

DATE IN	SUSPENSE	ENGINEER	LOGGED IN	TYPE	APP NO.
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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

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

Print or Type Name

Signature

SVP Engineering

Title

7/3/19

Date

rhill@wellconsultant.com
 e-mail Address

BC&D Operating, Inc

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

July 3, 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.

APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: _____ Secondary Recovery _____ Pressure Maintenance X X X Disposal _____ Storage _____
Application qualifies for administrative approval? _____ Yes _____ No
- II. OPERATOR: BC + D OPERATING, INC
ADDRESS: P.O. BOX 302 Hobbs, NM 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 X 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: SUP OF ENGINEERING
SIGNATURE: R. Hill DATE: 7/3/15
E-MAIL ADDRESS: R.Hill@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: _____

III. WELL DATA

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

- (1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.
- (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
- (3) A description of the tubing to be used including its size, lining material, and setting depth.
- (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

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

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

- (1) The name of the injection formation and, if applicable, the field or pool name.
- (2) The injection interval and whether it is perforated or open-hole.
- (3) State if the well was drilled for injection or, if not, the original purpose of the well.
- (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
- (5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

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

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

- (1) The name, address, phone number, and contact party for the applicant;
- (2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;
- (3) The formation name and depth with expected maximum injection rates and pressures; and,
- (4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

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

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

INJECTION WELL DATA SHEET

OPERATOR: BC & D OPERATING, INCWELL NAME & NUMBER: WEST JAL DEEP SUD #7WELL LOCATION: 640 FNL 1980 FEL

FOOTAGE LOCATION

UNIT LETTER

31

SECTION

24S

TOWNSHIP

36E

RANGE

WELLBORE SCHEMATICWELL CONSTRUCTION DATASurface Casing

Hole Size: _____ Casing Size: _____

Cemented with: _____ sx. *or* _____ ft³

Top of Cement: _____ Method Determined: _____

Intermediate Casing

Hole Size: _____ Casing Size: _____

Cemented with: _____ sx. *or* _____ ft³

Top of Cement: _____ Method Determined: _____

Production Casing

Hole Size: _____ Casing Size: _____

Cemented with: _____ sx. *or* _____ ft³

Top of Cement: _____ Method Determined: _____

Total Depth: _____

Injection Interval14,844' feet to 17,300'

(Perforated or Open Hole; indicate which)

Please see following
pages for information

INJECTION WELL DATA SHEET

Tubing Size: 4 1/2" Lining Material: DuoLine
 Type of Packer: TPC Permanent Packer w/ High Temp Elastomer & Full Incone1
 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 - Montoya (100')
3. Name of Field or Pool (if applicable): SWD; miss - Dev - Fusselman - Montoya
4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. NO
5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: YATES seven rivers @ 3585'
Bone Spring - 8070'
wolfcamp - 11,145'

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. 2, from.....to.....
No. 3, 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)

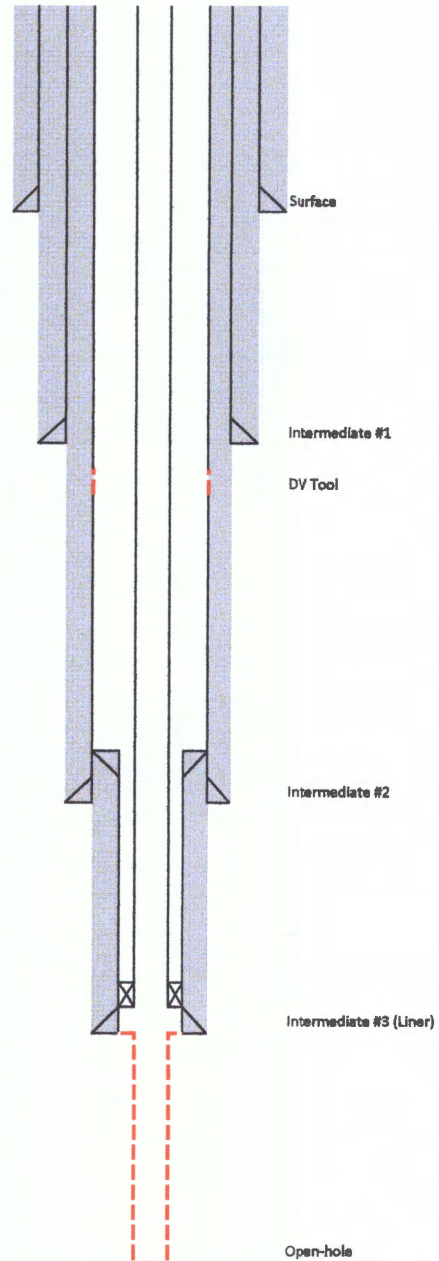
Hole Size 8.5"
Casing 7" - 32# P-110HC BTC SpCL Casing
Depth Top: 11565'
Depth Bottom: 15550'
Cement: 388 sxs tail, 1.33 yield, Class H 50/50 + additives
Cement Top: 11265' - (Volumetric)

Intermediate #4 - (Open Hole)

Hole Size 6"
Casing 7" - 32# P-110HC BTC SpCL Casing
Depth Top: 15550'
Depth Bottom: 17400'
Inj Interval: 15300' - 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



--- Override 1
 Override 1
 Override 1
 Well Locations - Le
 Miscellaneous
 CO2 Active
 CO2 Cancel

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

NM OGD Oil and Gas Map, <http://nm-ernrd.maps.arcgis.com/arcswidgetviewer/>; New Mexico Oil Conservation Division
 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 WEST JAL DEEP SWD	Well Number 7
OGRID No.	Operator Name BC & D OPERATING, INC.	Elevation 3306'

Surface Location

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

LOT 1			
LOT 2	GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y=430489.3 N X=819256.9 E LAT.=32.179323° N LONG.=103.301466° W	GEODETIC COORDINATES NAD 83 NME SURFACE LOCATION Y=430548.3 N X=860443.3 E LAT.=32.179450° N LONG.=103.301930° W	
LOT 3			
LOT 4			

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.

