Initial Application Part I

Received: **11/20/2019**

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

TD089-191120-C-1080

Revised March 23, 2017

RECEIVED:	REVIEWER:	TYPE:	APP NO:
11/20/19	BLL	SWD	pBL1932956205

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: Solaris Water Midstream, LLC **OGRID Number:** 371643
Well Name: Aurora Fed SWD #1 **Pool:** Proposed; SWD; Devonian-Fusselman **API:** 30-015-xxxxx **Pool Code:** 97869

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

1) **TYPE OF APPLICATION:** Check those which apply for [A]
A. Location – Spacing Unit – Simultaneous Dedication
☐ NSL ☐ NSP (PROJECT AREA) ☐ NSP (PRORATION UNIT) ☐ SD SWD-2321

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.

Whitney McKee
Print or Type Name

Signature

9/25/19
Date

432-203-9020
Phone Number

whitney.mckee@solarismidstream.com
e-mail Address

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 __XX___Disposal
_____Storage Application qualifies for administrative approval? _X__X_____Yes _____No

II. OPERATOR: Solaris Water Midstream, LLC

ADDRESS: 70701 Tradewinds Blvd., Suite C Midland, TX 797066

CONTACT PARTY: __Drew Dixon 832-304-7028

III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection.

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. See Addendum

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. See Addendum

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.).

See Addendum

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

IX. Describe the proposed stimulation program, if any.
Stimulations program- A conventional acid job may be performed to clean and open the formation.

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

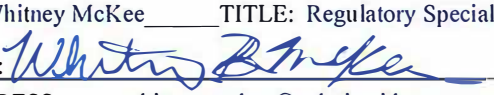
*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.nj

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. See Addendum

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form. "Proof of notice" portion has been completed and attached. All parties have been notified.

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: ____Whitney McKee_____TITLE: Regulatory Specialist Solaris Water Midstream, LLC

XV. SIGNATURE:  Date: 9/25/19

E-MAIL ADDRESS: ____whitney.mckee@solarismidstream.c

XVI. _____ If the information required under Sections VI, VIII, X, and X 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

Side 2

III. WELL DATA See Addendum

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.

C. PROOF OF NOTICE See Addendum

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.

Sept. 25 , 2019

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

Attn: Ms. Adrianne Sandoval, Director

Re: Application of Solaris Water Midstream, LLC to drill and permit for saltwater disposal The Aurora Fed SWD Well #1, to be located in Section 23, Township 23 South, Range 32 East, NMPM, Lea County, New Mexico.

Dear Ms. Sandoval,

Please find the enclosed form C-108 Application for Authority to Inject, supporting the above-referenced request for saltwater disposal. The well will be operated as a commercial endeavor offering operators in the area additional options for produced water disposal.

Solaris Water Midstream is a major provider of saltwater disposal services to operators in southeast New Mexico and seeks to optimize efficiency, both economically and operationally, of all its operations. Approval of this application is consistent with that goal as well as the NMOCD's mission of preventing waste and protection of correlative rights.

I would point out that this application for a proposed Devonian SWD interval is part of a larger produced water recycling facility. A published legal notice will run this week in the Hobbs News Sun and all offset operators and other interested parties have been notified individually. The legal notice affidavit will be forwarded upon receipt. This application also includes a wellbore schematic, area of review maps, affected party plat and other required information for a complete Form C-108. The well is located on BLM and minerals. There are BLM lands & minerals and private minerals within the one-mile radius notice area; the offset operators have been notified of this application as well as lessees.

I respectfully request that the approval of this salt water disposal well proceed swiftly and if you or your staff requires additional information or has any questions, please do not hesitate to call or email me.

Thank you,

Whitney McKee

Solaris Water Midstream, LLC

Regulatory Specialist

Side 1

INJECTION WELL DATA SHEET

OPERATOR: _____Solaris Water Midstream, LLC_____

WELL NAME & NUMBER: _____Aurora Fed SWD1_____

WELL LOCATION: ____1205' FSL & 1966 'FWL_____S: 23_____T:23S _____R:32E___
FOOTAGE LOCATION UNIT LETTER SECTION TOWNSHIP RANGE

WELLBORE SCHEMATIC

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: _____18.125_____ Casing Size:_____16_____

Cemented with: ___400_____ sx. ***or*** _____ ft^3

Top of Cement: __SURFACE_____ Method Determined: __CIRCULATE_

Intermediate Casing

Hole Size: 14.75"_____ Casing Size:_ 13.375"***or***

Cemented with: ___ 1200 sx. _____ ft^3

Top of Cement: ____SURFACE_____ Method Determined: _CIRCULATE

Production Casing

Hole Size: ____12.250"_____ Casing Size:_____9.625"_____ ***or***

Cemented with: ___4100___ sx. _____ ft^3

Top of Cement: ____SURFACE___ Method Determined:CIRCULATE

Total Depth: ___Liner @ 11,650' & TD@ 18,980_____

Injection Interval

____9.625" Hole Size 17,720_to_18,980__feet

Open Hole;_____

Side 2

INJECTION WELL DATA SHEET

Tubing Size: _____5.5"_____Lining Material: _____Douline Glassbore_____

Type of Packer: ___Nickel plated double grip retrievable_____

Packer Setting Depth: ___ 17,700_____

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

Additional Data

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

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

   _____

2. Name of the Injection Formation: ___Devonian, Fusselman, _____
3. Name of Field or Pool (if applicable): _____SWD Devonian_____
4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. _____No_____

   _____

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: __Over: Bell Canyon (5,200'), Cherry Canyon (6,350'), Brushy Canyon (7,500'), 1st BS Sand (10,225'), 2nd BS Sand (10,875'), 3rd BS Sand (11,925'), Wolfcamp (13,125'), Strawn (14,150'), Atoka (14,400'), Morrow (14,950')

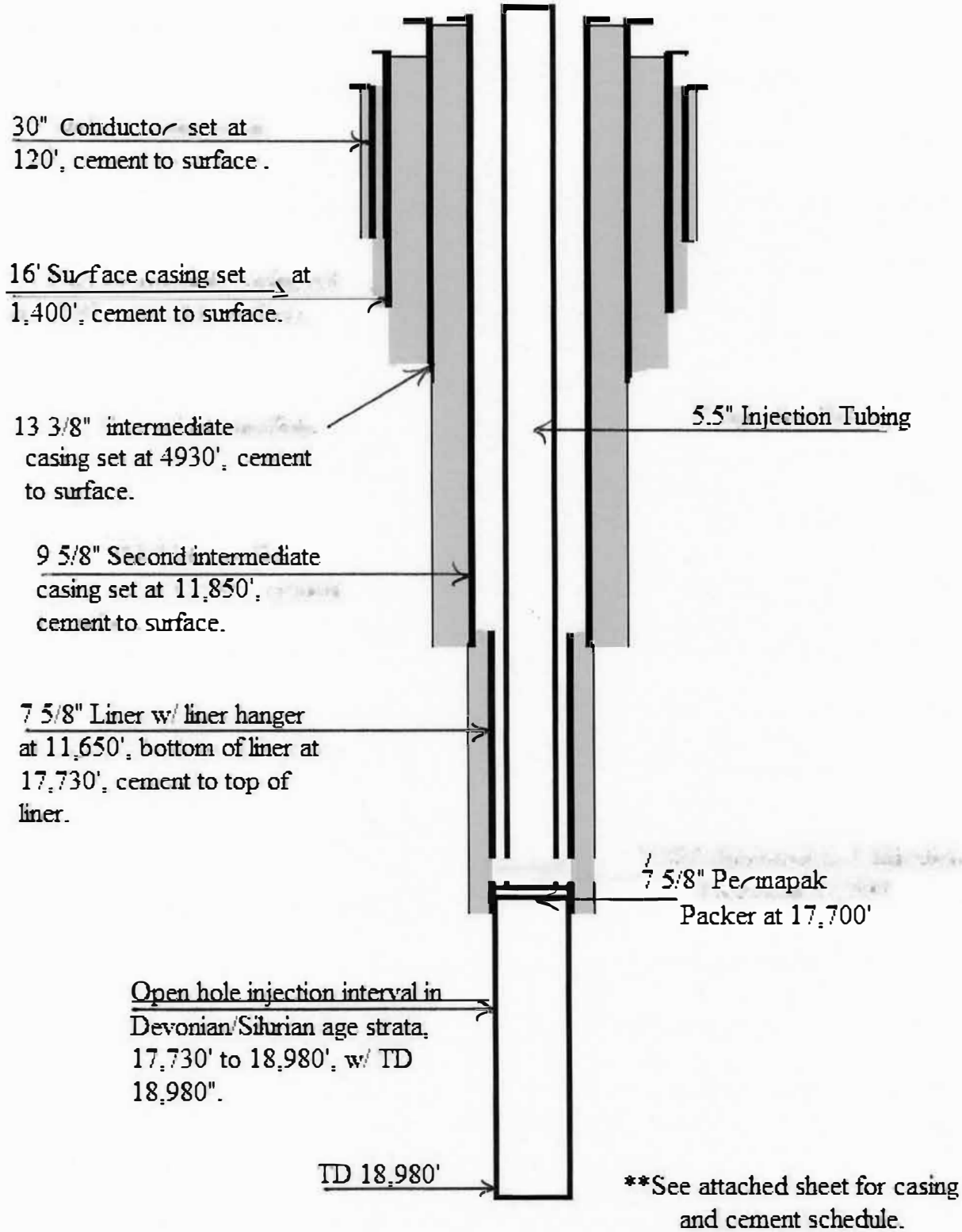
   Under:NONE_____

Solaris Water Midstream, LLC

Aurora Fed SWD # 1

ULN-S23-T23S-R32E

Lea County NM



**See attached sheet for casing and cement schedule.

Solaris Water Midstream, LLC
Casing and cement schedule.
Aurora SWD # 1
ULN-S23-T23S-R32E
Lea County, NM

Casing Size	Weight (lbs)	Hole Size	Sacks Cement
30"	157.6	36"	275
16"	84.0	17.5"	400
13 3/8"	68.0	14.75"	1200
9 5/8"	36.0	12.25"	4100
7 5/8"	39.0	9.675"	670

