4/08/2015 DATE IN	SUSPENSE	ENGINEER	4/08/2015 LOGGED IN	SWD TYPE	DMAM1509858943 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]

- SWD
- BC&D Operating Inc
- 25670
- well
- West 341 B#1
- 30-025-20857
- Pool
- SWD; Delaware
- 96100

[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 _____

RECEIVED OCD
2015 MAR -8 P 2:20

[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 + Potash (?)
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.

Eddie W Seay	Eddie W Seay	Agent	3/27/15
Print or Type Name	Signature	Title	Date

seay04@leaco.net
e-mail Address

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL
RESOURCES DEPARTMENT

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

FORM C-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

PURPOSE: _____Secondary Recovery _____Pressure Maintenance ____X__Disposal _____Storage
Application qualifies for administrative approval? ____X___Yes _____No

II. OPERATOR: BC & D Operating, Inc.

ADDRESS: P.O. Box 302 Hobbs, NM 88241

CONTACT PARTY: Donnie Hill PHONE: 575-390-7626

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.

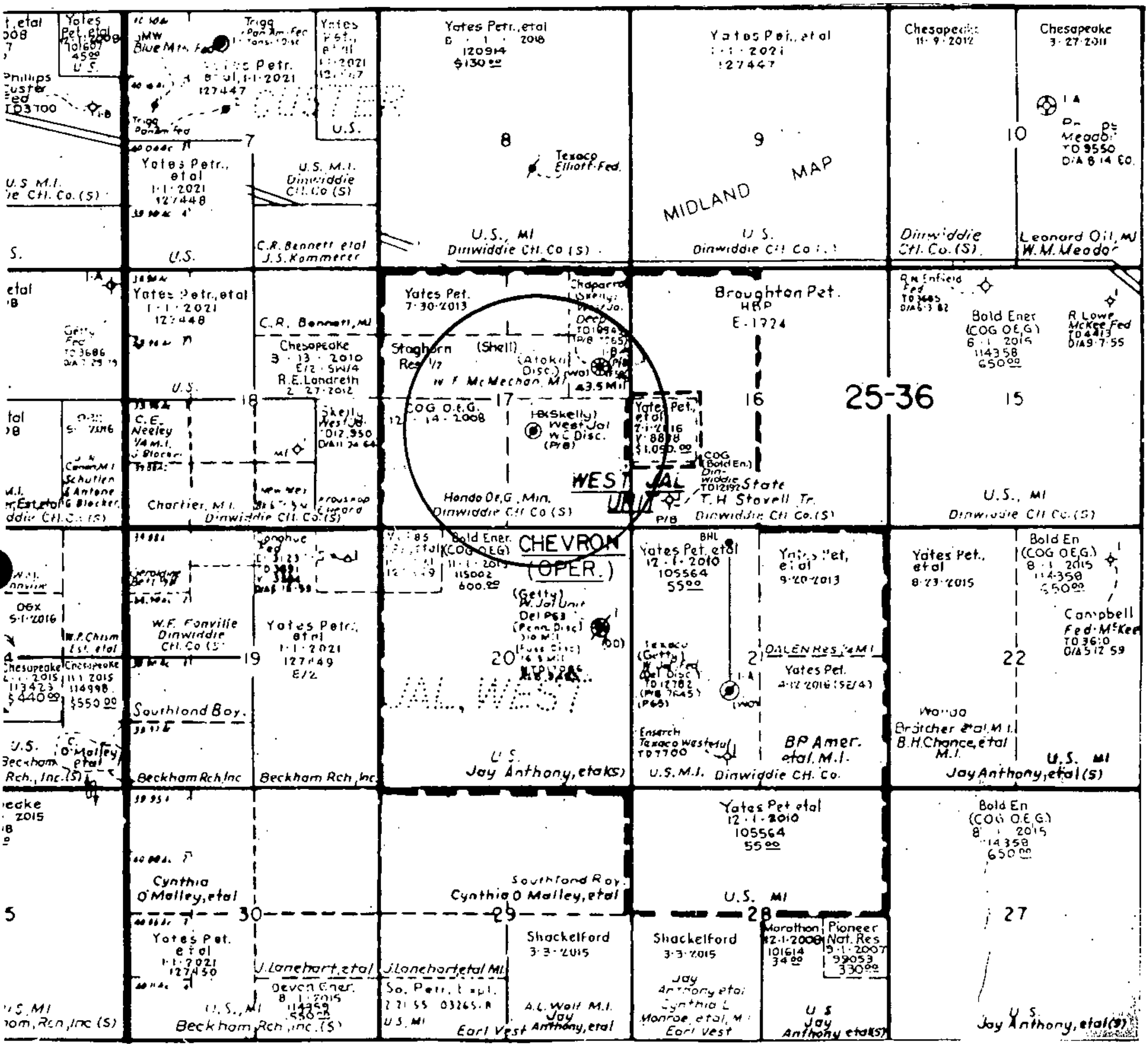
NAME: Donnie Hill TITLE: President

SIGNATURE: Donnie Hill DATE: 3/26/15

E-MAIL ADDRESS: dhill@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: previously submitted when drilled.

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office



Yates Petr., etal
120914
$130.00
Yates Pet., etal
1-1-2021
127447
8
9
10
Texaco Elliott Fed.
MIDLAND MAP
U.S., MI
Dinwiddie Ctl. Co (S)
Chesapeake
11-9-2012
Chesapeake
3-27-2011
Dinwiddie Ctl. Co. (S)
Leonard Oil, MI
W.M. Meador
Yates Petr., etal
1-1-2021
127448
U.S. M.I.
Dinwiddie Ctl. Co (S)
C.R. Bennett etal
J.S. Kommerer
U.S.
7
Yates Pet.
7-30-2013
Staghorn
(Shell)
W.F. McMechan, MI
COG O.E.G.
12-14-2008
17
(Skelly)
West Jal
WC Disc.
Hondo Oil & G. Min.
Dinwiddie Ctl Co (S)
WEST JAL UNIT
Broughton Pet.
HBP
E-1724
16
25-36
15
State
T.H. Stovell Tr.
Dinwiddie Ctl Co. (S)
Bold Ener
(COG O.E.G)
6-1-2015
114358
650.00
U.S., MI
Dinwiddie Ctl Co. (S)
Yates Petr., etal
1-1-2021
127448
C.R. Bennett, MI
Chesapeake
3-13-2010
R.E. Landreth
2-27-2012
18
C.E. Neeley
Chartier, M.I.
Dinwiddie Ctl. Co. (S)
CHEVRON (OPER.)
Bold Ener.
(COG O.E.G)
115002
600.00
W.F. Fonville
Dinwiddie Ctl. Co (S)
Yates Petr., etal
1-1-2021
127449
E/2
19
20
JAL, WEST
Southland Roy.
Beckham Rch. Inc
Beckham Rch. Inc
U.S.
Jay Anthony, etal (S)
Yates Pet., etal
12-1-2010
105564
55.00
Yates Pet., etal
9-20-2013
21
Yates Pet.
4-12-2016
BP Amer. etal, M.I.
U.S.M.I. Dinwiddie Ctl. Co.
Yates Pet., etal
8-23-2015
Bold En
(COG O.E.G.)
8-1-2015
114358
650.00
Campbell Fed-McKee
22
Brotcher etal M.I.
B.H. Chance, etal M.I.
U.S. MI
Jay Anthony, etal (S)
Cynthia O'Malley, etal
30
Yates Pet.
etal
1-1-2021
127450
Southland Roy.
Cynthia O'Malley, etal
29
Shackelford
3-3-2015
Yates Pet etal
12-1-2010
105564
55.00
U.S. MI
28
Shackelford
3-3-2015
Marathon
Pioneer Nat. Res
Bold En
(COG O.E.G)
114358
650.00
27
J. Lonehart, etal
J. Lonehart etal MI
Devon Ener.
So. Petr. Expl.
A.L. Wolf M.I.
Jay Anthony, etal
Earl Vest
Monroe, etal, M.I.
Earl Vest
U.S.
Jay Anthony etal (S)
U.S.
Jay Anthony, etal (S)
Beckham Rch., Inc (S)

ATTACHMENT TO APPLICATION C-108

West Jal B #1 (API 30-025-20857)
Unit J, Sect. 17, Tws. 25 S., Rng. 36 E.
Lea Co., NM

III. WELL DATA

A. 1) See injection well data sheets and attached schematics.
2) See injection well data sheets and attached schematics.
3) 5 1/2" coated tubing.
4) Baker Lock Set.

B. 1) Injection formation is the Delaware.
2) Injection interval 5231' to 6000'.
3) Well was drilled as a producer.
4) The next higher producing zone is the Seven Rivers at approximately 3870'.
The next lower producing zone is the Bone Springs at approximately 7884'.

IV. NO.

V. MAP ATTACHED.

VI. LIST OF WELLS AND DATA ATTACHED.

VII. BC & D plans to rig up, install anchors and well head. Clean out all plugs down to approximately 6804'. Test casing for leaks. Plan to complete in open hole from 5231' to 6000'. Go in hole with 5 ½" coated tubing and packer, and set at approximately 5200' or 100 feet of top perforations. Load with packer fluid and run MIT as OCD requires and put on injection.

1) Plan to inject approximately 15,000 bpd of produced water from various sources of production.
2) Open system, commercial.
3) Average injection pressure should be approximately 0# to 1000# or whatever limit OCD allows.
4) Analysis attached, only produced water.
5) Produced water from various sources..

VIII. The proposed disposal formation is Delaware which consists of sand and shale.

The fresh water formation in the area is the Santa Rosa formation which ranges in thickness from 200′ to 600′. Analysis of water well attached.

IX. ACID AS NEEDED.

X. PREVIOUSLY SUBMITTED TO OCD.

XI. ATTACHED.

XII. I, Eddie W. Seay, have examined all available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zones and any underground source of drinking water pertaining to this well.

XIII. ATTACHED.

Side 1

INJECTION WELL DATA SHEET

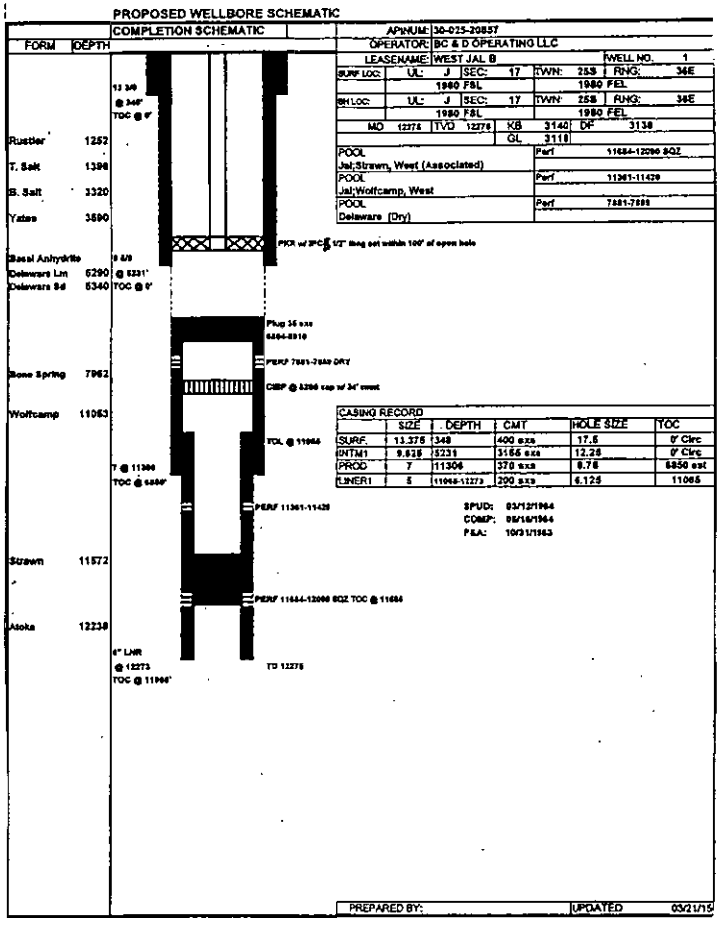
OPERATOR: BC + D Operating LLC

WELL NAME & NUMBER: West Jal B #1 (API 30-025-20857)

WELL LOCATION: 1980/S 1980/E J 17 25 36

FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 17.5 Casing Size: 13.375

Cemented with: 400 sx. *or* _____ ft³

Top of Cement: Surface Method Determined: Circ

~~Intermediate~~ Casing
Production

Hole Size: 12.25 Casing Size: 9.625

Cemented with: 3155 sx. *or* _____ ft³

Top of Cement: Surface Method Determined: Circ

Production Casing

7 in cut + pulled from 6800

Hole Size: 8.75 Casing Size: 7

Cemented with: 370 sx. *or* _____ ft³

Top of Cement: 6850 Method Determined: _____

Total Depth: 12275 5" Liner 11065 - 12275

Injection Interval

5231 feet to 6000

(Perforated or Open Hole; indicate which)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: 5 1/2 Lining Material: IPC

Type of Packer: Baker loc set

Packer Setting Depth: Approx 5200 ~ within 100 ft of top open hole.

