Initial Application Part I

Received: **08/02/2019**

This application is placed in file for record. It MAY or MAY NOT have been reviewed to be determined Administratively Complete

Revised March 23, 2017

RECEIVED:	REVIEWER:	TYPE:	APP NO:
08/02/2019		SWD	pMAM1921444571

ABOVE THIS TABLE FOR OCD DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
- Geological & Engineering Bureau –
1220 South St. Francis Drive, Santa Fe, NM 87505

ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Applicant: AWR Disposal LLC **OGRID Number:** 328805
Well Name: Rodman State SWD #1 **API:**
Pool: Proposed: SWD, Devonian, Fusselman, Montoya **Pool Code:** 97869

SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED BELOW

SWD-2227

1) **TYPE OF APPLICATION:** Check those which apply for [A]
A. Location – Spacing Unit – Simultaneous Dedication
☐ NSL ☐ NSP (PROJECT AREA) ☐ NSP (PRORATION UNIT) ☐ SD

B. Check one only for [I] or [II]
[I] Commingling – Storage – Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM
[II] Injection – Disposal – Pressure Increase – Enhanced Oil Recovery
☐ WFX ☐ PMX ☒ SWD ☐ IPI ☐ EOR ☐ PPR

FOR OCD ONLY
☐ Notice Complete
☐ Application Content Complete

2) **NOTIFICATION REQUIRED TO:** Check those which apply.
A. ☒ Offset operators or lease holders
B. ☐ Royalty, overriding royalty owners, revenue owners
C. ☒ Application requires published notice
D. ☒ Notification and/or concurrent approval by SLO
E. ☒ Notification and/or concurrent approval by BLM
F. ☒ Surface owner
G. ☒ For all of the above, proof of notification or publication is attached, and/or,
H. ☐ No notice required

3) **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

08/02/2019
Date

Randy Hicks (agent)
Print or Type Name

505 238 9515
Phone Number

Signature

r@rthicksconsult.com
e-mail Address

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 Road, 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, NM 87505

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

☐ **AMENDED REPORT**

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1]API Number	[2]Pool Code	[3]Pool Name

[4]Property Code	[5]Property Name	[6]Well Number
	RODMAN STATE SWD	1

[7]OGRID No.	[8]Operator Name	[9]Elevation
328805	AWR DISPOSAL, LLC	3711'

[10]Surface Location

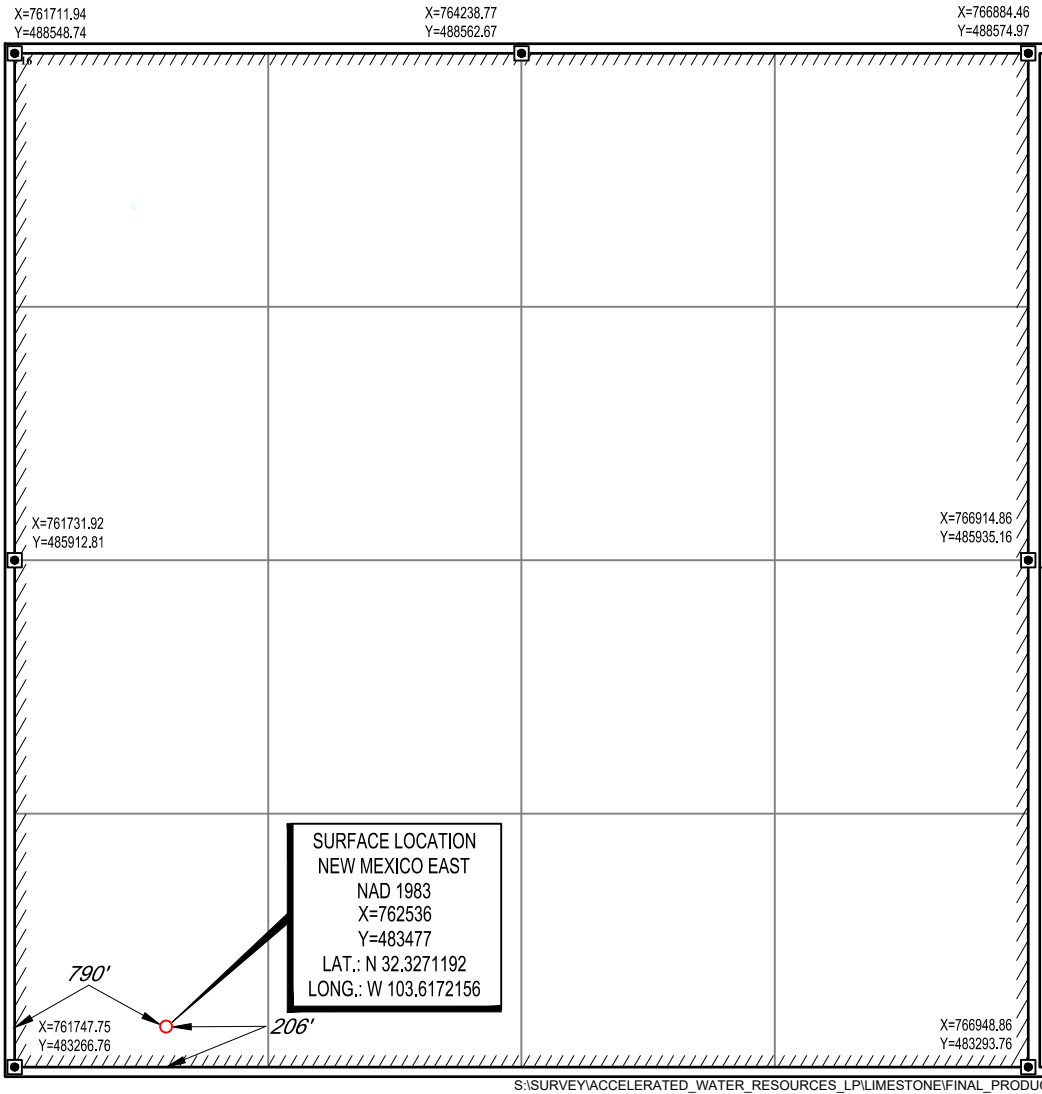
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	6	23-S	33-E	-	206'	SOUTH	790'	WEST	LEA

[11]Bottom Hole Location If Different From Surface

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

[12]Dedicated Acres	[13]Joint or Infill	[14]Consolidation Code	[15]Order No.

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



[17]OPERATOR CERTIFICATION

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

Signature Date

Printed Name

E-mail Address

[18]SURVEYOR CERTIFICATION

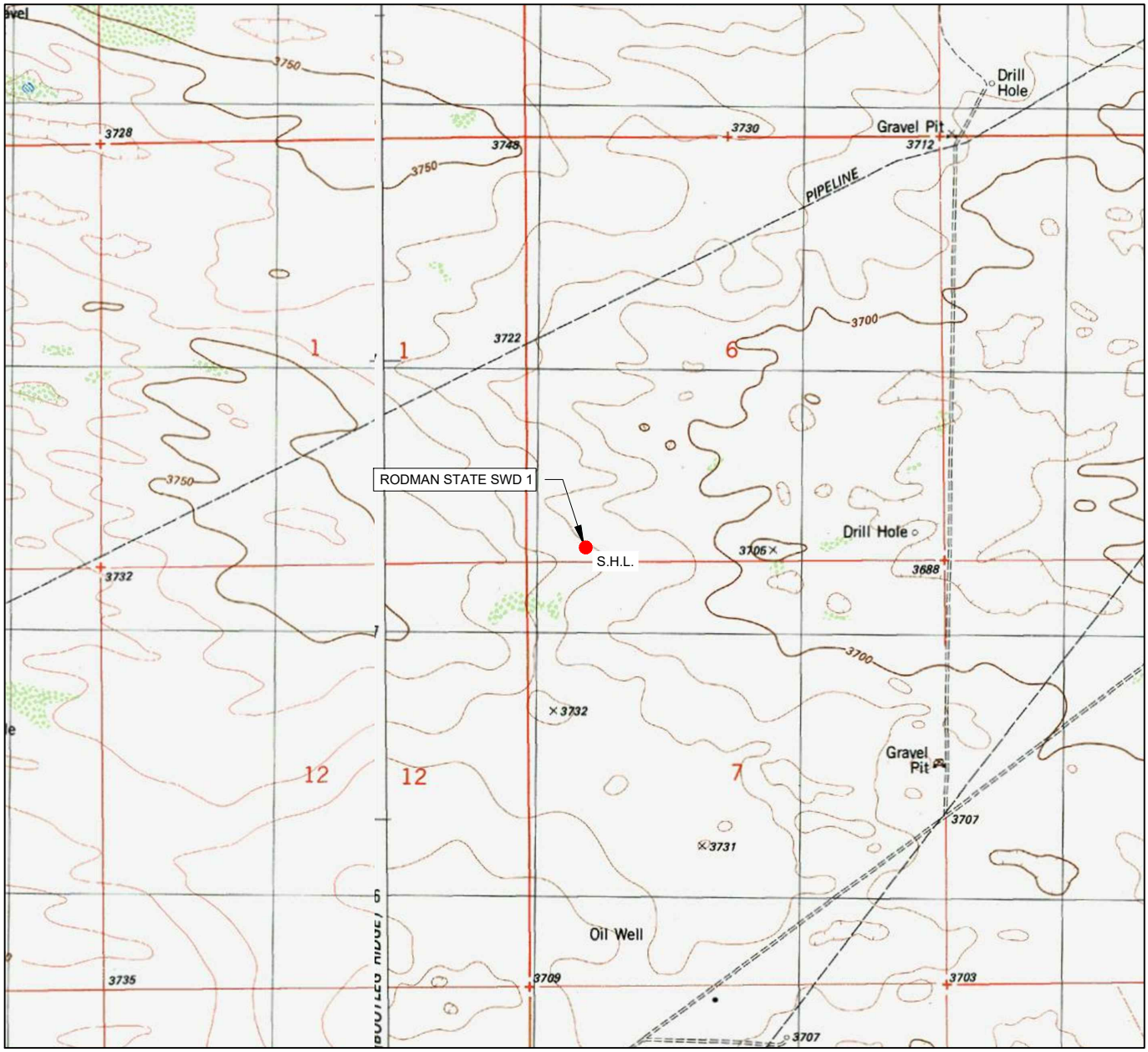
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true to the best of my belief.