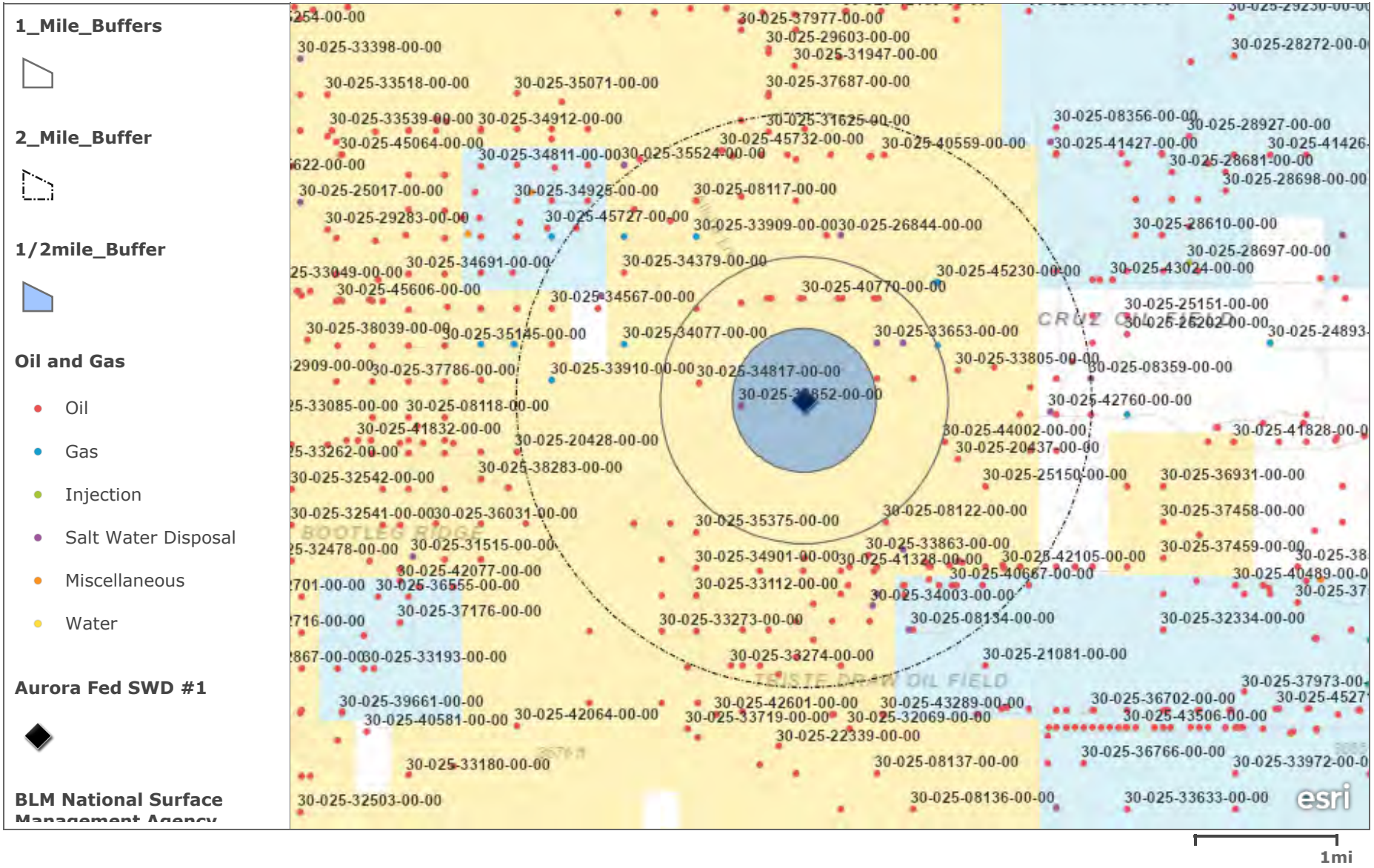
**Sacks cement are to approximate fill up. Excess volume pumped will be determined per drilling conditions.

C- 108 Item VI
Area of Review Well Data

Aurora Fed SWD #1

There are no wells which penetrate the proposed Devonian formation in the one mile area of review.

Aurora Fed SWD #1



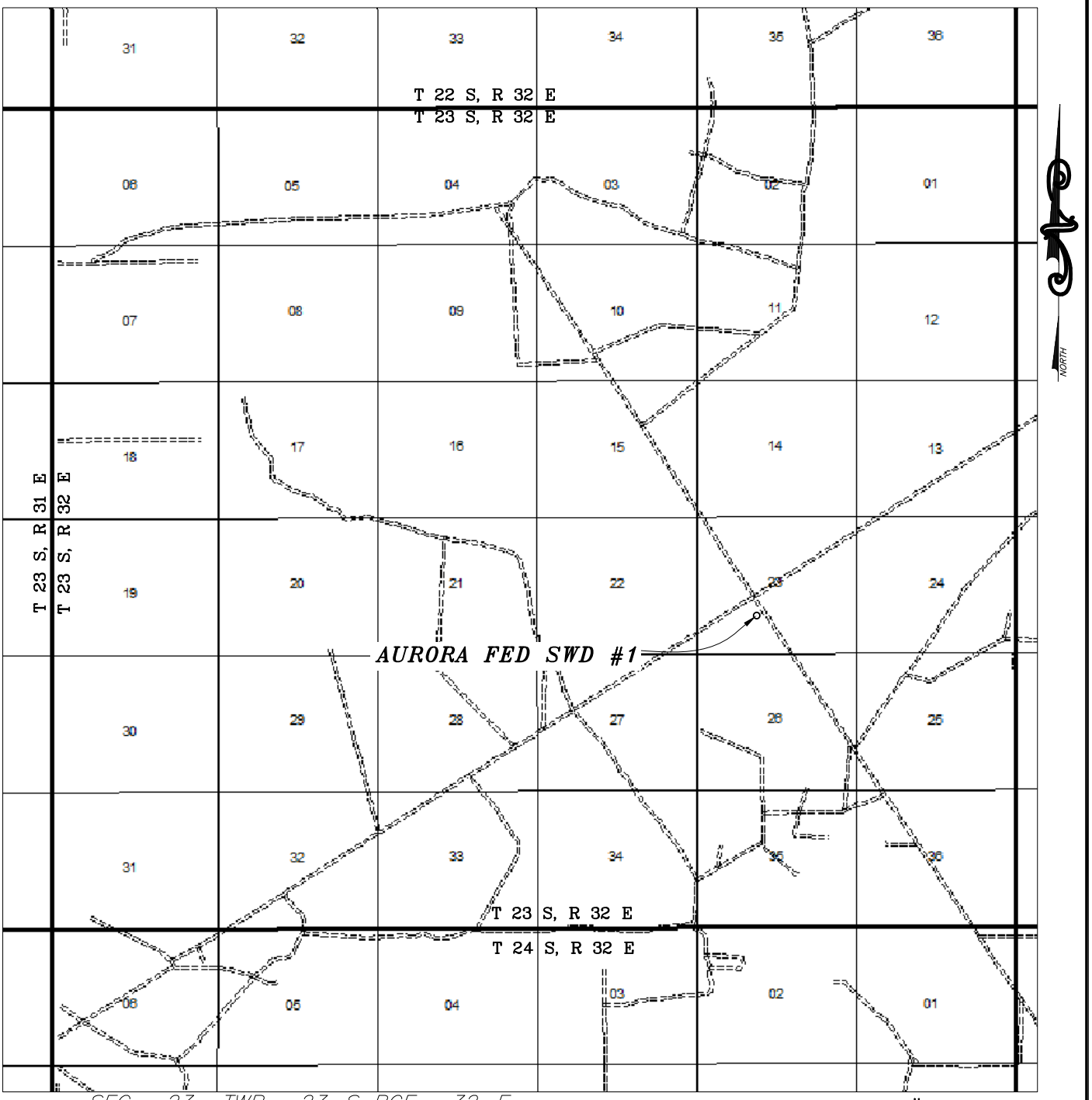
Bureau of Land Management, Texas Parks & Wildlife, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, NGA, EPA, USDA | BLM Energy, Minerals & Realty Management

C- 108 Item X
Logs and Available Test Data

Aurora Fed SWD #1

A Standard Suite of Logs will be run after drilling the well and submitted to the Division.

