DATE IN	SUSPENSE	ENGINEER	LOGGED IN	TYPE	APP NO.
6/09/2016			6/09/2016	SWD	pMAM1616156930

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

1220 South St. Francis Drive, Santa Fe, NM 87505

ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Application Acronyms:

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

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

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

Check One Only for [B] or [C]

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

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

[D] Other: Specify _____

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

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

[B] ☒ Offset Operators, Leaseholders or Surface Owner

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

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

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

[F] ☐ Waivers are Attached

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

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Stephen D. Owen	Stephen D. Owen	Senior Engineering Advisor	06/01/2016
Print or Type Name	Signature	Title	Date

sowen@legacylp.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

FORM C-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: _____Secondary Recovery _____Pressure Maintenance ___X___Disposal _____Storage
Application qualifies for administrative approval? ___X___Yes _____No

II. OPERATOR: LEGACY RESERVES OPERATING LP

ADDRESS: PO BOX 10848, MIDLAND, TX 79702

CONTACT PARTY: STEPHEN D. OWEN PHONE: 432-689-5287

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

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

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

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

VII. Attach data on the proposed operation, including:

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

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

IX. Describe the proposed stimulation program, if any.

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

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

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

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

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

NAME: STEPHEN D. OWEN TITLE: SENIOR ENGINEERING ADVISOR

SIGNATURE: Stephen D. Owen DATE: 06/01/2016

E-MAIL ADDRESS: ~~so@legacylp.com~~ Sowen@legacylp.com

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

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

III. WELL DATA

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

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

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

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

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

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

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

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

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

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

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

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

XIV. PROOF OF NOTICE

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

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

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

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

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

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

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

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

Side 1

INJECTION WELL DATA SHEET

OPERATOR: Legacy Reserves Operating LP

WELL NAME & NUMBER: Hamon Federal Com No. 1

WELL LOCATION: 660' FNL, 1980' FEL | B | 7 | 20S | 34E

FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

WELLBORE SCHEMATIC

Attachment.

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 17 ½" Casing Size: 13 ⅜"

Cemented with: 450 sx. *or* _____ ft³

Top of Cement: Surface Method Determined: Visual

Intermediate Casing

Hole Size: 12 ¼" Casing Size: 8 ⅝"

Cemented with: 4,510 sx. *or* _____ ft³

Top of Cement: Surface Method Determined: Visual

Production Casing

Hole Size: 7 ⅞" Casing Size: 5 ½"

Cemented with: 1,325 sx. *or* _____ ft³

Top of Cement: Surface Method Determined: CBL

Total Depth: 13,700'

Injection Interval

8,140' feet to 8,237'

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET

Tubing Size 2 7/8" Lining Material: IPC

Type of Packer: Arrowset 1X

Packer Setting Depth: 8,075'

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

Additional Data

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

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

2. Name of the Injection Formation: Delaware, Brushy Canyon

3. Name of Field or Pool (if applicable): (Delaware, Brushy Canyon)

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.

   Lower Morrow: 13,524'-13,533' Middle Morrow: 13,252'-13,352 Upper Morrow: 13,222'-13,229' Atoka: 12,524'-12,529'
   CIBP: 13,170' w/ 30' cmt on top, 12,416' w/25 sx cmt on top Plug: 8,312'-9,656' w/ 127 sx cmt Plug: 10.888-10.860 w/ 45 sx cmt

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: Major oil and gas zones are below 10,900'.

   Formation: Bone Springs Top: 8,362' Formation: Wolfcamp Top: 10,900'

   Formation: Atoka Top: 12,524' Formation: Middle Morrow Top: 13,196'

   Formation: Lower Morrow Top: 13,499'

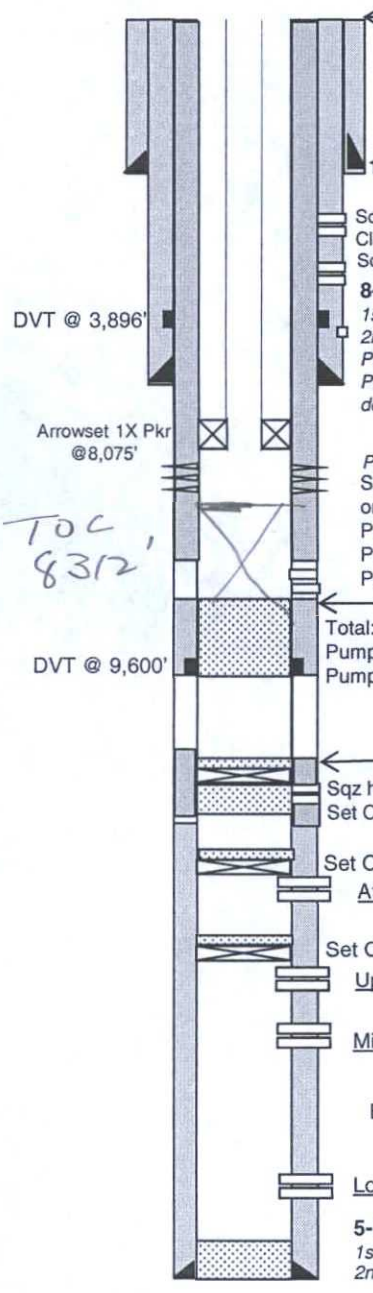
LEGACY RESERVES

CURRENT WELLBORE DIAGRAM

FIELD: QUAIL RIDGE (ATOKA)
LEASE: HAMON FEDERAL COM
COUNTY: LEA
STATE: NEW MEXICO
WELL: 1
LOCATION: 1980' FEL & 660' FNL, Sec. 7,T20S, R34E

GL: 3610'
KB: 3633'

API number: 30-025-30848



TOC @ surface

13-3/8" 48# ST&C csg set at 418' cmt'd w/450 sx Class C + 2% CaCl2 (circ'd to surf.)

Sqz holes in 8-5/8" csg @ 1875', squeezed w/1545 sx Lite + 250 sx C. TOC @ 200' (topped out w/100 sx Class C cmt to surf.)
Sqz holes in 8-5/8" csg @ 2350', squeezed w/750 sx Lite + 150 sx C. TOC @ 1890'.

8-5/8" 24#, 28#, 32# S-80 & K-55 csg @ 5,209'
1st stage cmt w/115 sx Thickset + 100 sx Lite + 250 sx Class C (total 465 sx)
2nd stage cmt w/1,150 sx Lite + 100 sx Class C (total 1,250 sx - TOC @ 2370' by TS)
Perf'd @ 2350' and cmt'd w/750 sx Lite + 150 sx Class C (total 900 sx – TOC @ 1890' by TS)
Perf'd @ 1875' and cmt'd w/1,545 sx Lite + 250 sx Class C (total 1,795 sx – TOC @ 200' by TS, ran 1" pipe down annulus and cmt'd w/100 sx Class C to surf.) – total 4,510 sx used

Perf'd 2 SPF @ 8,140'-8,183', 8,198'-8,210', 8,232'-8,237' (3/30/16)
Set CR @ 8,677'. Sqz w/725 sx Class H cmt 12.5#, 530 sx Class H cmt 16.4#, & N2 below CR. Left 1 sx cmt on CR. (3/17/16) Drilled CR @ 8,677'. (3/21/16) Tagged TOC 8,824'. (3/23/16)
Pumped 70 sx 16.4# Class H cmt. (3/28/16) Tagged TOC 8,117'. (3/29/16)
Perf'd 8,750', no circulation. (3/15/16)
Perf'd 8,800', no circulation. (3/11/16)

TOC @ 8850' by CBL
Total: 127 sx (8,824'-9,356')
Pumped balanced plug 30 sx 16.4# Class H cmt. Tag TOC 9,356'. (3/9/16)
Pumped 97 sx 16.4# Class H cmt balanced plug from 9356' to estimated TOC 8,570'. Tagged TOC 8,824'.(3/10/16)

TOC @ 10,860'
Sqz holes w/ 25 sx Class H neat cmt in 5-1/2" csg @ 10,950'. Tag TOC @ 12,185'. (3/3/16)
Set CR @ 10,888', sqz w/40 sx H neat & left 5 sx on top of CR. Tag TOC @ 10,860'.

Set CIBP @ 12,416' w/25 sx H neat on top. (3/3/16)
Atoka: 12,524' -12,529' w/4 JSPF (8/11/08)

Set CIBP @ 13,170' w/30' cmt on top. (8/11/08)
Upper Morrow: 13,222' -13,229 w/2 JSPF (8/12/90)

Middle Morrow: 13,252' -13,265' w/2 JSPF & 13,330' - 13,352' w/2 JSPF (8/12/90)

Baker Lok-set pkr @ 13,471', On/Off tool w/1.81 "F" nipple, and 15' of tbg jt parted

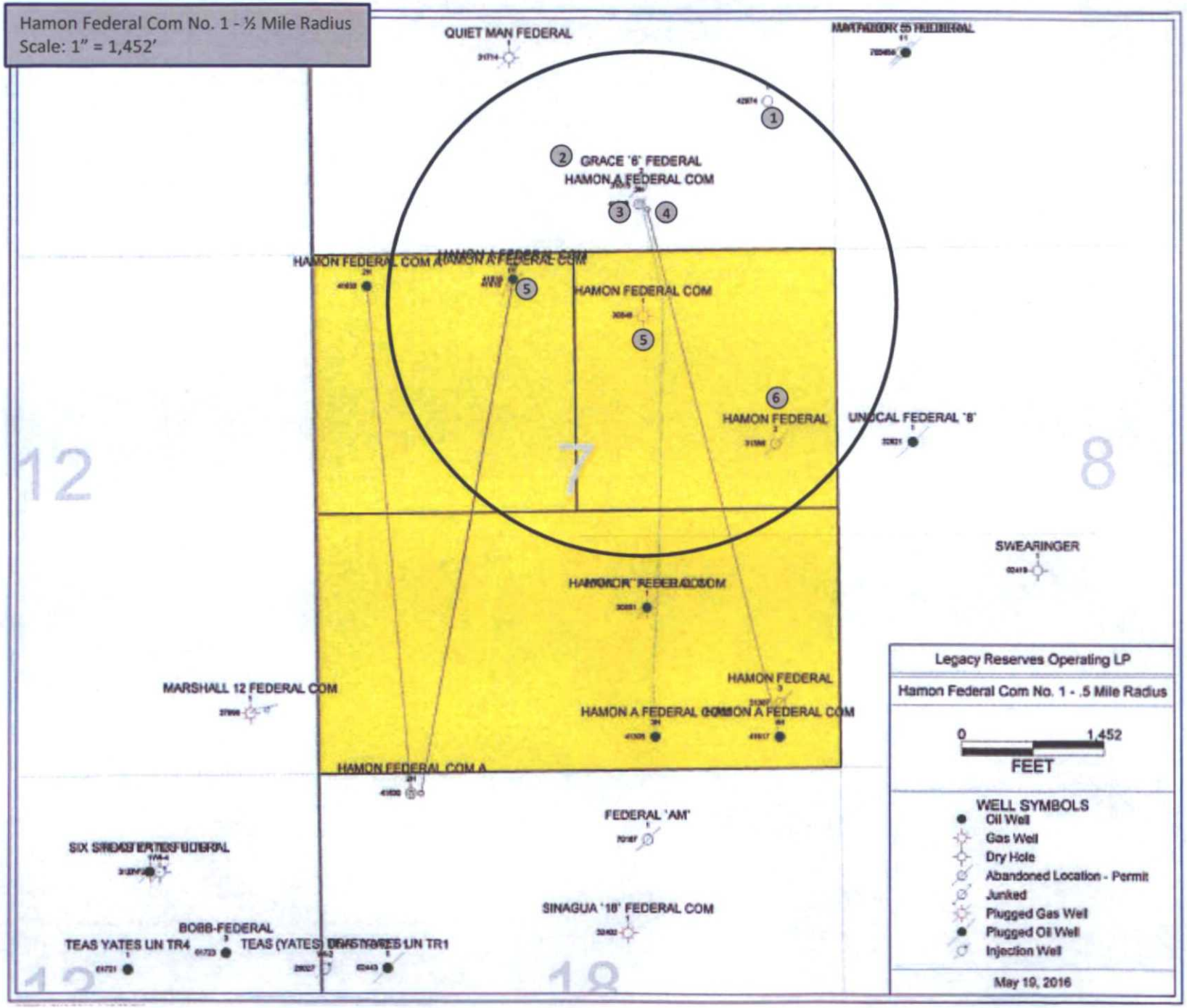
Lower Morrow: 13,524' - 13,533' w/2 JSPF (8/12/90)

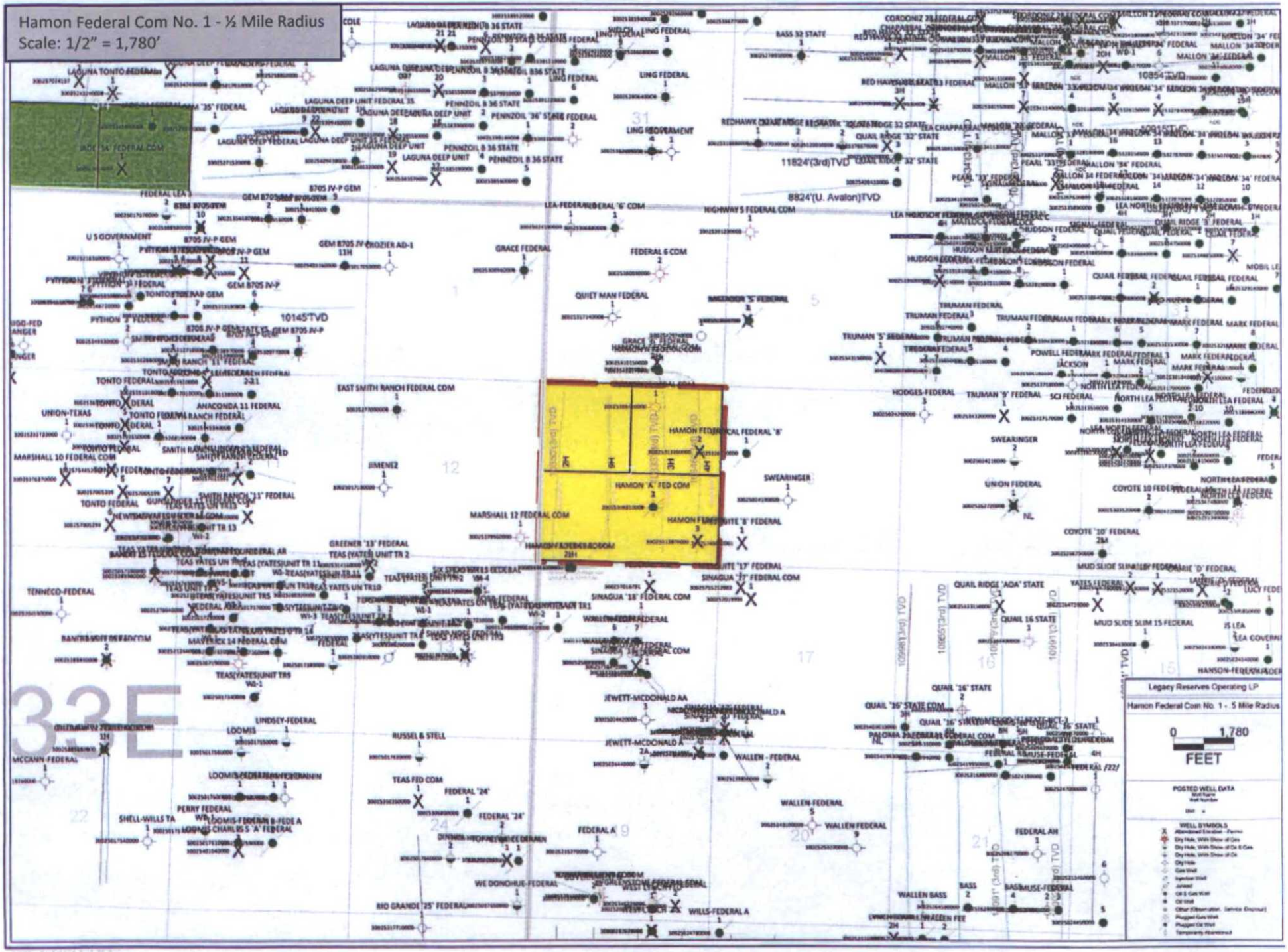
5-1/2" 17# S-95/N-80/S-95 csg, 3083'/8545'/12428', set @ 13,700'
1st stage cmt w/400 sx Class H w/10% salt + .4% Fluid Loss Add + .2% Turbulence Reducer Circ'd
2nd stage cmt w/150 sx Class H w/10% salt + .4% Loss Add + .2% Turbulence Reducer

