Initial Application Part I

Received: **07/25/2019**

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

07/25/2019 DATE IN	SUSPENSE	ENGINEER	LOGGED IN	SWD TYPE	pMAM1920638226 APP NO.

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
- 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

Application Acronyms:

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Simultaneous Dedication
☐ NSL ☐ NSP ☐ SD

SWD-2209

Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☒ SWD ☐ IPI ☐ EOR ☐ PPR

[D] Other: Specify _____

[2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or ☐ Does Not Apply

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners

[B] ☒ Offset Operators, Leaseholders or Surface Owner

[C] ☒ Application is One Which Requires Published Legal Notice

[D] ☒ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] ☒ For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] ☒ Waivers are Attached

[3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

[4] **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.

Richard Hill		SVP Engineering	7/23/2020
Print or Type Name	Signature	Title	Date

rhill@wellconsultant.com
e-mail Address

State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division

Receipt of Fee Application Payment

PO Number: NWTIV-190725-C-1080

Payment Date:	7/25/2019 8:19:44 AM
Payment Amount:	$500.00
Payment Type:	Credit Card

Application Type:	Application for a fluid injection well permit.
Fee Amount:	$500.00
Application Status:	Pending Document Delivery

OGRID:	25670
First Name:	Richard
Last Name:	Hill
Email:	hill.richie@gmail.com

IMPORTANT: If you are mailing or delivering your application, you must print and include your receipt of payment as the first page on your application. All mailed and delivered applications must be sent to the following address: 1220 S. St. Francis Dr., Santa Fe, NM 87505. For inquiries, reference the PO Number listed above.

BC&D Operating, Inc

P.O. Box 302 Hobbs, NM 88241
(405) 837-8147

July 23, 2019

West Jal Deep SWD #7

640' FNL & 1980 FEL, Sec 31, T24S, R36E, Lea Co, NM

Contents:

1. Administrative Application Checklist.
2. Form C-108: Application for Authority to inject.
3. Form C-108: Additional Questions Answered.
4. Formation Tops.
5. Proposed wellbore diagram of West Jal Deep SWD #7.
6. One Mile Radius Map.
7. Form C-102.
8. Point Diversion Map.
9. Water Well Samples and Water Column Information.
10. Legal Notice that will be run as required in the Hobbs News Sun.
11. Letter sent to Surface Owner and Leasehold Operator within- One-half Mile of the Well Location.
12. Casing assumptions.
13. General Drilling Plan.
14. H2S and Well Control Plan.
15. Emergency Contact List.

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 _____Disposal _____Storage
Application qualifies for administrative approval? ____X____Yes _____No

II. OPERATOR: BC&D Operating, Inc. (25670)

ADDRESS: P.O Box 302 Hobbs, New Mexico 88241

CONTACT PARTY: Richard Hill PHONE: (405) 837-8147

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

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

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

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

VII. Attach data on the proposed operation, including:

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

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

IX. Describe the proposed stimulation program, if any.

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

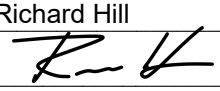
*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

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

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

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

NAME: Richard Hill TITLE: SVP Engineering

SIGNATURE:  DATE: 7/23/2019

E-MAIL ADDRESS: rhill@wellconsultant.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: BC&D Operating, Inc. (25670)

WELL NAME & NUMBER: West Jal Deep SWD #7

WELL LOCATION: 640 FNL & 1980 FEL | B | 31 | 24S | 36E

FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

WELLBORE SCHEMATIC

Please see attached wellbore schematic in the following pages.

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: _____ Casing Size: _____

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

Top of Cement: _____ Method Determined: _____

Intermediate Casing

Hole Size: _____ Casing Size: _____

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

Top of Cement: _____ Method Determined: _____

Production Casing

Hole Size: _____ Casing Size: _____

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

Top of Cement: _____ Method Determined: _____

Total Depth: _____

Injection Interval

14,844' feet to 17,300'

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET

Tubing Size: 4-1/2" Lining Material: Duoline

Type of Packer: 4-1/2" TCPC Permanent Packer w/ High Temp Elastomer & Full Inconel

Packer Setting Depth: 15,450'

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: Miss - Dev- Fuss - Mont (100')

3. Name of Field or Pool (if applicable): SWD; Miss - Dev - Fuss - Mont

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:

   Yates - Seven Rivers @ 3,589'

   Bone Spring at 8,050'

   Wolfcamp @ 11,145'

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III. WELL DATA

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

   West Jal Deep SWD #7, Sec 31, T24S, R36E, 640 FNL & 1980 FEL.

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.**

Casing Size	Setting Depth	Sack of Cement	Hole Size	Top of Cement	Determined
20"	1,250'	1,205	26"	Surface	Circulate
13-3/8"	5,200'	1,970	17-1/2"	Surface	Circulate
9-5/8"	11,864'	1,950	12-1/4"	Surface	Circulate
7"	11,565' - 15,550'	388	8-1/2"	11,265'	Circulate

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

   4-1/2" (0 – 15,450') OD, Internally Plastic-Coated tubing set 50' – 100' above open hole.

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

   4-1/2" TCPC Permanent packer w/ high temp elastomer & full Inconel.

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.**

   Miss-Devonian-Silurian Formations

   Pool Name: SWD (Devonian-Fusselman)

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

   14,844' – 17,300' (14,844 - 15,550 cased hole and not perforated), (15,550' - 17,300' OH)

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

   New well drilled for injection.