VICINITY MAP

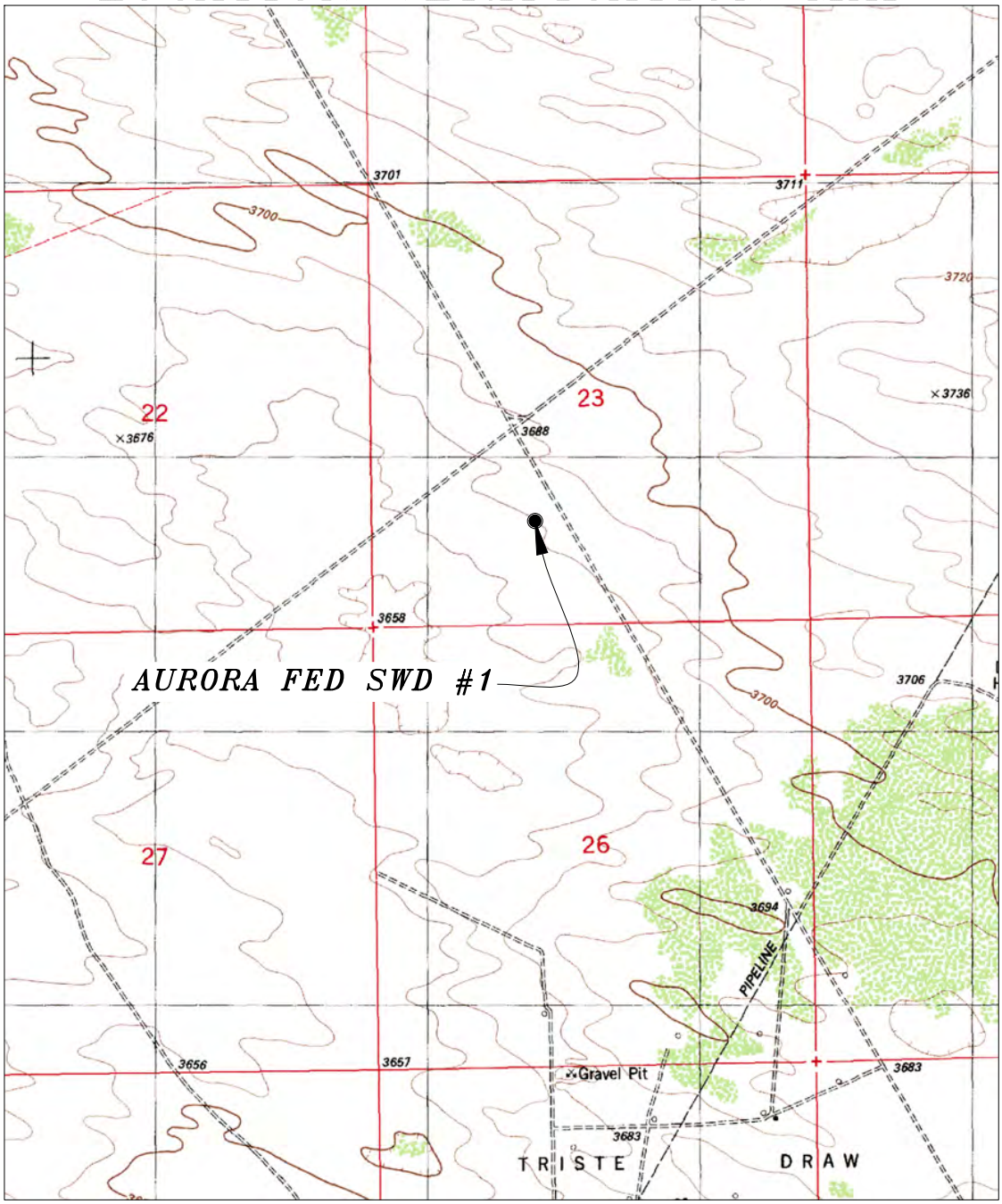


SEC. 23 TWP. 23-S RGE. 32-E
SURVEY N.M.P.M.
COUNTY LEA STATE NEW MEXICO
DESCRIPTION 1,205' FSL & 1,966' FWL
N.A.V.D. 88 ELEVATION 3680.3'
OPERATOR SOLARIS WATER MIDSTREAM, LLC
LEASE AURORA FED SWD #1
U.S.G.S. TOPOGRAPHIC MAP
LEA, N.M.

SCALE: 1" = 1 MILE

SOLARIS WATER MIDSTREAM, LLC		
SURVEY DATE: AUGUST 16, 2019	PAGE: 1 OF 1	
DRAFTING DATE: AUGUST 19, 2019		
APPROVED BY: RM	DRAWN BY: DDSI	FILE: AURORA SWD #1

LOCATION VERIFICATION MAP



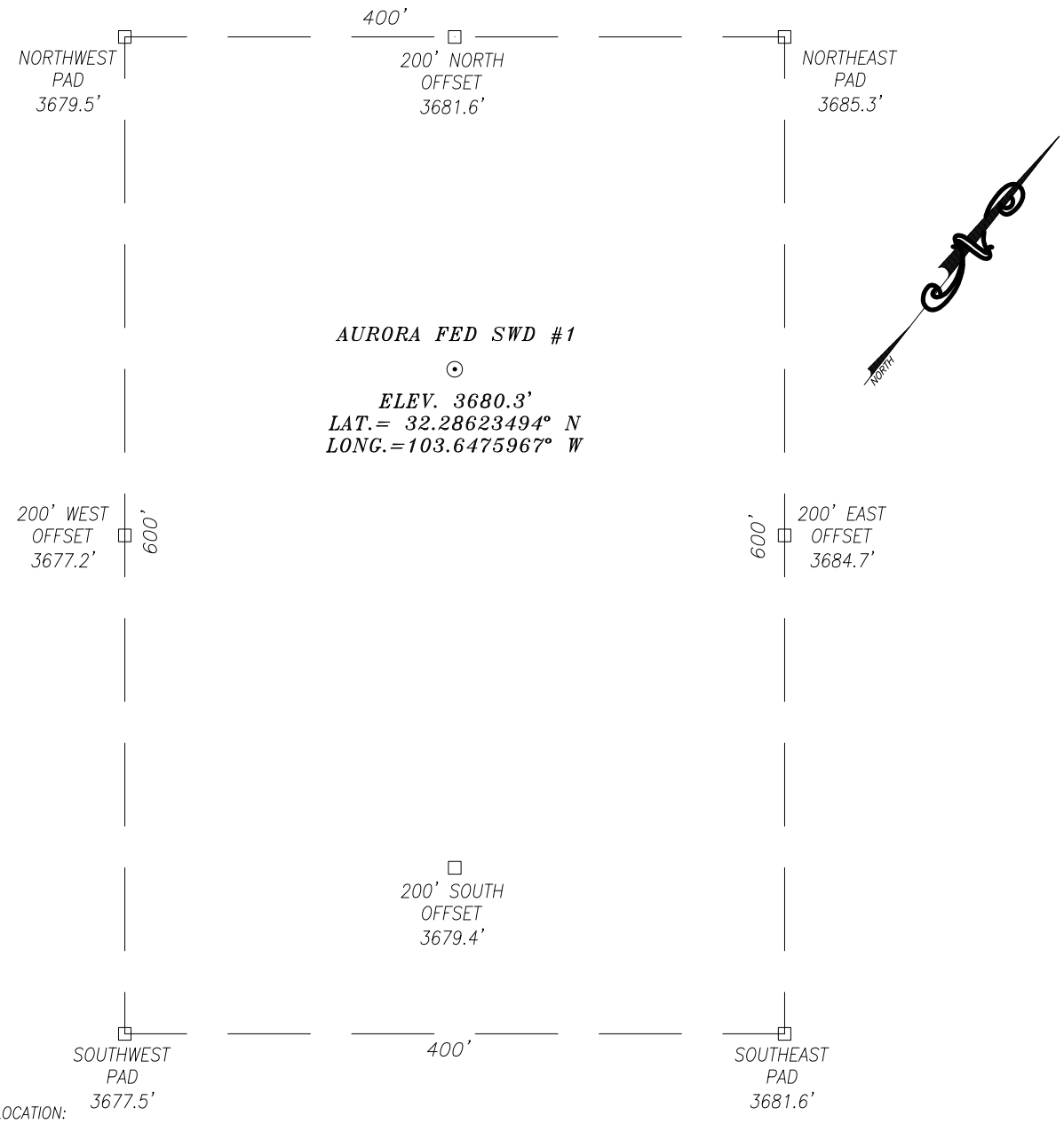
SCALE: 1" = 2000' CONTOUR INTERVAL: 10'

SEC. 23 TWP. 23-S RGE. 32-E
SURVEY N.M.P.M.
COUNTY LEA STATE NEW MEXICO
DESCRIPTION 1,205' FSL & 1,966' FWL
N.A.V.D.88 ELEVATION 3680.3'
OPERATOR SOLARIS WATER MIDSTREAM, LLC
LEASE AURORA FED SWD #1
U.S.G.S. TOPOGRAPHIC MAP
LEA, N.M.

SOLARIS WATER MIDSTREAM, LLC		
SURVEY DATE: AUGUST 16, 2019		PAGE: 1 OF 1
DRAFTING DATE: AUGUST 19, 2019		
APPROVED BY: RM	DRAWN BY: DDSI	FILE: AURORA SWD #1

SECTION 23, TOWNSHIP 23 SOUTH, RANGE 32 EAST, N.M.P.M.,

LEA COUNTY NEW MEXICO



DIRECTIONS TO LOCATION:

FROM MILE MARKER 19 ON HWY 128 TRAVEL NORTHWEST 0.4 MILES, TURN RIGHT ON CALICHE ROAD, CONTINUE NORTHEAST APRROXIMATELY 5.5 MILES AURORA FED SWD #1 WILL BE TO THE RIGHT APROXIMATELY 920'.

ELEVATIONS SHOWN WERE DERIVED FROM STATIC GPS AND ARE IN N.A.V.D. 1988 DATUM.

100 0 100 200 Feet

Scale:1"=100'

DDSI
DOWNTOWN DESIGN SERVICES, INC.
16 EAST 16th STREET, SUITE 400
TULSA, OK 74119
Tel: 918-592-3374 Fax: 918-221-3940
www.ddsiglobal.com

SOLARIS WATER MIDSTREAM, LLC

AURORA FED SWD #1
LOCATED 1,205 FEET FROM THE SOUTH LINE
AND 1,966 FEET FROM THE WEST LINE OF SECTION 23,
TOWNSHIP 23 SOUTH, RANGE 32 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO

SURVEY DATE: AUGUST 16, 2019		PAGE: 1 OF 1
DRAFTING DATE: AUGUST 19, 2019		
APPROVED BY: RM	DRAWN BY: DDSI	FILE: AURORA FED SWD #1

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
DISTRICT II
811 S. First Street, 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
11885 S. ST. FRANCIS DR., SANTA FE, NM 87505
Phone: (405) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
11885 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
	97869	SWD; DEVONIAN – SILURIAN

Property Code	Property Name	Well Number
	AURORA FED SWD #1	#1

OGRID No.	Operator Name	Elevation
371643	SOLARIS WATER MIDSTREAM, LLC	3680.3'