06/14/2019
Date of Survey
Signature and Seal of Professional Surveyor

JOHN A. CARNEGIE
NEW MEXICO
11401
REGISTERED PROFESSIONAL SURVEYOR

Certificate Number

LOCATION & ELEVATION VERIFICATION MAP



AWR DISPOSAL, LLC

LEASE NAME & WELL NO.: RODMAN STATE SWD 1

SECTION 6 TWP 23-S RGE 33-E SURVEY N.M.P.M.
COUNTY LEA STATE NM ELEVATION 3711'
DESCRIPTION 206' FSL & 790' FWL

LATITUDE N 32.3271192 LONGITUDE W 103.6172156

−N−

SCALE: 1" = 2000'

0' 1000' 2000'

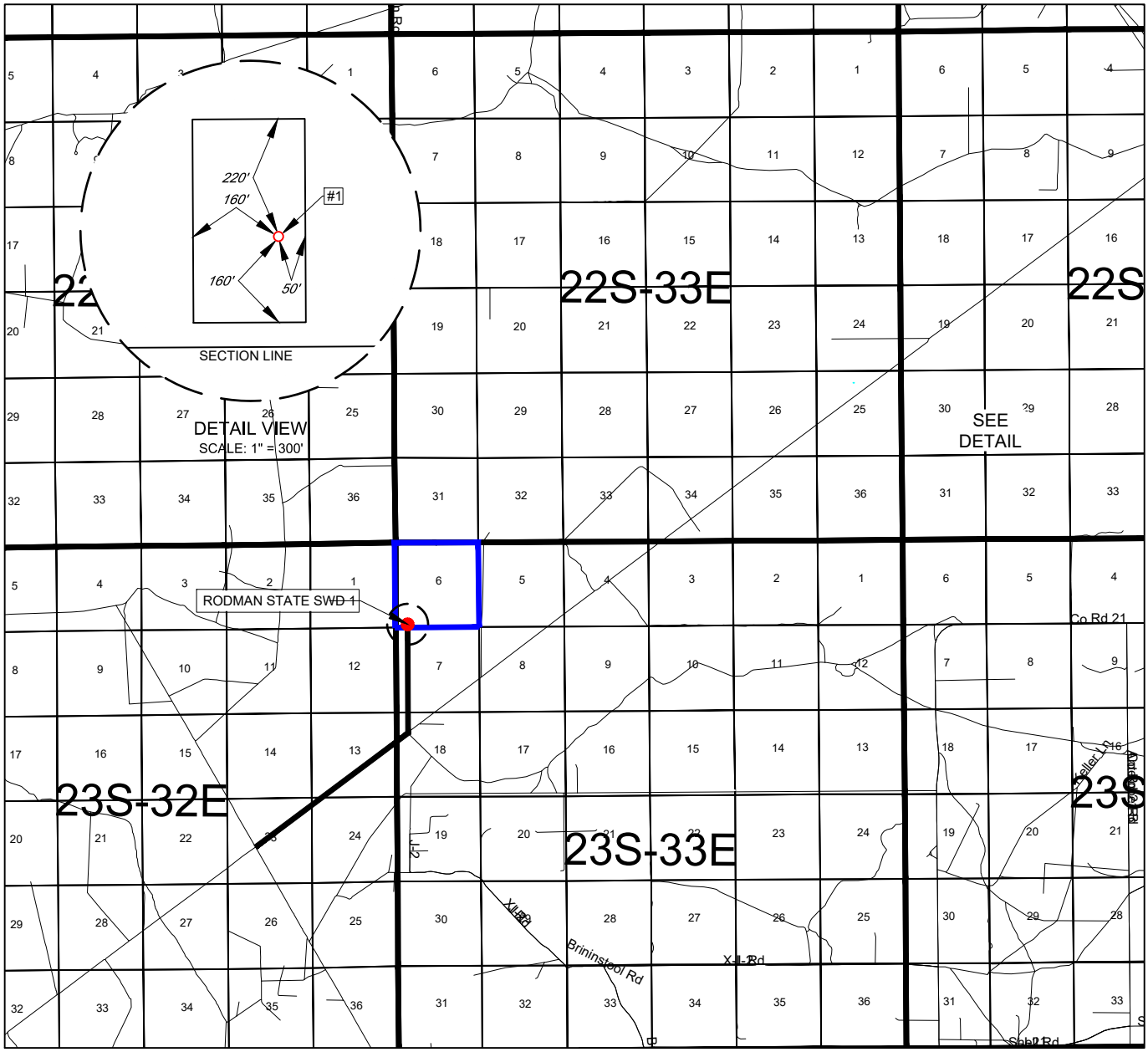
THIS EASEMENT/SERVITUDE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY AWR DISPOSAL, LLC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM, EAST ZONE OF THE NORTH AMERICAN DATUM 1983, U.S. SURVEY FEET.

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, Ste. 146 • FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 • FAX (817) 744-7554
2903 NORTH BIG SPRING • MIDLAND, TEXAS 79705
TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743
WWW.TOPOGRAPHIC.COM

EXHIBIT 2

VICINITY MAP

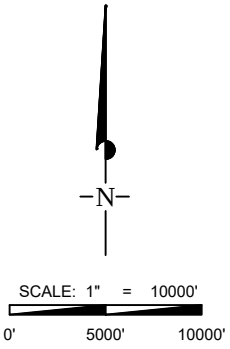


AWR DISPOSAL, LLC

LEASE NAME & WELL NO.: RODMAN STATE SWD 1

SECTION 6 TWP 23-S RGE 33-E SURVEY N.M.P.M.
COUNTY LEA STATE NM
DESCRIPTION 206' FSL & 790' FWL

DISTANCE & DIRECTION
FROM INT. OF NM-128 & DELAWARE BASIN RD., GO NORTH ON DELAWARE BASIN RD. ±6.0 MILES, THENCE WEST (LEFT) ON LEASE RD. ±2.4 MILES, THENCE NORTH (RIGHT) ON LEASE RD. ±3.6 MILES, THENCE NORTHEAST (RIGHT) ON PADUCA BREAKS LN. ±3.2 MILES, TO A POINT ±750 FEET SOUTHEAST OF THE LOCATION.