TD @ 13,700'

DATE: 05/17/16

SDO


Hamon Federal Com No. 1 - ½ Mile Radius
Scale: 1" = 1,452'
QUIET MAN FEDERAL
GRACE '6' FEDERAL
HAMON A FEDERAL COM
HAMON FEDERAL COM A
HAMON FEDERAL COM
HAMON FEDERAL
UNOCAL FEDERAL '6'
SWEARINGER
MARSHALL 12 FEDERAL COM
HAMON A FEDERAL COM
HAMON FEDERAL COM A
FEDERAL 'AM'
SINAGUA '18' FEDERAL COM
BOBB-FEDERAL
TEAS YATES UN TR4
12
7
8
18
Legacy Reserves Operating LP
Hamon Federal Com No. 1 - .5 Mile Radius
0
1,452
FEET
WELL SYMBOLS
Oil Well
Gas Well
Dry Hole
Abandoned Location - Permit
Junked
Plugged Gas Well
Plugged Oil Well
Injection Well
May 19, 2016


Hamon Federal Com No. 1 - ½ Mile Radius
Scale: 1/2" = 1,780'
HAMON FEDERAL COM 1H
HAMON FEDERAL COM 2H
HAMON FEDERAL COM 3H
HAMON FEDERAL COM 4H
HAMON "A" FED COM
HAMON FEDERAL "8"
HAMON FEDERAL "8" FEDERAL
11824'(3rd)TVD
8824'(U. Avalon)TVD
10145'TVD
10854'TVD
Legacy Reserves Operating LP
Hamon Federal Com No. 1 - .5 Mile Radius
0 1,780
FEET
POSTED WELL DATA
WELL SYMBOLS

Proposed Injection Well One-Half Mile Radius Area of Investigation
Hamon Federal Com No. 1 (API Number: 30-025-30848)

Map No.	Operator	Well Name	Well No.	Well Type	API Number	Location (Sec., Twp, Range)	Spud Date	Depth	Record of Completion	Status
1	Owl SWD Operating, LLC	Smith Ranch SWD	1	SWD	30-025-42974	6, 20S, 34E	To be drilled.	15,625'	Single	New
2	Pre-Ongard Well Operator	Grace 6 Fed	2	Oil	30-025-31015	6, 20S, 34E	N/A	13,700'	Single	Cancelled Apd
3	Legacy Reserves Operating LP	Hamon A Fed Com	3H	Oil	30-025-41305	6, 20S, 34E	8/24/13	16,028'	Single	Active
4	Legacy Reserves Operating LP	Hamon A Fed Com	4H	Oil	30-025-41617	6,20S, 34E	10/5/14	16,190'	Single	Active
5	Legacy Reserves Operating LP	Hamon Federal Com	1	Gas	30-025-30848	7, 20S, 34E	4/28/90	13,700'	Single	Plugged Back
6	Pre-Ongard Well Operator	Hamon Federal	2	Oil	30-025-31386	7, 20S, 34E	N/A	9,650'	Single	Cancelled Apd

ENGINEERING DATA

HAMON FEDERAL COM #1

Planned maximum injection rate: 10,000 barrels of water per day (BWPD)

Planned average injection rate: 5,000 barrels of water per day (BWPD)

Planned maximum injection pressure: 1,628 pounds per square inch (psi)

Injection will be within an entirely closed system.

Produced water compatibility: The Bone Spring produced water of all Hamon Fed Com A producing wells is expected to be compatible with the waters of the Delaware Brushy Canyon proposed salt water disposal interval in Hamon Federal Com #1.

GEOLOGICAL DESCRIPTION

DELAWARE BRUSHY CANYON FORMATION

HAMON FEDERAL COM #1

Rock type: Sand

Thickness: 133' of gross sand interval with at least 40' of porosity greater than 10% in Hamon Federal Com #1

Depth: 8140'- 8273'

Porosity: 10 to 16%

Permeability: Highly variable from 1 to 50 md (estimated)

Reservoir description: Lenticular stacked channel sands with inter-bedded shale intervals

Advantages for water injection:

1) Injection interval relatively deep below the surface, allowing for generally lower surface water injection pressures because of the hydrostatic fluid column.

2) A water aquifer is present; therefore, water injection or water disposal will simply supplement the natural recharge of the underlying aquifer.

3) More than 4,000' below the Capitan Reef, the deepest potential source of brackish water that might be economically used as a source of drinking water or as a source of water for hydraulic fracturing. There are no faults that could potentially transmit injection water into any underground sources of drinking water.

4) Porous and permeable allowing for a relatively high volume of water injection capacity without approaching or exceeding fracture pressure. An acid stimulation using up to 100 gallons per foot of perforated injection interval is planned prior to initiating water injection.

5) The Hamon Federal Com #1 has produced an average of only $408 per month net cash flow in the past two years. The well has lost a total of $31,276 in the past three months (see the attached lease operating statement). The well is operating at a loss as a producing well and has no economic recompletion potential as a producer.

6) There are no known active fresh water wells within one mile of the Hamon Federal Com #1.

Planned maximum injection rate: 10,000 barrels of water per day (BWPD)

Planned maximum injection pressure: 1,628 pounds per square inch (psi)

New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

No PODs found.

POD Search:

POD Basin: Lea County

PLSS Search:

Section(s): 1 **Township: 20S** **Range: 34E**

New Mexico Office of the State Engineer
Active & Inactive Points of Diversion
(with Ownership Information)

No PODs found.

POD Search:

POD Basin: Lea County

PLSS Search:

Section(s): 6 Township: 20S Range: 34E

New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

No PODs found.

POD Search:

POD Basin: Lea County

PLSS Search:

Section(s): 5 Township: 20S Range: 34E

New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

No PODs found.

POD Search:

POD Basin: Lea County

PLSS Search:

Section(s): 12 Township: 20S Range: 34E

New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

No PODs found.

POD Search:

POD Basin: Lea County

PLSS Search:

Section(s): 7 **Township:** 20S **Range:** 34E

Usage Filter:

Use: All Usages

New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

No PODs found.

POD Search:

POD Basin: Lea County

PLSS Search:

Section(s): 8 Township: 20S Range: 34E

New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

No PODs found.

POD Search:

POD Basin: Lea County

PLSS Search:

Section(s): 13 Township: 20S Range: 34E

New Mexico Office of the State Engineer
Active & Inactive Points of Diversion
(with Ownership Information)

No PODs found.

POD Search:

POD Basin: Lea County

PLSS Search:

Section(s): 18 Township: 20S Range: 34E

New Mexico Office of the State Engineer
Active & Inactive Points of Diversion
(with Ownership Information)

No PODs found.

POD Search:

POD Basin: Lea County

PLSS Search:

Section(s): 17 Township: 20S Range: 34E

NOTICE OF APPLICATION FOR FLUID INJECTION WELL PERMIT

APPLICANT: Legacy Reserves Operating LP
P.O. Box 10848
Midland, Texas 79702

CONTACT: Stephen D. Owen (432/689-5200)

Legacy Reserves Operating LP is applying to the New Mexico Oil Conservation Division for a permit to inject fluid into a formation which is productive of oil and gas. Injection will be into the lower section of the Delaware Brushy Canyon formation, an interval that is not oil or gas productive in the immediate vicinity and is not expected to ever be produced.

The applicant proposes to inject fluid into the Delaware Brushy Canyon formation in the Hamon Federal Com lease, well number 1. The proposed salt water disposal well is located 660' FNL, 1980' FEL, Section 7, Township 20 South, Range 34 East, approximately 25 miles west of Hobbs, New Mexico in the Quail Ridge Field, Lea County. Fluid will be injected into strata in the subsurface depth interval from 8140' to 8237'. The proposed maximum permitted water injection rate is 10,000 barrels of water per day (BWPD) at a maximum pressure of 1,628 pounds per square inch (psi).

LEGAL AUTHORITY: Statewide Rules and Regulations of the New Mexico Oil Conservation Division.

Requests for a public hearing from persons who can show they are adversely affected, or requests for further information concerning any aspect of the application should be submitted in writing, within fifteen days of publication, to the New Mexico Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505.

CERTIFIED MAILING LIST

Wells and Leases:
Hamon Federal Com No. 1

Respondent Name/Address:	Certified Mailing Number:
BLM Carlsbad 620 E. Greene St. Carlsbad, NM 88220	7015-3010-0000-3001-7800
Wayne Smith 267 Smith Ranch Road Hobbs, NM 88240	7015-3010-0000-3001-7817
Devon Energy Production 333 West Sheridan Ave. Oklahoma City, OK 73102	7015-3010-0000-3001-7824
Collins & Ware 508 W. Wall Ave., Suite 1200 Midland, TX 79701	7015-3010-0000-3001-7831
Chesapeake Exploration, LP PO Box 18496 Oklahoma City, OK 73154	7015-3010-0000-3001-7848
Fortune Natural resources Corp. 13455 Noel Road, Suite 2000 Dallas, TX 75240	7015-3010-0000-3001-7855
HEF-LIN Energy Corp 510 Hearn St., Suite 250 Austin, TX 78703	7015-3010-0000-3001-7862
Castleton Ltd. 510 Hearn St., Suite 250 Austin, TX 78703	7015-3010-0000-3001-7879
Warwick-Acres LLC 6608 Norht Western Ave., #417 Oklahoma City, OK 73116	7015-3010-0000-3001-7886
Snyder Petroleum Corporation PO Box 3010 Cody, WY 82414	7015-3010-0000-3001-7893
Cimarex Energy 601 N. Marienfeld St., Suite 6000 Midland, TX 79713	7015-3010-0000-3001-7909
Fasken Oil and Ranch 6101 Holiday Hill Rd. Midland, TX 79707	7015-3010-0000-3001-7916
OWL SWD Operating 8214 Westchester Drive, Suite 850 Dallas, Texas 75225	7015-3010-0000-3001-7923

Affidavit of Publication

STATE OF NEW MEXICO
COUNTY OF LEA

I, Daniel Russell, Publisher of the Hobbs News-Sun, a newspaper published at Hobbs, New Mexico, solemnly swear that the clipping attached hereto was published in the regular and entire issue of said newspaper, and not a supplement thereof for a period of 1 issue(s).

Beginning with the issue dated
May 20, 2016
and ending with the issue dated
May 20, 2016.

Daniel Russell
Publisher

Sworn and subscribed to before me this
20th day of May 2016.

Gussie Black
Business Manager

My commission expires
January 29, 2019
(Seal)

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

This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937 and payment of fees for said

LEGAL NOTICE
May 20, 2016

NOTICE OF APPLICATION FOR FLUID INJECTION WELL PERMIT

APPLICANT: Legacy Reserves Operating LP
P.O. Box 10848
Midland, Texas 79702

CONTACT: Stephen D. Owen (432/689-5200)

Legacy Reserves Operating LP is applying to the New Mexico Oil Conservation Division for a permit to inject fluid into a formation which is productive of oil and gas. Injection will be into the lower section of the Delaware Brushy Canyon formation, an interval that is not oil or gas *productive* in the immediate vicinity and is not expected to ever be produced.

The applicant proposes to inject fluid into the Delaware Brushy Canyon formation in the Hamon Federal Com lease, well number 1. The proposed salt water disposal well is located 660' FNL, 1980' FEL, Section 7, Township 20 South, Range 34 East, approximately 25 miles west of Hobbs, New Mexico in the Quail Ridge Field, Lea County. Fluid will be injected into strata in the subsurface depth interval from 8060' to 8370'. The proposed maximum permitted water injection rate is 10,000 barrels of water per day (BWPD) at a *maximum pressure* of 4,000 pounds per square inch (psi).

LEGAL AUTHORITY: Statewide Rules and Regulations of the New Mexico Oil Conservation Division.

Requests for a public hearing from persons who can show they are adversely affected, or requests for further information concerning any aspect of the application should be submitted in writing, within fifteen days of publication, to the New Mexico Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505.
#30939

67110811 00175157

LEGACY RESERVES OPERATING LP
PO BOX 10848
MIDLAND, TX 79702

LEGACY RESERVES
Legacy Reserves Operating LP, P.O. Box 10848, Midland, Texas 79702

June 1, 2016

New Mexico Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505
ATTN: Mr. Phillip Goetze

RE: C-108 Application for Authorization to Inject
Hamon Federal Com #1
Quail Ridge Field
Lea County, New Mexico

Dear Phillip:

Attached is the referenced application to convert Hamon Federal Com #1 to water injection in the Delaware Brushy Canyon from 8140'-8237'. Attached are the following:

1) The "Application for Authorization to Inject" form C-108.
2) The "Injection Well Data Sheet" along with current wellbore diagram of the Hamon Federal Com #1.
3) Map showing the wells and leases within two miles of the proposed injection well and the half-mile radius around the proposed injection well, which defines the well's area of review. All wells within one-half mile of the proposed injection well are identified on the map.
4) A table of all wells within the half-mile radius area of review around the proposed injection well.
5) An affidavit of publication signed by the publisher that notice of the application was published in a newspaper of general circulation in Lea County, New Mexico. A copy of the newspaper notice is also included.
6) Geological data on the Hamon Federal Com #1.
7) Engineering data on the Hamon Federal Com #1.

A notice of this application was published in the Hobbs News-Sun on May 20, 2016. A copy of this application will be sent by certified mail to the surface owner(s), leasehold operator(s) and the BLM, on or before June 3, 2016.

If there are any questions regarding this application or if any additional information is needed, please contact me at 432/689-5287 or by email at sowen@legacylp.com. Thank you.

