Initial Application Part I

Received: **07/10/2019**

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: 07/10/2019	REVIEWER:	TYPE: SWD	APP NO: pMAM1919651431

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: Sims 8 SWD 1 **API:** 30-025-
Pool: SWD; Devonian-Silurian **Pool Code:** 97869

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

SWD-2189

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.

Brian Wood
Print or Type Name

BJ Wood
Signature

6-17-19
Date

505-466-8120
Phone Number

brian@permitswest.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 XXX Disposal _____ Storage
Application qualifies for administrative approval? XXX Yes _____ No

II. OPERATOR: SOLARIS WATER MIDSTREAM, LLC

ADDRESS: 907 TRADEWINDS BLVD., SUITE B, MIDLAND TX 79706

CONTACT PARTY: BRIAN WOOD (PERMITS WEST, INC.) PHONE: 505 466-8120

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 XXX 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:

Sims 8 SWD 1
30-025-
SWD; Devoian-Silurian

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).

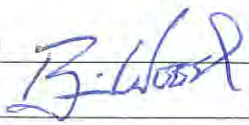
*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

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: BRIAN WOOD TITLE: CONSULTANT

SIGNATURE:  DATE: JUNE 12, 2019

E-MAIL ADDRESS: brian@permitswest.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.

Side 1

INJECTION WELL DATA SHEET

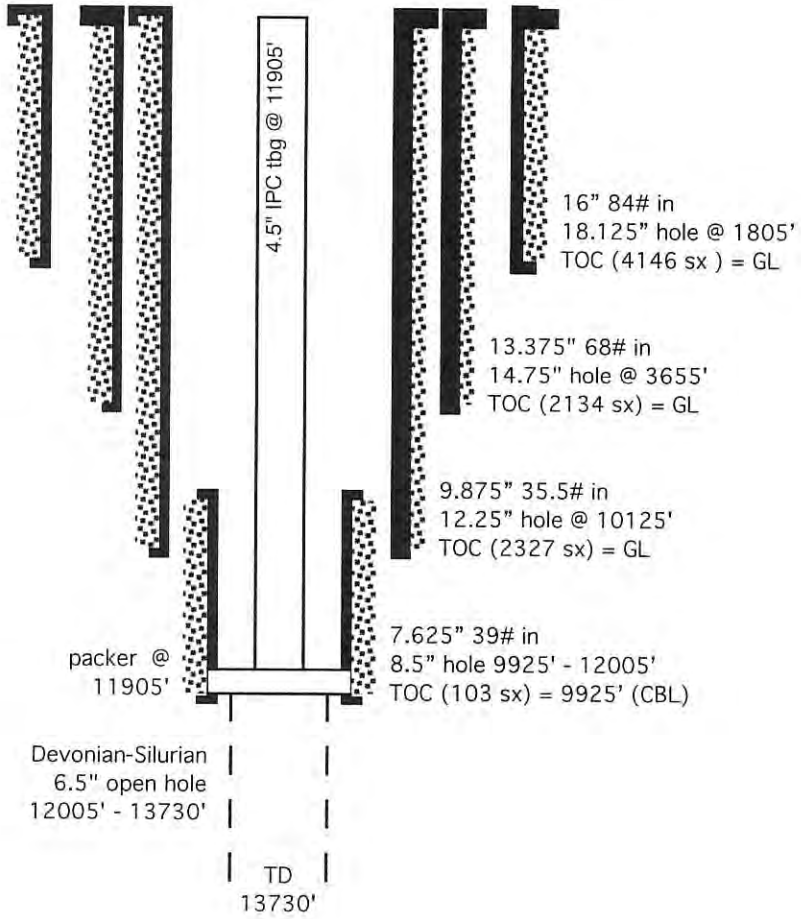
OPERATOR: SOLARIS WATER MIDSTREAM, LLC

WELL NAME & NUMBER: SIMS 8 SWD 1

WELL LOCATION:	1600' FSL & 275' FEL	I	8	20 S	36 E
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC

(not to scale)