Other Type of Tubing/Casing Seal (if applicable): NONE

Additional Data

1. Is this a new well drilled for injection? ____ Yes X No

   If no, for what purpose was the well originally drilled? oil & gas

2. Name of the Injection Formation: Delaware

3. Name of Field or Pool (if applicable): Jal west (Associated)

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. Bone Spring 7881 - 7889 Dry

   Wolfcamp 11361 - 11420 Strawn 11684 - 12090.

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:

   The Seven Rivers overlays at 3870

   The Bone Springs underlies at 7962

DISPOSAL WELL

API #	PROPERTY NAME	#	OPERATOR	TD	TYPE	STATUS	CO	LAND	U/L	SEC	TWN		RNG		N/S		E/W	
30-025-20857	WEST JAL B	1	BC&D OPERATING LLC	12275	O	P	Lea	P	J	17	25	S	36	E	1980	S	1980	E

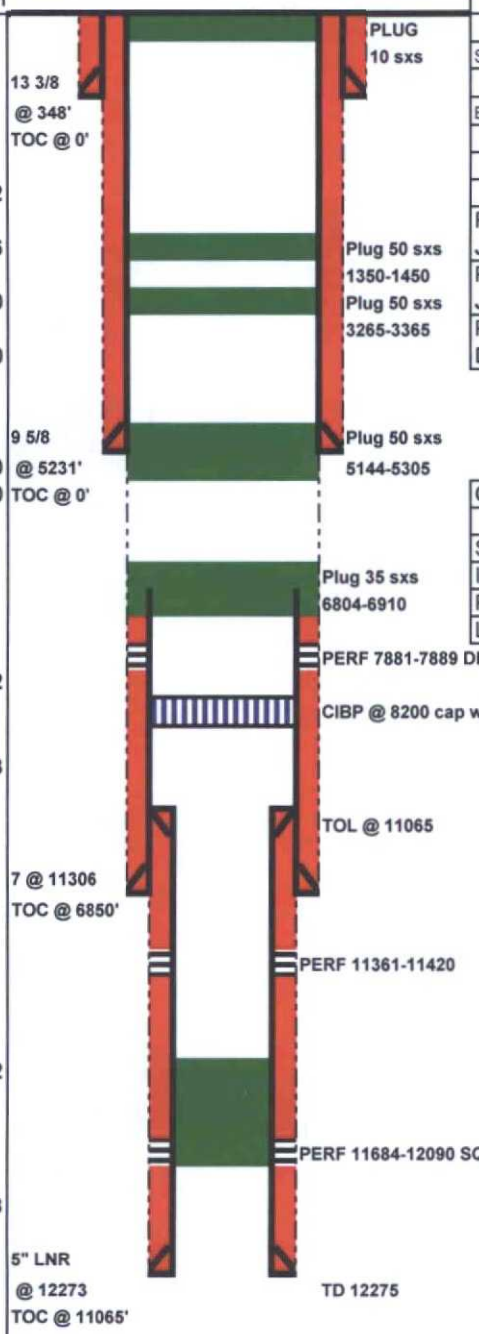
Wells within 1/2 mile penatrating proposed disposal interval.

	API #	PROPERTY NAME	#	OPERATOR	TD	TYPE	STATUS	CO	LAND	U/L	SEC	TWN		RNG		N/S		E/W		Dist
(-1,-1)	30-025-25046	WEST JAL B DEEP	1	BC&D OPERATING LLC	18945	I	A	Lea	P	H	17	25	S	36	E	1980	N	660	E	**1866**

WELLBORE SCHEMATIC AND HISTORY

FORM	DEPTH
Rustler	1252
T. Salt	1396
B. Salt	3320
Yates	3590
Basal Anhydrite	
Delaware Lm	5290
Delaware Sd	5340
Bone Spring	7962
Wolfcamp	11053
Strawn	11572
Atoka	12238

COMPLETION SCHEMATIC



APINUM:	30-025-20857						
OPERATOR:	GETTY OIL COMPANY						
LEASENAME:	WEST JAL B					WELL NO.	1
SURF LOC:	UL: J	SEC: 17		TWN: 25S		RNG:	36E
	1980 FSL			1980 FEL			
BH LOC:	UL: J	SEC: 17		TWN: 25S		RNG:	36E
	1980 FSL			1980 FEL			
MD	12275	TVD	12275	KB	3140	DF	3138
				GL	3118		

POOL	Perf 11684-12090 SQZ
Jal;Strawn, West (Associated)	
POOL	Perf 11361-11420
Jal;Wolfcamp, West	
POOL	Perf 7881-7889
Delaware (Dry)	

CASING RECORD

	SIZE	DEPTH	CMT	HOLE SIZE	TOC
SURF.	13.375	348	400 sxs	17.5	0' Circ
INTM1	9.625	5231	3155 sxs	12.25	0' Circ
PROD	7	11306	370 sxs	8.75	6850 est
LINER1	5	11065-12273	200 sxs	6.125	11065

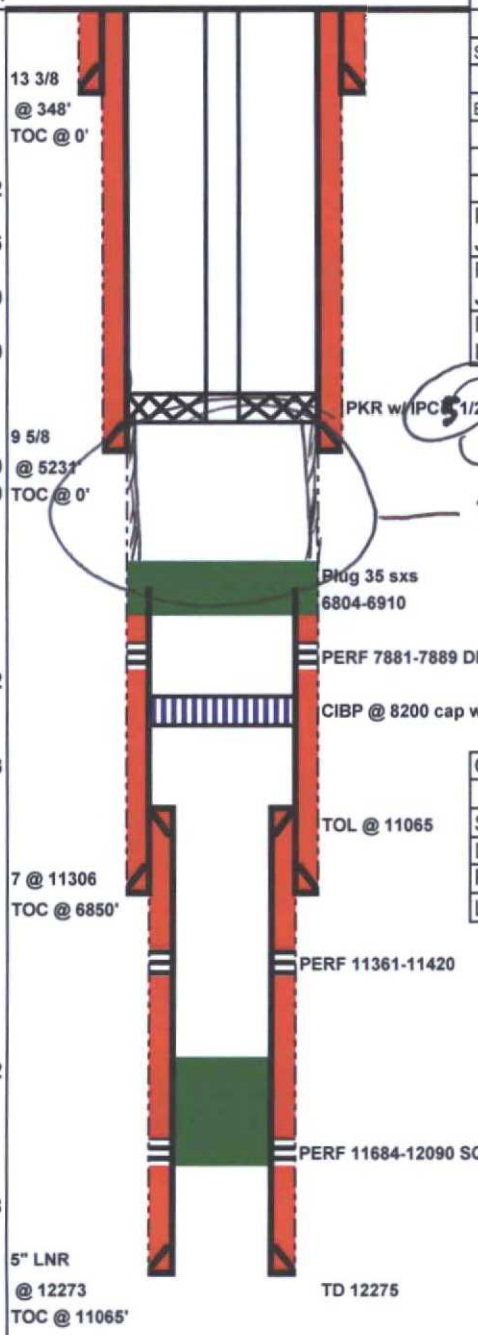
SPUD: 03/12/1964
COMP: 05/16/1964
P&A: 10/31/1983

PREPARED BY: | UPDATED 03/21/15

PROPOSED WELLBORE SCHEMATIC

COMPLETION SCHEMATIC

FORM	DEPTH
Rustler	1252
T. Salt	1396
B. Salt	3320
Yates	3590
Basal Anhydrite	
Delaware Lm	5290
Delaware Sd	5340
Bone Spring	7962
Wolfcamp	11053
Strawn	11572
Atoka	12238



Reduce to 4½" for 7-inch casing

Redesign with casing/cmt to/thru interval

APINUM:	30-025-20857						
OPERATOR:	BC & D OPERATING LLC						
LEASENAME:	WEST JAL B					WELL NO.	1
SURF LOC:	UL: J	SEC: 17		TWN: 25S		RNG:	36E
	1980 FSL			1980 FEL			
BH LOC:	UL: J	SEC: 17		TWN: 25S		RNG:	36E
	1980 FSL			1980 FEL			
MD	12275	TVD	12275	KB	3140	DF	3138
				GL	3118		

POOL	Perf	11684-12090 SQZ
Jal;Strawn, West (Associated)		
POOL	Perf	11361-11420
Jal;Wolfcamp, West		
POOL	Perf	7881-7889
Delaware (Dry)		

CASING RECORD

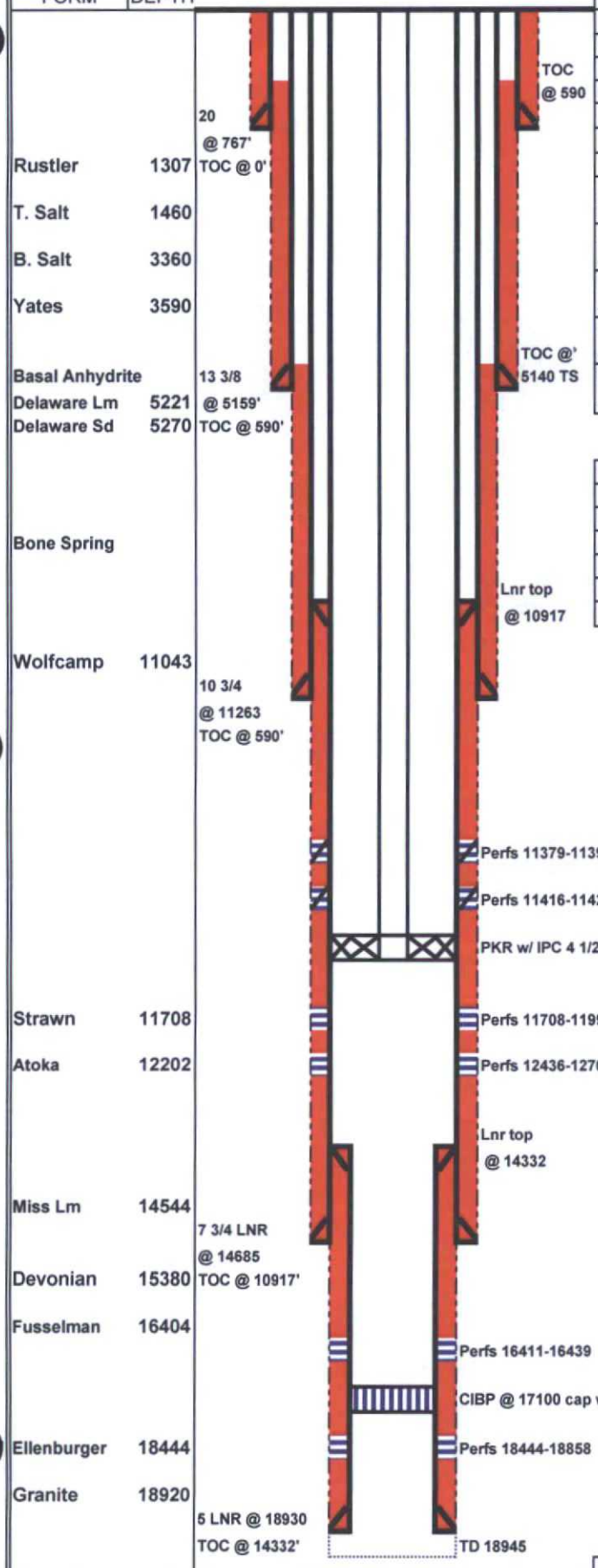
	SIZE	DEPTH	CMT	HOLE SIZE	TOC
SURF.	13.375	348	400 sxs	17.5	0' Circ
INTM1	9.625	5231	3155 sxs	12.25	0' Circ
PROD	7	11306	370 sxs	8.75	6850 est
LINER1	5	11065-12273	200 sxs	6.125	11065

SPUD: 03/12/1964
COMP: 05/16/1964
P&A: 10/31/1983

PREPARED BY: | UPDATED 03/21/15

WELLBORE SCHEMATIC AND HISTORY

COMPLETION SCHEMATIC



APINUM:	30-025-25046
OPERATOR:	BC & D OPERATING LLC
LEASENAME:	WEST JAL B DEEP
WELL NO.	1

SURF LOC:	UL:	H	SEC:	17	TWN:	25S	RNG: 36E
	1980 FNL				660 FEL		
BH LOC:	UL:	H	SEC:	17	TWN:	25S	RNG: 36E
	1980 FNL				660 FEL		

MD	18945	TVD	18945	KB	3151
				GL	3123

POOL	Perf	18444-18858
Ellenburger (Dry)		
POOL	Perf	16411-16439
Jal;Fusselman, West (Gas)		
POOL	Perf	12436-12706
Jal;Atoka, West (Gas)		
POOL	Perf	11708-11995
Jal;Strawn, West (Associated)		
POOL	Perf	11416-11425 SQZ
Jal;Wolfcamp, West		11279-11399

CASING RECORD

	SIZE	DEPTH	CMT	HOLE SIZE	TOC
SURF.	20	767	1700 sxs	26	0' Circ
INTM1	13.375	5159	5300 sxs	17.5	590 TS
PROD	10.75	11263	2950 sxs	12.25	5140 TS
LNR1	7.75	10917-14685	1300 sxs	9.5	10917
LNR2	5	14332-18930	725 sxs	6.5	