Sincerely,

Stephen D. Owen
Senior Engineering Advisor

SDO
Attachments
cc: NMOCD District Office – Hobbs
BLM Carlsbad Field Office - Carlsbad

SENDER: COMPLETE THIS SECTION

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

1. Article Addressed to:

Wayne Smith
267 Smith Ranch Road
Hobbs, NM 88220

9590 9402 1314 5285 3530 13

2. Article Number (Transfer from service label)
7015 3010 0000 3001 7817

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X
☐ Agent
☐ Addressee

B. Received by (Printed Name)
C. Date of Delivery
6-6-17

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

3. Service Type
- ☐ Adult Signature
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- ☐ Collect on Delivery Restricted Delivery
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- ☐ Mail Restricted Delivery (over $500)
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PS Form 3811, July 2015 PSN 7530-02-000-9053 HAMON SWD Domestic Return Receipt

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- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

BLM Carlsbad Office
620 E. Greene St.
Carlsbad, NM 88220

9590 9402 1314 5285 3530 20

2. Article Number (Transfer from service label)
7015 3010 0000 3001 7800

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A. Signature

X

☐ Agent
☑ Addressee

B. Received by (Printed Name) | C. Date of Delivery
4/6/16

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

3. Service Type

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Mail
Mail Restricted Delivery
00)

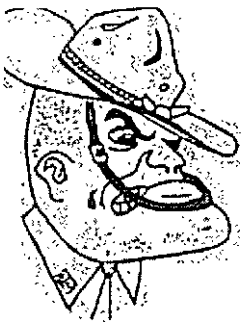
PS Form 3811, July 2015 PSN 7530-02-000-9053 HAMON SWD Domestic Return Receipt

McMillan, Michael, EMNRD

From: Steve Owen <sowen@legacylp.com>
Sent: Thursday, June 09, 2016 4:53 PM
To: McMillan, Michael, EMNRD
Cc: Goetze, Phillip, EMNRD; Jones, William V, EMNRD; Lowe, Leonard, EMNRD
Subject: RE: Hamon Fed Com administrative SWD application Well No.1
Attachments: Wayne Smith - Returned Receipt.pdf; Warwick-Acres LTD - Returned Receipt.pdf; Snyder Petroleum Corporation - Returned Receipt.pdf; Owl SWD Operating - Returned Receipt.pdf; BLM Carlsbad Office - Returned Receipt.pdf; Collins & Ware - Returned Receipt.pdf; Chesapeake Exploration, LP - Returned Receipt.pdf; HEF-LIN Energy Corporation - Returned Receipt.pdf; Castleton Ltd. - Returned Receipt.pdf; Fasken Oil and Ranch - Returned Receipt.pdf

I'm sorry I was unclear, Michael. This permit was approved and the work was done but we didn't get it done before the permit expired for various reasons that don't matter now. The wellbore diagram is the after diagram. The well is no longer an active producer. It has been plugged back to the BLM specifications and satisfaction up past the Bone Springs. The wells in Section 7 are our (Legacy's) Producers. I will attach copies all of the certified receipts I have received to this email.

Stephen D. Owen
Sr. Engineer
Legacy ReservesPO Box 10848
Midland, TX 79702
432-689-5200
sowen@legacylp.com



From: McMillan, Michael, EMNRD [mailto:Michael.McMillan@state.nm.us]
Sent: Thursday, June 09, 2016 5:09 PM
To: Steve Owen
Cc: Goetze, Phillip, EMNRD; Jones, William V, EMNRD; Lowe, Leonard, EMNRD
Subject: Hamon Fed Com administrative SWD application Well No.1

Stephen:
I received your administrative SWD application for the Hamon Fed Com Well No.1 on Jun 9, 2016
I need the following information, until I received the information your application has been suspended:

Tract map of affected parties in the area of review

- After diagram of the wellbore
- Certified mail return receipt for affected parties
- Is the well an active producer your write up states that it is, and your current diagram shows the Atoka/Morrow was plugged.
- Are the wells in Section 7 Bone Spring producers?

Thank You

Michael A. McMillan

Engineering and Geological Services Bureau, Oil Conservation Division
1220 South St. Francis Dr., Santa Fe NM 87505
O: 505.476.3448 F. 505.476.3462
Michael.mcmillan@state.nm.us

SENDER: COMPLETE THIS SECTION

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

1. Article Addressed to:

Warwick-Acres LTD.
6608 Northwestern AVE., #417
Oklahoma City, OK 73116

9590 9402 1314 5285 3537 92

2. Article Number *(Transfer from service label)*
7015 3010 0000 3001 7886

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X
☐ Agent
☐ Addressee

B. Received by *(Printed Name)* David Fraser
C. Date of Delivery 6-9

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

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☑ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☑ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 HAMON SWD Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

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- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Collins & Ware
508 W. Wall Ave., Suite 1200
Midland, TX, TX 79701

9590 9402 1314 5285 3529 93

2. Article Number *(Transfer from service label)*
7015 3010 0000 3001 7831

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X

☐ Agent
☐ Addressee

B. Received by *(Printed Name)*

C. Date of Delivery
6-3

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

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☑ Certified Mail®
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- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Mail
- ☐ Mail Restricted Delivery
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☑ Return Receipt for Merchandise
- ☐ Signature Confirmation™
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PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

Haman SWD

SENDER: COMPLETE THIS SECTION

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

1. Article Addressed to:

Fasken Oil and Ranch
Linda Hicks
6101 Holiday Hill Rd.
Midland, TX 79707

9590 9402 1314 5285 3537 54

2. Article Number (Transfer from service label)
7015 3010 0000 3001 7916

COMPLETE THIS SECTION ON DELIVERY

A. Signature
x Cynthia Moreno ☐ Agent ☐ Addressee

B. Received by (Printed Name) Cynthia Moreno C. Date of Delivery 1/3

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

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☑ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restrict Delivery
- ☐ Return Receipt for Merchandise
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PS Form 3811, July 2015 PSN 7530-02-000-9053 HAMON SWD Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

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

1. Article Addressed to:

Snyder Petroleum Corporation
PO Box 3010
Cody, WY 82414

9590 9402 1314 5285 3537 85

2. Article Number *(Transfer from service label)*
7015 3010 0000 3001 7893

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☒ Agent ☐ Addressee

B. Received by *(Printed Name)* [signature]
C. Date of Delivery 6/16/16

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

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☑ Certified Mail®
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- ☐ Collect on Delivery
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PS Form 3811, July 2015 PSN 7530-02-000-9053 HAMON SWD Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

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

1. Article Addressed to:

Chesapeake Exploration, LP
PO Box 18496
Oklahoma City, OK 73154

9590 9402 1314 5285 3538 39

2. Article Number (Transfer from service label)
7015 3010 0000 3001 7848

COMPLETE THIS SECTION ON DELIVERY

A. Signature
x RECEIVED ☐ Agent ☐ Addressee

B. Received by (Printed Name) JUN 06 2016 C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No
MAILROOM 18

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☑ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
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(over $500)

- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricte Delivery
- ☑ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 HAMON SWP Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

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

1. Article Addressed to:

OWL SWD Operating
8214 Westchester Drive, Suite 850
Dallas, Texas 75225

9590 9402 1314 5285 3537 47

7015 3010 0000 3001 7923

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Katie Dudding
☐ Agent
☐ Addressee

B. Received by (Printed Name) KATIE DUDDING
C. Date of Delivery

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

3. Service Type
☐ Adult Signature
☐ Adult Signature Restricted Delivery
☑ Certified Mail®
☐ Certified Mail Restricted Delivery
☐ [illegible] Delivery
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☐ Insured Mail Restricted Delivery (over $500)
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☐ Registered Mail Restricted Delivery
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PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

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

1. Article Addressed to:

OWL SWD Operating
8214 Westchester Drive, Suite 850
Dallas, Texas 75225

9590 9402 1314 5285 3537 47

7015 3010 0000 3001 7923

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Katie Dudding ☐ Agent ☐ Addressee

B. Received by (Printed Name) KATIE DUDDING C. Date of Delivery

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

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☑ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Delivery
- ☐ Delivery Restricted Delivery
- ☐ Mail
- ☐ Insured Mail Restricted Delivery (over $500)
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- ☐ Registered Mail™
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PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

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

1. Article Addressed to:

HEF-LIN Energy Crop.
510 Hearn St., Suite 250
Austin, TX 78703

9590 9402 1314 5285 3538 15

2. Article Number *(Transfer from service label)*
7015 3010 0000 3001 7862

COMPLETE THIS SECTION ON DELIVERY

A. ☑ Agent

X

B. Received by *(Printed Name)* 11/6/16

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

3. Service Type

- ☐ Adult Signature
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- ☑ Certified Mail®
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PS Form 3811, July 2015 PSN 7530-02-000-9053 HAWAII SWP Domestic Return Receipt

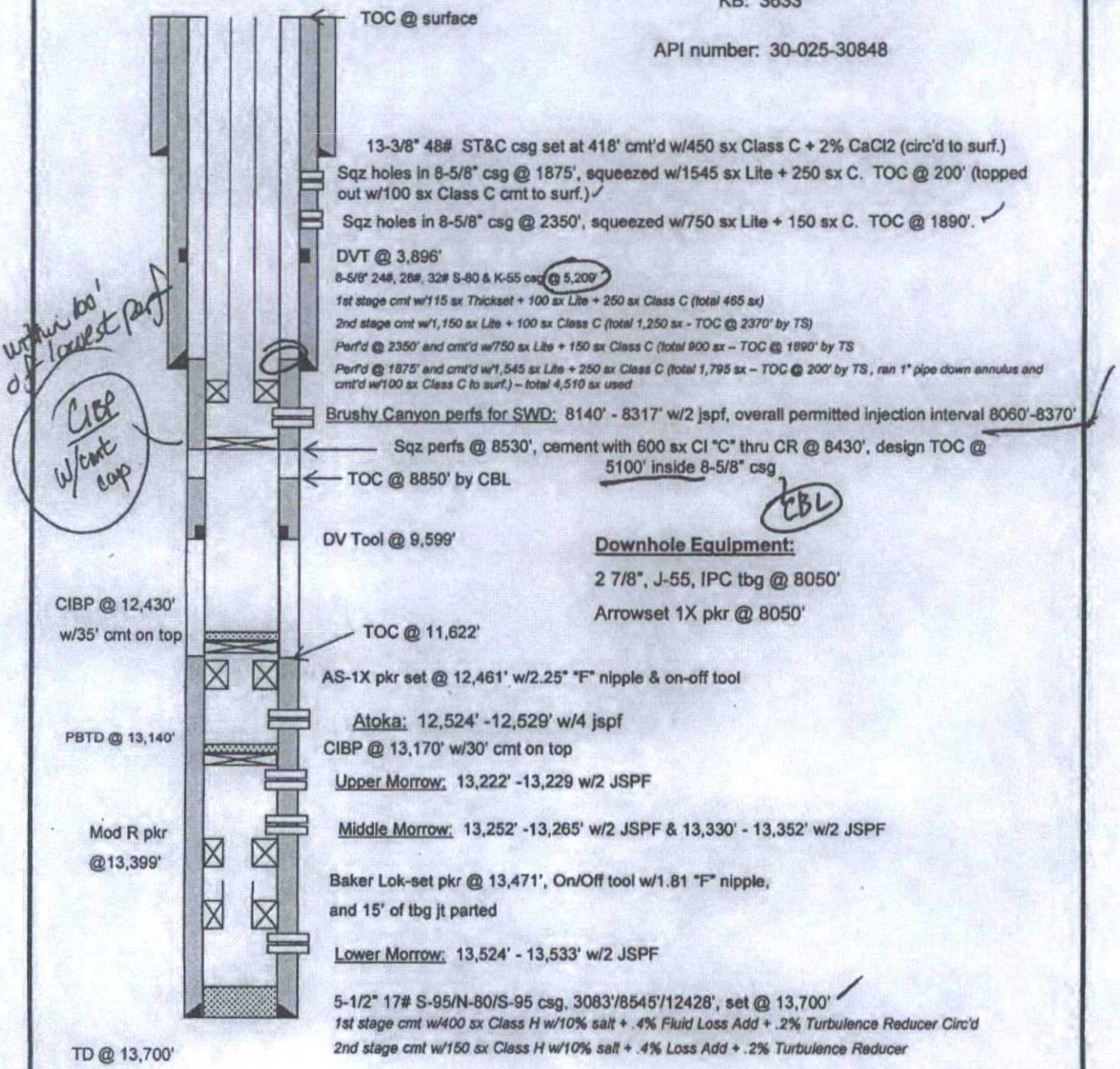
LEGACY RESERVES

PROPOSED WELLBORE DIAGRAM

FIELD: QUAIL RIDGE (ATOKA)
LEASE: HAMON FEDERAL COM
COUNTY: LEA
STATE: NEW MEXICO
WELL: 1
LOCATION: 1980' FEL & 660' FNL, Sec. 7,T20S, R34E

GL: 3610'
KB: 3633'

API number: 30-025-30848



Downhole Equipment:

2 7/8", J-55, IPC tbg @ 8050'

Arrowset 1X pkr @ 8050'

DATE: 11/12/13

BKL

Conditions of Approval

Legacy Reserves Operating, L. P.
Hamon - 01, API 2530848
T20S-R34E, Sec 07, 660FNL & 1980FEL
October 26, 2015

1. Prior to abandoning the producing formation and recompletion to disposal, submit for this well a Lease Operating Statement (L.O.S.) for the last 12 consecutive producing months showing all production, revenue, taxes, and royalties paid, include all types of operating and maintenance expense. This should initially at be a gross level, then boiled down with net numbers showing monthly (PROFIT/LOSS).
2. You are required to perform a reservoir study to determine the remaining reserves to the economic limit for the Atoka formation. The report from this study will include economics based on a Lease Operating/Expense statement, which shall be included with the report. The report shall also include a decline curve based on the recent production. Offer an explanation for the considerable reduction of reported production comparing 12/2014 & 01/2015 with 02/15-08/2015 and the reason the earlier production rates have not been sustained. Also be aware the proposed disposal formation will need to be proven to be noncommercial as a hydrocarbon producer.
3. Subject to like approval by the New Mexico Oil Conservation Division.
4. Notify BLM 575-393-3612 Lea Co. as work begins. Some procedures are to be witnessed. If there is no response, leave a message stating the well's API#, the workover purpose, and a call back phone number. *Note the contact, time, & date in your subsequent report.*
5. Before casing or a liner is added, replaced, or repaired prior BLM approval of the design is required. Use notice of intent Form 3160-5.
6. Surface disturbance beyond the existing pad shall have prior approval.
7. A closed loop system is required. The operator shall properly dispose of drilling/circulating contents at an authorized disposal site. Tanks are required for all operations, no excavated pits.
8. Functional H_2S monitoring equipment shall be on location.
9. 5000psig (5M) Blow Out Prevention Equipment to be used. All BOPE and workover procedures shall establish fail safe well control. Blind ram(s) and pipe ram(s) designed to close on all workstring diameters used is required equipment. A manual BOP closure system (hand wheels) shall be available for use regardless of BOP design. Function test the installed BOPE to 500psig when well conditions allow. Related equipment, (choke manifolds, kill trucks, gas vent or flare lines, etc.) shall be employed when needed for reasonable well control requirements.
10. All waste (*i.e. trash, salts, chemicals, sewage, gray water, etc.*) created as a result of work over operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding

area. Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

11. **The BLM PET witness is to run tbg tally and agree to cement volumes and placement. Sample each plug for cement curing time and tag and/or pressure test as requested by BLM PET witness.**
12. **The wellbore is out of compliance with formation plugback requirements. Set a CIBP within 100' of the top Morrow perforation (13,222) and set a minimum 25sx Class "H" balanced cement plug on that CIBP. Tag the plug with tubing at 13140 or higher.**
13. **Set the CIBP of the Legacy procedure within 100' of the top producing perforation of 12524 and place a minimum 25sx Class "H" balanced cement plug on that CIBP.**
14. **Perforate at least 50' below the Wolfcamp formation top of 10900 and squeeze cmt, displacing a volume of "H" cement sufficient to fill the drilled wellbore to 10850 or higher. WOC and tag the plug with tubing.**
15. **The well is in the R-111-P Secretary Potash area which requires at a minimum three casing strings with cement circulated to surface. Only the surface and intermediate casings meet this requirement. The production casing cement shows to be out of compliance at this time and the condition is to be corrected.**
16. **Submit via email or sundry Legacy's procedure to verify or establish the 5 ½" *production casing having cement to surface.***
17. **This procedure is subject to the next three numbered paragraphs.**
18. Mix cement plugs to cover a minimum of 100ft plus 10ft for every 1,000ft to the bottom of the plug, rounding the number of necessary sacks up to the nearest 5 sacks. Never use less than 25sx. Examples: A cement plug set at 8000 in 7" casing would require a min of 35sx. A 25sx plug in 5 ½" casing should cover 250ft, which may exceed 100ft plus 10ft per 1000ft.
19. Class H > 7500ft & C < 7500ft) cement plugs(s) will be necessary. For any plug that requires a tag or pressure test a minimum WOC time of 4 hours(C) & 8 hours(H) is recommended. Formation isolation plugs of Class "C" to be mixed 14.8#/gal, 1.32 ft^3/sx, 6.3gal/sx water and "H" to be mixed 16.4#/gal, 1.06ft^3/sx, 4.3gal/sx water.
20. Minimum requirement for mud placed between plugs is 25 sacks of salt water gel per 100 barrels in 9 lb/gal brine.
21. **Set a minimum 25sx Class "H" balanced cement plug across the Bone Spring formation top from 10950 or below.** WOC & tag the plug at 10800 or above with tubing.
22. **Set a minimum 25sx Class "H" balanced cement plug across the 9599' DV Tool from 9549 or below.** WOC & tag the plug at 9499' or above with tubing.
23. **Set a minimum 25sx Class "H" balanced cement disposal isolation plug from the 8670' or below.** WOC & tag the plug at 8570' or above with tubing.
24. After cementing operations are complete, **perform a charted casing integrity test** of 1622psig minimum. Document the pressure test on a one hour full rotation calibrated (within 6 months) recorder chart registering within 25 to 85 per cent of its full range. **Verify all annular casing vents are plumbed to the surface and open during this pressure test.**

Call BLM 575-200-7902 and arrange for a BLM witness of that pressure test. Submit a subsequent Sundry Form 3160-5 relating the dated daily wellbore and CIT activities, include a copy of the chart.