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.**

   N/A

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.**

   Next Higher: Wolfcamp 11,145', Bone Spring/Avalon 8,070', and Yates 3,589'.

   Next Lower: None

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Additional Questions on C-108

VII.

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

    a. Average 30,000 BWPD, Max 40,000 BWPD.
    b. Rate will also be determined by maximum pressure. (.2 psi/ft to top of injection interval).

2. **Whether the system is open or closed;**

    a. Closed System, Commercial SWD

3. **Proposed average and maximum injection pressure;**

    a. Average injection pressure: 2,390 psi (surface pressure).
    b. Maximum injection pressure: 2,968 psi (surface pressure).

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

    a. The injection fluid is to be locally produced water. It is expected that the source water will predominantly be from the Bone Spring and Wolfcamp formations. Attached are produced water sample analyses taken from the closest wells that feature samples from the Delaware, Bone Spring, Wolfcamp, and Strawn formations.

5. **If injection is for disposal purposes into a zone not productive of oil and 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.)**

    a. The disposal interval is non-productive. No water samples are available from the surrounding area.

VIII.

1. **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.**

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c. Underground sources of drinking water within 1-mile of the proposed location. There are no water wells within one mile of the proposed location. Water wells in the surrounding area have an average depth of 495' and an average water depth of 295' generally producing from the Santa Rosa. The upper Rustler may also be another USDW and will be protected.

IX.

1. **Describe the proposed stimulation program, if any.**

    a. Stimulate with up to 50,000 gallons of acid.

X.

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

    a. There are no logs or test data on the well.
    b. During drilling operations.
        i. 0 – 1,250' mudlogging.
        ii. 1,250' – 5,200' mudlogging and full suite of logs consisting of GR/CNL/CDN/CBL to identify the Capitan Reef.
        iii. 5,200' – 11,564' mudlogging, gamma and CBL.
        iv. 11,564' – 15,381' mudlogging, gamma and CBL.
        v. 15,381' – 17,400' Mudlogging an GR/CNL/CDN/CBL.

XI.

1. **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.**

    a. There are no water wells within one mile of the proposed location.

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a. The Devonian formation is a dolomitic ramp carbonate that occurs below the Woodford shale and above the Fusselman formation. Strata found in the Devonian formation include two major groups, the Wristen Buildups and Thirtyone Deepwater Chert, with the Wristen being more abundant. The Wristen Groups is composed of mixed limestone and dolomites with mudstone to grainstone and boundstone textures. Porosity in the Wristen group is a result of both primary and secondary development. Present are moldic, vugular, karstic (including collapse breccia) features that allow for higher porosities and permeabilities. The Thirtyone Formation contains two end-member reservoir facies, skeletal packstones/grainstones and spiculitic chert, with most of the porosity and permeability found in the coarsely crystalline cherty dolomite. These particular characteristics allow for this formation to be a tremendous Salt Water Disposal horizon.

b. Injection Zone: Siluro-Devonian Formation

Formation Tops	Depth
Rustler	1,351’
Top Salt	1,460’
Base Salt	3,360’
Top Capitan Reef	4,030’
Base Capitan Reef	5,050’
Delaware	5,221'
Bone Spring	7,884'
Wolfcamp	11,145'
Penn	11,269'
Strawn	11,482'
Atoka	12,095’
Morrow	12,449'
Mississippian Shale	14,544'
Woodford	15,217'
Devonian	15,381'
Fusselman	16,404'
Montoya	16,972'

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XII.

1. 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.

    b. BC&D Operating, INC. has reviewed and examined geologic and engineering data in the area of interest for the West Jal SWD #7 and have found no evidence of faults or other hydrologic connections between Devonian disposal zones and underground sources of drinking water.

Santa Rosa Sandstone

The Santa Rosa Sandstone consists primarily of red, white, gray or greenish-gray and varies from a fine grain to coarse grain sandstone. In the vicinity of the West Jal B Deep #1 well it occurs at a depth of around 700' to 850'. In this area the Santa Rosa is of minor hydrological significance and there are no Santa Rosa water wells in the vicinity of the well in application. Consequently, the Santa Rosa quality in this area is not known. However, over southern Lea County it yields small quantities of water, with some reports of wells producing 100 gpm. Santa Rosa water in the southern part of the county usually has high sulfate content.

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled or deepened well and not later than 60 days after completion of closure. When submitted as a completion report, this shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, items 11, 12 and 26-31 shall be reported for each zone.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Southeastern New Mexico		Northwestern New Mexico	
T. Anhy 1307'	T. Canyon	T. Ojo Alamo	T. Penn A"
T. Salt	T. Strawn 11482'	T. Kirtland	T. Penn. "B"
B. Salt	T. Atoka 12095'	T. Fruitland	T. Penn. "C"
T. Yates	T. Miss 14544'	T. Pictured Cliffs	T. Penn. "D"
T. 7 Rivers	T. Devonian 15381'	T. Cliff House	T. Leadville
T. Queen	T. Silurian	T. Menefee	T. Madison
T. Grayburg	T. Montoya 16972'	T. Point Lookout	T. Elbert
T. San Andres	T. Simpson 17388'	T. Mancos	T. McCracken
T. Glorieta	T. McKee	T. Gallup	T. Ignacio Otzte
T. Paddock	T. Ellenburger 18318'	Base Greenhorn	T.Granite
T. Blinebry	T. Granite 18920'	T. Dakota	
T.Tubb	T. Delaware Sand 5221'	T. Morrison	
T. Drinkard	T. Bone Springs 7884'	T.Todilto	
T. Abo	T. Delaware Lime 5221'	T. Entrada	
T. Wolfcamp 10956'	T. Barnett 13375'	T. Wingate	
T. Penn	T. Fusselman 16404'	T. Chinle	
T. Cisco (Bough C)	T.	T. Permian	

OIL OR GAS SANDS OR ZONES

No. 1, from.....to..... No. 3, from.....to.....