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 18.125" Casing Size: 16"

Cemented with: 4146 sx. *or* _____ ft³

Top of Cement: SURFACE Method Determined: CIRCULATE

Intermediate Casing

Hole Size: 14.75" / 12.25" Casing Size: 13.375" @ 3655' / 9.875" @ 10125'

Cemented with: 4461 sx. *or* _____ ft³

Top of Cement: SURFACE Method Determined: CIRCULATE

Production Casing

Hole Size: 8.5" Casing Size: 7.625"

Cemented with: 103 sx. *or* _____ ft³

Top of Cement: 9925' Method Determined: CBL

Total Depth: LINER @ 12005' & TD @ 13730'

Injection Interval

6.5" HOLE SIZE 12005 feet to 13730'

~~(Perforated~~ or Open Hole; indicate which)

INJECTION WELL DATA SHEET

Tubing Size: 4.5" Lining Material: DUOLINE GLASSBORE

Type of Packer: NICKEL PLATED DOUBLE GRIP RETRIEVABLE

Packer Setting Depth: ≈11905'

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

Additional Data

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

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

2. Name of the Injection Formation: DEVONIAN-SILURIAN

3. Name of Field or Pool (if applicable): SWD;DEVONIAN-SILURIAN (97869)

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: QUEEN (4275'), PENROSE (4375'), SAN ANDRES (4575')

   BONE SPRING (6975'), WOLFCAMP (10100'), ATOKA (10475'),

   MORROW (10950'), & BARNETT (11250')

   UNDER: NONE

I. Goal is to drill a 13,730' deep commercial saltwater disposal well on private surface. Proposed disposal interval will be 12,005' - 13,730' in the SWD; Devonian-Silurian (97869). See Exhibit A for C-102 and map.

II. Operator: Solaris Water Midstream, LLC [OGRID 371643]
Operator phone number: (432) 203-9020
Operator address: 907 Tradewinds Blvd., Suite B
Midland TX 79706
Contact for Application: Brian Wood (Permits West, Inc.)
Phone: (505) 466-8120

III. A. (1) Lease Name: Sims (fee surface & fee minerals)
Well Name and Number: Sims 8 SWD 1
Well Location: 1600' FSL & 275' FEL, Section 8, T. 20 S., R. 36 E.

A. (2) Surface casing (16", 84#, J-55, BTC) will be set at 1805' in an 18.125" hole and cemented to GL with 4,146 sacks.

First intermediate casing (13.375", 68#, L-80, EZ-GO FJ3) will be set at 3,655' in a 14.75" hole and cemented to GL with 2,134 sacks

Second intermediate casing (9.875", 35.5#, HCP-110, BTC) will be set at 10,125' in a 12.25" hole and cemented to GL with 2,327 sacks.

Liner Wedge 513 (7.625", 39#, P-110) will be set at 12,005' in an 8.5" hole and cemented to 9,925' (TOL) with 103 sacks.

A 6.5" open hole will be drilled to 13,730'.

A. (3) Tubing will be 5.5" and 5.0" 18# IPC. Setting depth will be ≥11,905'. (Disposal interval will be 12,005' - 13,730'.)

A. (4) A nickel plated double grip retrievable packer will be set at ≥11,905' (or ≤100' above the top of the open hole which will be at 12,005').

B. (1) Disposal zone will be the Devonian and Silurian (SWD; Devonian-Silurian (97869) pool). Estimated fracture gradient is ≈0.65 psi/foot.

B. (2) Disposal interval will be open hole from 12,005' to 13,730'.

B. (3) Well has not been drilled. It will be drilled as a saltwater disposal well.

B. (4) No perforated intervals are in the well.

B. (5) Potential oil or gas zones within 1-mile and above the Devonian (12,000') are the Queen (4275'), Penrose (4375'), San Andres (4575'), Bone Spring (6975'), Wolfcamp (10,100'), Atoka (10,475'), Morrow (10,950'), and Barnett (11,250'). No potential oil or gas zone is below the Silurian within a mile.