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TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743
WWW.TOPOGRAPHIC.COM

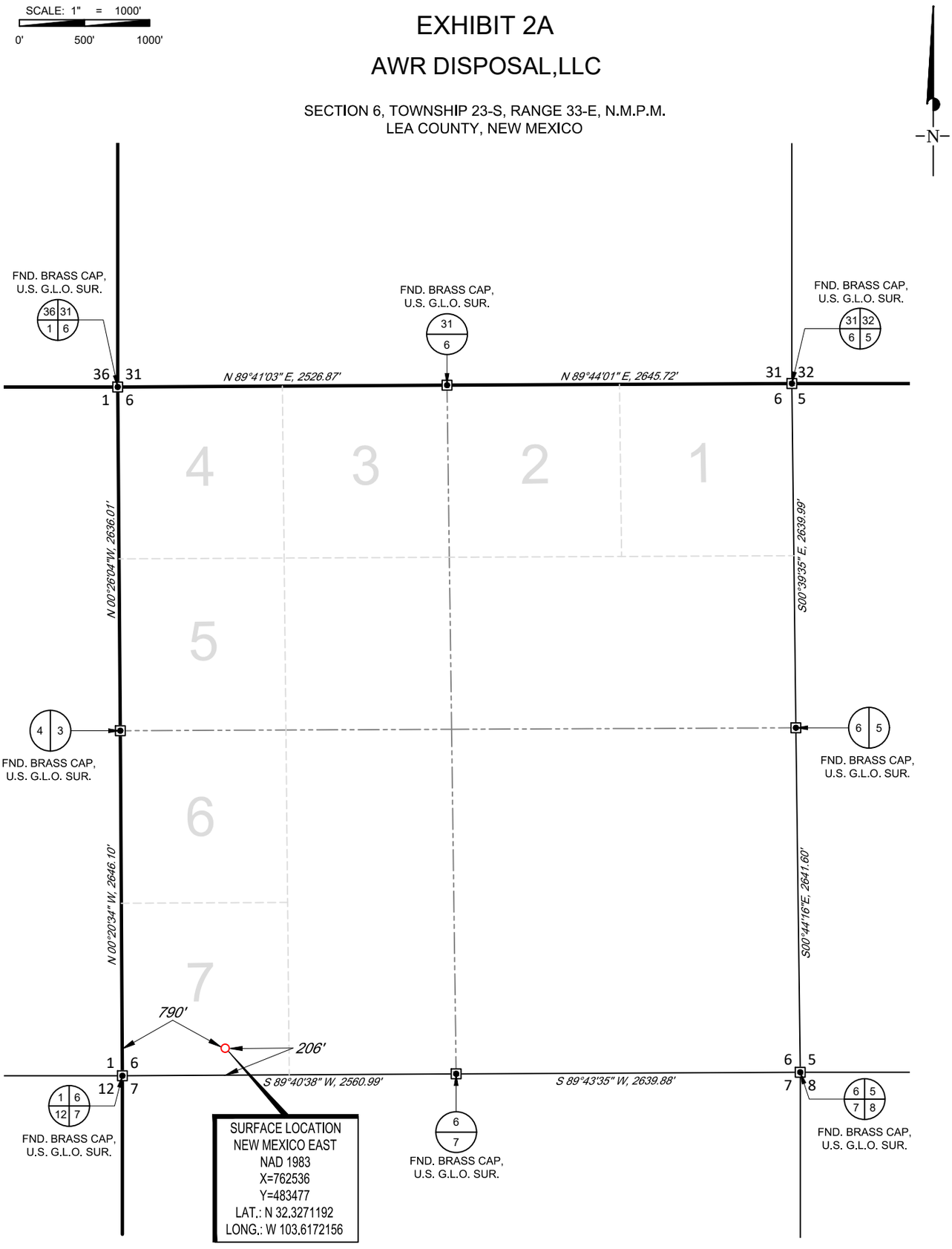
SCALE: 1" = 1000'

0' 500' 1000'

EXHIBIT 2A

AWR DISPOSAL,LLC

SECTION 6, TOWNSHIP 23-S, RANGE 33-E, N.M.P.M.
LEA COUNTY, NEW MEXICO



LEASE NAME & WELL NO.: RODMAN STATE SWD 1

SECTION 6 TWP 23-S RGE 33-E SURVEY N.M.P.M.
COUNTY LEA STATE NM
DESCRIPTION 206' FSL & 790' FWL

DISTANCE & DIRECTION
FROM INT. OF NM-128 & DELAWARE BASIN RD., GO NORTH ON DELAWARE BASIN RD. ±6.0 MILES, THENCE WEST (LEFT) ON LEASE RD. ±2.4 MILES, THENCE NORTH (RIGHT) ON LEASE RD. ±3.6 MILES, THENCE NORTHEAST (RIGHT) ON PADUCA BREAKS LN. ±3.2 MILES, TO A POINT ±750 FEET SOUTHEAST OF THE LOCATION.

ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM, EAST ZONE OF THE NORTH AMERICAN DATUM 1983, U.S. SURVEY FEET

THIS EASEMENT/SERVITUDE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY AWR DISPOSAL, LLC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

JOHN TREVOR CARNEGIE
NEW MEXICO
11401
REGISTERED PROFESSIONAL SURVEYOR

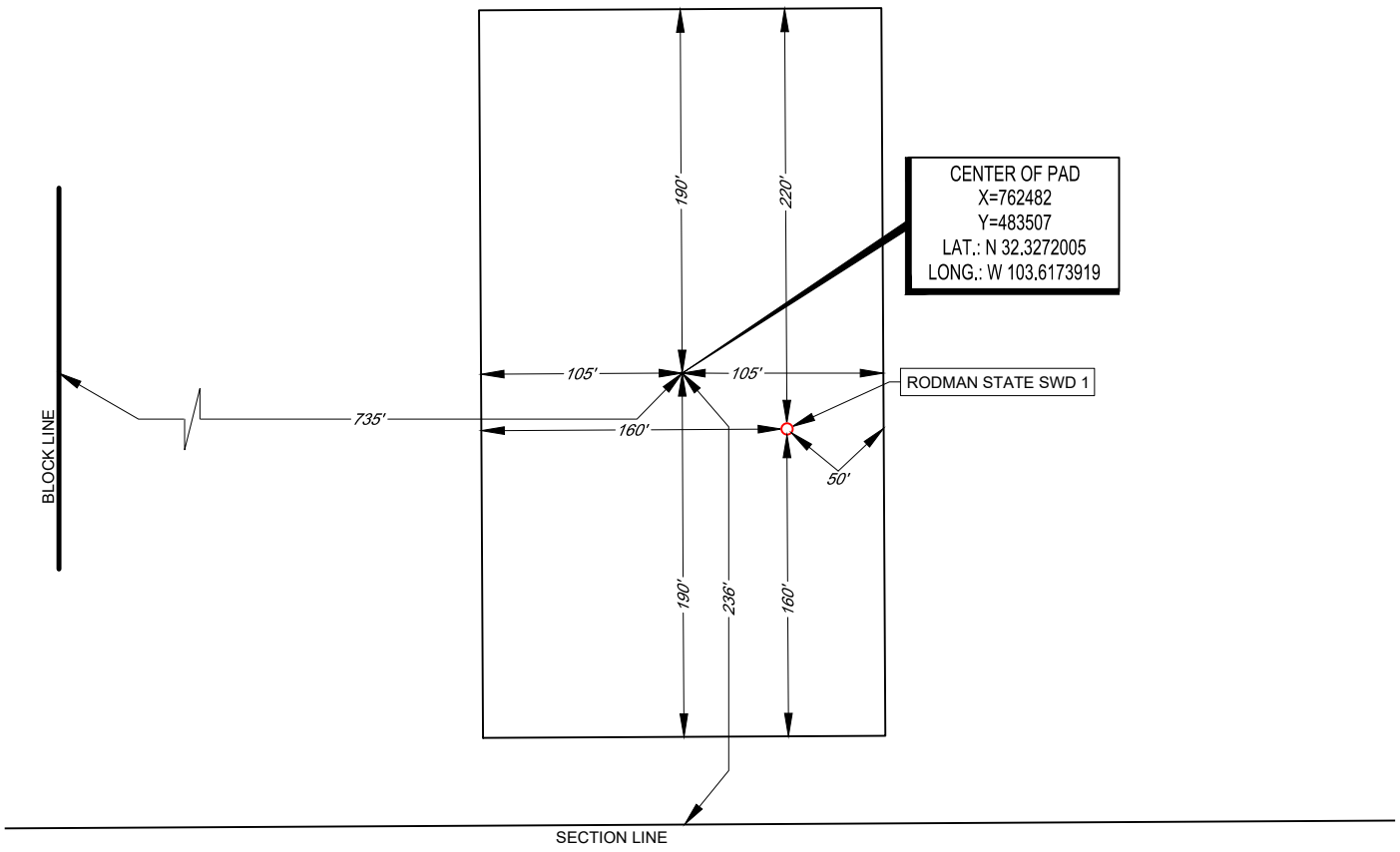
John Trevor Carnegie, P.S. No. 11401
JUNE 14, 2019