No. 2, from.....to..... No. 4, from.....to.....

IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from.....to.....feet.....

No. 2, from.....to.....feet.....

No. 3, from.....to.....feet.....

LITHOLOGY RECORD (Attach additional sheet if necessary)

From	To	Thickness In Feet	Lithology		From	To	Thickness In Feet	Lithology

0'	1307'	1307'	Sand, Caliche, Surface debris					
1307'	1460'	154'	Anhydrite					
1460'	3360'	1900'	Salt					
5221'	5270'	49'	Lime & Shale					
5270'	7884'	2614'	Sand & Shale					
7884'	10956'	3072'	Lime, Shale & Sand					
10956'	11482'	526'	Lime & Shale					
11482'	12095'	613'	Lime					
12095'	13375'	1280'	Lime & Shale					
13375'	14544'	1169'	Shale					
14544'	15381'	837'	Lime					
15381'	16404'	1023'	Lime					
16404'	16972'	568'	Dolomite & Some Lime					
16972'	17388'	416'	Lime & Chert					
17388'	18318'	930'	Lime, Shale & Snd					
18318'	18920'	602'	Dolomite					
18920'	18945'	25'	Granite					

West Jal Deep SWD #7

BC&D Operating, Inc
640' FNL & 1980 FEL
Sec. 31, T24S, R36E, Lea Co, NM
Lat. 32.179323, Long. 103.301466

Surface - (Conventional)

Hole Size	26"
Casing	20" - 94# J-55 BTC Casing
Depth Top:	Surface
Depth Bottom:	1250'
Cement:	560 sxs tail, 1.35 yield, class C + additives
	645 sxs lead, 1.75 yield, class C + additives
Cement Top:	Surface - (circulated)

Intermediate #1 - (Conventional)

Hole Size	17.5"
Casing	13-3/8" - 61# L-80HC BTC Casing
Depth Top:	Surface
Depth Bottom:	5200'
Cement:	490 sxs tail, 1.33 yield, Class C 50/50 + additives
	1480 sxs lead, 1.75 yield, Class C + additives
Cement Top:	Surface - (circulated)

Intermediate #2 - (Conventional)

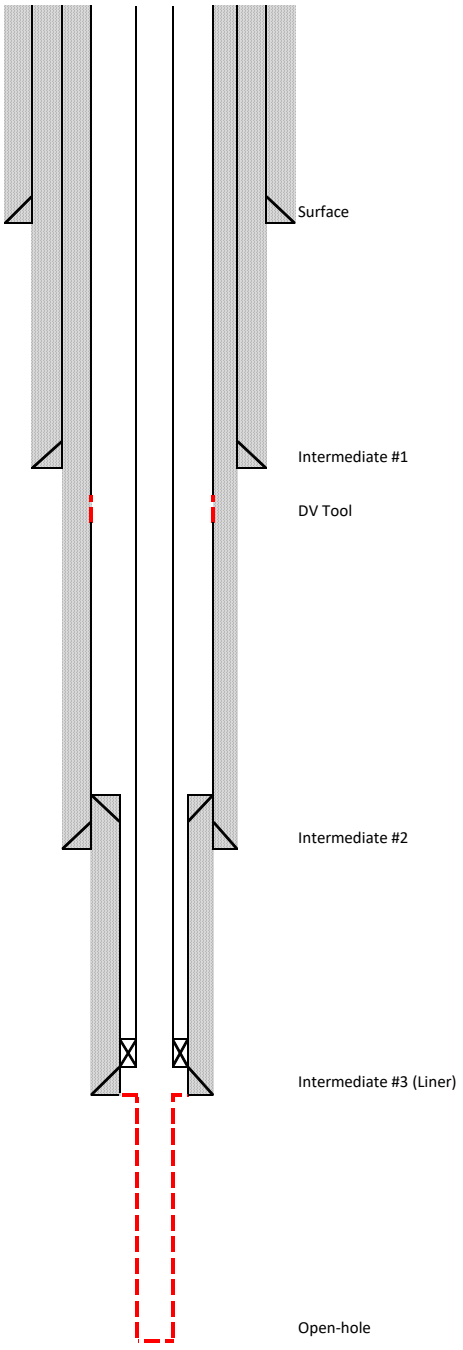
Hole Size	12.25"
Casing	9-5/8" - 40# L-80HC BTC Casing
Depth Top:	Surface
Depth Bottom:	11864'
Cement:	Stage 1 - 520 sxs tail, 1.2 yield, Class H + additives
	Stage 1 - 590 sxs lead, 2.0 yield, Class H 50/50 + additives
	Stage 2 - 260 sxs tail, 1.33 yield, Class C + additives
	Stage 2 - 550 sxs lead, 2.5 yield, Class C 50/50 + additives
Cement Top:	Surface - (circulated)
ECP/DV Tool:	5500'