Surface Location

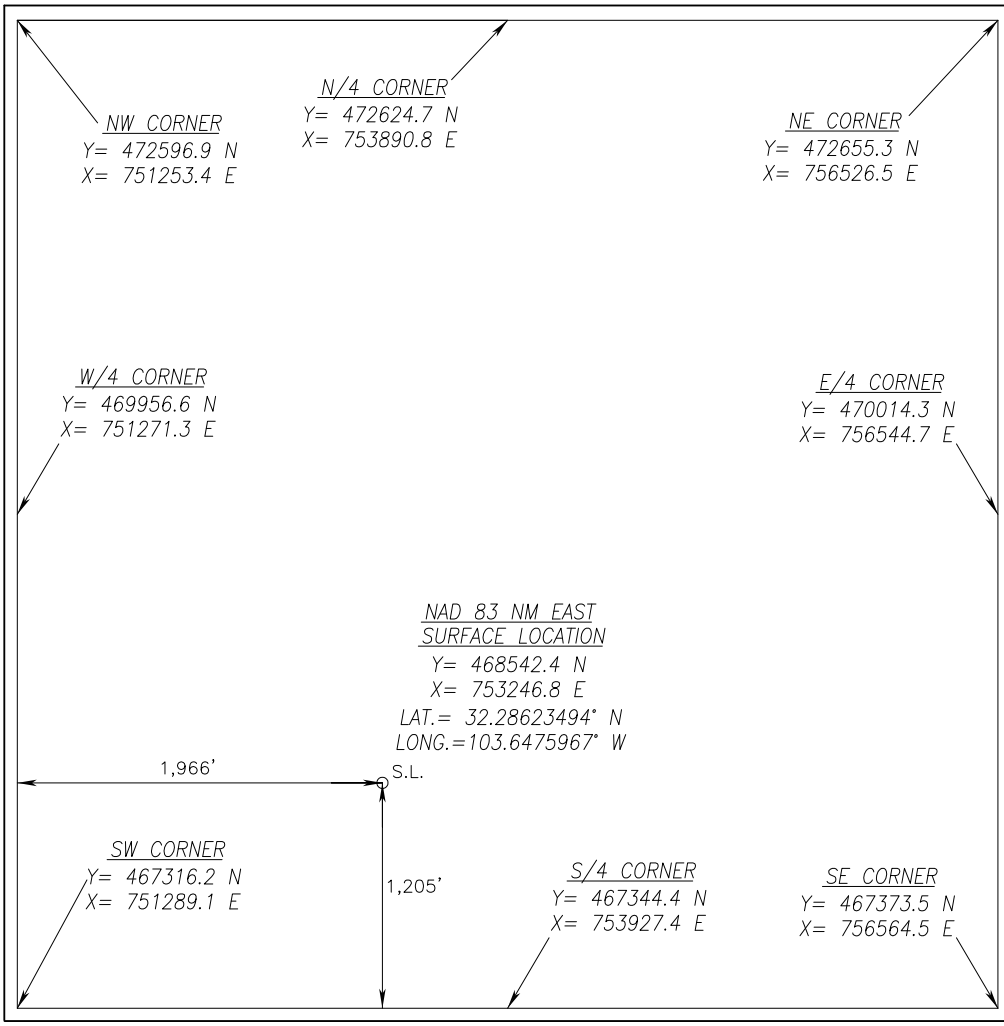
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
NA	23	23-S	32-E		1,205	SOUTH	1,966	WEST	LEA

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
NA	23	23-S	32-E		1,205	SOUTH	1,966	WEST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
5.51			

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.

Signature Date

Printed Name

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.

AUGUST 19, 2019
Date Surveyed

Signature & Seal of Professional Surveyor

CHRIS E. CARLSON NEW MEXICO 24876 PROFESSIONAL SURVEYOR

AURORA FED SWD #1

Certificate No. CHRIS E. CARLSON 24876

C- 108 Item VII
Proposed Operation

Aurora Fed SWD #1

Commercial SWD Facility

Upon approval of all permits for SWD, operations would begin within 30 days. Completion of the well operations will take approximately 6-8 weeks. Facility construction including installation of the tank battery, berms, plumbing and other and associated equipment would be occurring during the same interval but at a different location from the well. In any event, it is not expected for the construction phase of the project to last more than 60 days, depending on availability of contractors and equipment.

Configure for Salt Water Disposal
Prior to commencing any work, an NOI sundry(ies) will be submitted to configure the well for SWD and will detail the completion workover including all work otherwise described above, any change to the procedure noted herein and to perform mechanical integrity pressure test per OCD test procedures. (Notify NMOCD 24 hours prior.) The casing/tubing annulus will be monitored for communication with injection fluid or loss of casing integrity.

Operational Summary
The SWD facility will not be fenced so that trucks may access for load disposal 24/7.

The well and injection equipment will be a closed system and equipped with pressure limiting devices and volume meters. The annulus, loaded with an inert, anti-corrosion packer fluid, will be monitored for pressure.

The tanks will be equipped with telemetry devices and visual alarms to alert the operator and customers of full tanks or an overflow situation.

Anticipated daily maximum volume is 40,000 bpd and an average of 25,000 bpd at a maximum surface injection pressure of 3,546 psi (.2 psi/ft gradient – maximum pressure will be adjusted If the top of interval is modified after well logs are run).

Potential releases will be contained and cleaned up immediately. The operator shall repair or otherwise correct the situation within 48 hours before resuming operations. OCD will be notified within 24 hours of any release greater than 5 bbls. If required, remediation will start as soon as practicable. Operator shall comply with 19.15.29 NMAC and 19.15.30 NMAC, as necessary and appropriate.

C- 108 Item VII
Produced Water Analyses

Aurora Fed SWD #1

Item VII.4- Water Analysis of Source Zone Water

Delaware
Bone Spring

Item VII.5- Water Analysis of Disposal Zone Water

Devonian

Water Analyses follow this page.

wellname	section	township	range	unit	ftgns	ftgew	ph	tds_mgL	sodium_mgL	calcium_mgL	iron_mgL	magnesium_	manganese_	chloride_mgL	bicarbonate_	sulfate_mgL	co2_mgL
DIAMONDTAIL 24 FEDERAL #001	24	23S	32E	L	1980S	660W	8.5	172490.2	59465.3	5813.5	121.6	1016.4	2.3	103630	199.2	2	700
TOMCAT 21 FEDERAL #001	21	23S	32E	F	1980N	1880W	5.4	246335.6	67632.8	16223.4	47.5	2611.1	3.16	157130.6	61	0	440
TOMCAT 21 FEDERAL #003	21	23S	32E	E	1980N	660W	5.6	258460.4	66996.2	21006.5	27.5	3246.8	4.96	163589.5	85.4	0	460
TOMCAT 17 FEDERAL #001	17	23S	32E	P	660S	660E	5.4	254754.8	75267	19088.7	38.3	3181.3	3.69	154115.3	109.8	0	410
TOMCAT 17 FEDERAL #002	17	23S	32E	O	660S	1980E	5.6	259999.9	71731	19634.8	33.2	3172.9	4.66	162178.7	73.2	0	350
TOMCAT 17 FEDERAL #003	17	23S	32E	I	1980S	660E	5.7	264290.8	70140.2	21551.8	30	3406.5	5.31	165588.8	85.4	0	410
TOMCAT 16 STATE #003	16	23S	32E	L	1980S	660W	5.51	282155.2	71636.9	27669.4	42.4	4186.8	15.6	175393.6	52.8	0	560
TOMCAT 17 FEDERAL #004	17	23S	32E	J	2080S	2080E	6	214893.4	56533.4	20158.6	47.9	3255	6.51	131133.5	158.6	0	440
TOMCAT 16 STATE #007	16	23S	32E	K	1980S	1980W	5.6	244760.3	71577.7	14674.1	78.8	2396.2	3.39	153409.7	73.2	0	450
TOMCAT 16 STATE #008	16	23S	32E	N	660S	1830W	5.6	234317.5	71909.8	14412.9	43.1	2385.3	2.59	142924.3	97.6	0	450
TOMCAT 20 FEDERAL #002	20	23S	32E	B	660N	1980E	5.4	270134.8	77379.6	21951.6	35.2	3491.7	5.17	163530.8	97.6	0	450
TOMCAT 16 STATE #006	16	23S	32E	H	1980N	660E	5.4	277945.7	73900.1	24711.5	37.9	3853.4	7.16	171388.5	85.4	0	460
TOMCAT 16 STATE #010	16	23S	32E	B	761N	1881E	5.6	279186.4	77799.6	25199.4	36.1	3983.2	7.97	167901	73.2	0	540
TOMCAT 17 FEDERAL #005	17	23S	32E	N	460S	2180W	5.8	263310.1	72419.8	20760.4	31.3	3336.6	4.62	163470.4	61	0	560
TOMCAT 17 FEDERAL #006	17	23S	32E	K	1880S	2080W	6	212591.3	55454.4	19593.7	47.4	3169.4	6.31	130585.8	170.8	0	510
TOMCAT 21 FEDERAL #004	21	23S	32E	D	660N	660W	5.8	267412.2	72365.2	22048.5	68.1	3505.6	6.22	165712.8	85.4	0	490
TOMCAT 20 FEDERAL #003	20	23S	32E	H	1980N	660E	5.6	268827.3	80098	22840.1	36.5	3635.1	5.35	158372.6	61	0	450
TOMCAT 20 FEDERAL #004	20	23S	32E	G	1980N	1980E	5.7	286428.9	81700.4	25986.7	38.8	4121.7	7.63	170121.3	85.4	0	440
TOMCAT 20 FEDERAL #005	20	23S	32E	I	1980S	660E	5.8	289125	82158.6	27842	40.5	4402.1	12.29	170749.7	73.2	0	460
TOMCAT 16 STATE #013	16	23S	32E	A	660N	660E	5.7	281858.5	76891.4	24467.2	30.2	3873.1	7.57	172401.4	73.2	0	440
TOMCAT 20 FEDERAL #006	20	23S	32E	J	1980S	1980E	5.8	289144.8	80888.6	27354.5	38.6	4324.5	11.81	172664.1	61	0	490
TOMCAT 21 FEDERAL #008	21	23S	32E	L	1980S	660W	5.8	263615.7	71175.7	23328.1	40.7	3550.5	6.23	161630.3	85.4	0	460
TOMCAT 20 FEDERAL #007	20	23S	32E	P	660S	660E	5.8	271016.7	67263	23647	33	3691	10.14	173080.7	61	0	520
FALCON 32 STATE #003	32	23S	32E	K	1980S	1980W	5.5	249184.8	71161.3	16116.1	33	2496.1	3.96	156337.9	85.4	0	410
FALCON 32 STATE #004	32	23S	32E	C	660N	2150W	5.8	241993.3	72965.6	14328.7	29.4	2268.5	3.28	149603.8	97.6	0	340
FALCON 32 STATE #005Y	32	23S	32E	M	351S	842W	5.9	239678.9	74767.3	13436.5	40.6	2234	2.32	146645.4	73.2	0	420
TRESNOR MITCHELL 30 FEDERAL #001	30	23S	32E	N	330S	2310W	5.6	249571.5	64522.7	19862.2	37.7	3105.9	6.36	159003.4	73	0	500
FREIDA AFR FEDERAL #001	3	23S	32E	A	660N	860E	6.2	149595	85000	2110	0	1000		147800	95	2450	
FREIDA AFR FEDERAL #001	3	23S	32E	A	660N	860E	6.65	141520	84893	2000	0	1000		136000	80	2440	
THYME APY FEDERAL #002	1	23S	32E	G	1650N	1650E	6.1	172896		0	0	2025		104976	781	1150	
DIAMONDTAIL 23 FEDERAL #002	23	23S	32E	H	1980N	660E	5.5	254950.9	68892.9	20721	15	3986		157297	54	386	
TOMCAT 21 FEDERAL #003	21	23S	32E	E	1980N	660W	5.77	271021.3	74712.7	22456	29	3204		166833	36.6	414	410
TOMCAT 17 FEDERAL #001	17	23S	32E	P	660S	660E	5.92	191165.8	56534.2	12620	26	2197		117118	36.6	675	240
TOMCAT 16 STATE #004	16	23S	32E	E	1650N	460W	6.02	271775.9	74413.3	21773	23	3968		167535	36.6	471	420
TOMCAT 20 FEDERAL #003	20	23S	32E	H	1980N	660E	5.71	306731	86277.4	23540	26	3870		188841	36.6	422	410
FALCON 32 STATE #003	32	23S	32E	K	1980S	1980W	6.25	257563.7	75558.1	17577	28	2869		158008	97.6	564	480
TRESNOR MITCHELL 30 FEDERAL #001	30	23S	32E	N	330S	2310W	6.6	268970.5	72128.3	21665.9	39.2	3444	6.81	168477.5	148	34	440
BOUNDARY RAIDER 6 FEDERAL #002H	7	23S	32E	A	200N	200E	5.5	198828.3	63822.8	9826.5	65.2	1403.5	2.6	121113.4	183	17	480
TRESNOR MITCHELL 30 FEDERAL #002	30	23S	32E	F	2310N	2310W	6.5	253732	66510.2	21000	300	6587		159281	48.8	5	0
TRESNOR MITCHELL 30 FEDERAL #002	30	23S	32E	F	2310N	2310W	7	274346.8	69620.8	25364	191	4427		168593	83	1202	1500
TOMCAT 16 STATE #002	16	23S	32E	M	660S	660W	6.03	258574.8	71555.9	21503	21	3027		159299	24.4	388	120
TOMCAT 17 FEDERAL #001	17	23S	32E	P	660S	660E	5.7	273483	74547.8	23392	23	3428		168676	12.2	366	130
TOMCAT 15 FEDERAL COM #001	15	23S	32E	L	1980S	660W	6.5	301084.5	109935.3	1670	13	3466		180000	104	4800	
DIAMONDTAIL 24 FEDERAL #001	24	23S	32E	L	1980S	660W	6.4	204001.8	63879.5	10949	52	1736		124319	331.8	561	260
DIAMONDTAIL 23 FEDERAL #002	23	23S	32E	H	1980N	660E	6.1	250482.4	68273	20951	35	3279		154286	124.4	407	220
HORNET 6 FEDERAL #001	6	23S	32E	A	660N	660E	5.5	274093.6	76944.1	20940	29	3694	5	168926	41.5	363	
TOMCAT 16 STATE #003	16	23S	32E	L	1980S	660W	6.5	257411.4	68023.5	21922	21	4210	9.5	158521	767.4	260	340
TRESNOR MITCHELL 30 FEDERAL #003	30	23S	32E	C	330N	2240W	5.8	254589.4	76656.7	17566	53.7	2979.1	3.53	154409	61	2.5	40
BOUNDARY RAIDER 6 FEDERAL #002H	7	23S	32E	A	200N	200E	6	117284.4	36911	5399.2	88.1	706.6	1.33	71443.9	378	17	200
CORIANDER AOC STATE #002	1	23S	32E	H	1650N	330E	5.23			24176	0	3815		167962	61.1	165	
APRIL APZ STATE #001	12	23S	32E	A	330N	330E	5.21			20.1	0	12.2		35.5	61.1	48.8	
TOMCAT 20 FEDERAL #001	20	23S	32E	A	560N	560E	5.4	277437.6	74399.4	21280.6	37.6	3402.2	4.9	174776.4		302.8	
TOMCAT 15 FEDERAL #003	15	23S	32E	D	660N	660W	5.7	257844.8	80765.3	14109	130	2423	9	157409	49	1187	640
HORNET 6 FEDERAL #001	6	23S	32E	A	660N	660E	5.6	312483.3	91476.8	21517	21	3787	4	191582	61	1305	700
DIAMONDTAIL 24 FEDERAL #001	24	23S	32E	L	1980S	660W	6.67	241833.8	74628.3	13385	178	2531	4	147579	634	598	
DIAMONDTAIL 23 FEDERAL #002	23	23S	32E	H	1980N	660E	7.2	257547	72465.5	19374	37	3454	3.5	158521	122	396	50

