DATE IN	SUSPENSE	ENGINEER	LOGGED IN	TYPE	APP NO.
12/21/14		WVJ		WFX 943	pMVJ1436342603

ABOVE THIS LINE FOR DIVISION USE ONLY

Rule 5.9 OK 7/23/15

BDU #8 BDU #14

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.

Pam Corbett	Pam Corbett	Regulatory Clerk	11/22/14
Print or Type Name	Signature	Title	Date

pamc@chienergyinc.com
e-mail Address

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

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

BDU # 8

FORM C-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: _____X__Secondary Recovery _____Pressure Maintenance _____Disposal _____Storage
Application qualifies for administrative approval? _____Yes _____No

II. OPERATOR: ___CHI Operating, Inc.

ADDRESS: _____P.O. Box 1799, Midland, TX 79702

CONTACT PARTY: _Pam Corbett_____ PHONE: ___432-685-5001_____

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? _____X__Yes _____No
If yes, give the Division order number authorizing the project: __Order R-13262 NM126412X_____

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: ___PAM CORBETT_____ TITLE: ____Regulatory Clerk_____

SIGNATURE: Pam Corbett DATE: 9/30/14

E-MAIL ADDRESS: ____pamc@chienergyinc.com_____

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: _____

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

Side 2

III. WELL DATA

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

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

(2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.

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

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

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

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

(1) The name of the injection formation and, if applicable, the field or pool name.

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

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

(4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.

(5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

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

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

(1) The name, address, phone number, and contact party for the applicant;

(2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;

(3) The formation name and depth with expected maximum injection rates and pressures; and,

(4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

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

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

Side 1

INJECTION WELL DATA SHEET

OPERATOR: CHi Operating, INC.

WELL NAME & NUMBER: Benson Delaware Unit #8

WELL LOCATION: SHL: 2500 FNL & 660 FWL / BHL: 1980 FNL & 660 FWL | E | E | 12 | 19S | 30E

FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

WELLBORE SCHEMATIC

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 17 1/2" Casing Size: 13 3/8"

Cemented with: 500 sx. *or* _____ ft³

Top of Cement: Surf / 0' Method Determined: _____

Intermediate Casing

Hole Size: 11" Casing Size: 8 5/8"

Cemented with: 505 sx. *or* _____ ft³

Top of Cement: Surf / 0' Method Determined: _____

Production Casing

Hole Size: 7 7/8" Casing Size: 5 1/2"

Cemented with: 1675 sx. *or* _____ ft³

Top of Cement: Surf Method Determined: _____

Total Depth: 5351'

Injection Interval

4830' feet to 5082'

(Perforated or Open Hole; indicate which)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: 2 7/8" Lining Material: internal plastic

Type of Packer: 5.5 x 2.875 Baker

Packer Setting Depth: _____

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

Additional Data

1. Is this a new well drilled for injection? _____Yes ✓ No

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

2. Name of the Injection Formation: Delaware

3. Name of Field or Pool (if applicable): Benson Delaware Unit

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: Queen 2914' (underlying), Bone Spring 7600', Wolfcamp 10,100'; Morrow 11,200'

C108 Application
Chi Operating, Inc.
Benson Delaware Unit #8
API # 30-015-34816 2500' FNL & 660' FWL
Section 12, T-19S-30E, Eddy County, New Mexico

I. The purpose of the application is to request approval to convert the Benson Delaware Unit #8 to a produced water injection well in the Delaware formation.

II. Chi Operating, Inc.
c/o P.O. Box 1799
Midland, Texas 79702
Contact: Pam Corbett, Regulatory

III. Injection well data sheet is attached. In addition, wellbore schematic diagrams are attached showing the current and proposed wellbore configurations.

IV. This is an expansion of an existing project.

V. A map showing all wells/leases within a 2-mile radius of the Benson Delaware Unit #8 is attached. Also attached is a map showing all wells within a ½ mile radius of the Benson Delaware Unit #8.

VI. Area of review well data is attached. Shown on the Table are existing wells within the AOR, that penetrated the proposed injection zone and all are operated by CHI Operating, Inc. These wells are adequately cased and cemented so as to preclude the migration of injected fluid from the proposed injection interval.

VII. 1. The average injection rate is anticipated to be approx. 400 BWPD.
2. This will be a closed system.
3. The proposed average and maximum injection pressure will be 900#.
4. Produced water from the Delaware and Bone Spring formation originating from wells that Chi Operating, Inc. operates in this area will be injected into the subject well.
5. N/A

VIII. Geological Data
1. Lithologic Detail; Sandstone
2. Geological Name; Benson Delaware
3. Thickness; 500'
4. Depth; 4830'- 5082'

IX> The proposed stimulation program will be: 5000gal Acid, well has previously been fracked.

X. Logs

XI. There are no fresh water wells within 1 mile of the injection well.

XII. We have examined the available geologic and engineering data and find no evidence of open faults or any other hydraulic connection between the disposal zone and any underground source of drinking water.

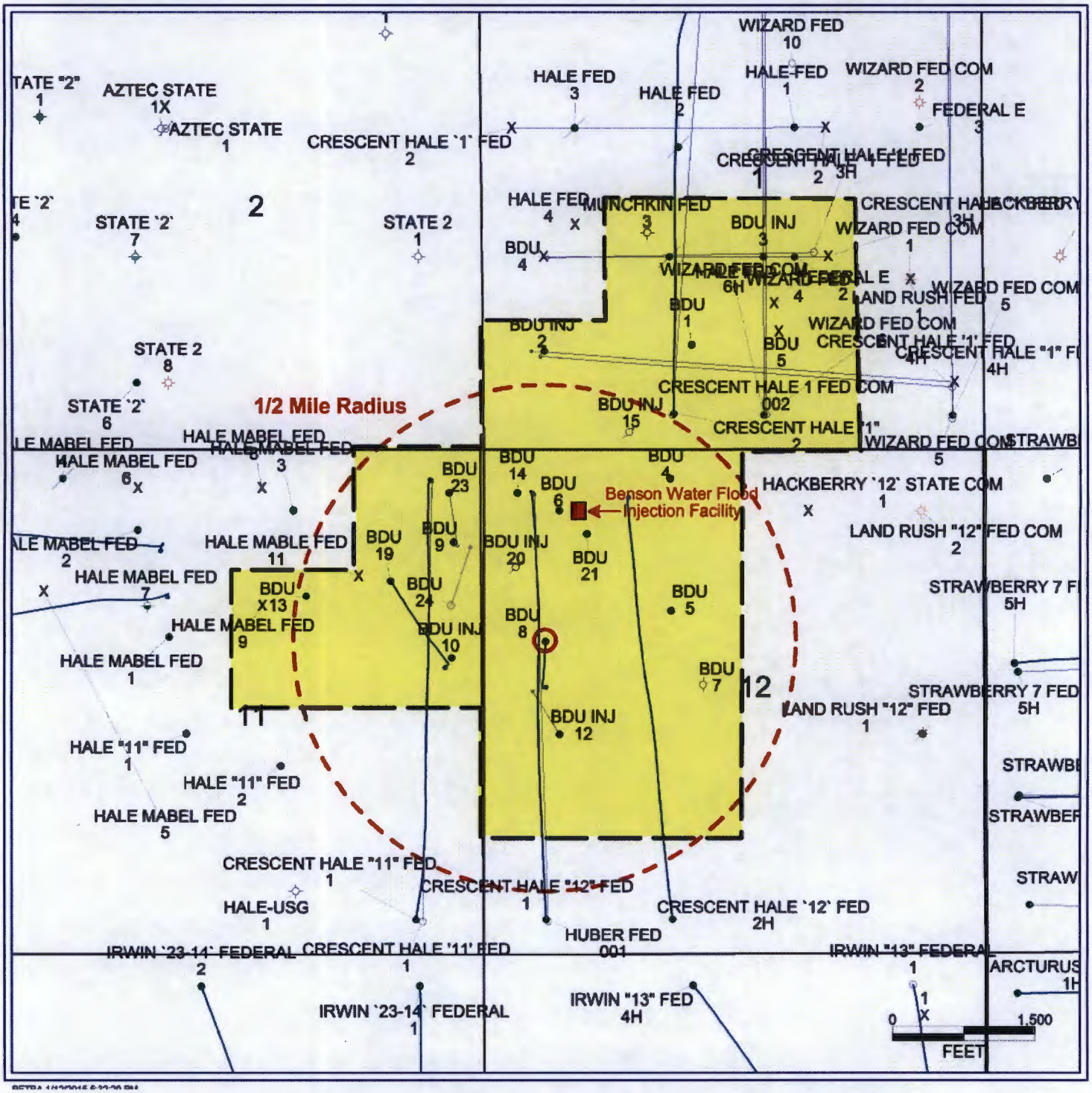
XIII. Proof of notice is attached.

Chi Operating, Inc.

Date: 9/30/14

Pam Corbett, Regulatory

BDU #8


1/2 Mile Radius
Benson Water Flood Injection Facility
WIZARD FED 10
HALE FED 3
HALE FED 2
HALE FED 1
WIZARD FED COM 2
FEDERAL E 3
AZTEC STATE 1X
AZTEC STATE 1
CRESCENT HALE `1` FED 2
CRESCENT HALE `1` FED 1
CRESCENT HALE `1` FED 3H
HALE FED 4
MUNCHKIN FED 3
BDU INJ 3
CRESCENT HALE 3H
WIZARD FED COM 1
BDU 4
WIZARD FED COM 6H
WIZARD FED 4
WIZARD FED 2
LAND RUSH FED 1
WIZARD FED COM 5
BDU 1
BDU INJ 2
WIZARD FED COM
CRESCENT HALE `1` FED 4H
BDU 5
CRESCENT HALE "1" FED 4H
CRESCENT HALE 1 FED COM 002
BDU INJ 15
CRESCENT HALE "1" 2
WIZARD FED COM 5
HALE MABEL FED 6
HALE MABEL FED 3
BDU 23
BDU 14
BDU 6
BDU 4
HACKBERRY `12` STATE COM 1
HALE MABLE FED 11
BDU 19
BDU 9
BDU INJ 20
BDU 21
LAND RUSH "12" FED COM 2
HALE MABEL FED 7
BDU X13
BDU 24
BDU 5
STRAWBERRY 7 FED 5H
HALE MABEL FED 9
BDU INJ 10
BDU 8
HALE MABEL FED 1
BDU 7
12
STRAWBERRY 7 FED 5H
LAND RUSH "12" FED 1
BDU INJ 12
11
HALE "11" FED 1
HALE "11" FED 2
HALE MABEL FED 5
CRESCENT HALE "11" FED 1
CRESCENT HALE "12" FED 1
HALE-USG 1
CRESCENT HALE `12` FED 2H
HUBER FED 001
IRWIN `23-14` FEDERAL 2
CRESCENT HALE "11" FED 1
IRWIN "13" FEDERAL 1
ARCTURUS 1H
IRWIN `23-14` FEDERAL 1
IRWIN "13" FED 4H
STATE `2` 4
STATE `2` 7
STATE 2 1
2
STATE 2 8
STATE `2` 6
1
0
1,500
FEET

Benson Delaware Unit #8

API # 30-015-34816

Eddy Co., NM

Convert To Water Injection

History/Pertinent Info

Elevation: GL: 3423' KB: 3437'

Completed: 6/14/06

Tbg Head:

Casing:	8 5/8"	24 # J-55	set @ 1909' Circ cement
	5 ½"	**17 # J-55**	**set @ 5282' Circ cement**

TD: 5352'

PBTD: 5276'

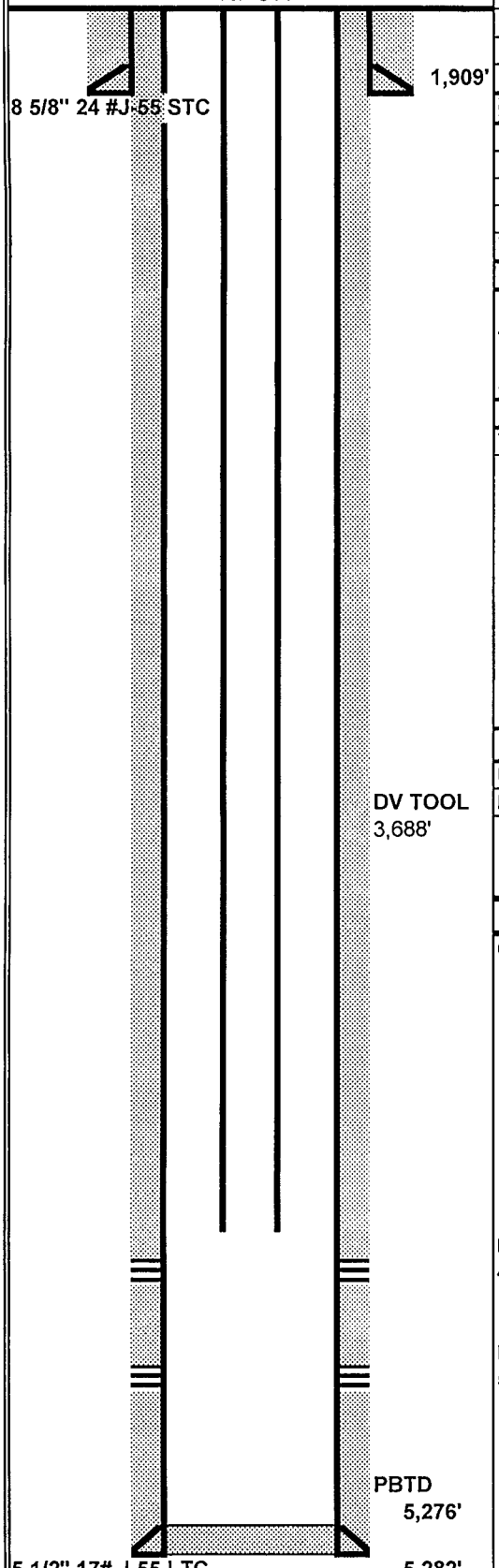
DV Tool: 3688'

Perf Intervals: 4830'-4872' Gross Interval
5066'-5081'

Remarks:

CURRENT WELLBORE SCHEMATIC

DATE: 1/6/2011



LEASE:	**Benson Delaware Unit**		**WELL NO.** 8
OPER: Chi Energy			API 30-015-34816
LOCATION:	2500 FNL 660 FWL SEC 12 19S 30E EDDY CO., NM		
TD 5,352'	PBD 5,276'	KB 3,437'	DF 3,436'
COD	DOD	GL 3,423'	

CASING/TBG:	DEPTH	CMT	ID	DRIFT	BURST	TENS
SURF. 13 3/8 48# J-55	511'	CIRC				
INTER. 8 5/8" 24 #J-55 STC	1,909'	CIRC	8.097	7.972	2,950	244.0
PROD. 5 1/2" 17# J-55 LTC	5,282'	CIRC	4.892	4.767	5,320	247.0
LINER						
TBG 2 7/8" J-55			2.441	2.347	7,260	99.66

PERFS:

4830, 4832, 4840, 4841, 4853, 4854, 4855, 4870, 4871, 4872 1 SPF 6/22/06

5066-5081 2SPF 6/14/06

TUBING BREAKDOWN	ROD BREAKDOWN
Tbg Hd	
???	On Sub Pump Schlumberger

ART. LIFT

UNIT		SPM		RT	
MOTOR		SL		Cond	

NOTES

Chem: CAT301P (Paraffin Disp) injected into Annulus
Emuls. Breaker injected into FL

HAS CORES

MIKE & NOVEMBER
4830, 4832, 4840, 4841, 4853, 4854, 4855, 4870, 4871, 4872 1 SPF 6/22/06

PAPA
5066-5081 2SPF 6/14/06

BY: LC PAINTER

Chi Energy, Inc.

Benson Delaware Unit

Radius Map Centered on BDU #8

Eddy County, New Mexico

0 2,600 5,200

FEET

POSTED WELL DATA

Well Name
Well Number

WELL SYMBOLS

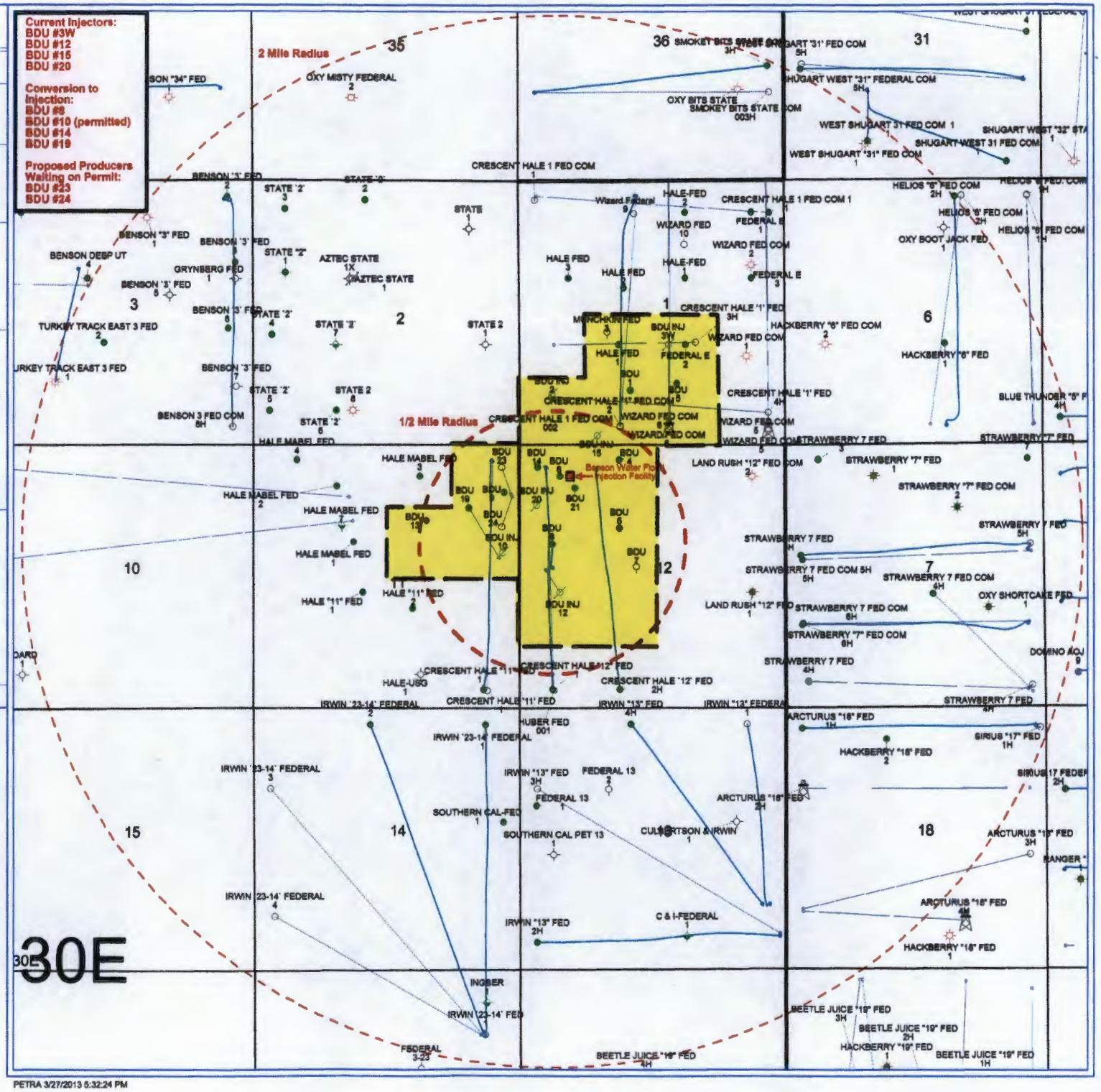
- Location Only
- Oil Well
- Gas Well
- Dry Hole
- Injection Well
- Junked
- Temporarily Abandoned
- Dry Hole, With Show of Oil
- Drilling Well

REMARKS

Unit Acreage
T-19S - R-30E
Section 1: W/2 SE/4; E/2 SW/4; SW/4 SW/4
Section 11: E/2 NE/4; SW/4 NE/4
Section 12: NW/4; N/2 SW/4

Containing 560 acres

March 27, 2013



Benson Delaware Unit #8

API # 30-015-34816
Eddy Co., NM

Convert To Water Injection

Project Engineer: Cord Painter **Cell: (325) 792-7255**

Recommended Procedure

Note: Deliver 20 Jts 2 7/8" tbg to location to supplement prod tbg for cleanout.

1. MIRU pulling unit. MI spool unit. ND WH. NU BOP.
2. POOH with production tbg (144 jts 2 7/8", 4' Lift Sub, Reda Pump, Intake, Protector, Motor) spooling Reda cable and standing tbg back.
3. MIRU slickline unit. RIH with slickline, tag and record depth of fill.
4. POOH with slickline. RDMO Slickline unit. Determine if Cleanout is necessary.

If cleanout IS necessary:

5. RIH with sand bailer on tbg picking up jts as needed. Tag and record depth of fill. CO well to PBTD (5276'). POOH laying down sand bailer and tbg.

If cleanout IS NOT necessary:

6. GIH w/ 5 ½" x 2 7/8" Arrowset 1X Big Bore packer on 2-7/8" 6.5# J-55 IPC tubing setting packer +/- 100' above top perf. Load backside w/ packer fluid.
7. Pressure test backside as per BLM requirements.
8. Connect injection system to well. Begin water injection.