Intermediate #3 - (Liner)

Hole Size	8.5"
Casing	7" - 32# P-110HC BTC SpCL Casing
Depth Top:	11565'
Depth Bottom:	15550'
Cement:	388 sxs tail, 1.33 yield, Class H 50/50 + additives
Cement Top:	11265' - (Volumetric)

Intermediate #4 - (Open Hole)

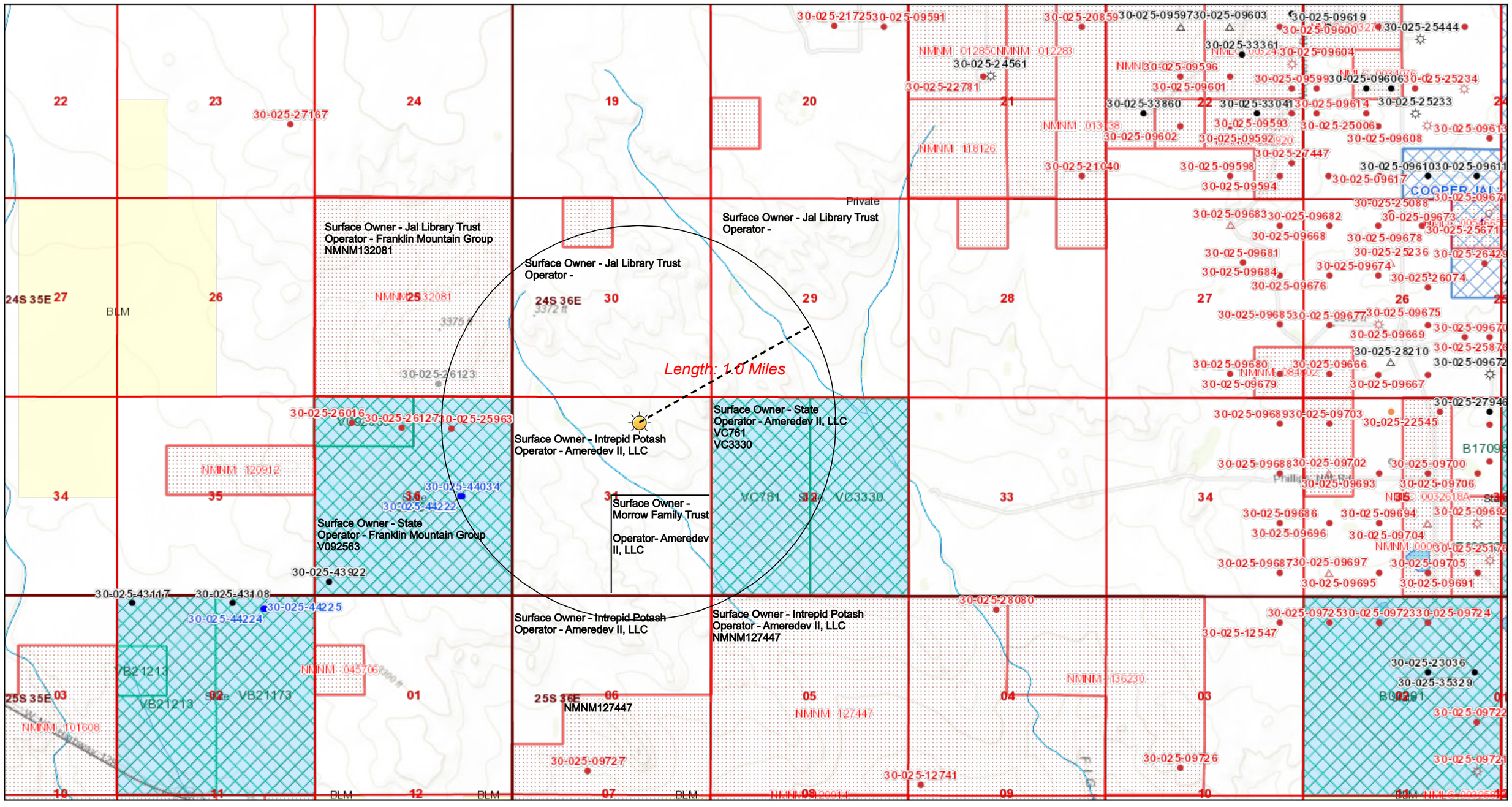
Hole Size	6"
Casing	7" - 32# P-110HC BTC SpCL Casing
Depth Top:	15550'
Depth Bottom:	17400'
Inj Interval:	14,844' - 17300' (Open-Hole Completion)



Tubing

Tubing Depth:	15440'
Tubing:	4-1/2" 11.6# N-80 Duoline
Packer Depth:	15450'
Packer:	4-1/2" TCPC Permanent packer w/ high temp elastomer & full inconel

West Jal Deep SWD #7 One Mile Radius



6/16/2019, 12:44:24 PM

- Override 1
- Override 1
- Override 1

Well Locations - Large Scale

- Miscellaneous
- CO2 Active
- CO2 Cancelled

1:36,112

0 0.38 0.75 1.5 mi

0 0.5 1 2 km

US Census Bureau, NMDOT, U.S. BLM, Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and

New Mexico Oil Conservation Division

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

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
DISTRICT II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
DISTRICT III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