25. **Provide BLM with an electronic copy (Adobe Acrobat Document) cement bond log record from PBTD taken with 0psig casing pressure. The CBL may be attached to a pswartz@blm.gov email.**
26. Class II (production water injection) wells will not be permitted stimulation injection pressures that exceed frac pressure. **Do not exceed the approved SWD-1468 injection pressure of 1612 with stimulation pump pressure.** The subsequent report is to adequately describe the method used to limit stimulation injection pressures. Report maximum and minimum injection rate (BPM) and maximum and minimum stimulation injection pressures (psig).
27. **The operator shall test for oil and gas production from the proposed 8140-311 perforated injection zone. Demonstrate that paying quantities of hydrocarbons are not produced when the well has a pumped off fluid level. After stimulation load volumes have been recovered, this will require a minimum of 1000 barrels to be swabbed from the proposed disposal formation. Open hole logs may support the evaluation.** Provide BLM a copy of a mudlog over the permitted disposal interval and estimated insitu water salinity based on the open-hole logs. **BLM agreement is to be obtained prior completion as a disposal well.**
28. Submit a (BLM Form 3160-**5** subsequent report (daily reports) via BLM's Well Information System; https://www.blm.gov/wispermits/wis/SP (email pswartz@blm.gov for instructions) describing all wellbore activity and the Casing Integrity Test. Include the date(s) of the well **work, and the setting depths of installed equipment: internally corrosive protected tubing,** tubing on/off equipment just above the packer, and an in line tubing check valve below the packer or between the on/off tool and packer. The setting depths and descriptions of each are to be included in the subsequent sundry. File intermediate Form 3160-**5** within 30 days of any interrupted workover procedures and a complete workover subsequent sundry.
29. Submit the BLM Form 3160-**4 Recompletion Report** within 30 days of the date all BLM approved procedures are complete.
30. Workover approval is good for 90 days (completion to be within 90 days of approval). A legitimate request is necessary for extension of that date.
31. Enclose a site security diagram for the water disposal facility upstream of this well. Document the lease name and the lease number of the source(s) of production water disposed to that facility with the diagram.
32. Approval is granted for disposal of water produced from the lease, communitization, or unit agreement of this well only. Disposal fluid from another operator, lease, communitization, or unit agreement require BLM surface right-of-way agreement **approvals** and if applicable, authorization from the surface owner.

Well with a Packer - Operations

1) Conduct a Mechanical Integrity Test of the tubing/casing annulus after a tubing, packer or casing seal is established.
2) The minimum test pressure should be 500 psig for 30 minutes or 300 psig for 60 minutes, with a minimum 200 psig differential between tubing and casing pressure (at test time) but no more than 70% of casing burst pressure as described by Onshore Order 2.III.B.1.h. (The tubing or reservoir pressure may need to be reduced). Verify all annular casing vents are plumbed to surface and those valves open to the surface during this pressure test. An alternate method for a BLM approved MIT is to have the fluid filled system open to atmospheric pressure and have a loss of less than five barrels in 30 days witnessed by a BLM authorized officer.
3) Document the pressure test on a one hour full rotation chart recorder (calibrated within the last 6 months) registering within 25 to 85 per cent of its full range. Greater than 10% pressure leakoff will be viewed as a failed MIT. Less than 10% pressure leakoff will be evaluated site specifically and may restrict injection approval.
4) Make arrangements 24 hours before the test for BLM to witness. In Eddy County email Paul R. Swartz pswartz@blm.gov or phone 575-200-7902, if there is no response, 575-361-2822. In Lea County phone 575-393-3612. If no answer, leave a voice mail or email with the API#, workover purpose, and a call back phone number
5) Use of tubing internal protection, tubing on/off equipment just above the packer, a profile nipple, and an in line tubing check valve below the packer or between the on/off tool and packer is a "Best Management Practice". The setting depths and descriptions of each are to be included in the subsequent sundry.
6) **Submit the original subsequent sundry with three copies to BLM Carlsbad.**
7) Compliance with a NMOCD Administrative Order is required, submit documentation of that authorization.
   a) Approved injection pressure compliance is required.
   b) If injection pressure exceeds the approved pressure you are required to reduce that pressure and notify the BLM within 24 hours.
   c) When injection pressure is within 50 psig of the maximum pressure, install automation equipment that will prevent exceeding that maximum. Submit a subsequent report (Sundry Form 3160-5) describing the installed automation equipment within 30 days.
8) Unexplained significant variations of rate or pressure to be reported within 5 days of notice.
9) The casing/tubing annulus is required to be monitored for communication with injection fluid or loss of casing integrity. A BLM inspector may request verification of a full annular fluid level at any time.
10) **Maintain the annulus full of packer fluid at atmospheric pressure. Installation of equipment that will display continuous open to the air packer fluid level above the casing vent is required for this disposal well.**

11) **Notify the BLM's authorized officer ("Paul R. Swartz" <pswartz@blm.gov>, cell phone 575-200-7902) before injection begins to arrange for approval of the annular monitoring system.**
12) Loss of packer fluid above five barrels per month indicates a developing problem. Notify BLM Carlsbad Field Office, Petroleum Engineering within 5 days.
13) A suggested format for monthly records documenting that the casing annulus is fluid filled is available from the BLM Carlsbad Field Office.
14) Gain of annular fluid pressure requires notification within 24 hours. Cease injection and maintain a production casing pressure of 0psia. Notify the BLM's authorized officer ("Paul R. Swartz" <pswartz@blm.gov>, cell phone 575-200-7902). If there is no response phone 575-361-2822.
15) Submit a (BLM Form 3160-5 subsequent report (daily reports) via BLM's Well Information System; https://www.blm.gov/wispermits/wis/SP (email pswartz@blm.gov for operator setup instructions) describing all wellbore activity and Mechanical Integrity Test as per item 1) above. Include the date(s) of the well work, and the setting depths of installed equipment: internally corrosive protected tubing, tubing on/off equipment just above the packer. The setting depths and descriptions of each are to be included in the subsequent sundry.
16) A request for increased wellhead pressures is to be accompanied by a step rate test. PRIOR to a Step Rate Test BLM – CFO is requiring a Notice of Intent.
17) Class II (production water injection) wells will not be permitted stimulation injection pressures that exceed frac pressure.

Access information for **use of Form 3160-5** "Sundry Notices and Reports on Wells"

NM Fed Regs & Forms - http://www.blm.gov/nm/st/en/prog/energy/oil_and_gas.html

§ 43 CFR 3162.3-2 Subsequent Well Operations.

§ 43 CFR 3160.0-9 (c)(1) Information collection.

§ 3162.4-1 (c) Well records and reports.

McMillan, Michael, EMNRD

From: Swartz, Paul <pswartz@blm.gov>
Sent: Monday, June 13, 2016 9:53 AM
To: Fernandez, Edward; McMillan, Michael, EMNRD
Cc: Jennifer Sanchez; Jerald Whitlock
Subject: Re: Legacy Operating LP Hamon Federal Com SWD No. 1

Michael,

Legacy is behind on their subsequent report and our wellbore diagram does not reflect the work that shows up on Legacy's diagram dated 05/17/2016.

Visited with Steve Owen. He is to have the report filed. Legacy also should have taken a CBL from PBTD to TOC per BLM conditions of approval. BLM has not received that CBL at this time.

On another subject, my wellfile:
"233235.1100n830e WDW- APD RedRuby-01D 2534003 NM129262 Enrgn"

The RedRuby-01D has a Administrative Order SWD-1501 that has the notation "The disposal authority granted herein shall terminate two (2) years after the effective date of this order if the operator has not commenced injection operations into the subject well." It appears that date is to occur October of 2016.

BLM is considering an APD to reenter the RedRuby-01D and make it a water disposal well. My limited investigation has found at least one wellbore P&A'd 10/13/1962 API #3002508135 that may be of considerable concern because of the way it was plugged. Does NMOCD have any input on the concern?

pswartz
575-200-7902

On Fri, Jun 10, 2016 at 10:29 AM, Fernandez, Edward <efernand@blm.gov> wrote:

> Edward G. Fernandez
> Petroleum Engineer
> BUREAU OF LAND MANAGEMENT
> CARLSBAD FIELD OFFICE
> 620 E. Greene St
> Carlsbad, NM 88220
> Ph: (575) 234-2220
> FAX: (575) 234-5927
>
> ---------- Forwarded message ----------
> From: **McMillan, Michael, EMNRD** <Michael.McMillan@state.nm.us>
> Date: Fri, Jun 10, 2016 at 10:00 AM
> Subject: Legacy Operating LP Hamon Federal Com SWD No. 1
> To: "Fernandez, Edward" <efernand@blm.gov>

Form 3160-4
(March 2012)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0137
Expires: October 31, 2014

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. Lease Serial No. NMNM84652

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

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No.

2. Name of Operator: LEGACY RESEVES OPERATING LP

8. Lease Name and Well No.: HAMON FED COM SWD 1

3. Address: PO BOX 10848, MIDLAND, TX 79702

3a. Phone No. (include area code): (432)689-5200

9. API Well No.: 30-025-30848

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

At surface 660 FNL & 1980 FEL

At top prod. interval reported below 660 FNL & 1980 FEL

At total depth 660 FNL & 1980 FEL

10. Field and Pool or Exploratory: QUAIL RIDGE; ATOKA

11. Sec., T., R., M., on Block and Survey or Area: SEC 7, T20S, R34E

12. County or Parish: LEA COUNTY

13. State: NM

14. Date Spudded: 04/28/1990

15. Date T.D. Reached: 08/08/1990

16. Date Completed: 04/22/2016 ☐ D & A ☒ Ready to Prod.

17. Elevations (DF, RKB, RT, GL)*: GL: 3610'

18. Total Depth: MD 13,700' TVD 13,700'

19. Plug Back T.D.: MD 13,140' TVD 13,140'

20. Depth Bridge Plug Set: MD 13,170' TVD 13,170'

21. Type Electric & Other Mechanical Logs Run (Submit copy of each)
ONLY NEW LOG RUN-CBL-SUBMITTAL VIA E-MAIL

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
17.500	13.375	48.0	0	418		450			
11.000	8.625			5209		1715		3370	
7.875	5.500	17.0		13700		550		8850	

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"	8075'	8075'	2 7/8"x5 1/2"					

25. Producing Intervals

Formation	Top	Bottom
A)ATOKA	12,524'	12,529'
B)MORROW		
C)		
D)		

26. Perforation Record

Perforated Interval	Size	No. Holes	Perf. Status
12,524'-12,529'	4.000	20	CLOSED
13,222'-13,229'	2.000	14	CLOSED
13,252'-13,352'	2.000	70	CLOSED

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

Depth Interval	Amount and Type of Material
13,170' TO 13,352'	SET CIBP @ 13,170' W/30' CEMENT ON TOP
12,416'	SET CIBP @ 12,416' w/25 SX CLASS H NEAT ON TOP TAGGED TOC @ 12,185'
10,888'	SET CR @ 10,888' & SQZ PERFS 10,950' w/40 SX CLASS H NEAT. LEFT 5 SX ON TOP TAG TOC 9,656'
9,600	SET BALANCED PLUG 9,356-9,656 TAG TOC 9,356'

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
08/03/90	08/13/90	24	→	475	7789	91	51.8	0.67	FLOWING

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status
18	2525	2460	→	475	7789	91	16,400	FLOWING

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
8/22/08	8/22/08	24	→	63	43	0	42	0.85	FLOWING

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status
			→	63	43	0	683	PRODUCING

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

28b. Production - Interval C

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

28c. Production - Interval D

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

29. Disposition of Gas *(Solid, used for fuel, vented, etc.)*

SOLD

30. Summary of Porous Zones (Include Aquifers):

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.

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top Meas. Depth
MORROW	13,222	13,533			
ATOKA	12,524	12,529			
WOLFCAMP	10,517				
Bone Springs	8,350				
Brushy Canyon	8,140	8,350			
DELAWARE	5,496				
YATES	3,680				

32. Additional remarks (include plugging procedure):

Item 27 Continued:

8750' SET CR @ 8,677' & SQZ'D CMT TO SURFACE W/NITROGEN AHEAD, 725 SX CLASS H, 12.5# & 530 SX CLASS H, 16.4# CMT. TAG @ 8,824'. Set balanced plug 8,117'-8,824' w/70 sx Class H Neat.

8,824' Tag @ 8,117', witnessed by BLM. Drilled out to 8,312' approved by BLM, as 50' above top of Bone Springs.

8,140' Perforated injection interval 8,140'-8,183', 8,198'-8,210', 8,232'-8,237' 2 JSPF

33. Indicate which items have been attached by placing a check in the appropriate boxes:

☐ Electrical/Mechanical Logs (1 full set req'd.) ☐ Geologic Report ☐ DST Report ☐ Directional Survey

☐ *Sundry Notice for plugging and cement verification* ☐ *Core Analysis* ☐ *Other:*

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions)*

Name *(please print)* STEVE OWEN Title SENIOR ENGINEERING ADVISOR

Signature _____ Date 06/22/2016

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.

(Continued on page 3)

Form 3160—4
(November 1983)
(formerly 9—330)

UN. .ED ST/
DEPARTMENT OF TI
BUREAU OF LAND MA

CONFIDENTIAL
HOLD 90 DAYS

RECEIVED
CONFIDENTIAL

AUG 20 '90

Form approved.
Budget Bureau No. 1004—0137
Expires August 31, 1985

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

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

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

2. NAME OF OPERATOR
TXO Production Corp.

3. ADDRESS OF OPERATOR
415 West Wall, Suite 900, Midland, Texas 79701

4. LOCATION OF WELL *(Report location clearly and in accordance with any State requirements)**
At surface 1980' FEL, 660' FNL
At top prod. interval reported below
At total depth Same

5. LEASE DESIGNATION AND SERIAL NO. 84652 NM-~~62602~~

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME Hamon Federal Com.