R. Hill 6/24/19
Signature Date
Richard Hill
Printed Name
rhill@wellconservation.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:



Certificate Number 3239
Ronald J. Eidson 12641 3239

ACK JWSW W O. 19.11.0713

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

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1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

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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 WEST JAL DEEP SWD	
OGRID No.	Operator Name BC & D OPERATING, INC.	
		Well Number 7
		Elevation 3306'

Surface Location

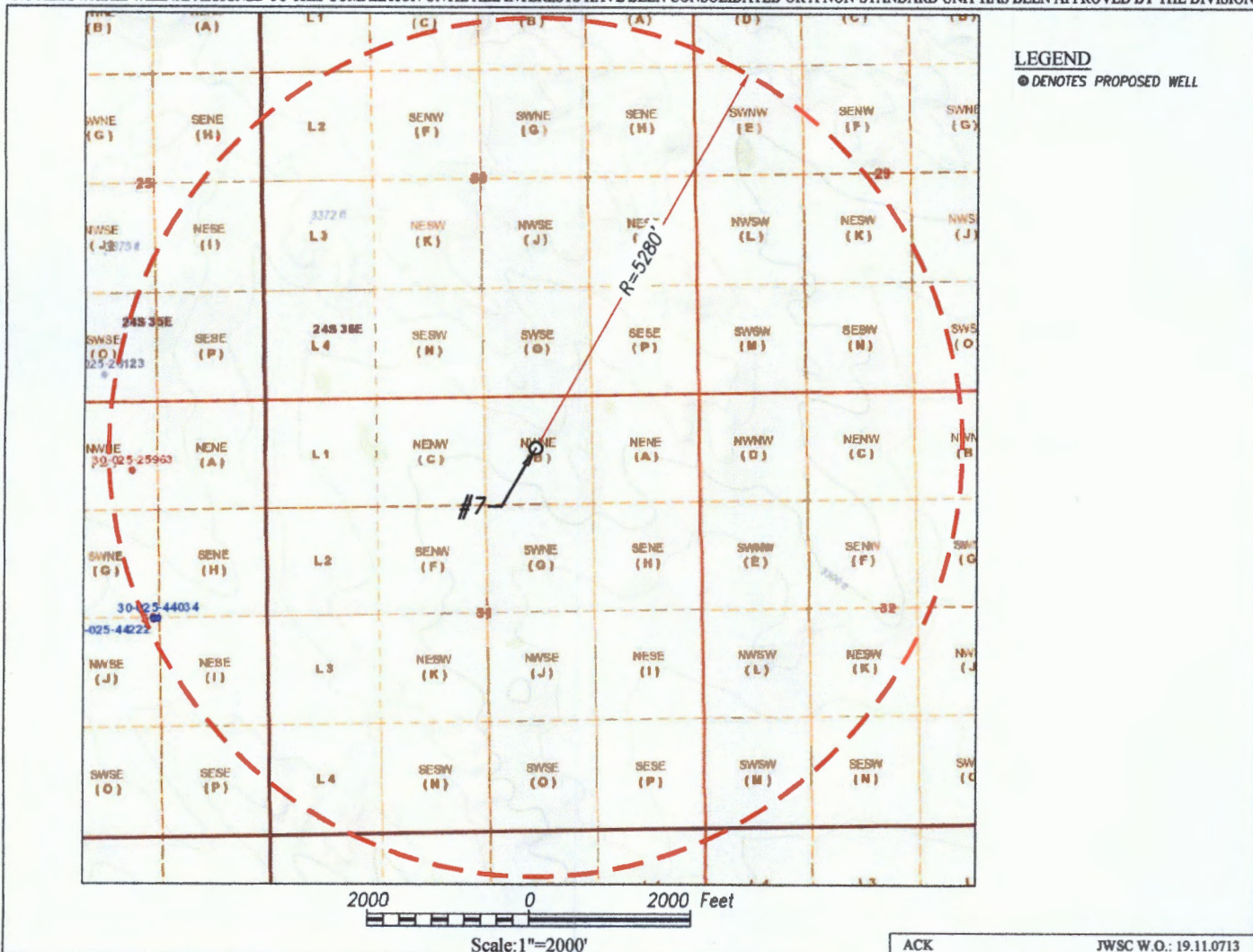
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	31	24-S	36-E		640	NORTH	1980	EAST	LEA

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



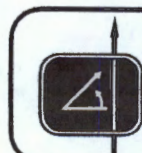
TOPOGRAPHIC MAP



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.

