Revised March 23, 2017

RECEIVED:	REVIEWER:	TYPE:	APP NO:
09/17/2018	MAM	SWD	DHAM18260 837 ~~573~~

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: Advance Energy Partners Hat Mesa LLC **OGRID Number: _372417**
Well Name: Dagger SWD No. **API: TBD**
Pool: Devonian – Silurian **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

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.

9/6/2018
Date

David Harwell
Print or Type Name

832-672-4604
Phone Number

David Harwell
Signature

DHarwell@advanceenergypartners.com
e-mail Address

9/12/2018

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

Attn: Ms. Heather Riley, Director

Re Application of Advance Energy Partners Hat Mesa LLC to permit for salt water disposal the proposed **Dagger SWD Well No.1** to be located in is **1325' FEL, 2625 FNL of Unit G, Section 30, Township 21 South, Range 33 East**, NMPM, Lea County, New Mexico.

Dear Ms. Riley,

Please find enclosed Form C-108 Application for Authority to Inject, supporting the above-referenced request to permit for disposal, the Dagger SWD No. 1. The well **(1325' FEL, 2625 FNL of Unit G, Section 30, Township 21 South, Range 33 East)** is on a drill island. Attached is plat defining the drill island and the location of the Advance Energy Partners Hat Mesa LLC "Dagger SWD No. 1" within the island.

Advance Energy Partners seeks to optimize efficiency, both economically and operationally, of its operation in the southeast New Mexico. Advance Energy Partners respectfully requests administrative approval, without hearing, to dispose produced water into the Devonian – Silurian Formation. In support of this request please find the following documentation:

- Administrative Application Checklist
- Form C-108 with miscellaneous data attached
- An Injection Well Data Sheet with Wellbore Schematic
- Area of Review and Data Table of Surrounding Wells
- Publication
- Service List with Proof of Certified Mailing attached

Approval of this application is consistent with that goal as well as the NMOCD's mission of preventing waste and protection of correlative rights.

Published legal notice will run on or about August 28, 2018 in the Hobbs News-Sun and all offset operators and other interested parties have been notified individually. The legal notice affidavit will be forwarded when received. This application also includes a wellbore schematic, area of review maps, leaseholder plats and other required information for a complete Form C-108.

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.

Best regards,

David Harwell

David Harwell

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: _____Secondary Recovery _____Pressure Maintenance **XXX** Disposal _____Storage
Application qualifies for administrative approval? _____Yes _____No

II. OPERATOR: **Advance Energy Partners Hat Mesa LLC**

ADDRESS: **11490 Westheimer Rd. Suite 950, Houston, Texas 77077**

CONTACT PARTY: **David Harwell** PHONE: **832-672-4604 (o) 281-235-3431 ©**

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? **XXX** No **(This is not an expansion of an existing project)**
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: **David Harwell** TITLE: **Vice President**

SIGNATURE: David Harwell DATE: 9-12-18

E-MAIL ADDRESS: **DHarwell@advanceenergypartners.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

Side 2

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

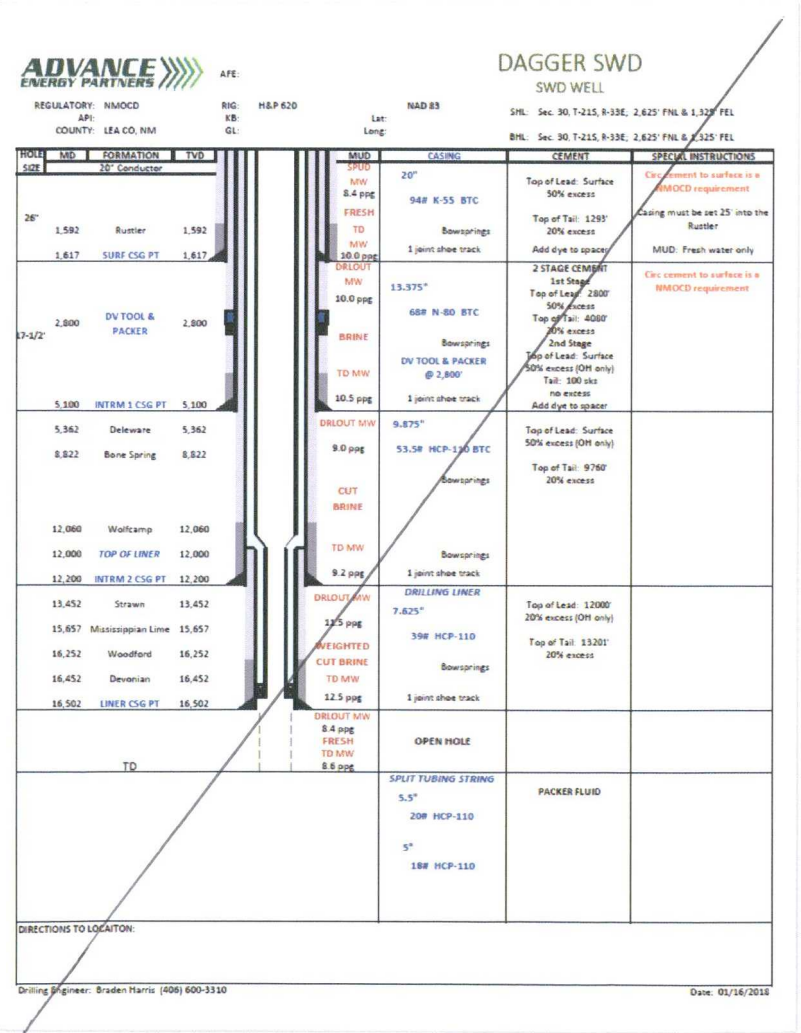
OPERATOR: **Advance Energy Partners Hat Mesa LLC**

WELL NAME & NUMBER: **Dagger SWD No. 1** (State)

WELL LOCATION: **1325' FEL & 2625' FNL** (1330' FSL) **G** **30** **21S** **33E**
FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

***WELLBORE SCHEMATIC** (Also Attached)*

amended 02/18/2019



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: **26"& 17.5"** Casing Size: **20" & 13.375"**

Cemented with: **per vendor proposal** ***or*** _____ ft³

Top of Cement: **Surface & Surface** Method Determined: **Designed**

Intermediate Casing

Hole Size: **12.25"** Casing Size:**9.875",**

Top of Cement: **Surface** Method Determined: **Circulation**

Production Casing

Hole Size: **8.5"** Casing Size: **7.625"; 39# P-110 Csg.**

Cemented with: **per vendor proposal** ***or*** _____ ft³

Top of Cement: **Top of Liner** Method Determined: **Circulation**

Total Depth: 17500

Injection Interval

Open Hole 16502 feet To 17,500 feet
(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET

Tubing Size: **5 ½" HCP-110 x 5" HCP-110** Lining Material: **Plastic Coated**

Type of Packer: **Nickel plated 10K double grip retrievable or 10K nickel plate permanent or Weatherford Arrow Set Injection Packer**

Packer Setting Depth: **+/-16490'**

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

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): **No**

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:

   T / Brushy Canyon 8,450 – 8,500
   T/ 2nd Bone Sand 10,400- 10,550
   T / 3rd Bone Sand 11,600 – 11,700
   T Wolfcamp: 11,900 – 12,950
   T / Penn: 12,700 -12,900
   T / Morrow 13,700 – 14,000

DAGGER STATE SWD #1

AFE: NM0038

ADVANCE ENERGY PARTNERS

SWD WELL 1,330'

REGULATORY: NMOCD
API:
COUNTY: LEA CO, NM

RIG:
KB:
GL: 3,778

NAD 83
Lat: 32.449929
Long: -103.607422

SHL: Sec. 30, T-21S, R-33E; 2,625' FNL & ~~1,325'~~ FEL
BHL: Sec. 30, T-21S, R-33E; 2,625' FNL & ~~1,325'~~ FEL

HOLE SIZE	MD	FORMATION	TVD	MUD	CASING	CEMENT	SPECIAL INSTRUCTIONS
		Conductor		SPUD MW 8.4 ppg FRESH TD MW 10.0 ppg	26" 12 Bowsprings 1 joint shoe track	Top of Lead: Surface 50% OH excess Top of Tail: 1320' 20% excess	Circ cement to surface is a NMOCD requirement Casing must be set 25' into the Rustler MUD: Fresh water only
30"	1,625	Rustler	1,625				
	1,650	SURF CSG PT	1,650				
				DRLOUT MW 10.0 ppg BRINE TD MW 10.5 ppg	20" 17 Bowsprings 1 joint shoe track	Top of Lead: Surface 50% OH excess Top of Tail: 2880' 20% excess	Circ cement to surface is a NMOCD requirement
24"	3,550	Base of Salt	3,550				
	3,600	INTRM 1 CSG PT	3,600				
	3,700	DV TOOL & PACKER	3,700	DRLOUT MW 10.0 ppg BRINE TD MW 10.5 ppg	13-3/8" 17 Bowsprings DV Tool & Packer @ +/-3,700' 1 joint shoe track	2 STAGE CEMENT 1st Stage Top of Lead: 2800' 50% excess Top of Tail: 4200' 20% excess 2nd Stage Top of Lead: Surface 50% excess (OH only) Tail: 100 sks no excess	Circ cement to surface is a NMOCD requirement
17-1/2"	5,250	INTRM 2 CSG PT	5,250				
				DRLOUT MW 9.0 ppg CUT BRINE TD MW 9.2 ppg	9-5/8" 47 Bowsprings 1 joint shoe track	Top of Lead: Surface 50% excess (OH only) Top of Tail: 9788' 20% excess	
12-1/4"		TOL: 11,935' (300' tie-in)					
	12,035	Wolfcamp	12,035				
	12,135	TOP OF LINER	12,135				
	12,235	INTRM 3 CSG PT	12,235				
				DRLOUT MW 11.5 ppg WEIGHTED CUT BRINE TD MW 12.5 ppg	DRILLING LINER 7-5/8" 23 Bowsprings 1 joint shoe track	Top of Tail: 12996' 20% excess	
8-3/4"	16,225	PERM PACKER	16,225				
	16,225	Woodford	16,225				
	16,245	LINER CSG PT	16,245				
	16,425	Devonian	16,425	DRLOUT MW 8.4 ppg FRESH TD MW 8.6 ppg	OPEN HOLE INJECTION STRING 5-1/2"	PACKER FLUID	
	17,084	Fusselman	17,084				
6-3/4"	17,595	Montoya	17,595				
	17,695	TD	17,695				