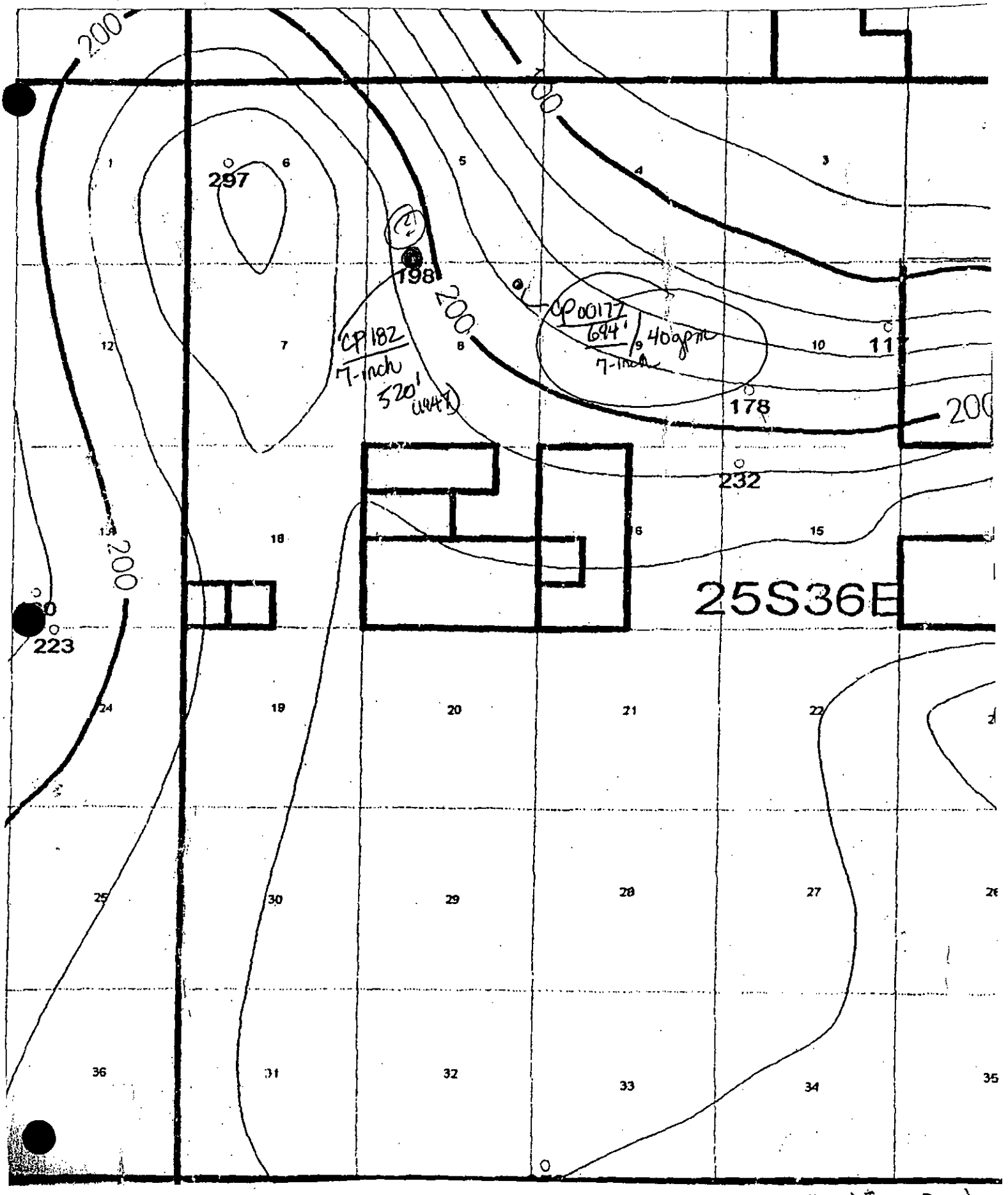
10.75 DV Tool @ 7564

SPUD: 06/12/1975
COMP: 12/19/1975

PREPARED BY: | UPDATED 03/21/15

Water Sample Analysis

Pool	Location Section	Township	Range	Chlorides
North Justis Montoya	2	25S	37E	45440
North Justis McKee	2	25S	37E	58220
North Justis Fusselman	2	25S	37E	68533
North Justis Ellenburger	2	25S	37E	34151
Fowler Blinebry	22	24S	37E	116085
Skaggs Grayburg	18	20S	38E	84845
Warren McKee	18	20S	38E	85910
Warren Abo	19	20S	39E	91600
DK Drinkard	30	20S	39E	106855
Littman San Andres	8	21S	38E	38695
East Hobbs grayburg	29	18S	39E	6461
Halfway Yates	16	20S	32E	14768
Arkansas Junction San Andres	12	18S	38E	7171
Pearl Queen	28	19S	35E	114310
Midway Abo	17	17S	37E	38494
Lovinton Abo	31	16S	37E	22933
Lovington San Andres	3	16S	37E	4899
Lovington Paddock	31	16S	37E	93720
Mesa Queen	17	16S	32E	172530
Kemnitz Wolfcamp	27	16S	34E	49345
Hume Queen	9	16S	34E	124960
Anderson Ranch Wolfcamp	2	16S	32E	11040
Anderson Ranch Devonian	11	16S	32E	25702
Anderson Ranch Unit	11	16S	32E	23786
Caudill Devonian	9	15S	36E	20874
Townsend Wolfcamp	6	16S	36E	38695
Dean Permo Penn	5	16S	37E	44730
Dean Devonian	35	15S	36E	19525
South Denton Wolfcamp	26	15S	37E	54315
South Denton Devonian	36	15S	37E	34080
Medicine Rock Devonian	15	15S	38E	39760
Little Lucky Lake Devonian	29	15S	30E	23288
Wantz Abo	26	21S	37E	132770
Crosby Devonian	18	25S	37E	58220
Scarborough Yates Seven Rivers	7	26S	37E	3443(Reef)
Teague Simpson	34	23S	37E	114665
Teague Ellenburger	34	23S	37E	120345
Rhodes Yates 7 Rivers	27	26S	37E	144485
House SA	11	20S	38E	93365
House Drinkard	12	20S	38E	49700
South Leonard Queen	24	26S	37E	115375
Elliot Abo	2	21S	38E	55380
Scharb Bone Springs	5	19S	35E	30601
EK Queen	13	18S	34E	41890
East EK Queen	22	18S	34E	179630
Maljamar Grayburg SA	22	17S	32E	46079
Maljamar Paddock	27	17S	32E	115375
Maljamar Devonian	22	17S	32E	25418



Groundwater Map

● Water Sample

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

BC & D OPERATING P. O. BOX 302 HOBBS NM, 88241	Project: TOMMIE DINWIDDIE FWW #1 Project Number: NONE GIVEN Project Manager: DONNIE HILL Fax To: (575) 942-2005	Reported: 19-Sep-13 15:26

TOMMIE DINWIDDIE FWW #1

H302139-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories									
Inorganic Compounds									
Alkalinity, Bicarbonate	249	5.00	mg/L	1	3082302	AP	09-Sep-13	310.1	
Alkalinity, Carbonate	ND	0.00	mg/L	1	3082302	AP	09-Sep-13	310.1	
Chloride*	80.0	4.00	mg/L	1	3090904	AP	09-Sep-13	4500-Cl-B	
Conductivity	1060	1.00	uS/cm	1	3091004	AP	10-Sep-13	120.1	
pH*	7.50	0.100	pH Units	1	3091003	AP	10-Sep-13	9045	
Sulfate*	234	50.0	mg/L	5	3090903	AP	09-Sep-13	375.4	
TDS*	684	5.00	mg/L	1	3083008	AP	06-Sep-13	160.1	
Alkalinity, Total*	204	4.00	mg/L	1	3082302	AP	09-Sep-13	310.1	
Green Analytical Laboratories									
Total Recoverable Metals by ICP (E200.7)									
Calcium*	69.6	1.00	mg/L	1	B309142	JGS	17-Sep-13	EPA200.7	
Magnesium*	48.8	1.00	mg/L	1	B309142	JGS	17-Sep-13	EPA200.7	
Potassium*	7.41	1.00	mg/L	1	B309142	JGS	17-Sep-13	EPA200.7	
Sodium*	104	1.00	mg/L	1	B309142	JGS	17-Sep-13	EPA200.7	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

SANTA ROSA SANDSTONE

The Santa Rosa Sandstone consists primarily of red, white, gray or greenish-gray varies from a fine grain to coarse grain sandstone. In the vicinity of the West Jal B Deep # 1 well occurs at depth 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 West Jal B Deep well #1. Consequently, the Santa Rosa water 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.

OFFSET OPERATORS AND MINERALS

SURFACE OWNER
Dinwiddie Cattle Co.
P.O. Box 374
Roswell, NM 88202

MINERALS - LEASED
Yates Petroleum
105 S. Fourth St.
Artesia, NM 88210

OFFSET OPERATOR
BC & D Operating
Box 302
Hobbs, NM 88241

OFFSET SURFACE & MINERALS
U.S. - BLM
620 E. Green St.
Carlsbad, NM 88220

POTASH AREA
Intercontinental Potash Corp.
600 W. Bender
Hobbs, NM 88240

Intrepid Potash
220 Red Cloud
Carlsbad, NM 88220

BC & D OPERATING, INC.

March 2015

RE: West Jal B #1
Unit J, Sect. 17, T. 25 S., R. 36 E.
API 30-025-20857

Dear Sir:

In accordance with the Rules and Regulations of the Oil Conservation Division of the State of New Mexico, you are being provided a copy of the C-108, Application for Authorization to Inject into the above captioned well.

Any questions about the permit can be directed to Eddie W. Seay, (575)392-2236. Any objections or request for hearing must be filed with the Oil Conservation Division within fifteen (15) days from the date received. The OCD address is 1220 S. Saint Francis Drive, Santa Fe, NM 87504, (505)476-3440.

Thank you,

Eddie W. Seay

Eddie W. Seay, Agent
Eddie Seay Consulting
601 W. Illinois
Hobbs, NM 88242
(575)392-2236
seay04@leaco.net

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Sent To: Intercontinental Potash Corp
Street, Apt. No.; or PO Box No.: 600 W. Bender
City, State, ZIP+4: Hobbs, NM 88240

PS Form 3800, August 2006 — See Reverse for Instructions

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Street, Apt. No.; or PO Box No.: 620 E. Green St.
City, State, ZIP+4: Carlsbad, NM 88220.

PS Form 3800, August 2006 — See Reverse for Instructions

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Total Postage & Fees	$ 7.61

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Sent To: Dinwiddie Cattle Co.
Street, Apt. No.; or PO Box No.: P.O. Box 374
City, State, ZIP+4: Roswell, NM 88202

PS Form 3800, August 2006 — See Reverse for Instructions

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Total Postage & Fees	$ 7.61

Postmark Here — USPS HOBBS, NM 88240 MAR 26 2015

Sent To: Intrepid Potash
Street, Apt. No.; or PO Box No.: 220 Red Cloud
City, State, ZIP+4: Carlsbad, NM 88220

PS Form 3800, August 2006 — See Reverse for Instructions

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Sent To: Yates Petroleum
Street, Apt. No.; or PO Box No.: 105 S. Fourth St.
City, State, ZIP+4: Artesia, NM 88210

PS Form 3800, August 2006 — See Reverse for Instructions

7012 1640 0000 2270 9205

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Total Postage & Fees	$ 7.61

Postmark Here — USPS HOBBS, NM 88240 MAR 26 2015

Sent To: BC & D Operating
Street, Apt. No.; or PO Box No.: Box 302
City, State, ZIP+4: Hobbs, NM 88241

PS Form 3800, August 2006 — See Reverse for Instructions

LEGAL NOTICE

Pursuant to the rules and regulations of the Oil Conservation Division of the State of New Mexico, BC & D Operating, Inc., Box 302, Hobbs, NM 88241, is filing a C-108, Application for Salt Water Disposal. The well being applied for is the West Jal B #1, API 30-025-20857, located in Unit J, Section 17, Township 25 South, Range 36 East, Lea Co., NM. The injection formations are the Delaware from 5231′ to 6000′ below surface. Expected maximum injection rate is 15,000 bpd., and the expected maximum injection pressure is 1000 psi or what the OCD allows. Any questions about the application can be directed to Eddie W. Seay, (575)392-2236, or any objection or request for hearing must be directed to the Oil Conservation Division, (505)476-3440, 1220 South Saint Francis Drive, Santa Fe, NM 87504, within fifteen (15) days.

Affidavit of Publication

STATE OF NEW MEXICO)
) ss.
COUNTY OF LEA)

John Graham being first duly sworn on oath deposes and says that he is Publisher of THE LOVINGTON LEADER, a thrice a week newspaper of general paid circulation published in the English language at Lovington, Lea County, New Mexico; that said newspaper has been so published in such county continuously and uninterruptedly for a period in excess of Twenty-six (26) consecutive weeks next prior to the first publication of the notice hereto attached as hereinafter shown; and that said newspaper is in all things duly qualified to publish legal notices within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico.

That the notice which is hereto attached, entitled Legal Notice was published in a regular and entire issue of THE LOVINGTON LEADER and not in any supplement thereof, for one (1) day(s), beginning with the issue of March 28 , 2015 and ending with the issue of March 28 , 2015.

And that the cost of publishing said notice is the sum of $ 26.35 which sum has been (Paid) as Court Costs.