9. WELL NO. #1

10. FIELD AND POOL, OR WILDCAT Quail Ridge (Morrow)

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA Sec. 7, T-20-S, R-34-E

14. PERMIT NO.

DATE ISSUED 3-22-90

12. COUNTY OR PARISH Lea

13. STATE N.M.

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (Ready to prod.)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
4-28-90	6-16-90	8-8-90	3610.5 GL, 3633 KB	

20. TOTAL DEPTH, MD & TVD	21. PLUG, BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
13,700'	13,654'		→	XX	

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*
13,222'-13,533' (Morrow)

25. WAS DIRECTIONAL SURVEY MADE No

26. TYPE ELECTRIC AND OTHER LOGS RUN
CSL, SDL-DSN, DLL-MGRD, SFT

27. WAS WELL CORED No

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

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13 3/8"	48#	418'	17 1/2"	450 sx "C"	None
8 5/8"	28# & 24#	5209'	12 1/4"	1st stg 465 sx "C"	None
"	"	DV @ 3896'	"	2nd stg 3895 sx "C"	None
5 1/2"	17#	13,700'	7 7/8"	1st stg 400 sx "H"	None
"	"	DV @ 9599'	"	2nd stg 150 sx "H"	None

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"	13,471'	13,471'

31. PERFORATION RECORD *(Interval, size and number)*
13,524'-33', 2 SPF (20 holes) 1 9/16" csg gun
13,330'-52', 2 SPF (44 holes) " " " "
13,252'-65', 2 SPF (26 holes) " " " "
13,222'-229', 2 SPF (16 holes) 1 11/16" csg gun

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

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
13,524'-33'	1150G 7 1/2% HCL, 20% Meth, 2000 scf/B N2
13,330'-52'	2450G 7 1/2% HCL, 490 gal Meth, " " "
13,252'-65'	1300G 7 1/2% HCL, 310 gal Meth, " " "
" "	4000G 7 1/2% HCL 20% Meth, 2200 scf/B N2
13,222'-229'	750G 7 1/2% HCL, 20% Meth, 4400 scf/B N2

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)	WELL STATUS (Producing or shut-in)
8-8-90	Flowing	Producing

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
8-12-90	24	25/64"	→	475	7789	91	16398

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)
2525#	2460#	→	475	7789	91	56.6

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

TEST WITNESSED BY Steve Morgan

35. LIST OF ATTACHMENTS
C-102, C-104, Inclination, Logs, 4 point

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

SIGNED Jay Pulte TITLE Production Engineer DATE 8-15-90

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

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

McMillan, Michael, EMNRD

From:	Steve Owen <sowen@legacylp.com>
Sent:	Wednesday, June 22, 2016 2:31 PM
To:	McMillan, Michael, EMNRD; Laura Pina
Cc:	Jones, William V, EMNRD; Goetze, Phillip, EMNRD; Kautz, Paul, EMNRD; Brown, Maxey G, EMNRD
Subject:	RE: Hamon Fed Com Administrative SWD Application Well No. 1
Attachments:	3160-4 Dated 1990-03-22.pdf; 3160-4 Dated 2016-04-22.pdf

I'm sorry but I think the Sundry data Jezi sent you was incomplete and the WBD is hard to read. The last plug we set was from 8,825' up to 8,312'. That is 50' above the top of the Bone Springs as per BLM Geologist James Rutley. And 75' below the bottom perf. It is not obvious on the updated WBD that Jezi sent but it shows the TOC as 8,117'. That was drilled out to 8,312' to allow for the perforations from 8,140' – to 8,257'. Laura is in the process of filing the Completion report to this effect.

This well was acidized March 31st and swabbed from April 1st through April 13th recovering 746 bbls over the acid load with no more than a trace of oil. I am a Registered Petroleum Engineer and I have studied the open hole logs on this well as well as the mud log. The well was not mud logged above 9,100'. The open hole logs show porosity but no indication of hydrocarbons. A Drilling Info Search of a three mile radius around this well indicates the only production from this interval is over a mile away and is at uneconomic levels. It is my professional opinion that this injection interval does not contain producible hydrocarbons.

I have attached the original completion report when the 5-1/2" casing was run in 1990. I have also attached the Completion report that Laura is filing today showing the secondary squeeze of the 5-1/2" casing from 8,677' to surface and all the subsequent internal plugs up to 50' above the top of the Bone Springs.

I am currently trying how best to get you a tif copy of the CBL log but you will either receive it by EDOCS or on a thumb drive overnight Fed-Ex. Please let Laura or I know if you need anything else.

Stephen D. Owen
Sr. Engineering Advisor
Legacy ReservesPO Box 10848
Midland, TX 79702
432-689-5200
sowen@legacylp.com

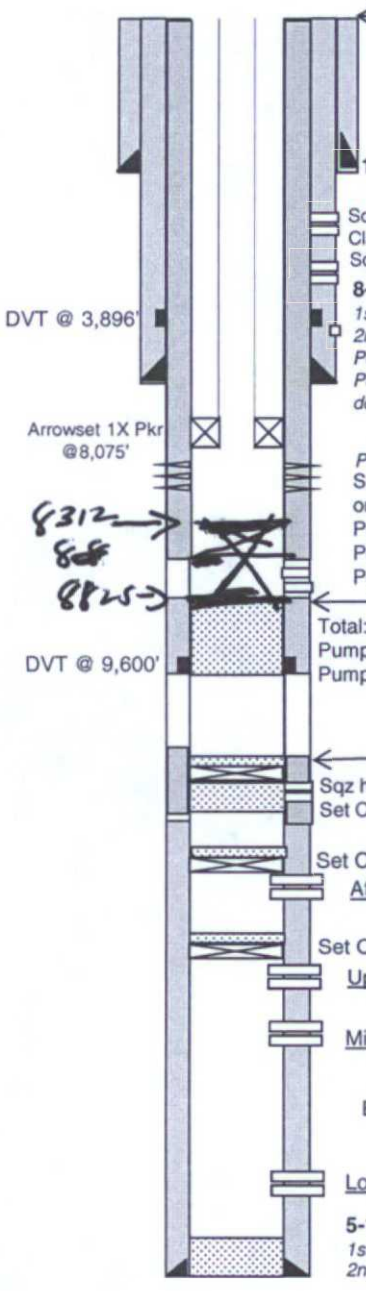
LEGACY RESERVES

CURRENT WELLBORE DIAGRAM

FIELD: QUAIL RIDGE (ATOKA)
LEASE: HAMON FEDERAL COM
COUNTY: LEA
STATE: NEW MEXICO
WELL: 1
LOCATION: 1980' FEL & 660' FNL, Sec. 7,T20S, R34E

GL: 3610'
KB: 3633'

API number: 30-025-30848



TOC @ surface

13-3/8" 48# ST&C csg set at 418' cmt'd w/450 sx Class C + 2% CaCl2 (circ'd to surf.)

Sqz holes in 8-5/8" csg @ 1875', squeezed w/1545 sx Lite + 250 sx C. TOC @ 200' (topped out w/100 sx Class C cmt to surf.)
Sqz holes in 8-5/8" csg @ 2350', squeezed w/750 sx Lite + 150 sx C. TOC @ 1890'.

8-5/8" 24#, 28#, 32# S-80 & K-55 csg @ 5,209'

1st stage cmt w/115 sx Thickset + 100 sx Lite + 250 sx Class C (total 465 sx)
2nd stage cmt w/1,150 sx Lite + 100 sx Class C (total 1,250 sx - TOC @ 2370' by TS)
Perf'd @ 2350' and cmt'd w/750 sx Lite + 150 sx Class C (total 900 sx – TOC @ 1890' by TS)
Perf'd @ 1875' and cmt'd w/1,545 sx Lite + 250 sx Class C (total 1,795 sx – TOC @ 200' by TS, ran 1" pipe down annulus and cmt'd w/100 sx Class C to surf.) – total 4,510 sx used

Perf'd 2 SPF @ 8,140'-8,183', 8,198'-8,210', 8,232'-8,237' (3/30/16)
Set CR @ 8,677'. Sqz w/725 sx Class H cmt 12.5#, 530 sx Class H cmt 16.4#, & N2 below CR. Left 1 sx cmt on CR. (3/17/16) Drilled CR @ 8,677'. (3/21/16) Tagged TOC 8,824'. (3/23/16)
Pumped 70 sx 16.4# Class H cmt. (3/28/16) Tagged TOC 8,117'. (3/29/16)
Perf'd 8,750', no circulation. (3/15/16)
Perf'd 8,800', no circulation. (3/11/16)

TOC @ 8850' by CBL
Total: 127 sx (8,824'-9,356')
Pumped balanced plug 30 sx 16.4# Class H cmt. Tag TOC 9,356'. (3/9/16)
Pumped 97 sx 16.4# Class H cmt balanced plug from 9356' to estimated TOC 8,570'. Tagged TOC 8,824'.(3/10/16)

TOC @ 10,860'
Sqz holes w/ 25 sx Class H neat cmt in 5-1/2" csg @ 10,950'. Tag TOC @ 12,185'. (3/3/16)
Set CR @ 10,888', sqz w/40 sx H neat & left 5 sx on top of CR. Tag TOC @ 10,860'.

Set CIBP @ 12,416' w/25 sx H neat on top. (3/3/16)
Atoka: 12,524' -12,529' w/4 JSPF (8/11/08)

Set CIBP @ 13,170' w/30' cmt on top. (8/11/08)
Upper Morrow: 13,222' -13,229 w/2 JSPF (8/12/90)

Middle Morrow: 13,252' -13,265' w/2 JSPF & 13,330' - 13,352' w/2 JSPF (8/12/90)

Baker Lok-set pkr @ 13,471', On/Off tool w/1.81 "F" nipple, and 15' of tbg jt parted

Lower Morrow: 13,524' - 13,533' w/2 JSPF (8/12/90)

5-1/2" 17# S-95/N-80/S-95 csg, 3083'/8545'/12428', set @ 13,700'

1st stage cmt w/400 sx Class H w/10% salt + .4% Fluid Loss Add + .2% Turbulence Reducer Circ'd
2nd stage cmt w/150 sx Class H w/10% salt + .4% Loss Add + .2% Turbulence Reducer

TD @ 13,700'

DATE: 05/17/16

SDO

State of New Mexico
Energy, Minerals and Natural Resources Department

Administrative Order SWD-1468
March 20, 2014

ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION

Pursuant to the provisions of Division Rule 19.15.26.8B. NMAC, Legacy Reserves Operating LP (the "operator") seeks an administrative order to re-enter and recomplete its Hamon Federal Com. Well No. 1 with a location of 660 feet from the North line and 1980 feet from the East line, Unit letter B of Section 7, Township 20 South, Range 34 East, NMPM, Lea County, New Mexico, for produced water disposal purposes.

THE DIVISION DIRECTOR FINDS THAT:

The application has been duly filed under the provisions of 19.15.26.8B. NMAC and satisfactory information has been provided that affected parties as defined in said rule have been notified and no objections have been received within the prescribed waiting period. The applicant has presented satisfactory evidence that all requirements prescribed in 19.15.26.8 NMAC have been met and the operator is in compliance with 19.15.5.9 NMAC.

IT IS THEREFORE ORDERED THAT:

The applicant, Legacy Reserves Operating LP (OGRID 240974), is hereby authorized to utilize its Hamon Federal Com. Well No. 1 (API 30-025-30848) with a location of 660 feet from the North line and 1980 feet from the East line, Unit letter B of Section 7, Township 20 South, Range 34 East, NMPM, Lea County, for disposal of oil field produced water (UIC Class II only) into the Brushy Canyon formation of the Delaware Mountain group through perforations from approximately 8060 feet to approximately 8370 feet. Injection will occur through internally-coated, 2 7/8-inch and smaller tubing and a packer set within 100 feet of the permitted interval.

IT IS FURTHER ORDERED THAT:

The operator shall take all steps necessary to ensure that the disposed water enters only the approved disposal interval and is not permitted to escape to other formations or onto the surface. This includes the well construction proposed and described in the application.

The operator shall install a cast-iron bridge plug (or equivalent) with a cement cap between the deepest perforations in the Brushy Canyon formation and the perforations proposed for squeezing at approximately 8530 feet.

Operator will provide cement bond log, temperature survey, or equivalent method

showing the location of the top of cement between the 5 ½-inch and 8 5/8-inch casings following the squeeze operation described in the application. This information will be submitted to the Division's district I office prior to commencing injection.

After installing tubing, the casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge or an approved leak detection device in order to determine leakage in the casing, tubing, or packer. The casing shall be pressure tested from the surface to the packer setting depth to assure casing integrity.

The well shall pass an initial mechanical integrity test ("MIT") prior to initially commencing disposal and prior to resuming disposal each time the disposal packer is unseated. All MIT procedures and schedules shall follow the requirements in Division Rule 19.15.26.11A. NMAC. The Division Director retains the right to require at any time wireline verification of completion and packer setting depths in this well.

The wellhead injection pressure on the well shall be limited to **no more than 1612 psig**. In addition, the disposal well or system shall be equipped with a pressure limiting device in workable condition which shall, at all times, limit surface tubing pressure to the maximum allowable pressure for this well.

The Director of the Division may authorize an increase in tubing pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the disposed fluid from the target formation. Such proper showing shall be demonstrated by sufficient evidence including but not limited to an acceptable Step-Rate Test.

The operator shall notify the supervisor of the Division's district I office of the date and time of the installation of disposal equipment and of any MIT so that the same may be inspected and witnessed. The operator shall provide written notice of the date of commencement of disposal to the Division's district office. The operator shall submit monthly reports of the disposal operations on Division Form C-115, in accordance with Division Rules 19.15.26.13 and 19.15.7.24 NMAC.

Without limitation on the duties of the operator as provided in Division Rules 19.15.29 and 19.15.30 NMAC, or otherwise, the operator shall immediately notify the Division's district I office of any failure of the tubing, casing or packer in the well, or of any leakage or release of water, oil or gas from around any produced or plugged and abandoned well in the area, and shall take such measures as may be timely and necessary to correct such failure or leakage.

The injection authority granted under this order is not transferable except upon division approval. The Division may require the operator to demonstrate mechanical integrity of any injection well that will be transferred prior to approving transfer of authority to inject.

The Division may revoke this injection permit after notice and hearing if the operator is in violation of 19.15.5.9 NMAC.

The disposal authority granted herein shall terminate two (2) years after the effective date of this order if the operator has not commenced injection operations into the subject well. One year after the last date of reported disposal into this well, the Division shall consider the well abandoned, and the authority to dispose will terminate *ipso facto*. The Division, upon written request mailed by the operator prior to the termination date, may grant an extension thereof for good cause.

Compliance with this order does not relieve the operator of the obligation to comply with other applicable federal, state or local laws or rules, or to exercise due care for the protection of fresh water, public health and safety and the environment.

Jurisdiction is retained by the Division for the entry of such further orders as may be necessary for the prevention of waste and/or protection of correlative rights or upon failure of the operator to conduct operations (1) to protect fresh or protectable waters or (2) consistent with the requirements in this order, whereupon the Division may, after notice and hearing, terminate the disposal authority granted herein.