Devonian was penetrated by two wells. One well (30-025-26803) cut 2 cores and ran 5 DSTs in the Devonian. Test results report "slight trace of oil" and gas as "TSTM". Well was plugged back and completed in shallower zones. Second well (30-025-38108) was reported as a "Dry Hole" and P&A 4 days after TD was reached.

As of June 8, 2019; closest Devonian producer (30-025-35371) is 5513' northeast in L-4-20s-36e, closest Devonian AGI well is >3.8 miles northeast in O-36-19s36e, and closest Devonian SWD well is >8 miles south in H-17-21s-36e.

IV. This is not an expansion of an existing injection project. It is disposal only.

V. Exhibit B shows and tabulates all 9 wells (all P&A) within a 1-mile radius. Two of the nine wells penetrated the Devonian. No well penetrated the Silurian. Exhibit C shows all 74 existing wells (15 oil or gas wells + 46 P & A wells + 5 disposal or injection wells + 10 water wells) within a 2-mile radius.

All leases within a one-mile or two-mile radius are BLM, fee, or NMSLO. Exhibit D shows and tabulates all the leases within one-mile. Exhibit E shows all lessors within a two-mile radius.

VI. Two Devonian penetrators are within a mile. Neither produced from the Devonian and both are now P&A. Exhibit F tabulates and illustrates their well construction and plugging details.

VII. 1. Average injection rate will be ≈30,000 bwpd.
Maximum injection rate will be 40,000 bwpd.

2. System will be open and closed. Water will both be trucked and piped.

3. Average injection pressure will be ≈2,500 psi Maximum injection pressure will be 2,401 psi (= 0.2 psi/foot x 12,005' (top open hole)).

4. Disposal water will be produced water, mainly from the Bone Spring. There are 149 approved Bone Spring wells in T. 19 & 20 S., R. 35 & 36 E. The well will also take other Permian Basin waters. Abstracts of T. 19 & 20 S., R. 35 & 36 E. produced water analyses from Go-Tech are in Exhibit G.
Solaris has not experienced any compatibility problems in operating its three Devonian and/or Silurian SWD wells. Over 9,885,196 barrels have been disposed to date.

5. As of June 8, 2019; closest Devonian producer (30-025-35371) is 5513' northeast in L-4-20s-36e, closest Devonian AGI well is >3.8 miles northeast in O-36-19s36e, and closest Devonian SWD well is >8 miles south in H-17-21s-36e. Devonian analysis from a well (30-025-20377) ≈5-3/4 miles southwest showed 44,825 mg/l TDS (Exhibit G).

VIII. The Devonian Silurian (estimated 1,725' thick) is mainly comprised of dolomite. Closest possible underground source of drinking water above the proposed disposal interval is the Quaternary and red beds in the top 1,700'.

According to State Engineer records (Exhibit H), one water well is within a mile and nine water wells are within 2-miles. Sims 8 SWD 1 is a mile inside the Ogallala aquifer boundary. Two windmills which are 0.4 mile NE (L 10248) and 1.4 miles NE (L 10246)) were sampled on April 26, 2019. No underground source of drinking water is below the proposed disposal interval.

Estimated formation tops are:

Quaternary = 0'
Rustler anhydrite = 1700'
Top salt = 1850'
Base salt = 3050'
Yates = 3300'
Seven Rivers = 3600'
Queen = 4275'
San Andres = 4575'
Bone Spring = 6975'
Wolfcamp = 10100'
Strawn = 10350'
Atoka = 10475'
Mississippian = 10950'
Devonian = 12000'
disposal interval = 12005' - 13730'
TD = 13730'
(Montoya = 13,925')

Deepest water well within a 2-mile radius is 85'. There will be >2 miles of vertical separation and shale, salt, and anhydrite intervals between the bottom of the only likely underground water source (Quaternary and red beds) and the top of the Devonian.