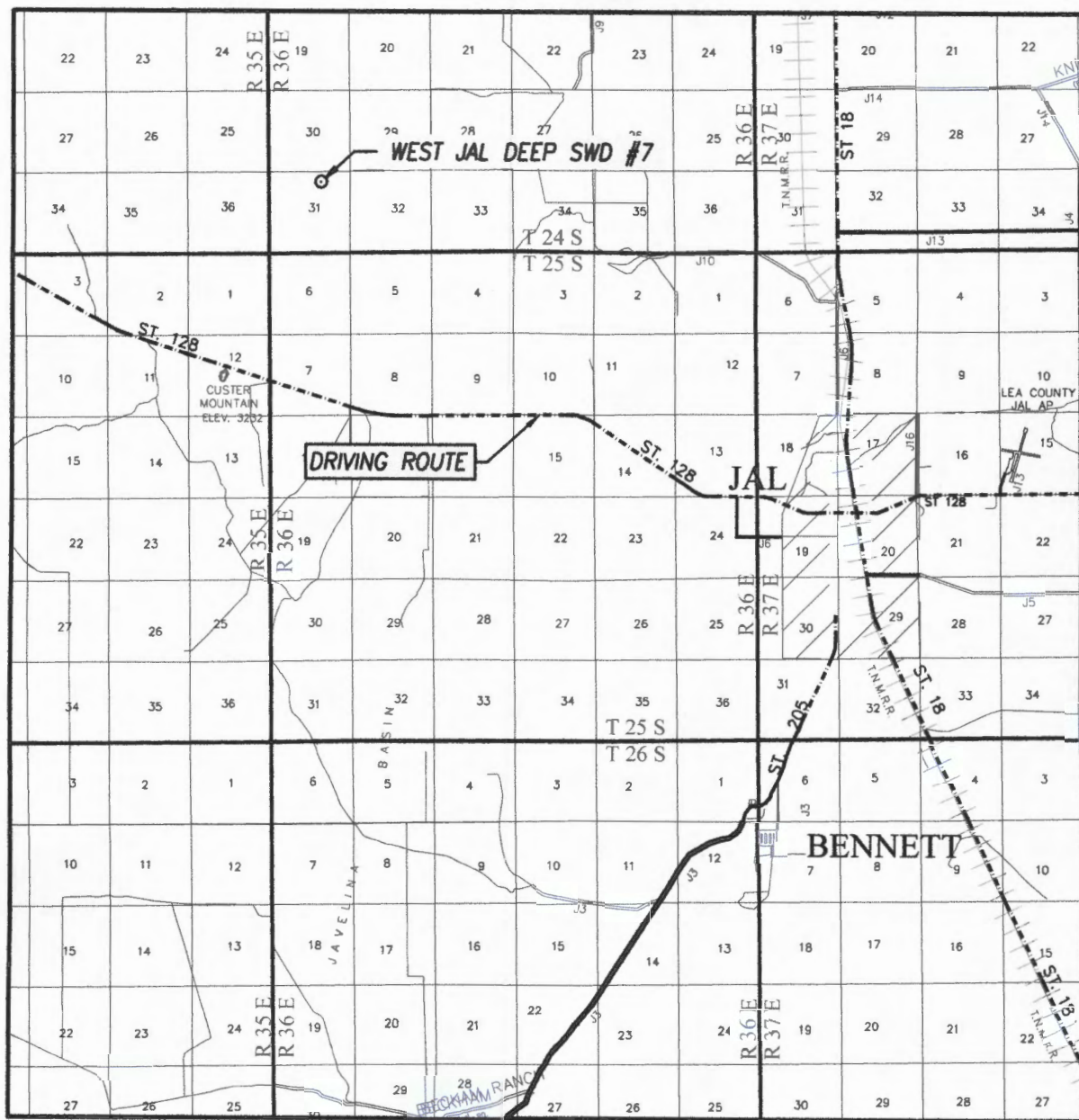
SCALE: 1" = 2000'

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.

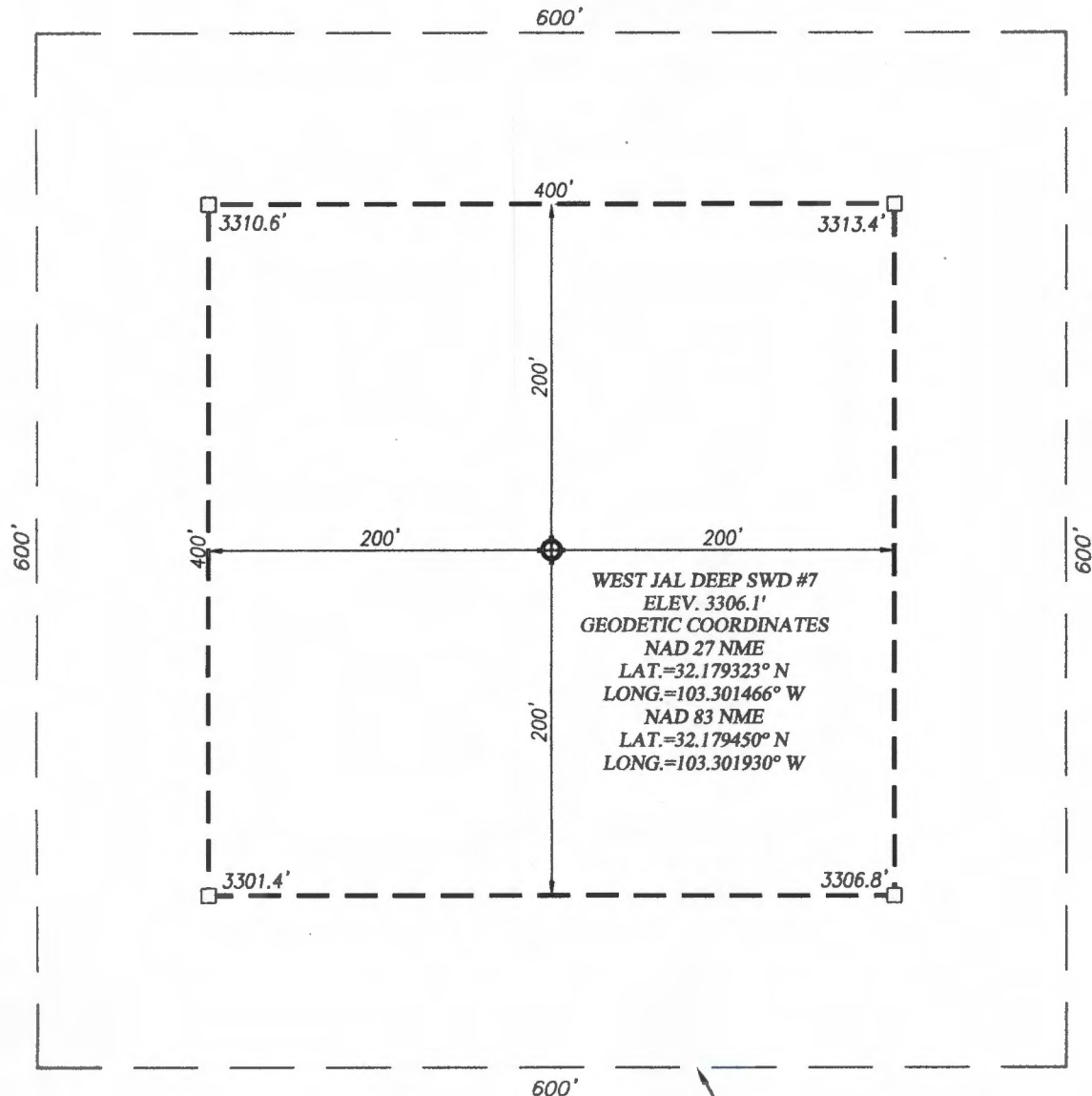
LEASE WEST JAL DEEP SWD

PROVIDING SURVEYING SERVICES
SINCE 1946

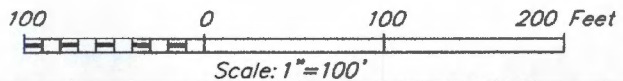
JOHN WEST SURVEYING COMPANY

412 N. DAL PASO HOBBS, N.M. 88240
(575) 393-3117 www.jwsc.biz
TBPLS# 10021000

WELL SITE PLAN



— SURVEY BOUNDARY



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



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

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

BC&D Operating

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

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.