Benson Delaware Unit #8

API # 30-015-34816
Eddy Co., NM

Convert To Water Injection

MECHANICAL DATA

Type Tubular	OD in	ID in	Drift in	Wt. #/ft	Grd	Conn.	Depth ft	Burst psi	Tensile Mlbs.	TOC ft	Cap. bbl/Ft
Surface Casing	13 3/8	12.715	12.559	48	H-40	STC*	511	1080	260	Surf	
Intermediate Casing	8 5/8"	8.097	7.972	24	J-55	STC	1909	2950	244	Surf	.0637
Production Casing	5 1/2	4.892	4.767	17	J-55	LTC	5282	5320	247	Surf	.0232
Production Tubing	2 7/8"	2.441	2.347	6.5	J-55	8 RD EUE					.00579
Inj Tbg	2 7/8" IPC										
2 7/8" x 5 1/2" annulus											

* - Assumed

GL = 3423'
KB = 3437'
PBTD = 5276'

TUBING HEAD: 11" 5k X 7 1/16" 5k

Form 3160-4
(July 1992)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE* (See other instructions on reverse side)

NM Oil Cons. DIV-Dist. 2
1301 W. Grand Avenue
Artesia, NM 88210

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

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

5. LEASE DESIGNATION AND SERIAL NO.: ~~LC-061483 (B)~~ NM-05[illegible]353

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME, WELL NO.: Munchkin Federal #8

9. API WELL NO.: 30-015-34816

10. FIELD AND POOL, OR WILDCAT: Benson Delaware

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: Section 12, T19S, R30E

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

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

2. NAME OF OPERATOR: Chi Operating, Inc.

3. ADDRESS AND TELEPHONE NO.: P.O. Box 1799 Midland, Texas 79702

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*
At surface SHL: 2500' FNL & 660' FWL, Section 12-19S-R30E
BHL: 1980' FNL & 660' FWL, Section 12-19S-R30E
At top prod, interval reported below

At total depth 5,352'

14. PERMIT NO.	DATE ISSUED	12. COUNTY OR PARISH	13. STATE
		Eddy	NM

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (Ready to prod.)	18. ELEVATIONS(DF,RKB,RT,GE,ETC.)*	19. ELEV. CASINGHEAD
4/15/2006	4/29/2006	7/15/2006	GL 3423'	

20. TOTAL DEPTH, MD, & TVD	21.PLUG BACK TD, MD&TVD	22. IF MULTIPLE COMPL., HOW MANY*	23.INTERVAL DRILLED BY	ROTARY TOOLS	CABLE TOOLS
TMD 5351' TVD 5299'	5676'	one		yes	

24. PRODUCING INTERVAL(S), OF THIS COMPLETION - TOP, BOTTOM, NAME (MD AN TVD)*
4830', 4832', 4840', 4841', 4853', 4854', 4855', 4870', 4871', 4872' (1 spf) Delaware

25. WAS DIRECTIONAL SURVEY MADE: Yes

26. TYPE ELECTRIC AND OTHER LOGS RUN: GR-CAL-CNL, LDT, DDL, MSFL

27. WAS WELL CORED:

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 J-55	48	511'	17 1/2	500 sxs "C", circ 60 sxs	
8 5/8 J-55	24	1910'	11	505 sxs "C", circ 65 ss	
5 1/2 J-55	17	10,090'	7 7/8	1675 sks Tie back	

29. LINER RECORD

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

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
2 7/8		4731'

31. PERFORATION RECORD (Interval, size and number)
5066'-5081' (2 spf)
4830', 4832', 4840', 4841', 4853', 4854', 4855', 4870', 4871', 4872' (1 spf)

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

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
5066'-5081'	P/500 gal 7 1/2% NeFe Acid
4830'-4872'	P/1500 gal 7 1/2% NeFe Acid
	Frac P/46,000# White 16/30 sand, 14,000# Resin sd

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (Flowing, gas lift, pumping - size and type of pump)	WELL STATUS (Producing or shut-in)
7/15/2006	Pumping	Producing

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N FOR TEST PERIOD	OIL - BBL.	GAS - MCF	WATER - BBL.	GAS-OIL RATIO
7/29/2006	24			21	0	99	

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL - BBL.	GAS - MCF	WATER - BBL.	OIL GRAVITY - API (CORR.)
0						

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.): Sold

TEST WITNESSED BY: Sonny Mann

35. LIST OF ATTACHMENTS: Dev. Survey

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

SIGNED Pam Corbett TITLE Regulatory Clerk

Pam Corbett

ACCEPTED FOR RECORD
DATE 8/2/2006
AUG - 7 2006
ALEXIS C. SWOBODA
PETROLEUM ENGINEER

*(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, fictitous 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.
Yates	2150'			
Seven Rivers	2346'			
Queen	2988'			
Delaware Sar	4529'			

38. GEOLOGICAL MARKERS			38. GEOLOGICAL MARKERS		
NAME	TOP		NAME	TOP	
	MEAS. DEPTH	TRUE VERT. DEPTH		MEAS. DEPTH	TRUE VERT. DEPTH

U.S. GOVERNMENT PRINTING OFFICE: 1992-774-872

Form 3160-5
(August 2007)

UNITED STATES **OCD-ARTESIA**
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No 1004-0137
Expires July 31, 2010

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

5 Lease Serial No
NMNM0560353

6 If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE – Other instructions on page 2

7 If Unit of CA/Agreement, Name and/or No
Benson Delaware NM126412X

1 Type of Well
☑ Oil Well ☐ Gas Well ☐ Other

8 Well Name and No
MUNCHKIN FEDERAL #8

2 Name of Operator
CHI Operating, Inc. 4378

9 API Well No
30-015-34816

3a Address
P O Box 1799
Midland, TX 79702

3b. Phone No *(include area code)*
432-685-5001

10. Field and Pool or Exploratory Area
Benson Delaware Unit

4 Location of Well *(Footage, Sec., T,R,M, or Survey Description)*
E-12-19S-30E 2500 FNL & 660 FWL BHL 1980 FNL 66 FWL

11. Country or Parish, State
Eddy Co., NM

12 CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☑ Subsequent Report	☐ Casing Repair	☐ New Construction	☐ Recomplete	☑ Other Well Name Change
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
☐ Final Abandonment Notice	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13 Describe Proposed or Completed Operation Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection)

Chi Operating, Inc.'s, Benson Delaware Unit Agreement (NM126412X) was approved and effective April 4, 2011, as a result the former well Munchkin Federal #8 is now the Benson Delaware Unit #8.

Accepted for record - NMOCD
DJB 6-9-11

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

RECEIVED
MAY 25 2011
NMOCD ARTESIA

ACCEPTED FOR RECORD
MAY 19 2011
/s/ JD Whitlock Jr
BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

14 I hereby certify that the foregoing is true and correct Name *(Printed/Typed)*
PAM CORBETT pamc@chienergyinc.com 432-685-5001

Title Regulatory Clerk

Signature Pam Corbett

Date 04/12/2011

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Date

Conditions of approval, if any, are attached Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon

Office

Title 18 U S C Section 1001 and Title 43 U S C Section 1212, make 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

(Instructions on page 2)

NEW PROPERTY CODE 38663

BUREAU OF LAND MANAGEMENT
Carlsbad Field Office
620 East Greene Street
Carlsbad, New Mexico 88220
575-234-5972

Conditions of Approval

CHI Operating, Inc.

1. Tank battery must be bermed/diked (must be able to contain 1 1/2 times the volume of the largest tank).
2. All above ground structures and equipment on the lease shall be painted Shale Green (5Y 4/2). This is to be done within 90 days, if you have not already done so.
3. Submit for approval of water disposal method.
4. Submit updated facility diagrams as per Onshore Order #3
5. This agency shall be notified of any spill or discharge as required by NTL-3A.
6. All outstanding environmental issue must be addressed within 90 days. Contact Jim Amos for inspection and to resolve environmental issues. 575-234-5909
7. Install legible well sign on location with operator name, well name and number, lease number, unit number, 1/4 1/4, section, township, and range. NMOCD requires the API number on well signs.
8. Subject to like approval by NMOCD.

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources

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

HOBBS OCD
OCT 18 2011
RECEIVED

Form C-104
Revised October 15, 2009

Submit one copy to appropriate District Office

☒ AMENDED REPORT

I. REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT

[1] Operator name and Address	[2] OGRID Number
Chi Operating, Inc. P.O. Box 1799 Midland, TX 79702	004378
	[3] Reason for Filing Code/ Effective Date Change of transporter4-4-11

[4] API Number	[5] Pool Name	[6] Pool Code
30 – 015-34816	Benson, Deleware	97083
[7] Property Code	**[8] Property Name**	**[9] Well Number**
38663	Benson Deleware Unit	8

II. [10] Surface Location

Ul or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South Line	Feet from the	East/West line	County
E	12	19S	30E		2500'	North	660	West	Eddy

[11] Bottom Hole Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
	12	19S	30E		1980'	North	660	West	Eddy

[12] Lse Code	[13] Producing Method Code FLWG	[14] Gas Connection Date 07/18/2006	[15] C-129 Permit Number	[16] C-129 Effective Date	[17] C-129 Expiration Date
F					

III. Oil and Gas Transporters

[18] Transporter OGRID	[19] Transporter Name and Address	[20] O/G/W
214754	LPC Crude Oil, P.O. Box 3821, 79702	O

IV. Well Completion Data

[21] Spud Date	[22] Ready Date	[23] TD	[24] PBTD	[25] Perforations	[26] DHC, MC
04/15/2006	07/15/2006	5351'	5276'	4830,4832',4840',4841',4853', 4854',4855', 4870',4871' 4872'	

[27] Hole Size	[28] Casing & Tubing Size	[29] Depth Set	[30] Sacks Cement
17 ½"	13 3/848#	511'	500 sks "C", circ 60 sks
11	8 5/8 24#	1910'	505 sks "C", circ 65 sks
7 7/8"	5 ½ 17#	TMD 5351' TVD 5299'	285 sks "C", circ 17 sks

V. Well Test Data

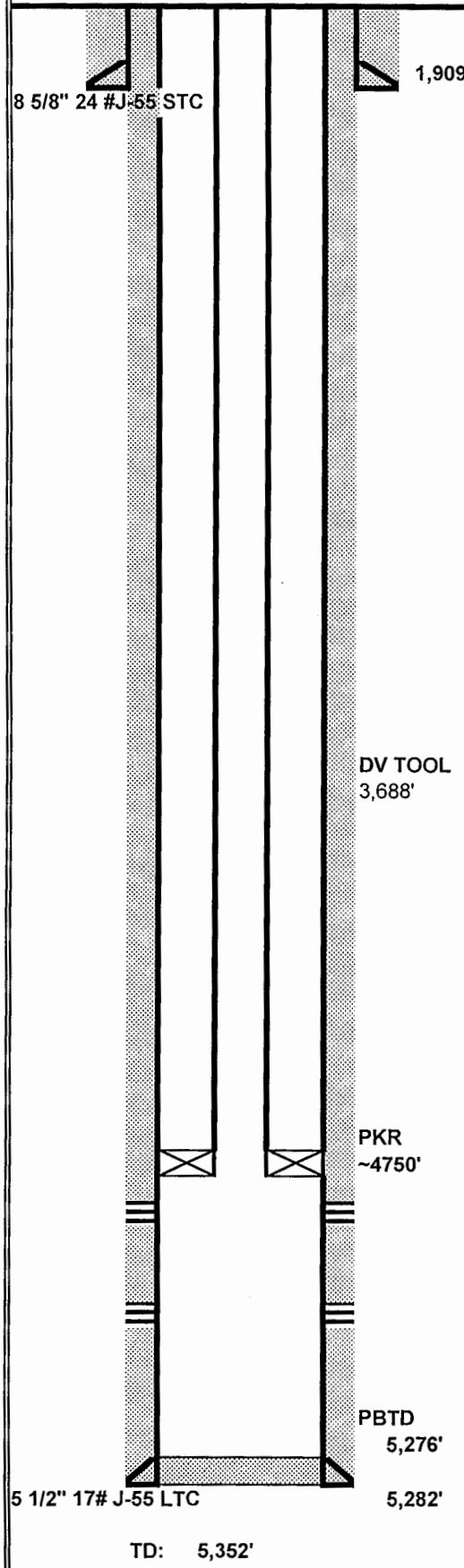
[31] Date New Oil	[32] Gas Delivery Date	[33] Test Date	[34] Test Length	[35] Tbg. Pressure	[36] Csg. Pressure
7/29/2006		7/29/2006	24hrs		

[37] Choke Size	[38] Oil 21	[39] Water 99	[40] Gas		[41] Test Method

[42] I hereby certify that the rules of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief. Signature: Dianna Bell		OIL CONSERVATION DIVISION Approved by:
Printed name: Dianna Bell		Title: Geo Tech
Title: Regulatory Asst.		Approval Date: 10-20-2011
E-mail Address: diannab@chienergyinc.com		
Date: 9-15-11	Phone: 432-685-5001	

PROPOSED WELLBORE SCHEMATIC

DATE: 8/24/2014



LEASE:	**Benson Delaware Unit**		**WELL NO.** 8
OPER: Chi Energy			API 30-015-34816
LOCATION:	2500 FNL 660 FWL SEC 12 19S 30E EDDY CO., NM		
TD 5,352'	PBD 5,276'	KB 3,437'	DF 3,436'
COD	DOD	GL 3,423'	

CASING/TBG:	DEPTH	CMT	ID	DRIFT	BURST	TENS
SURF. 13 3/8 48# J-55	511'	CIRC				
INTER. 8 5/8" 24 #J-55 STC	1,909'	CIRC	8.097	7.972	2,950	244.0
PROD. 5 1/2" 17# J-55 LTC	5,282'	CIRC	4.892	4.767	5,320	247.0
LINER						
TBG 2 7/8" J-55 IPC			2.441	2.347	7,260	99.66

PERFS:

4830, 4832, 4840, 4841, 4853, 4854, 4855, 4870, 4871, 4872 1 SPF 6/22/06

5066-5081 2SPF 6/14/06

TUBING BREAKDOWN	ROD BREAKDOWN
Tbg Hd 7 1/16" 5k Slip-Type	
~150 jts 2 7/8" J-55 IPC	
5 ½" x 2 7/8" Arrowset 1X Big Bore packer	
PKR SET @ ~4,750'	

ART. LIFT

UNIT		**SPM**		**RT**	
MOTOR		**SL**		**Cond**	

NOTES

HAS CORES

MIKE & NOVEMBER
4830, 4832, 4840, 4841, 4853, 4854, 4855, 4870, 4871, 4872 1 SPF 6/22/06

PAPA
5066-5081 2SPF 6/14/06

BY: LC PAINTER

Side 1

INJECTION WELL DATA SHEET

OPERATOR: CHi Operating, INC

WELL NAME & NUMBER: Benson Delaware Unit # 14

WELL LOCATION:	480' FNL & 370' FWL	D	12	19S	30E
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 17" Casing Size: 13 3/8"

Cemented with: 500 sx. *or* _____ ft³

Top of Cement: 0'/surf. Method Determined: _____

Intermediate Casing

Hole Size: 11" Casing Size: 8 5/8"

Cemented with: 800 sx. *or* _____ ft³

Top of Cement: 0'/surf Method Determined: _____

Production Casing

Hole Size: 7 7/8" Casing Size: 5 1/2"

Cemented with: 1st - 300 2nd - 400 sx. *or* _____ ft³

Top of Cement: _____ Method Determined: _____

Total Depth: 0'/surf.

Injection Interval

4510 feet to 5076

(Perforated or Open Hole; indicate which)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: 2 7/8" Lining Material: internal plastic

Type of Packer: 5.5 X 2.875 Baker

Packer Setting Depth: 4716'

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

Additional Data

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

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

2. Name of the Injection Formation: Delaware

3. Name of Field or Pool (if applicable): Benson Delaware Unit

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: Queen 2914' (underlying); Bone Spring 7600'
   Wolf camp 10,100', Morrow 11,200'

Form 3160-4
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0137
Expires: July 31, 2010

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. Lease Serial No.: NM-0560353

1a. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Dry ☐ Other
b. Type of Completion: ☐ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr.,
Other: _____

6. If Indian, Allottee or Tribe Name:

7. Unit or CA Agreement Name and No.:

2. Name of Operator: CHI OPERATING, INC.

8. Lease Name and Well No.: MUNCHKIN FEDERAL #14

3. Address: P.O.BOX 1799 Midland, Texas 79702

3a. Phone No. *(include area code)*: 432-685-5001

9. AFI Well No.: 30-015-37333

4. Location of Well *(Report location clearly and in accordance with Federal requirements)**

At surface: 480' FNL & 370' FWL

At top prod. interval reported below

At total depth

10. Field and Pool or Exploratory: BENSON DELAWARE

11. Sec., T., R., M., on Block and Survey or Area: 12-T19S-R30E

12. County or Parish: EDDY

13. State: NM

14. Date Spudded: 04/27/2010

15. Date T.D. Reached: 05/07/2010

16. Date Completed: 07/22/2010 ☐ D & A ☑ Ready to Prod.

17. Elevations (DF, RKB, RT, GL)*: 3469 GL

18. Total Depth: MD 5256' TVD

19. Plug Back T.D.: MD 5118' TVD

20. Depth Bridge Plug Set: MD TVD

21. Type Electric & Other Mechanical Logs Run (Submit copy of each)
DLL, COM NEU, CBL

22. Was well cored? ☑ No ☐ Yes (Submit analysis)
Was DST run? ☑ No ☐ Yes (Submit report)
Directional Survey? ☐ No ☑ Yes (Submit copy)

23. Casing and Liner Record *(Report all strings set in well)*

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sks. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
17 "	13 3/8" J55	54.5#	494.49'			500SX C	CIRC 225SX	SURF	
11"	8 5/8" J55	32#	2045.20'			800SX C	CIRC 98SX	SURF	
7 7/8"	5 1/2' J55	15.5#	5230'		1st 300sx C	2nd 400SX C	CIRC 18SX	SURF	
					Circ 105sx t/pit				
								TOC @ 3590'	

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2 7/8"	4716'							

25. Producing Intervals / 26. Perforation Record

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) DELAWARE	4974	5076	4974-5076	2SPF	52 SHOTS	PRODUCING
B) DELAWARE	4762	4904	4762-4904	2SPF	170 HOLES	PRODUCING
C) DELAWARE	4510	4534	4510-4534	2SPF	48 HOLES	PRODUCING
D)						

27. Acid, Fracture, Treatment, Cement Squeeze, etc.

Depth Interval	Amount and Type of Material
4974-5076	Acid P/8bbls 7.5% w/15balls, stgd w/gelled pad 250#
4762-4904	Acid P/10bbls 7.5%; Frac Ttl of 46,866# of white 16/30 sand & 20,813# Super LC & ttl of 822bbls of gel
4510-4534	Acid P/ttl 100balls 7 ttl 48bbls 7.5% acid

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
7/22/10	7/28/10	24hrs	→	80 BO	100 MCF	150 BW			

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status
			→					

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status
			→					

*(See instructions and spaces for additional data on page 2)

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources

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

Form C-104
Revised October 15, 2009

Submit one copy to appropriate District Office

☐ AMENDED REPORT

I. REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT

[1] Operator name and Address	[2] OGRID Number
CHI OPERATING, INC. P.O. BOX 1799 MIDLAND, TEXAS 79702	004378
	[3] Reason for Filing Code/ Effective Date NEW WELL

[4] API Number	[5] Pool Name	[6] Pool Code
30 - 015-37333	BENSON DELAWARE	97083

[7] Property Code	[8] Property Name	[9] Well Number
38663	Benson Delaware Unit	#14

II. [10] Surface Location

Ul or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South Line	Feet from the	East/West line	County
D	12	19S	30E		480	NORTH	370	WEST	EDDY

[11] Bottom Hole Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

[12] Lse Code	[13] Producing Method Code FLWG	[14] Gas Connection Date	[15] C-129 Permit Number	[16] C-129 Effective Date	[17] C-129 Expiration Date

III. Oil and Gas Transporters

[18] Transporter OGRID	[19] Transporter Name and Address	[20] O/G/W
214754	LPC Crude Oil	O

IV. Well Completion Data

[21] Spud Date	[22] Ready Date	[23] TD	[24] PBTD	[25] Perforations	[26] DHC, MC
4/27/2010	7/22/2010	5256'	5118'	4974-5076;4762-4904;4510-4534	

[27] Hole Size	[28] Casing & Tubing Size	[29] Depth Set	[30] Sacks Cement
17"	13 3/8" J55 54.5#	494.49'	500SX , CIRC 225SX
11"	8 5/8" J55 32#	2045.20'	800SX, CIRC 98SX
7 7/8"	5 1/2" J55 15.5#	5230'	1stg 300sx 2nd 400sx, Circ 123sx

V. Well Test Data

[31] Date New Oil	[32] Gas Delivery Date	[33] Test Date	[34] Test Length	[35] Tbg. Pressure	[36] Csg. Pressure
7/28/10	7/28/10	7/22/10	24hrs		
[37] Choke Size	[38] Oil	[39] Water	[40] Gas		[41] Test Method
	80 BO	150 BW	100 MCF		TOTAL FLOW METER

[42] I hereby certify that the rules of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief.	OIL CONSERVATION DIVISION
Signature: Robin Askew	Approved by:
Printed name: ROBIN ASKEW	Title:
Title: REGULATORY CLERK	Approval Date:
E-mail Address: robina@chienergyinc.com	
Date: 7/28/2010 — Phone: 432-685-5001	

OPERATOR'S COPY

Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: July 31, 2010

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE – Other instructions on page 2.