DIRECTIONS TO LOCAITON:

Drilling Engineer: Braden Harris (406) 600-3310

Date: 02/18/2019

Revised PRG/OCD 02-26-2019

AFE: NM0038

DAGGER SWD #1

SWD WELL

REGULATORY: NMOCD
API:
COUNTY: LEA CO, NM

RIG:
KB:
GL: 3,778

NAD 83
Lat: 32.449929
Long: -103.607422

SHL: Sec. 30, T-21S, R-33E; 2,625' FNL & ~~1,325~~ 1330' FEL
BHL: Sec. 30, T-21S, R-33E; 2,625' FNL & ~~1,325~~ 1330' FEL

HOLE SIZE	MD	FORMATION	TVD	MUD	CASING	CEMENT	SPECIAL INSTRUCTIONS
		Conductor		SPUD MW 8.4 ppg FRESH TD MW 10.0 ppg	26" 12 Bowsprings 1 joint shoe track	Top of Lead: Surface 50% OH excess Top of Tail: 1320' 20% excess	Circ cement to surface is a NMOCD requirement Casing must be set 25' into the Rustler MUD: Fresh water only
30"	1,625	Rustler	1,625				
	1,650	SURF CSG PT	1,650				
				DRLOUT MW 10.0 ppg BRINE TD MW 10.5 ppg	20" 17 Bowsprings 1 joint shoe track	Top of Lead: Surface 50% OH excess Top of Tail: 2880' 20% excess	Circ cement to surface is a NMOCD requirement
24"	3,550	Base of Salt	3,550				
	3,600	INTRM 1 CSG PT	3,600				
	3,700	DV TOOL & PACKER	3,700	DRLOUT MW 10.0 ppg BRINE TD MW 10.5 ppg	13-3/8" 17 Bowsprings DV Tool & Packer @ +/-3,700' 1 joint shoe track	2 STAGE CEMENT 1st Stage Top of Lead: 2800' 50% excess Top of Tail: 4200' 20% excess 2nd Stage Top of Lead: Surface 50% excess (OH only) Tail: 100 sks no excess	Circ cement to surface is a NMOCD requirement
17-1/2'	5,250	INTRM 2 CSG PT	5,250				
				DRLOUT MW 9.0 ppg CUT BRINE TD MW 9.2 ppg	9-5/8" 47 Bowsprings 1 joint shoe track	Top of Lead: Surface 50% excess (OH only) Top of Tail: 9788' 20% excess	
12-1/4'	12,035	Wolfcamp	12,035				
	12,135	TOP OF LINER	12,135 12,085				
	12,235	INTRM 3 CSG PT	12,235				
				DRLOUT MW 11.5 ppg WEIGHTED CUT BRINE TD MW 12.5 ppg	DRILLING LINER 7-5/8" 23 Bowsprings 1 joint shoe track	Top of Tail: 12996' 20% excess	
8-3/4"	16,225	PERM PACKER	16,225				
	16,225	Woodford	16,225				
	16,245	LINER CSG PT	16,245 16425				
	16,425	Devonian	16,425	DRLOUT MW 8.4 ppg FRESH TD MW 8.6 ppg	OPEN HOLE INJECTION STRING 5-1/2"	PACKER FLUID	
6-3/4"	17,084	Fusselman	17,084				
	17,595	Montoya	17,595				
	17,695	TD	**17,695**				

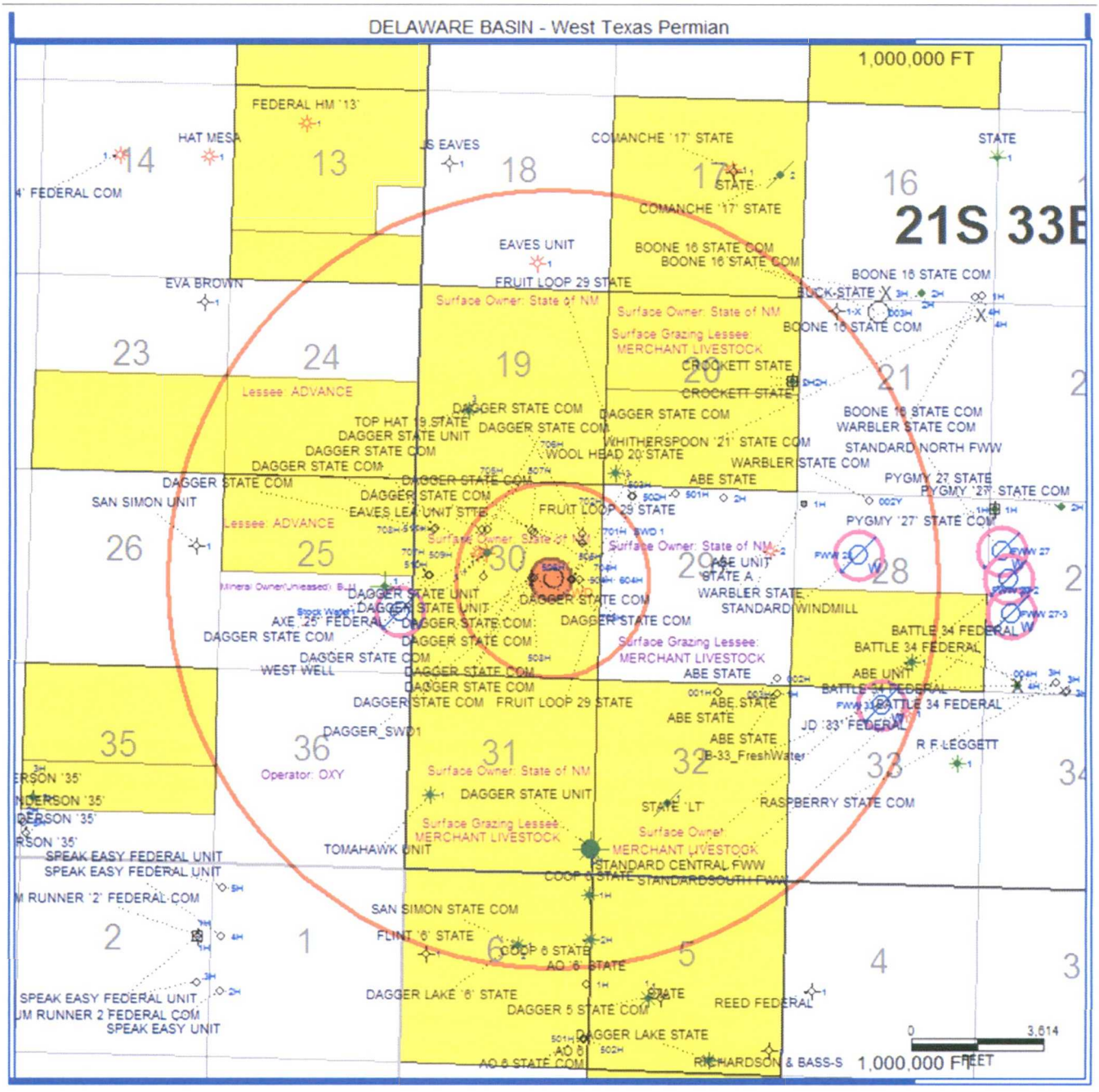
Est BHT = 250° F

DIRECTIONS TO LOCAITON:

Drilling Engineer: Braden Harris (406) 600-3310

Date: 02/18/2019

Part 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.**



Fresh Water Well

Dagger SWD No. 1

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.

No Wells Penetrate Proposed Disposal Interval Within a Half Mile or 1 Mile Area of Review.

Part VII. Operations Plan

1. Upon approval of all permits for SWD, operations would begin within 30 days. Completion of the well operations will take approximately 2 – 3 months. 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. The operator has negotiated a Surface Use Agreement for the facility and well site.

2. 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.

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

4. 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.

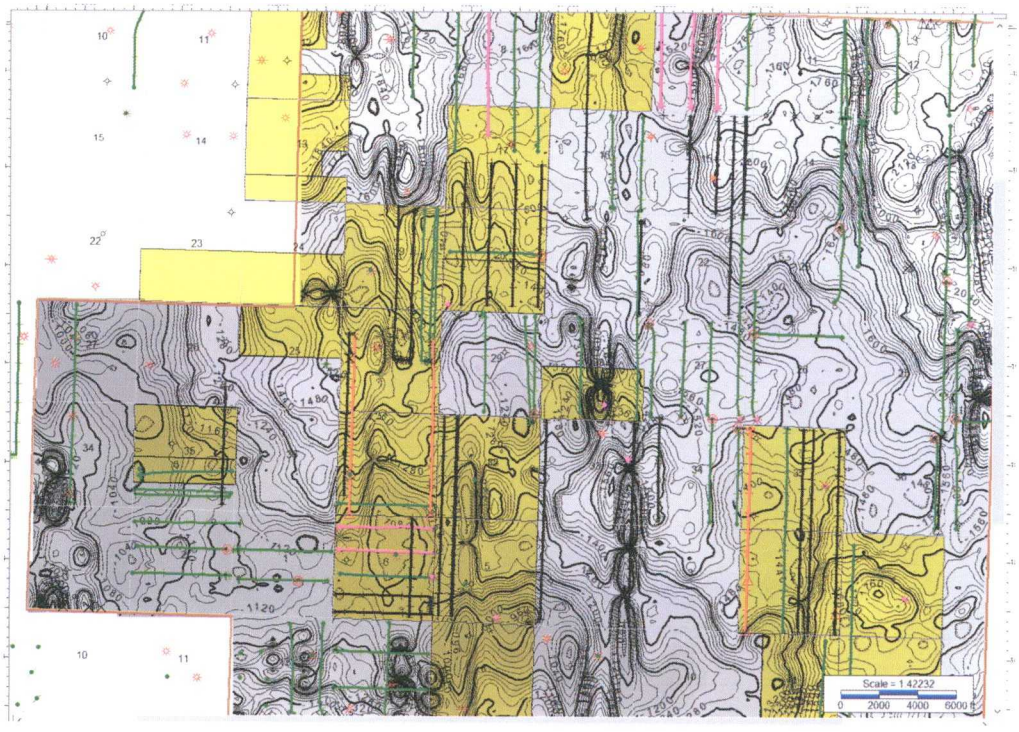
5. The tanks will be equipped with telemetry devices and visual alarms to alert the operator and customers of full tanks or an overflow situation.