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

☐AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name

Property Code	Property Name	Well Number
	WEST JAL DEEP SWD	7

OGRID No.	Operator Name	Elevation
	BC & D OPERATING, INC.	3306'

Surface Location

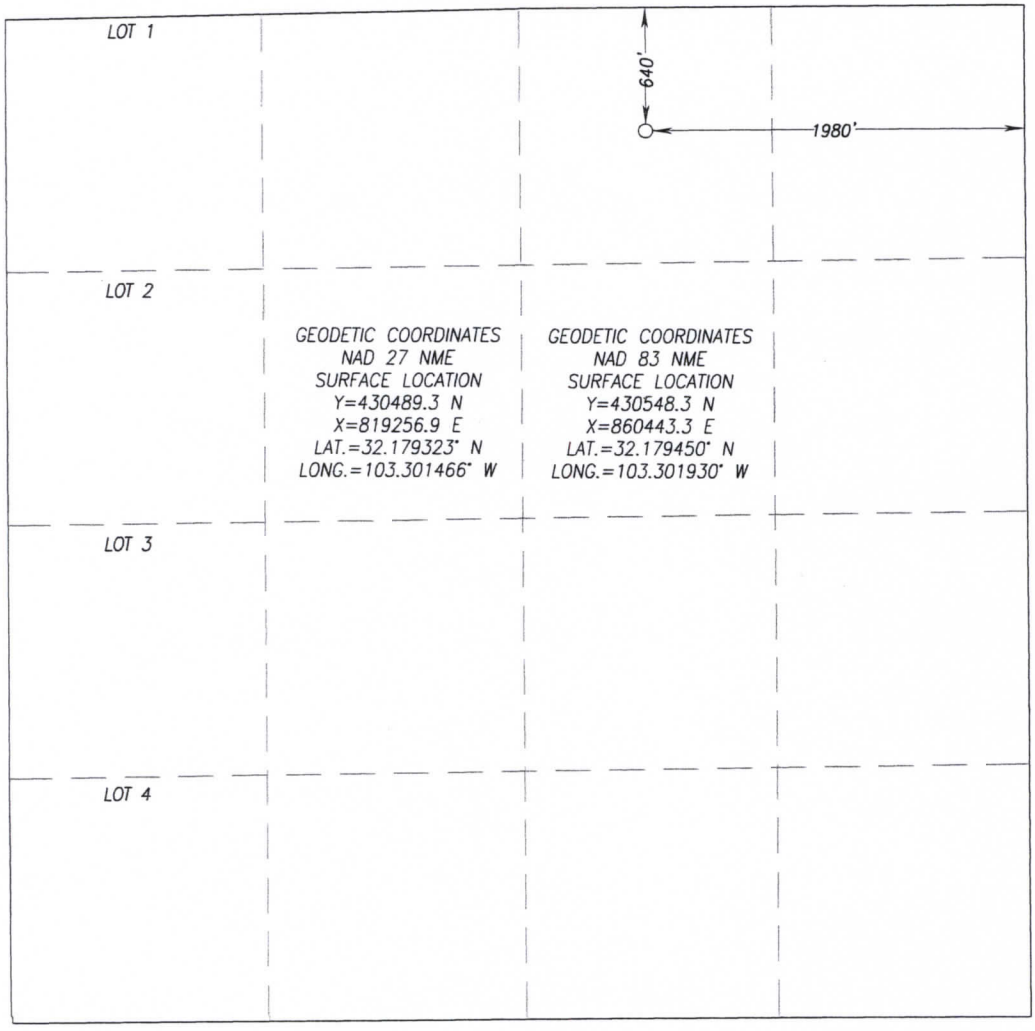
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	31	24-S	36-E		640	NORTH	1980	EAST	LEA

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

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.

7/23/2019

Signature Date

Richard Hill

Printed Name

rhill@wellconsultant.com

E-mail Address

SURVEYOR CERTIFICATION

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

JUNE 5, 2019

Date of Survey

Signature & Seal of Professional Surveyor:

RONALD J. EIDSON NEW MEXICO 3239 REGISTERED PROFESSIONAL SURVEYOR

Ronald J. Eidson 6/20/2019

Certificate Number Gary G. Eidson 12641
Ronald J. Eidson 3239

ACK JWSC W.O.: 19.11.0713

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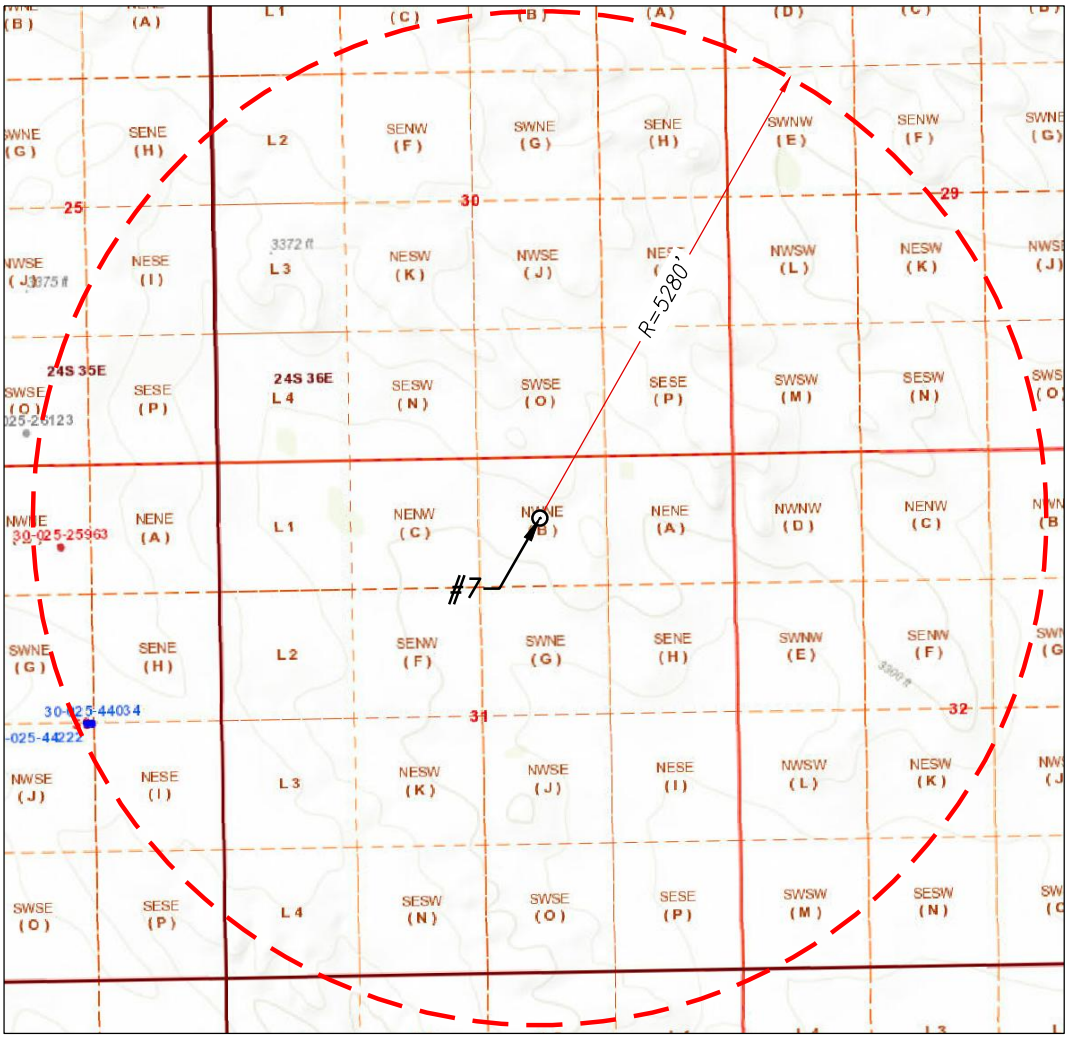
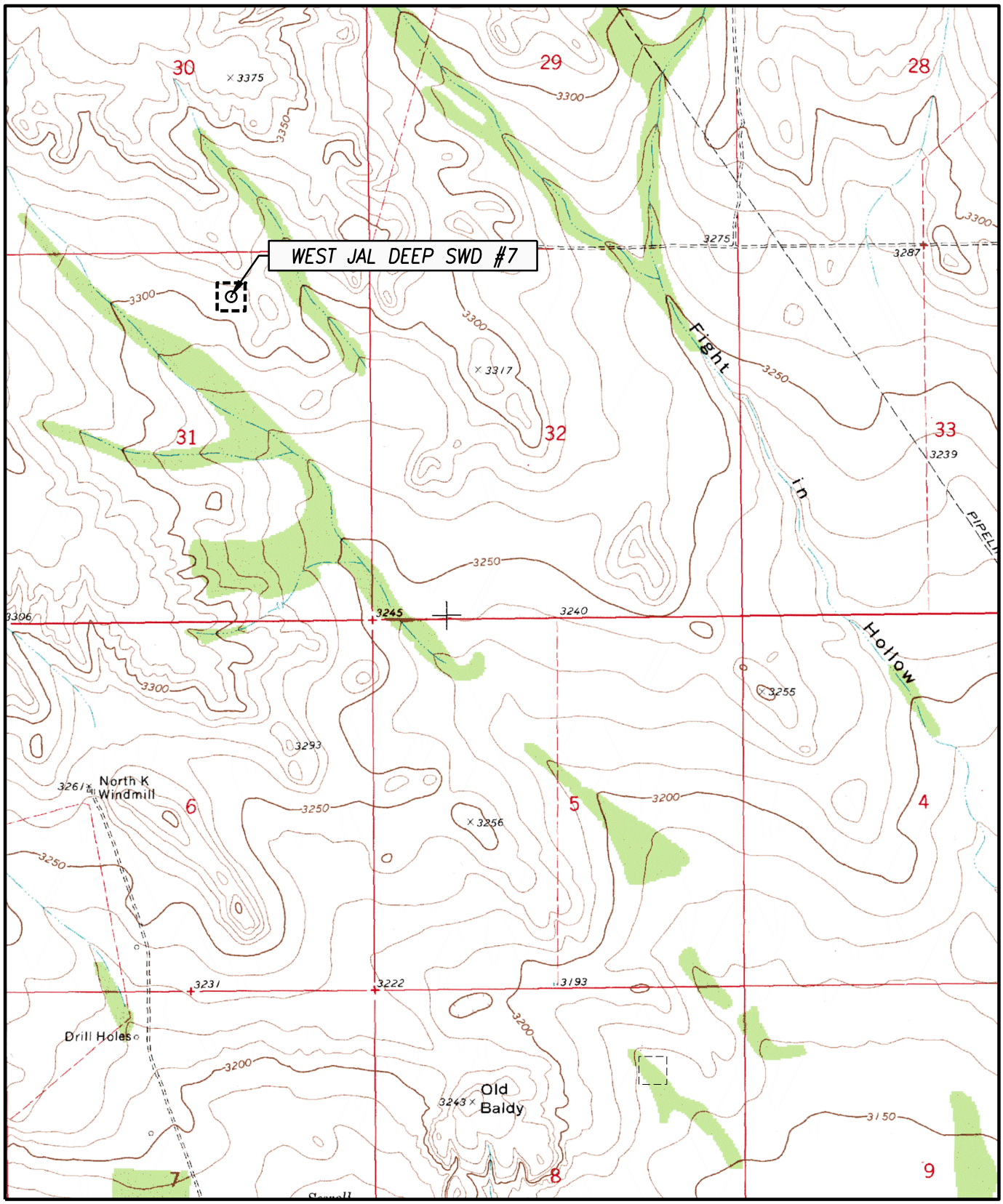