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, Ste. 146 • FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 • FAX (817) 744-7554
2903 NORTH BIG SPRING • MIDLAND, TEXAS 79705
TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743
WWW.TOPOGRAPHIC.COM

EXHIBIT 2B

AWR DISPOSAL, LLC

SECTION 6, TOWNSHIP 23-S, RANGE 33-E, N.M.P.M.
LEA COUNTY, NEW MEXICO



LEASE NAME & WELL NO.: RODMAN STATE SWD 1

1 LATITUDE N 32.3271192 1 LONGITUDE W 103.6172156

CENTER OF PAD IS 236' FSL & 735' FWL

N

SCALE: 1" = 100'

0' 50' 100'

ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM, EAST ZONE OF THE NORTH AMERICAN DATUM 1983, U.S. SURVEY FEET

THIS PROPOSED PAD SITE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY AWR DISPOSAL, LLC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

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TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743
WWW.TOPOGRAPHIC.COM

ORIGINAL DOCUMENT SIZE: 8.5" X 11"

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

FORM C-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: _____Secondary Recovery _____Pressure Maintenance ____X____Disposal _____Storage
Application qualifies for administrative approval? __X_____Yes _____No

II. OPERATOR: ____AWR Disposal, LLC_____

ADDRESS: ____3300 N. A Street, Ste 220, Midland, Texas 79705_____

CONTACT PARTY: ____Randall Hicks (agent)_____PHONE: __505 238 9515_____

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

IV. Is this an expansion of an existing project? _____Yes ____X_____No
If yes, give the Division order number authorizing the project: _____

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

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

VII. Attach data on the proposed operation, including:

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

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

IX. Describe the proposed stimulation program, if any.

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

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

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

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

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

NAME: _____Randall Hicks_____TITLE: _____Agent_____

SIGNATURE: _  _____ _____DATE: __08/02/2019_____

E-MAIL ADDRESS: _____r@rthicksconsult.com_____

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

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

III. WELL DATA

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

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

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

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

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

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

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

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

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

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

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

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

XIV. PROOF OF NOTICE

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

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

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

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

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

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

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

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

INJECTION WELL DATA SHEET

OPERATOR: _____AWR Disposal, LLC._____

WELL NAME & NUMBER: _Rodman State SWD #1_____

WELL LOCATION: _____206’ FSL & 790’ FWL_____M_____6_____23S_____33E_____
FOOTAGE LOCATION UNIT LETTER SECTION TOWNSHIP RANGE

WELLBORE SCHEMATIC

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: ___See attachments_____ Casing Size:_____

Cemented with: _____ sx. ***or*** _____ ft^3

Top of Cement: _____ Method Determined: _____

Intermediate Casing

Hole Size: _____ Casing Size:_____

Cemented with: _____ sx. ***or*** _____ ft^3

Top of Cement: _____ Method Determined: _____

Production Casing

Hole Size: _____ Casing Size:_____

Cemented with: _____ sx. ***or*** _____ ft^3

Top of Cement: _____ Method Determined: _____

Total Depth: _____

Injection Interval

_____feet to_____

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET

Tubing Size: _____See attachments_____Lining Material: _____

Type of Packer: _____

Packer Setting Depth: _____

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

Additional Data

1. Is this a new well drilled for injection? __X_____Yes _____No

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

   _____

2. Name of the Injection Formation: _____

3. Name of Field or Pool (if applicable): _Proposed: SWD, Devonian, Fusselman, Montoya_____

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

   _____

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: ___See attachments_____

   _____

   _____

   _____

Attachments to C-108

Copy of well bore diagram

Section III-XII Written descriptions to supplement C-108

Plates referenced in written descriptions

Tables referenced in written descriptions

OSE well logs referenced in written descriptions

Section XIII Proof of Notice

AWR Disposal LLC

Rodman State SWD #1

Unit Letter M, Sec 6, T23S R33E
206' FSL, 790' FWL
Lea County, NM

Latitude + 32°19'37.62"N, Longitude 103°37'1.97"W

Directions

From Carlsbad:

Date Spudded: TBD

20", 133#, J-55 casing @ 1,450'.
Cmt w/ 450 sks, 13.7 lead and 450 sks, 14.8 tail

24" Hole

13-3/8", 68# L-80 EZ-GO FJ3 casing @ 4,550'.
DV Tool w/ 10' pkr at 4,000'

1st Stg Cmt w/ 1000 sks 11.8 ppg lead & 400 sks 13.2 ppg tail.

2nd Stg Cmt w/ 1000 sks 11.8 ppg lead & 380 sks 13.2 ppg tail.

17.5" Hole

9-5/8", 35.5#, HCP-110 BTC casing @ 11,000'.

Upper DV Tool w/ 10' pkr at 7,000'
Lower DV Tool w/ 10' pkr at 9,000'

1st Stg Cmt w/ 600 sks 11.8 ppg lead & 400 sks 13.2 ppg tail.

2nd Stg Cmt w/ 600 sks 11.8 ppg lead & 380 sks 13.2 ppg tail.

3rd Stg Cmt w/ 600 sks 11.8 ppg lead & 380 sks 13.2 ppg tail.

12.25" Hole

5.5" Tubing

5" Tubing

Maximum Proposed Injection Rate: 40,000 BBLS PER DAY

Maximum Proposed Injections Pressure: 3,000 psi

7-5/8" Liner, 39#, P-110 casing @ 16,660'.
Cmt w/ 230 sks 11.9 ppg Class C

Injection Interval: 8.5" Hole

16,660	-	17,513	SLRN
17,513	-	18,008	FSLM
18,008	-	18,391	MNTY

Packer set @ 16,560

6.5" Openhole

TD : 18,391

III. WELL DATA

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

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

Lease Name: Rodman State SWD #1
Unit Letter M, Section 6, T23S R33E, 206 FSL, 790 FWL

The surface location is owned by the State of New Mexico

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

The attached Wellbore Data Sheet provides all of the design specifics required and a tabulation of these data are shown on the diagram.

Tops from surface to Morrow for the Rodman State SWD #1 well were picked in part by using the offset open hole logs on wells less than 0.5 miles away. The Mississippian to Devonian tops are picked from the Pure Brinninstool P Unit 1 (API 30-025-21081) 4.7 miles SW of the Rodman State SWD #1 . Tops for Devonian to Simpson are picked from the Amerada Bell Lake North Fed 3 (API 30-025-33077) 6.7 miles northeast.

AWR-10 Rodman State SWD #1		GL 3727
	KB	3757
	MD	SS
Dockum	460	3297
Santa Rosa	465	3292
Dewey Lake	1036	2721
Rustler	1371	2386
Salt	1640	2117
Castile	3718	39
Delaware	5073	-1316
Bell Canyon	5139	-1382
Cherry Canyon	6007	-2250
Brushy Canyon	7331	-3574
Bone Spring	8875	-5118
Bone Spring Lime	8878	-5121
Avalon	9707	-5950
1st Bone Spring SS	10044	-6287
2nd Bone Spring SS	10757	-7000
3rd Bone Spring SS	11876	-8119
Wolfcamp	12207	-8450
Strawn	13879	-10122
Atoka	14178	-10421
Morrow	14765	-11008
Morrow Shale	15590	-11833
Miss Limestone	16226	-12469
Woodford	16492	-12735
Devonian	16623	-12866
Fusselman	17513	-13756
Montoya	18008	-14251
Simpson	18421	-14664
Top of Interval	16660	Devonian + 37'
Bottom of Interval	18391	Simpson - 30'
TD	18391	Simpson - 30'

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

5-1/2" (20#) internal plastic coated tubing swaged down to 5" (18#) with setting depth of 16,560'

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

Tryton Tools, 7" Arrow Set 1-X Nickel Plated Injection Packer will be set at 16,560'.

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

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

The proposed injection intervals include the Devonian, Fusselman and Montoya in an open-hole interval.

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

The depth interval of the open-hole injection interval is 16,660-18,391 (1,731 feet).

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

The well will be drilled for disposal.

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

There are no perforated intervals, only the open-hole completion described above.

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

Overlying Oil & Gas Zone (Using GL of 3727'):

Bone Spring	8875
Bone Spring Lime	8878
Avalon	9707
1st Bone Spring SS	10044
2nd Bone Spring SS	10757
3rd Bone Spring SS	11876
Wolfcamp	12207
Strawn	13879
Atoka	14178
Morrow	14765
Morrow Shale	15590
Miss Limestone	16226

Underlying Oil & Gas Zones:
None

The proposed injection intervals in the Pre-Mississippian Carbonates are well cemented and will provide the necessary open hole integrity while allowing salt water to be injected. Because of the competency of the rock, the open hole section has very little chance of collapsing.