5. Lease Serial No.
NM-0560353

6. If Indian, Allottee or Tribe Name

7. If Unit of CA/Agreement, Name and/or No.

1. Type of Well
☑ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
MUNCHKIN FEDERAL #14

2. Name of Operator
CHI OPERATING,INC.

9. API Well No.
30-015-37333

3a. Address
P.O. BOX 1799,MIDLAND, TEXAS 79702

3b. Phone No. *(include area code)*
432-685-5001

10. Field and Pool or Exploratory Area
BENSON DELAWARE

4. Location of Well *(Footage, Sec., T.,R.,M., or Survey Description)*
480' FNL & 370' FWL SEC. 12-T19S-R30E

11. Country or Parish, State
EDDY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☑ Subsequent Report	☐ Casing Repair	☐ New Construction	☐ Recomplete	☑ Other COMPLETION
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
☐ Final Abandonment Notice	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

5/24/10 RU MI, Installed BOP. Tgd TOC @ 3590', Tgd DV tool @ 3668' , drld out cmt & DV tool. RIH w/GR/CCL/CBL, Tgd PBTD @ 5118', logged up to 4000'. Perf 4974-78';5022-27';5044-46';5054-58';5070-76'(2spf 52 shots). Acidized P/8bbls 7.5% acid w/15balls, staged w/gelled pad 250#. Set RBP @ 4950', spotted 50# of 20/40 Sand on top of plug. Perf 4762-67;4779-84';4790-4800;4818-22;4833-76;4891-4904(2spf 170 holes). Acidized P/10bbls 7.5% acid across perfs. Frac P/total of 46,866# of white 16/30 sand & 20,813# Super LC & in a total of 822bbls of gel. Moved RBP up to 4711'. Perf 4510-4534(2spf 48 holes). Acidized P/total of 100balls & total of 48bbls of 7.5% acid. Latched onto RBP, released plug. Removed BOP, NU WH, RU swab. Build WH, RD PU, clean loc, SD. Awaiting pumpjack.

Reminder:
Completion report is to be submitted within 30 days of well completion.

14. I hereby certify that the foregoing is true and correct. Name *(Printed/Typed)*
ROBIN ASKEW

Title REGULATORY CLERK

Signature

Date 06/30/2010

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

ACCEPTED FOR RECORD

Approved by

Title

Date JUL 17 2010

/s/ Chris Walls

BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make 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.

(Instructions on page 2)

OPERATOR'S COPY

Form 3160-5
(April 2004)

SCANNED
JUN -- 2010

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: March 31, 2007

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE- Other instructions on reverse side.

5. Lease Serial No.
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3b. Phone No. *(include area code)*
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BENSON DELAWARE

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
480' FNL & 370' FWL SEC. 12-T19S-R30E

11. County or Parish, State
EDDY,NM

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☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☑ Other **SPUD, CSG & CMT**
	☐ Change Plans	☑ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

4/26/10 Spud.

Drld 17" hole to 495', set 13 3/8" 54.5# J55csg @ 494.49'. Cmtd w/Lead 400sx "C" + 2% CACL2, Tail 100sx "C" + 2% CACL2, Circ 225sx to pit. WOC 18 1/2"hrs, Tsted BOP t/500psi 1/2 hr-ok.

Drld 11" hole to 2050', set 8 5/8" 32# J55csg @ 2045.20'. Cmtd w/800sx "C" Lead 600sx + 10% Salt + 1# LCM-1, Tail 200sx + 1% CACL2 + 1/4# CF, Circ 98sx to pit. WOC 9hrs, Tstd BOP t/2000psi 1/2 hr-ok.

Drld 7 7/8" hole to 5256', set 5 1/2" 15.5# J55csg @ 5230'. Cmtd w/1st stage 300sx "C" + 1.2%FL25+5/10%SMS, Circ 105sx t/plt, WOC hrs, Cmtd w/2nd stage 400sx Lead 300sx 35/65/6C + 5%SALT+3#LCM. Tail 100sx "C" + 1%CACL, Circ 18sx t/plt.

5/9/10 Release rig.

Stage Tool @ ?

14. I hereby certify that the foregoing is true and correct
Name *(Printed/Typed)* **ROBIN ASKEW** Title **REGULATORY CLERK**

Signature Robin Askew Date **05/19/2010**

ACCEPTED FOR RECORD

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by Title Date MAY 28 2010

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. Office

BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make 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.

(Instructions on page 2)

OPERATOR'S COPY

Form 3160-3
(April 2004)

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NM-0560353

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER **SECRETARY'S POTASH**

7. If Unit or CA Agreement, Name and No.

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone

8. Lease Name and Well No.
Munchkin Federal, Well No. 14

2. Name of Operator
Chi Oprating, Inc.

9. API Well No.

3a. Address **P.O. Box 1799**
Midland, TX 79702

3b. Phone No. *(include area code)*
432-685-5001

10. Field and Pool, or Exploratory
Benson Delaware

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface **480' FNL & 370' FWL**
At proposed prod. zone **same**

11. Sec., T. R. M. or Blk. and Survey or Area
Sec. 12-T19S-R30E

14. Distance in miles and direction from nearest town or post office*
16 road miles S. of Loco Hills, NM

12. County or Parish
Eddy

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) **370'** / **370'**

16. No. of acres in lease
2,160.3

17. Spacing Unit dedicated to this well
20

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
492'

19. Proposed Depth
5,500'

20. BLM/BIA Bond No. on file
NM-1616

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3469' GL

22. Approximate date work will start*
08/24/2009

23. Estimated duration
3-4 weeks

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, shall be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature: George R. Smith
Name *(Printed/Typed)*: **George R. Smith**
Date: **07/30/2009**

Title: **POA agent for Chi Operating, Inc.**

Approved by *(Signature)*: Linda S C Rundell
Name *(Printed/Typed)*: Linda S. C. Rundell
Date: 10/7/09

Title: **STATE DIRECTOR**
Office: **NM STATE OFFICE**

Application approval does not warrant or certify that the applicant holds legal or equitable title ~~to those rights in the~~ subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make 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.

**(Instructions on page 2).*

Capitan Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Approval Subject to General Requirement
& Special Stipulations Attached

Chi Energy, Inc.

Benson Delaware Unit

Radius Map Centered on BDU #14

Eddy County, New Mexico

0 2,600

FEET

POSTED WELL DATA

Well Name
Well Number

WELL SYMBOLS

- Oil Well
- Gas Well
- Dry Hole
- Injection Well
- Abandoned Location - Permit
- Junked
- Temporarily Abandoned
- Dry Hole, With Show of Oil
- Plugged Gas Well
- Plugged Oil Well

REMARKS

Unit Acreage
T-19S - R-30E
Section 1: W/2 SE/4; E/2 SW/4; SW/4 SW/4
Section 11: E/2 NE/4; SW/4 NE/4
Section 12: NW/4; N/2 SW/4

Containing 560 acres

December 2, 2014

Current Injectors:
BDU #2
BDU #12
BDU #15
BDU #20
BDU #30

Conversion to Injection:
BDU #8
BDU #10
BDU #14
BDU #19
BDU #21

Proposed Producers Waiting on Permit:
BDU #23
BDU #24

2 Mile Radius

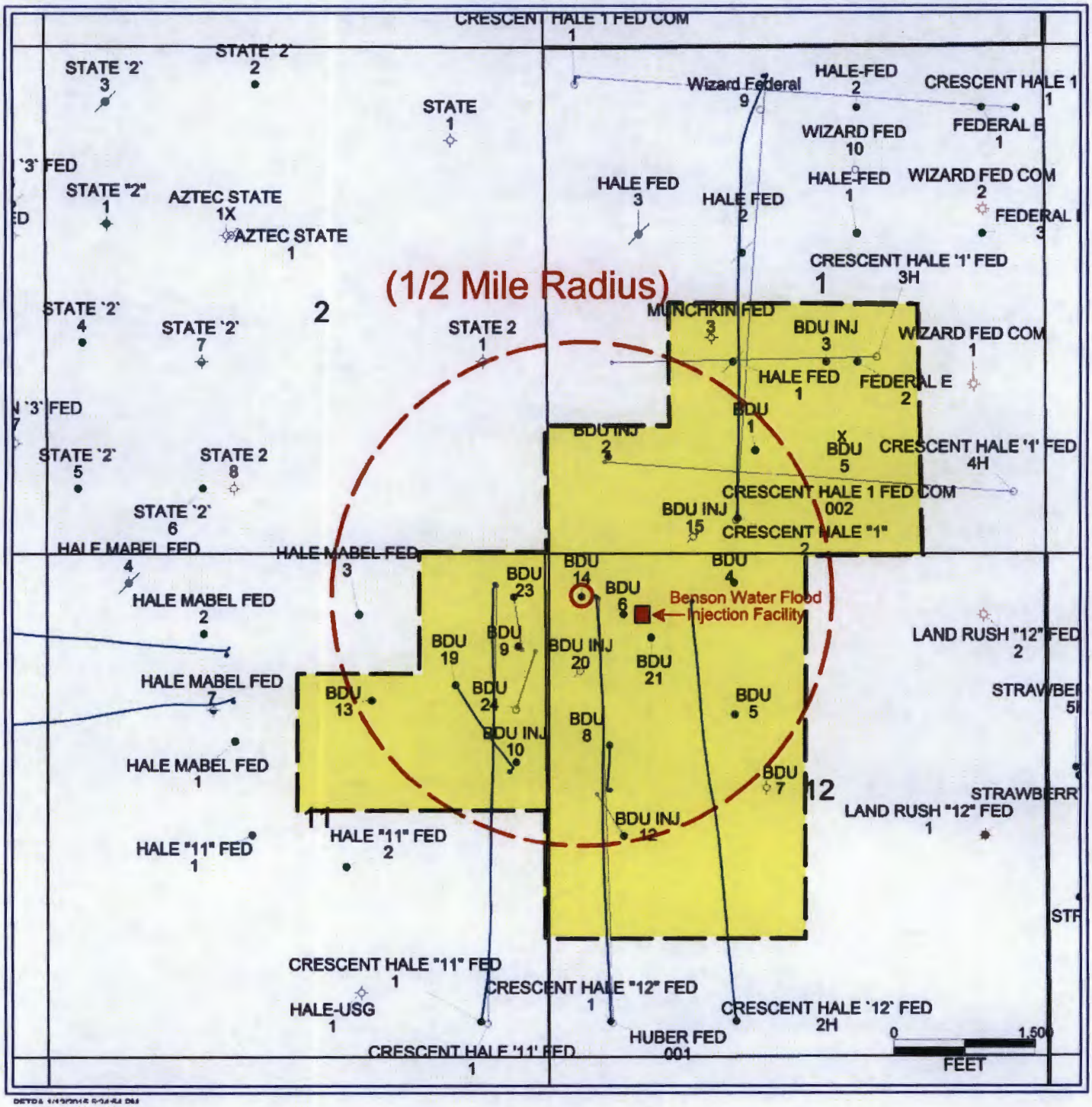
1/2 Mile Radius

Benson Water Flood Injection Facility

Bone SPRING

30E

BDU #14


(1/2 Mile Radius)
Benson Water Flood
Injection Facility
CRESCENT HALE 1 FED COM
1
STATE `2`
3
STATE `2`
2
STATE
1
Wizard Federal
9
HALE-FED
2
CRESCENT HALE 1
1
WIZARD FED
10
FEDERAL E
1
`3` FED
STATE "2"
1
AZTEC STATE
1X
AZTEC STATE
1
HALE FED
3
HALE FED
2
HALE-FED
1
WIZARD FED COM
2
FEDERAL
3
CRESCENT HALE '1' FED
3H
1
STATE `2`
4
STATE `2`
7
2
STATE 2
1
MUNCHKIN FED
3
BDU INJ
3
WIZARD FED COM
1
HALE FED
1
FEDERAL E
2
BDU
1
BDU INJ
2
BDU
5
CRESCENT HALE '1' FED
4H
STATE `2`
5
STATE 2
8
CRESCENT HALE 1 FED COM
002
STATE `2`
6
BDU INJ
15
CRESCENT HALE "1"
2
HALE MABEL FED
4
HALE MABEL FED
3
BDU
14
BDU
4
BDU
23
BDU
6
HALE MABEL FED
2
BDU
19
BDU
9
BDU INJ
20
BDU
21
LAND RUSH "12" FED
2
HALE MABEL FED
7
BDU
13
BDU
24
BDU
5
BDU INJ
10
BDU
8
HALE MABEL FED
1
BDU
7
12
STRAWBERR
LAND RUSH "12" FED
1
11
BDU INJ
12
HALE "11" FED
2
HALE "11" FED
1
CRESCENT HALE "11" FED
1
CRESCENT HALE "12" FED
1
HALE-USG
1
CRESCENT HALE `12` FED
2H
HUBER FED
001
CRESCENT HALE `11` FED
1
0
1,500
FEET

C108 Application
CHI Operating, Inc.
Benson Delaware Unit #14
API # 30-015-37333, 480 FNL 370 FWL (Unit D)
Section 12, T-19S-30E, Eddy County, New Mexico

I. The purpose of the application is to request approval to convert the Benson Delaware Unit #14 to a produced water injection well in the Delaware formation.

II. CHI Operating, Inc.
c/o P.O. Box 1799
Midland, Texas 79702

III. Injection well data sheet is attached. In addition, wellbore schematic diagrams are attached showing the current and proposed wellbore configurations.

IV. This is not an expansion of an existing project.

V. A map showing all wells/leases within a 2-mile radius of the Benson Delaware Unit #14 is attached. Also attached is a map showing all wells within a ½ mile radius of the Benson Delaware Unit #14.

VI. Area of review well data is attached. Shown on the Table are existing wells within the AOR, that penetrated the proposed injection zone and all are operated by CHI Operating, Inc. These wells are adequately cased and cemented so as to preclude the migration of injected fluid from the proposed injection interval.

VII. 1. The average injection rate is anticipated to be approx. 400 BWPD.
2. This will be a closed system.
3. The proposed average and maximum injection pressure will be 900#.
4. Produced water from the Delaware formation originating from wells that CHI Operating, Inc. operates in this area will be injected into the subject well.
5. N/A

VIII. Geological Data
1. Lithologic Detail; Sandstone
2. Geological Name; Benson Delaware
3. Thickness; 800'
4. Depth; 4510-5076'

IX. The proposed stimulation program will be 5000gal Acid, 30,000# Sand.

X. Logs

XI. There are no fresh water wells within 1 mile of the injection well.

XII. We have examined the available geologic and engineering data and find no evidence of open faults or any other hydraulic connection between the disposal zone and any underground source of drinking water.

XIII. Proof of notice is attached.

Benson Delaware Unit #14

API # 30-015-37333
Eddy Co., NM

Convert To Water Injection

Project Engineer: Cord Painter **Cell: (325) 792-7255**

Recommended Procedure

Note: Deliver 20 Jts 2 7/8" tbg to location to supplement prod tbg for cleanout.

1. MIRU pulling unit. POOH laying down with rods and pump. ND WH. NU BOP.
2. PU tbg as needed and RIH with tbg to tag fill (PBTD is 5118', EOT is ~4514', Btm Pf is 5,075').
3. Estimate and record fill depth.
4. Determine if cleanout is necessary.

If cleanout IS necessary:

5. POOH standing back with tbg, laying down pumping BHA.
6. PU & RIH with sand bailer on tbg. CO well to PBTD (5118'). POOH laying down sand bailer and tbg.

If cleanout IS NOT necessary:

7. POOH laying down tbg and pumping BHA.
8. RIH w/ 5 ½" x 2 7/8" Arrowset 1X Big Bore packer on 2-7/8" 6.5# J-55 IPC tubing setting packer +/- 100' above top perf. Load backside w/ packer fluid.
9. Pressure test backside as per BLM requirements.
10. Connect injection system to well. Begin water injection.

Benson Delaware Unit #14

API # 30-015-37333
Eddy Co., NM

Convert To Water Injection

MECHANICAL DATA

Type Tubular	OD in	ID in	Drift in	Wt. #/ft	Grd	Conn.	Depth ft	Burst psi	Tensile Mlbs.	TOC ft	Cap. bbl/Ft
Surface Casing											
Intermediate Casing	8 5/8	7.921	7.796	32	J-55	STC	2045	3930	372	Surf	
Production Casing	5 1/2	4.95	4.825	15.5	J-55	LTC	5230	4810	247.0	Surf	.0238
Production Tubing	2 7/8"	2.441	2.347	6.5	J-55	8 RD EUE		7260	99.66		.00579
Inj Tbg	2 7/8" IPC										
2 7/8" x 5 1/2" annulus											

* - Assumed

GL = 3469'
KB = 3481'
PBTD = 5118'

TUBING HEAD: 11" 5k X 7 1/16" 5k

Benson Delaware Unit #14

API # 30-015-37333

Eddy Co., NM

Convert To Water Injection

DIRECTIONS: From intersection of Hwy 360 & Co. Rd. 222, take Co. Rd 222 approx. 12 miles. Turn left/west on Co.Rd 250/blacktop. Go approx 2.5 miles, go through cattle guard in backtop. Turn left (south) on lease rd. Go approx. .8 mile, turn right just past injection station. Go approx .2 mile, turn left at fork for appprox. .6 mile. Turn right approx .2 mile, left approx .2 mile, right approx .2 mile, left approx .4 mile to Munchkin Fed #4 location, continue straight (south) to location.

History/Pertinent Info

Elevation: GL: 3469' KB: 3481'

Completed: 5/26/10

Tbg Head:

Casing:	8 5/8"	32 # J-55	set @ 2045' Circ cement
	5 ½"	**15.5 # J-55**	**set @ 5230' Circ cement**

TD: 5256'

PBTD: 5118'

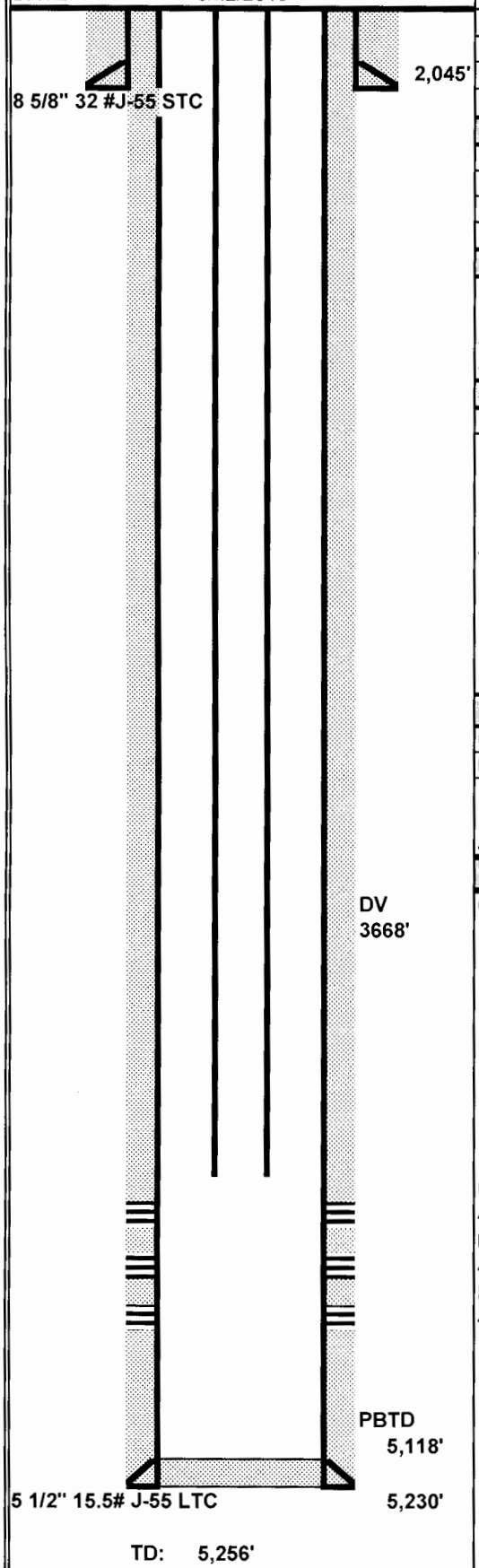
DV Tool: 3668'

Perfs: 4510'-4534'
4762'-4767', 4779'-4784', 4790'-4800', 4818'-4822', 4833'-4876', 4891'-4904'
4974'-4978', 5022'-5027', 5044'-5046', 5054'-5058', 5070'-5075'

Remarks:

CURRENT WELLBORE SCHEMATIC

DATE: 6/22/2010



LEASE:	**Benson Delaware Unit**		**WELL NO.** 14
OPER: Chi Energy			API 30-015-37333
LOCATION:	480 FNL 370 FWL SEC 12 19S 30E EDDY CO., NM		
TD 5,256'	PBD 5,118'	KB 3,481'	DF 3,480'
COD	DOD	GL 3,469'	

CASING/TBG:	DEPTH	CMT	ID	DRIFT	BURST	TENS
INTER. 8 5/8" 32 #J-55 STC	2,045'	CIRC	7.921	7.796	3,930	372.0
PROD. 5 1/2" 15.5# J-55 LTC	5,230'	CIRC	4.95	4.825	4,810	217.0
LINER						
TBG 2 7/8" J-55			2.441	2.347	7,260	99.66

PERFS:

4510-34' 2 SPF 6/15/10
4762-67', 4779-84', 4790-4800', 4818-22', 4833-76', 4891-4904' 2 SPF 6/7/10
4974-78', 5022-27', 5044-46', 5054-58', 5070-75' 2 SPF 5/26/10