17,300'
14,844' - 17,400' OH

BC&D Operating

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

- 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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- 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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- 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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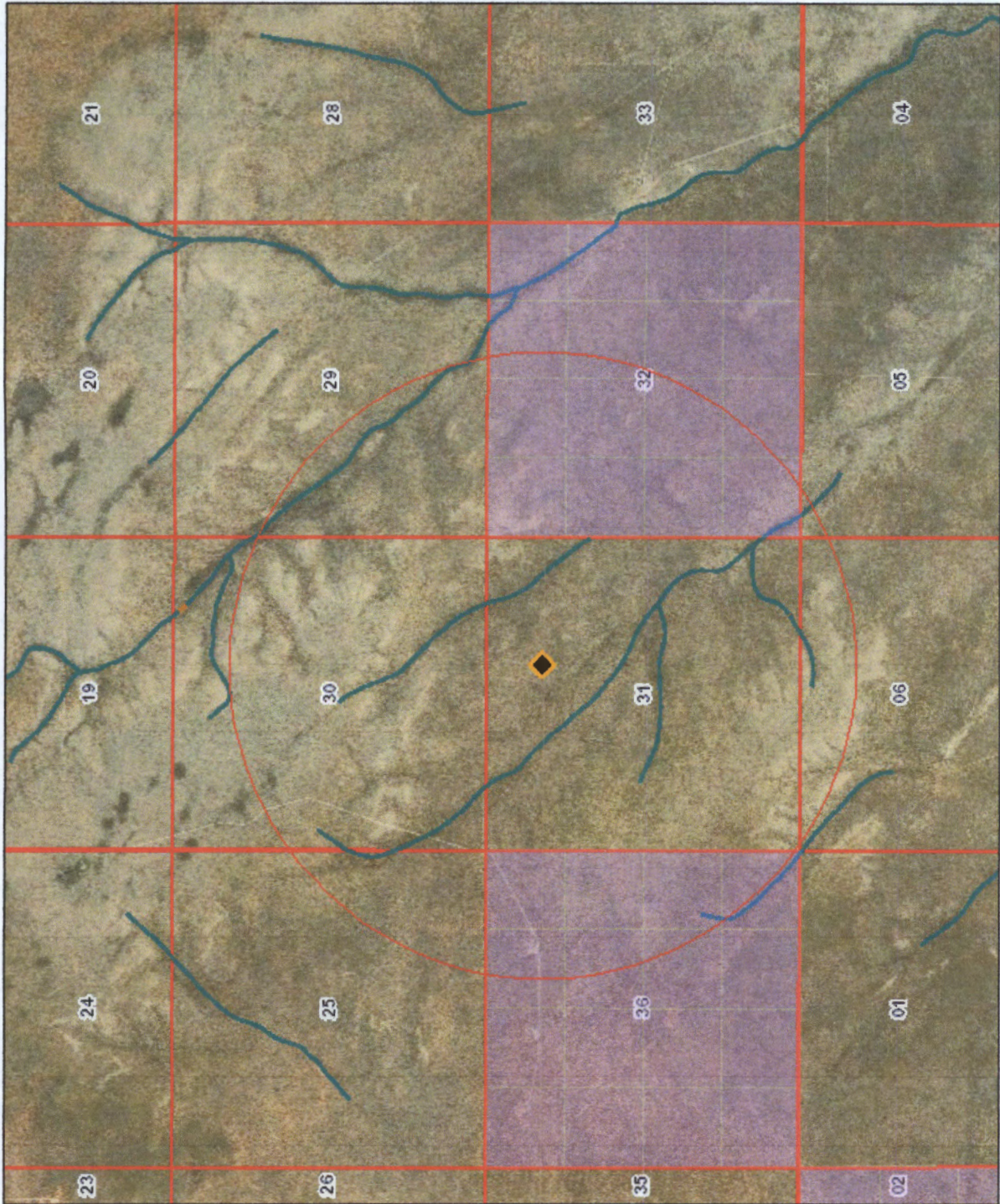
XII.

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.

API	Well Name	Well Number	Lease Name	Operator Company Name	County/Parish	Target Formation	(TD) and	TVD	Well Status	Spud Date	Drill Type	Section	Township	Range
3002544220000	BLUE BAY WCA STATE COM	001H	BLUE BAY WCA STATE COM	FRANKLIN MOUNTAIN ENERGY LLC	LEA (NM)	WOLF CAMP	19266		PERMITTED		H	1	25S	35E
30025440340000	CHAMBERS BAY WCA STATE COM	001H	CHAMBERS BAY WCA STATE COM	FRANKLIN MOUNTAIN ENERGY LLC	LEA (NM)	WOLF CAMP	19310		PERMITTED		H	1	25S	35E
30025439220000	PROXY WCA STATE COM	001H	PROXY WCA STATE COM	FRANKLIN MOUNTAIN ENERGY LLC	LEA (NM)	WOLF CAMP	16762	12577	ACTIVE	12/27/2017	H	36	24S	35E
30025761270000	ASHLEY ST	1	PRE-ONGARD WELL	PRE-ONGARD WELL OPERATOR	LEA (NM)	(N/A)			P & A		V	36	24S	35E
30025361230000	BULL BEAR	1	PRE-ONGARD WELL	PRE-ONGARD WELL OPERATOR	LEA (NM)	(N/A)			CANCELLED		V	25	24S	35E
30025760160000	CRAZY HOR	1	PRE-ONGARD WELL	PRE-ONGARD WELL OPERATOR	LEA (NM)	(N/A)	3875	3875	P & A		V	36	24S	35E
30025759630000	AMOCO STATE	1	AMOCO STATE	O H BERRY	LEA (NM)	YATES-SEVEN RIVERS, NM	3775	3775	P & A	8/11/1978	V	36	24S	35E