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Published in the Lovington Leader March 28, 2015.

John Graham, Publisher
Subscribed and sworn to before me this 2nd day of April , 2015.

Gina Fort

Gina Fort
Notary Public, Lea County, New Mexico
My Commission Expires June 30, 2018

OFFICIAL SEAL
GINA FORT
Notary Public
State of New Mexico
My Comm. Expires 6/30/18

C-108 Review Checklist: Received 4/8/15 Add. Request: 9/28/15 (New completion) Reply Date: ______ Suspended: ______ [Ver 16] +Additional Delaware info 10/19/15

ORDER TYPE: WFX / PMX / (SWD) Number: 1601 Order Date: 11/23/15 Legacy Permits/Orders: NA

Well No. 1 Well Name(s): West Jal B

API : 30-0 25-20857 Spud Date: 03/12/1964 New or Old: Old (*UIC Class II Primacy 03/07/1982*)

Footages 1980FSL/1980FEL Lot — or Unit J Sec 17 Tsp 25S Rge 36E County Lea

General Location: ~4.5 miles west Jal/South NM-128 Pool: SWD; Cherry Canyon or SWD; Delaware Pool No.: 97003

BLM 100K Map: Jal Operator: BC & D Operating Inc. OGRID: 25670 Contact: Eddie Seay/Agent; Donnie Hill/BC&D

COMPLIANCE RULE 5.9: Total Wells: 3 Inactive: 0 Fincl Assur: (Yes) – Blanket Bond + individual Compl. Order? No IS 5.9 OK? Yes Date: 11/23/15

WELL FILE REVIEWED ✓ Current Status: P&A; original Strawn test; 1976-WC test; 1980-Delaware(?) test (7881-7883) - Bone Spring

WELL DIAGRAMS: NEW: Proposed ○ or **RE-ENTER:** Before Conv. ✓ After Conv. ✓ Logs in Imaging: GR/IEL/GR Laterlog

Planned Rehab Work to Well: originally - drill out plugs and open hole - requested (deep) redesign with cased hole

Well Construction Details	Sizes (in) Borehole / Pipe	Setting Depths (ft)		Cement Sx or Cf	Cement Top and Determination Method
Planned __ or Existing ✓ Surface	17½/13⅜	0 to 348	Stage Tool	400	Cir. to surf
Planned __ or Existing ✓ Interm/Prod	12¼/9⅝	0 to 5231	None	3155	Cir. to surf
Planned __ or Existing ✓ Interm/Prod	8¾/7	0 to 11306*	None	370 New? to run 7-inch to 6750±	
Planned __ or Existing ✓ Prod/(Liner)	6⅛/5	11065 to 12273	None	200	(TOL) cmt to surface
Planned __ or Existing ✓ ~~Liner~~	*7 inch casing cut 6804			—	— DV at 5260
Planned __ or Existing __ OH / PERF	Existing Strawn/squeezed	(5231) to 6000	Inj Length		

Injection Lithostratigraphic Units:	Depths (ft)	Injection or Confining Units	(Move to) Tops
Adjacent Unit: Litho. Struc. Por.		(7-Rivers) Capitan	5231'
Confining Unit: Litho. Struc. Por.	0	Lamar Delaware Sand	5340
Proposed Inj Interval TOP:	~~5231~~ (5340)	Cherry Canyon	(5340')
Proposed Inj Interval BOTTOM:	~~6000~~		
Confining Unit: Litho. Struc. Por.	~+300'	Brushy Canyon	(6300)
Adjacent Unit: Litho. Struc. Por.		Bone Spring	7962

Completion/Operation Details:

Drilled TD 12275 PBTD P&A

NEW TD — NEW PBTD 6750 - new 7-inch

NEW Open Hole ○ or NEW Perfs ✓

Tubing Size (3½) in. Inter Coated? Yes

Proposed Packer Depth 5200 ft

Min. Packer Depth 5240 (100-ft limit)

Proposed Max. Surface Press. 1000 psi

Admin. Inj. Press. (1086) at 5340 (0.2 psi per ft)

AOR: Hydrologic and Geologic Information

POTASH: R-111-P (No) Noticed? Yes! BLM Sec Ord ○ WIPP ○ Noticed? NA Salt/Salado T: — B: — **NW:** Cliff House fm —

FRESH WATER: Aquifer Shallow SR/Capitan Max Depth <800'/4200' HYDRO AFFIRM STATEMENT By Qualified Person ✓

NMOSE Basin: Capitan CAPITAN REEF: thru ✓ adj __ NA __ No. GW Wells in 1-Mile Radius? (1) FW Analysis? Yes

Disposal Fluid: Formation Source(s) Bonespring/WC/Yates Analysis? Yes On Lease ○ Operator Only ○ or Commercial ✓

Disposal Interval: Inject Rate (Avg/Max BWPD): NA/15000 Protectable Waters? No Source: Historical System: Closed or (Open)

HC Potential: Producing Interval? No Formerly Producing? No Method: Logs/DST/P&A/(Other) DST + area info 2-Mile Radius Pool Map ✓

AOR Wells: 1/2-M Radius Map? Yes Well List? Yes Total No. Wells Penetrating Interval: 1 Horizontals? 0

Penetrating Wells: No. Active Wells 1 Num Repairs? 0 on which well(s)? SWD well — Diagrams? Yes

Penetrating Wells: No. P&A Wells 0 Num Repairs? 0 on which well(s)? — Diagrams? —

NOTICE: Newspaper Date 03/29/15 Mineral Owner Fee Surface Owner Fee N. Date 03/26/15

RULE 26.7(A): Identified Tracts? (No) Rooky Affected Persons: Yates / Dinwiddie Cattle Co. (surface & min) / BLM, Intrepid, IPC } Noticed N. Date 03/26/15

Order Conditions: Issues: open hole interval; casing in reef; DMG Correlation (top); casing comp

Add Order Cond: Operator submitted new design - reduce tubing to 3½-inch; survey no required

New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

(acre ft per annum)

(R=POD has been replaced and no longer serves this file, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Code	Grant	Source	q q q 6416 4	Sec	Tws	Rng	X	Y
CP 00174		PDL	0	W.D. DINWIDDIE	LE	CP 00174				1 1 1	15	25S	36E	664076	3556912*
CP 00175		COM	64.5	W D DINWIDDIE	LE	CP 00175				1 1 1	15	25S	36E	664076	3556912*
CP 00176		COM	48.3	W D DINWIDDIE	LE	CP 00176				2 1 1	15	25S	36E	664276	3556912*
CP 00177		COM	64.5	W D DINWIDDIE	LE	CP 00177				3 3 3	08	25S	36E	660851	3557065*
CP 00179		PLS	3	W D DINWIDDIE	LE	CP 00179				1 1 1	19	25S	36E	659275	3555234*
CP 00180		PLS	8	W D DINWIDDIE	LE	CP 00180				2 3	06	25S	36E	659720	3559164*
CP 00182		PLS	3	W D DINWIDDIE	LE	CP 00182				3 4 3	05	25S	36E	661231	3558680*
CP 00890		PLS	3	GERALDINE OSBORN	LE	CP 00890				4 4 3	13	25S	36E	667917	3555562*
CP 00938		STK	3	JAY ANTHONY	LE	CP 00938 POD1			Shallow	4 4 4	33	25S	36E	663970	3550671*
CP 01343		EXP	0	BECKHAM RANCH INC	LE	CP 01343 POD1				4 4 4	30	25S	36E	660767	3552204
CP 01344		EXP	0	MSTAPLETON LLC	LE	CP 01344 POD1				3 4 4	30	25S	36E	660503	3552211

Record Count: 11

POD Search:

POD Basin: Capitan

PLSS Search:

Township: 25S Range: 36E

Sorted by: File Number

***UTM location was derived from PLSS - see Help**

Goetze, Phillip, EMNRD

From: Donnie Hill <dhill@wellconsultant.com>
Sent: Monday, September 28, 2015 5:51 PM
To: Goetze, Phillip, EMNRD
Subject: RE: Application for Injection Authority: West Jal B No. 1
Attachments: BC&D Revised completion proposal.pdf

Hi Phillip,

West Jal B No. 1; API 30-025-20857; Application for Injection Authority into the Delaware

Hope you have been doing well.

Please see the attached info for your review and comments as requested.

Thanks,

DONNIE HILL
BC & D OPERATING, INC.
P.O. Box 302, Hobbs, NM 88241
575.390.7626 (Cell)
575.942.2005 (Fax)
dhill@wellconsultant.com

From: Goetze, Phillip, EMNRD [mailto:Phillip.Goetze@state.nm.us]
Sent: Monday, July 13, 2015 11:36 AM
To: Donnie Hill (dhill@wellconsultant.com)
Cc: Jones, William V, EMNRD; McMillan, Michael, EMNRD; Eddie Seay (seay04@leaco.net)
Subject: Application for Injection Authority: West Jal B No. 1

West Jal B No. 1; API 30-025-20857; Application for Injection Authority into the Delaware

Mr. Hill:

You made several efforts to contact me with regards to BC& D Operating's application for the West Jal B No. 1. I have completed a cursory review of the application and find the following issues need to be addressed before review may be continued:

1. OCD will no longer consider open-hole completions in the Delaware Mountain Group as a result of continued episodes of injection migrating out of what has been identified as the "Delaware formation". Please modify the *well completion to be cased and cemented for the injection interval.*
2. The USGS, Texas Bureau of Economic Geology, and the New Mexico Bureau of Geology and Mineral Resources have long recognized the Delaware Mountain Group as divided into three distinct formations. The application needs to provide a better definition of the lithology for the injection interval and the associated confining layer.
3. The top of the proposed injection interval is at the lower contact of the Capitan reef. The reef and corresponding aquifer is identified as a protectable water source. The application will have support the selection of the injection interval so that there is no potential for injection to migrate into this ground water source, or the application will be modified to provide vertical separation from the Capitan.

Please contact me with any questions regarding either the requested information or the application. The application will be suspended from the process review until the requested information is received. Additional notification will not be required as long as the proposed injection interval is not expanded. PRG

Phillip R. Goetze, P.G.
Engineering and Geological Services Bureau, Oil Conservation Division
1220 South St. Francis Drive, Santa Fe, NM 87505
O: 505.476.3466 F: 505.476.3462
phillip.goetze@state.nm.us

BC & D Operating, Inc.
West Jal B # 1 (API 30-025-20857)
Unit J, Sec. 17, T25S, R36E
Lea County, NM

Well Program – Reentry

Objective: Reenter well & run 7" long string for commercial salt water disposal into the Cherry Canyon on Private Surface and Minerals.

1. Geologic Information – Cherry Canyon portion.

The Delaware Limestone provides sufficient vertical separation between the Capitan Reef and Delaware – Cherry Canyon to prevent upward migration of water into the Reef. The Delaware is composed predominately of sandstone and shales. All the Delaware members are interbedded, poorly consolidated, light gray sandstones and shales with occasional dense dolomite horizons. The lateral transmissivities of the sandstone beds are highly variable and often forms elective barriers to the movement of hydrocarbons while allowing down-gradient movement of water. The transmissivity variations are fundamentally due to the very-fine grained nature of the sands and the local bounding shale, dolomite and/or silty shale horizons. Downward vertical separation between the Cherry Canyon and Brush Canyon is sufficiently protected by dense dolomite, limestone, anhydrite and shale comprised of in excess of 1000' of above mentioned geology to prevent downward vertical migration from the Cherry Canyon to the Brushy Canyon.

Estimated Formation Tops:

Formation	Depth (ft.)		Production / Historical
T/Fresh Water	200		Fresh Water
T/Rustler	1252		
B/Salt	3320		
Delaware Lm	5290		
Bell Canyon			Eroded (Most Likely does not exist)
Cherry Canyon	5340		Some historical miles away - most converted to SWD
Brushy Canyon	7962		Few tried - now SWD
Wolf Camp	11053		Non-productive
Strawn	11572		Non-productive
Atoka	12238		Non-productive

2. **Drilling / Reentry Procedure**

a) *MIRU Completion Rig and associated equipment. Set up H2S wind direction indicators; brief all* personnel on Emergency Evacuation Routes.
b) All Contractors conduct safety meeting prior to task. All equipment inspected daily. Repair / replaced as required.
c) Well spud / reentry operations commence; D/O & C/O all cement plugs in existing 9-5/8" casing.
d) Reverse operator monitoring returns; cutting and waste hauled to specific facility. Sundance – Lea County
e) *If H2S levels >20ppm detected, implement H2S Plan accordingly. (e.g., cease operations, shut-in* well, employ H2S safety trailer & personnel safety devices, install flare line, etc. - refer to plan.)
f) Spills contained and cleaned up immediately. Repair or otherwise correct the situation within 48 hrs before resuming operations. Notify NMOCD within 24 hrs. Remediation started ASAP if required. Operator shall comply with 19.15.29 NMAC and 19.15.30 NMAC, as appropriate.
g) Sundry forms filed as needed – casing, cement, etc. – operations continue to completion.