IV. Is this an expansion of an existing project

No.

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

Plate 1a identifies all OCD listed wells and API numbers and shows circles with radii of 0.5, 1.0, and 2.0 miles. Note that where numerous wells are closely-spaced, the API number may not be labeled for clarity. New wells, active wells, plugged wells, and canceled wells have color-coded symbols. Plate 1b shows only new and active wells and circles with radii of 0.5 and 1.0 miles.

Table 1 lists all of the wells shown on Plate 1a within the circle having a 2.0 mile radius.

Plate 2 identifies the leases within 2-miles of the proposed SWD as well as leases within the 1-mile area of review.

- Plate 2a presents the lease numbers for the SLO and BLM oil and gas leases. Also shown is mineral rights owned by the U.S. that are unleased at this time.
- Plate 2b presents land ownership for the same area and also identifies the oil and gas mineral rights ownership.

Table 2a lists the BLM leaseholders for the lease numbers within the 1-mile AOR presented on Plate 2a.

Table 2b lists the SLO leaseholders for the lease numbers within the 1-mile AOR presented on Plate 2a.

Table 2c presents surface ownership information for the private land within the 1-mile AOR.

Table 2d lists the mineral ownership information for the private land within the 1-mile AOR.

Note that Plate 2a shows Sections 6 and 7 within the AOR are unleased. Plates 2a and 2b and Table 2d show that all minerals in this unleased area are owned by the U.S.

The BLM, as the administrator for the U.S., has been notified of this proposed SWD.

The State of New Mexico owns surface upon which the SWD is located.

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

According to the data presented in Table 1, there are no wells that penetrate the proposed injection zone.

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected

Proposed Maximum Injection Rate: 40,000 bbl/day
Proposed Average Injection Rate: 30,000 bbl/day

2. Whether the system is open or closed

This is will be an open system. All AWR Disposal, LLC SWDs may receive produced water from recycling storage facilities, such as in-ground containments or above-ground steel-walled containments, which are registered or permitted under Rule 34.

3. Proposed average and maximum injection pressure

Proposed Maximum Injection Pressure: 3000 psi
Proposed Average Injection Rate: 2,000 psi

4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water

The attached Table 3 “Produced Water Chemistry of Nearby Wells” provides the requisite analyses. The Bone Spring is a principal subject of the analyses. The Bone Spring and Wolfcamp Formations will provide most of the produced water to the proposed SWD. At the time of writing, we are unaware of any problems associated with disposal of produced water derived from the Bone Spring, Wolfcamp or other Formations into the Devonian, Fusselman and Montoya injection zone.

5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

Table 4 presents formational water quality data from the Go-Tech site for Devonian-Fusselman-Montoya producing wells. As stated above, we are unaware of any problems associated with disposal of produced water derived from the Delaware, Avalon, Bone Spring, and Wolfcamp Formations into the Devonian, Fusselman and Montoya injection zone.

VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth.

The proposed injection intervals include the Devonian, Fusselman and Montoya in an open-hole interval. The proposed injection intervals in the Pre-Mississippian Carbonates are well cemented and will provide the necessary open hole integrity while allowing salt water to be injected. Because of the competency of the rock, the open hole section has very little chance of collapsing.

As indicated in Section III.A.2, the approximate depths to the top of the Devonian and the base of the Montoya are 16,623 and 18,421 respectively. The depth interval of the injection interval is 16,660-18,391 (1,731 feet), within the Devonian, Fusselman and Montoya Formations.

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

The Rustler Formation and the Chinle Formation yield water to supply wells in southeastern Eddy County and southwestern Lea County. In the immediate area of the Rodman State SWD #1, the closest water well appears to be Misc-99 (East of Graham Well), which is associated with a water trough, about 2 miles to the southeast of the Rodman State SWD #1 site (Plate 3a). In November of 2013, a depth to water of 208 feet was reported by Hicks Consultants.

In this area of Lea County, the Chinle an/or Santa Rosa yields water to wells from 100-200 feet below the ground surface (bgs) to a depth of about 1000 feet. The upper portion of the Rustler Formation yields fresh water to wells in Eddy County and in the area of the Rodman State SWD #1, the depth interval of this potential source of fresh water is about 1400-1600 feet.

The locations of all water supply wells listed in public databases are shown in Plate 3b. As stated above, there are no active water supply wells within 1.5 miles of the proposed location. The location of nearby mapped surface water bodies are shown in Plate 4. One lake/pond is mapped within 2 miles of the proposed SWD.

IX. Describe the proposed stimulation program, if any

A cleanup acid job may be used to remove mud and drill cuttings from the formation. However, no other formation stimulation is currently planned.

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

Logs will be submitted to OCD upon completion of the well.

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

No active water supply wells were identified within 1.5 miles of the proposed SWD. Data from various sources permit a conclusion that groundwater within the Chinle Formation is potable. In this area, groundwater in the underlying Rustler formation may be relatively brackish.

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

Randall T. Hicks, a Professional Geologist with decades of experience in hydrogeology, affirms, on behalf of AWR Disposal, LLC, that

- The USGS has mapped quaternary faults in New Mexico and no such faults are mapped in the area of the proposed Rodman State SWD #1[1]
- The Texas Bureau of Economic Geology has mapped older faults (e.g. basement and Woodford) in New Mexico and the closest mapped fault is about 5.5 miles to the east[2]
- With respect to migration of produced water from the injection zone to underground sources of drinking water via faults or other natural conduits, the following conditions were considered
    - The lowest underground source of drinking water is the middle and upper Rustler Formation.
    - More than 10,000 feet of sedimentary rock separates the bottom of the Rustler Formation and the top of the injection zone. Many of the formations that lie between the injection zone and the lowermost aquifer are permeable and contain oil, gas or water at various pressures. Any excursion of injected fluids from the Devonian disposal zone would undoubtedly enter these permeable formations prior to moving through the low-permeability salt zone that underlies the Rustler Formation.
    - There is no evidence that the pressure regime in the oil and gas reservoirs is sufficient to cause the upward migration of formation water through the bedded salt and into the Rustler or Chinle aquifers.
- There is no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water

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[1] https://usgs.maps.arcgis.com/apps/webappviewer/index.html?id=5a6038b3a1684561a9b0aadf88412fcf

[2] Bureau of Economic Geology (Accessed April 2019). University of Texas at Austin. Basement Faults (Ewing 1990, Tectonic Map of Texas); Precambrian Faults (Frenzel et al. 1988, Figure 6); Woodord Faults (Comer 1991, plate 1). Http://www.beg.utexas.edu/resprog/permianbasin/gis.htm

Plates

Plate 1	OCD wells within the area of review
Plate 2	Mineral leases within the area of review
Plate 3	Water supply wells within the area of review
Plate 4	Surface water within the area of review