Coordinates

UTM - NAD 83 (m) - Zone 13

Easting 660032.478

Northing 3561507.986

State Plane - NAD 83 (ft) - Zone E

Easting 860256.880

Northing 430279.486

Degrees Minutes Seconds

Latitude 32 : 10 : 43.396353

Longitude -103 : 18 : 9.181381

Location pulled from New Map Point

Spatial Information

OSE Administrative Area: District 2

County: Lea

Groundwater Basin: Capitan

Sub-Basin: Landreth-Monument Draws

Abstract Area: Capitan

Land Grant: Not in Land Grant

Restrictions:

NA

PLSS Description

NESWNNE Qtr of Sec 31 of 024S 036E

Derived from CADN SDI - Qtr Sec. locations are calculated and are only approximations

File Number:

Owner:

Purpose:

Author:

NEW MEXICO OFFICE
OF THE
STATE ENGINEER

1:36,112 N

0 0.125 0.25 0.5

mi

7/8/2019

Image Information

Source: DigitalGlobe

Date: 1/30/2016

Resolution (m): 0.5

Accuracy (m): 10.16

User Defined Point

1 Miles Buffer

OSE District Boundary

State Land

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(with Ownership Information)

POD Search:

POD Number: CP 00523

UTMNA83 Radius Search (in meters):

Easting (X): 660032.478

Northing (Y): 3561507.986

Radius: 1609.3

No PODs found.

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

7/8/19 8:32 AM

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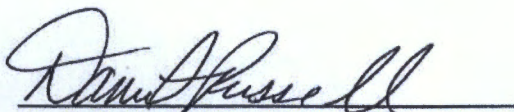
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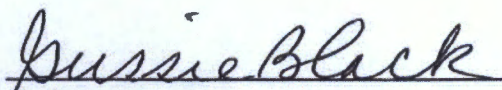
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COUNTY OF LEA

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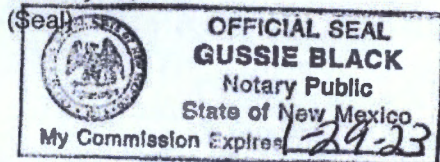
Beginning with the issue dated
June 08, 2019
and ending with the issue dated
June 08, 2019.


Publisher

Sworn and subscribed to before me this
8th day of June 2019.


Business Manager

My commission expires
January 29, 2023



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 JUNE 8, 2019

BC&D Operating, INC, P.O. BOX 302 Hobbs, NM 88241, has filed a form C-108 (Application for Authorization to Inject) with the Oil Conservation Division seeking administrative approval to utilize the West Jal Deep SWD #7 as a Commercial Salt Water Disposal well.

The West Jal Deep SWD #7 is located at 840' FNL & 1,980' FEL, Sec. 31, T24S, R36E, Lea County New Mexico. The well will dispose of water produced from oil and gas wells into the Devonian-Silurian Formations from 14,844' - 17,400' at a maximum rate of 40,000 barrel of water per day with a maximum pressure of 2,968 psi.

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.

Additional information can be obtained by contacting BC&D Operating, Inc at (405) 837-8147. #34262

67115835

00229366

RICHARD HILL
BC&D OPERATING
PO BOX 302
HOBBS , NM 88241

BC&D Operating, Inc

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

June 6, 2019

Surface Owner / Offset Operators

Re: Notification of Application for Authorization to Inject into the West Jal Deep SWD #7 Well.

Ladies and Gentlemen:

BC&D Operating, Inc is seeking administrative approval to utilize the West Jal Deep SWD #7 (new drill) as a Salt Water Disposal well. As required by the New Mexico Oil Conservation Division Rules, we are notifying you of the following proposed salt water disposal well. This letter is a notice only. No action is required unless you have questions or objections.

<u>Well:</u>	West Jal Deep SWD #7
<u>Proposed Disposal Zone:</u>	Devonian Formation (14,844' – 17,400')
<u>Location:</u>	640' FNL & 1,980 FEL, Sec. 31, T24S, R36E, Lea Co., NM
<u>Applicants Name:</u>	BC&D Operating, Inc
<u>Applicants Address:</u>	P.O. Box 302, Hobbs, NM 88241

This application for water disposal well will be filed with the New Mexico Oil Conservation Division. If they determine the application complies with the applicable regulations, then it will be approved. The New Mexico Conservation Division address is 1220 South St. Francis Dr., Santa Fe NM 87505 and their phone number is (505) 476-3460.

Please call Richard Hill with BC&D Operating, Inc if you have any questions at (405) 837-8147

Sincerely,

Richard Hill

BC&D Operating, Inc

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

Intrepid Potash
1001 17th St Suite 1050
Denver, Co 80202

Ameredev II, LLC
5707 Southwest Pkwy
Bldg. 1 Ste. 275
Austin, Tx 78735

Franklin Mountain Energy
2401 E. 2nd Ave. Suite 300
Denver, CO 80206

Lilis Energy
1800 Bering Drive
Houston, Tx 77057

Morrow Family Trust
30393 Oak Grove Rd
Paola, Kansas 88220

U.S – BLM
620 E. Green St.
Carlsbad, NM 88220

NM State Land Office
310 Old Santa Fe Trail
Santa Fe, NM 87501

Jal Public Library Fund
P.O. Box 178
Jal NM 88252-0178

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

BC&D Operating, Inc

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

New Mexico Oil Conservation Division – Hobbs Field Office
1625 N. French Drive
Hobbs, NM 88240

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BC&D Operating

Well: West Jal Deep SWD #7

Casing Assumptions

Section	Hole Size	Csg Size	Drift	From (MD)	To (MD)	From (TVD)	To (TVD)	Tapered String	Weight (lbs)	Grade	Conn.	Collapse	Burst	Body Tension	Joint Tension	Dry/Buoyant	Mud Weight (ppg)
Surface	26.000	20	18.937	0	1250	0	1250	No	94	J-55	BTC	520	2110	1480	1402	Dry	8.4
Intermediate #1	17.500	13.375	12.359	0	5200	0	5200	No	61	HCL-80	BTC	2060	4500	1399	1399	Dry	9.7
Intermediate #2	12.250	9.625	8.679	0	11864	0	11864	No	40	HCL-80	BTC	3870	5750	916	947	Dry	9.8
Intermediate #3	8.500	7	6	11,545	15550	11545	15550	No	32	P110HC	SpCL BTC	11890	12450	1025	1053	Dry	12.5