C- 108 Item VIII
Geologic Information

Aurora Fed SWD #1

The Devonian consist of carbonates including light colored dolomite and chert intervals interspersed with some tight limestone intervals. Several thick sections of porous dolomite capable of taking water are believed present within the subject formations in the area. Depth control data was inferred from deep wells to the south and east. If the base of Devonian come in as expected the well will only be drilled deep enough for adequate logging rathole.

At a proposed injection interval of 17,730-18,980' BGL (Below Ground Level) the well will TD at approximately 18,980'. Mud logging through the interval will ensure the target interval remains in Devonian and Fusselman. Once Devonian is determined, the casing shoe depth will be set at an approximate maximum upper depth of 17,730 BGL. Injection will occur through the resulting openhole interval. Should mud or other logs indicate depth adjustment is required to exploit the desired formation as described; sundries with appropriate data will be filed with the OCD.

The Devonian is overlain by the Woodford, Mississippian LM, Barnett and by the Morrow and Atoka.

Fresh water in the area is generally available from the Rustler formation and some alluvial deposits. State Engineer's records show water wells in a 5 mile radius with a depth to groundwater of 400-800 feet.

Solaris Water Midstream, LLC
Estimated Formation Tops
Aurora Federal SWD # 1
ULN-S23-T23S-R32E
Lea County, NM

Surface Elevation : 3680'

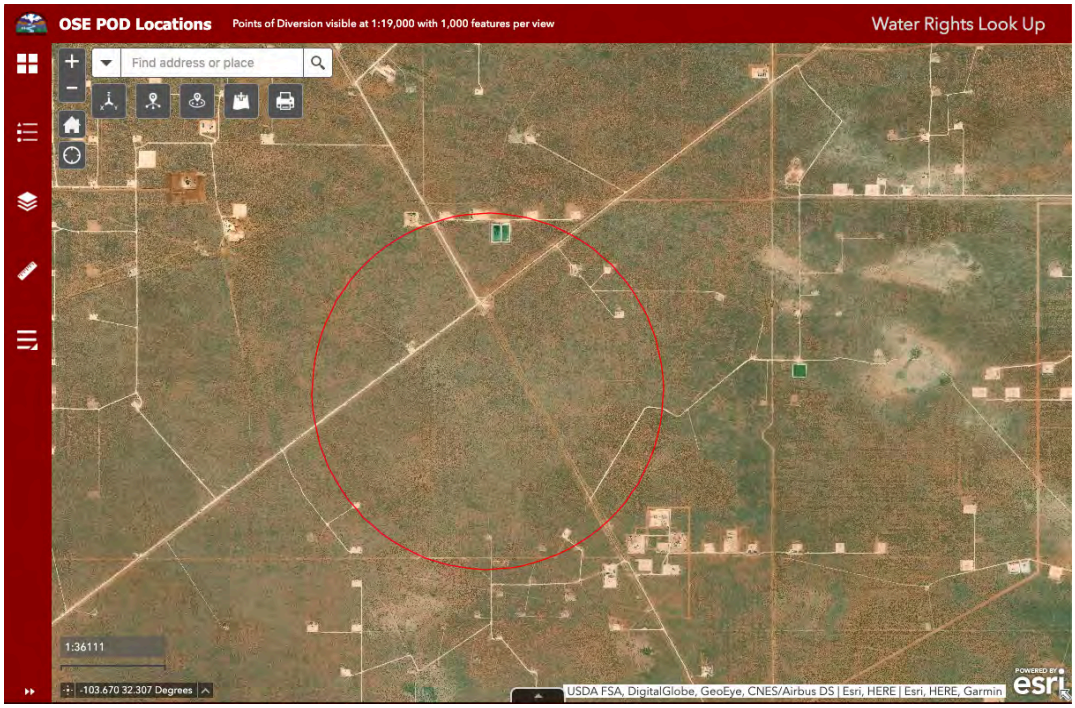
Est Tops :	Depths (BGL)
Accumulation of Quaternary alluvium.	Surface
Rustler	1,325'
Salt	1,450'
Base of Salt	4,860'
Bell Canyon	5,200'
Cherry Canyon	6,350'
Brushy Canyon	7,500'
Bone Spring Lime	9,100'
1st Bone Spring Sand	10,225'
2nd Bone Spring Sand	10,875'
3rd Bone Spring Sand	11,925'
Wolfcamp	13,125'
Strawn	14,150'
Atoka	14,400'
Morrow	14,950'
Barnett	16,700'
Mississippi Lime	17,050'
Woodford	17,500'
Devonian	17,725'
Fusselman	18,475'
Montoya	19,200'
Simpson	19,725'
Ellenburger	20,375'

Since no Devonian/Silurian depth well bore exists in the vicinity of this well for reference, tops below Bone Spring Sands are estimated. A log suite will be ran on this well to identify markers as soon as drilling is completed, and before liner setting depth is determined. Logs will be presented for agency review.

Known production intervals penetrated :
Bell Canyon
Cherry Canyon
Brushy Canyon
Bone Spring Sands

C- 108 Item VIII & XI
Groundwater Basins- Water Column/ Depth to Groundwater
Water Wells in AOR

Aurora Fed SWD #1 Water Well Map



The subject well is located within the Carlsbad Basin.