3. **Casing program** – *Casing designed as follows:*

String	Hole Size	Depth	CSG. SZ	Cond.	WT/GRD	CLLPS/BURST	TENSION
Surface	17.5	0' - 348'	13.375"		IN WELL AT CURRENT TIME (Cmt Circ. To surface)		
INTM 1	12.25	0' - 5231'	9.625"		IN WELL AT CURRENT TIME (Cmt. Circ to surface)		
PROD	8.75	0' - 6750'	7"	New	26.0# J-55 LTC	1.125/1.125	1.4

Notes:

- ✓ Well is PA&A'D – 9.625" CASING IS ALREADY IN HOLE AND SET @ 5231'. WILL DRILL OUT ALL CEMENT PLUGS TO A MAXIMUM DEPTH OF 6750'.
- ✓ WHILE RUNNING 7" CASING, THE PIPE WILL BE KEPT A MINIMUM OF 1/3 FULL AT ALL TIMES TO AVOID APPROACHING THE COLLAPSE PRESSURE OF CASING.

4. **Cement Program:**

Surface – Existing – 400 sxs – circulated to surface.

Intermediate – *Existing* – 3155 sxs – *circulated to surface.*

Long String New – 2 stage w/ DV tool at @ 5200'; Lead 400 sxs (11.8#; 2.65 cubic ft/sx.) Class H 50/50/10 Blend, Tail 400 sxs (13.0#; 1.7 cubic ft/sx.) Super H Blend; 2nd Lead 400 sxs / Tail w/ 300 sxs – 30% excess circulated to surface.

- ✓ Cement volumes may be revised based on caliper measurements.

5. **Pressure Control** – BOP diagram is attached to this application. All BOP and related equipment shall comply with well control requirements as described by NMOCD rules and regulations. Minimum working pressure of the BOP and related equipment required for drilling operations shall be 5000 psi. The NMOCD office shall be notified a minimum of 4 hours in advance for a representative to witness BOP pressure tests. The test shall be performed by an independent service company utilizing a test plug (no cup or J-packer). The results of the test shall be recorded on a calibrated test chart submitted to the NMOCD Hobbs office. The BOP test(s) will be conducted at:

- ✓ Installation;
- ✓ After equipment or configuration changes;
- ✓ At 30 days from any previous test, and;
- ✓ Anytime operations warrant, such as well conditions.

6. **Mud Program & Monitoring** – Mud will be balanced for all operations as follows:

DEPTH	MUD TYPE	WEIGHT	VISC.	Ph
0' - 6750'	FW/Gel	8.8 - 9.0	28 – 32	9.5 - 10.5

Mud Program & Monitoring – Mud and all cuttings monitored w/ cuttings recovered for disposal. Returns shall be visually and electronically monitored. In the event H2S, mud shall be adjusted appropriately by weight and H2S scavengers.

7. **Auxiliary Well Control and Monitoring** – Not Applicable

8. **H2S Safety** – There is low risk of H2S in this area. The operator will comply with the provisions of 19.15.11 NMAC. All personnel will wear monitoring devices and a wind direction sock will be placed on location.

9. **Logging, Coring and Testing** – BC&D Operating expects to utilize existing logs but may run a standard porosity log (CNL or better) from TD to approximately 5200'. A bond log (CBL or CET) may be run on the long string. No coring or drill string test will be conducted. (The well may potentially be step-rate tested in the future if additional injection pressures are required).

10. **Potential Hazards** – No abnormal pressures or temperatures are expected.

No loss of circulation is expected to occur. All personnel will be familiar with safe operations of the equipment being used to reenter this well.

The maximum anticipated bottom hole pressure is 3500 psi and the maximum anticipated bottom hole temperature is 140 degrees F.

11. **Waste Management** – All drill cuttings and other wastes associated with drilling operations will be transported to a facility permitted by the Environmental Bureau of the NMOCD.

12. **Completion Interval** – The Disposal interval will be isolated to the Cherry Canyon member of the Delaware thru perforations between 5340' – 6710'. These selected perforations will provide isolation of the Capitan Reef and the Brushy Canyon with disposal fluids to be contained with-in the Cherry Canyon member only.

13. **Injection tubing / Packer configuration** - . Injection fluids will be pumped thru 3-1/2" injection string with a packer set with-in 50' of uppermost perforation of the Cherry Canyon.

14. **Configure for Salt Water Disposal** – Prior to commencing any work, an NOI sundry(s) will be submitted to configure the well for SWD and will detail the completion workover including all work otherwise described above, any changes to the procedure noted herein and to perform mechanical integrity test per NMOCD test procedures. (Notify NMOCD 24 hours prior). The casing/tubing annulus will be monitored for communications with injection fluids or loss of casing integrity. Anticipated daily maximum volume of 10,000 bpd at a maximum surface injection pressure of 1068 psi. If satisfactory disposal rates cannot be achieved at default pressure of .2 psi/ft., BC&D Operating will conduct a step-rate test and apply for an injection pressure increase 50 psi below parting pressure.

Goetze, Phillip, EMNRD

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Sent: Monday, September 28, 2015 5:51 PM
To: Goetze, Phillip, EMNRD
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Please contact me with any questions regarding either the requested information or the application. The application will be suspended from the process review until the requested information is received. Additional notification will not be required as long as the proposed injection interval is not expanded. PRG

Phillip R. Goetze, P.G.
Engineering and Geological Services Bureau, Oil Conservation Division
1220 South St. Francis Drive, Santa Fe, NM 87505
O: 505.476.3466 F: 505.476.3462
phillip.goetze@state.nm.us

Standard Drill - Operating Procedure & Site Setup

ALL OPERATIONS CONDUCTED WITHIN EXISTING PAD SITE
NOT EXCEEDING SURVEYED SITE. ORIENTATION PER BEST FIT.

1. MIRU Drilling and drilling support contractors / equipment.

2. Set up H2S wind direction indicators; brief all personnel on Emergency Evacuation Routes.

3. All contractors conduct safety meeting prior to current task.

4. If H2S levels >20ppm detected, implement H2S Plan *accordingly*. (e.g., cease operations, shut in well, employ H2S safety trailer & personnel safety devices, install flare line, etc. - refer to plan.)

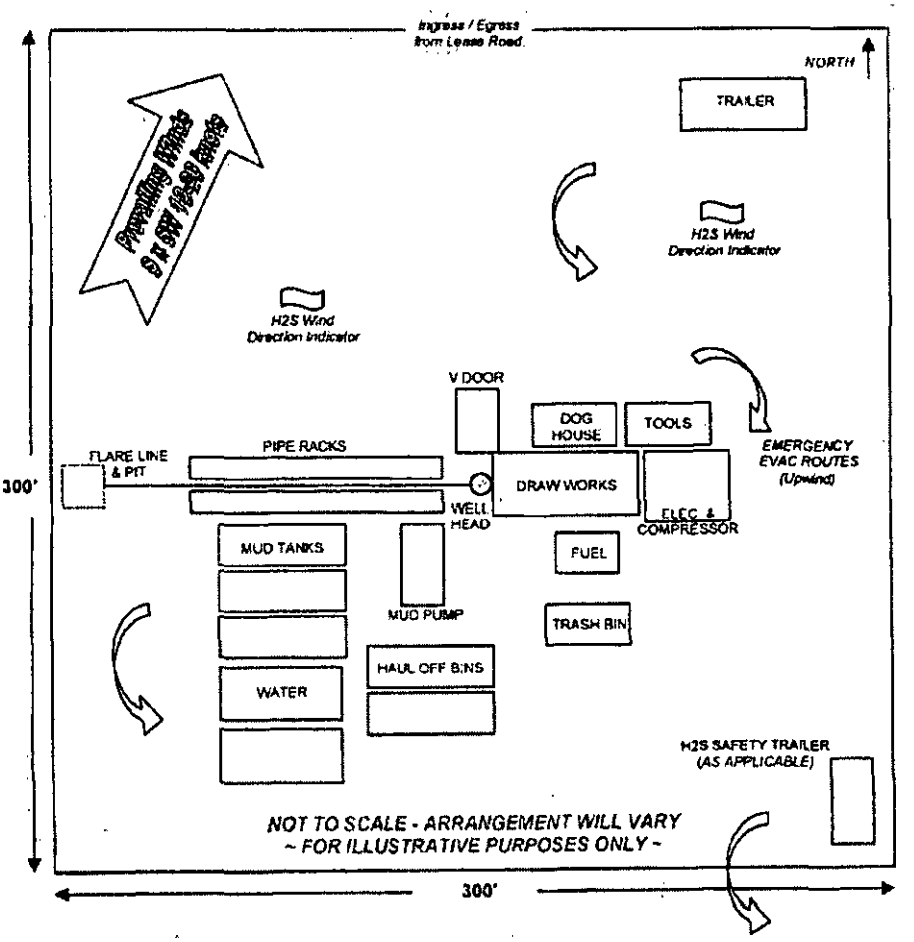
5. All equipment inspected daily. Repair / replace as required.

6. Mud logger monitoring returns; cuttings & waste hauled to specified facility. CRI - LEA COUNTY

7. Spills contained & cleaned up immediately. Repair or otherwise correct the situation within 48 hours before resuming operations. Notify OCD within 24 hours Remediation started ASAP if required. Operator shall comply with 19.15.29 NMAC and 19.15.30 NMAC, as appropriate.

8. Sundry forms filed as needed - casing, cement, etc. - operations continue to completion.

TYPICAL LOCATION SETUP (V Door North)



Standard Operating Procedure - Re-entry
Closed-Loop Reverse Unit Diagram

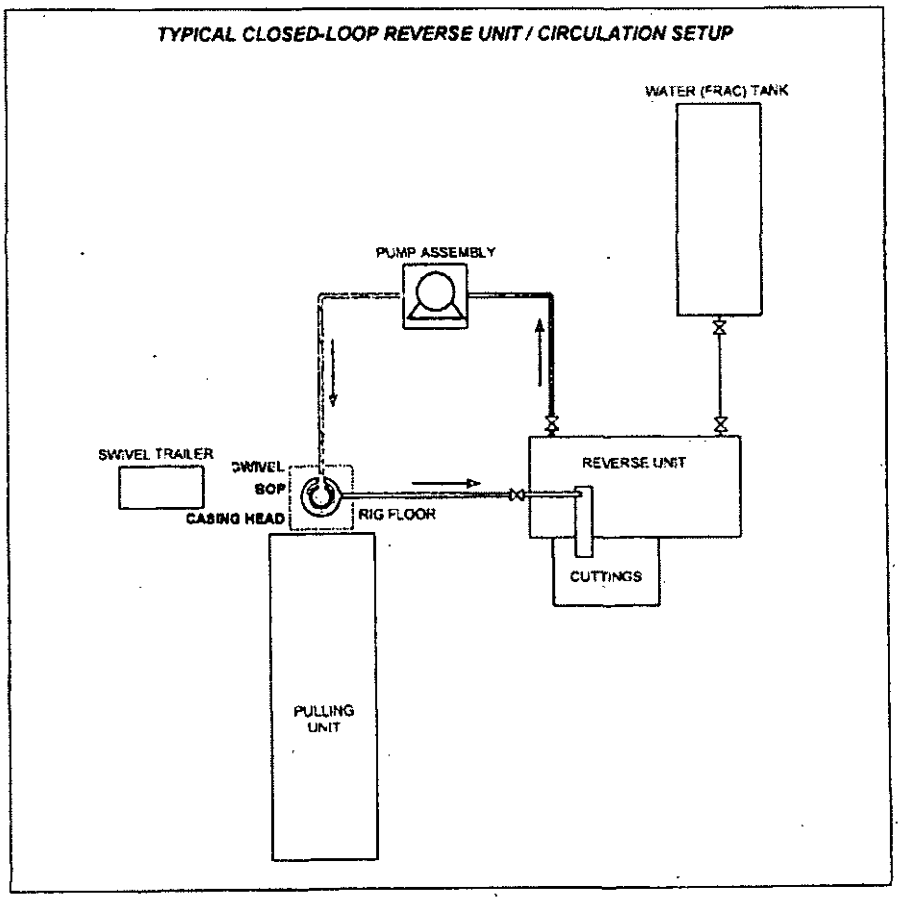
1. Blow Out Preventer tested prior to any operations. Notify OCD at least 4 hours prior.