TUBING BREAKDOWN	**ROD BREAKDOWN**
Tbg Hd 7 1/16" 5k Slip-Type	1 1/4" X 26' PR W/14' PRL
130 JTS 2 7/8"	2,2,4,6,8 X 7/8" SUBS
TAC	47- 7/8" STL RODS
8 JTS 2 7/8"	121- 3/4" STL RODS
SN	10- 7/8" STL RODS
4' PS	8- 1 5/8" KBARS
1 JT 2 7/8"	1' LIFT SUB
MA	2 1/2"X1 1/2"X 16' RXBC PUMP
	1 1/2" X 12' GA
	AS OF 6/22/10
	PUMP SET @~4477'

ART. LIFT

UNIT	Sentry 320D	**SPM**	8.5	**RT**	100%
MOTOR	Torque Master 25 hp 324T 1100 rpm	**SL**	120	**Cond**	Fair

Available SL's: 84, 102, 120

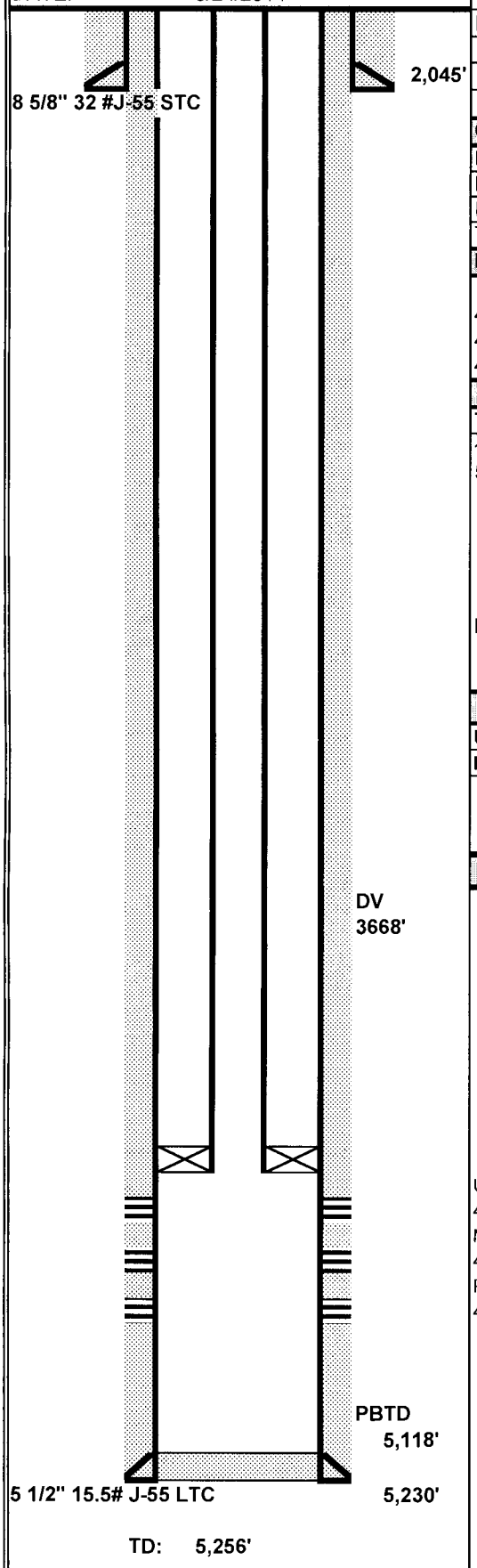
NOTES

Chem: ?? Injected into FL

UNCONFORMITY
4510-34' 2 SPF 6/15/10
MIKE, NOVEMBER & OSCAR
4762-67', 4779-84', 4790-4800', 4818-22', 4833-76', 4891-4904' 2 SPF 6/7/10
PAPA & MUNCHKIN
4974-78', 5022-27', 5044-46', 5054-58', 5070-75' 2 SPF 5/26/10

PROPOSED WELLBORE SCHEMATIC

DATE: 8/24/2014



LEASE:	**Benson Delaware Unit**		**WELL NO.** 14
OPER: Chi Energy			API 30-015-37333
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PERFS:

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4974-78', 5022-27', 5044-46', 5054-58', 5070-75' 2 SPF 5/26/10

TUBING BREAKDOWN		**ROD BREAKDOWN**
Tbg Hd	7 1/16" 5k Slip-Type	
~142 jts 2 7/8" J-55 IPC		
5 ½" x 2 7/8" Arrowset 1X Big Bore packer		
PKR SET @ ~4,460'		

ART. LIFT

UNIT		**SPM**		**RT**	
MOTOR		**SL**		**Cond**	

NOTES

UNCONFORMITY
4510-34' 2 SPF 6/15/10
MIKE, NOVEMBER & OSCAR
4762-67', 4779-84', 4790-4800', 4818-22', 4833-76', 4891-4904' 2 SPF 6/7/10
PAPA & MUNCHKIN
4974-78', 5022-27', 5044-46', 5054-58', 5070-75' 2 SPF 5/26/10

COM AGREEMENT
#NM 130778- WIZARD 5
#NM 130779- WIZARD 6

Chi Energy, Inc.
P.O. Box 1799, Midland, TX 79702
(432) 685-5001

WIZARD 5 & WIZARD 6
Sec 1, 19S-30E
Eddy County, New Mexico

LEGEND

- WELL
- OIL, WATER, GAS MIX FLOW LINE
- GAS FLOW LINE
- GAS FLARE
- TANK BATTERY
- GAS SALES COLLECTION

LEASE ACREAGE

- 80.00 ACRES LC063613
- 40.00 ACRES NM129044
- 40.00 ACRES NM129043
- 120.04 ACRES LC06313
- 40.00 ACRES NM0560353

7013 0600 0001 8495 3427

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Return Receipt Fee (Endorsement Required)	2.70
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$ 7.61

Postmark Here

SEP 9 - AM

Sent To: COG Operating LLC
Street, Apt. No.; or PO Box No.: 600 W. Illinois Ave
City, State, ZIP+4: Midland, TX 79701

PS Form 3800, August 2006 — See Reverse for Instructions

Catalyst Oilfield Services
11999 E Hwy 158
Gardendale, TX 79758
(432) 563-0727
Fax: (432) 224-1038

Water Analysis Report

Customer:	Chi Operating Inc	Sample #:	7171
Area:	Artesia	Analysis ID #:	9217
Lease:	Wizard		
Location:	5 0		
Sample Point:			

Sampling Date:	12/9/2011
Analysis Date:	12/15/2011
Analyst:	Catalyst
TDS (mg/l or g/m3):	212004.4
Density (g/cm3):	1.146
Hydrogen Sulfide:	0
Carbon Dioxide:	130
Comments:	

Anions	mg/l	meq/l
Chloride:	**129604.2**	**3655.66**
Bicarbonate:	**61.0**	**1.**
Carbonate:		
Sulfate:	**540.0**	**11.24**
Borate*:		

***Calculated based on measured elemental boron.**

Cations	mg/l	meq/l
Sodium:	**65270.0**	**2839.09**
Magnesium:	**1964.0**	**161.57**
Calcium:	**12170.0**	**607.29**
Potassium:	**1875.0**	**47.95**
Strontium:	**486.4**	**11.1**
Barium:	**0.0**	**0.**
Iron:	**32.4**	**1.17**
Manganese:	**1.410**	**0.05**

pH at time of sampling:	6.2
pH at time of analysis:	
pH used in Calculation:	**6.2**
Temperature @ lab conditions (F):	**75**
Conductivity (micro-ohms/cm):	**214000**
Resistivity (ohm meter):	**.0467**

Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl

Temp	Calcite $CaCO_3$		Gypsum $CaSO_4*2H_2O$		Anhydrite $CaSO_4$		Celestite $SrSO_4$		Barite $BaSO_4$	
°F	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount
80	-0.20	0.00	-0.30	0.00	-0.27	0.00	-0.06	0.00	0.00	0.00
100	-0.12	0.00	-0.37	0.00	-0.28	0.00	-0.09	0.00	0.00	0.00
120	-0.04	0.00	-0.43	0.00	-0.26	0.00	-0.10	0.00	0.00	0.00
140	0.04	0.29	-0.49	0.00	-0.22	0.00	-0.10	0.00	0.00	0.00
160	0.13	1.14	-0.53	0.00	-0.16	0.00	-0.09	0.00	0.00	0.00
180	0.22	2.29	-0.56	0.00	-0.08	0.00	-0.08	0.00	0.00	0.00
200	0.31	3.14	-0.59	0.00	0.01	3.71	-0.06	0.00	0.00	0.00
220	0.41	4.28	-0.62	0.00	0.11	51.13	-0.04	0.00	0.00	0.00

Catalyst Oilfield Services
11999 E Hwy 158
Gardendale, TX 79758
(432) 563-0727
Fax: (432) 224-1038

Water Analysis Report

Customer:	Chi Operating Inc	Sample #:	22228
Area:	Artesia	Analysis ID #:	21105
Lease:	Wizard		
Location:	6 0		
Sample Point:	Wellhead		

Sampling Date:	7/30/2014	**Anions**	mg/l	meq/l	**Cations**	mg/l	meq/l
Analysis Date:	8/22/2014	**Chloride:**	**140154.9**	**3953.26**	**Sodium:**	**71650.0**	**3116.6**
Analyst:	Catalyst	**Bicarbonate:**	**97.6**	**1.6**	**Magnesium:**	**1527.0**	**125.62**
TDS (mg/l or g/m3):	228624.8	**Carbonate:**			**Calcium:**	**13480.0**	**672.65**
Density (g/cm3):	1.158	**Sulfate:**	**40.0**	**0.83**	**Potassium:**	**1389.0**	**35.52**
		Borate*:	**25.4**	**0.16**	**Strontium:**	**260.9**	**5.96**
					Barium:	**0.0**	**0.**
Hydrogen Sulfide:	0	***Calculated based on measured elemental boron.**			**Iron:**	**0.0**	**0.**
Carbon Dioxide:	200				**Manganese:**	**0.000**	**0.**
Comments:		pH at time of sampling:		6.8			
		pH at time of analysis:					
		pH used in Calculation:		**6.8**			
		Temperature @ lab conditions (F):		**75**	**Conductivity (micro-ohms/cm):**		**219000**
					Resistivity (ohm meter):		**.0457**

	Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl									
Temp	Calcite $CaCO_3$		Gypsum $CaSO_4*2H_2O$		Anhydrite $CaSO_4$		Celestite $SrSO_4$		Barite $BaSO_4$	
°F	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount
80	0.67	5.63	-1.39	0.00	-1.35	0.00	-1.50	0.00	0.00	0.00
100	0.71	6.47	-1.47	0.00	-1.36	0.00	-1.52	0.00	0.00	0.00
120	0.74	7.03	-1.53	0.00	-1.35	0.00	-1.53	0.00	0.00	0.00
140	0.77	8.16	-1.59	0.00	-1.31	0.00	-1.53	0.00	0.00	0.00
160	0.80	9.00	-1.64	0.00	-1.26	0.00	-1.53	0.00	0.00	0.00
180	0.84	10.13	-1.68	0.00	-1.19	0.00	-1.51	0.00	0.00	0.00
200	0.88	11.25	-1.71	0.00	-1.10	0.00	-1.50	0.00	0.00	0.00
220	0.93	12.66	-1.74	0.00	-1.00	0.00	-1.48	0.00	0.00	0.00

Jones, William V, EMNRD

From: Teresa Gore <TeresaG@chienergyinc.com>
Sent: Thursday, February 12, 2015 7:23 AM
To: Jones, William V, EMNRD
Subject: FW: BDU
Attachments: 30015376770000_Crescent Hale 1 #4H.pdf; 30015376770100_Cresecent Hale 1 #4H.pdf; 30015379100000_Crescent Hale 1 #3H.pdf; 30015379100100_Crescent Hale 1 #3H.pdf; 30015384940000_Crescent Hale 11 Fed #1.pdf; 30015390250000_Crescent Hale 12 Fed #1.pdf

Hi Will,
I thought I cc'd you in this message but I did not. Sorry about the late response.
Teresa

From: Teresa Gore
Sent: Thursday, January 29, 2015 10:29 AM
To: Pam Corbett
Subject: BDU

Upon further review I found there are no plugged & abandon wells within a half mile radius of the BDU #8 and the BDU #14. I attached the scout tickets for references.

Thanks,
Teresa Gore

Geo Tech
Chi Energy, Inc.
212 N Main St.
Midland, TX 79701
(432)685-5001 Ext #110

Wizard #5
NMNM 0560353
Com# 130778

API# 30015 38315

WATER DISPOSAL ONSHORE ORDER #7

The following information is needed before your method of water disposal can be considered for approval.

1. Name(s) of formation (s) producing water on the lease.
   Bone Springs
2. Amount of water produced from each formation in barrels per day.
   50 Barrels per/day
3. How water is stored on the lease.
   500 Barrel tank
4. How water is moved to disposal facility.
   Transferred through a pipeline to the Benson Delaware WF Unit
5. Operator's of disposal facility
   a. Lease name or well name and number Citi Operating, inc - Benson Delaware WF Unit
   b. Location by ¼ ¼ Section, Township, and Range of the disposal system _____
      SESW1 T19S R30E
   c. The appropriate NMOCD permit number _____

Submit above information on 1 original and 3 Copies of Sundry Notice 3160-5 or Submit above information on Sundry Notice 3160-5 electronically (EC) thru WIS system.

Affidavit of Publication

No. 23259

State of New Mexico

County of Eddy:

Danny Scott

being duly sworn, sayes that he is the **Publisher**

of the Artesia Daily Press, a daily newspaper of General circulation, published in English at Artesia, said county and state, and that the hereto attached

Legal Notice

was published in a regular and entire issue of the said Artesia Daily Press, a daily newspaper duly qualified for that purpose within the meaning of Chapter 167 of the 1937 Session Laws of the state of New Mexico for

1 Consecutive weeks/day on the same day as follows:

First Publication	November 21, 2014
Second Publication	
Third Publication	
Fourth Publication	
Fifth Publication	
Sixth Publication	

Subscribed and sworn before me this

21st day of November 2014

OFFICIAL SEAL
Latisha Romine
NOTARY PUBLIC-STATE OF NEW MEXICO
My commission expires: 5/12/2015

Latisha Romine

Latisha Romine

Notary Public, Eddy County, New Mexico

Copy of Publication:

LEGAL NOTICE

Notice of Application for Fluid Injection Well Permit

Chi Operating, Inc., c/o Pam Corbett 432-685-5001, P.O. Box 1799, Midland, TX 79702 is applying to the NMOCD for a permit for a Water Injection Well into a formation which is productive of oil and gas. The applicant proposes to inject into the Delaware, Benson Delaware Waterflood Unit wells #8 and #14. The proposed injection wells are located in Section 12, T19S, R30E in, Eddy Co., NM. Fluid will be injected into strata in the subsurface depth interval from 4510'-5081'.

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.

Published in the Artesia Daily Press, Artesia, N.M., November 21, 2014 Legal No. 23259.

Cancelled / Returned
in RBDMS

Jones, William V, EMNRD

From: Jones, William V, EMNRD
Sent: Wednesday, February 11, 2015 3:39 PM
To: 'Pam Corbett'
Cc: Goetze, Phillip, EMNRD; Sanchez, Daniel J., EMNRD
Subject: RE: CHI Operating Inc. (4378) application for WFX for the Benson Delaware Unit, Eddy County Wells: 30-015-34816 and 37333

Hi Pam,
I just looked and don't seem to have any of the requested items listed below.

For example, I don't have evidence the bond was addressed or the notices were sent or the wellbore diagram.
Only don't send the data for the plugged well – only a one page diagram of the well after it was plugged.

Would you look at each item and address them all individually maybe in a notebook with tabs for each item listed below – and mail to me all in one package?
That would really help me keep track of any subsequent work you have done after receiving my email request.
And I can add that to your previous submittal and then see if the C-108 is complete.

Hope all is well,

Regards,

William V. Jones, P.E., District IV Supervisor
Oil Conservation Division http://www.emnrd.state.nm.us/ocd/
1220 South St. Francis Drive, Santa Fe, NM 87505
P: 505.476.3477 C: 505.419.1995

From: Pam Corbett [mailto:PamC@chienergyinc.com]
Sent: Tuesday, February 10, 2015 3:40 PM
To: Jones, William V, EMNRD
Subject: RE: CHI Operating Inc. (4378) application for WFX for the Benson Delaware Unit, Eddy County Wells: 30-015-34816 and 37333

Mr. Jones,
Has Teresa send you everything you needed for the permits? She and I looked at the three wells, operated by Cimarex and they were not P&A, two were producers and one was a permitted location.
The bond issue apparently is from the WC 4-4 and it is plugged. We submitted the plugging info sundry again to clear it up.
Pam

Jones, William V, EMNRD

From: Jones, William V, EMNRD
Sent: Monday, December 29, 2014 12:20 PM
To: 'pamc@chienergyinc.com'
Cc: Goetze, Phillip, EMNRD; Sanchez, Daniel J., EMNRD; Wade, Gabriel, EMNRD; Dawson, Scott, EMNRD
Subject: CHI Operating Inc. (4378) application for WFX for the Benson Delaware Unit, Eddy County Wells: 30-015-34816 and 37333

Hello Pam,
Hope all is well and good morning!

I just reviewed your application for two additional injection wells and have a few questions.

a. There seems to be one Single-Well Bond needed for Chi Operating Inc. – please let your person in charge of bonds know to work with Denise Gallegos to get this posted. I cannot release this permit until all bonds are in place. Let me know when this happens and I will drag this one out and look it over again.
b. Have you received any concerns from the BLM as to converting the #14 well? The BLM previously had issues and even requested a revised hearing order.
c. The waterflood was permitted for only makeup waters from the Yates-Seven Rivers – per R-13262.
   If the Bone Spring waters will be used for makeup injection water into this waterflood – please let me know if true? And if so, send a water analysis.
d. Would you ask your engineer or geologist why these two wells have such a difference in the upper perforation depth – 4830' for #8 and 4570' for #14. Is this correct? I would expect them to be similar depths. If they intend to even things up, send revised wellbore diagrams.
e. Would you tell me the total number of P&Aed wells within ½ mile of these two wells? And send a plugged well bore diagram for each.
f. Would you tell me the total number of non-plugged wells that penetrate the Brushy Canyon within ½ mile of these two wells?
g. And send a list of all wells in "e" and "f" above and include the casing and cement top information – the list in the application only includes what is on the Federal Lease.
h. If you look at the ½ mile circles around each of these wells, there is acreage outside the Benson Delaware Unit and Division records show other operators and possibly unleased acreage. The rules say your Landman should have provided details in this application of each separately owned tract of land partially contained within ½ mile.
   Since it seems there are additional owners of the Brushy Canyon within ½ mile of these two wells that were not noticed.
   Please send a copy of this application to the following:
   i. The State Land Office
   ii. Harvey E. Yates Co.
   iii. Chevron U.S.A.
   iv. Great Western Drilling Co.
   v. Cimarex Energy Co. of Colorado.
i. Send copies of the mailers going out to each of these parties and the other two parties previously noticed - showing the certified number and the date mailed.

Happy Holidays,

Jones, William V, EMNRD

From: Pam Corbett <PamC@chienergyinc.com>
Sent: Monday, May 04, 2015 4:21 PM
To: Goetze, Phillip, EMNRD
Cc: Jones, William V, EMNRD
Subject: CHI - Benson Delaware Injection Permits
Attachments: Final C103 WC 4.pdf; water disposal worksheet.pdf; Wizard5_6_Water Analysis.pdf

Mr. Goetze and Mr. Jones:

Attached is information that was requested a while ago but was not handled in a timely manner and there was confusion on what was sent and answered. I apologize and hope to clear up all the issues ASAP.

Attached is information regarding the single well bond issue. We submitted the subsequent C103 again and the plugging was approved again but I do not see the final inspection C103 approved yet, which we expedited Federal Express the same time as the approved subsequent P&A C103.
Also attached are the certified cards sent for notifications that were missing (re-sent). I will mail/email the signature cards once I receive them.

a. There seems to be one Single-Well Bond needed for Chi Operating Inc. – please let your person in charge of bonds know to work with Denise Gallegos to get this posted. I cannot release this permit until all bonds are in place. Let me know when this happens and I will drag this one out and look it over again. Attached are the sundries filed and approved regarding the bond issue for CHI Operating, Inc. (WC 4-4).
b. Have you received any concerns from the BLM as to converting the #14 well? The BLM previously had issues and even requested a revised hearing order. We have not received any concerns. I have submitted sundries with procedures on both wells to the BLM in November 2014.
c. The waterflood was permitted for only makeup waters from the Yates-Seven Rivers – per R-13262.
If the Bone Spring waters will be used for makeup injection water into this waterflood – please let me know if true? And if so, send a water analysis. See attached water analysis.
d. Would you ask your engineer or geologist why these two wells have such a difference in the upper perforation depth – 4830' for #8 and 4570' for #14. Is this correct? I would expect them to be similar depths. If they intend to even things up, send revised wellbore diagrams. This is a very high-relief structurally trapped reservoir, hence the drastically varying depths. Some depth variations also occur due to stratigraphic changes. If you need additional information or if I did not answer your question I can have our Engineer contact you.
e. Would you tell me the total number of P&Aed wells within ½ mile of these two wells? And send a plugged well bore diagram for each.. Teresa Gore emailed information to Mr. Jones. I can send this again if needed.
f. Would you tell me the total number of non-plugged wells that penetrate the Brushy Canyon within ½ mile of these two wells? Teresa Gore emailed information to Mr. Jones. I can send this again if needed.
g. And send a list of all wells in "b" and "c" above and include the casing and cement top information – the list in the application only includes what is on the Federal Lease. Teresa Gore emailed information to Mr. Jones. I can send this again if needed.
h. If you look at the ½ mile circles around each of these wells, there is acreage outside the Benson Delaware Unit and Division records show other operators and possibly unleased acreage. The rules say your Landman should have provided details in this application of each separately owned tract of land partially contained within ½ mile.
Since it seems there are additional owners of the Brushy Canyon within ½ mile of these two wells that were not noticed. Attached, I will mail/scan the signed cards to you.
Please send a copy of this application to the following:
i. The State Land Office

ii. Harvey E. Yates Co.
iii. Chevron U.S.A.
iv. Great Western Drilling Co.
v. Cimarex Energy Co. of Colorado.
i. Send copies of the mailers going out to each of these parties and the other two parties previously noticed - showing the certified number and the date mailed.