IX. The well will be stimulated with acid.

X. A CBL will be run from production casing setting depth to surface. GR log will be run from TD to surface.

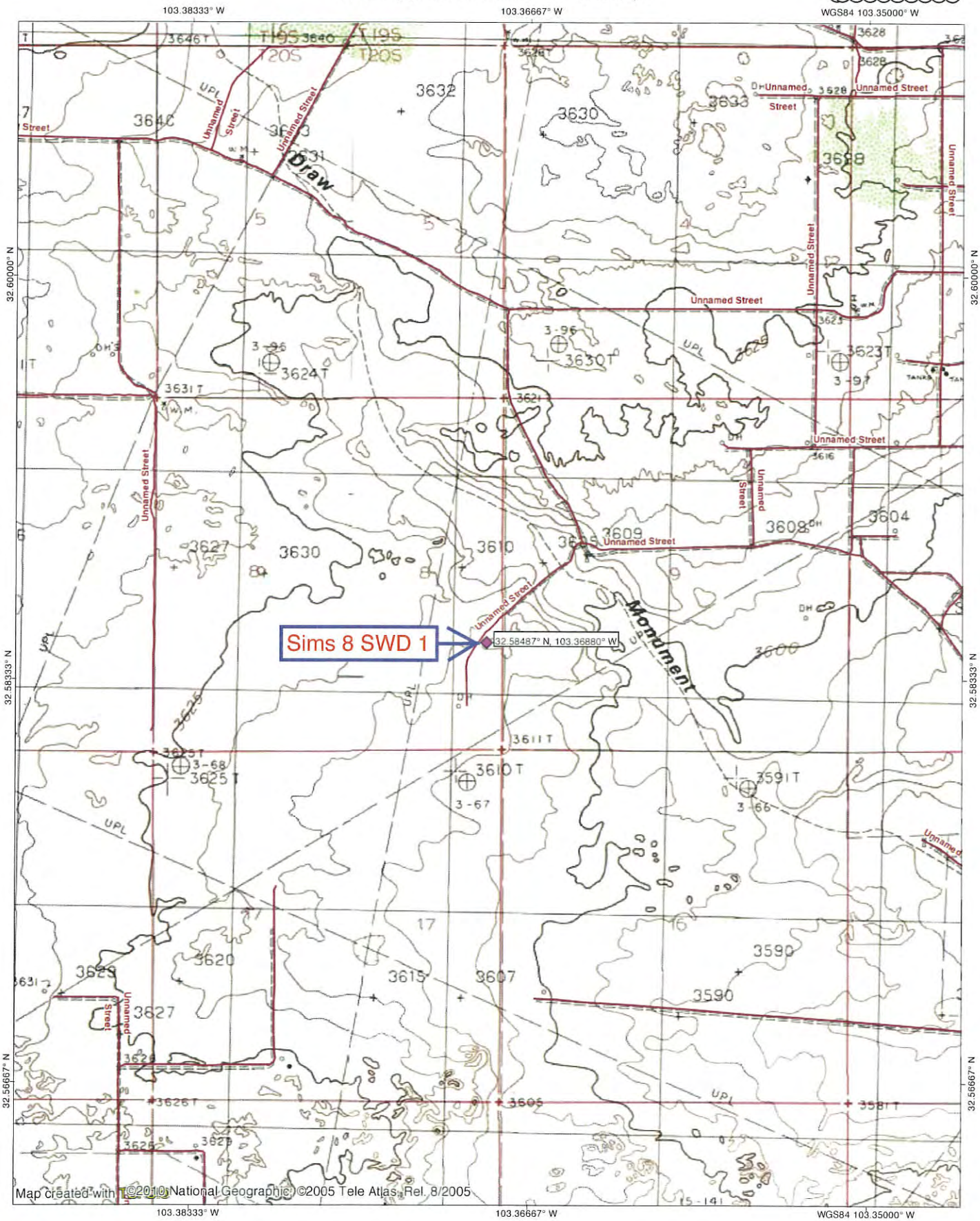
XI. Two water sources within 1.4 miles were found and sampled (Exhibit H) on April 26, 2019.