Safety Factors

Section	Csg Size	Weight (lbs)	Grade	Collapse	Burst	Body Tension	Joint Tension
Surface	20	94	J-55	1.919	3.864	12.596	11.932
Intermediate #1	13.375	61	HCL-80	1.393	1.716	4.410	4.410
Intermediate #2	9.625	40	HCL-80	1.126	1.674	1.930	1.996
Intermediate #3	7	32	P110HC	1.778	1.862	2.060	2.116

Clearance

Hole Size	Conn.	Tube OD	Drift	Conn. OD	Tube Clearance	Conn. Clearance
26.000	BTC	20.000	18.937	21.000	3.000	2.500
17.500	BTC	13.375	12.359	14.375	2.063	1.563
12.250	BTC	9.625	8.679	10.625	1.313	0.813
8.500	SpCL BTC	7.000	6.000	7.375	0.750	0.563

Criteria	
Collapse	1.125
Burst	1.125
Body Tension	2
Joint Tension	2

Engineering Notes:

Please see the the special clearance BTC conn. being used with the 7" casing. It has an coupling OD of 7.375" and will yield a 0.563" clearance inside of open hole. All collapse values assume vacated pipe with a gas gradient .22 psi/ft.

BC&D Operating

Well: West Jal Deep SWD #7

Circulating Medium Table

Section	Hole Size	Top Depth	Bottom Depth	Mud Type	Min Mud Weight (ppg)	Max Mud Weight (ppg)	Gel Strength (lbs/100 sqft)	PH	Viscosity	Salinity (ppm)	Filtration	Additional Characteristics
Surface	26.000	0	1250.00	Fresh Water	8.4	8.4	-	9	28-36	-	N/C	
Intermediate #1	17.500	1250	5400.00	Cut Brine	8.4	9.7	-	9	28-36	-	N/C	Loss Circulation Control
Intermediate #2	12.250	5200	11564.00	Cut Brine	9.6	9.8	-	10-10.5	28-36	-	N/C	Loss Circulation Control
Intermediate #3	8.500	11864	15250.00	Oil Base Water	12	12.5	-	-	60	-	N/C	30/70 %
Production	6.000	15550	17400.00	Cut Brine	9	9	-	9	28-36	-	-	

BC&D Operating

West Jal Deep SWD #7

Well Control Plan

BOP Equipment

- A BOP consisting of 3 rams with 2 pipe rams, 1 blind ram and one annular preventer. The BOP will be utilized below surface casing to TD. Also present will be an accumulator that meets the requirements of Onshore Order #2 for the pressure rating on the BOP stack. A rotating head will also be installed as needed. BOP will be inspected and operated as recommended in Onshore Order #2. A Kelly cock and sub equipped with a full opening valve sized to fit the drill pipe and collars will be available on the rig floor in the open position.

Testing Procedure 10M System

- Pressure tests will be conducted before drilling out from under all casing strings. BOP will be inspected and operated as required by Onshore Order #2. Kelly cock sub equipped with a full opening valve sized to fit the drill pipe and collars will be available on the rig floor in the open position. A third-party company will test the BOP's. After setting the surface casing, and before drilling the surface casing shoe, a minimum of 5M BOPE system will be installed. It will be tested to 250 psi low and 5000 psi high. Annular will be tested to 250 psi low and 3500 psi high. After setting intermediate 1 casing, a minimum 5M BOPE system will be installed and tested to 250 psi low and 5000 psi high. Annular will be tested to 250 psi low and 3500 psi high. After setting Intermediate #2, a 10M system will be installed and tested to 250 psi low and 8500 psi high with the annular being tested to 250 psi low and 3500 psi high. The 13-3/8" 10M flange on the wellhead will also be tested to 10,000 psi at this time.

Variance Request

- BC&D Operating requests a variance to have the option of running a speed head for the setting of intermediate 1 and 2 strings. If running speed head with landing mandrel for the 13-3/8" and 9-5/8" casing, then a minimum 5M BOPE system will be installed after surface casing is set. BOP test pressures will be 250 psi low and 5000 psi high. Annular will be tested to 250 psi low and 3500 psi high before drilling below the surface shoe. After 9-5/8" casing is set in the speed head the BOP will then be lifted to install another casing head section for the production casing. BC&D Operating will nipple up the casing head and BOP and a minimum 10M BOPE system will be installed. Pressure tests will be made to 250 psi low and 8500 psi high. BC&D Operating requests a variance to have a 5M Annular on top of a 10M BOP and will be tested to 250 psi low and 3500 psi high. A diagram of the speed head and BOP is attached. BC&D Operating requests

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a variance to drill this well using a co-flex line between the BOP and Choke manifold. Certification for the proposed co-flex hose is attached. The hose is not required by the manufacturer to be anchored. If the specific hose is not available, then one of equal or higher rating will be used.

A. Component and Preventer Compatibility Table

The table below, which cover the drilling and casing of the 10M MASP portion of the well, outlines the tubulars and the compatible preventers in use. This table, combined with the mud program, documents and that two barriers to flow can be maintained at all times, independent of the rating of the annular preventer.

8-1/2" Production hole section, 10M requirement

	OD	Preventer	RWP
Drill Pipe	5"	Fixer lower 5" Upper 4.5 - 7" VBR	10M
HWDP	5"	Fixed Lower 5" Upper 4.5 - 7" VBR	10M
Jars	5"	Fixed Lower 5" Upper 4.5 - 7" VBR	10M
Drill Collars and MWD tools	6.25" - 6.75"	Upper 4.5 - 7" VBR	10M
Mud Motor	6.75"	Upper 4.5 - 7" VBR	10M
Production Casing	7"	Upper 4.5 - 7" VBR	10M
All	0 - 13-5/8"	Annular	5M
Open hole	-	Blind Rams	10M

6" Production hole section, 10M requirement.