Fresh water in the area is generally available from valley and basin fill of the Carlsbad-Pecos segment of the lower Pecos Valley complex of Quaternary alluvial sand and gravel deposits. State Engineer's records show water wells in surrounding area with an average depth to water at 700 ft.

There are no water wells located within one mile of the proposed SWD.

C- 108 Item XII
Geologic Affirmation

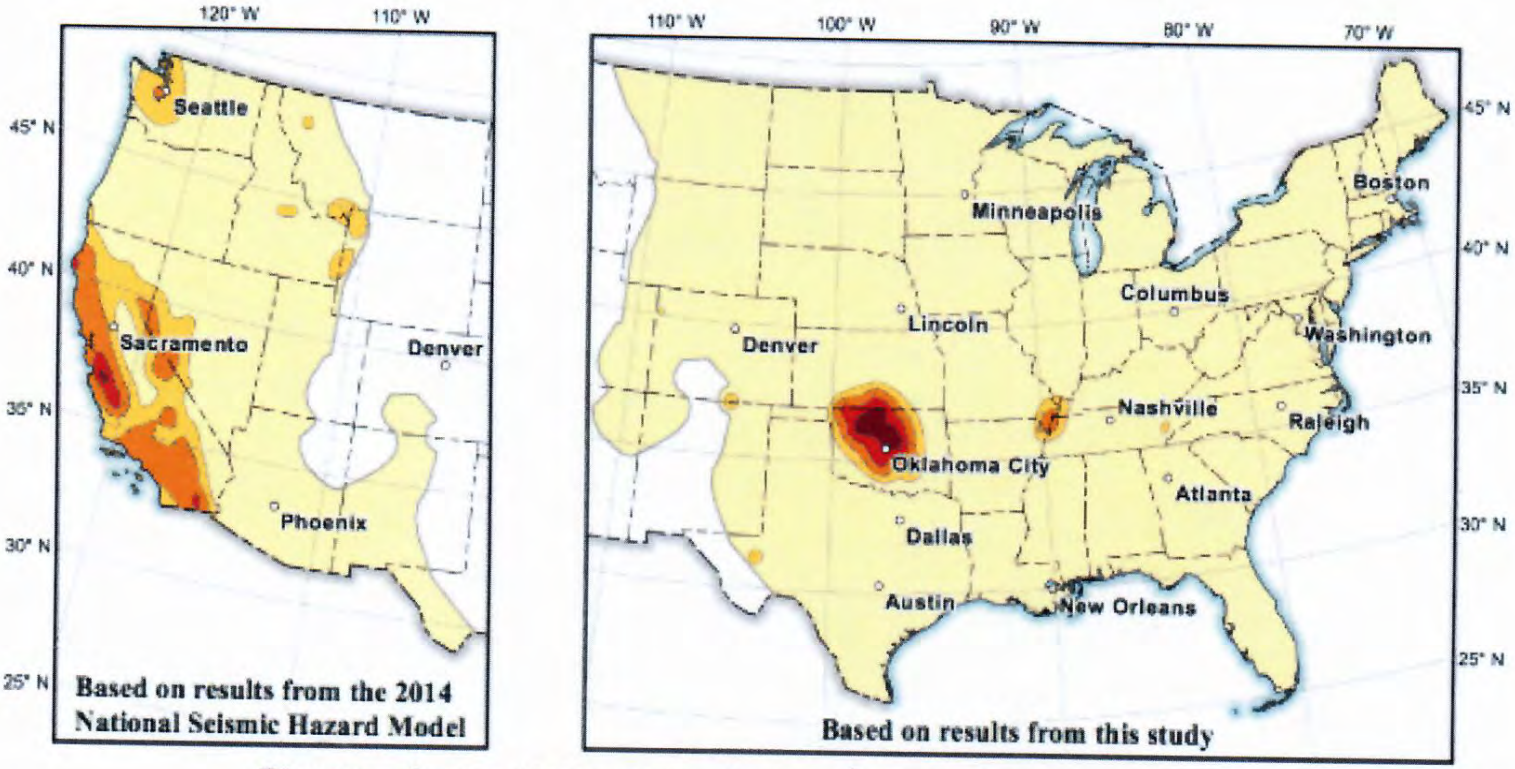
Aurora Fed SWD #1

Solaris Water Midstream, LLC
Aurora Federal SWD # 1
ULN-S23-T23S-R37E
Lea County, NM

Geologic Affirmation

I have examined all available geologic and engineering data, and have found no evidence of open faults or other hydrologic connection between the disposal interval so applied for, and underground sources of drinking water. The primary source of investigation was USGS United States fault line mapping.

Marvin Burrows
Manager, Cart Hill Consulting, LLC



Chance of potentially minor-damage* ground shaking in 2018

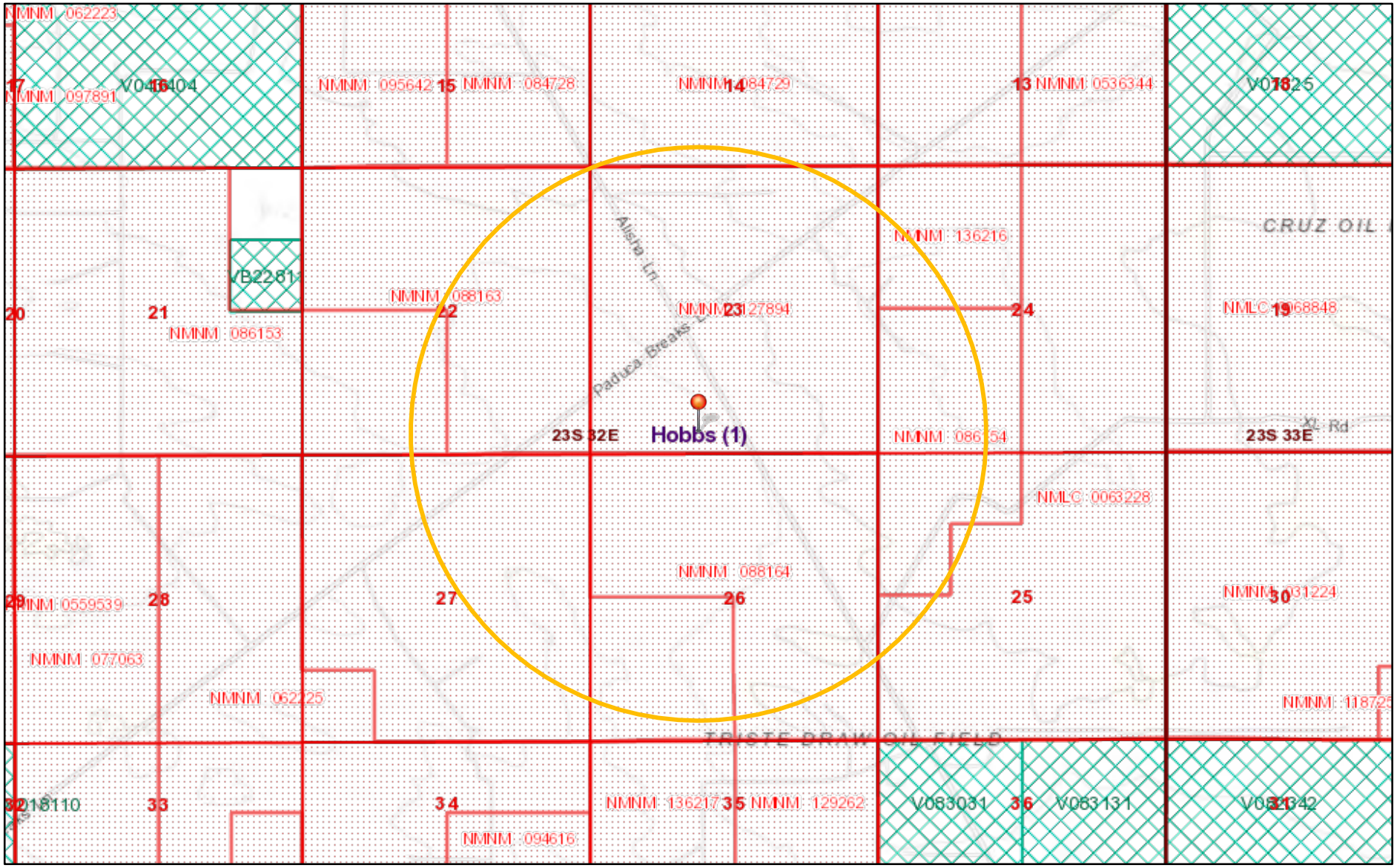
<1% 1% – 2% 2% – 5% 5% – 10% 10% – 14%

* equivalent to Modified Mercalli Intensity VI, which is defined as: "Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight."