JAMI BAILEY
Director

JB/prg

cc: Oil Conservation Division – Hobbs District Office
Bureau of Land Management – Carlsbad Office

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
CP 00750			LE	3	4		07	20S	34E	631639	3605834*	320		

Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

Record Count: 1

PLSS Search:

Section(s): 5-8 **Township:** 20S **Range:** 34E

*UTM location was derived from PLSS - see Help

Martin Water Laboratories, Inc.

Analysts & Consultants since 1953
Bacterial & Chemical Analysis

TO:	Mike Parrish	LABORATORY NO.	16-04-118
ADDRESS:	303 W. Wall, Suite 1400, Midland, TX 79702	SAMPLE RECEIVED:	4/12/16
COMPANY:	Legacy Reserves	RESULTS REPORTED:	4/12/16
LEASE:	Hamon Fed Com #1	COUNTY, STATE:	Lea, NM
FORMATION:	perfs: 8,140'-8,237'	FIELD OR POOL:	

DESCRIPTION OF SAMPLES

No. 1	Submitted water sample - taken 4/12/16.
No. 2	
No. 3	
No. 4	

Chemical and Physical Properties (milligrams per liter)	No. 1	No. 2	No. 3	No. 4
Specific Gravity @ 60°F.	1.1785			
pH When Received	6.00			
Bicarbonate as HCO_3	500			
Total Hardness, as CaC03	131,000			
Calcium, as Ca	18,800			
Magnesium, as Mg	20,412			
Sodium and/or Potassium	64,336			
Sulfate, as SO4	2,069			
Chloride, as Cl	190,280			
Iron, as Fe	100			
Barium, as Ba	0			
Total Dissolved Solids, Calculated	296,398			
Hydrogen Sulfide	0.00			
Resistivity, ohms/m @ 77°F.	0.045			

REMARKS: The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

By: Greg Ogden, B.S.

(432) 683-4521 * 709 W. Indiana, Midland, Texas 79701 * (fax) 682-8819
Remit to Address: P.O. Box 98, Midland, Texas 79702
Email: martinwaterlabs@nts-online.net

DownHole SAT™ Water Analysis Report

KEL-TECH

SYSTEM IDENTIFICATION

LEGACY
HAMMON 4H
TUBING
B. STRUBE

Sample ID#: 5717
ID: WA5717

Sample Date: 07-16-2015 at 1112
Report Date: 07-16-2015

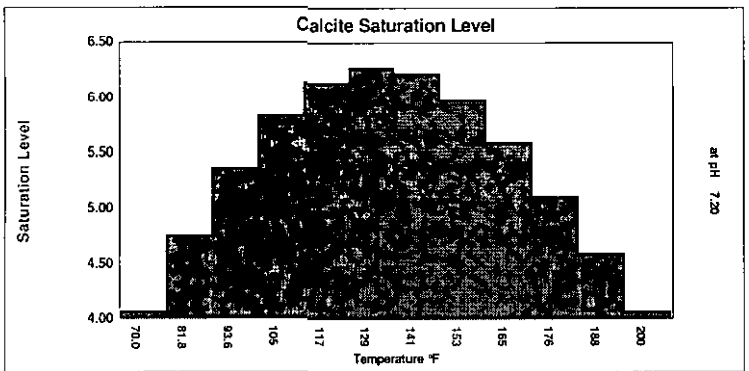
WATER CHEMISTRY

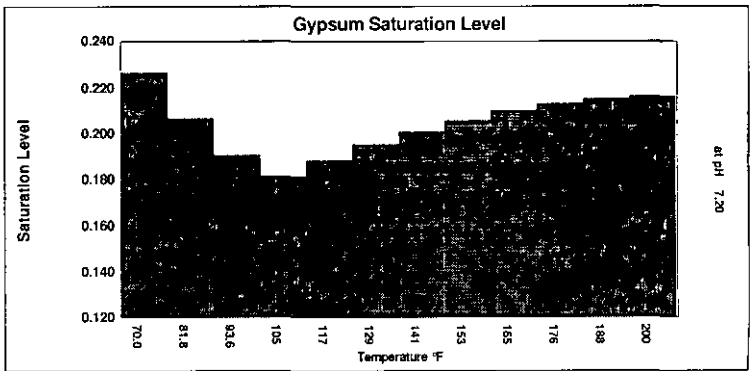
CATIONS		ANIONS	
Calcium(as Ca)	5275	Chloride(as Cl)	88000
Magnesium(as Mg)	959.30	Sulfate(as SO_4)	383.00
Barium(as Ba)	1.91	Dissolved CO_2(as CO_2)	80.00
Strontium(as Sr)	657.30	Bicarbonate(as HCO_3)	158.60
Sodium(as Na)	48124	Phosphate(as PO_4)	0.00
Potassium(as K)	832.60	H_2S (as H_2S)	0.00
Iron(as Fe)	90.23		
Manganese(as Mn)	1.53	**PARAMETERS**	
		Temperature(°F)	70.00
		Sample pH	7.20
		Conductivity	209714
		T.D.S.	140729
		Resistivity	4.77
		Sp.Gr.(g/mL)	1.10

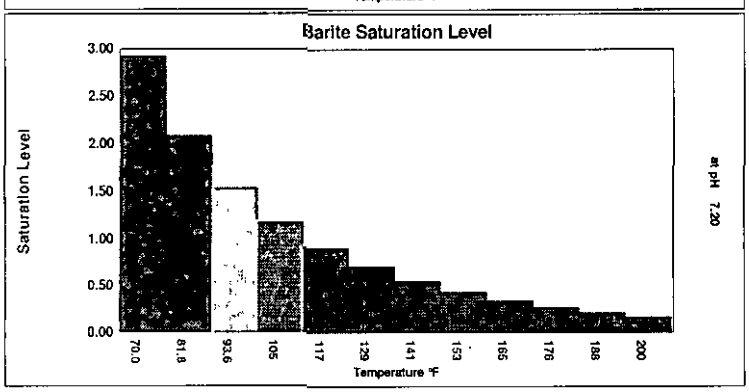
SCALE AND CORROSION POTENTIAL

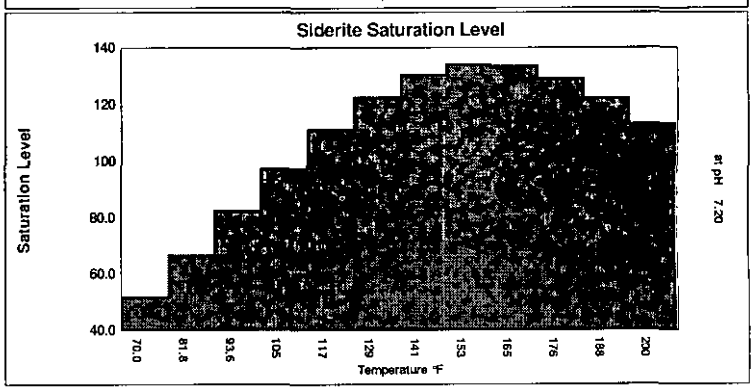
Temp. (°F)	Press. (psig)	Calcite $CaCO_3$		Anhydrite $CaSO_4$		Gypsum $CaSO_4*2H_2O$		Barite $BaSO_4$		Celestite $SrSO_4$		Siderite $FeCO_3$		Mackawenite FeS		CO_2 (mpy)	pCO_2 (psia)
70.00	14.70	4.07	0.0704	0.157	-347.98	0.227	-256.24	2.92	0.742	0.652	-39.22	52.29	0.106	0.00	-0.00992	0.0288	0.192
81.82	147.00	4.76	0.0810	0.152	-348.49	0.207	-275.47	2.09	0.586	0.613	-44.30	67.05	0.117	0.00	-0.0103	0.0606	1.05
93.64	279.30	5.37	0.0890	0.151	-337.68	0.191	-291.51	1.54	0.395	0.588	-47.20	82.78	0.125	0.00	-0.0107	0.0761	1.92
105.45	411.60	5.84	0.0937	0.154	-317.61	0.182	-297.99	1.17	0.166	0.572	-48.78	97.82	0.129	0.00	-0.0112	0.0882	2.78
117.27	543.90	6.15	0.0952	0.162	-290.64	0.189	-274.94	0.908	-0.114	0.556	-50.21	111.41	0.130	0.00	-0.0117	0.0807	3.64
129.09	676.20	6.28	0.0939	0.174	-259.20	0.195	-255.57	0.707	-0.462	0.540	-51.90	122.68	0.128	0.00	-0.0123	0.0715	4.51
140.91	808.50	6.22	0.0900	0.190	-225.51	0.201	-239.36	0.554	-0.893	0.523	-53.88	130.60	0.123	0.00	-0.0130	0.0614	5.37
152.73	940.80	5.99	0.0837	0.213	-191.46	0.206	-225.91	0.436	-1.42	0.505	-56.14	134.35	0.115	0.00	-0.0138	0.0661	6.23
164.55	1073	5.60	0.0757	0.242	-158.54	0.210	-214.88	0.346	-2.07	0.487	-58.72	133.78	0.106	0.00	-0.0148	0.0713	7.09
176.36	1205	5.11	0.0667	0.280	-127.83	0.213	-206.02	0.275	-2.85	0.468	-61.64	129.35	0.0952	0.00	-0.0158	0.0756	7.96
188.18	*1338*	*4.60*	*0.0579*	*0.328*	*-99.99*	*0.215*	*-199.14*	*0.220*	*-3.79*	*0.449*	*-64.94*	*122.45*	*0.0850*	*0.00*	*-0.0171*	*0.0430*	8.82
200.00	1470	4.07	0.0494	0.389	-75.35	0.216	-194.08	0.177	-4.91	0.429	-68.67	113.43	0.0751	0.00	-0.0187	0.0336	9.68
		xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels		

Saturation Levels (xSAT) are the ratio of ion activity to solubility, e.g. $\{Ca\}\{CO_3\}/K_{sp}$. pCO_2 (psia) is the partial pressure of CO_2 in the gas phase.
Lbs/1000 Barrels scale is the quantity of precipitation (or dissolution) required to instantaneously bring the water to equilibrium.









DownHole SAT™ Water Analysis Report

KEL-TECH

SYSTEM IDENTIFICATION

LEGACY
HAMMON 2H
TUBING
B. STRUBE

Sample ID#: 5716
ID: WA5716

Sample Date: 07-16-2015 at 1110
Report Date: 07-16-2015

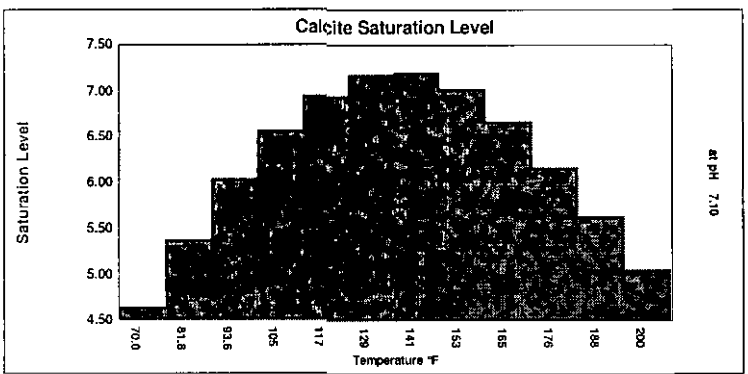
WATER CHEMISTRY

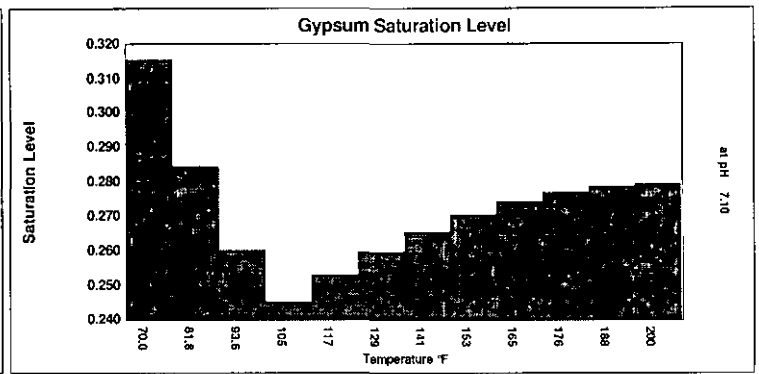
CATIONS		ANIONS	
Calcium(as Ca)	11940	Chloride(as Cl)	109000
Magnesium(as Mg)	1936	Sulfate(as SO_4)	367.00
Barium(as Ba)	1.98	Dissolved CO_2(as CO_2)	115.00
Strontium(as Sr)	806.60	Bicarbonate(as HCO_3)	134.20
Sodium(as Na)	51769	Phosphate(as PO_4)	0.00
Potassium(as K)	1094	H_2S (as H_2S)	0.00
Iron(as Fe)	41.35		
Manganese(as Mn)	3.45	**PARAMETERS**	
		Temperature(°F)	70.00
		Sample pH	7.10
		Conductivity	269638
		T.D.S.	171533
		Resistivity	3.71
		Sp.Gr.(g/mL)	1.13

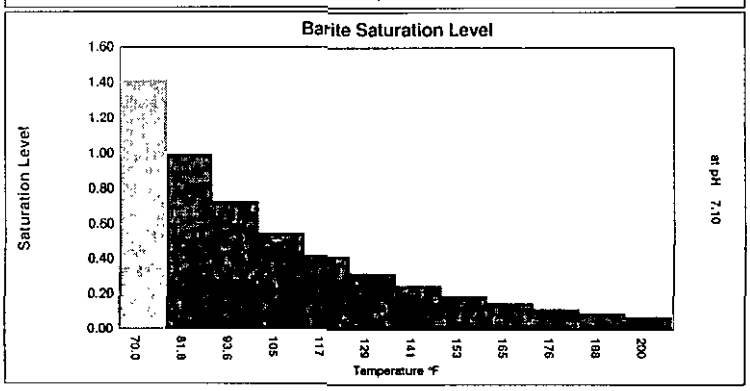
SCALE AND CORROSION POTENTIAL

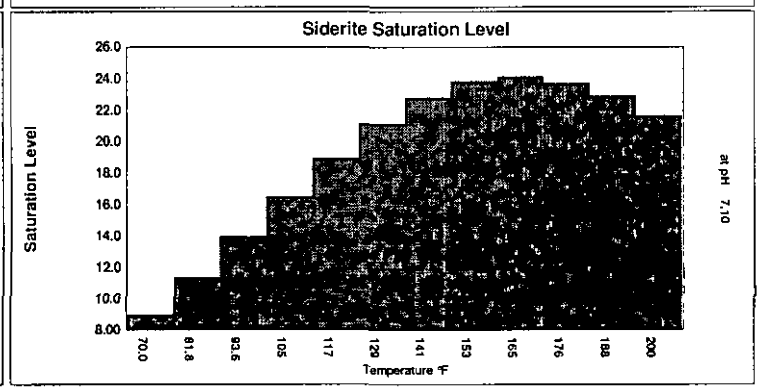
Temp. (°F)	Press. (psig)	Calcite $CaCO_3$		Anhydrite $CaSO_4$		Gypsum $CaSO_4*2H_2O$		Barite $BaSO_4$		Celestite $SrSO_4$		Siderite $FeCO_3$		Mackawenite FeS		CO_2 (mpy)	pCO_2 (psia)
70.00	14.70	4.65	0.0303	0.228	-132.56	0.315	-96.46	1.41	0.337	0.374	-73.68	8.99	0.0397	0.00	-0.0304	0.0293	0.196
81.82	147.00	5.38	0.0342	0.217	-133.73	0.285	-105.90	0.996	-0.00509	0.348	-78.06	11.41	0.0444	0.00	-0.0316	0.0615	1.08
93.64	279.30	6.04	0.0372	0.214	-129.90	0.260	-113.87	0.728	-0.427	0.330	-80.28	13.99	0.0479	0.00	-0.0329	0.0773	1.96
105.45	411.60	6.57	0.0391	0.217	-122.00	0.245	-117.55	0.550	-0.928	0.318	-81.20	16.54	0.0502	0.00	-0.0344	0.0895	2.85
117.27	543.90	6.96	0.0401	0.225	-111.10	0.253	-108.13	0.421	-1.54	0.307	-82.00	18.98	0.0513	0.00	-0.0361	0.0819	3.73
129.09	676.20	7.18	0.0400	0.240	-98.29	0.260	-100.28	0.326	-2.28	0.296	-83.12	21.14	0.0513	0.00	-0.0379	0.0726	4.61
140.91	808.50	7.21	0.0390	0.262	-84.55	0.266	-93.78	0.253	-3.19	0.284	-84.58	22.82	0.0501	0.00	-0.0400	0.0623	5.49
152.73	940.80	7.03	0.0369	0.291	-70.70	0.271	-88.44	0.199	-4.27	0.273	-86.39	23.85	0.0477	0.00	-0.0424	0.0671	6.38
164.55	1073	6.67	0.0340	0.329	-57.36	0.274	-84.11	0.156	-5.55	0.262	-88.58	24.14	0.0444	0.00	-0.0451	0.0724	7.26
176.36	1205	6.17	0.0307	0.378	-44.97	0.277	-80.68	0.124	-7.05	0.250	-91.20	23.74	0.0406	0.00	-0.0483	0.0767	8.14
188.18	1338	5.63	0.0273	0.442	-33.78	0.279	-78.08	0.0988	-8.79	0.239	-94.28	22.93	0.0367	0.00	-0.0520	0.0436	9.03
200.00	1470	5.06	0.0239	0.523	-23.92	0.279	-76.22	0.0790	-10.80	0.228	-97.87	21.67	0.0329	0.00	-0.0564	0.0341	9.91
		xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels		

