shall be used until production casing is run and cemented.

V. DRILL STEM TEST

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

VI. WELL COMPLETION

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 and/or 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.**

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

VII. 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.

CLN 03282017

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Mesquite SWD Inc
LEASE NO.:	NM29234
WELL NAME & NO.:	Sand Dunes SWD - 2
SURFACE HOLE FOOTAGE:	2600'/S & 2630'/W
BOTTOM HOLE FOOTAGE	'/FL & '/FL
LOCATION:	Section 8, T. 24 S., R. 31 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.

Raptor Nest Mitigation

- A BLM Wildlife Biologist must be contacted by the operator prior to construction activities to determine if the raptor nest is active.
- Raptor nests on special, natural habitat features, such as trees, large brush, cliff faces and escarpments, will be protected by not allowing surface disturbance within up to 200 meters of nests or by delaying activity for up to 90 days, or a combination of both. Exceptions to this requirement for raptor nests will be considered if the nests expected to be disturbed are inactive, the proposed activity is of short duration (e.g. habitat enhancement projects, fences, pipelines), and will not result in continuing activity in proximity to the nest.
- Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

Watershed

- The entire well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The berm shall be maintained through the life of the well and after interim reclamation has been

completed. Waddles will be placed and maintained on the northeast side of location to divert rain water around the location.

- Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion.
- Stockpiling of topsoil is required. The top soil shall be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and not used for berming or erosion control.

Tank Battery COAs Only:

- Tank battery locations will be lined and bermed. A 120-mil permanent spray in 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 and tank battery will be 3 ft. to 5 ft. sub surface.
- Automatic shut off, check values, or similar systems will be installed for tanks to minimize the effects of catastrophic line failures used in production or drilling.

Surface Pipeline COAs Only:

- A leak detection plan will be submitted to the BLM Carlsbad Field Office for approval prior to pipeline installation. The method could incorporate gauges to detect pressure drops, situating values and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.

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.

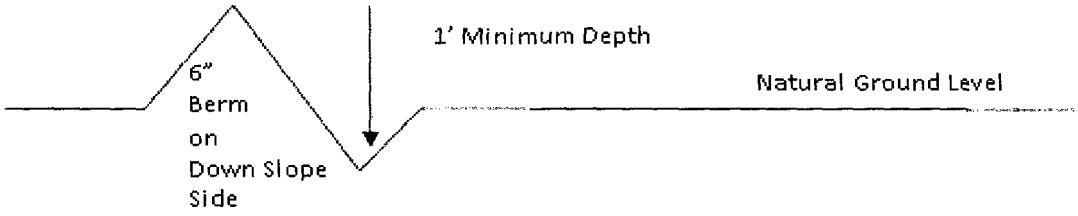
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

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

Cattle guards

An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards 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 cattle guards 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