Component	OD	Preventer	RWP
Drill Pipe	4"	Upper 3.5" - 5.5" VBR Lower 3.5 - 5.5" VBR	10M
HWDP	4"	Upper 3.5" - 5.5" VBR Lower 3.5 - 5.5" VBR	10M
Jars	4"	Upper 3.5" - 5.5" VBR Lower 3.5 - 5.5" VBR	10M
Drill Collars and MWD tools	4" - 5"	Upper 4.5 - 5.5" VBR	10M
Mud Motor	4.75" - 5"	Upper 4.5 - 5.5" VBR	10M
Production Casing	NA	Upper 4.5 - 5.5" VBR	10M
All	1" - 13-5/8"	Annular	5M
Open hole	-	Blind Rams	10M

VBR = Variable Bore Ram. Compatible range listed in chart.

HWDP = Heavy Weight Drill Pipe

MWD = Measurement While Drilling

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B. Well Control Procedures

Well control procedures are specific to the rig equipment and the operation at the time the kick occurs. Below are the minimal high-level tasks prescribed to assure a proper shut-in while drilling, tripping, running casing, pipe out of the hole (open hole), the pressure at which control is swapped from the annular to another compatible ram is variable, but the operator will document in the submission of their well control plan what their operating pressure limit is for the 5M annular preventer. The operator may choose an operating pressure less than or equal to RWP, but in no case will it exceed the Rated Working Pressure (RWP) of the annular preventer.

General Procedure While Drilling

- Sound alarm (alert crew).
- Space out drill string.
- Shut down pumps (stop pumps and rotary).
- Shut-in well (uppermost applicable BOP, typically annular preventer first. The hydraulic Control Remote (HCR) valve and choke will already be in the closed position).

- Confirm shut-in.
- Notify tool pusher/onsite supervisor.
- Read and record the following:
 - SIDPP and SICP
 - Pit gain
 - Time
- Regroup and identify forward plan.
- If pressure has built or is anticipated during the kill to reach the RWP of the annular preventer, confirm spacing and swap to the upper pipe ram.

General Procedure While Tripping

- Sound alarm (alert crew).
- Stab full opening safety valve and close.
- Space out drill string.
- Shut-in (uppermost applicable BOP, typically annular preventer first. The HCR and choke will already be in the closed position).
- Confirm shut-in.
- Notify tool pusher/onsite supervisor.
- Read and record the following.
 - SIDPP and SICP
 - Pit gain
 - Time

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- Regroup and identify forward plan.
- If pressure has built or is anticipated during the kill to reach the RWP of the annular preventer, confirm spacing and swap to the upper pipe ram.

General Procedure While Running Casing

- Sound alarm (alert crew).
- Stab crossover and full opening safety valve and close.
- Space out string.
- Shut-in (uppermost applicable BOP, typically annular preventer first. The HCR and choke will already be in the closed position).
- Confirm shut-in.
- Notify tool pusher/onsite supervisor.
- Read and record the following.
 - SIDPP and SICP
 - Pit Gain
 - Time
 - Regroup and identify forward plan.
 - If pressure has built or is anticipated during the kill to reach the RWP of the annular preventer, confirm spacing and swap to compatible pipe ram.

General Procedure with No Pipe in Hole (Open Hole)

- Sound alarm (alert crew).
- Shut-in with blind rams or BSR. (The HCR and choke will already be in the closed position).
- Confirm shut-in
- Notify tool pusher/company representative.
- Read and record the following.
 - SICP
 - Pit gain
 - Time
- Regroup and identify forward plan.

General Procedures While Pulling BHA thru Stack

- PRIOR to pulling last joint of drill pipe thru the stack.
 - Perform flow check, if flowing:
 - Sound alarm (alert crew).
 - Stab full opening safety valve and close.
 - Space out drill string with tool joint just beneath the upper pipe ram.

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- Shut-in using upper pipe ram. (The HCR and choke will already be in the closed position.)
- Confirm shut-in.
- Notify tool pusher/onsite supervisor.
- Read and record the following.
 - SIDPP and SICP
 - Pit gain
 - Time
 - Regroup and identify forward plan.
- With BHA in the stack and compatible ram preventer and pipe combo immediately available.
 - Sound alarm (alert crew).
 - Stab crossover and full opening safety valve and close.
 - Space out drill string with upset just beneath the compatible pipe ram.
 - Shut-in using compatible pipe ram. (The HCR and choke will already be in the closed position.)
 - Confirm shut-in.
 - Notify tool pusher/onsite supervisor.
- With BHA in the stack and NO compatible ram preventer and pipe combo immediately available.
 - Sound alarm (alert crew).
 - If possible to pick up high enough, pull string clear of the stack and follow "Open Hole" scenario.
 - If impossible to pick up high enough to pull the string clear of the stack.
 - Stab crossover, make up one joint/stand of drill pipe, and full opening safety valve and close.
 - Space out drill string with tool joint just beneath the upper pipe ram.
 - Shut-in using upper pipe ram. (The HCR and choke will already be in the closed position).
 - Confirm shut-in.
 - Notify tool pusher/company representative.
 - Read and record the following:
 - SIDPP and SICP
 - Pit gain
 - Time
 - Regroup and identify forward plan.

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Hydrogen Sulfide Drilling Operations Plan

1. Hydrogen Sulfide Training

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

- The hazards and characteristics of hydrogen sulfide (H₂S).
- The proper use and maintenance of personal protective equipment and life support systems.
- The proper use of H₂S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
- The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

- The effects of H₂S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
- Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
- The contents and requirements of the H₂S Drilling Operations Plan and the Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H₂S zone (within 3 days or 500') and weekly H₂S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H₂S Drilling Operations Plan and the Public Protection Plan. This plan shall be available at the well site. All personnel will be required to carry documentation that they have received the proper training.

2. H₂S Safety Equipment and systems

Note: All H₂S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500' above, or three days prior to penetrating the first zone containing or reasonably expected to contain H₂S. If H₂S greater than 100 ppm is encountered in the gas stream, we will shut in the well and install H₂S equipment.