2. Visual monitoring maintained on returns. Proceed with drillout operations accordingly.

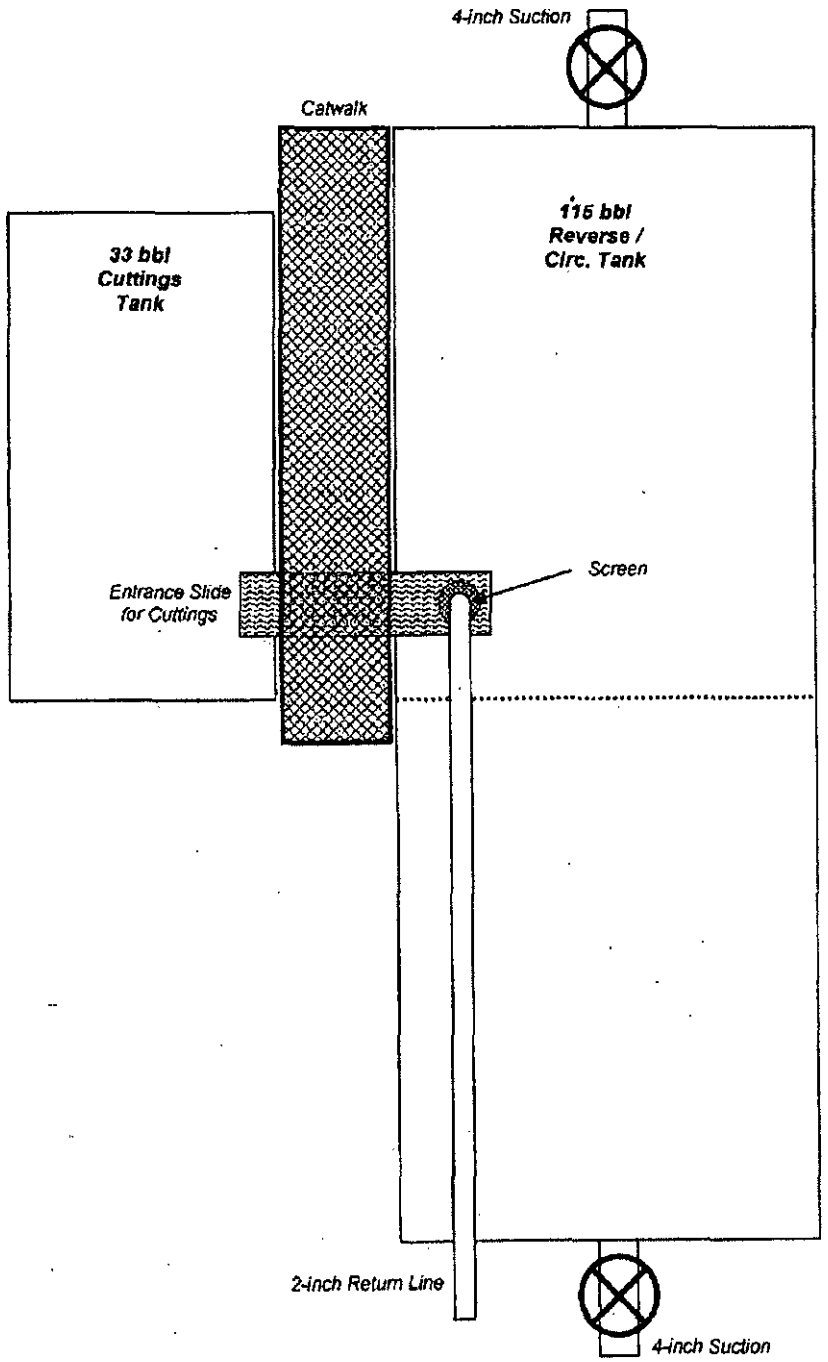
3. Cuttings / waste hauled to specified facility. Sundance – Lea County

4. Spills contained & cleaned up immediately. Repair or otherwise correct the situation within 48 hours before resuming operations. Notify OCD within 24 hours. Remediation started ASAP if required. Operator shall comply with 19.15.29 NMAC and 19.15.30 NMAC, as appropriate.

5. Subsequent sundry / forms filed as needed - well returned to service.

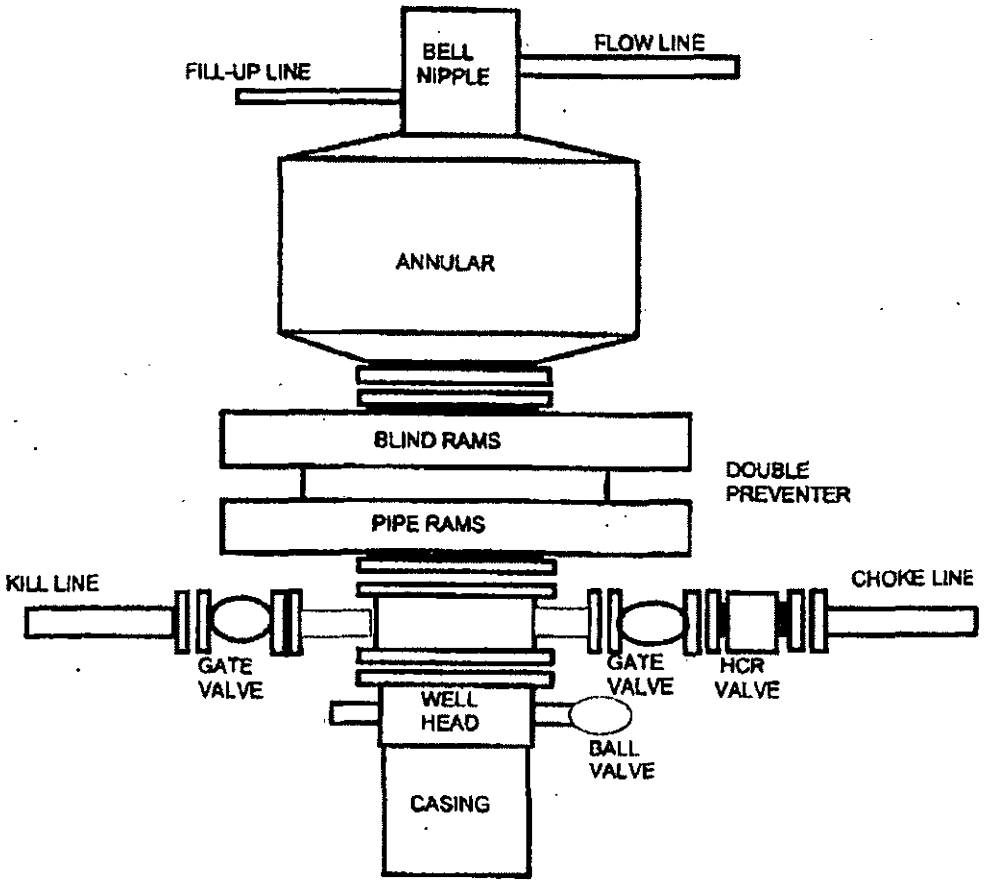


Reverse / Circulation Tank for Workovers & Drillouts



Blow Out Preventer Diagram

5000
~~3000~~ PSI WORKING PRESSURE



Goetze, Phillip, EMNRD

From: Donnie Hill <dhill@wellconsultant.com>
Sent: Monday, October 19, 2015 11:12 AM
To: Goetze, Phillip, EMNRD
Subject: RE: Application for Injection Authority: West Jal B No. 1
Attachments: Capitan Reef maps.pdf; API 30 025 09806.pdf; API 30 025 26676.pdf; API 30 025 33348.pdf; API 30 025 37517.pdf

Good morning Phillip,

West Jal B No. 1; API 30-025-20857; Application for Injection Authority into the Delaware

I have attached some maps and off-set well info confirming geologic tops, lithology and DST results of the Delaware that may be of some help to you when reviewing our SWD application.

Have a great day.

Thanks,

DONNIE HILL
BC & D OPERATING, INC.
P.O. Box 302, Hobbs, NM 88241
575.390.7626 (Cell)
575.942.2005 (Fax)
dhill@wellconsultant.com

From: Goetze, Phillip, EMNRD [mailto:Phillip.Goetze@state.nm.us]
Sent: Monday, July 13, 2015 11:36 AM
To: Donnie Hill (dhill@wellconsultant.com)
Cc: Jones, William V, EMNRD; McMillan, Michael, EMNRD; Eddie Seay (seay04@leaco.net)
Subject: Application for Injection Authority: West Jal B No. 1

West Jal B No. 1; API 30-025-20857; Application for Injection Authority into the Delaware

Mr. Hill:

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1220 South St. Francis Drive, Santa Fe, NM 87505
O: 505.476.3466 F: 505.476.3462
phillip.goetze@state.nm.us

Goetze, Phillip, EMNRD

From: Donnie Hill <dhill@wellconsultant.com>
Sent: Monday, November 02, 2015 7:53 AM
To: Goetze, Phillip, EMNRD
Subject: RE: Application for Injection Authority: West Jal B No. 1
Attachments: West Jal Unit API 30-025-21172.pdf

Good morning Phillip,

We were researching the well files of surrounding wells and found a geologic description supported by Schlumberger Sonic & Induction logs of a well due south of the well we are trying to get permitted for an SWD. We hope this may assist you with your review of our request.

If we can be of further assistance please advise.

Thanks,

DONNIE HILL
BC & D OPERATING, INC.
P.O. Box 302, Hobbs, NM 88241
575.390.7626 (Cell)
575.942.2005 (Fax)
dhill@wellconsultant.com

From: Goetze, Phillip, EMNRD [mailto:Phillip.Goetze@state.nm.us]
Sent: Monday, July 13, 2015 11:36 AM
To: Donnie Hill (dhill@wellconsultant.com)
Cc: Jones, William V, EMNRD; McMillan, Michael, EMNRD; Eddie Seay (seay04@leaco.net)
Subject: Application for Injection Authority: West Jal B No. 1

West Jal B No. 1; API 30-025-20857; Application for Injection Authority into the Delaware

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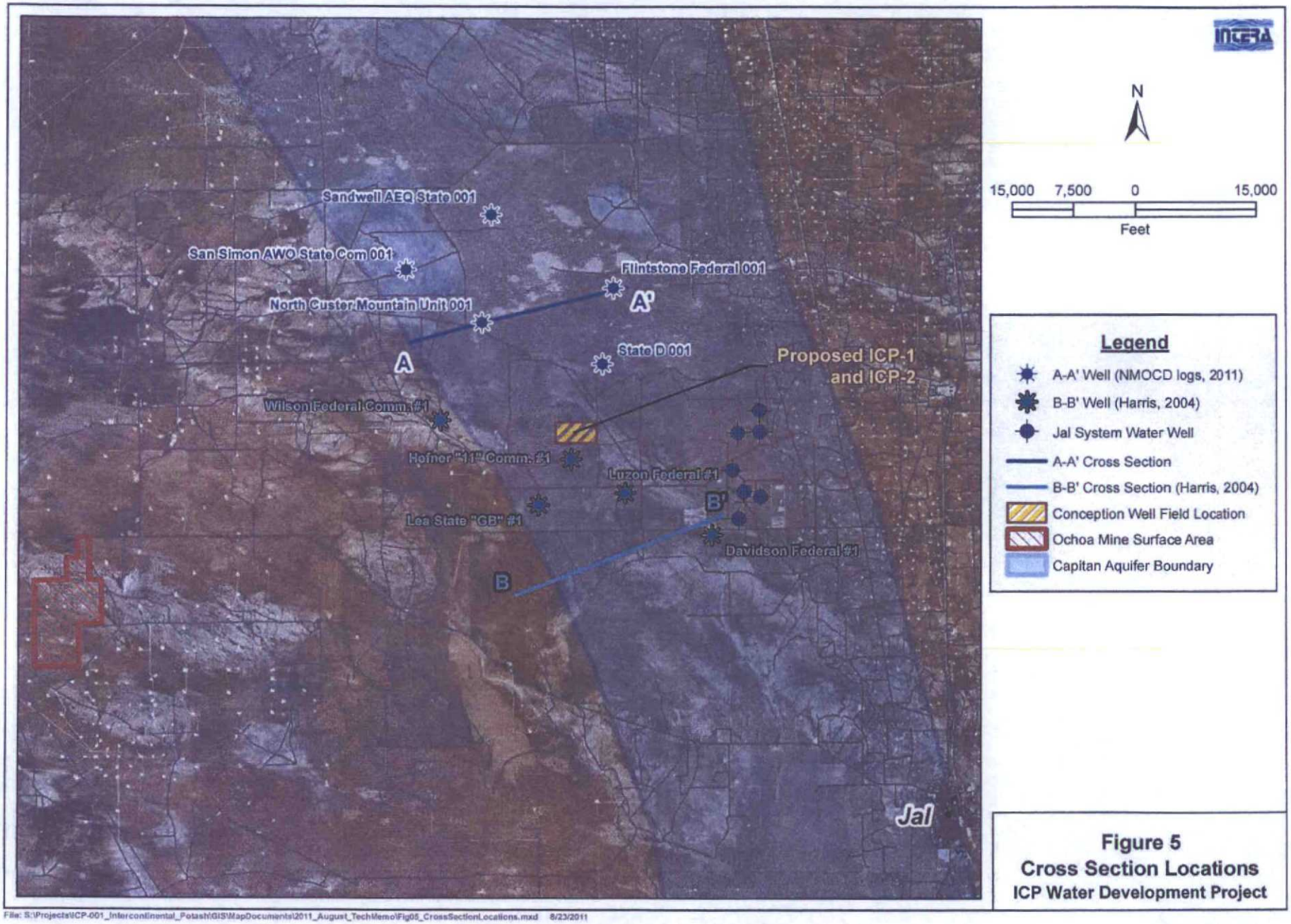


Figure 5
Cross Section Locations
ICP Water Development Project

File: S:\Projects\ICP-001_Intercontinental_Potash\GIS\MapDocuments\2011_August_TechMemo\Fig05_CrossSectionLocations.mxd 8/23/2011