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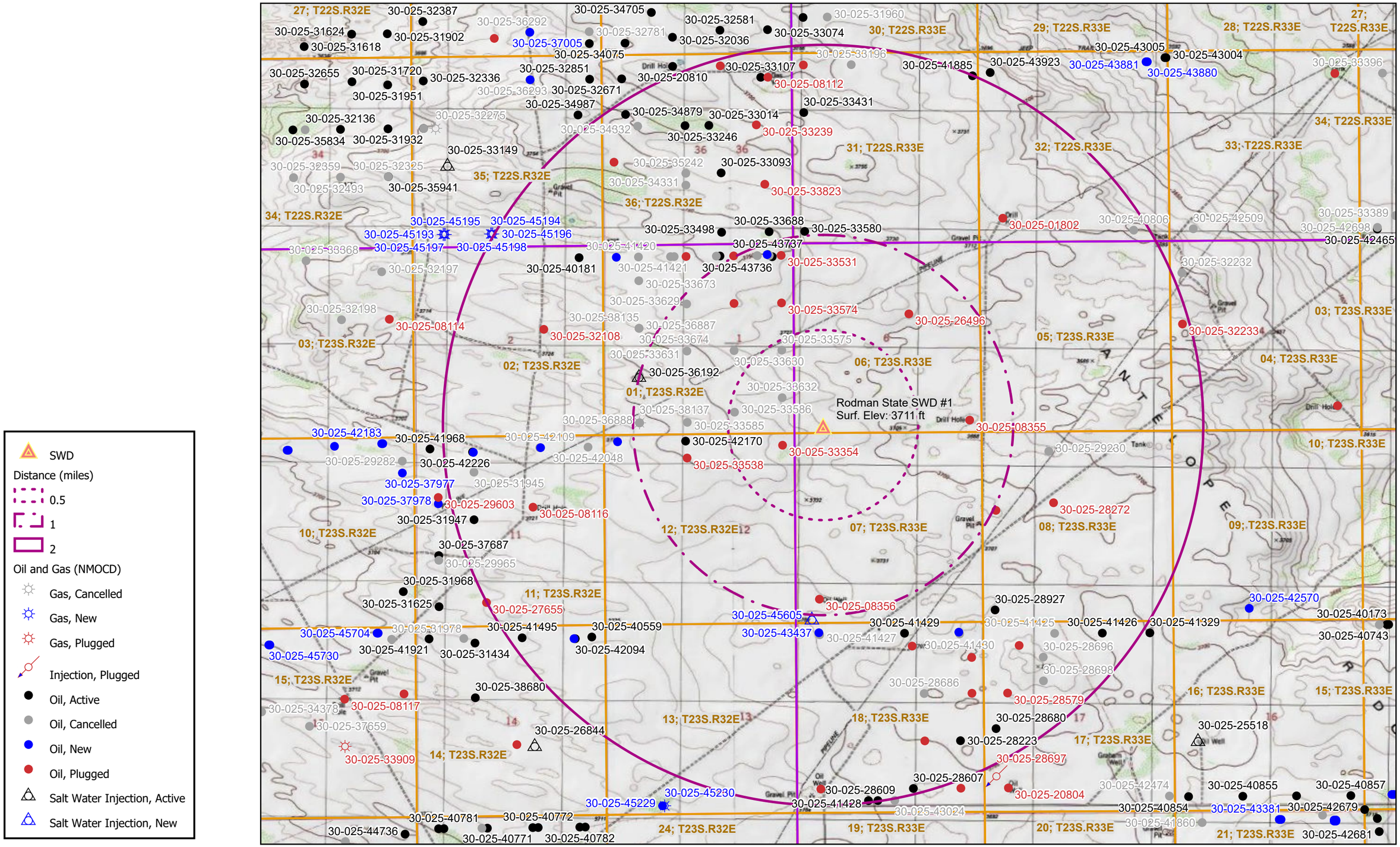

R.T. Hicks Consultants, Ltd
901 Rio Grande Blvd NW Suite F-142
Albuquerque, NM 87104
Ph: 505.266.5004

NM Oil and Gas Wells within 2 Miles

Plate 1a

AWR Disposal, LLC
Rodman State SWD #1

July 2019

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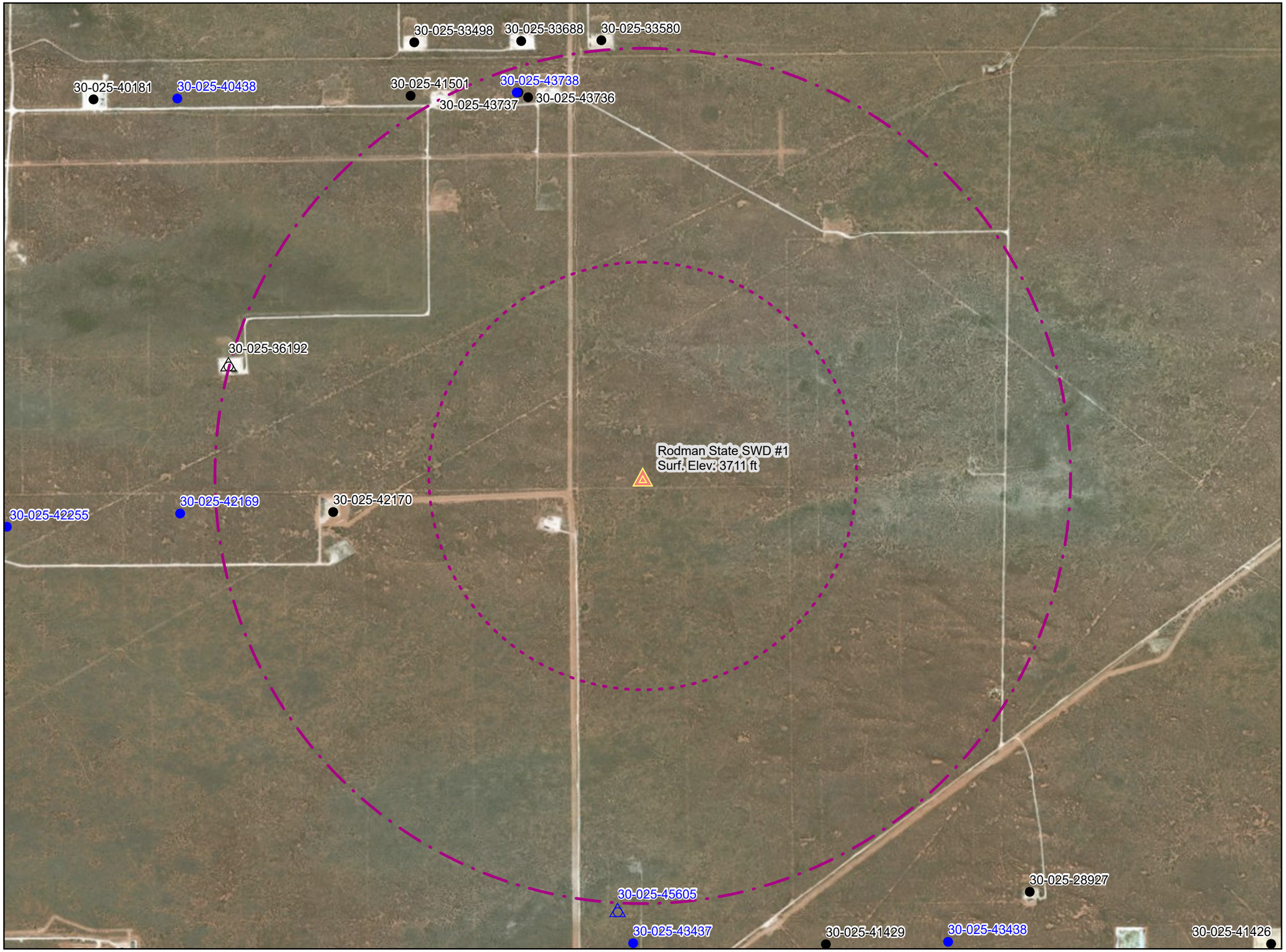

SWD

Distance (miles)

0.5

1

2

Oil and Gas (NMOCD)

Oil, Active

Oil, New

Salt Water Injection, Active

Salt Water Injection, New

N W E S

0 0.25 0.5 Miles

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NM Oil and Gas Wells within 1 Mile (active only)

AWR Disposal, LLC
Rodman State SWD #1

Plate 1b

July 2019

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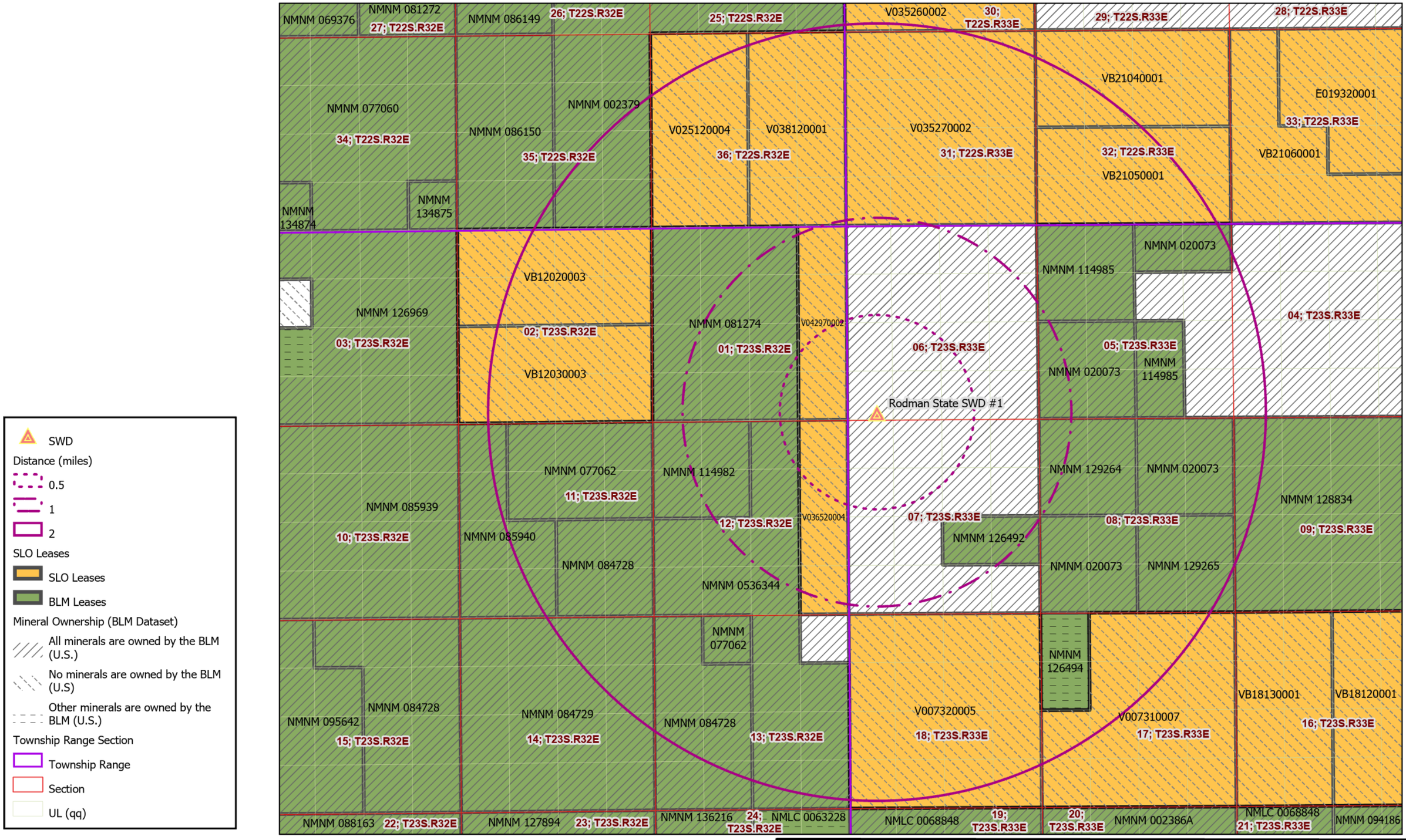