XII. Solaris Water Midstream, LLC (Exhibit I) is not aware of any geologic or engineering data that may indicate the Devonian is in hydrologic connection with any underground sources of water. Deepest water well within a 2-mile radius is 85'. Sixty-three approved Devonian-Silurian SWD wells are in New Mexico. Closest Quaternary fault is ≈100 miles southwest.

XIII. A legal ad (see Exhibit J) was published on April 18, 2019. Notice (this application) is being sent (Exhibit K) to the surface owner (Pearl Valley Limited Partnership), all well operators (COG, Read & Stevens) regardless of depth, government lessors (BLM, NMSLO), lessees of record (Apache, Chevron, COG,, Finley, Nesrsta, R&R, Sanderson, Thompson, Trove, ZPZ), BLM operating right holders (Apache, Bravo, ConocoPhillips, Devon, Fonay, Lynx, Merchant, Oxy USA, Oxy USA WTP, Pear, Read & Stevens, XTO, ZPZ), and other interest owners within a mile.

EXHIBIT A

TOPO! map printed on 06/08/19 from "Untitled.tpo"



NATIONAL GEOGRAPHIC

0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 miles
0.0 0.5 1.0 km

TN MN
6.5°
06/08/19

EXHIBIT A

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
1185 S. ST. FRANCIS DR., SANTA FE, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
1220 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
30-025-	97869	SWD; DEVONIAN – SILURIAN

Property Code	Property Name	Well Number
	SIMS 8 SWD #1	#1

OGRID No.	Operator Name	Elevation
371643	SOLARIS WATER MIDSTREAM, LLC	3617.5'

Surface Location

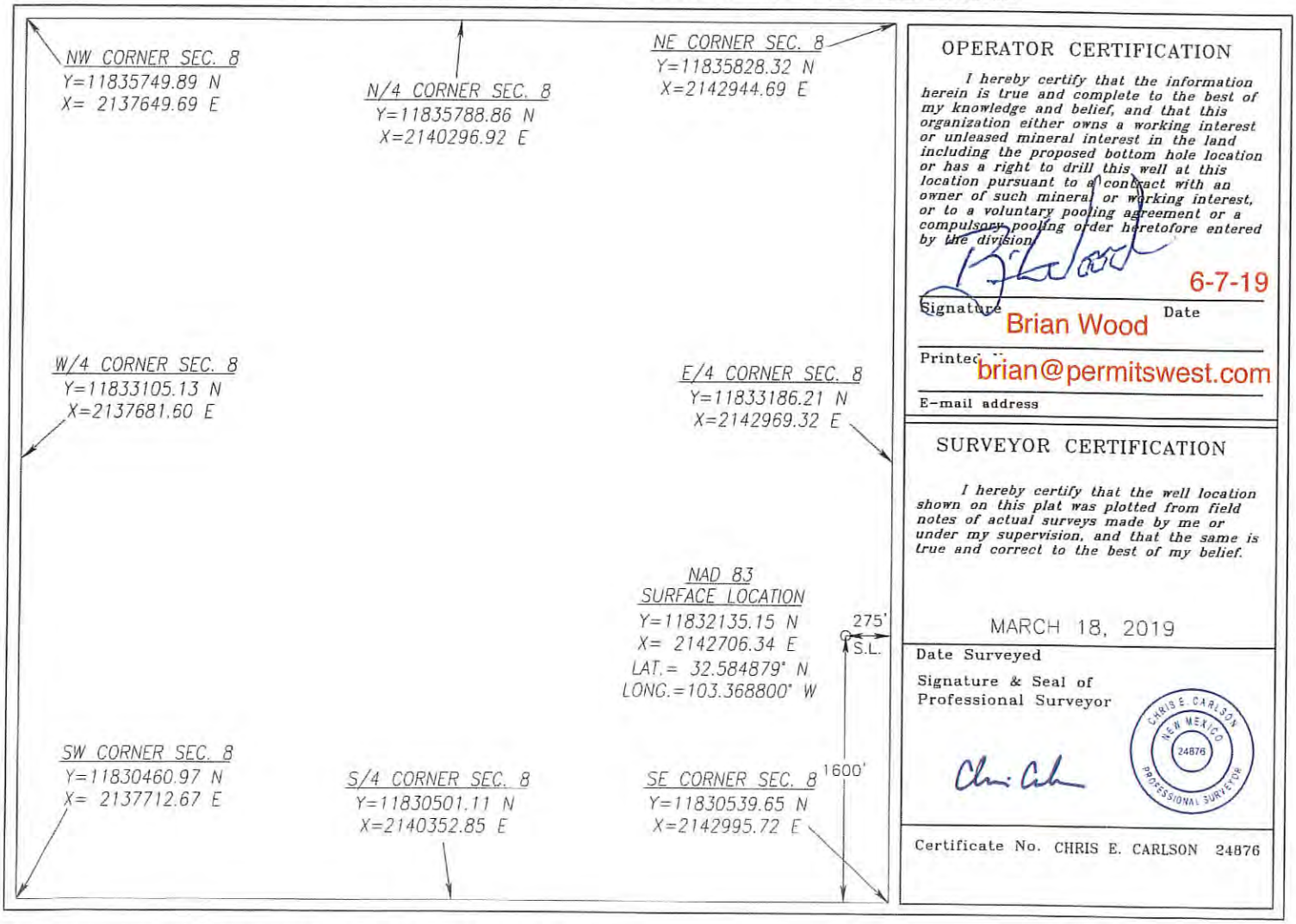
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	8	20-S	36-E		1,600	SOUTH	275	EAST	LEA