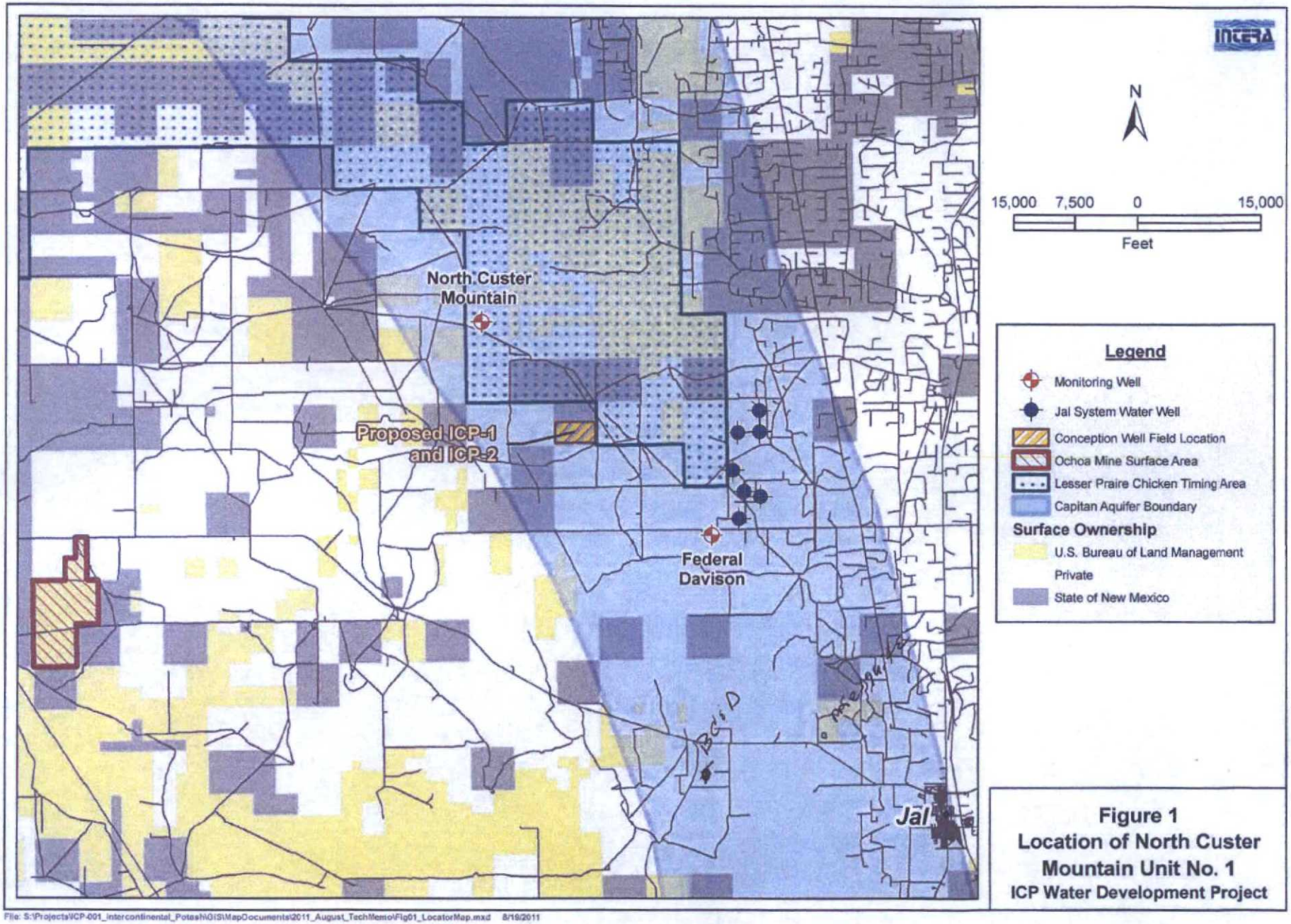


Figure 1
Location of North Custer Mountain Unit No. 1
ICP Water Development Project

File: S:\Projects\ICP-001_Intercontinental_Potash\GIS\MapDocuments\2011_August_TechMemo\Fig01_LocatorMap.mxd 8/19/2011

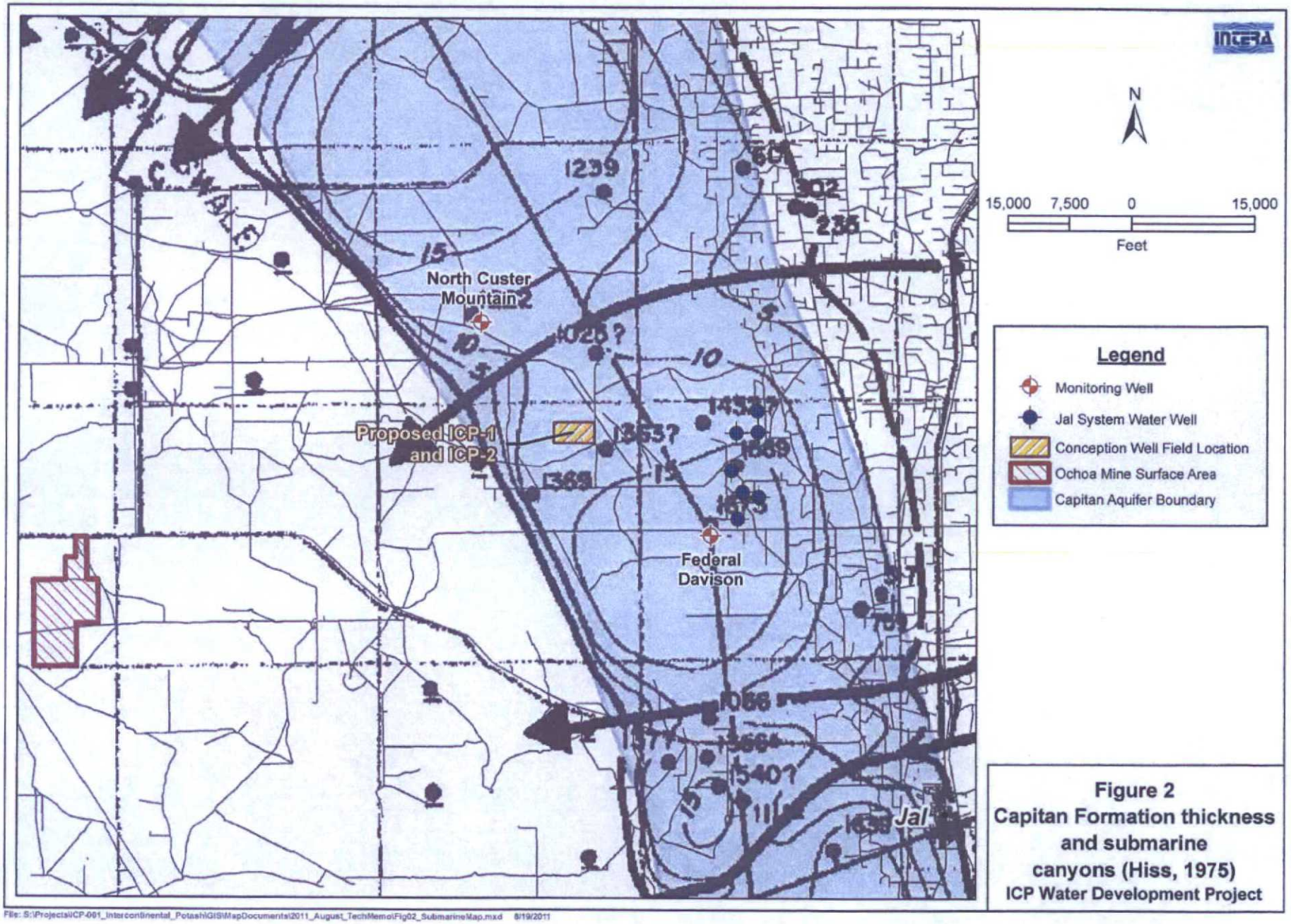


Figure 2
Capitan Formation thickness and submarine canyons (Hiss, 1975)
ICP Water Development Project

File: S:\Projects\ICP-001_Intercontinental_Potash\GIS\MapDocuments\2011_August_TechMemo\Fig02_SubmarineMap.mxd 8/19/2011

Submit 1 Copy To Appropriate District Office
District I – (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II – (575) 748-1283
811 S. First St., Artesia, NM 88210
District III – (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV – (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-103
Revised July 18, 2013

WELL API NO. 30-025-37517
5. Indicate Type of Lease STATE ☒ FEE ☐
6. State Oil & Gas Lease No. VB 1837

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

7. Lease Name or Unit Agreement Name: Momentum 36 State
1. Type of Well: Oil Well ☐ Gas Well ☒ Other SWD
8. Well Number 1
2. Name of Operator: Endurance Resources LLC
9. OGRID Number: 270329
3. Address of Operator: 203 West Wall Street Suite 1000 Midland TX 79701
10. Pool name or Wildcat: SWD Cherry Canyon Brushy Canyon

HOBBS OCD
APR 06 2015
RECEIVED

4. Well Location
Unit Letter K : 1650 feet from the south line and 2310 feet from the west line
Section 36 Township 25S Range 35E NMPM Lea County NM

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
3072' GR

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK	☐	PLUG AND ABANDON	☐	REMEDIAL WORK	☐	ALTERING CASING	☐
TEMPORARILY ABANDON	☐	CHANGE PLANS	☐	COMMENCE DRILLING OPNS.	☐	P AND A	☐
PULL OR ALTER CASING	☐	MULTIPLE COMPL	☐	CASING/CEMENT JOB	☐		
DOWNHOLE COMMINGLE	☐						
CLOSED-LOOP SYSTEM	☐						
OTHER:	☐			OTHER: Convert to SWD Well	☒		

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

03/11/2015 Perforate Brushy Canyon 7360-7392' w/4 SPF 0.42" 128 holes, 7430-7490' w/3 SPF 0.42" 180 holes. Acidize with 14,000 gals. 15% HCl NEFE acid.

03/13/2015 Perforate Cherry Canyon 7050-7080' w/2 SPF 0.42" 60 holes, 7170-7190' w/4 SPF 0.42" 80 holes, 7220-7260' w/4 SPF 0.42" 160 holes. Acidize with 14,000 gals. 15% HCL NEFE acid.

03/18/2015 RIH with 214 joints 2-7/8" J-55 IPC tubing and 5-1/2" x 2-7/8" ASIX packer set at 6981'.

03/25/2015 MIT witnessed by NMOCD Bill Sonnamaker. Chart and wellbore diagram attached. Well ready to inject water.

Spud Date: | Rig Release Date: 03/27/2015

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE M. A. Sirgo III TITLE Engineer DATE 4/1/2015

Type or print name M. A. Sirgo, III E-mail address: manny@enduranceresourcesllc.com PHONE: 432-242-4680

For State Use Only

APPROVED BY: TITLE Petroleum Engineer DATE 04/10/15

Conditions of Approval (if any):
SWD-1519

APR 27 2015

E-PERMITTING <SWD – INJECTION>
CONVERSION dm RBDMS
RETURN TO TA
INT to PA P&A NR P&A R

ENDURANCE RESOURCES LLC

Well Name: Momentum 36 State #1 SWD	Field: Wildcat / Unknown		
Location: SEC 36- 25S-35E; 1650' FSL & 2310' FWL	County: LEA	State: NM	
Elevation: 3,072' KB: 3,091' KB:19'	Spud Date: 2/21/06	Compl Date:	
API#: 30-025-37517 Prepared by: KALE JACKSON	Plug Date: 4/2/06	Rev: 4/1/15	

ENDURANCE RESOURCES, LLC

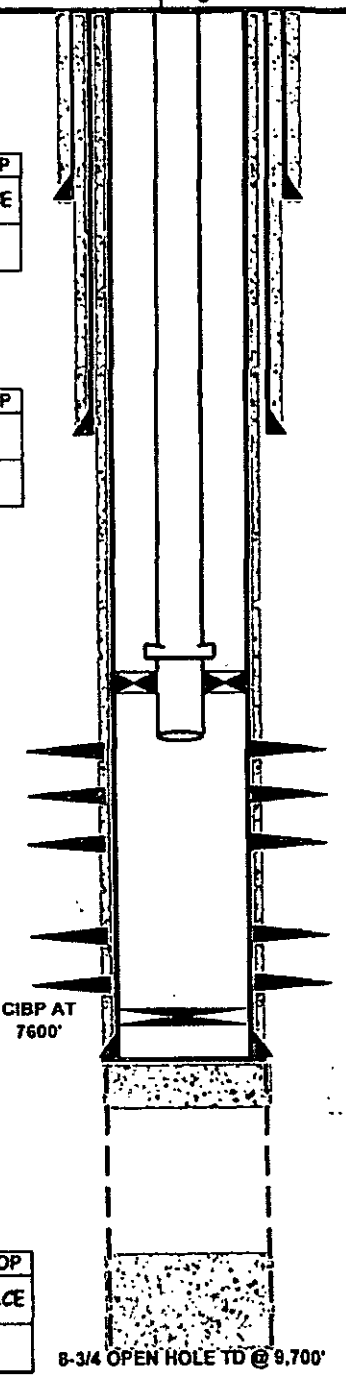
CURRENT SCHEMATIC

HOLE SIZE	CASING SIZE	DEPTH SET	CMT TOP
17-1/2	13-3/8"	549'	SURFACE
48# H-40; 2/23/2006			

HOLE SIZE	CASING SIZE	DEPTH SET	CMT TOP
12-1/4"	9-5/8"	5,028'	530
40# J-55 & HCK55; 3/09/2006			

SURVEYS

MD	INC
500	1.25
2015	1.5
2993	4
3021	4.5
3156	3.25
3596	2
4446	5.75
4629	6.5
4755	7.7
4787	8
4850	7.4
5024	4.2
5150	2
5433	0.2
7542	0.8
7918	2.1
8581	1.9
8925	4.8
8956	5.1
9051	2
9555	0.9