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Oil and Gas Leases with Mineral Ownership Within 2-Miles

AWR Disposal, LLC
Rodman State SWD #1

Plate 2a

July 2019

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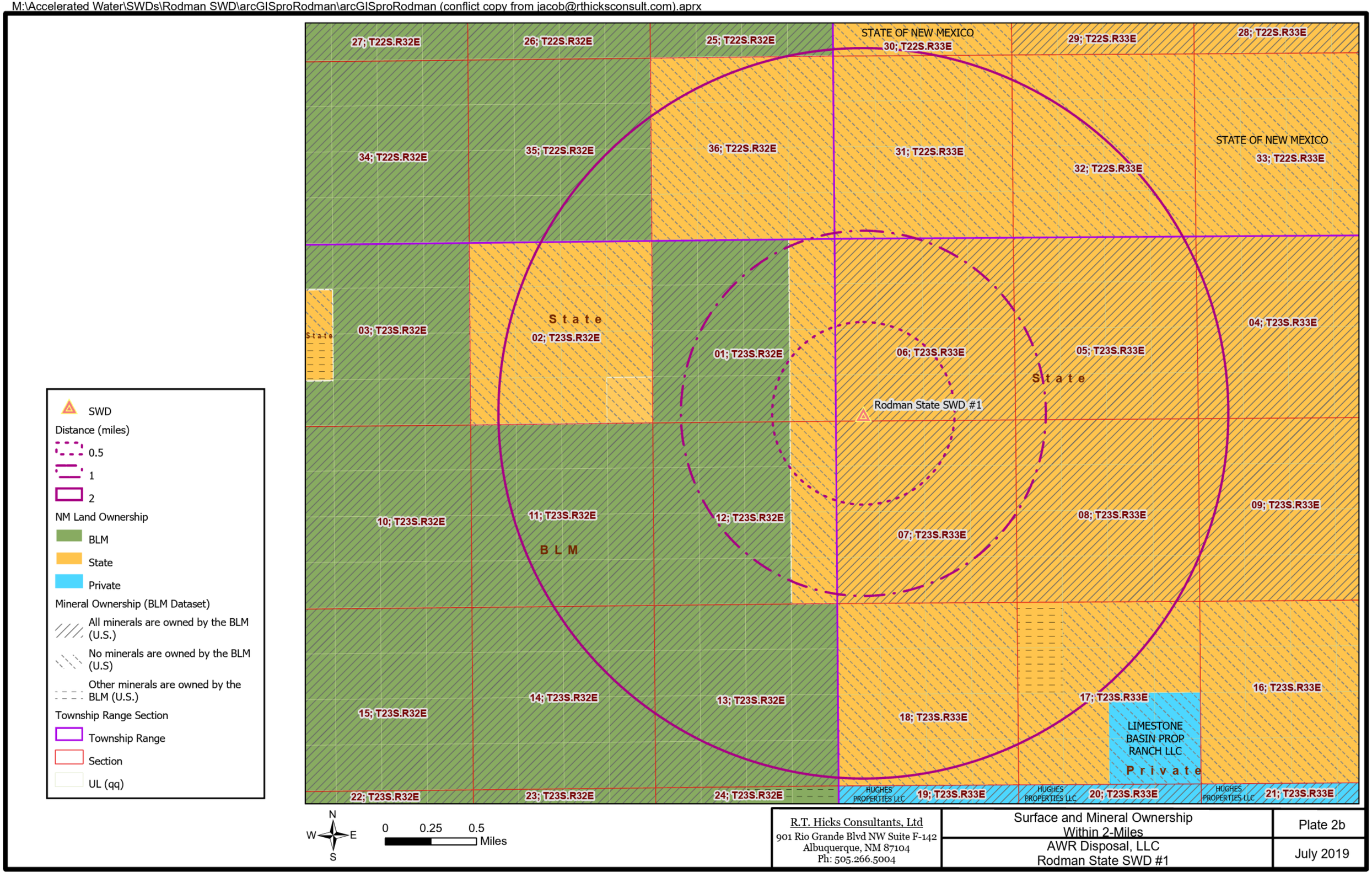

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Surface and Mineral Ownership
Within 2-Miles

AWR Disposal, LLC
Rodman State SWD #1

Plate 2b

July 2019

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SWD

Potentiometric Surface (ft msl)

Isocontour

USGS Gauging Station (DTW, Date)

Aquifer Code, Well Status

Chinle

Chinle, Site had been pumped recently.

Chinle, Site was being pumped.

Santa Rosa

Santa Rosa, Site was being pumped.

Misc. Water Wells (Well ID, DTW)

Well Depth (ft)

No Data

<= 150

151 - 350

> 500

OSE Water Wells (DTW/Date)

Well Depth (ft)

<=150

151-350

351-500

501-1000

<1000

Other

NM Geology

Map Unit,Description

Qe/Qp, Quaternary-Eolian Piedmont Deposits

Qp, Quaternary-Piedmont Alluvial Deposits,Qp, Quaternary-Piedmont Alluvial Deposits

C-04144 (POD2)
55 ft
2018-01-30

USGS-15223
382.65 ft
2/20/1996

USGS-15246
370.4 ft
9/13/1972

USGS-15229
391.13 ft
2/20/1996

USGS-15231
388.05 ft
9/21/1972

CP-01455 (POD1)
615 ft
2015-01-22

CP-01362 (POD1)
613 ft
2014-11-04

3500

3400

3300

3200

3100

Qp

Qe/Qp

USGS-15265
486.6 ft
1/16/2013

USGS-15262
196.65 ft
4/16/1986

Rodman State SWD #1

MISC-390
(Well 1H)
greater than 80
06/19/2019

MISC-389
(Well 5H)
greater than 80
06/19/2019

MISC-379
(Allred Well)
NR
No Date

CP-00872 (POD1)
305 ft
1997-10-03

USGS-15292
328.93 ft
3/21/1986

MISC-99
(East of Graham Well)
208 ft
11/12/2013

USGS-15080
478.47 ft
12/7/1976

C-03851 (POD1)
713 ft
2015-10-02

C-02216
400 ft
1912-12-31

C-02275
400 ft
1980-12-31

C-02276
400 ft
1957-12-31

USGS-15071
470.5 ft
12/8/1976

C-02277
400 ft
1974-12-31

C-02283
225 ft
1940-12-31

C-02282
225 ft
1922-12-31

C-02278
400 ft
1981-12-31

USGS-15099
No Data
12/18/2015

USGS-15120
117.2 ft
5/24/1991

C-02280
400 ft
1981-12-31

MISC-16
>450
Year 2013

USGS-14813
No Data
1/16/2013

C-02279
400 ft
1981-12-31

C-02281
400 ft
1944-12-31

USGS-14767
146.27 ft
12/16/1976

C-03555 (POD1)
380 ft
2013-10-21

N
W E
S

0 0.5 1 Miles

R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	Depth to Water on Potentiometric AWR Disposal, LLC Rodman State SWD #1	Plate 3a July 2019