From: Teresa Gore
To: Pam Corbett
Subject: BDU

Upon further review I found there are no plugged & abandon wells within a half mile radius of the BDU #8 and the BDU #14. I attached the scout tickets for references.

Thanks,
Teresa Gore

Geo Tech
Chi Energy, Inc.
212 N Main St.
Midland, TX 79701
(432)685-5001 Ext #110

Jones, William V, EMNRD

From: Teresa Gore <TeresaG@chienergyinc.com>
Sent: Thursday, January 15, 2015 1:29 PM
To: Jones, William V, EMNRD
Cc: Pam Corbett
Subject: CHI Operating Inc. (4378) application for WFX for the Benson Delaware Unit, Eddy County Wells: 30-015-34816 and 37333
Attachments: BDU #8_ Half mile radius.pdf; BDU #14_ Half mile radius.pdf; Crescent Hale 1 Fed #4H_3001537677_1_wf.pdf; Crescent Hale 1 Fed #3H_3001537910_1_wf.pdf; Huber Fed #1_3001539025_1_wf.pdf; Crescent Hale '11' Fed #1_3001538494.pdf

Hi Will,

Yes it worked, thanks! It was telling me that it didn't have enough memory to send all of my attachments, so I will be sending you the acreage map in a second email. Attached is the information that you requested on the BDU. I attached what I could find on the well bore diagrams for the P&A wells from the OCD website. I also attached two maps that show the half mile radius on the BDU#8 and the BDU #14. Please let me know if you need any additional information.

~~BDU #8~~
~~P&A Wells with in half mile radius-~~
~~(BHL inside half mile radius)~~
~~Huber Fed #1 – API# 3001539025~~

~~BDU #8~~
~~Wells that penetrate 4500' with in half mile radius-~~
~~(All are horizontal wells with BHL inside half mile radius)~~
~~Crescent Hale '12' Fed 2H- API # 3001540054~~
~~Crescent Hale '12' Fed #1- API # 3001539025~~
~~Crescent Hale '11' Fed #1- API # 3001538494 (this well is a producer but has a 2nd SHL location that has been P&A, listed with the same API#)~~

BDU #14 #8
~~P&A Wells with in half mile radius-~~
Huber Fed #1 – API# 3001539025
Crescent Hale '1' Fed #3H- API #3001537910
Crescent Hale '1' Fed #4H- API #301537677

BDU #14 #8
Wells that penetrate 4500' with in half mile radius-
(~~All~~ are horizontal wells with BHL inside half mile radius)
Crescent Hale '1' – API # 3001538524
Crescent Hale '1' Fed – API # 3001537677
Crescent Hale '12' Fed 2H- API # 3001540054
Crescent Hale '12' Fed #1- API # 3001539025
Crescent Hale '11' Fed #1- API # 3001538494 (this well is a producer but has a 2nd SHL location that has been P&A, listed with the same API#)
Hale Marbel Fed #3 – API # 3001525019 — Vert. well

Benson Delaware Unit **(Delaware Formation)** **Federal Lease # NM126412X**

WELL NAME	API	LOCATION	COMPLETIONS	PERFS	WELL TYPE	WELL STATUS	FIRST DATE OF PROD.	DATE DRILLED	COMPLETION DATE	DEPTH
		1-19S-30E	9 5/8" J55/36# @ 494'							
			Cmtd w/L-275sx C, T-100sx C, circ 170sx to surf							
		1060' FSL &	5 1/2" J55/15.5# @ 6707'							
BDU #1	30-015-30715	2210' FWL	Cmtd 1stg 500sx C; 2stg L-500sx C, T-200sx C	4725' - 5122'	Active Oil		2/16/2001	1/5/2001	2/19/2001	6707'
		1-19S-30E	9 5/8' 36# @ 483'							
		990' FSL &	Cmt w/325sx, T-100sx, circ 180sx @ 3182'							
BDU #2	30-015-31778	660' FWL	5/1/2 17# @ 5350' cmt 1stg 205sx, 2stg 157sx	5090' - 5158'	Injection		10/16/2002	5/12/2001	11/16/2002	5350'
		1-19S-30E	1st Plug: 6393'-6293' 50sks, 2nd Plug: 4105'-4005' 45sks,							
			3rd Plug: 2078'-1978' 55sks, 4th Plug: 550'-450'							
		2230' FSL &	5th Plug: 60-0', 8 5/8" 36# J55 @ 500'							
BDU #3	30-015-31796	1750' FWL	cmtd w/500sx		Dry Hole		No Prod	6/5/2001	6/22/2001	6600'
		12-19S-30E	9 5/8" J55/36# @ 506'							
			Cmtd w/450sx C, circ 300sx to surf							
		330' FNL &	5 1/2" 17# J55 @ 5526'							
BDU #4	30-015-33380	1980' FWL	Cmtd 1stg 400sx C, circ 63sx; 2stg 650sx, circ 53sx to surf	5016'- 5045'	Active Oil		2/26/2004	1/21/2004	2/28/2004	5526'
		12-19S-30E	9 5/8" J55/36# @ 525'							
			Cmtd w/300sx C, circ 108sx to surf							
		1700' FNL &	5 1/2" J55/15.5@ 5400'							
BDU #5	30-015-33725	1980' FWL	Cmtd 1stg 200sx C, 2stg 750sx C, circ 199sx	5044' -5058'	Active Oil		2/4/2005	12/17/2004	2/6/2005	5400'
		12-19S-30E	9 5/8" J55/36# @ 510'							
			Cmtd w/400sx C, circ 20sx to surf							
		660' FNL &	5 1/2" J55/17# @ 5400'							
BDU #6	30-015-33881	810' FWL	Cmtd 1stg 375sx C, circ 20sx; 2stg 730sx C, circ 125sx	5008' - 5060'	Active Oil		2/21/2005	1/1/2005	2/28/2005	5400'
		12-19S-30E	12 1/4" csg @ 526' w/600sx H&C							
		2475' FNL &	5 1/2" csg @ 5366' MD & 5228' TVD W/1000sx C		P&A					
BDU #7	30-015-33933	2310' FWL		4993'- 5000'	Oil Well		No Prod	9/16/2006	10/22/2009	5500'
		12-19S-30E	13 3/8" J55 48# @ 511'							
			Cmtd w/500sx C, Circ 60sx to surf							
		2500' FNL &	8 5/8" J55 24# @ 1910'							TMD 5351'
		660' FWL (SHL)	Cmtd w/505sx C, circ 65sx to surf							
		1980' FNL &	5 1/2" J55 15.5# @ 5351'			Permitting as				
BDU #8	30-015-34816	660' FWL (BHL)	Cmtd w/1675sx C, circ to surf	4830' - 4872'	Active Oil	Injection	7/29/2006	4/15/2006	7/29/2006	TVD 5299'

Benson Delaware Unit **(Delaware Formation)** **Federal Lease # NM126412X**

WELL NAME	API	LOCATION	COMPLETIONS	PERFS	WELL TYPE	WELL STATUS	FIRST DATE OF PROD.	DATE DRILLED	COMPLETION DATE	DEPTH
BDU #9	30-015-34293	11-19S-30E 990' FNL & 300' FEL	9 5/8" J55/36# @ 497' Cmtd w/375sx C, circ 129sx to surf 5 1/2" J55/17@ 5233' Cmtd 400sx C, circ 90sx; 2stg L-1050sx C, T-50sx	4826' - 5092'	Active Oil		8/18/2006	5/4/2006	8/18/2006	5233'
BDU #10	30-015-35085	11-19S-30E 220' FNL & 330' FEL	9 5/8" J55/36# @ 519' Cmtd w/200sx H, 300sx C 5 1/2" J55/17@ 4078' 5 1/2" J55 15.5# @ 5258' Cmtd 1stg 300sx C, 2stg 1100sx C, circ 187sx to surf	4814' - 5045'	Injection		11/17/2006	8/31/2006	11/17/2006	5258'
BDU #12	30-015-35791	12-19S-30E 2547' FNL & 519' FWL	13 3/8 J55/48# @ 511', cmt 300 sxH, 200sxC T-100sx, circ 10sx to pit 8 5/8 J55/ 24# @ 2050', cmt 425sxC T200sxC, circ 165 to pit 5 1/2 J55/15.5# @ 5415', cmt 300sxC 325sxC/50C circ 30sx to pit	4590' - 4870'	Injection		11/16/2007	9/19/2007	11/22/2007	5415'
BDU #13	30-015-36425	11-19S-30E 1550' FNL & 1850' FEL	13 5/8 J55/18# @495', cmt 585sxC, (1"300sx) 8 5/8 J55/32# @ 3151', cmt 1628sx, circ 272sx to surf 5 1/2 P110/17# @ 8907', @3698' cmt 975sx, circ60sx	4732' - 4783'	Active Oil		4/15/2009	9/18/2008	4/15/2009	8900'
BDU #14	30-015-37333	12-19S-30E 480' FNL & 370' FWL	13 5/8 J55/54.5# @494.49', cmt 500sxC, circ 225sx to surf 8 5/8 J55/32# @2045.20', cmt 800sxC, circ 98sx to surf 5 1/2 J55 15.5# @5230, cmt 1stg 300sxc, 2stg 400sxC, Circ 18sx to surf	4510' - 5076'	Active Oil	Permitting as Injection	7/28/2010	4/27/2010	7/22/2010	5256'
BDU #15	30-015-38298	1-19S-30E 150' FSL & 1550' FWL	13-3/8" 54.5# J55 @ 504' 600sxC 8-5/8 " 32# J55 @ 2072' 650sxC 5 1/2" 15.5# J55 @ 5200 665sxC	4634' - 5068'	Injection		No Prod	7/31/2011		5200'
BDU #19	30-015-37986	11-19S-30E 2300' FNL & 400' FEL	13 3/8" 54.5# J55 @ 500', cmt 400sxC, 8 5/8" 35# J55 @ 2060', cmt 800sxC, 5 1/2" 15.5# J55 @3698' 1stg 325sxC @ 5450' 2stg 550sxC	4635'- 5217'	Active Oil	Permitting as Injection	9/16/2010	5/12/2010	9/16/2010	5450'
BDU #20	30-015-38299	12-19S-30E 1250' FNL & 350' FWL	13-3/8" 54.5# J55 STC csg @ 477 w/500sx (circ) 8 5/8" 32# STC csg @ 2065 w/785sxC 5 1/2" 15.5# LTC csg @ 5250' 350sxC	4501' - 5093'	Injection		No Prod	8/22/2011		5250'

Benson Delaware Unit **(Delaware Formation)** **Federal Lease # NM126412X**

WELL NAME	API	LOCATION	COMPLETIONS	PERFS	WELL TYPE	WELL STATUS	FIRST DATE OF PROD.	DATE DRILLED	COMPLETION DATE	DEPTH
BDU #21	30-015-37987	12-19S-30E 900' FNL & 1100' FWL	13 5/8 J55/ 48# @505.63', cmt 500sxC, circ 225sx 8 5/8 J55/ 32# @2068.70', cmt 800sxC 5 1/2 J55 15.5# @5230, cmt @ 3698' 1stg 300sxc, @ 5263.40' 2 stg 500sxC	4882' - 5052'	Active Oil	Permitting as Injection	10/1/2010	7/20/2010	10/13/2010	5270'
BDU #23		11-19S-30E 990' FNL & 150' FEL (SHL) 450' FN & 330' FEL (BHL)			Location	Drilling				
BDU #24		11-19S-30E 1040' FNL & 125' FEL (SHL) 1650' FNL & 330' FEL (BHL)			Location	Drilling				
BDU #30	30-015-32210	1-19S-30E 1980' FSL & 2310' FEL	2-7/8 6.5# lined injection tubing 9 5/8" 36# J55 @480' 475sx C, circ 160sx, cmt to surf 5-1/2" 17# J55 @ 5500" 1stg 300sx C; 2stg 800sx C, Circ 81sx, cmt to surf	4962' - 5142'	Injection		4/15/2003	3/11/2003	4/27/2003	5500'

Scout Ticket

Thu Jan 29, 2015

30015390250000

General Information

1 CRESCENT HALE `12` FEDERAL

Data Source:	PI		
API:	30015390250000	**IC:**	
State:	NEW MEXICO	**County:**	EDDY
Field:	BENSON	**Operator:**	CIMAREX ENERGY OF CO
Current Status:	A	**Current Operator:**	CIMAREX ENERGY CO OF COLORADO
Initial Class:	DEVELOPMENT WELL (D)	**Final Well Class:**	DEVELOPMENT WELL-OIL (DO)
Status:	OIL	**Target Objective:**	OIL
Permit:	on Apr 20, 2011	**Hole Direction:**	HORIZONTAL
First Report Date:	May 12, 2011	**Abandonment Date:**	
Projected TD:	12,965 FT	**Projected Formation:**	BONE SPRING
Geologic Province:	PERMIAN BASIN	**Formation at TD:**	BONE SPRING
Play Name:	BONE SPRING/WOLFBONE, DELAWARE BASIN	**Play Type:**	TIGHT OIL (L)
IP Summary:			

Oil: 579 BPD **Gas:** 754 MCFD **Water:** 802 BBL **Condensate:** **Top Form:** BONE SPRING

Location

Section, Twp., Range:	12 19S 30E			**Data Source:**	PI
Spot Code:	NW NW				
Footage NS EW Origin:	485 FNL 530 FWL CONGRESS SECTION				
Principal Meridian:	NEW MEXICO				
Lat/Long:	+32.6806814 -103.9319148	**Lat/Long Source:**	IH	**Datum:**	NAD27
BH L/L:	+32.6684317 -103.9314506	**Lat/Long Source:**	IH	**Datum:**	NAD27
PBH L/L:	+32.6683440 -103.9314664	**Lat/Long Source:**	IH	**Datum:**	NAD27
PBHL Footage NS EW Origin:	330 FSL 660 FWL CONGRESS SECTION			**Data Source:**	PI
PBHL Section:	12 19S 30E	**Spot:**		SW SW	
PBHL Coordinates:	From Surface: 12,965 FT	TVD: 8,730 FT		**Data Source:**	PI
Polar:	Offset:	Azimuth:			
Coordinate:	Y Offset:	X Offset:			
ABHL Footage NS EW Origin:	338 FSL 672 FWL CONGRESS SECTION			**Data Source:**	PI
ABHL Section:	12 19S 30E	**Spot:**		SW SW	
ABHL Coordinates:	From Surface: 12,962 FT	TVD: 8,728 FT		**Data Source:**	PI
Polar:	Offset:	Azimuth:			
Coordinate:	Y Offset: 4,456 FT S	X Offset: 142 FT E			

Location Narrative

Data Source	Type	Remark
PI	SCALED_FOOT	REGULATORY
PI	IRREG_SECT	N

Dates and Depths

Data Source:	PI		
Spud:	Oct 06, 2011	**Spud Date Code:**	A
TD:	12,962 FT	**TD Date:**	Nov 02, 2011
TVD:	8,728 FT	**PlugBack Depth:**	12,914 FT
Formation Code TD:	452BSPG	**Formation Name TD:**	BONE SPRING
Ref. Elevation:	3,488 FT KB	**KB. Elevation:**	3,488 FT
Ground Elevation:	3,467 FT GR	**LTD:**	
Contractor:	CACTUS DRILLING COMPANY		
Completed:	Dec 24, 2011	**Final Drilling:**	Nov 02, 2011

Rig Release Date: Nov 04, 2011 **Rig #:** 101
Tool: ROTARY

Initial Potential Tests

IP: 001 **Data Source: PI**

Top Formation Name:	BONE SPRING	**Top Formation Code:**	452BSPG
Base Formation Name:	BONE SPRING	**Base Formation Code:**	452BSPG
Oil:	579 BPD	**Condensate:**	
Gas:	754 MCFD	**Water:**	802 BBL
Interval:	8,649 - 12,836 GROSS	**Method:**	PUMPING
Duration of Test:	Hours	**Choke:**	
Oil Gravity:	38.7 API	**GOR:**	1302 CFB
Cond Gravity:		**Cond Ratio:**	

Oil Analysis

Test	Data Source	GOR	Interval	Top Form	Name
001	PI	1302	8649 - 12836	452BSPG	BONE SPRING

Perforations

Test	Data Source	Interval	Count	Type	Status	Shots/ Ft	Prod Method	Top Form Code	Top Form Name
001	PI	8649 - 9056	40				PERF	452BSPG	BONE SPRING
001	PI	9189 - 9596	40				PERF	452BSPG	BONE SPRING
001	PI	9729 - 10136	40				PERF	452BSPG	BONE SPRING
001	PI	10269 - 10676	40				PERF	452BSPG	BONE SPRING
001	PI	10809 - 11216	40				PERF	452BSPG	BONE SPRING
001	PI	11349 - 11756	40				PERF	452BSPG	BONE SPRING
001	PI	11889 - 12296	40				PERF	452BSPG	BONE SPRING
001	PI	12429 - 12836	40				PERF	452BSPG	BONE SPRING

Treatments

Treatment: 001

Interval:	8,649 - 9,056				
Fluid:	206,281 GAL	FRAC	**Type:**	FLUD	
Additive:					
Prop Agent:	SAND	**Amount:**	331,308 LB		
Form Break Down Pressure:					
Average Injection Rate:		**Instant Shut-in Pressure:**			
Stages:	**Remarks:**				

Treatment: 001

Interval:	9,189 - 9,596				
Fluid:	208,717 GAL	FRAC	**Type:**	FLUD	
Additive:					
Prop Agent:	SAND	**Amount:**	331,308 LB		
Form Break Down Pressure:					
Average Injection Rate:		**Instant Shut-in Pressure:**			
Stages:	**Remarks:**				

Treatment: 001

Interval:	9,729 - 10,136				
Fluid:	209,912 GAL	FRAC	**Type:**	FLUD	
Additive:					
Prop Agent:	SAND	**Amount:**	331,844 LB		
Form Break Down Pressure:					
Average Injection Rate:		**Instant Shut-in Pressure:**			

Stages:	**Remarks:**			
Treatment: 001				
Interval:	10,269 - 10,676			
Fluid:	213,488 GAL	FRAC	**Type:**	FLUD
Additive:				
Prop Agent:	SAND	**Amount:**	325,161 LB	
Form Break Down Pressure:				
Average Injection Rate:		**Instant Shut-in Pressure:**		
Stages:	**Remarks:**			
Treatment: 001				
Interval:	10,809 - 11,216			
Fluid:	230,831 GAL	FRAC	**Type:**	FLUD
Additive:				
Prop Agent:	SAND	**Amount:**	360,119 LB	
Form Break Down Pressure:				
Average Injection Rate:		**Instant Shut-in Pressure:**		
Stages:	**Remarks:**			
Treatment: 001				
Interval:	11,349 - 11,756			
Fluid:	219,039 GAL	FRAC	**Type:**	FLUD
Additive:				
Prop Agent:	SAND	**Amount:**	339,267 LB	
Form Break Down Pressure:				
Average Injection Rate:		**Instant Shut-in Pressure:**		
Stages:	**Remarks:**			
Treatment: 001				
Interval:	11,889 - 12,296			
Fluid:	225,320 GAL	FRAC	**Type:**	FLUD
Additive:				
Prop Agent:	SAND	**Amount:**	333,763 LB	
Form Break Down Pressure:				
Average Injection Rate:		**Instant Shut-in Pressure:**		
Stages:	**Remarks:**			
Treatment: 001				
Interval:	12,429 - 12,836			
Fluid:	244,643 GAL	FRAC	**Type:**	FLUD
Additive:				
Prop Agent:	SAND	**Amount:**	334,819 LB	
Form Break Down Pressure:				
Average Injection Rate:		**Instant Shut-in Pressure:**		
Stages:	**Remarks:**			

Casing, Liner, Tubing

Casing	Data Source	Size	Base Depth		Cement	
CASING	PI	13 3/8 IN	500	FT	440	SACK
CASING	PI	9 5/8 IN	4,090	FT	2,300	SACK
CASING	PI	5 1/2 IN	12,962	FT	1,920	SACK

Tubing	Data Source	Size	Mixed String	Base Depth	
TUBING	PI	2 7/8 IN		7,964	FT

Drilling Journal

Lease Acres

Lease Acres: 2160.3 ACRE
201

Narrative

Narrative	Data Source	Date	Remark
1	PI	Mar 13, 2012	WOPT

Formations

Form Code	Top Source	Interpreter	Form Name	Top Depth	Top TVD	Base Depth	Base TVD	Source	Lithology	Age Code
454RSLR	PI		RUSTLER	555				LOG		454
454SALT	PI		SALT	700				LOG		454
453DLWR	PI		DELAWARE	4,570				LOG		453
452BSPG	PI		BONE SPRING	6,120				LOG		452