6. Proposed Maximum injection pressure = ~3285 psi (0.2 psi/ft. x 16,425')

7. Proposed average daily injection rate = 18,000 BWPD
   Proposed maximum daily injection rate = 25,000 BWPD

8. 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 bbl. 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.

Capitan Reef Basement



Drill Island

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.

Dagger SWD No. 1 Estimated Tops:

Formation	Depth
Rustler	1565'
Delaware	5335'
Bone Spring	8795'
Wolfcamp	12,035'
Strawn	13,425'
Mississippian Lime	15,630'
Woodford	16,225'
Devonian	16,425'
Silurian	16,869'

The injection zone is the Devonian/Silurian/Upper Ordovician, a mixture of non-hydrocarbon bearing limestones and dolomites estimated from 16,425' to 18,150'. Any underground drinking water sources will be shallower than 1565', the estimated top of the Rustler Anhydrite.

The top of the Capitan Reef is 5400'MD and a Subsea depth of -1585 Subsea and the bottom is 3740 and a Subsea depth of 80 feet in section 30.

Geoscience Validation

NAME: **Ed Caamano** TITLE: **Vice President of Geoscience**

SIGNATURE: _____ DATE: 9/18/18

IX. Describe the proposed stimulation program, if any.

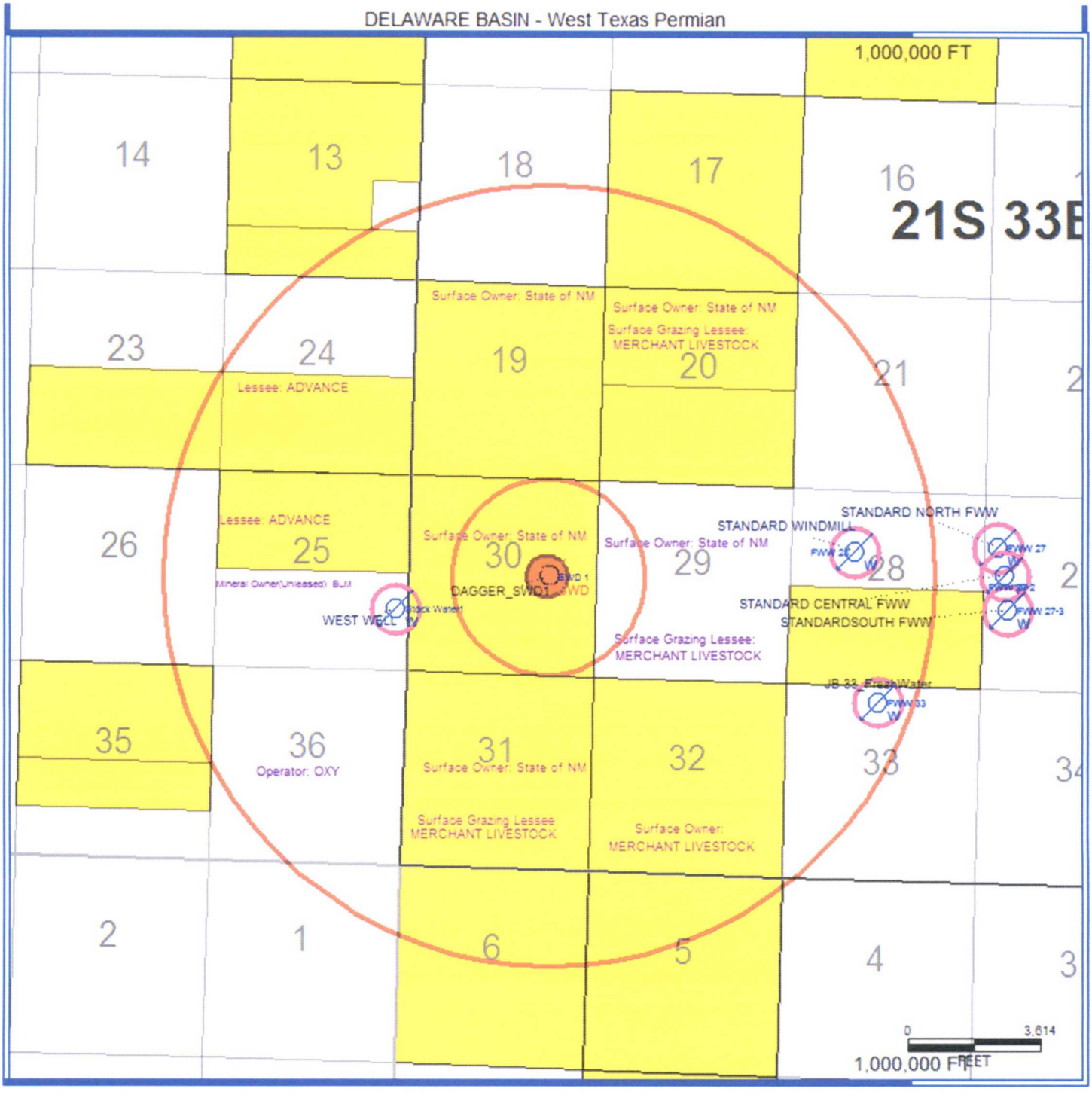
20 to 40 Gallons per feet of 20% HCL acid. The estimated open hole footage is between 1000' – 1500'.

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

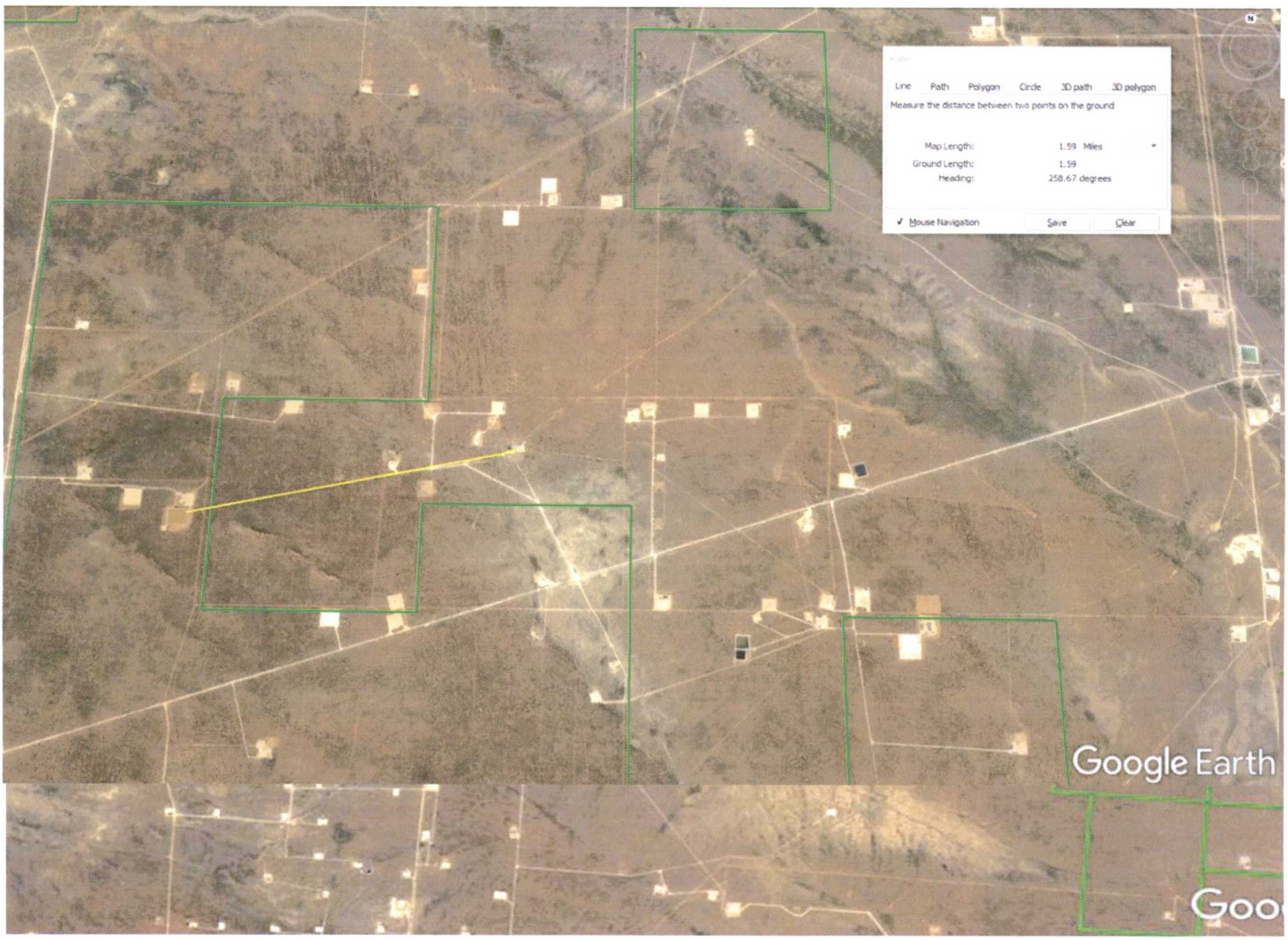
No Log Available Across Proposed Devonian/Silurian/Upper Ordovician Injection Interval. Well logs will be filed with the Division.