C- 108 Item XIII
Proof of Notification
Affected Parties List

Aurora Fed SWD #1

Aurora Mineral Lease



9/28/2019, 7:07:21 AM

1:36,112

0 0.25 0.5 1 mi

0 0.4 0.8 1.6 km

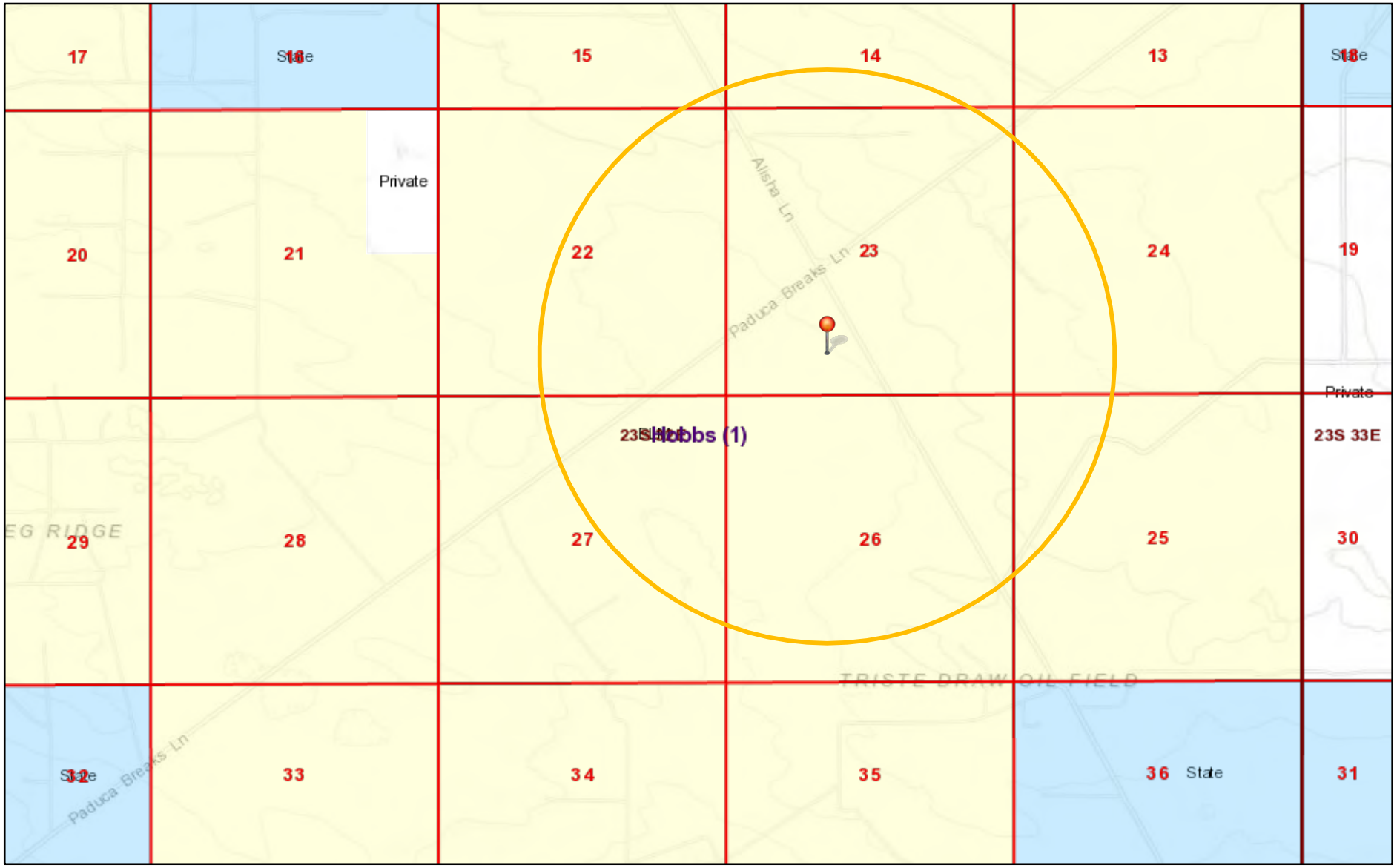
- OCD Districts
- OCD District Offices
- PLSS First Division
- PLSS Second Division
- PLSS Townships
- NMSLO Oil and Gas Leases (Updated Weekly)
- BLM Fluid Min Units (Updated 6-1-2017)
- BLM Fluid Min Leases (Updated 6-1-2017)

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS,

New Mexico Oil Conservation Division

NM OCD Oil and Gas Map. http://nm-emnrd.maps.arcgis.com/apps/webappviewer/: New Mexico Oil Conservation Division

Aurora Mineral Ownership



9/28/2019, 7:08:11 AM

OCD Districts
OCD District Offices
PLSS First Division
PLSS Second Division
PLSS Townships

Land Ownership
BLM
BOR
DOD
DOE
FS
FWS
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NPS
P
S
SGF

1:36,112

0 0.25 0.5 1 mi
0 0.4 0.8 1.6 km

U.S. BLM, Sources: Esri, HERE, Garmin, Intermap, increment P Corp.,

New Mexico Oil Conservation Division

NM OCD Oil and Gas Map. http://nm-emnrd.maps.arcgis.com/apps/webappviewer/: New Mexico Oil Conservation Division

Aurora Fed SWD #1					
Owner Category	**Name**	**Address**	**Location**	**Source**	**Info**
Well Operator	Devon Energy Production Company, LP	333 W. Sheridan Avenue, Oklahoma City, OK 73102	23, 24-23S-32E	OCD	
Well Operator	Cimarex Energy Co.	600 N. Marienfeld Street, Suite 600, Midland, TX 79701	23-23S-32E	OCD	
Well Operator	COG Operating	600 W. Illinois Ave, Midland, TX 79701	22-23S-32E	OCD	
Lessee	Cimarex Energy Co.	600 N. Marienfeld Street, Suite 600, Midland, TX 79701		BLM Records	NMNM-127894
Lessee	COG Operating	600 W. Illinois Ave, Midland, TX 79701	22-23S-32E	BLM Records	NMNM-088163 NMNM 136216
Lessee	Burlington Res Oil & Gas CO LP	21 Desta Dr., Midland, TX 79705	22-23S-32E	BLM Records	NMNM-088163
Lessee	Devon Energy Production Company, LP	333 W. Sheridan Avenue, Oklahoma City, OK 73102	22,21,20-23S-32E	BLM Records	NMNM-086153 NMNM-086154
Lessee	Conoco Phillips	PO Box 2197, Houston, TX 77252	25,26,27-23S-32E	BLM Records	NMLC-0063228
Lessee	EOG Y Resources	104 S 4th St. Artesia, NM 88210	26-23S-32E	BLM Records	NMNM-088164
Lessee	EOG A Resources	104 S 4th St. Artesia, NM 88210	26-23S-32E	BLM Records	NMNM-088164
Lessee	EOG M Resources	PO Box 840 Artesia, NM 88211	26-23S-32E	BLM Records	NMNM-088164
Lessee	OXY Y-1 Company	PO Box 27570, Houston, TX 77227	26-23S-32E	BLM Records	NMNM-088164
Mineral Owner	Bureau of Land Management	620 East Greene Street, Carlsbad, NM 88220	22-27-23S-32E	BLM Records	
Surface Owner	Bureau of Land Management	620 East Greene Street, Carlsbad, NM 88220	22-27-23S-32E	BLM Records	

Sept. 25th, 2019

NOTIFICATION TO INTERESTED PARTIES

Via U.S. Certified Mail- Return Receipt Requested

To whom it may concern,

Solaris Water Midstream, LLC, Midland, Texas, has made an application to the New Mexico Oil Conservation Division to drill and complete, for salt water disposal, the Aurora Fed SWD No. 1. The proposed commercial operation will be for produced water disposal from area operators. As indicated in the notice below, the well is located in Section 23, Township 23 South, Range 32 East in Lea County, New Mexico.

The published notice states that the interval will be from 17,730 feet to 18,980 feet into the Devonian and Fusselman Formations.

Following is the notice to be published in the Hobbs News Sun, Hobbs, New Mexico on or about Sept. 24th, 2019.

LEGAL NOTICE

Solaris Water Midstream, LLC, 907 Tradewinds Blvd., Suite B, Midland, TX 79706 filed Form C-108 (Application for Authorization to Inject) with the New Mexico Oil Conservation Division seeking administrative approval for a salt water disposal well. The proposed well, the Aurora Fed SWD No. 1 will be located 1,205 feet from the South line and 1,966 feet from the West line, Section 23, Township 23 South, Range 32 East, Lea County, New Mexico. Produced water from area production will be commercially disposed into the Devonian and Fusselman Formations at a depth of 17,730 feet to 18,890 feet at a maximum surface pressure of 3,546 psi and an average injection rate of 40,000 barrels per day. (Final completion depths may be adjusted per mudlogging and reported to the NMOCD on form C-105; pressure will remain at the standard gradient of 0.2 psi/ft of the uppermost injection interval depth). The proposed SWD well is located approximately 25 miles East of Malaga, NM.

Interested parties wishing to object to the proposed application must file with the New Mexico Oil Conservation Division, 1220 S. St. Francis Dr., Santa Fe, NM 87505 (505) 476-3460 within 15 days of the date of this notice. Additional information may be obtained from the applicant's agent, Gavilan Solutions, LLC, 505-360-9819 or email: awhite@gavilansolutions.com.

You have been identified as a party who may be interested as an offset lessee or operator.

You are entitled to a full copy of the application. A full copy in PDF format is available for immediate download with the link below.

URL Link: https://www.dropbox.com/sh/rr7tr0jwiyvs9hf/AACwDLzmNqa3dEkfP7NxM7Sta?dl=0

You may also receive a copy by emailing awhite@gavilansolutions.com with your request Please use a subject like Anteater State SWD #1 request.

Thank you for your attention to this matter.

Whitney McKee
Solaris Water Midstream, LLC
Regulatory Specialist

C- 108 Item XIV
Proof of Notice
Certified Mail Receipts

Aurora Fed SWD #1

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
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For delivery information, visit our website at www.usps.com®.

ARTESIA, NM 88211

OFFICIAL USE

Certified Mail Fee	$3.50
Extra Services & Fees (check box, add fee as appropriate)	$2.80
☐ Return Receipt (hardcopy)	$0.00
☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	$0.00
☐ Adult Signature Restricted Delivery	$
Postage	$0.55
Total Postage	$6.85

0977
03

Postmark Here
OCT - 7 2019
10/07/2019

Sent To: EOG M Resources
Street and: PO Box 840
City, State: Artesia, NM ~~88210~~ 88211

PS Form ... See Reverse for Instructions

7019 0140 0000 6861 8821

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CARLSBAD, NM 88220

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Extra Services & Fees (check box, add fee as appropriate)	$2.80
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☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	$0.00
☐ Adult Signature Restricted Delivery	$0.00
Postage	$0.55
Total Postage	$6.85

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10/07/2019

Sent To: Bureau of Land Management
Street and: 620 East Greene St.
City, State: Carlsbad, NM 88220

PS Form ...

7019 0140 0000 6861 8814

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ARTESIA, NM 88210

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Extra Services & Fees (check box, add fee as appropriate)	$2.80
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☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	$0.00
☐ Adult Signature Restricted Delivery	$
Postage	$0.55
Total Postage	$6.85

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OCT - 7 2019
10/07/2019

Sent To: EOG A Resources
Street and: 104 S 4th St.
City, State: Artesia, NM 88210

PS Form ... See Reverse for Instructions

7019 0140 0000 6861 8814

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HOUSTON, TX 77227

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☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	$0.00
☐ Adult Signature Restricted Delivery	$0.00
Postage	$0.55
Total Postage	$6.85

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03

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10/07/2019

Sent To: OXY Y-1 Company
Street and: PO Box 27570
City, State: Houston, TX 77227

PS Form ...