LEGEND
⊙ DENOTES PROPOSED WELL

Scale:1"=2000'

ACK JWSC W.O.: 19.11.0713

TOPOGRAPHIC MAP



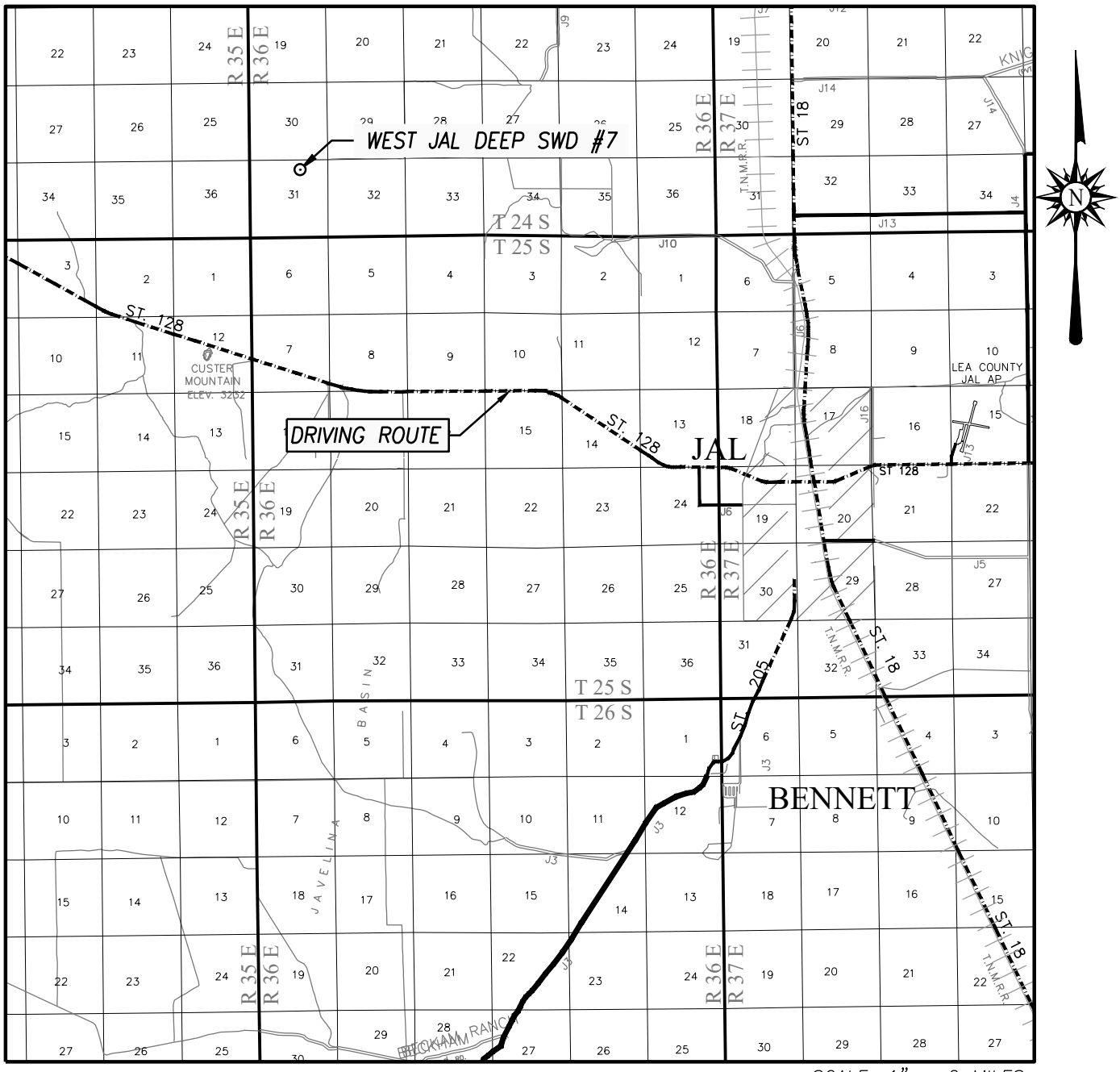
SEC. 31 TWP. 24-S RGE. 36-E
COUNTY LEA STATE NEW MEXICO
DESCRIPTION 640' FNL & 1980' FEL
ELEVATION 3306'
OPERATOR BC & D OPERATING, INC.
LEASE WEST JAL DEEP SWD
U.S.G.S. TOPOGRAPHIC MAP
CUSTER MOUNTAIN, N.M. SURVEY N.M.P.M.