Logs

Log	Data Source	Type	Top Depth	Base Depth	Logging Co.	BHT	since circ.
1	PI	DIRS					

Dwights Energydata Narrative

Accumulated through 1997

Horizontal

Lateral Hole:

Data Source: PI
Contractor:
Horizontal Length: 4,067 FT
Feet in Pay:
Formation: 452BSPG BONE SPRING
Total Horizontal Displacement: 4,476 FT
Method:
Max Build-up rate: /
Max angle of Deviation: 91.1 ANG
Remark: HORIZONTAL DATA CALCULATED FROM DIR SURVEY DATA AND IH BTM LL AND IP TEST FORMATION

Directional Survey

Data Source: PI
Run: 1
Depth: 12,962
Date: Nov 02, 2011
Zone Code: 3001
Survey Type: DIR SURVEY
Company: BAKR HUGHS
Type: MWD
Calculation Method: MC
Map Projection: U
North Ref: G

Boreholes

Run	Data Source	Measured Depth	TVD	Drift Angle	Drift Azimuth	Rectangular N/S	Coordinates E/W	Overlap/ Proj/End
1	PI	0	0	0.000000	344.620000	0.00000 N	0.00 E	
1	PI	21	21	0.000000	344.620000	0.00000 N	0.00 E	
1	PI	100	100	1.090000	344.620000	0.72000 N	0.20 W	
1	PI	200	199	1.500000	346.560000	2.91000 N	0.76 W	
1	PI	300	299	1.200000	323.780000	5.03000 N	1.68 W	
1	PI	400	399	1.010000	324.820000	6.60000 N	2.81 W	
1	PI	500	499	0.930000	287.940000	7.57000 N	4.09 W	
1	PI	600	599	0.970000	275.500000	7.90000 N	5.70 W	
1	PI	701	700	1.200000	287.540000	8.30000 N	7.56 W	
1	PI	796	795	1.300000	267.720000	8.56000 N	9.58 W	
1	PI	891	890	0.600000	329.350000	8.94000 N	10.91 W	

Run	Data Source	Measured Depth	TVD	Drift Angle	Drift Azimuth	Rectangular N/S	Coordinates E/W	Overlap/ Proj/End
1	PI	986	985	0.890000	266.530000	9.32000 N	11.90 W	
1	PI	1,081	1,080	0.580000	347.800000	9.75000 N	12.74 W	
1	PI	1,176	1,175	0.380000	239.070000	10.06000 N	13.11 W	
1	PI	1,270	1,270	0.610000	319.020000	10.28000 N	13.71 W	
1	PI	1,365	1,365	1.820000	81.570000	10.88000 N	12.55 W	
1	PI	1,460	1,460	1.600000	288.760000	11.53000 N	12.31 W	
1	PI	1,555	1,554	0.860000	37.430000	12.52000 N	13.14 W	
1	PI	1,650	1,649	0.320000	332.290000	13.32000 N	12.83 W	
1	PI	1,745	1,744	1.230000	50.350000	14.20000 N	12.17 W	
1	PI	1,840	1,839	0.990000	49.830000	15.38000 N	10.76 W	
1	PI	1,935	1,934	0.870000	44.610000	16.42000 N	9.62 W	
1	PI	2,030	2,029	0.640000	39.770000	17.34000 N	8.78 W	
1	PI	2,124	2,124	0.310000	9.150000	18.00000 N	8.40 W	
1	PI	2,219	2,219	0.280000	283.580000	18.31000 N	8.58 W	
1	PI	2,314	2,313	0.460000	267.430000	18.35000 N	9.19 W	
1	PI	2,409	2,408	0.680000	268.240000	18.31000 N	10.13 W	
1	PI	2,504	2,503	0.500000	274.460000	18.33000 N	11.11 W	
1	PI	2,599	2,598	0.220000	283.440000	18.40000 N	11.70 W	
1	PI	2,694	2,693	0.180000	287.120000	18.49000 N	12.02 W	
1	PI	2,789	2,788	0.130000	291.370000	18.57000 N	12.26 W	
1	PI	2,884	2,883	0.080000	317.710000	18.66000 N	12.40 W	
1	PI	2,978	2,978	0.060000	14.540000	18.76000 N	12.44 W	
1	PI	3,073	3,073	0.030000	143.090000	18.79000 N	12.41 W	
1	PI	3,168	3,167	0.070000	206.220000	18.71000 N	12.42 W	
1	PI	3,263	3,262	0.140000	238.360000	18.60000 N	12.54 W	
1	PI	3,358	3,357	0.140000	240.100000	18.48000 N	12.74 W	
1	PI	3,453	3,452	0.190000	245.860000	18.36000 N	12.99 W	
1	PI	3,548	3,547	0.300000	231.650000	18.14000 N	13.33 W	
1	PI	3,643	3,642	0.250000	239.300000	17.88000 N	13.70 W	
1	PI	3,738	3,737	0.290000	254.420000	17.71000 N	14.11 W	
1	PI	3,832	3,832	0.280000	286.330000	17.71000 N	14.56 W	
1	PI	3,927	3,927	0.230000	330.960000	17.94000 N	14.88 W	
1	PI	4,022	4,021	0.500000	321.230000	18.43000 N	15.23 W	
1	PI	4,117	4,116	0.510000	322.700000	19.09000 N	15.74 W	
1	PI	4,212	4,211	0.440000	311.020000	19.67000 N	16.27 W	
1	PI	4,307	4,306	0.320000	297.270000	20.03000 N	16.78 W	
1	PI	4,402	4,401	0.300000	272.100000	20.16000 N	17.27 W	
1	PI	4,497	4,496	0.380000	257.320000	20.10000 N	17.82 W	
1	PI	4,592	4,591	0.430000	224.270000	19.78000 N	18.38 W	
1	PI	4,686	4,686	0.620000	197.920000	19.03000 N	18.79 W	
1	PI	4,781	4,780	0.570000	198.810000	18.10000 N	19.10 W	
1	PI	4,876	4,875	0.510000	200.840000	17.25000 N	19.40 W	
1	PI	4,971	4,970	0.400000	199.060000	16.55000 N	19.66 W	
1	PI	5,066	5,065	0.250000	201.690000	16.04000 N	19.84 W	
1	PI	5,161	5,160	0.200000	218.940000	15.72000 N	20.02 W	
1	PI	5,256	5,255	0.160000	224.410000	15.50000 N	20.22 W	
1	PI	5,351	5,350	0.140000	216.650000	15.31000 N	20.38 W	
1	PI	5,446	5,445	0.090000	203.550000	15.15000 N	20.48 W	
1	PI	5,540	5,540	0.040000	186.350000	15.05000 N	20.51 W	
1	PI	5,635	5,634	0.090000	77.810000	15.03000 N	20.44 W	
1	PI	5,730	5,729	0.220000	51.730000	15.16000 N	20.23 W	
1	PI	5,825	5,824	0.330000	14.700000	15.54000 N	20.02 W	
1	PI	5,920	5,919	0.350000	16.960000	16.08000 N	19.86 W	

Run	Data Source	Measured Depth	TVD	Drift Angle	Drift Azimuth	Rectangular N/S	Coordinates E/W	Overlap/ Proj/End
1	PI	6,015	6,014	0.340000	6.540000	16.63000 N	19.75 W	
1	PI	6,110	6,109	0.310000	351.640000	17.17000 N	19.75 W	
1	PI	6,205	6,204	0.380000	352.790000	17.73000 N	19.83 W	
1	PI	6,300	6,299	0.480000	335.120000	18.41000 N	20.03 W	
1	PI	6,394	6,394	0.490000	314.940000	19.05000 N	20.49 W	
1	PI	6,489	6,488	0.530000	297.780000	19.54000 N	21.16 W	
1	PI	6,584	6,583	0.690000	290.620000	19.95000 N	22.09 W	
1	PI	6,679	6,678	0.440000	297.950000	20.32000 N	22.94 W	
1	PI	6,774	6,773	0.480000	267.810000	20.48000 N	23.66 W	
1	PI	6,869	6,868	0.740000	265.920000	20.42000 N	24.67 W	
1	PI	6,964	6,963	0.530000	260.520000	20.30000 N	25.72 W	
1	PI	7,059	7,058	0.380000	286.700000	20.32000 N	26.45 W	
1	PI	7,154	7,153	0.440000	335.490000	20.74000 N	26.90 W	
1	PI	7,248	7,248	0.730000	13.090000	21.66000 N	26.92 W	
1	PI	7,343	7,343	0.470000	18.390000	22.62000 N	26.66 W	
1	PI	7,438	7,437	0.360000	140.700000	22.76000 N	26.35 W	
1	PI	7,533	7,532	0.480000	88.730000	22.54000 N	25.76 W	
1	PI	7,628	7,627	1.050000	69.040000	22.86000 N	24.55 W	
1	PI	7,723	7,722	1.360000	61.020000	23.71000 N	22.75 W	
1	PI	7,818	7,817	1.270000	56.840000	24.84000 N	20.89 W	
1	PI	7,913	7,912	0.950000	59.370000	25.81000 N	19.33 W	
1	PI	8,008	8,007	0.970000	57.840000	26.64000 N	17.97 W	
1	PI	8,102	8,102	0.910000	58.760000	27.46000 N	16.65 W	
1	PI	8,135	8,134	0.800000	49.400000	27.74000 N	16.26 W	
1	PI	8,167	8,166	0.900000	101.900000	27.83000 N	15.84 W	
1	PI	8,199	8,198	3.700000	160.400000	26.81000 N	15.25 W	
1	PI	8,230	8,229	7.100000	168.800000	23.99000 N	14.54 W	
1	PI	8,262	8,260	10.600000	167.500000	19.17000 N	13.52 W	
1	PI	8,294	8,292	12.900000	169.600000	12.78000 N	12.24 W	
1	PI	8,325	8,322	16.100000	168.100000	5.17000 N	10.72 W	
1	PI	8,357	8,352	19.500000	170.800000	4.44000 S	8.96 W	
1	PI	8,389	8,382	21.900000	171.900000	15.63000 S	7.26 W	
1	PI	8,420	8,411	25.500000	173.000000	27.98000 S	5.63 W	
1	PI	8,452	8,439	29.100000	173.500000	42.55000 S	3.91 W	
1	PI	8,484	8,466	32.500000	173.900000	58.83000 S	2.12 W	
1	PI	8,515	8,492	36.600000	173.500000	76.31000 S	0.18 W	
1	PI	8,547	8,517	40.700000	172.800000	96.14000 S	2.20 E	
1	PI	8,579	8,541	44.600000	172.500000	117.64000 S	4.98 E	
1	PI	8,610	8,562	48.000000	174.900000	139.91000 S	7.43 E	
1	PI	8,642	8,583	51.100000	175.800000	164.18000 S	9.39 E	
1	PI	8,673	8,601	55.300000	176.800000	188.95000 S	10.99 E	
1	PI	8,705	8,619	59.300000	176.600000	215.82000 S	12.54 E	
1	PI	8,737	8,634	63.500000	176.700000	243.87000 S	14.18 E	
1	PI	8,769	8,647	67.200000	175.900000	272.88000 S	16.06 E	
1	PI	8,800	8,658	71.100000	175.200000	301.76000 S	18.31 E	
1	PI	8,832	8,668	75.000000	175.300000	332.26000 S	20.85 E	
1	PI	8,864	8,675	79.100000	175.200000	363.33000 S	23.43 E	
1	PI	8,895	8,679	83.400000	175.700000	393.87000 S	25.86 E	
1	PI	8,927	8,682	87.300000	176.300000	425.68000 S	28.08 E	
1	PI	8,959	8,683	87.900000	177.800000	457.61000 S	29.73 E	
1	PI	8,990	8,685	87.800000	178.200000	488.57000 S	30.81 E	
1	PI	9,022	8,686	88.800000	178.100000	520.53000 S	31.84 E	
1	PI	9,054	8,686	90.100000	178.100000	552.51000 S	32.90 E	

Run	Data Source	Measured Depth	TVD	Drift Angle	Drift Azimuth	Rectangular N/S	Coordinates E/W	Overlap/ Proj/End
1	PI	9,085	8,686	90.500000	178.000000	583.50000 S	33.96 E	
1	PI	9,149	8,685	90.800000	177.600000	647.44000 S	36.41 E	
1	PI	9,244	8,684	90.000000	177.900000	742.37000 S	40.14 E	
1	PI	9,339	8,684	90.100000	176.700000	837.26000 S	44.62 E	
1	PI	9,434	8,684	90.300000	175.700000	932.05000 S	50.91 E	
1	PI	9,529	8,684	90.000000	177.600000	1026.88000 S	56.46 E	
1	PI	9,624	8,683	90.400000	176.900000	1121.77000 S	61.02 E	
1	PI	9,719	8,683	90.300000	178.500000	1216.69000 S	64.83 E	
1	PI	9,814	8,683	89.800000	178.200000	1311.65000 S	67.57 E	
1	PI	9,909	8,682	90.700000	181.100000	1406.64000 S	68.15 E	
1	PI	10,004	8,681	90.800000	180.700000	1501.62000 S	66.66 E	
1	PI	10,099	8,681	89.400000	181.100000	1596.60000 S	65.16 E	
1	PI	10,194	8,681	89.800000	181.300000	1691.58000 S	63.18 E	
1	PI	10,288	8,682	90.000000	181.000000	1785.56000 S	61.29 E	
1	PI	10,383	8,682	90.100000	180.000000	1880.56000 S	60.46 E	
1	PI	10,478	8,681	90.900000	180.700000	1975.55000 S	59.88 E	
1	PI	10,573	8,681	89.300000	180.300000	2070.54000 S	59.05 E	
1	PI	10,668	8,681	89.700000	180.400000	2165.54000 S	58.47 E	
1	PI	10,763	8,682	90.000000	179.700000	2260.53000 S	58.39 E	
1	PI	10,857	8,681	90.600000	179.300000	2354.53000 S	59.21 E	
1	PI	10,952	8,680	91.100000	179.100000	2449.51000 S	60.53 E	
1	PI	11,047	8,679	89.200000	178.800000	2544.49000 S	62.27 E	
1	PI	11,142	8,683	86.800000	178.900000	2639.40000 S	64.18 E	
1	PI	11,237	8,688	87.300000	178.700000	2734.26000 S	66.17 E	
1	PI	11,332	8,692	87.600000	178.000000	2829.12000 S	68.90 E	
1	PI	11,426	8,695	88.100000	178.200000	2923.01000 S	72.01 E	
1	PI	11,521	8,698	88.200000	177.600000	3017.89000 S	75.49 E	
1	PI	11,616	8,701	88.700000	177.500000	3112.77000 S	79.55 E	
1	PI	11,711	8,703	89.100000	177.200000	3207.65000 S	83.94 E	
1	PI	11,805	8,704	89.700000	177.000000	3301.52000 S	88.70 E	
1	PI	11,900	8,705	88.800000	177.900000	3396.42000 S	92.93 E	
1	PI	11,995	8,708	87.200000	178.000000	3491.30000 S	96.32 E	
1	PI	12,090	8,713	87.300000	177.400000	3586.11000 S	100.13 E	
1	PI	12,185	8,717	87.400000	177.100000	3680.90000 S	104.68 E	
1	PI	12,280	8,720	89.000000	177.300000	3775.74000 S	109.32 E	
1	PI	12,375	8,721	89.800000	177.000000	3870.61000 S	114.05 E	
1	PI	12,470	8,721	90.200000	177.000000	3965.48000 S	119.02 E	
1	PI	12,564	8,723	88.200000	177.900000	4059.38000 S	123.20 E	
1	PI	12,659	8,725	88.600000	177.400000	4154.26000 S	127.09 E	
1	PI	12,754	8,727	89.500000	177.800000	4249.16000 S	131.07 E	
1	PI	12,849	8,728	89.700000	176.700000	4344.05000 S	135.63 E	
1	PI	12,912	8,728	90.000000	176.200000	4406.93000 S	139.53 E	
1	PI	12,962	8,728	90.000000	176.200000	4456.82000 S	142.84 E	PE

Operator Address

Data Source: PI
Street or PO Box: 600 NORTH MARIENFELD STREET
STE 600
City: MIDLAND
State, Zip: TX, 79701
Country: USA

Phone:	4325717800	**Fax:**	
E-Mail:			
Agent Name:		**Agent Code:**	
Agent Remark:	KRUEGER NATALIE;REG ANALYST;;;;;432;571;7800		

Scout Ticket

Thu Jan 29, 2015

30015379100000

General Information

3H CRESCENT HALE `1` FEDERAL COM

Data Source:	PI		
API:	30015379100000	**IC:**	
State:	NEW MEXICO	**County:**	EDDY
Field:	HACKBERRY NORTH	**Operator:**	CIMAREX ENERGY OF CO
Current Status:		**Current Operator:**	CIMAREX ENERGY CO OF COLORADO
Initial Class:	~~PILOT HOLE~~(P)	**Final Well Class:**	( )
Status:	AB-LOC	**Target Objective:**	PILOT
Permit:	on May 25, 2010	**Hole Direction:**	VERTICAL
First Report Date:	Jun 21, 2010	**Abandonment Date:**	
Projected TD:	8,950 FT	**Projected Formation:**	BONE SPRING
Geologic Province:	PERMIAN BASIN	**Formation at TD:**	
Play Name:		**Play Type:**	

Location

Section, Twp., Range:	1 19S 30E			**Data Source:**	PI
Spot Code:					
Footage NS EW Origin:	1980 FSL 660 FWL CONGRESS SECTION				
Principal Meridian:	NEW MEXICO				
Lat/Long:	+32.6874547 -103.9315006	**Lat/Long Source:**	IH	**Datum:**	NAD27

Location Narrative

Data Source	Type	Remark
PI	SCALED_FOOT	REGULATORY
PI	IRREG_SECT	N

Dates and Depths

Data Source:	PI		
Spud:		**Spud Date Code:**	
TD:		**TD Date:**	
TVD:		**PlugBack Depth:**	
Formation Code TD:		**Formation Name TD:**	
Ref. Elevation:		**KB. Elevation:**	
Ground Elevation:	3,525 FT GR	**LTD:**	
Contractor:			
Completed:		**Final Drilling:**	
Rig Release Date:		**Rig #:**	
Tool:			

Drilling Journal

Lease Acres

Lease Acres: 2160.3 ACRE
201

Dwights Energydata Narrative

Accumulated through 1997

Operator Address

Data Source: PI

Street or PO Box: 600 NORTH MARIENFELD STREET

	STE 600		
City:	MIDLAND		
State, Zip:	TX, 79701		
Country:	USA		
Phone:	4325717800	**Fax:**	
E-Mail:			
Agent Name:		**Agent Code:**	
Agent Remark:	FARRIS ZENO;MGR OPER ADMIN;;;;;432;571;7800		

Scout Ticket

Thu Jan 29, 2015

30015379100100

General Information

3H CRESCENT HALE `1` FEDERAL COM

Data Source:	PI		
API:	30015379100100	**IC:**	
State:	NEW MEXICO	**County:**	EDDY
Field:	HACKBERRY NORTH	**Operator:**	CIMAREX ENERGY OF CO
Current Status:		**Current Operator:**	CIMAREX ENERGY CO OF COLORADO
Initial Class:	DEVELOPMENT REDRILL (D R)	**Final Well Class:**	( )
Status:	CANCEL	**Target Objective:**	OIL
Permit:	on May 25, 2010	**Hole Direction:**	HORIZONTAL
First Report Date:	Jun 28, 2010	**Abandonment Date:**	
Projected TD:	11,602 FT	**Projected Formation:**	BONE SPRING
Geologic Province:	PERMIAN BASIN	**Formation at TD:**	
Play Name:		**Play Type:**	

Location

Section, Twp., Range:	1 19S 30E			**Data Source:**	PI
Spot Code:					
Footage NS EW Origin:	1980 FSL 660 FWL CONGRESS SECTION				
Principal Meridian:	NEW MEXICO				
Lat/Long:	+32.6874547 -103.9315006	**Lat/Long Source:**	IH	**Datum:**	NAD27
PBH L/L:	+32.6874306 -103.9217694	**Lat/Long Source:**	OP	**Datum:**	NAD27
PBHL Footage NS EW Origin:	1980 FSL 1650 FEL CONGRESS SECTION			**Data Source:**	PI
PBHL Section:	1 19S 30E	**Spot:**			
PBHL Coordinates:	From Surface: 11,602 FT	TVD: 8,730 FT		**Data Source:**	PI
Polar:	Offset:	Azimuth:			
Coordinate:	Y Offset:	X Offset:			

Location Narrative

Data Source	Type	Remark
PI	SCALED_FOOT	REGULATORY
PI	IRREG_SECT	N

Dates and Depths

Data Source:	PI		
Spud:		**Spud Date Code:**	
TD:		**TD Date:**	
TVD:		**PlugBack Depth:**	
Formation Code TD:		**Formation Name TD:**	
Ref. Elevation:		**KB. Elevation:**	
Ground Elevation:	3,525 FT GR	**LTD:**	
Contractor:			
Completed:		**Final Drilling:**	
Rig Release Date:		**Rig #:**	
Tool:			