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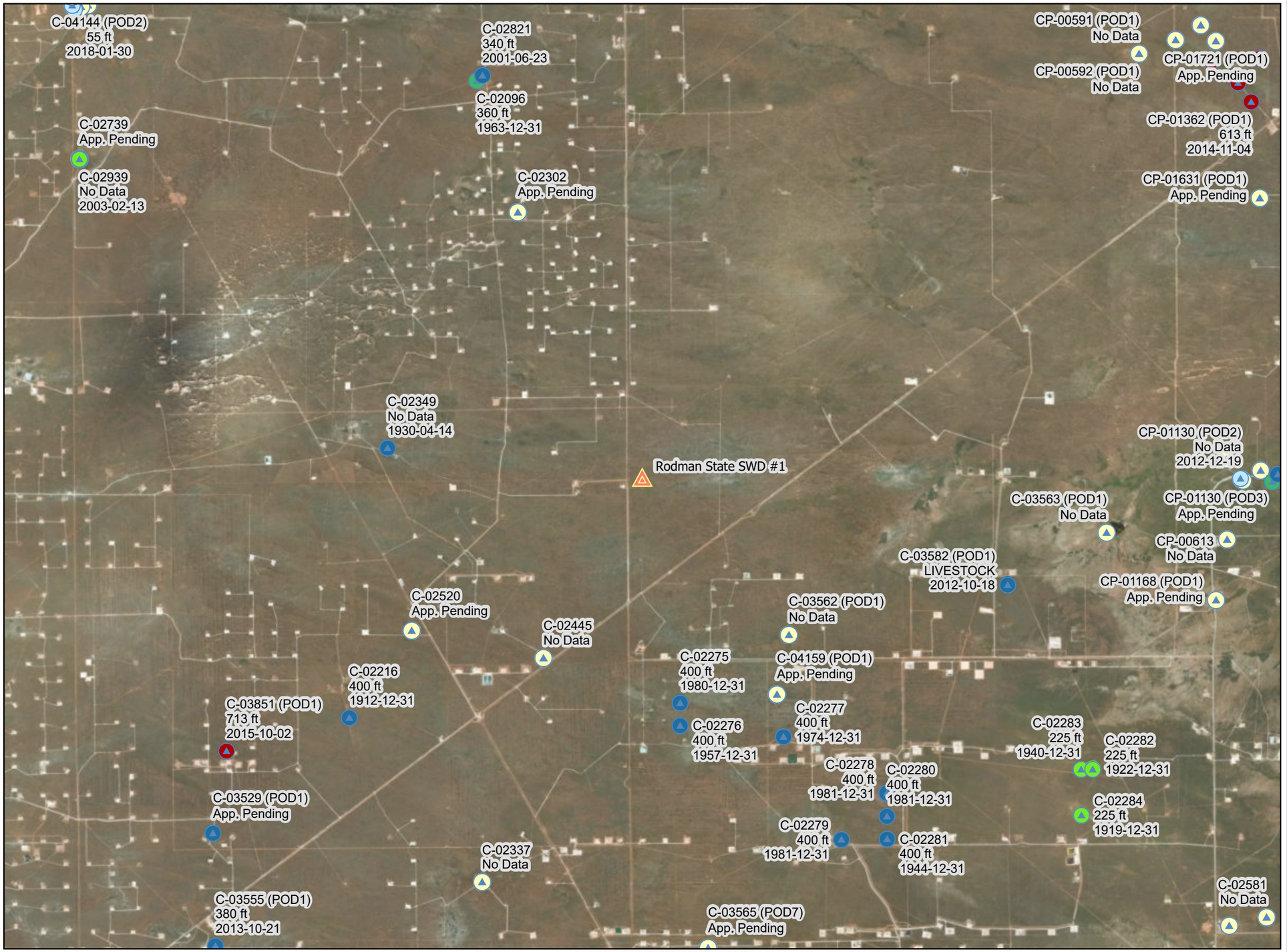

SWD
OSE Water Wells (DTW/Date)
Well Depth (ft)
- <=150
- 151-350
- 351-500
- 501-1000
- <1000
- Other

N
W E
S

0 0.5 1 Miles

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Nearby OSE Water Wells	Plate 3b
AWR Disposal, LLC Rodman State SWD #1	July 2019

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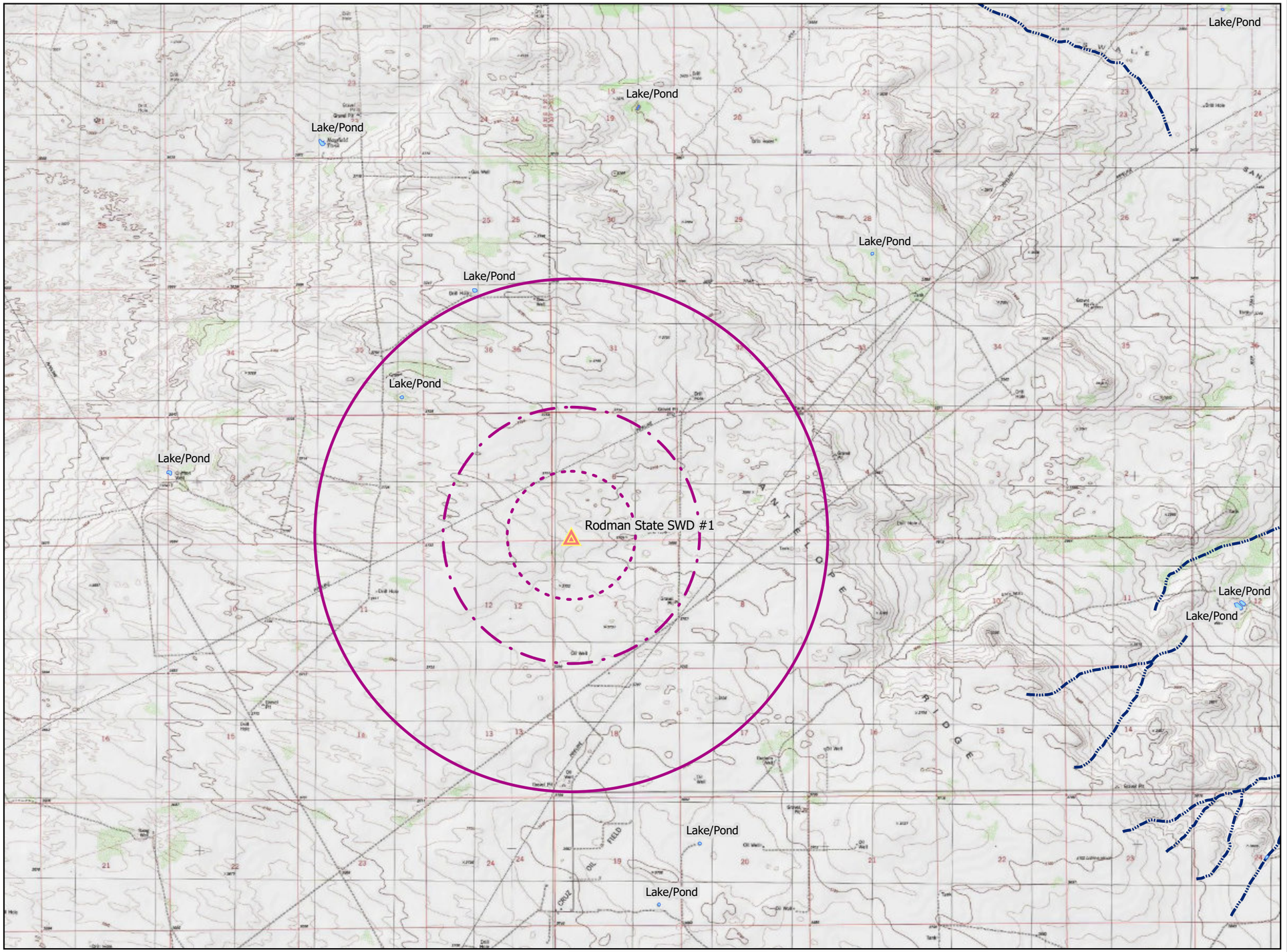

SWD

Distance (miles)

0.5

1

2

Water Bodies (1307)

Lake/Pond

River and Drainages (1307)

Stream/River Artificial Path

Intermittent Stream

N

W E

S

0 0.5 1 Miles

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Surface Water

Plate 4

AWR Disposal, LLC
Rodman State SWD #1

July 2019