*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

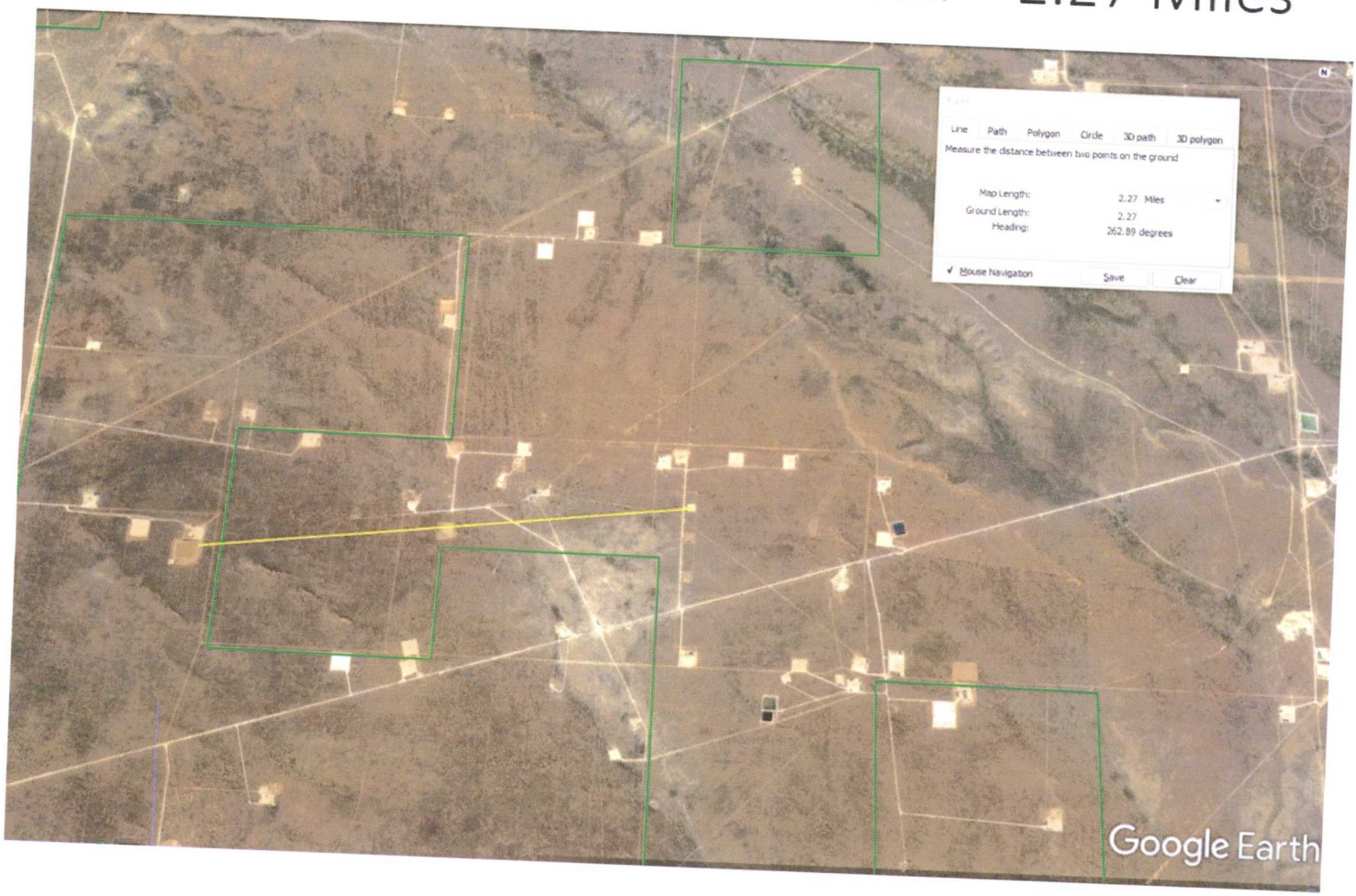
There are no fresh water wells within one mile of the Dagger SWD No. 1



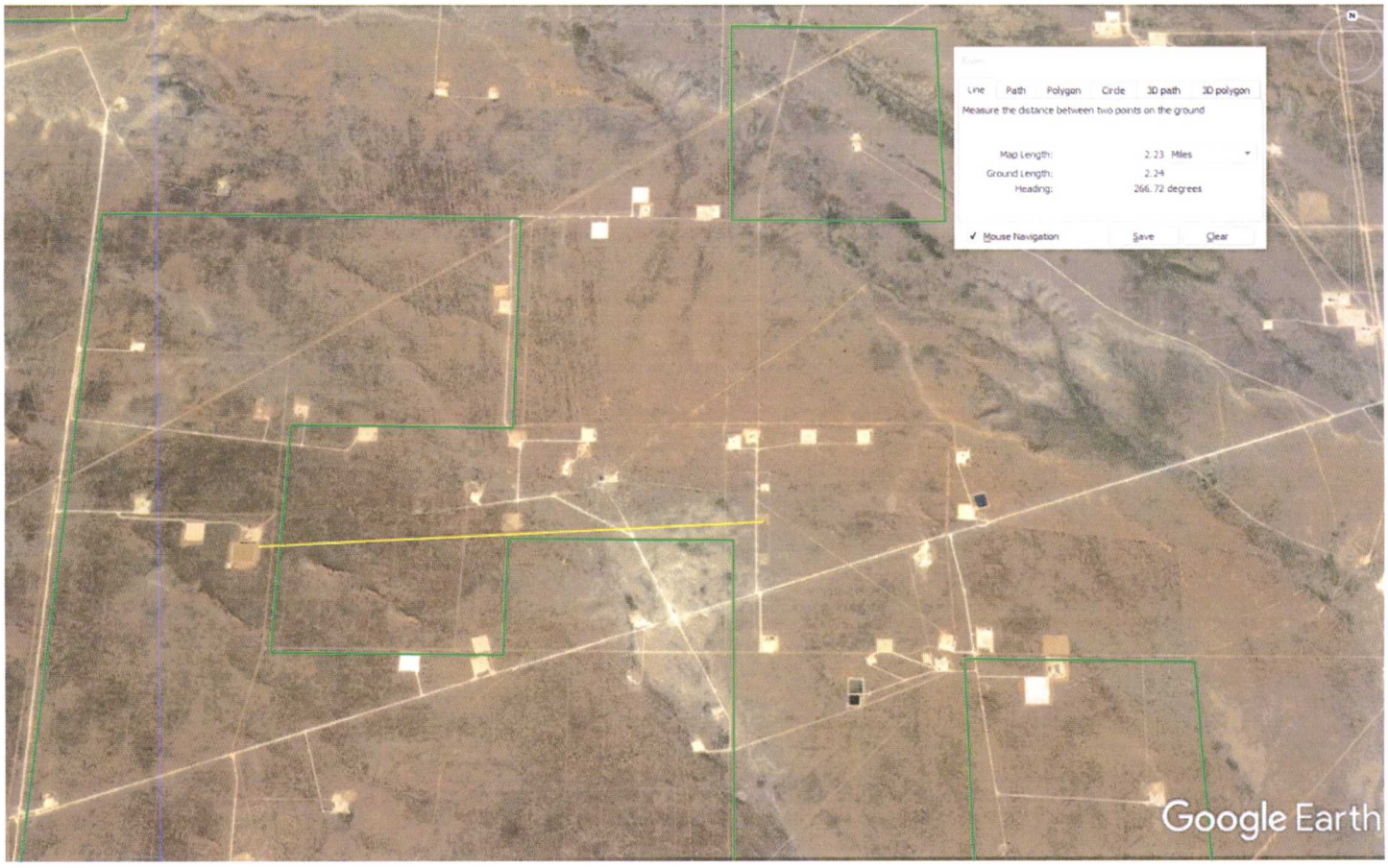
Standard Windmill Fresh Water Well – 1.59



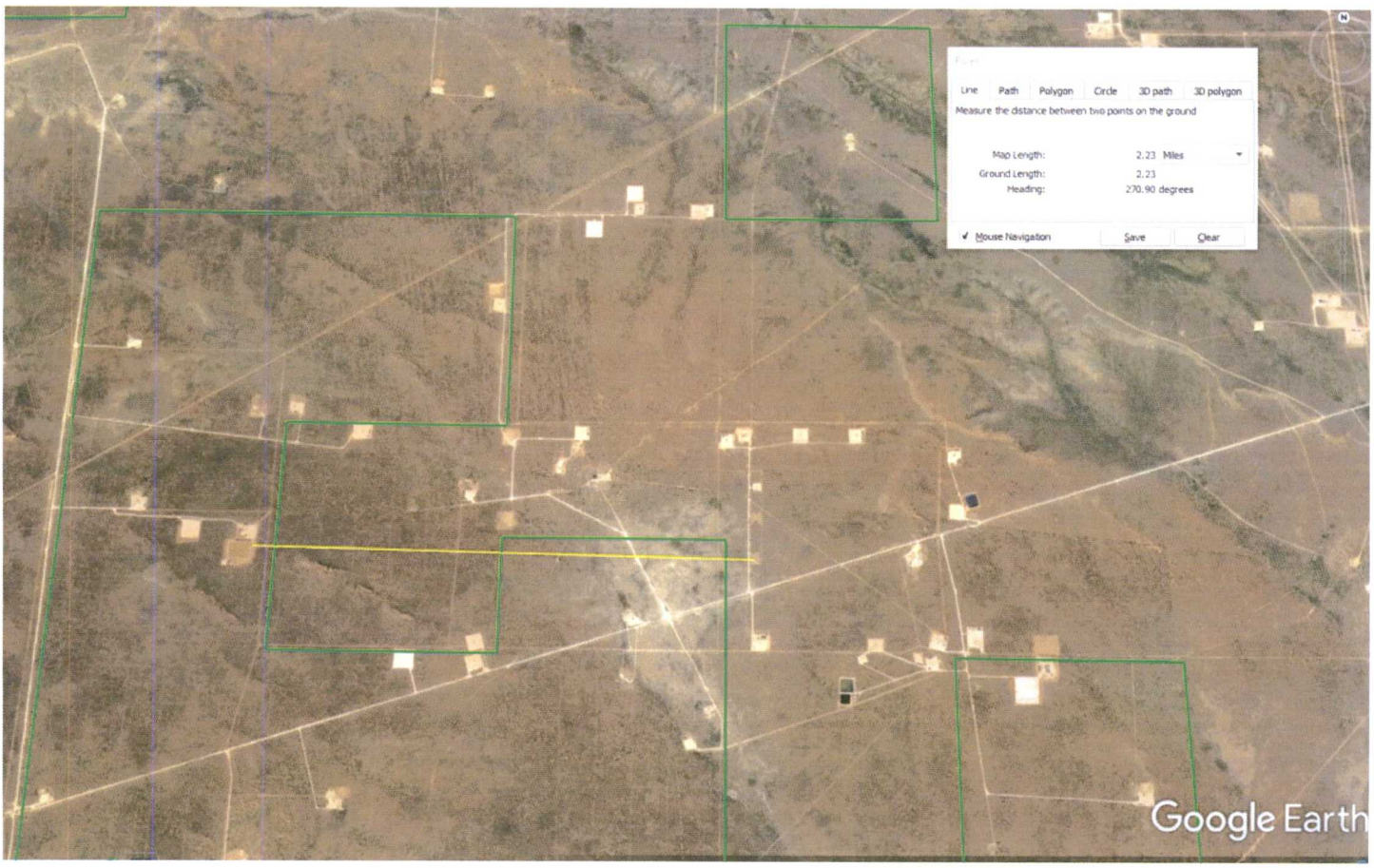
Standard North Fresh Water Well – 2.27 Miles