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
I	8	20-S	36-E		1,600	SOUTH	275	EAST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



OPERATOR CERTIFICATION

I hereby certify that the information 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 6-7-19 Date

Printed Name Brian Wood

E-mail address brian@permitswest.com

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.

MARCH 18, 2019
Date Surveyed

Signature & Seal of Professional Surveyor

CHRIS E. CARLSON NEW MEXICO 24876 PROFESSIONAL SURVEYOR

Certificate No. CHRIS E. CARLSON 24876

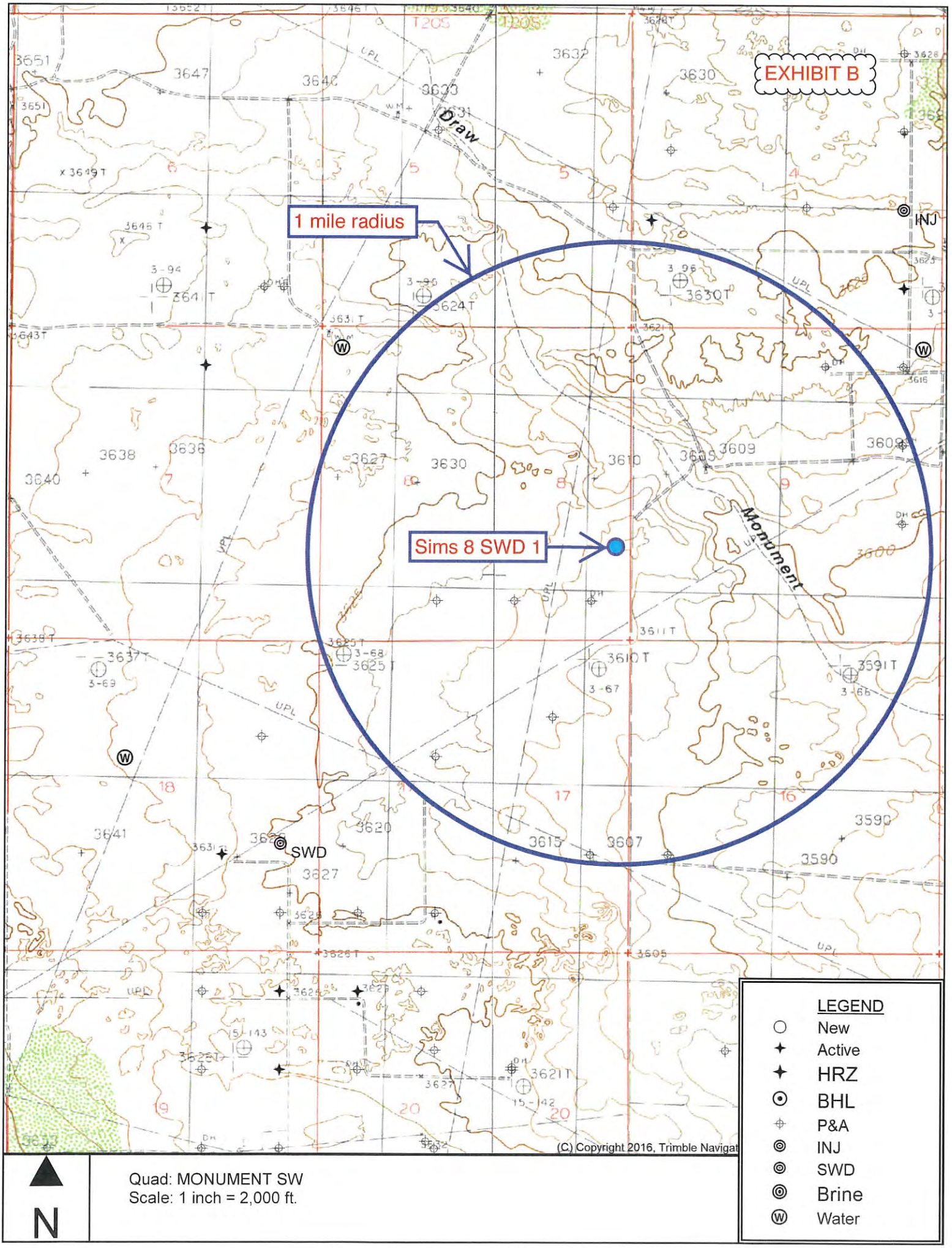


EXHIBIT B
1 mile radius
Sims 8 SWD 1
INJ
SWD
Draw
Monument
(C) Copyright 2016, Trimble Navigat
LEGEND
New
Active
HRZ
BHL
P&A
INJ
SWD
Brine
Water
N
Quad: MONUMENT SW
Scale: 1 inch = 2,000 ft.

SOORTED BY DISTANCE FROM SIMS 8 SWD 1

API	OPERATOR	WELL	STATUS	UNIT-SECTION-T20S-R36E	TVD	ZONE @ TD	FEET FROM SIMS 8 SWD 1
3002504193	Amerada Hess	Oliver Allred 001	P&A	P-8	4400	Penrose	1032
3002528019	Hamon	West 001	P&A	O-8	8800	Bone Spring	1970
3002526803	Western Oil Producers	Rountree 001	P&A	N-8	11688	Devonian	3171
3002538108	Unit Petroleum	Monument 17 001	P&A	A-17	11750	Devonian	3176
3002504197	Continental	Sanderson B 9 002	P&A	B-9	4375	Penrose	4674
3002526594	Hamon	Amerada Federal 002	P&A	F-17	11133	Morrow	4698
3002504195	Continental	Leonard Oil Co 002	P&A	I-9	4160	Queen	4898
3002504194	Continental	Leonard Oil Co 001	P&A	H-9	4300	Queen	5176
3002527132	Trilogy	Amerada Federal 003	P&A	I-17	11320	Barnett	5263
3002526733	*Falcon Creek*	*Adams 16 State 001*	*P&A*	*L-16*	*11145*	*Barnett*	*5327*