SCALE: 1" = 2000'

CONTOUR INTERVAL:
CUSTER MOUNTAIN, N.M. - 10'

PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO HOBBS, N.M. 88240
(575) 393-3117 www.jwsc.biz
TBPLS# 10021000

VICINITY MAP



SCALE: 1" = 2 MILES

DRIVING ROUTE: SEE TOPOGRAPHICAL AND ACCESS ROAD MAP

SEC. 31 TWP. 24-S RGE. 36-E

SURVEY N.M.P.M.

COUNTY LEA STATE NEW MEXICO

DESCRIPTION 640' FNL & 1980' FEL

ELEVATION 3306'

OPERATOR BC & D OPERATING, INC.

LEASE WEST JAL DEEP SWD

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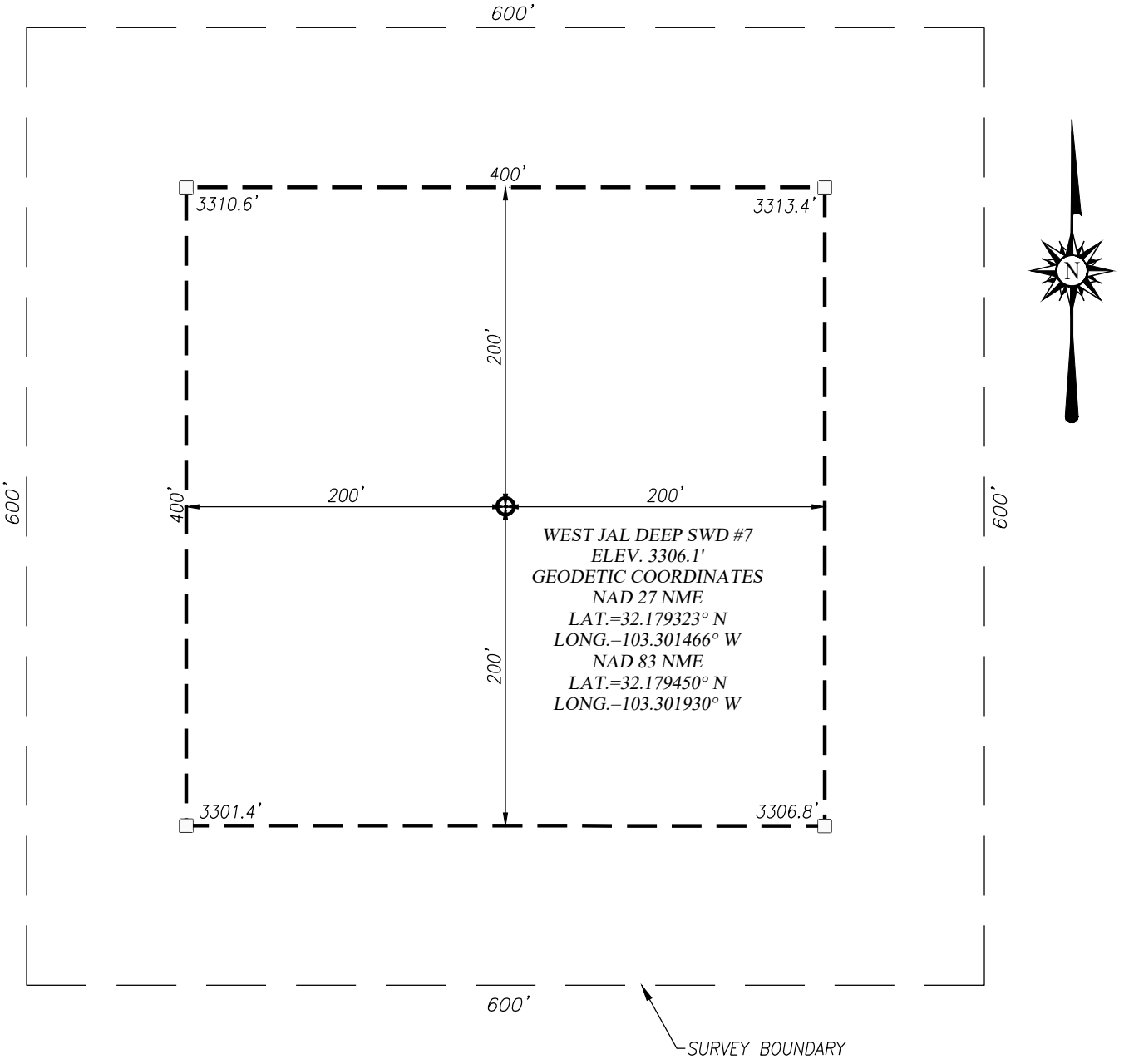
WELL SITE PLAN



100 0 100 200 Feet

Scale: 1"=100'

BC & D OPERATING, INC.

WEST JAL DEEP SWD #7 WELL LOCATED 640 FEET FROM THE NORTH LINE AND 1980 FEET FROM THE EAST LINE OF SECTION 31, TOWNSHIP 24 SOUTH, RANGE 36 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO

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Survey Date: 6/05/19	CAD Date: 6/19/19	Drawn By: ACK	
W.O. No.: 19110713	Rev: .	Rel. W.O.:	Sheet 1 of 1