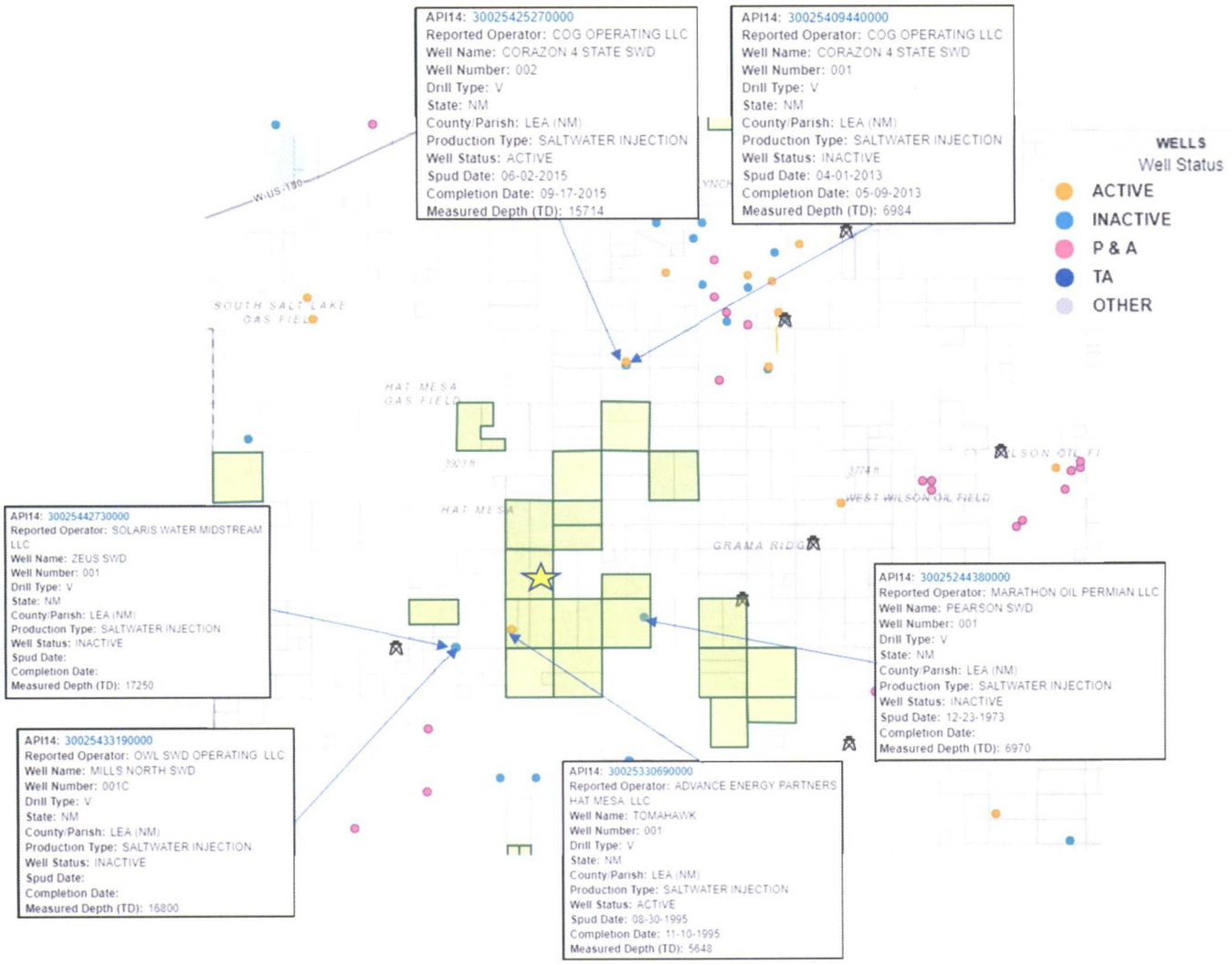
Standard Central Fresh Water Well – 2.23 Miles



Standard South Fresh Water Well – 2.23 Miles



There are no Injection wells within one mile of the Dagger SWD No. 1



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.

Advance Energy Partners Hat Mesa LLC has examined available geologic and engineering data and find no obvious 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.

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
August 28, 2018
and ending with the issue dated
August 28, 2018.

Publisher

Sworn and subscribed to before me this 28th day of August 2018.

Business Manager

My commission expires
January 29, 2019
(Seal)

OFFICIAL SEAL
GUSSIE BLACK
Notary Public
State of New Mexico
My Commission Expires 1-29-19

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
August 28, 2018

Advance Energy Partners Hat Mesa LLC, 11490 Westheimer RD. STE 950 Houston, TX, 77077, is filing Form C-108 (Application for Authority to Inject) with the New Mexico Oil Conservation Division seeking administrative approval for a salt water disposal well. The proposed well, the Dagger SWD No. 1 will be located 1325' FEL & 2625' FNL, Unit G, Section 30, Township 21 South, Range 33 East Lea County, New Mexico. Produced water from the area production will be commercially disposed into the Devonian, Silurian, and Upper Ordovician formation at a depth of +/- 16,000' to 17,500' at a maximum surface pressure of 3285 psi and rate limited only by pressure.

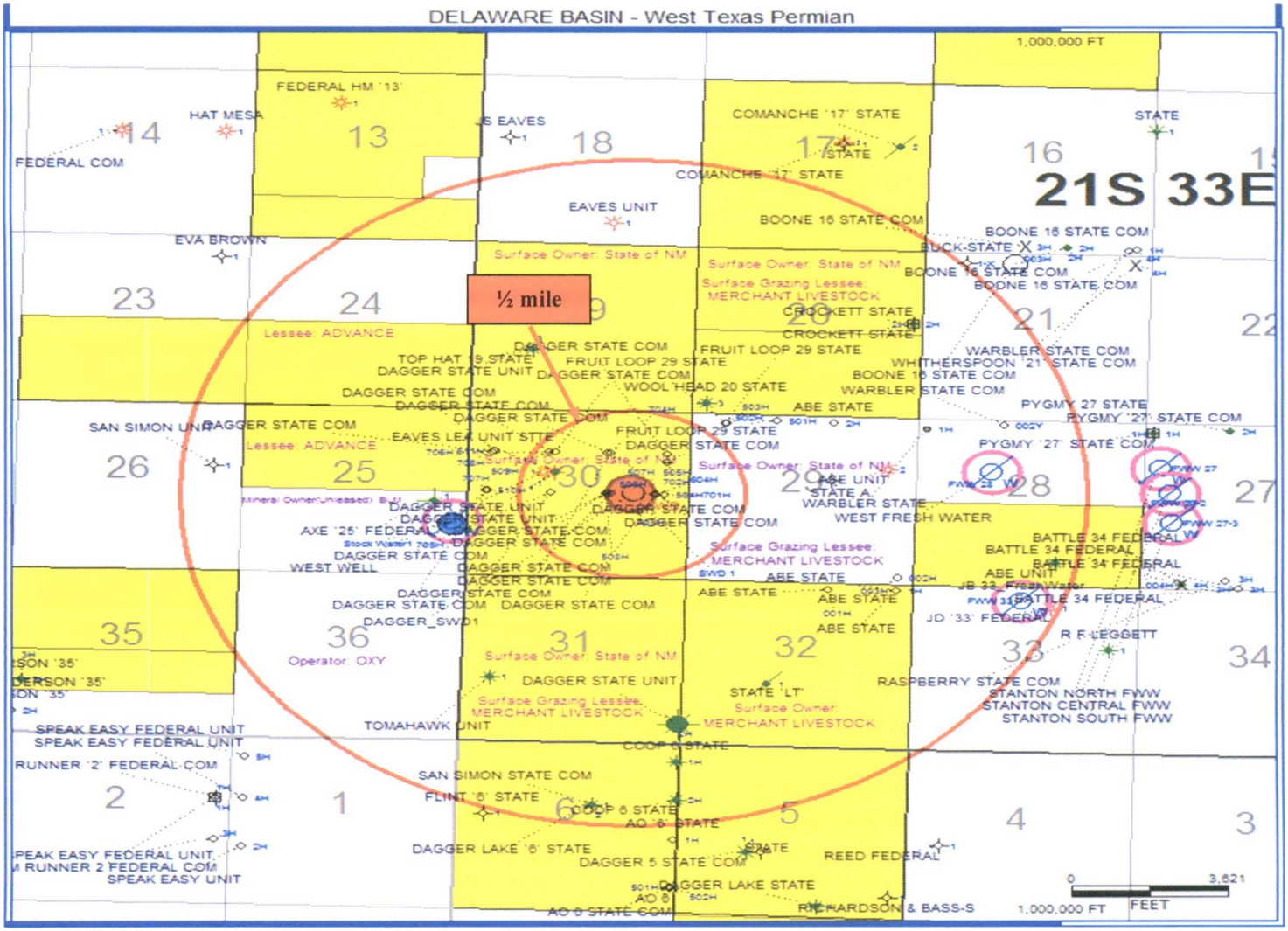
Interested parties wishing to object to the proposed application must file with the New Mexico Oil Conservation Division 1220 St. Francis Dr. Santa Fe, NM 87505, (505) 476-3460 within 15 days of the date of this notice. Additional information may be obtained from Advance Energy Partners Vice President of Engineering 832-672-4700
#33172