- Well Control Equipment:
 - Flare Line.
 - Choke manifold with remotely operated choke.
 - Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.
 -

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- Auxiliary equipment to include: annular preventer, mud-gas, separator, rotating head.
- Protective equipment for essential personnel:
 - Mark II Surviveair 30 minute units located in the dog house and at briefing areas.
- H2S detection and monitoring equipment:
 - 2 portable H2S monitors positioned on location for best coverage and response. These units have warning lights and audible sirens when H2S levels of 20 ppm are reached.
- Visual warning systems:
 - Caution/Danger signs shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate.
- Mud program:
 - The mud program has been designed to minimize the volume of H2S circulated to the surface.

BC&D Operating, INC has conducted a review to determine if an H2S contingency plan is required for the above referenced well. We were able to conclude that any potential hazardous volume would be minimal.

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West Jal Deep SWD #7

Drilling plan

Surface Hole

- Drill 26" hole to 1,250' and R&C 20" 94# J-55 BTC casing. A lead and a tail slurry will be pumped with top of cement at surface (150% excess on lead and 50% excess on tail). Directional surveys will be take taken for directional control. The mud will be a freshwater system with a weight of 8.4 ppg. A 5M BOPE system will be installed and tested before drilling out the 20" casing shoe. Casing shoe depth will be 25' into the rustler and determined by mud logger.

Intermediate 1

- Drill 17-1/2" hole to 5,200' and R&C 13-3/8" 61# HCL-10 BTC casing. A lead and a tail slurry will be pumped with top of cement at surface (150% excess on lead and 100% excess on tail). Directional surveys will be take taken for directional control. The mud will be a cut brine system with w weight of 8.4 – 8.9 ppg using loss circulation control. Any broken connection will be tested for well control. Casing shoe depth will be 100' past the base of the Capitan Reef and determined by mud logger. Full suite of logs consisting on GR/CNL/CDN will be ran to identify Capitan Reef. A cement bond log will be ran after casing is cemented in place. All information gathered on the Capitan Reef will be shared with NMOCD for future study and analysis.

Intermediate 2

- Drill 12-1/4" hole to 11,864' and R&C 9-5/8" 40# HCL-80 BTC casing. A Two stage cement job will be performed with the DV tool at 5,500'. A lead and a tail cement will be pumped on both stages. Stage 2 cement will be circulated to surface (150% excess on lead and 100% excess on tail). Directional surveys will be take taken for directional control. The mud will be a cut brine system with a weight of 9.6 – 10 ppg using loss circulation control. A 10M BOPE system will be installed and tested before drilling out the shoe. Casing set depth well be identified with mud logger and Gamma. The casing will be set 150' into the Strawn. Cement bond log will be ran after casing is cemented in place.

Intermediate 3

- Drill 8-1/2" hole to 15,550' and R&C 7" 32# HCP-110 BTC drilling liner. One slurry of cement will be pumped with the top of cement covering the liner top (50% excess). Directional surveys will be take taken for directional control. The mud will be a 70/30 oil base mud system with a weight of 12 – 12.5 ppg. Any broken connections will be tested for well control. Casing set depth will be

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identified with mud logger ang Gamma. The casing shoe will be 50' past the base of the Woodford shale. Cement bond log will be ran after casing is cemented in place.

Open Hole

- Drill 6" hole to 17,400' and will be left open hole for the injection interval. Directional surveys will be taken for directional control. The mud will be a cut brine system with a weight of 9 – 9.8 ppg using loss circulation control. TD will be defined by mud logger 100' into the Montoya. Full suite of logs will be ran. The Montoya will be plugged back with the cement top no less than a 100' above its top.

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Contact Information

In at this time the supervising person determines the release of H2S cannot be contained to the site loction and the general public is in harm's way he will take the necessary steps to protect the workers and the public.

Key Personnel	Title	Office	Mobile
Donnie Hill	Owner/President		575-390-7626
Richard Hill	Drilling	405-837-8147	405-837-8147

Lea County	Contact
Ambulance	911
Nor Lea General Hospital (Hobbs)	575-397-0560
State Police (Hobbs)	575-392-5580
City Police (Hobbs)	575-397-9625
Sheriff's Office (Lovington)	575-396-3611
Fire Marshall (Lovington)	575-391-2983
Volunteer Fire Dept. (Jal)	575-395-2221
Emergency Management (Lovington)	575-391-2983
New Mexico Oil Conservation Division (Hobbs)	575-393-6161
BLM (Hobbs)	575-393-3612
Hobbs Animal Clinic	575-392-5563
Dal Paso Animal Hospital (Hobbs)	575-397-2286
Mountain States Equine (Hobbs)	575-392-7488
Carlsbad	
BLM	575-234-5972
Santa Fe	
New Mexico Emergency Response Commission	505-476-9600
New Mexico Emergency Response Commission (24 hrs)	505-827-9126
New Mexico State Emergency Operations Center	505-476-9635
National	
National Emergency Response Center (Washington, D.C.)	800-424-8802
Medical	
Flight for Life - 4000 24th Lubbock, Tx	806-743-9911
Aerocare - R3, Box 49F; Lubbock, Tx	806-747-8923
Med Flight Air Amb - 2301 Yale Blvd SD, D3; Albuquerque, NM	505-842-4433
SB Air Med Service - 2505 Clark Carr Loop SE; Albuquerque, NM	505-842-4949
Other	
Boots & Coots IWC	800-256-9688
Cudd Pressure Control	432-699-0139
NM Dept. of Transportation (Roswell)	575-637-7200

McMillan, Michael, EMNRD

From: McMillan, Michael, EMNRD
Sent: Monday, July 22, 2019 8:11 AM
To: Richard Hill
Cc: Goetzé, Phillip, EMNRD; Lowe, Leonard, EMNRD; Jones, William V, EMNRD; Murphy, Kathleen A, EMNRD
Subject: West Jal Deep SWD Well No. 7

Richard:

The OCD received your administrative SWD application for the West Jal Deep SWD Well No. 7 on July 19, 2019. You must go through the fee portal before your application can be logged into the administrative process.

You will be expected to pay the fees required for an administrative SWD, and also provide a pdf of the administrative application.

To help the OCD, when you submit the application, scan the green cards in black and white (11byte of the black and white vs. 2MB file color file).

Thank You

Mike

Michael McMillan
1220 South St. Francis
Santa Fe, New Mexico
505-476-3448
Michael.mcmillan@state.nm.us