EXHIBIT B

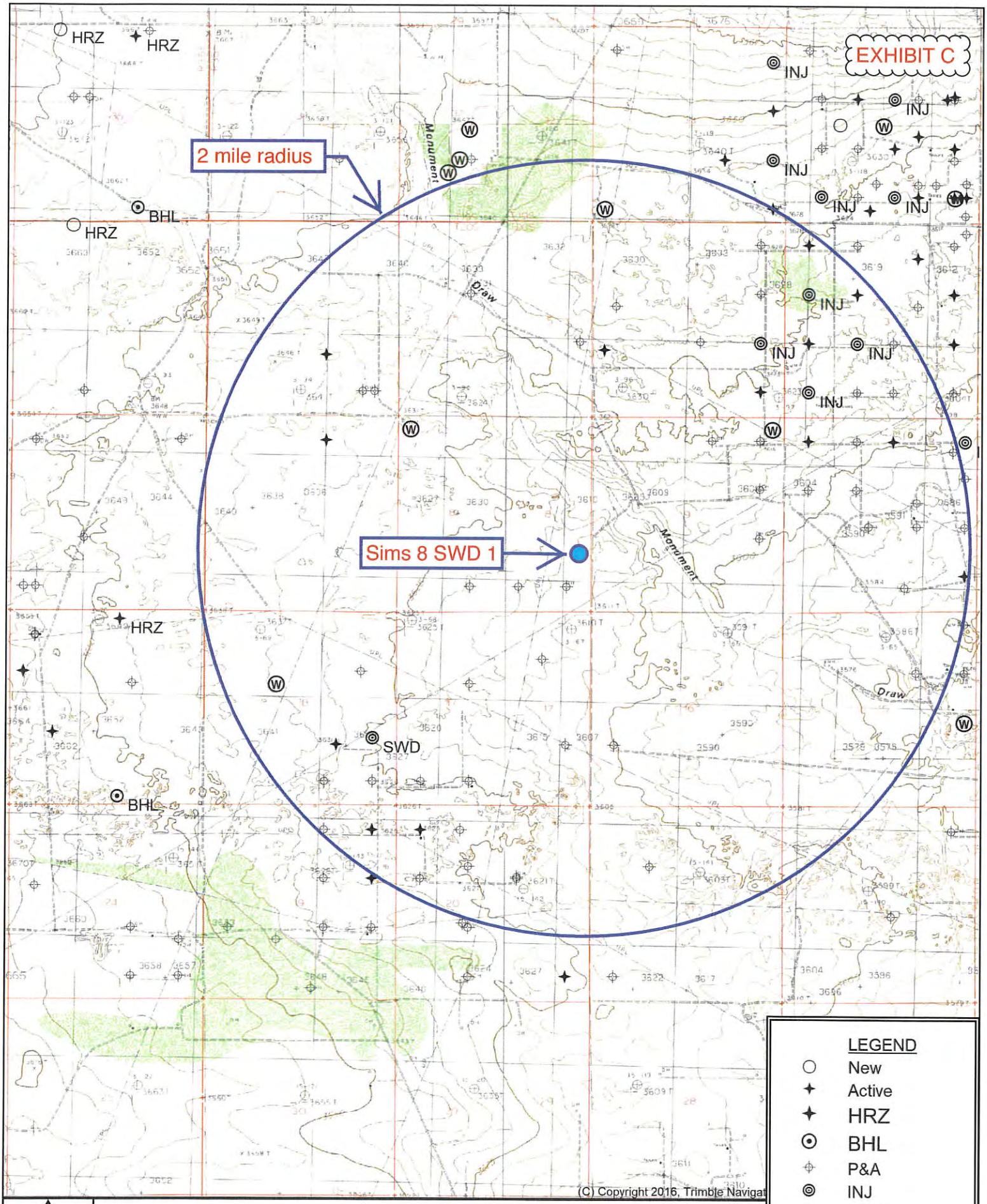


EXHIBIT C
2 mile radius
Sims 8 SWD 1
HRZ
HRZ
HRZ
HRZ
BHL
BHL
SWD
INJ
INJ
INJ
INJ
INJ
INJ
INJ
Monument
Draw
Monument
Draw
(C) Copyright 2016, Trimble Navigat
LEGEND
New
Active
HRZ
BHL
P&A
INJ
SWD
Brine
Water
N
Quad: HOBBS
Scale: 1 inch = 3,333 ft.