67115359 00217154

PAUL BURDICK
ADVANCE ENERGY PARTNERS
11490 WESTHEIMER RD, STE 950
HOUSTON, TX 77077

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

One half Mile Radius Party	Address	City, State Zip	Attention
Operator			
EOG Resources	5509 Champion Drive	Midland, Texas 79706	
Surface Ownership/Grazing Lessees			
Merchant Livestock Co, Inc	P.O. Box 1105	Eunice, New Mexico 88231	
Surface Owner/Mineral Owner			
State of New Mexico	310 Old Santa Fe Trail	Santa Fe, New Mexico 87504	



Dagger SWD No. 1

ostal Service™
IFIED MAIL® RECEIPT
Mail Only

FFICIAL USE

DAGGER R.
SWD Permit

Postmark Here

e of New Mexico
e Land Office
Old Santa Fe Trail
:a Fe, NM 87504

See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

State of New Mexico
State Land Office
310 Old Santa Fe Trail
Santa Fe, NM 87504

9590 9402 3649 7335 4313 34

2. Article Number (Transfer from service label)
7018 0680 0000 0683 0579

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Address

B. Received by (Printed Name) C. Date of Delive

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Adult Signature
☐ Adult Signature Restricted Delivery
☐ Certified Mail®
☐ Certified Mail Restricted Delivery
☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery
☐ Insured Mail
☐ Insured Mail Restricted Delivery (over $500)
☐ Priority Mail Express®
☐ Registered Mail™
☐ Registered Mail Restric Delivery
☐ Return Receipt for Merchandise
☐ Signature Confirmatio
☐ Signature Confirmatio Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receip

Postal Service™
RTIFIED MAIL® RECEIPT
stic Mail Only

OFFICIAL USE

DAGGER
SWD PERMIT

Postmark Here

OG Resources, Inc.
509 Champions Drive
lidland, Texas 79706

See Reverse for Instructions

ENDER: COMPLETE THIS SECTION

Complete items 1, 2, and 3.
Print your name and address on the reverse so that we can return the card to you.
Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:

EOG Resources Inc.
5509 Champion Drive
Midland, Tx. 79706

9590 9402 3649 7335 4312 80

7018 0680 0000 0683 0555

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) Jimmy Whitehead C. Date of Delive 8/30/1

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Adult Signature
☐ Adult Signature Restricted Delivery
☐ Certified Mail®
☐ Certified Mail Restricted Delivery
☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery
☐ Insured Mail
☐ Insured Mail Restricted Delivery (over $500)
☐ Priority Mail Express®
☐ Registered Mail™
☐ Registered Mail Restric Delivery
☐ Return Receipt for Merchandise
☐ Signature Confirmation
☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receip

stal Service™
IFIED MAIL® RECEIPT
Mail Only

FFICIAL USE

DAGGAR
SWD PERMIT

Postmark Here

chant Livestock Co, Inc.
. Box 1105
ce, New Mexico 88231

See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Merchant Livestock Co. Inc
P O Box 1105
Eunice, NM 88231

9590 9402 3649 7335 4313 27

2. Article Number (Transfer from service label)
7018 0680 0000 0683 0562

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) JUann H Pearson C. Date of Deliver 8/30/18

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

EUNICE, NM 88231 AUG 30 2018 USPS

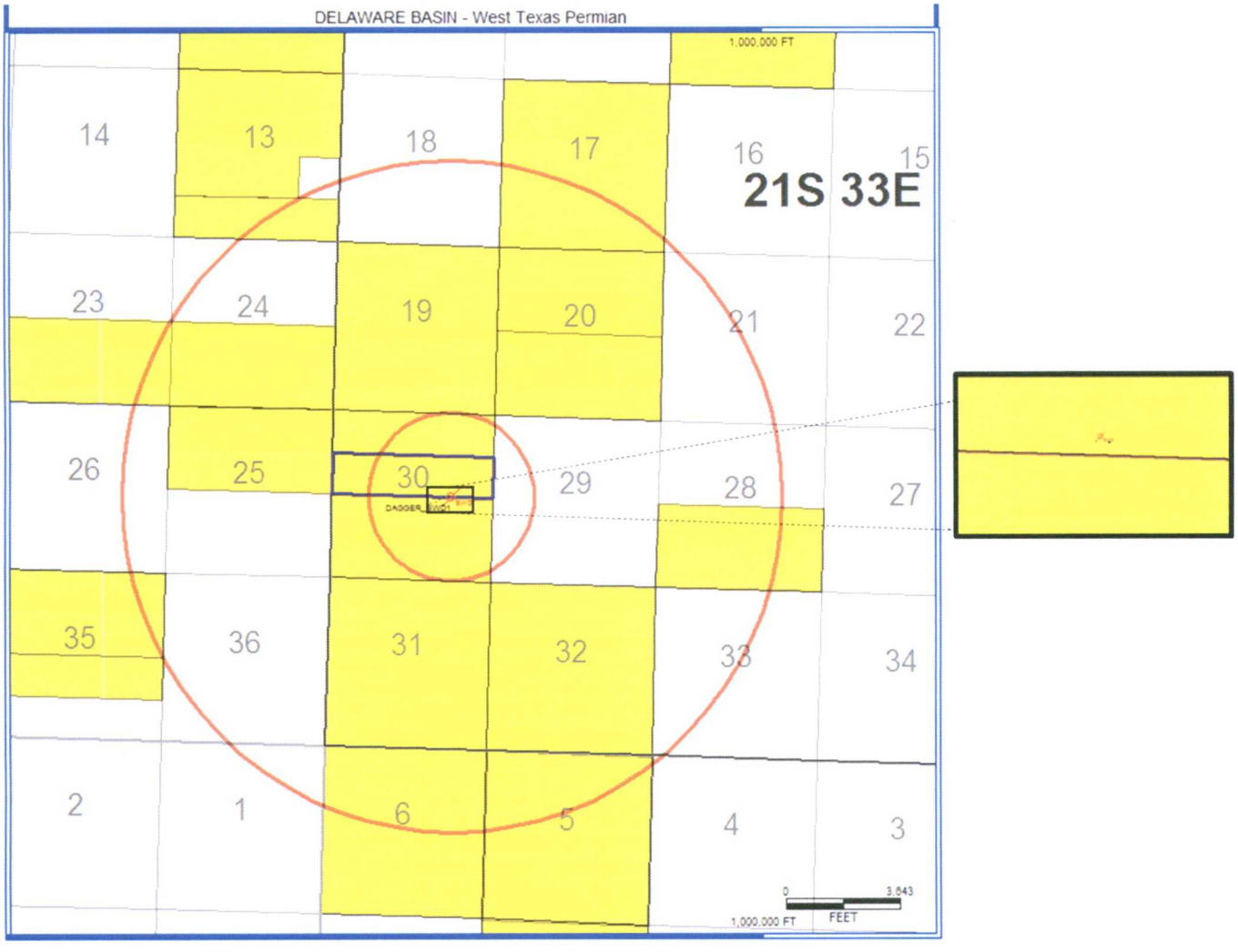
3. Service Type
☐ Adult Signature
☐ Adult Signature Restricted Delivery
☐ Certified Mail®
☐ Certified Mail Restricted Delivery
☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery
☐ Insured Mail
☐ Insured Mail Restricted Delivery (over $500)
☐ Priority Mail Express®
☐ Registered Mail™
☐ Registered Mail Restric Delivery
☐ Return Receipt for Merchandise
☐ Signature Confirmation
☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receip

Attachment

The Dagger SWD No 1 Location within the drill island in Sec 30

(1325' FEL, 2625 FNL of Unit G, Section 30, Township 21 South, Range 33 East)



SOURCE ZONE

WOLFCAMP

Lab ID
Sample ID 5688
Sample No

API No 3001520138
Well Name MAHUN STATE 001

Location ULSTR 16 22 S 22 E **Lat / Long** 32.39340 -104.70979
1800 N 1980 W **County** Eddy

Operator (when sampled)

Field ROCKY ARROYO Unit F

Sample Date 5/17/1968 Analysis Date

Sample Sourc DST Depth (if known)
Water Typ

ph	8.6	alkalinity_as_caco3_mgL	
ph_temp_F		hardness_as_caco3_mgL	
specificgravity		hardness_mgL	
specificgravity_temp_F		resistivity_ohm_cm	
tds_mgL	35495	resistivity_ohm_cm_temp_	
tds_mgL_180C		conductivity	
chloride_mgL	19000	conductivity_temp_F	
sodium_mgL		carbonate_mgL	
calcium_mgL		bicarbonate_mgL	830
iron_mgL		sulfate_mgL	2500
barium_mgL		hydroxide_mgL	
magnesium_mgL		h2s_mgL	
potassium_mgL		co2_mgL	
strontium_mgL		o2_mgL	
manganese_mgL		anionremarks	

Remarks

SOURCE ZONE

BONE SPRING

Lab ID

Sample ID 4916

API No 3002502429

Well Name LEA UNIT 005 Sample No

Location ULSTR 12 20 S 34 E **Lat / Long** 32.58504 -103.51106

1980 S 1980 E **County** Lea

Operator (when sampled)

Field LEA Unit J

Sample Date Analysis Date

Sample Sourc DST Depth (if known)

Water Typ

ph		alkalinity_as_caco3_mgL	
ph_temp_F		hardness_as_caco3_mgL	
specificgravity		hardness_mgL	
specificgravity_temp_F		resistivity_ohm_cm	
tds_mgL	202606	resistivity_ohm_cm_temp_	
tds_mgL_180C		conductivity	
chloride_mgL	118100	conductivity_temp_F	
sodium_mgL		carbonate_mgL	
calcium_mgL		bicarbonate_mgL	5196
iron_mgL		sulfate_mgL	992
barium_mgL		hydroxide_mgL	
magnesium_mgL		h2s_mgL	
potassium_mgL		co2_mgL	
strontium_mgL		o2_mgL	
manganese_mgL		anionremarks	