Drilling Journal

Lease Acres

Lease Acres: 280.4 ACRE

Dwights Energydata Narrative

Accumulated through 1997

Operator Address

Data Source: PI
Street or PO Box: 600 NORTH MARIENFELD STREET
STE 600
City: MIDLAND
State, Zip: TX, 79701
Country: USA
Phone: 4325717800 **Fax:**
E-Mail:
Agent Name: **Agent Code:**
Agent Remark: FARRIS ZENO;MGR OPER ADMIN;;;;;432;571;7800

Chi Operating, Inc. is the leaseholder of AOR

Notices were sent to:

Intrepid Potash Inc.
707 17th Street
Ste. 4200
Denver, Co. 88202

BLM
620 E. Greene
Carlsbad, NM 88220

Scout Ticket

Thu Jan 29, 2015

30015376770000

General Information

4H CRESCENT HALE 1 FEDERAL COM

Data Source:	PI		
API:	30015376770000	**IC:**	
State:	NEW MEXICO	**County:**	EDDY
Field:	HACKBERRY NORTH	**Operator:**	CIMAREX ENERGY OF CO
Current Status:		**Current Operator:**	CIMAREX ENERGY CO OF COLORADO
Initial Class:	PILOT HOLE (P)	**Final Well Class:**	( )
Status:	AB-LOC	**Target Objective:**	PILOT
Permit:	on Mar 02, 2010	**Hole Direction:**	VERTICAL
First Report Date:	Mar 29, 2010	**Abandonment Date:**	
Projected TD:	8,950 FT	**Projected Formation:**	BONE SPRING
Geologic Province:	PERMIAN BASIN	**Formation at TD:**	
Play Name:		**Play Type:**	

Location

Section, Twp., Range:	1 19S 30E			**Data Source:**	PI
Spot Code:					
Footage NS EW Origin:	990 FSL 525 FWL CONGRESS SECTION				
Principal Meridian:	NEW MEXICO				
Lat/Long:	+32.6847356 -103.9319366	**Lat/Long Source:**	IH	**Datum:**	NAD27

Location Narrative

Data Source	Type	Remark
PI	SCALED_FOOT	REGULATORY
PI	IRREG_SECT	N

Dates and Depths

Data Source:	PI		
Spud:		**Spud Date Code:**	
TD:		**TD Date:**	
TVD:		**PlugBack Depth:**	
Formation Code TD:		**Formation Name TD:**	
Ref. Elevation:		**KB. Elevation:**	
Ground Elevation:	3,529 FT GR	**LTD:**	
Contractor:			
Completed:		**Final Drilling:**	
Rig Release Date:		**Rig #:**	
Tool:			

Drilling Journal

Lease Acres

Lease Acres: 2160.3 ACRE
201

Dwights Energydata Narrative

Accumulated through 1997

Operator Address

Data Source: PI

Street or PO Box: 600 NORTH MARIENFELD STREET

	STE 600		
City:	MIDLAND		
State, Zip:	TX, 79701		
Country:	USA		
Phone:	4325717800	**Fax:**	
E-Mail:			
Agent Name:		**Agent Code:**	
Agent Remark:	FARRIS ZENO;MGR OPER ADMIN;;;;;432;571;7800		

Scout Ticket

Thu Jan 29, 2015

30015384940000

General Information

1 CRESCENT HALE `11` FEDERAL

Data Source:	PI		
API:	30015384940000	**IC:**	
State:	NEW MEXICO	**County:**	EDDY
Field:	BENSON	**Operator:**	CIMAREX ENERGY OF CO
Current Status:	A	**Current Operator:**	CIMAREX ENERGY CO OF COLORADO
Initial Class:	DEVELOPMENT WELL (D)	**Final Well Class:**	DEVELOPMENT WELL-OIL (DO)
Status:	OIL	**Target Objective:**	OIL
Permit:	on Feb 01, 2011	**Hole Direction:**	HORIZONTAL
First Report Date:	Mar 04, 2011	**Abandonment Date:**	
Projected TD:	9,100 FT	**Projected Formation:**	BONE SPRING
Geologic Province:	PERMIAN BASIN	**Formation at TD:**	BONE SPRING
Play Name:	BONE SPRING/WOLFBONE - DELAWARE BASIN	**Play Type:**	TIGHT OIL (L)

IP Summary:

Oil: 122 BPD **Gas:** 32 MCFD **Water:** 22 BBL **Condensate:** **Top Form:** BONE SPRING

Location

Section, Twp., Range:	11 19S 30E			**Data Source:**	PI
Spot Code:	NE NE				
Footage NS EW Origin:	345 FNL 545 FEL CONGRESS SECTION				
Principal Meridian:	NEW MEXICO				
Lat/Long:	+32.6810786 -103.9354091	**Lat/Long Source:**	IH	**Datum:**	NAD27
BH L/L:	+32.6684337 -103.9358940	**Lat/Long Source:**	IH	**Datum:**	NAD27
PBHL Footage NS EW Origin:	330 FSL 660 FEL CONGRESS SECTION			**Data Source:**	PI
PBHL Section:	11 19S 30E	**Spot:**		SE SE	
PBHL Coordinates:	From Surface: 13,194 FT	TVD: 8,730 FT		**Data Source:**	PI
Polar:	Offset:	Azimuth:			
Coordinate:	Y Offset:	X Offset:			
ABHL Footage NS EW Origin:	331 FSL 644 FEL CONGRESS SECTION			**Data Source:**	PI
ABHL Section:	11 19S 30E	**Spot:**		SE SE	
ABHL Coordinates:	From Surface: 13,018 FT	TVD: 8,676 FT		**Data Source:**	PI
Polar:	Offset:	Azimuth:			
Coordinate:	Y Offset: 4,600 FT S	X Offset: 149 FT W			

Location Narrative

Data Source	Type	Remark
PI	SCALED_FOOT	REGULATORY
PI	IRREG_SECT	N

Dates and Depths

Data Source:	PI		
Spud:	Mar 03, 2011	**Spud Date Code:**	A
TD:	13,018 FT	**TD Date:**	Apr 02, 2011
TVD:	8,676 FT	**PlugBack Depth:**	12,937 FT
Formation Code TD:	452BSPG	**Formation Name TD:**	BONE SPRING
Ref. Elevation:	3,497 FT KB	**KB. Elevation:**	3,497 FT
Ground Elevation:	3,479 FT GR	**LTD:**	8,316 FT
Contractor:	NOT REPORTED		
Completed:	Jun 13, 2011	**Final Drilling:**	Apr 02, 2011
Rig Release Date:	Apr 04, 2011	**Rig #:**	

Tool: ROTARY

Initial Potential Tests

IP: 001 **Data Source: PI**

Top Formation Name:	BONE SPRING	**Top Formation Code:**	452BSPG
Base Formation Name:	BONE SPRING	**Base Formation Code:**	452BSPG
Oil:	122 BPD	**Condensate:**	
Gas:	32 MCFD	**Water:**	22 BBL
Interval:	8,555 - 12,927 GROSS	**Method:**	PUMPING
Duration of Test:	Hours	**Choke:**	
Oil Gravity:	40.2 API	**GOR:**	262 CFB
Cond Gravity:		**Cond Ratio:**	

Oil Analysis

Test	Data Source	GOR	Interval	Top Form	Name
001	PI	262	8555 - 12927	452BSPG	BONE SPRING

Gas Analysis

Test	Data Source	Gravity	Temp	Hydrogen Sulfide
001	PI	1.38 API_DEG		

Perforations

Test	Data Source	Interval	Count	Type	Status	Shots/ Ft	Prod Method	Top Form Code	Top Form Name
001	PI	8555 - 9247				5 FT	PERF	452BSPG	BONE SPRING
001	PI	9475 - 10167				5 FT	PERF	452BSPG	BONE SPRING
001	PI	10395 - 11087				5 FT	PERF	452BSPG	BONE SPRING
001	PI	11315 - 12007				5 FT	PERF	452BSPG	BONE SPRING
001	PI	12235 - 12927				5 FT	PERF	452BSPG	BONE SPRING

Treatments

Treatment: 001

Interval:	8,555 - 9,247				
Fluid:	183,025 GAL	FRAC		**Type:**	X-LINKGEL
Additive:	XLNK				
Prop Agent:	SANDRCSD	**Amount:**	242,198 LB		
Form Break Down Pressure:					
Average Injection Rate:		**Instant Shut-in Pressure:**			
Stages:	**Remarks:**	DETAILS: 20# BORATE XL, SLC SD			

Treatment: 001

Interval:	9,475 - 10,167				
Fluid:	188,380 GAL	FRAC		**Type:**	X-LINKGEL
Additive:	XLNK				
Prop Agent:	SANDRCSD	**Amount:**	243,426 LB		
Form Break Down Pressure:					
Average Injection Rate:		**Instant Shut-in Pressure:**			
Stages:	**Remarks:**	DETAILS: 20# BORATE XL, SLC SD			

Treatment: 001

Interval:	10,395 - 11,087				
Fluid:	178,953 GAL	FRAC		**Type:**	X-LINKGEL
Additive:	XLNK				
Prop Agent:	SANDRCSD	**Amount:**	241,312 LB		
Form Break Down Pressure:					
Average Injection Rate:		**Instant Shut-in Pressure:**			

Stages:	**Remarks:**	DETAILS: 20# BORATE XL, SLC SD			
Treatment: 001					
Interval:	11,315 - 12,007				
Fluid:	190,050 GAL	FRAC		**Type:**	X-LINKGEL
Additive:	XLNK				
Prop Agent:	SANDRCSD	**Amount:**	234,575 LB		
Form Break Down Pressure:					
Average Injection Rate:		**Instant Shut-in Pressure:**			
Stages:	**Remarks:**	DETAILS: 20# BORATE XL, SLC SD			
Treatment: 001					
Interval:	12,235 - 12,927				
Fluid:	231,098 GAL	FRAC		**Type:**	X-LINKGEL
Additive:	XLNK				
Prop Agent:	SANDRCSD	**Amount:**	239,564 LB		
Form Break Down Pressure:					
Average Injection Rate:		**Instant Shut-in Pressure:**			
Stages:	**Remarks:**	DETAILS: 20# BORATE XL, SLC SD			

Casing, Liner, Tubing

Casing	Data Source	Size	Base Depth		Cement	
CASING	PI	13 3/8 IN	533	FT	520	SACK
CASING	PI	9 5/8 IN	4,170	FT	1,500	SACK
CASING	PI	5 1/2 IN	13,015	FT	1,920	SACK

Tubing	Data Source	Size	Mixed String	Base Depth	
TUBING	PI	2 7/8 IN		8,236	FT

Drilling Journal

Lease Acres

Lease Acres: 2160.3 ACRE
201

Drilling Remark

Drilling Remark	Data Source	Date	Remark
1	PI	Oct 21, 2011	BOREHOLE TYPE CHGD FROM VERTICAL

Formations

Form Code	Top Source	Interpreter	Form Name	Top Depth	Top TVD	Base Depth	Base TVD	Source	Lithology	Age Code
453YTES	PI		YATES	2,256				LOG		453
453SVRV	PI		SEVEN RIVERS	2,470				LOG		453
453QUEN	PI		QUEEN	3,082				LOG		453
453DLWR	PI		DELAWARE	3,950				LOG		453
452BSPG	PI		BONE SPRING	7,675				LOG		452

Logs

Log	Data Source	Type	Top Depth	Base Depth	Logging Co.	BHT	since circ.
1	PI	DSN	190	8,316	122473	117 FAR	8,316
2	PI	SDL	190	8,316	122473	117 FAR	8,316
3	PI	SGR	190	8,316	122473	117 FAR	8,316
4	PI	DLL	4,168	8,316	122473	117 FAR	8,316
5	PI	MGRD	4,168	8,316	122473	117 FAR	8,316

Dwights Energydata Narrative

Accumulated through 1997

Horizontal

Lateral Hole:

Data Source: PI
Horizontal Length: 4,119 FT
Formation: 452BSPG BONE SPRING
Total Horizontal Displacement: 4,621 FT
Max Build-up rate: /
Max angle of Deviation: 91.3 ANG

Contractor:
Feet in Pay:
Method:

Kickoff Point

KOP **MD:** 8,310 FT **TVD:**

Directional Survey

Data Source:	PI		
Run:	1	**Company:**	BAKR HUGHS
Depth:	13,018	**Type:**	U
Date:	Apr 04, 2011	**Calculation Method:**	MC
Zone Code:	3001	**Map Projection:**	U
Survey Type:	DIR SURVEY	**North Ref:**	G

Boreholes

Run	Data Source	Measured Depth	TVD	Drift Angle	Drift Azimuth	Rectangular N/S	Coordinates E/W	Overlap/ Proj/End
1	PI	0	0	0.000000	94.950000	0.00000 N	0.00 E	
1	PI	18	18	0.000000	94.950000	0.00000 N	0.00 E	
1	PI	116	115	0.660000	94.950000	0.05000 S	0.56 E	
1	PI	175	174	0.640000	97.640000	0.12000 S	1.23 E	
1	PI	236	236	0.640000	102.300000	0.24000 S	1.90 E	
1	PI	298	297	0.560000	105.620000	0.39000 S	2.53 E	
1	PI	358	358	0.500000	108.990000	0.56000 S	3.06 E	
1	PI	417	417	0.430000	112.110000	0.73000 S	3.51 E	
1	PI	479	478	0.370000	114.070000	0.90000 S	3.91 E	
1	PI	539	538	0.300000	113.300000	1.04000 S	4.23 E	
1	PI	600	599	0.320000	115.450000	1.17000 S	4.53 E	
1	PI	663	663	0.400000	119.630000	1.36000 S	4.88 E	
1	PI	727	726	0.400000	117.610000	1.57000 S	5.27 E	
1	PI	790	790	0.370000	113.340000	1.75000 S	5.65 E	
1	PI	854	853	0.360000	102.400000	1.88000 S	6.04 E	
1	PI	917	917	0.280000	86.850000	1.91000 S	6.39 E	
1	PI	981	980	0.270000	82.330000	1.88000 S	6.69 E	
1	PI	1,045	1,044	0.250000	88.360000	1.86000 S	6.98 E	
1	PI	1,108	1,108	0.250000	85.060000	1.84000 S	7.26 E	
1	PI	1,172	1,171	0.260000	84.110000	1.82000 S	7.54 E	
1	PI	1,235	1,235	0.320000	81.540000	1.78000 S	7.86 E	
1	PI	1,299	1,298	0.410000	77.740000	1.70000 S	8.25 E	
1	PI	1,362	1,362	0.450000	72.840000	1.58000 S	8.72 E	
1	PI	1,426	1,425	0.440000	73.000000	1.44000 S	9.19 E	
1	PI	1,490	1,489	0.440000	68.320000	1.27000 S	9.65 E	
1	PI	1,553	1,553	0.510000	63.560000	1.06000 S	10.13 E	
1	PI	1,617	1,616	0.730000	55.900000	0.70000 S	10.72 E	
1	PI	1,680	1,680	0.870000	53.200000	0.19000 S	11.44 E	
1	PI	1,744	1,743	0.960000	51.460000	0.43000 N	12.24 E	
1	PI	1,808	1,807	1.010000	50.090000	1.12000 N	13.09 E	

Run	Data Source	Measured Depth	TVD	Drift Angle	Drift Azimuth	Rectangular N/S	Coordinates E/W	Overlap/ Proj/End
1	PI	1,871	1,871	0.970000	50.370000	1.83000 N	13.93 E	
1	PI	1,935	1,934	0.640000	45.490000	2.42000 N	14.60 E	
1	PI	1,998	1,998	0.460000	34.370000	2.88000 N	15.00 E	
1	PI	2,062	2,061	0.380000	23.190000	3.28000 N	15.22 E	
1	PI	2,125	2,125	0.360000	20.590000	3.66000 N	15.38 E	
1	PI	2,189	2,188	0.390000	16.450000	4.06000 N	15.51 E	
1	PI	2,253	2,252	0.370000	10.410000	4.47000 N	15.61 E	
1	PI	2,316	2,316	0.410000	7.470000	4.90000 N	15.67 E	
1	PI	2,380	2,379	0.330000	4.600000	5.30000 N	15.72 E	
1	PI	2,443	2,443	0.100000	346.710000	5.54000 N	15.72 E	
1	PI	2,507	2,506	0.060000	226.830000	5.57000 N	15.68 E	
1	PI	2,570	2,570	0.080000	210.520000	5.51000 N	15.64 E	
1	PI	2,634	2,634	0.090000	227.460000	5.44000 N	15.58 E	
1	PI	2,698	2,697	0.080000	273.180000	5.41000 N	15.50 E	
1	PI	2,761	2,761	0.090000	258.640000	5.40000 N	15.40 E	
1	PI	2,825	2,824	0.100000	268.520000	5.39000 N	15.30 E	
1	PI	2,888	2,888	0.100000	263.280000	5.38000 N	15.19 E	
1	PI	2,952	2,951	0.110000	273.430000	5.38000 N	15.07 E	
1	PI	3,016	3,015	0.100000	240.790000	5.35000 N	14.96 E	
1	PI	3,079	3,079	0.080000	248.100000	5.31000 N	14.87 E	
1	PI	3,143	3,142	0.210000	309.810000	5.37000 N	14.74 E	
1	PI	3,206	3,206	0.300000	322.900000	5.58000 N	14.55 E	
1	PI	3,270	3,269	0.280000	326.930000	5.84000 N	14.37 E	
1	PI	3,333	3,333	0.190000	3.740000	6.07000 N	14.29 E	
1	PI	3,397	3,396	0.250000	4.710000	6.32000 N	14.31 E	
1	PI	3,461	3,460	0.280000	7.470000	6.61000 N	14.34 E	
1	PI	3,524	3,524	0.180000	26.760000	6.85000 N	14.40 E	
1	PI	3,588	3,587	0.290000	23.690000	7.09000 N	14.51 E	
1	PI	3,651	3,651	0.290000	49.600000	7.34000 N	14.70 E	
1	PI	3,715	3,714	0.290000	58.930000	7.53000 N	14.96 E	
1	PI	3,778	3,778	0.290000	41.070000	7.73000 N	15.20 E	
1	PI	3,842	3,842	0.250000	34.200000	7.97000 N	15.39 E	
1	PI	3,906	3,905	0.290000	51.810000	8.18000 N	15.59 E	
1	PI	3,969	3,969	0.400000	32.890000	8.47000 N	15.84 E	
1	PI	4,033	4,032	0.280000	17.370000	8.80000 N	16.01 E	
1	PI	4,096	4,096	0.330000	351.970000	9.13000 N	16.03 E	
1	PI	4,160	4,159	0.320000	344.540000	9.48000 N	15.95 E	
1	PI	4,224	4,223	0.210000	338.220000	9.76000 N	15.86 E	
1	PI	4,287	4,286	0.110000	324.510000	9.92000 N	15.79 E	
1	PI	4,351	4,350	0.090000	186.430000	9.92000 N	15.74 E	
1	PI	4,414	4,414	0.260000	178.380000	9.73000 N	15.74 E	
1	PI	4,478	4,477	0.480000	183.320000	9.32000 N	15.73 E	
1	PI	4,542	4,541	0.660000	178.850000	8.69000 N	15.72 E	
1	PI	4,605	4,604	0.710000	174.970000	7.93000 N	15.76 E	
1	PI	4,669	4,668	0.780000	174.740000	7.10000 N	15.84 E	
1	PI	4,732	4,732	0.930000	174.970000	6.16000 N	15.92 E	
1	PI	4,796	4,795	1.030000	176.780000	5.07000 N	16.00 E	
1	PI	4,859	4,859	0.970000	175.300000	3.97000 N	16.08 E	
1	PI	4,923	4,922	0.930000	170.760000	2.92000 N	16.20 E	
1	PI	4,986	4,986	0.881000	169.350000	1.93000 N	16.38 E	
1	PI	5,050	5,049	0.830000	166.670000	1.00000 N	16.57 E	
1	PI	5,114	5,113	0.770000	159.450000	0.16000 N	16.83 E	
1	PI	5,177	5,177	0.720000	154.320000	0.60000 S	17.15 E	