Saturation Levels (xSAT) are the ratio of ion activity to solubility, e.g. $\{Ca\}\{CO_3\}/K_{sp}$. pCO_2 (psia) is the partial pressure of CO_2 in the gas phase.
Lbs/1000 Barrels scale is the quantity of precipitation (or dissolution) required to instantaneously bring the water to equilibrium.









C-108 Review Checklist: Received 02/07/14 Add. Request: — Reply Date: — Suspended: — [Ver 12]

PERMIT TYPE: WFX / PMX / (SWD) Number: 1468 Permit Date: 03/20/14 Legacy Permits/Orders: None

Well No. 1 Well Name(s): Hamon Federal Com.

API : 30-0 25-30848 Spud Date: 04/28/1990 New or Old: New (*UIC Class II Primacy 03/07/1982*)

Footages 660 FNL / 1980 FEL Lot — or Unit B Sec 7 Tsp 20S Rge 34 E County Lea

General Location: ~8 mi NE of Halfway / south of US/180 Pool: Morrow & Atoka / Quail Ridge* Pool No.: 83280

BLM 100K Map: Hobbs Operator: Legacy Reserves Operating OGRID: 240974 Contact: Blaine Lewis

COMPLIANCE RULE 5.9: Inactive Wells: 10 Total Wells: 1366 Fincl Assur: Yes Compl. Order? No. **IS 5.9 OK? Date:** OK 03/20/14

WELL FILE REVIEWED ✓ Current Status: Depleted Morrow producer; well has packer above Atoka perfs.

WELL DIAGRAMS: NEW: Proposed ○ or **RE-ENTER:** Before Conv. ✓ After Conv. ✓ Logs in Imaging: DLL / MicroGL & Sonic; S Density / DG Neutron Log

Planned Rehab Work to Well: Squeeze cmt 5½ in casing from 8530 to 5100'; CBIP; perf Brushy

Well Construction Details:	Sizes (in) Borehole / Pipe	Setting Depths (ft)		Cement (Sx) or Cf	Cement Top and Determination Method
Planned __ or Existing __ **Conductor**	—	—	Stage Tool	—	—
Planned __ or Existing ✓ **Surface**	17½ / 13⅜	0 to 418		450	Circulate to surf
Planned __ or Existing ✓ **Interm/Prod**	12¼ / 8⅝	0 to 5209	Yes/3889	600+4510+154	Circulate to surf
Planned __ or Existing ✓ **Prod/Interm**	7⅞ / 5½	0 to 13700	Yes/9599	480+150	TS/CBL/numerous attempts
Planned __ or Existing __ **Liner/Prod**	—	—	—	—	—
Planned __ or Existing __ **OH / PERF**	5½	8060 to 8370	Inj Length 310'		

Injection Stratigraphic Units:	Depths (ft)	Injection or Confining Units	Tops?
Adjacent Unit: Litho. Struc. Por.	—	—	—
Confining Unit: Litho. (Struc.) (Por.)	+1560	Delaware Gp	6300
Proposed Inj Interval TOP:	8060	Brushy Canyon	
Proposed Inj Interval BOTTOM:	8370	Formation	8370
Confining Unit: Litho. Struc. (Por.)	—	Bone Spring	8540*
Adjacent Unit: Litho. Struc. Por.	—	Wolfcamp	8370

Completion/Operation Details:

- Drilled TD 13700 PBTD 13140
- NEW TD — NEW PBTD ~8530
- NEW Open Hole ○ or NEW Perfs ✓
- Tubing Size 2⅞ in. Inter Coated? Yes
- Proposed Packer Depth 8050 ft
- Min. Packer Depth 7960 (100-ft limit)
- Proposed Max. Surface Press. 4000 psi
- Admin. Inj. Press. 1612 (0.2 psi per ft)

AOR: Hydrologic and Geologic Information

POTASH: R-111-P ✓ Noticed? No **BLM Sec Ord** ✓ **WIPP** (N) Noticed? NA **SALADO:** T: — B: — **CLIFF HOUSE** NA

FRESH WATER: Aquifer Alluvial Max Depth ~330 ft HYDRO AFFIRM STAT By Qualified Person ✓ 1 Mile Wells? No FW Analysis NA — BLM minerals – no leases within 4 miles. Closest Western

Disposal Fluid: Formation Source(s) Capitan Basin / NMSEO. Bone Spring Analysis? Yes On Lease ○ Operator Only ✓ or Commercial ○

Disposal Interval: Inject Rate (Avg/Max BWPD): 5000/10000 Protectable Waters?: No **CAPITAN REEF:** thru ○ adj ✓ NA ○ 3700 to 4750

HC Potential: Producing Interval? Unk Formerly Producing? No Method: Logs/DST/P&A/Other Mud log 2-Mile Radius Pool Map ○

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

Penetrating Wells: No. Active Wells 1 Num Repairs? 0 on which well(s)? [Hamon Fed Com A #3H] Diagrams? NA

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

NOTICE: Newspaper Date 01/17/2014 Mineral Owner BLM Surface Owner BLM / Lessee notified N. Date 02/04/2014

RULE 26.7(A): Identified Tracts? No Affected Persons: Legacy – only operator within ½ mile N. Date NA

Permit Conditions: Issues: *BLM / old production; CIBP not noted on proposed; HC potential – not identified cmt for 5½ in – cmt to be squeezed.

Add Permit Cond: CIBP specified; CBL to be completed following cmt squeeze

6/13 ~~4~~ 6/22
6/13 6/22

C-108 Review Checklist: Received 6/10/2022 Add. Request: 6/13 Reply Date: 6/13 Suspended: ________ [Ver 15]

ORDER TYPE: WFX / PMX / SWD Number: ________ Order Date: ________ Legacy Permits/Orders: ________

Well No. 1 Well Name(s): Hamon Federal Com

API : 30-0 25-30844 Spud Date: 4-28-1990 New or Old: N (UIC Class II Primacy 03/07/1982)

Footages 660FNL 1980FEL Lot____ or Unit B Sec 7 Tsp 20S Rge 34E County Lea

General Location: 2 miles S of Halfway Pool: SW; Bragsby Canyon Pool No.: 97802

BLM 100K Map: Hobbs Operator: Legacy Reserves Operating OGRID: 240974 Contact: Steven Owen

COMPLIANCE RULE 5.9: Total Wells:________ Inactive:______ Fincl Assur:______ Compl. Order?______ IS 5.9 OK?____ Date:________

WELL FILE REVIEWED ✓ Current Status: Prep to inject

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

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 1/2 / 13 3/8	418		450	Surface / Visual
Planned __or Existing __Interm/Prod	11" / 8 5/8	5209	3891	1715	Surface / Visual
Planned __or Existing __Interm/Prod	7 7/8 / 5 1/2	86~~[illegible]~~		3475	Surface / Visual
Planned __or Existing __ Prod/Liner					
Planned __or Existing __ Liner					
Planned __or Existing __ OH / (PERF)	8140/8227		Inj Length 97		

Injection Lithostratigraphic Units:	Depths (ft)	Injection or Confining Units	Tops
Adjacent Unit: Litho. Struc. (Por.)	[redacted]	B.S. Lm	8360
Confining Unit: Litho. Struc. (Por.)		Del	8050
Proposed Inj Interval TOP:			8140
Proposed Inj Interval BOTTOM:			8237
Confining Unit: Litho. Struc. Por.			
Adjacent Unit: Litho. Struc. Por.	[redacted]		

Completion/Operation Details:

Drilled TD 13700 PBTD 13654
NEW TD 8424 NEW PBTD 8350
NEW Open Hole ○ or NEW Perfs ○
Tubing Size ______ in. Inter Coated? ______
Proposed Packer Depth 8070 ft
Min. Packer Depth ~~80~~ 8040 (100-ft limit)
Proposed Max. Surface Press. 1628 psi
Admin. Inj. Press. ~~1628~~ (0.2 psi per ft) 1612 → BLM requirement

AOR: Hydrologic and Geologic Information

POTASH: R-111-P Y Noticed?____ BLM Sec Ord ○ WIPP ○ Noticed?____ Salt/Salado T:_____B:_____ **NW:** Cliff House fm____

FRESH WATER: Aquifer ——— Max Depth____ **HYDRO AFFIRM STATEMENT** By Qualified Person ○

NMOSE Basin: Capitan CAPITAN REEF (thru) adj NA No. Wells within 1-Mile Radius? ______ FW Analysis

Disposal Fluid: Formation Source(s) Bone Spring Analysis? Y On Lease ○ Operator Only ○ or Commercial ✓

Disposal Int: Inject Rate (Avg/Max BWPD): 54/172 Protectable Waters?______ Source:______ System (Closed) or Open

HC Potential: Producing Interval? NA Formerly Producing?______ Method: Logs/DST/P&A/Other Perf 2-Mile Radius Pool Map ○

AOR Wells: 1/2-M Radius Map? Y Well List? Y Total No. Wells Penetrating Interval: 4 Horizontals? 2

Penetrating Wells: No. Active Wells 4 Num Repairs? ___ on which well(s)? ________ Diagrams? NA → well files show adequate cas & cmt

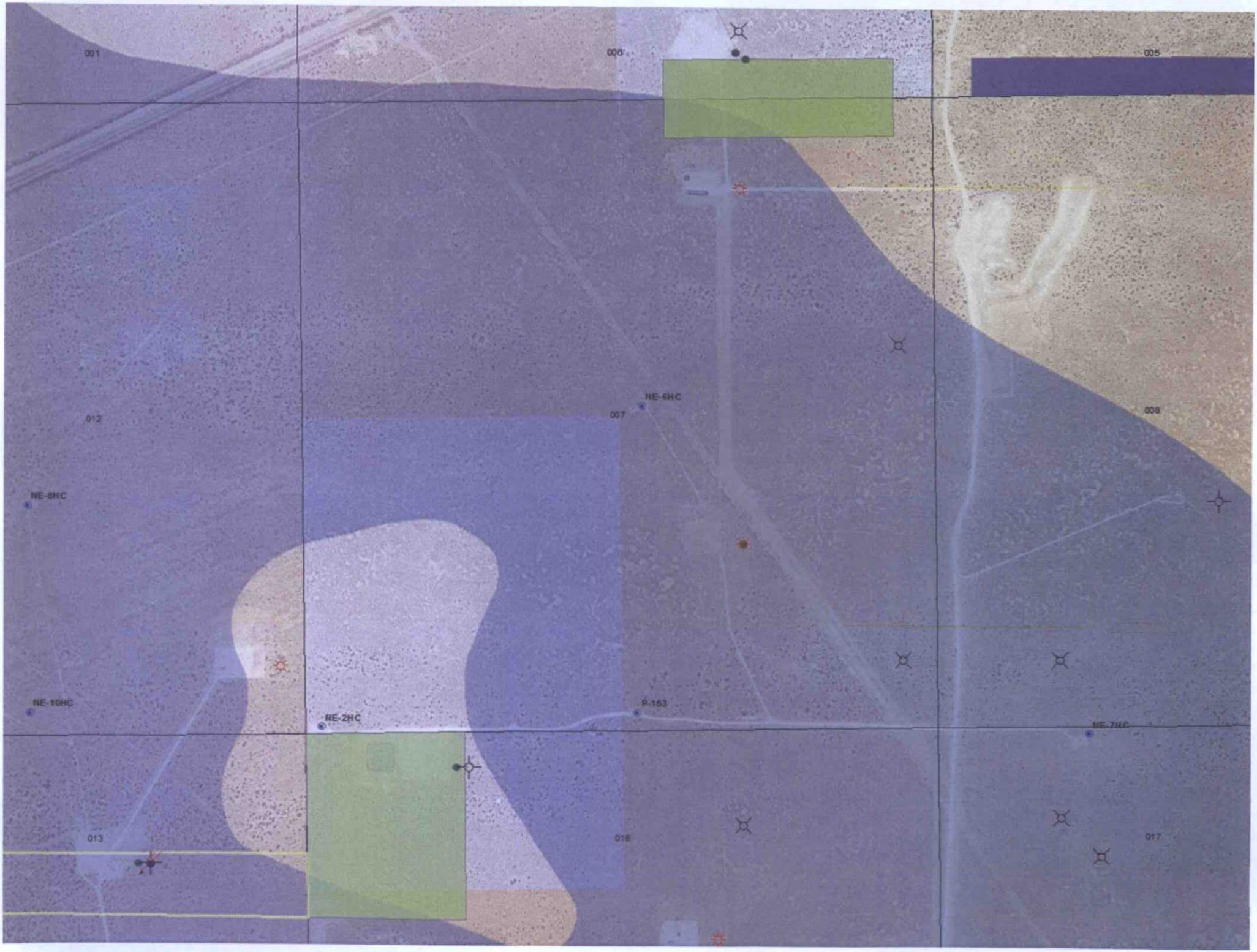
Penetrating Wells: No. P&A Wells 0 Num Repairs?____ on which well(s)? ________ Diagrams?______

NOTICE: Newspaper Date NA 12/2022 Mineral Owner ~~State~~ BLM Surface Owner ~~State~~ Wayne Snyder N. Date 6/6/2022

RULE 26.7(A): Identified Tracts? ______ Affected Persons: Fasken, Collins/Ware, Snyder N. Date 6/6/2022

Order Conditions: Issues: ________

Add Order Cond: ________


001
006
005
012
007
008
NE-6HC
NE-8HC
NE-10HC
NE-2HC
P-153
NE-7HC
013
018
017

McMillan, Michael, EMNRD

From: Rutley, James <jrutley@blm.gov>
Sent: Thursday, June 23, 2016 7:54 AM
To: Steve Owen
Cc: McMillan, Michael, EMNRD; Laura Pina; Goetze, Phillip, EMNRD; Kautz, Paul, EMNRD; Jones, William V, EMNRD; Edward Fernandez; Paul Swartz
Subject: Re: Hamon Fed Com Administrative SWD Application Well No. 1
Attachments: Hamon Fed Com SWD Application No. 1 - 2016-06-23.jpg

Good Morning Steve,

There is no mining lease in Section 7 of 20S 34E. The nearest mining lease is over 2 and half miles to the northeast leased by Mosaic. The nearest active mining lease is over 7 miles southeast of your proposed SWD well leased by Intrepid.