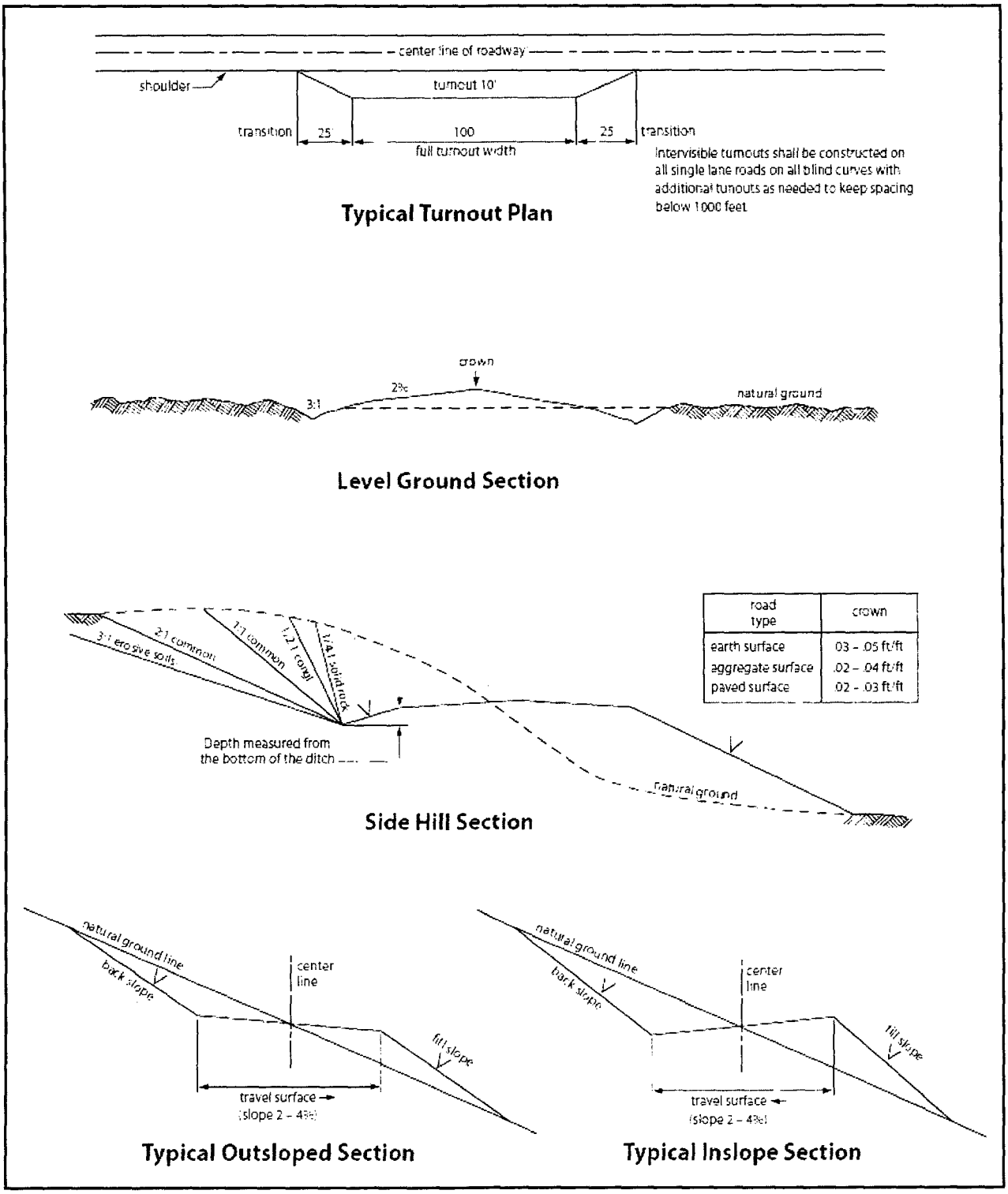


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. 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).

B. PIPELINES

BURIED PIPELINE STIPULATIONS

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

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

1. The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C.6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to

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

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

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

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

7. The maximum allowable disturbance for construction in this right-of-way will be **30** feet:

- Blading of vegetation within the right-of-way will be allowed: maximum width of blading operations will not exceed **20** feet. The trench is included in this area. (*Blading is defined as the complete removal of brush and ground vegetation.*)

- Clearing of brush species within the right-of-way will be allowed: maximum width of clearing operations will not exceed **30** feet. The trench and bladed area are included in this area. (*Clearing is defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface.*)

- The remaining area of the right-of-way (if any) shall only be disturbed by compressing the vegetation. (*Compressing can be caused by vehicle tires, placement of equipment, etc.*)

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

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

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

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

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

( ) seed mixture 1 ( ) seed mixture 3

( ) seed mixture 2 ( ) seed mixture 4

(X) seed mixture 2/LPC ( ) Aplomado Falcon Mixture

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

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

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

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

17. 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 associated roads, 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.

18. Escape Ramps - The operator will construct and maintain pipeline/utility trenches [that are not otherwise fenced, screened, or netted] to prevent livestock, wildlife, and humans from becoming entrapped. At a minimum, the operator will construct and maintain escape ramps, ladders, or other methods of avian and terrestrial wildlife escape in the trenches according to the following criteria:

a. Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them at least 100 yards from the trench.
b. For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30 degree slope and spaced no more than 500 feet apart) shall be placed in the trench.

19. Special Stipulations:

Lesser Prairie-Chicken

Oil and gas activities 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, geophysical exploration other than 3-D operations, and 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. 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 ft. from the source of the noise.

C. ELECTRIC LINES

STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES

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

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

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.

5. Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006 . The holder shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be

provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

Raptor deterrence will consist of but not limited to the following: triangle perch discouragers shall be placed on each side of the cross arms and a nonconductive perching deterrence shall be placed on all vertical poles that extend past the cross arms.

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

7. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.

8. Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply with those abandonment procedures as prescribed by the Authorized Officer.

9. All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this grant, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.

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

11. Special Stipulations:
- For reclamation remove poles, lines, transformer, etc. and dispose of properly.
- Fill in any holes from the poles removed.

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, geophysical exploration other than 3-D operations, and 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 ft. from the source of the noise.

VIII. 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).

IX. 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.

Seed Mixture for LPC Sand/Shinnery Sites

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

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

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

Species	lb/acre
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A

*Pounds of pure live seed:

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