Run	Data Source	Measured Depth	TVD	Drift Angle	Drift Azimuth	Rectangular N/S	Coordinates E/W	Overlap/ Proj/End
1	PI	5,241	5,240	0.630000	148.530000	1.26000 S	17.51 E	
1	PI	5,304	5,304	0.580000	140.430000	1.81000 S	17.90 E	
1	PI	5,368	5,367	0.570000	134.170000	2.28000 S	18.33 E	
1	PI	5,432	5,431	0.540000	118.810000	2.64000 S	18.82 E	
1	PI	5,495	5,495	0.540000	104.470000	2.86000 S	19.37 E	
1	PI	5,559	5,558	0.570000	92.750000	2.95000 S	19.98 E	
1	PI	5,622	5,622	0.620000	82.860000	2.92000 S	20.63 E	
1	PI	5,686	5,685	0.650000	78.420000	2.81000 S	21.33 E	
1	PI	5,750	5,749	0.680000	83.270000	2.69000 S	22.06 E	
1	PI	5,813	5,812	0.700000	83.720000	2.60000 S	22.82 E	
1	PI	5,877	5,876	0.760000	77.010000	2.47000 S	23.61 E	
1	PI	5,940	5,939	0.760000	69.660000	2.23000 S	24.42 E	
1	PI	6,004	6,003	0.720000	61.750000	1.89000 S	25.17 E	
1	PI	6,067	6,067	0.610000	53.420000	1.50000 S	25.79 E	
1	PI	6,131	6,130	0.500000	23.260000	1.04000 S	26.17 E	
1	PI	6,194	6,194	0.510000	6.460000	0.51000 S	26.31 E	
1	PI	6,258	6,257	0.570000	345.330000	0.08000 N	26.27 E	
1	PI	6,322	6,321	0.590000	327.300000	0.66000 N	26.01 E	
1	PI	6,385	6,385	0.730000	305.040000	1.17000 N	25.50 E	
1	PI	6,449	6,448	0.840000	297.670000	1.62000 N	24.76 E	
1	PI	6,512	6,512	0.890000	290.760000	2.01000 N	23.88 E	
1	PI	6,576	6,575	0.920000	284.390000	2.31000 N	22.93 E	
1	PI	6,640	6,639	0.890000	280.660000	2.53000 N	21.95 E	
1	PI	6,703	6,702	0.760000	270.890000	2.63000 N	21.04 E	
1	PI	6,767	6,766	0.700000	262.080000	2.58000 N	20.23 E	
1	PI	6,830	6,830	0.790000	248.260000	2.37000 N	19.44 E	
1	PI	6,894	6,893	0.970000	241.120000	1.94000 N	18.56 E	
1	PI	6,958	6,957	1.300000	239.270000	1.31000 N	17.47 E	
1	PI	7,021	7,020	1.620000	236.500000	0.45000 N	16.10 E	
1	PI	7,085	7,084	1.780000	234.100000	0.63000 S	14.55 E	
1	PI	7,148	7,147	2.000000	232.670000	1.88000 S	12.87 E	
1	PI	7,212	7,211	2.290000	230.160000	3.36000 S	11.01 E	
1	PI	7,275	7,274	2.650000	226.980000	5.18000 S	8.96 E	
1	PI	7,339	7,338	3.190000	224.220000	7.45000 S	6.65 E	
1	PI	7,403	7,401	3.640000	219.580000	10.28000 S	4.13 E	
1	PI	7,466	7,465	4.120000	217.880000	13.63000 S	1.45 E	
1	PI	7,530	7,528	4.470000	217.240000	17.41000 S	1.45 W	
1	PI	7,593	7,592	4.660000	215.100000	21.49000 S	4.44 W	
1	PI	7,657	7,655	4.780000	213.920000	25.81000 S	7.40 W	
1	PI	7,720	7,718	5.000000	211.910000	30.36000 S	10.35 W	
1	PI	7,784	7,782	4.720000	210.460000	34.96000 S	13.14 W	
1	PI	7,848	7,845	4.190000	209.060000	39.25000 S	15.59 W	
1	PI	7,911	7,908	3.850000	204.860000	43.21000 S	17.62 W	
1	PI	7,975	7,972	3.410000	202.780000	46.89000 S	19.25 W	
1	PI	8,038	8,035	3.010000	202.620000	50.18000 S	20.62 W	
1	PI	8,102	8,099	2.680000	195.760000	53.15000 S	21.67 W	
1	PI	8,166	8,162	2.680000	188.360000	56.05000 S	22.29 W	
1	PI	8,229	8,226	2.230000	183.260000	58.76000 S	22.57 W	
1	PI	8,294	8,291	1.900000	186.500000	61.09000 S	22.77 W	
1	PI	8,326	8,323	4.700000	175.000000	62.92000 S	22.71 W	
1	PI	8,357	8,353	11.700000	173.800000	67.31000 S	22.26 W	
1	PI	8,389	8,384	17.200000	175.700000	75.26000 S	21.56 W	
1	PI	8,421	8,414	24.200000	176.200000	86.54000 S	20.76 W	

Run	Data Source	Measured Depth	TVD	Drift Angle	Drift Azimuth	Rectangular N/S	Coordinates E/W	Overlap/ Proj/End
1	PI	8,453	8,443	30.200000	176.600000	101.13000 S	19.85 W	
1	PI	8,485	8,469	37.800000	176.800000	118.98000 S	18.83 W	
1	PI	8,517	8,494	43.300000	177.900000	139.76000 S	17.88 W	
1	PI	8,548	8,515	49.600000	180.600000	162.21000 S	17.61 W	
1	PI	8,580	8,535	54.600000	182.000000	187.44000 S	18.19 W	
1	PI	8,612	8,552	61.000000	183.300000	214.48000 S	19.45 W	
1	PI	8,644	8,566	66.300000	182.500000	243.11000 S	20.90 W	
1	PI	8,676	8,577	73.200000	181.700000	273.09000 S	21.99 W	
1	PI	8,708	8,586	75.200000	181.500000	303.87000 S	22.85 W	
1	PI	8,740	8,594	75.400000	181.300000	334.81000 S	23.61 W	
1	PI	8,772	8,602	75.900000	181.300000	365.80000 S	24.31 W	
1	PI	8,803	8,609	76.500000	181.000000	395.90000 S	24.92 W	
1	PI	8,835	8,616	77.700000	181.200000	427.09000 S	25.52 W	
1	PI	8,867	8,623	79.400000	180.500000	458.45000 S	25.98 W	
1	PI	8,899	8,628	80.800000	180.100000	489.97000 S	26.15 W	
1	PI	8,963	8,636	84.800000	179.200000	553.45000 S	25.76 W	
1	PI	9,026	8,639	88.900000	178.400000	616.33000 S	24.44 W	
1	PI	9,090	8,641	89.100000	178.800000	680.30000 S	22.88 W	
1	PI	9,154	8,642	89.200000	178.500000	744.27000 S	21.37 W	
1	PI	9,218	8,643	89.000000	178.000000	808.23000 S	19.41 W	
1	PI	9,281	8,644	88.400000	177.700000	871.17000 S	17.05 W	
1	PI	9,345	8,646	88.100000	177.600000	935.09000 S	14.43 W	
1	PI	9,409	8,648	87.900000	179.100000	999.02000 S	12.59 W	
1	PI	9,472	8,651	87.800000	179.100000	1061.97000 S	11.60 W	
1	PI	9,536	8,653	87.700000	179.500000	1125.92000 S	10.82 W	
1	PI	9,600	8,656	87.100000	180.300000	1189.85000 S	10.70 W	
1	PI	9,663	8,659	86.600000	180.600000	1252.75000 S	11.20 W	
1	PI	9,727	8,663	87.100000	180.900000	1316.65000 S	12.03 W	
1	PI	9,791	8,666	87.300000	181.000000	1380.56000 S	13.09 W	
1	PI	9,855	8,669	88.200000	180.800000	1444.51000 S	14.10 W	
1	PI	9,918	8,671	88.200000	181.300000	1507.46000 S	15.25 W	
1	PI	9,981	8,672	89.100000	181.000000	1570.43000 S	16.52 W	
1	PI	10,045	8,673	89.300000	180.700000	1634.42000 S	17.47 W	
1	PI	10,109	8,674	89.100000	181.000000	1698.41000 S	18.42 W	
1	PI	10,172	8,675	88.700000	180.800000	1761.39000 S	19.40 W	
1	PI	10,236	8,676	89.400000	181.200000	1825.37000 S	20.52 W	
1	PI	10,299	8,677	89.000000	181.300000	1888.35000 S	21.90 W	
1	PI	10,363	8,679	88.000000	181.900000	1952.30000 S	23.68 W	
1	PI	10,427	8,681	88.200000	181.100000	2016.24000 S	25.36 W	
1	PI	10,491	8,682	89.600000	182.700000	2080.19000 S	27.48 W	
1	PI	10,554	8,682	91.100000	183.200000	2143.10000 S	30.72 W	
1	PI	10,618	8,681	89.900000	182.000000	2207.03000 S	33.62 W	
1	PI	10,682	8,682	88.500000	180.800000	2271.01000 S	35.19 W	
1	PI	10,746	8,683	90.300000	182.800000	2334.96000 S	37.20 W	
1	PI	10,809	8,683	88.900000	180.700000	2397.93000 S	39.12 W	
1	PI	10,873	8,684	90.200000	181.900000	2461.91000 S	40.57 W	
1	PI	10,936	8,683	90.100000	181.800000	2524.87000 S	42.61 W	
1	PI	11,000	8,684	89.100000	181.200000	2588.85000 S	44.28 W	
1	PI	11,064	8,685	89.600000	180.500000	2652.84000 S	45.23 W	
1	PI	11,128	8,684	90.600000	180.600000	2716.83000 S	45.85 W	
1	PI	11,191	8,684	89.800000	179.700000	2779.83000 S	46.01 W	
1	PI	11,255	8,684	90.200000	179.700000	2843.83000 S	45.67 W	
1	PI	11,318	8,684	90.000000	180.300000	2906.83000 S	45.67 W	

Run	Data Source	Measured Depth	TVD	Drift Angle	Drift Azimuth	Rectangular N/S	Coordinates E/W	Overlap/ Proj/End
1	PI	11,382	8,684	90.200000	181.700000	2970.82000 S	46.79 W	
1	PI	11,446	8,684	90.100000	182.100000	3034.78000 S	48.91 W	
1	PI	11,509	8,684	89.600000	181.200000	3097.76000 S	50.73 W	
1	PI	11,573	8,684	89.700000	179.900000	3161.75000 S	51.34 W	
1	PI	11,637	8,686	88.000000	178.300000	3225.73000 S	50.34 W	
1	PI	11,700	8,687	89.400000	178.000000	3288.68000 S	48.30 W	
1	PI	11,764	8,687	90.500000	178.900000	3352.65000 S	46.57 W	
1	PI	11,827	8,687	90.700000	179.700000	3415.64000 S	45.80 W	
1	PI	11,891	8,685	91.300000	181.200000	3479.63000 S	46.31 W	
1	PI	11,955	8,684	91.200000	183.100000	3543.56000 S	48.71 W	
1	PI	12,018	8,683	91.000000	183.300000	3606.45000 S	52.22 W	
1	PI	12,082	8,682	91.000000	183.300000	3670.34000 S	55.91 W	
1	PI	12,146	8,681	90.600000	183.200000	3734.23000 S	59.53 W	
1	PI	12,209	8,680	90.700000	182.800000	3797.14000 S	62.83 W	
1	PI	12,273	8,679	90.600000	182.800000	3861.06000 S	65.96 W	
1	PI	12,337	8,679	90.300000	182.200000	3925.00000 S	68.75 W	
1	PI	12,400	8,679	90.200000	183.100000	3987.93000 S	71.66 W	
1	PI	12,464	8,679	89.500000	182.500000	4051.85000 S	74.79 W	
1	PI	12,528	8,679	90.100000	185.100000	4115.70000 S	79.03 W	
1	PI	12,591	8,679	90.700000	188.900000	4178.22000 S	86.70 W	
1	PI	12,655	8,678	90.500000	189.500000	4241.39000 S	96.94 W	
1	PI	12,719	8,677	90.700000	188.500000	4304.60000 S	106.95 W	
1	PI	12,782	8,676	90.700000	188.400000	4366.91000 S	116.20 W	
1	PI	12,846	8,676	90.500000	188.100000	4430.25000 S	125.39 W	
1	PI	12,909	8,675	90.400000	188.100000	4492.62000 S	134.26 W	
1	PI	12,973	8,675	90.000000	187.800000	4556.00000 S	143.12 W	
1	PI	13,018	8,675	90.000000	187.800000	4600.58000 S	149.22 W	PE

Operator Address

Data Source: PI
Street or PO Box: 600 NORTH MARIENFELD STREET
STE 600
City: MIDLAND
State, Zip: TX, 79701
Country: USA
Phone: 4325717800 **Fax:**
E-Mail:
Agent Name: **Agent Code:**
Agent Remark: FARRIS ZENO;MGR OPER ADMIN;;;;;432;571;7800

Scout Ticket

Thu Jan 29, 2015

30015376770100

General Information

4H CRESCENT HALE `1` FEDERAL COM

Data Source:	PI		
API:	30015376770100	**IC:**	
State:	NEW MEXICO	**County:**	EDDY
Field:	HACKBERRY NORTH	**Operator:**	CIMAREX ENERGY OF CO
Current Status:		**Current Operator:**	CIMAREX ENERGY CO OF COLORADO
Initial Class:	DEVELOPMENT REDRILL (D R)	**Final Well Class:**	( )
Status:	CANCEL	**Target Objective:**	OIL
Permit:	on Mar 02, 2010	**Hole Direction:**	HORIZONTAL
First Report Date:	Mar 30, 2010	**Abandonment Date:**	
Projected TD:	13,017 FT	**Projected Formation:**	BONE SPRING
Geologic Province:	PERMIAN BASIN	**Formation at TD:**	
Play Name:		**Play Type:**	

Location

Section, Twp., Range:	1 19S 30E			**Data Source:**	PI
Spot Code:					
Footage NS EW Origin:	990 FSL 525 FWL CONGRESS SECTION				
Principal Meridian:	NEW MEXICO				
Lat/Long:	+32.6847356 -103.9319366	**Lat/Long Source:**	IH	**Datum:**	NAD27
PBH L/L:	+32.6838056 -103.9174833	**Lat/Long Source:**	OP	**Datum:**	NAD27
PBHL Footage NS EW Origin:	660 FSL 330 FEL CONGRESS SECTION			**Data Source:**	PI
PBHL Section:	1 19S 30E	**Spot:**			
PBHL Coordinates:	From Surface: 13,017 FT	TVD: 8,730 FT		**Data Source:**	PI
Polar:	Offset:	Azimuth:			
Coordinate:	Y Offset:	X Offset:			

Location Narrative

Data Source	Type	Remark
PI	SCALED_FOOT	REGULATORY
PI	IRREG_SECT	N

Dates and Depths

Data Source:	PI		
Spud:		**Spud Date Code:**	
TD:		**TD Date:**	
TVD:		**PlugBack Depth:**	
Formation Code TD:		**Formation Name TD:**	
Ref. Elevation:		**KB. Elevation:**	
Ground Elevation:	3,529 FT GR	**LTD:**	
Contractor:			
Completed:		**Final Drilling:**	
Rig Release Date:		**Rig #:**	
Tool:			

Drilling Journal

Lease Acres

Lease Acres: 2160.3 ACRE
201

Dwights Energydata Narrative

Accumulated through 1997

Operator Address

Data Source:	PI		
Street or PO Box:	600 NORTH MARIENFELD STREET		
	STE 600		
City:	MIDLAND		
State, Zip:	TX, 79701		
Country:	USA		
Phone:	4325717800	**Fax:**	
E-Mail:			
Agent Name:		**Agent Code:**	
Agent Remark:	FARRIS ZENO;MGR OPER ADMIN;;;;;432;571;7800		

Jones, William V, EMNRD

From: Pam Corbett <PamC@chienergyinc.com>
Sent: Monday, June 29, 2015 3:56 PM
To: Jones, William V, EMNRD; John Qualls; Bill Bergman
Cc: Sanchez, Daniel J., EMNRD; Mull, Donna, EMNRD; Dade, Randy, EMNRD; Kautz, Paul, EMNRD; Goetze, Phillip, EMNRD
Subject: RE: CHI - Benson Delaware Injection Permits

Hi Mr. Jones:
I wanted to update you on CHI's inactive list. We have 5 on the list as of today. We actually plugged API 30-015-33268 USA 9 FEDERAL #003 a year ago. The BLM approved the subsequent P&A sundry and I have attached the form. I'm not sure if the OCD district office has received their stamped sundry from the BLM or had time to process it yet, but I expedited it as well, so that is another inactive well that will be removed soon, so we will be down to 4 as soon as the USA 9-3 is off.
Hope this clears up the issues!
Thanks for all your help and patience.
Pam Corbett
CHI Operating, Inc.
432-685-5001

~~4/99 @ 7/24/15~~ (LIMIT is 2
FA = OK
4/101 @ 7/23/15 OK

From: Jones, William V, EMNRD [mailto:WilliamV.Jones@state.nm.us]
Sent: Monday, June 15, 2015 2:27 PM
To: Pam Corbett; John Qualls; Bill Bergman
Cc: Sanchez, Daniel J., EMNRD; Mull, Donna, EMNRD; Dade, Randy, EMNRD; Kautz, Paul, EMNRD; Goetze, Phillip, EMNRD
Subject: RE: CHI - Benson Delaware Injection Permits

Pam,
Thanks for this...
Believe it or not, I pulled this one out yesterday to finalize,
And saw that this well was finally Plugged Abandoned and Released, which is good.

But it appears now that there are too many "inactive" wells for CHI.

If you can work this out with Daniel Sanchez – get an Agreed Compliance Order?
That will knock off those wells from the list and I can finally release this permit.

Regards,
Will Jones.

From: Pam Corbett [mailto:PamC@chienergyinc.com]
Sent: Monday, June 15, 2015 1:14 PM
To: Jones, William V, EMNRD
Cc: John Qualls; Bill Bergman
Subject: FW: CHI - Benson Delaware Injection Permits

Mr. Jones: Karen Sharp was able to finally get this well cleared!

From: Jones, William V, EMNRD [mailto:WilliamV.Jones@state.nm.us]
Sent: Friday, May 15, 2015 5:58 PM
To: Pam Corbett
Cc: Goetze, Phillip, EMNRD; Sharp, Karen, EMNRD; Dade, Randy, EMNRD; Sanchez, Daniel J., EMNRD
Subject: CHI - Benson Delaware Injection Permits

Hello Pam,
This well that requires the bond is still Plugged, Site Not Released. (30-015-34554)
Keep an eye on the well status and let me know when that status changes to Plugged, Site Released and I hopefully then be able to release the Benson Delaware Unit requested two additional water injection wells.

Have a great weekend,

Will Jones

William V. Jones, P.E., District IV Supervisor
Oil Conservation Division http://www.emnrd.state.nm.us/ocd/
1220 South St. Francis Drive, Santa Fe, NM 87505
P: 505.476.3477 C: 505.419.1995

C-108 Review Checklist: Received _____ Add. Request: _____ Reply Date: _____ Suspended: _____ [Ver 14]

PERMIT TYPE: WFX / PMX / SWD Number: 943 Permit Date: _____ Legacy Permits/Orders: R-13262 Case 14354

2 wells

Well No. _____ Well Name(s): Benson Delaware UNIT #14

API : 30-0 15-34816 (8) 15-37333 (14) Spud Date: 2010 New or Old: _____ (*UIC Class II Primacy 03/07/1982*)

Footages _____ Lot ___ or Unit D=14 Sec 12 Tsp 19S Rge 30E County EDDY

General Location: _____ Pool: Benson; Delaware Pool No.: 97083

BLM 100K Map: _____ Operator: CHI Operating, INC OGRID: 4378 Contact: Pam Corbett

COMPLIANCE RULE 5.9: Total Wells: 101 Inactive: 1 Fincl Assur: X Compl. Order? — **IS 5.9 OK?** X **Date:** 12/29/14

WELL FILE REVIEWED ✓ Current Status: Producer (GOOD 11/6 Gas)

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

Planned Rehab Work to Well: _____

Well Construction Details	Sizes (in) Borehole / Pipe	Setting Depths (ft)	Stage Tool	Cement Sx or Cf	Cement Top and Determination Method
Planned __or Existing __ **Surface**	17 - 13 3/8			500 SX	0
Planned__or Existing __ **Interm/Prod**	11 - 8 5/8			800 SX	0
Planned__or Existing __ **Interm/Prod**	7 7/8 - 5 1/2			340+400	0
Planned__or Existing __ **Prod/Liner**					
Planned__or Existing __ **Liner**					
Planned__or Existing __ **OH / PERF**			Inj Length		

Injection Lithostratigraphic Units:	Depths (ft)	Injection or Confining Units	Tops
Adjacent Unit: Litho. Struc. Por.			
Confining Unit: Litho. Struc. Por.	(#8) (#14)		
Proposed Inj Interval TOP:	4830 4510		
Proposed Inj Interval BOTTOM:	5081 ~~5109~~ (5075)		
Confining Unit: Litho. Struc. Por.			
Adjacent Unit: Litho. Struc. Por.			

Completion/Operation Details:

Drilled TD _____ PBTD _____

NEW TD _____ NEW PBTD _____

NEW Open Hole ○ or NEW Perfs ○

Tubing Size _____ in. Inter Coated? _____

Proposed Packer Depth _____ ft

Min. Packer Depth _____ (100-ft limit)

Proposed Max. Surface Press. _____ psi

Admin. Inj. Press. _____ (0.2 psi per ft)

AOR: Hydrologic and Geologic Information

POTASH: R-111-P ○ *Noticed?* _____ **BLM Sec Ord** ○ **WIPP** ○ *Noticed?* _____ **SALT/SALADO** T: _____ B: _____ ~~**CLIFF HOUSE**~~ —

FRESH WATER: Aquifer _____ Max Depth _____ **HYDRO AFFIRM STATEMENT By Qualified Person** ✓

NMOSE Basin: _____ **CAPITAN REEF:** thru ○ adj ○ NA ○ **No. Wells within 1-Mile Radius?** 0 FW Analysis ✓

Disposal Fluid: Formation Source(s) Recycle + BS Analysis? _____ On Lease ○ Operator Only ○ or Commercial ○

Disposal Int: Inject Rate (Avg/Max BWPD): _____ Protectable Waters? _____ Source: _____ System: Closed ○ or Open ○

HC Potential: Producing Interval? yes Formerly Producing? yes ~~Method: Logs/DST/P&A/Other~~ _____ 2-Mile Radius Pool Map ✓

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

Penetrating Wells: No. Active Wells 9 Num Repairs? 0 on which well(s)? — Diagrams? —

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

NOTICE: Newspaper Date 11/24/14 Mineral Owner BLM Surface Owner BLM N. Date _____

RULE 26.7(A): Identified Tracts? _____ Affected Persons: CHI HOLDS all AOR / Intrepid N. Date WHOA

Permit Conditions: **Issues:** _____

Add Permit Cond: _____