PACKER AT 6,981

CURRENT PERFS

7050 - 7080

7170 - 7190 INT #2

7220 - 7260

7360 - 7392

7430 - 7490 INT #1

NEW CMT PLUG @ 8,630' - 8,850'

HOLE SIZE	CASING SIZE	DEPTH SET	CMT TOP
8-3/4"	5-1/2"	8630'	SURFACE
17# J-55			

PLUG #5: 9,500' - 9,700'

8-3/4 OPEN HOLE TD @ 9,700'

(July 1992)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE (See other instructions on reverse side)

FORM APPROVED
OMB NO. 1004-0137
Expires: February 28, 1995

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

5. LEASE DESIGNATION AND SERIAL NO.: NM-03A29

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: NA

7. UNIT AGREEMENT NAME: NA

8. FARM OR LEASE NAME, WELL NO.: Texaco West Jal 21 #1

9. API WELL NO.: 3002533348

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: Unit "A" Sec. 21 T25S R36E

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ DRY ☒ Other

b. TYPE OF COMPLETION: NEW WELL ☐ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other

N.M. Oil Cons. Div
P.O. Box 1980
Hobbs, NM 88241

2. NAME OF OPERATOR: Enserch Exploration, Inc.

3. ADDRESS AND TELEPHONE NO.: P.O. Box 96 Bridgeport, Tx 76426 (940)683-4056

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*
At surface: 660 FSL, 1980 FWL Sec. 21 T25S R36E
At top prod. interval reported below: Same
At total depth: Same

14. PERMIT NO. | DATE ISSUED

12. COUNTY OR PARISH: Lea | 13. STATE: N. Mex

15. DATE SPUDDED: 4/3/96 | 16. DATE T.D. REACHED: 4/22/96 | 17. DATE COMPL. (Ready to prod.): D&A | 18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*: 3083' KB | 19. ELEV. CASINGHEAD:

20. TOTAL DEPTH, MD & TVD: 7700' | 21. PLUG, BACK T.D., MD & TVD: NA | 22. IF MULTIPLE COMPL., HOW MANY*: NA | 23. INTERVALS DRILLED BY: → | ROTARY TOOLS: 0-7700' | CABLE TOOLS:

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*: Dry and Abandoned

25. WAS DIRECTIONAL SURVEY MADE: NO

26. TYPE ELECTRIC AND OTHER LOGS RUN: Dual Induction, Density Neutron, Sonic

27. WAS WELL CORED: Yes

28. CASING RECORD (Report all strings set in well)

CASING SIZE/GRADE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	TOP OF CEMENT, CEMENTING RECORD	AMOUNT PULLED
13 3/8"	48#	402'	17 ½"	415 Sx "C" Circ to Surf	None
8 7/8"	24#	3473'	12 ¼"	1500 Sx "C" Circ to Surf	None

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)

31. PERFORATION RECORD (Interval, size and number): Production Casing Not Set

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)	WELL STATUS (Producing or shut-in)
DRY		

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD →	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE →	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) | TEST WITNESSED BY

35. LIST OF ATTACHMENTS

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED John Thomas Boyce TITLE Petroleum Engineer DATE 3/17/98

*(See Instructions and Spaces for Additional Data on Reverse Side)

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

37. SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals; and all drill-stem, tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries):

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.
Brushy Canyon	6928'	7635'	Sand and Dolomite - Wet Core 7511' - 7571'
Yates	3546'	3812'	Sand and Dolomite - Wet DST 3666' - 3750' 15/30/60/120 Recovered 1086' Drilling Mud 2350 cc mud in Sampler IFP 140-505 PSI ISIP 1508 PSI FFP 502-506 PSI FSIP 1570 PSI

38. GEOLOGIC MARKERS

NAME	TOP MEAS. DEPTH	TOP TRUE VERT. DEPTH
Capitan	4134'	Same
Bell Canyon	5365'	Same
Bl Manzanita	5712'	Same
Bone Spring	7635'	Same

RECEIVED
MAR 20 '98
BLM
ROSWELL, NM

COPY TO O. C.

HOBBS

Form 9-330

Budget Bureau No. 42-R355.4. Approval expires 12-31-60.

U. S. LAND OFFICE Las Cruces
SERIAL NUMBER NM 03429-A
LEASE OR PERMIT TO PROSPECT West Jal Unit

Sec. 20

LOCATE WELL CORRECTLY

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LOG OF OIL OR GAS WELL

Company Skelly Oil Company Address Box 38 - Hobbs, New Mexico
Lessor or Tract West Jal Unit Field Wildcat State New Mexico
Well No. 1 Sec. 20 T. 25S R. 36-E Meridian NMPM County Lea
Location 1980 ft. N. of N Line and 660 ft. E. of S Line of Sec. 20 Elevation 3092' DF

The information given herewith is a complete and correct record of the well and all work done thereon so far as can be determined from all available records.

Signed [signature]

Date July 30, 1962 Title Dist. Supt.

The summary on this page is for the condition of the well at above date.

Commenced drilling December 25, 1961 Finished drilling July 20, 1962

OIL OR GAS SANDS OR ZONES
(Denote gas by G)

No. 1, from 11,770' to 11,777' No. 4, from 11,958' to 11,968'
No. 2, from 11,808' to 11,815' No. 5, from to
No. 3, from 11,860' to 11,894' No. 6, from to

IMPORTANT WATER SANDS

No. 1, from to No. 3, from to
No. 2, from to No. 4, from to

CASING RECORD

Size casing	Weight per foot	Threads per inch	Make	Amount	Kind of shoe	Cut and pulled from	Perforated From—	Perforated To—	Purpose
20"	94#	8-R	SS H40	835'	Guide	-	-	-	Surface
13-3/8"	72-68-54	8R & 3J	N80 J55	6268'	Float	-	-	-	Intermediate
			SMSH						
9-5/8"	53.5-47	8R & BT	P110	11,704'	Guide	-	-	-	Production
	43.5		J55						

MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
20"	869	1630	Pump & Plug	-	—
13-3/8"	6300'	3206	" "	-	—
9-5/8"	11,932'	775	" "	-	—

PLUGS AND ADAPTERS

Heaving plug—Material Length Depth set
Adapters—Material Size

SHOOTING RECORD

Size	Shell used	Explosive used	Quantity	Date	Depth shot	Depth cleaned out
Treatments - None						

TOOLS USED

Rotary tools were used from 0 feet to 12,058' feet, and from feet to feet
Cable tools were used from feet to feet, and from feet to feet

DATES

, 19 Put to producing , 19

The production for the first 24 hours was barrels of fluid of which % was oil; % emulsion; % water; and % sediment. Gravity, °Bé.

If gas well, cu. ft. per 24 hours 6139 MCF. Gallons gasoline per 1,000 cu. ft. of gas

Rock pressure, lbs. per sq. in.

EMPLOYEES

Kernegay, Driller Roden, Driller
Ferrell, Driller , Driller

FORMATION RECORD

FROM—	TO—	TOTAL FEET	FORMATION
0	1203	1203	Sand & red beds
1203	1330	127	Anhydrite — Top Anhydrite 1203'
1330	3273	1943	Salt — Top Salt 1330'
3273	3348	75	Anhydrite — Base, Salt 3273'
3348	3515	167	Sand — Top Tansial 3348'
3515	3762	247	Sand & Anhydrite — Top Yates 3515'
3762	4196'	434	Dolomite, Anhy. & sd. — Top 7 Rivers 3762'
4196	4430	234	Sand & Anhydrite — Top Queen 4196'
4430	4876	446	Dolomite & sand — Top Grayburg 4430'
4876	5154'	278	Dolomite — Top San Andres 4876'
5154	5206'	52	Lime — Top Delaware Lime 5154'
5206	7804	2598	Sand — Top Delaware Sand 5206'
7804	7892	88	Sand — Top Basal Delaware 7804'
7892'	10997	3105	Lime & shale — Top Bone Springs 7892'
10997	11510	513	Lime — Top Wolfcamp 10997'
11510	12058	548	Lime & shale — *Top Strawn 11510'
			*by samples
			Geological Tops by Schlumberger Sonic & Induction Electrical Surveys.

(OVER)

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Form C-105
Revised 1-1-65

NEW MEXICO OIL CONSERVATION COMMISSION
WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5a. Indicate Type of Lease: State [ ] Fee [X]

5. State Oil & Gas Lease No.: - - - -

1a. TYPE OF WELL: OIL WELL [X] GAS WELL [ ] DRY [ ] OTHER

b. TYPE OF COMPLETION: NEW WELL [ ] WORK OVER [ ] DEEPEN [ ] PLUG BACK [X] DIFF. RESVR. [ ] OTHER

7. Unit Agreement Name: - - - -

8. Farm or Lease Name: **West Jal "B"**

2. Name of Operator: **Skelly Oil Company**

9. Well No.: **1**

3. Address of Operator: **P. O. Box 1351, Midland, Texas 79701**

10. Field and Pool, or Wildcat: **Wildcat**

4. Location of Well: UNIT LETTER **J** LOCATED **1980** FEET FROM THE **South** LINE AND **1980** FEET FROM THE **East** LINE OF SEC. **17** TWP. **25S** RGE. **36E** NMPM

12. County: **Lea**

15. Date Spudded	16. ~~Date T.D. Reached~~ Plug Back	17. Date Compl. (Ready to Prod.)	18. Elevations (DF, RKB, RT, GR, etc.)	19. Elev. Cashinghead
- - -	11-28-76	12-17-76	3138' DF	--

20. Total Depth	21. Plug Back T.D.	22. If Multiple Compl., How Many	23. Intervals Drilled By	Rotary Tools	Cable Tools
12,275'	11,565'	--	→	--	--

24. Producing Interval(s), of this completion — Top, Bottom, Name: **11,361-11,364, 11,401-11,420' Wolfcamp**

25. Was Directional Survey Made: --

26. Type Electric and Other Logs Run: **Gamma Ray 10,950-11,540'**

27. Was Well Cored: --

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
No Change					

29. LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN
No Change				

30. TUBING RECORD

SIZE	DEPTH SET	PACKER SET
2-3/8"	11,246'	11,266'

31. Perforation Record (Interval, size and number)

11,361-11,364' 6 shots
11,401-11,420' 38 shots
two 0.24" diameter holes per foot.

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED
11,361-11,420'	6850 gallons 15% NE acid, 28 gallons A-170, 350# M33 and 66 ball sealers.

33. PRODUCTION

Date First Production	Production Method (Flowing, gas lift, pumping — Size and type pump)	Well Status (Prod. or Shut-in)
12-17-76	Flowing	Flowing *(over)

Date of Test	Hours Tested	Choke Size	Prod'n. For Test Period →	Oil — Bbl.	Gas — MCF	Water — Bbl.	Gas — Oil Ratio
3-20-76	24	12/64"	→	14	NA	8	--

Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate →	Oil — Bbl.	Gas — MCF	Water — Bbl.	Oil Gravity — API (Corr.)
100#	--	→	14	NA	8	40.6°

34. Disposition of Gas (Sold, used for fuel, vented, etc.)

Test Witnessed By

35. List of Attachments: **C-104, C-123**

36. *I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief.*

SIGNED (Signed) D. R. Crow D. R. Crow TITLE **Lead Clerk** DATE **3-23-76**

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Commission not later than 20 days after the completion of any newly-drilled or deepened well. It 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 30 through 34 shall be reported for each zone. The form is to be filed in quintuplicate except on state land, where six copies are required. See Rule 1105.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Southeastern New Mexico				Northwestern New Mexico			
T. Anhy	1252'	T. Canyon		T. Ojo Alamo		T. Penn. "B"	
T. Salt	1396'	T. Strawn		T. Kirtland-Fruitland		T. Penn. "C"	
B. Salt	3320'	T. Atoka		T. Pictured Cliffs		T. Penn. "D"	
T. Yates	3590'	T. Miss		T. Cliff House		T. Leadville	
T. 7 Rivers	3837'	T. Devonian		T. Menefee		T. Madison	
T. Queen		T. Silurian		T. Point Lookout		T. Elbert	
T. Grayburg		T. Montoya		T. Mancos		T. McCracken	
T. San Andres		T. Simpson		T. Gallup		T. Ignacio Qtzte	
T. Glorieta		T. McKee		Base Greenhorn		T. Granite	
T. Paddock		T. Ellenburger		T. Dakota		T.	
T. Blinebry		T. Gr. Wash		T. Morrison		T.	
T. Tubb		T. Granite		T. Todilto		T.	
T. Drinkard		T. Delaware Sand	5340'	T. Entrada		T.	
T. Abo		T. Bone Springs	7962'	T. Wingate		T.	
T. Wolfcamp	11,053'	T.		T. Chinle		T.	
T. Penn.		T.		T. Permian		T.	
T Cisco (Bough C)		T.		T. Penn. "A"		T.	

FORMATION RECORD (Attach additional sheets if necessary)

From	To	Thickness in Feet	Formation	From	To	Thickness in Feet	Formation
33.	*Well was shut in 12-17-75 thru 3-9-76 waiting on pumping equipment which was not installed.						