Remarks

SOURCE ZONE

DELAWARE

								Lab ID	
API No	3002508367							**Sample ID**	4347
Well Name	BELL LAKE UNIT				007			Sample No	
Location	ULSTR	01	24	S	33	E	**Lat / Long**	32.25143	-103.51924
		660	N		660	E		**County**	Lea

Operator (when sampled)

Field SWD Unit 1

Sample Date Analysis Date

Sample Sourc UNKNOWN Depth (if known)

Water Typ

ph		alkalinity_as_caco3_mgL	
ph_temp_F		hardness_as_caco3_mgL	
specificgravity		hardness_mgL	
specificgravity_temp_F		resistivity_ohm_cm	
tds_mgL	87686	resistivity_ohm_cm_temp_	
tds_mgL_180C		conductivity	
chloride_mgL	53920	conductivity_temp_F	
sodium_mgL		carbonate_mgL	
calcium_mgL		bicarbonate_mgL	391
iron_mgL		sulfate_mgL	749
barium_mgL		hydroxide_mgL	
magnesium_mgL		h2s_mgL	
potassium_mgL		co2_mgL	
strontium_mgL		o2_mgL	
manganese_mgL		anionremarks	

Remarks

DISPOSAL ZONE

DEVONIAN

Lab ID
Sample ID 5733
Sample No

API No. 3002508483
Well Name BELL LAKE UNIT 006

Location ULSTR 06 23 S 34 E **Lat / Long** 32.32821 -103.50663
660 S 1980 E **County** Lea

Operator (when sampled)

Field BELL LAKE NORTH Unit O

Sample Date Analysis Date

Sample Source HEATER/TREATER Depth (if known)
Water Type

ph	7	alkalinity_as_caco3_mgL	
ph_temp_F		hardness_as_caco3_mgL	
specificgravity		hardness_mgL	
specificgravity_temp_F		resistivity_ohm_cm	
tds_mgL	71078	resistivity_ohm_cm_temp_	
tds_mgL_180C		conductivity	
chloride_mgL	42200	conductivity_temp_F	
sodium_mgL		carbonate_mgL	
calcium_mgL		bicarbonate_mgL	500
iron_mgL		sulfate_mgL	1000
barium_mgL		hydroxide_mgL	
magnesium_mgL		h2s_mgL	
potassium_mgL		co2_mgL	
strontium_mgL		o2_mgL	
manganese_mgL		anionremarks	

Remarks

McMillan, Michael, EMNRD

From: Paul Burdick <PBurdick@advanceenergypartners.com>
Sent: Thursday, December 13, 2018 12:20 PM
To: McMillan, Michael, EMNRD
Subject: [EXT] SWD Notification to State Land Office

Mike, I'm flowing up on our phone conversation earlier today. This note concerns the SWD Well Application of Advance Energy Partners Hat Mesa, LLC. I can confirm we mailed the notice letter to the NM State Land Office on August 24, 2108.

Although the State land Office did not date the receipt date. However, the other parties received the notice August 30, 2018 so it sounds reasonable the SLO also received the notice the same date.

Does this note satisfy your needs?

Paul Burdick, Land Advisor
Advance Energy Partners, LLC.
11490 Westheimer Road, Suite 950
Houston, Texas 77077

832-672-4623 (office)
713-228-7320 (cell)

Goetze, Phillip, EMNRD

From: Goetze, Phillip, EMNRD
Sent: Wednesday, February 20, 2019 8:41 AM
To: 'Don Glover'
Cc: David Harwell; Jones, William V, EMNRD; McMillan, Michael, EMNRD; Kautz, Paul, EMNRD
Subject: RE: Advance Energy Partners Hat Mesa LLC - Dagger SWD No. 1 permit

Mr. Glover:

Thank you for responding to the items I requested. I'll take this well design and include it in the application. Paul will have the final say, but any modification of the well design doesn't impact the issuance of an SWD order since you have addressed the major concerns. I should have a draft prepared for the Director's review no later than Monday. PRG

Phillip Goetze, PG
Engineering Bureau, Oil Conservation Division, NM EMNRD
1220 South St. Francis Drive, Santa Fe, NM 87505
Direct: 505.476.3466
E-mail: phillip.goetze@state.nm.us

From: Don Glover <dglover@advanceenergypartners.com>
Sent: Tuesday, February 19, 2019 1:00 PM
To: Goetze, Phillip, EMNRD <Phillip.Goetze@state.nm.us>
Cc: David Harwell <DHarwell@advanceenergypartners.com>; Jones, William V, EMNRD <WilliamV.Jones@state.nm.us>; McMillan, Michael, EMNRD <Michael.McMillan@state.nm.us>; Kautz, Paul, EMNRD <paul.kautz@state.nm.us>
Subject: [EXT] RE: Advance Energy Partners Hat Mesa LLC - Dagger SWD No. 1 permit

Phillip

Thank you so much for working with us on this well. We appreciate your time. Attached is the revised casing program. We think this will satisfy the requirements.

From: Goetze, Phillip, EMNRD <Phillip.Goetze@state.nm.us>
Sent: Monday, February 18, 2019 4:39 PM
To: Don Glover <dglover@advanceenergypartners.com>
Cc: David Harwell <DHarwell@advanceenergypartners.com>; Jones, William V, EMNRD <WilliamV.Jones@state.nm.us>; McMillan, Michael, EMNRD <Michael.McMillan@state.nm.us>; Kautz, Paul, EMNRD <paul.kautz@state.nm.us>
Subject: RE: Advance Energy Partners Hat Mesa LLC - Dagger SWD No. 1 permit

Mr. Glover:

I have reviewed the design submitted in your last e-mail and find that basic casing requirements for Order No. R-111-P are not addressed. There should be separate casing for the surface (hydrologic) interval and the salt interval (Salado). Since this is a SWD disposal well and it is within R-111-P and the 4-string agreement with BLM, there will have to be additional modification of the proposed casing program. An example is provided for the Galaxy. With regards to the 3Bear design of the Libby Berry SWD No. 3, this application was withdrawn by the applicant following protest by an operator before review by the UIC technical staff. A redesign for this well would have been requested. PRG

Phillip Goetze, PG
Engineering Bureau, Oil Conservation Division, NM EMNRD
1220 South St. Francis Drive, Santa Fe, NM 87505
Direct: 505.476.3466
E-mail: phillip.goetze@state.nm.us

From: Don Glover <dglover@advanceenergypartners.com>
Sent: Monday, February 18, 2019 1:54 PM
To: Goetze, Phillip, EMNRD <Phillip.Goetze@state.nm.us>
Cc: David Harwell <DHarwell@advanceenergypartners.com>; Jones, William V, EMNRD <WilliamV.Jones@state.nm.us>; McMillan, Michael, EMNRD <Michael.McMillan@state.nm.us>
Subject: [EXT] RE: Advance Energy Partners Hat Mesa LLC - Dagger SWD No. 1 permit

Hi Phillip

Any update? Are you okay with the casing design program. We need to start ordering pipe.

From: Don Glover
Sent: Wednesday, February 13, 2019 5:09 PM
To: 'Goetze, Phillip, EMNRD' <Phillip.Goetze@state.nm.us>
Cc: David Harwell <DHarwell@advanceenergypartners.com>; Jones, William V, EMNRD <WilliamV.Jones@state.nm.us>; McMillan, Michael, EMNRD <Michael.McMillan@state.nm.us>
Subject: RE: Advance Energy Partners Hat Mesa LLC - Dagger SWD No. 1 permit

Hi Phillip!

Addressing Dot Point 1
Attached is the updated WBS for the Dagger SWD #1. Please note the following:

- New casing design mirrors the Libby Berry SWD #0003 drilled by 3 Bears
- 3 Bears has the intermediate set in the 2nd Bone Spring
- 3 Bears has a 39# liner however our casing model shows the 29.7# works.
- The casing design model also shows 17# for the 5-1/2" tubing string. For now I have updated the tubing string as follows due to a conversation with Mr. Phillips:
    - 5-1/2" from 20# to 17#
    - 5" from 18# to 15#

Please let us know if this casing program meets your expectations.

Addressing Dot Point 2
Consulting Company MVG Energy Solution President Affirmations statement.

Addressing Dot Point 3
At this point, Advance Energy Partners will only dispose disposal from leases and operations of Advanced Energy Partners Hat Mesa LLC

Please don't hesitate to contact us if you need any more information.

From: Goetze, Phillip, EMNRD <Phillip.Goetze@state.nm.us>
Sent: Friday, February 8, 2019 5:19 PM
To: Don Glover <dglover@advanceenergypartners.com>
Cc: David Harwell <DHarwell@advanceenergypartners.com>; Jones, William V, EMNRD <WilliamV.Jones@state.nm.us>; McMillan, Michael, EMNRD <Michael.McMillan@state.nm.us>
Subject: RE: Advance Energy Partners Hat Mesa LLC - Dagger SWD No. 1 permit

Mr. Glover:

At this point of review, the following items will require a response:

- Well design: the Salado (salt interval) has to isolated by its own casing interval. The use of the 13.375-inch intermediate casing for the Salado and Capitan Reef is not acceptable. Please have a new casing program that addresses this situation. Pleas submit a revised Injection Well Data Sheet along with an updated well diagram.
- Affirmation statement: though "Advanced Energy Partners Hat Mesa LLC" has examined the available geologic and engineering data, if the application was protested "Advanced Energy Partners Hat Mesa LLC" could not appear to testify. The affirmation statement has to endorsed by a qualified individual able to provided testimony as an expert witness. The statement shall be resubmitted affirmed by a qualified individual such as Mr. Caamano.
- Sources of Class II fluids for disposal: please note that the SWD order will only allow for disposal from leases and operations of Advanced Energy Partners Hat Mesa LLC. The order would include an opportunity to become "commercial" but this will likely require additional information not contain in this application.