7019 0140 0000 6861 8807

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MIDLAND, TX 79705

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Extra Services & Fees (check box, add fee as appropriate)	$2.80
☐ Return Receipt (hardcopy)	$0.00
☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	$0.00
☐ Adult Signature Restricted Delivery	$
Postage	$0.55
Total Postage	$6.85

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03

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OCT - 7 2019
10/07/2019

Sent To: Burlington Res Oil & Gas
Street and: ~~21 Desta Dr.~~ 3300 NA #6
City, State: Midland, TX 79705

PS Form ...

7019 0140 0000 6861 9996

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ARTESIA, NM 88210

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Extra Services & Fees (check box, add fee as appropriate)	$2.80
☐ Return Receipt (hardcopy)	$0.00
☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	$0.00
☐ Adult Signature Restricted Delivery	$
Postage	$0.55
Total Postage	$6.85

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OCT - 7 2019
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Sent To: EOG Y Resources
Street and: 104 S 4th St.
City, State: Artesia, NM 88210

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Certified Mail Fee	$3.50
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy)	$2.80
☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	$0.00
☐ Adult Signature Restricted Delivery	$0.00
Postage	$0.55
Total Postage and Fees	$6.85

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City, State: Houston, TX 77252

PS Form 3

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Street and: 600 W. Illinois Ave.
City, State: Midland, TX 79701

PS Form

C- 108 Item XIV
Proof of Notice
Legal Notice in Newspaper of General Circulation

Aurora Fed SWD #1

Below is the affidavit of publication from the Hobbs Sun News.

Affidavit of Publication

STATE OF NEW MEXICO
COUNTY OF LEA

I, Daniel Russell, Publisher of the Hobbs News-Sun, a newspaper published at Hobbs, New Mexico, solemnly swear that the clipping attached hereto was published in the regular and entire issue of said newspaper, and not a supplement thereof for a period of 1 issue(s).

Beginning with the issue dated
September 21, 2019
and ending with the issue dated
September 21, 2019.

Publisher

Sworn and subscribed to before me this
21st day of September 2019.

Business Manager

My commission expires
January 29, 2023
(Seal)

OFFICIAL SEAL
GUSSIE BLACK
Notary Public
State of New Mexico
My Commission Expires 1-29-23

This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937 and payment of fees for said

LEGAL NOTICE
SEPTEMBER 21, 2019

NOTICE [redacted] Tradewinds Blvd., Suite B, Midland, TX 79706, filed Form C-108 (Application for Authorization to Inject) with the New Mexico Oil Conservation Division seeking administrative approval for a SWD water disposal well. The proposed well, the Aurora Fed SWD No. 1 will be located 1205 feet from the South line and 1,966 feet from the West line, Section 23, Township 23 South, Range 32 East, Lea County, New Mexico. Produced water from area production will be commercially disposed into the Devonian and Fusselman Formations at a depth of 17,730 feet to 18,890 feet at a maximum surface pressure of 3,546 psi and an average injection rate of 40,000 barrels per day. Interested parties wishing to object to the proposed application must file with the New Mexico Oil Conservation Division, 1220 S. St. Francis Dr., Santa Fe, NM 87505 (505) 476-3460 within 15 days of the date of this notice. Additional information may be obtained from the applicant's agent, [redacted] 360-9819 or email awhite@gavilansolutions.com.
#34719

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ASHLEY WHITE
GAVILAN SOLUTIONS, LLC
4533 17TH AVE NE
RIO RANCHO , NM 87144

C- 108 Item XIV
Seismic Maps

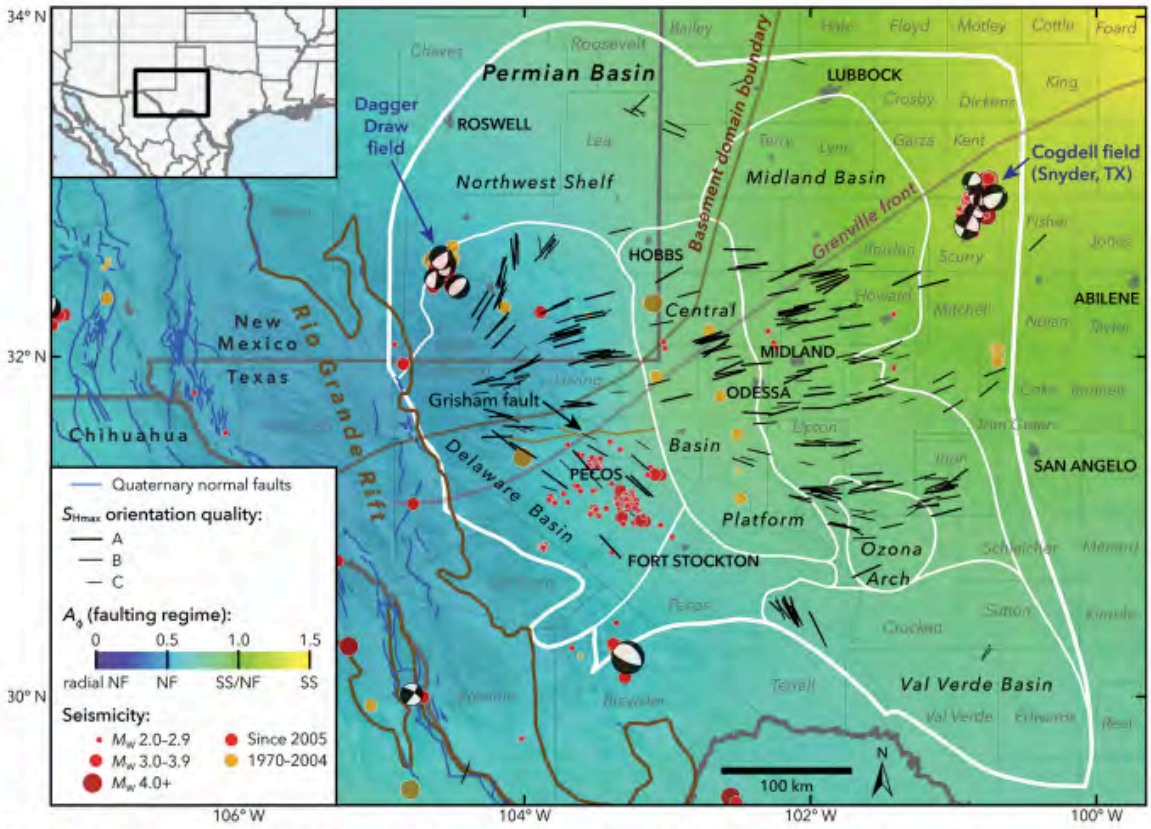

Figure 1. State of stress in the Permian Basin, Texas and New Mexico. Black lines are the measured orientations of S_{Hmax}, with line length scaled by data quality. The colored background is an interpolation of measured relative principal stress magnitudes (faulting regime) expressed using the A_ϕ parameter (see text for details) of Simpson (1997). Blue lines are fault traces known to have experienced normal-sense offset within the past 1.6 Ma, from the USGS Quaternary Faults and Folds Database (Crone and Wheeler, 2000). The boundary between the Shawnee and Mazatzal basement domains is from Lund et al. (2015), and the Precambrian Grenville Front is from Thomas (2006). The Permian Basin boundary is from the U.S. Energy Information Administration, and the subbasin boundaries are from the Texas Bureau of Economic Geology Permian Basin Geological Synthesis Project. Earthquakes are from the USGS National Earthquake Information Center, the TexNet Seismic Monitoring Program, and Gan and Frohlich (2013). Focal mechanisms are from Saint Louis University (Herrmann et al., 2011).

Solaris Water Midstream, LLC
Aurora Fed SWD #1

FORM C-108 Supplemental Information

III. Well Data

A. Wellbore Information

1

Well Information	
Lease Name	Aurora Fed SWD
Well No.	1
Location	S 23 T23S - R32E
Footage Location	1,205' FSL & 1,966' FWL

2

a) Wellbore Description

Casing Information				
Type	Surface	Intermediate 1	Intermediate 2	Liner
OD	16"	13.375"	9.625"	7.625"
WT	84 lb/ft	68 lb/ft	53.50 lb/ft	39 lb/ft
ID	15.010"	12.415"	8.535"	6.625"
Drift ID	14.822"	12.259"	8.500"	6.500"
Weight	84 lb/ft	68 lb/ft	53.50 lb/ft	39 lb/ft
Grade	N-80	L-80, EZ-GO FJ3	HCP-110, BTC	P-110, BTC
Hole Size	17-1/8"	14-3/4"	12-1/4"	8-1/2"
Depth Set	1,400'	4,930'	11,850'	17,675'
open hole from 17,730' to 18,980'				

b) Cementing Program

Cement Information				
Casing String	Surface	Intermediate 1	Intermediate 2	Liner
Lead Cement	100 Class C Premium	65:10:25 Class C Premium Compass Poz-Mix	100 TXI Lightweight Cement	100 HSLD 87 Cement
Lead Cement Volume (sacks)	590	1,000	1,730	455
Lead Cement Density (ft3/sack)	13.5	12.7	10.6	15.6
Tail Cement	100 Class C Premium	50:50 Class H Premium Compass Poz-Mix	85:15 Class H Premium Compass Poz-Mix	-
Tail Cement Volume (sacks)	180	335	200	-
Tail Cement Density (ft3/sack)	14.8	14.8	15.0	-
Cement Excess	100% 50%	250% 65%	75% 50%	40%

Total Sacks	770	1,335	1,930	455
TOC	Surface	Surface	Surface	Top: 11,650' Bottom: 17,675'
Method	Circulate to Surface	Circulate to Surface	Circulate to Surface	Logged

3 **Tubing Desctiption**

Tubing Information	
OD	5.5" 5.0"
WT	20# 18#
ID	4.778" 4.276"
Drift ID	4.653" 4.151"
Weight	20# 18#
Grade	P-110