Please submit the requested items as soon as possible as this will help finalize the draft order. If you have any questions, please contact me by e-mail/phone at your convenience. Thank you. PRG

Phillip Goetze, PG
Engineering Bureau, Oil Conservation Division, NM EMNRD
1220 South St. Francis Drive, Santa Fe, NM 87505
Direct: 505.476.3466
E-mail: phillip.goetze@state.nm.us

From: Don Glover <dglover@advanceenergypartners.com>
Sent: Tuesday, February 5, 2019 3:13 PM
To: Goetze, Phillip, EMNRD <Phillip.Goetze@state.nm.us>; Jones, William V, EMNRD <WilliamV.Jones@state.nm.us>; McMillan, Michael, EMNRD <Michael.McMillan@state.nm.us>
Cc: David Harwell <DHarwell@advanceenergypartners.com>
Subject: [EXT] RE: Advance Energy Partners Hat Mesa LLC - Dagger SWD No. 1 permit

Thank you so much

From: Goetze, Phillip, EMNRD <Phillip.Goetze@state.nm.us>
Sent: Monday, February 4, 2019 4:22 PM
To: Don Glover <dglover@advanceenergypartners.com>; Jones, William V, EMNRD <WilliamV.Jones@state.nm.us>; McMillan, Michael, EMNRD <Michael.McMillan@state.nm.us>
Cc: David Harwell <DHarwell@advanceenergypartners.com>
Subject: RE: Advance Energy Partners Hat Mesa LLC - Dagger SWD No. 1 permit

Mr. Glover:

I will be reviewing your application this week and will provide comment within the next two days. PRG

Phillip Goetze, PG
Engineering Bureau, Oil Conservation Division, NM EMNRD
1220 South St. Francis Drive, Santa Fe, NM 87505
Direct: 505.476.3466
E-mail: phillip.goetze@state.nm.us

From: Don Glover <dglover@advanceenergypartners.com>
Sent: Monday, February 4, 2019 1:53 PM
To: Jones, William V, EMNRD <WilliamV.Jones@state.nm.us>; Goetze, Phillip, EMNRD <Phillip.Goetze@state.nm.us>; McMillan, Michael, EMNRD <Michael.McMillan@state.nm.us>
Cc: David Harwell <DHarwell@advanceenergypartners.com>
Subject: [EXT] RE: Advance Energy Partners Hat Mesa LLC - Dagger SWD No. 1 permit

Gentleman

The applicant is Advance Energy Partners Hat Mesa LLC.

OGRID Number: 372417

Well Name Dagger SWD No. 1

Submitted 9/6/2018

From: Jones, William V, EMNRD <WilliamV.Jones@state.nm.us>
Sent: Monday, February 4, 2019 2:06 PM
To: Goetze, Phillip, EMNRD <Phillip.Goetze@state.nm.us>; McMillan, Michael, EMNRD <Michael.McMillan@state.nm.us>
Cc: Don Glover <dglover@advanceenergypartners.com>
Subject: FW: Advance Energy Partners Hat Mesa LLC - Dagger SWD No. 1 permit

Phil or Mike,
Inquiry about SWD permit.

Will

From: Don Glover <dglover@advanceenergypartners.com>
Sent: Monday, February 4, 2019 8:39 AM
To: Jones, William V, EMNRD <WilliamV.Jones@state.nm.us>
Cc: David Harwell <DHarwell@advanceenergypartners.com>
Subject: [EXT] Advance Energy Partners Hat Mesa LLC - Dagger SWD No. 1 permit

Hi William

As you informed me to do 3 weeks ago "contact you at the end of the month regarding Advance Energy Partners Hat Mesa LLC - Dagger SWD No. 1 permit". Do you have an update? We would like to Spud the well in 10 days.

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.

Dagger SWD No. 1 Estimated Tops:

Formation	Depth
Rustler	1565'
Delaware	5335'
Bone Spring	8795'
Wolfcamp	12,035'
Strawn	13,425'
Mississippian Lime	15,630'
Woodford	16,225'
Devonian	16,425'
Silurian	16,869'

The injection zone is the Devonian/Silurian/Upper Ordovician, a mixture of non-hydrocarbon bearing limestones and dolomites estimated from 16,425' to 18,150'. Any underground drinking water sources will be shallower than 1565', the estimated top of the Rustler Anhydrite.

Geoscience Validation

NAME: **Donald Glover** TITLE: **President MVG Energy Solutions**

SIGNATURE: Donald Glover DATE: 2/13/2019

FORM C-108 Technical Review Summary [Prepared by reviewer and included with application; V16.2]

DATE RECORD: First Rec: 9/17/2018 **Admin Complete:** 9/17/2018 **or Suspended:** — Add. Request/Reply: Well completion (02/2019)

ORDER TYPE: WFX / PMX / SWD Number: 1787 Order Date: 2/25/19 Legacy Permits/Orders: —

Well No. 1 Well Name(s): Dagger State SWD [name modified based on OCD protocol]

API : 30-0 25- Pending Spud Date: TBD New or Old (EPA): New (***UIC Class II Primacy 03/07/1982***)

Footages 2625' FNL & 1330' FEL Lot — or Unit — Sec 30 Tsp 21S Rge 33E County Lea

General Location: 26.6mi west Eunice; ~5 south of NM 176 (five feet added to E/W) Pool: SWD; Devonian-Silurian Pool No.: 97869

BLM 100K Map: Jal Operator: Advance Energy Partners Hat Mesa LLC OGRID: 372417 Contact: D. Glover

COMPLIANCE RULE 5.9: Total Wells: 33 Inactive: 2 **Fincl Assur:** Yes Compl. Order? NO **IS 5.9 OK?** ✓ **Date:** 2/26/2019 RLA

WELL FILE REVIEWED ✓ Current Status: No APD filed

WELL DIAGRAMS: NEW: Proposed ✓ or **RE-ENTER:** Before Conv. ◯ After Conv. ◯ Logs in Imaging: —

Planned Rehab Work to Well: Only one mile AOR for wells; No IS assessment

Well Construction Details (Amended)

	Sizes (in) Borehole / Pipe	Setting Depths (ft)	Stage Tool	Cement Sx or Cf	Cement Top and Determination Method
Planned ✓ or Existing — Surface	26/30	0 to 1650	Stage Tool	est. 580	Cir to surface
Planned ✓ or Existing — Interm/Prod	24/20	0 to 3600	—	est. 750	Cir to surface
Planned ✓ or Existing — Interm/Prod	17½/13 3/8	0 to 5250	DV tool / 3700	est. 980	Cir to surface
Planned ✓ or Existing — Prod/Liner	12¼/9 5/8	0 to 12235	—	est. 1100	Cir to surface
Planned ✓ or Existing — Liner	8¾/7 5/8	12035 to 16425	—	est. 400	Calc. *
Planned ✓ or Existing — OH / PERF	5½	16425 - 17695'	Inj Length 1,270		

Completion/Operation Details:

Drilled TD — PBTD —

NEW TD 17695 NEW PBTD —

NEW Open Hole ✓ or NEW Perfs ◯

Tubing Size Tapered in. Inter Coated? Yes

Proposed Packer Depth 16225 ft changed

Min. Packer Depth 16325 (100-ft limit)

Proposed Max. Surface Press. — psi

Admin. Inj. Press. 16425 x 0.2 = 3285 (0.2 psi per ft)

Injection Lithostratigraphic Units:	Depths (ft)	Injection or Confining Units	Tops
Adjacent Unit: Litho. Struc. Por.		Mississippian	—
Confining Unit: Litho. Struc. Por.	0	Woodford	16225
Proposed Inj Interval TOP:	16425	Devonian / Fusselman	16425
Proposed Inj Interval BOTTOM:	17695		—
Confining Unit: Litho. Struc. Por.	+100	Montoya	17595
Adjacent Unit: Litho. Struc. Por.		Simpson / Lord	—

AOR: Hydrologic and Geologic Information

POTASH: R-111-P Yes *Noticed?* Verified **BLM Sec Ord** ✓ **WIPP** ✓ *Noticed?* NA **Salt/Salado** T: +1625 B: 3550 **NW: Cliff House fm** —

FRESH WATER: Aquifer Capitan / Surface Castile Rustler Redesign Max Depth 5250* **HYDRO AFFIRM STATEMENT By Qualified Person** ✓

NMOSE Basin: Capitan **CAPITAN REEF:** thru ✓ adj — NA — **No. GW Wells in 1-Mile Radius?** 0 FW Analysis? NA

Disposal Fluid: Formation Source(s) DMG; Wolfcamp & Bone Spring Analysis? Yes On Lease ◯ Operator Only ✓ or Commercial ◯

Disposal Interval: Inject Rate (Avg/Max BWPD): <20,000 Bw Protectable Waters? No Source: Historical System: Closed or Open

HC Potential: Producing Interval? No Formerly Producing? No Method: Logs/DST/P&A/Other Regional mudlog 2-Mi Radius Pool Map ✓

AOR Wells: ~~1/2~~ One-M Radius Map and Well List? 0 **No. Penetrating Wells:** 0 [AOR Horizontals: — AOR SWDs: —]

Penetrating Wells: No. Active Wells — Num Repairs? — on which well(s)? — Diagrams? —

Penetrating Wells: No. P&A Wells — Num Repairs? — on which well(s)? — Diagrams? —

NOTICE: Newspaper Date 08/29/2018 Mineral Owner NMSLO Surface Owner NMSLO N. Date 8/30/18

RULE 26.7(A): Identified Tracts? ½ mile notice only Affected Persons: EOG / no others identified [Lessee - Merchant Livestock] N. Date 8/30/18

Order Conditions: **Issues:** 5' from 1/4 1/4 Section line; Salts / Capitan protection; HC potential; liner too shallow; only 100' tie with shoe and top; mudlog / picks 7 5/8

Additonal COAs: moved well +5 ft (no issues with notice); cmt notice; Change liner

Pending Application for High-Volume Devonian Disposal Well
C-108 Application for Dagger State SWD No. 1 – Advance Energy Partners Hat Mesa LLC