Attached is a map of two "approved" (green) drill islands in Section 7 and 18 of 20S 34E. All new drilling is expected to occur on these drill islands and wells not on these drill islands are expected to be plugged when they "play" out.

BLM has been approving SWD's on a case by case scenario in the Secretary's Potash Area. However, in the Secretary's Potash Area and especially in measured ore (blue in attached map), BLM encourages operators to dispose in deep horizons such as the Devonian. This application is not on the approved drill island and in measured ore and is being proposed for disposal in the Delaware. Intrepid would likely object to the application because of those three conditions.

Ed Fernandez, BLM Petroleum Engineer, and Paul Swartz, BLM PET, review SWD applications in Federal Minerals and would also likely protest the application because of its shallow depth and being below the Capitan Reef. I have copied these two into the conversation for their comments.

Sorry for the misunderstanding,

Jim

James S. Rutley
Geologist
Carlsbad Field Office
Bureau of Land Management
(575) 234-5904

McMillan, Michael, EMNRD

From:	Rutley, James <jrutley@blm.gov>
Sent:	Thursday, June 23, 2016 2:27 PM
To:	McMillan, Michael, EMNRD
Cc:	George MacDonell; Paul Swartz
Subject:	Hamon Fed Com Administrative SWD Application Well No. 1

Good Afternoon Mr. McMillan,

I would like to apologize for causing a lot of confusion in regards to BLM's position on the Hamon Fed Com SWD 1. I was unaware of Mr. Paul Swartz coordination with Steve Owen of Legacy bringing the well to compliance within R-111-P. I met with Mr. Swartz and our Field Manager George MacDonell regarding the well in question. Mr. Swartz has had weekly conversations with Mr. Owen bringing the well into compliance. I was unaware of the coordinated effort on both BLM and Legacy.

BLM is considerably less strict with development areas and drilling islands as you move away from active and inactive mining leases. I spoke with Steve Owen regarding proposing to extend the drill island south so that the well would be on the drill island. Intrepid is aware of the location of the drill island and that it is still in the proposed state. BLM surface specialists still have to vet the surface for habitat and surface concerns and will likely prefer the existing disturbance and location of the SWD than disturbing the big sand dunes to the south and east of the well.

Considering all of the work that has been done remediating the well and the well's proximity to a proposed drill island, BLM does not oppose the operation of the well. BLM hopes that you would reconsider suspending their permit to inject.

Please feel free to contact me anytime if you have any questions.

Thank you for your consideration,

Jim

James S. Rutley
Geologist
Carlsbad Field Office
Bureau of Land Management
(575) 234-5904

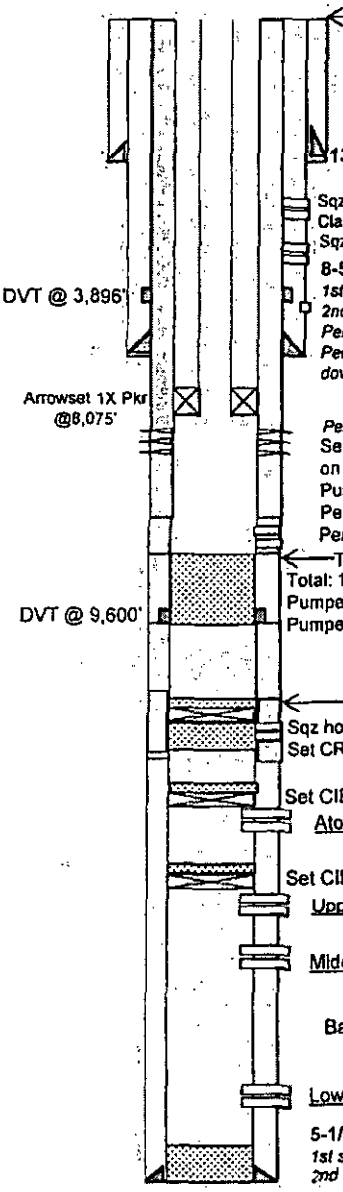
LEGACY RESERVES

FIELD: QUAIL RIDGE (ATOKA)
LEASE: HAMON FEDERAL COM
COUNTY: LEA
STATE: NEW MEXICO
WELL: 1
LOCATION: 1980' FEL & 660' FNL, Sec. 7,T20S, R34E

GL: 3610'
KB: 3633'

API number: 30-025-30848

CURRENT WELLBORE DIAGRAM



TOC @ surface

13-3/8" 48# ST&C csg set at 418' cmt'd w/450 sx Class C + 2% CaCl2 (circ'd to surf.)

Sqz holes in 8-5/8" csg @ 1875', squeezed w/1545 sx Lite + 250 sx C. TOC @ 200' (topped out w/100 sx Class C cmt to surf.)
Sqz holes in 8-5/8" csg @ 2350', squeezed w/750 sx Lite + 150 sx C. TOC @ 1890'

8-5/8" 24#, 28#, 32# S-80 & K-55 csg @ 5,209'
1st stage cmt w/115 sx Thickset + 100 sx Lite + 250 sx Class C (total 465 sx)
2nd stage cmt w/1,150 sx Lite + 100 sx Class C (total 1,250 sx - TOC @ 2370' by TS)
Perf'd @ 2350' and cmt'd w/750 sx Lite + 150 sx Class C (total 900 sx – TOC @ 1890' by TS)
Perf'd @ 1875' and cmt'd w/1,545 sx Lite + 250 sx Class C (total 1,795 sx – TOC @ 200' by TS, ran 1" pipe down annulus and cmt'd w/100 sx Class C to surf.) – total 4,510 sx used

Perf'd 2 SPF @ 8,140'-8,183', 8,198'-8,210', 8,232'-8,237' (3/30/16)
Set CR @ 8,677'. Sqz w/725 sx Class H cmt 12.5#, 530 sx Class H cmt 16.4#, & N2 below CR. Left 1 sx cmt on CR. (3/17/16) Drilled CR @ 8,677'. (3/21/16) Tagged TOC 8,824'. (3/23/16)
Pumped 70 sx 16.4# Class H cmt. (3/28/16) Tagged TOC 8,117'. (3/29/16)
Perf'd 8,750', no circulation. (3/15/16)
Perf'd 8,800', no circulation. (3/11/16)

TOC @ 8850' by CBL
Total: 127 sx (8,824'-9,356')
Pumped balanced plug 30 sx 16.4# Class H cmt. Tag TOC 9,356'. (3/9/16)
Pumped 97 sx 16.4# Class H cmt balanced plug from 9358' to estimated TOC 8,570'. Tagged TOC 8,824'.(3/10/16)

TOC @ 10,860'
Sqz holes w/ 25 sx Class H neat cmt in 5-1/2" csg @ 10,950'. Tag TOC @ 12,185'. (3/3/16)
Set CR @ 10,888', sqz w/40 sx H neat & left 5 sx on top of CR. Tag TOC @ 10,860'.

Set CIBP @ 12,416' w/25 sx H neat on top. (3/3/16)
Atoka: 12,524' -12,529' w/4 JSPF (8/11/08)

Set CIBP @ 13,170' w/30' cmt on top. (8/11/08)
Upper Morrow: 13,222' -13,229 w/2 JSPF (8/12/90)

Middle Morrow: 13,252' -13,265' w/2 JSPF & 13,330' - 13,352' w/2 JSPF (8/12/90)

Baker Lok-set pkr @ 13,471'; On/Off tool w/1.81 "F" nipple, and 15' of tbg jt parted

Lower Morrow: 13,524' - 13,533' w/2 JSPF (8/12/90)

5-1/2" 17# S-95/N-80/S-95 csg, 3083'/8545'/12428', set @ 13,700'
1st stage cmt w/400 sx Class H w/10% salt + .4% Fluid Loss Add + .2% Turbulence Reducer Circ'd
2nd stage cmt w/150 sx Class H w/10% salt + .4% Loss Add + .2% Turbulence Reducer

DATE: 05/17/16
SDO

3160-5 Subsequent Report

Legacy Reserves

DAILY OPERATIONS REPORT - (All Days)

2/24/2016 thru 4/18/2016

Hamon Federal Com # 1

Feb 24, 2016
Note: Notified Paul Swartz w/BLM Eddy County on 2/23/16 at 2:30 p.m. MST that Legacy would be moving on this well on 2/24/2016

Mar 2, 2016
Tagged TOC @ 13,159' Pat McKelvey with BLM witnessed the tag and verified tally, OK'd to proceed,

Mar 3, 2016
Set CIBP at 12,416'. Perforated 4 shots at 10,950'

Mar 4, 2016
Pumped 25 sacks class H neat cmt

Mar 7, 2016
Tagged TOC @ 12,185'. Met w/ Mckelvey BLM in the a.m. before tag, instructed to call him w/result, notified and approved 1:58 pm.

Mar 8, 2016

Set CR @ 10,888 pumped 40 sx class H cmt to sqz Wolfcamp perfs, left 5 sx on top of CR Notified McKelvey w/BLM by phone 9:30 a.m. starting sqz procedure, approved, Paul w/BLM called at 11:50 a.m., filling in for McKelvey. Discussed process, will tag cmt in the morning.

Mar 9, 2016
Tag TOC @ 10,860' BLM PET McKelvey on location to witness, approved by BLM McKelvey and Paul Swartz. RBIH open ended to 9,656' DV tool 9,600' pumped balanced plug 30 sx 16.4# class H cmt.

Mar 10, 2016
Tagged plug from previous day. TOC @ 9356' McKelvey PET w/BLM witnessed. Pumped 97 sacks 16.4# class H cmt balanced plug from 9356'.

Mar 11, 2016
RIH tag TOC @ 8,824' McKelvey PET BLM witnessed, allowed by BLM to perforate at 8,800'. Perforate 4 holes at 8,800', no circulation to gas buster from tbg.

Mar 15, 2016
Perforate csg at 8,750' McKelvey PET for BLM witnessed and approved. No circulation from 8 5/8" csg, McKelvey PET BLM witnessed, Reversed lines, pumped 1/10 bbl down 8 5/8" csg to load, pressured to 1500 psi, held pressure, no circulation from tbg.

Mar 17, 2016
RIH w/ cement retainer, set at 8,677'. Pumped 150 bbls water with nitrogen 2 bbls/min at 2,800 psi, pumped 20 bbls Super Bond, flushed 20 bbls, Pumped 725 sx class H cement 12.5#, 530 sx class H cement 16.4# displaced w/49 bbls water, stung out of retainer, left 1 sack cmt on top of retainer. Tagged at 8,623'.

Mar 22, 2016
Resume drilling on cement retainer.

Mar 23, 2016
Resumed drilling cement. Drilled down to 8,755', fell through. Ran down tagged 8,824' TOC

Mar 24, 2016
Ran cement bond log from 8,796'-7,279' and 700' to 150' RD. Bond log shows several cement stringers inside surface casing. This log was e-mailed to Paul Swartz and discussed before

continuing the job. We agreed that this was as good a cement job as could be achieved without affecting the integrity of the injection casing.

Mar 28, 2016
Pumped 70 sacks class H 16.4# cement.

Mar 29, 2016
Tagged TOC at 8,117' Mckelvey PET w/BLM witnessed, drilled from 8,117' down to 8,312'.

Mar 30, 2016
Pressured 5 1/2" csg to 2000#, monitored for 1 hour with chart recorder, held pressure, Pat McKelvey PET w/BLM witnessed. Perforated (2) shots per foot at (8,140-8,183') (8,198'-8,210') (8,232'-8,237).

Mar 31, 2016
RIH w/to 8,260'spotted 4 bbls 15% NEFE HCL w/45.5 bbls 2% KCL water, pulled and set packer at 8,040'. Pressured tbg, exceeding max psi of 1,612, SD wait on orders. ATTEMPT TO CONTACT BLM PAUL SWARTZ AT 4:00 PM, NO ANSWER. Formation broke at 2106#. Acidize w/with 10,000 gal 15% NEFE with 200 ball sealers at avg rate 6 BPM at avg pressure 3552#, Max pressure 4317#, ISIP 2270#, 5 min 2005#, 30 min 1680#. Load to recover 364 BBL. Step rate test: 1 BPM, 10 BBL, 1740#; 2 BPM 20 BBL 2064#;3 BPM 30 BBL 2371#. Discussed job situation with Paul Swartz the next A.M. We agreed at those rates and pressures the frac gradient wasn't exceeded, but that another step rate test would be run in six months or so to determine the parting pressure.

Apr 1, 2016 - Apr 13, 2016

Opened tbg to frac tank. Tbg flowed for 35 minutes recovered 7 bbls water, tbg dead, RU to swab to test zone for oil and gas production. Swab back load of 364 BBL. Have recovered 44 BBL over load. BLM requires 1000 BBLs to be swabbed back after acid load is recovered. BLM load left to recover 956 BBL. Swabbed back another 752 BBLs of water with no oil over 14 days. Contacted Paul Swartz to see if that was enough to confirm no oil or gas production from this zone.

Apr 14, 2016
RIH w/ W.L. re-entry guide, A.S.1x packer w/2.25" profile nipple, on/off tool, IPC tbg. Set packer at 8,075'. Load/test csg for 30 min w/500#, tested good, ND BOP, NUWH, installed 5000# stainless trim master valve. RD WSU in the a.m. left well shut in.

Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0135
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 reverse side.

5. Lease Serial No.: NMNM84652

6. If Indian, Allottee or Tribe Name

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

1. Type of Well
☐ Oil Well ☐ Gas Well ☒ Other: INJECTION

8. Well Name and No.: HAMON FEDERAL COM 1

2. Name of Operator: LEGACY RESERVES OPERATING LP
Contact: STEVE OWEN
E-Mail: sowen@legacylp.com

9. API Well No.: 30-025-30848

3a. Address: PO BOX 10848, MIDLAND, TX 79702

3b. Phone No. (include area code): Ph: 432-689-5200 Ext: 5287

10. Field and Pool, or Exploratory: QUAIL RIDGE; ATOKA

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
Sec 7 T20S R34E NWNE 660FNL 1980FEL

11. County or Parish, and State: LEA COUNTY, NM

12. CHECK 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
☒ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ 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.)

PLEASE FIND ATTACHED THE COMPLETION DAILY OPERATIONS REPORT FOR HAMON FEDERAL COM #1 SWD. ALSO INCLUDED IS THE WELLBORE DIAGRAM AND MIT CHART WHICH WAS WITNESSED BY KRISTAL HEADY-NMOCD. ORIGINAL WILL BE MAILED TO BLM-CARLSBAD OFFICE TODAY (06/13/16). CIT CHART WAS MAILED TO BLM ON 04/05/16.

Annular Monitor System Required

14. I hereby certify that the foregoing is true and correct.
Electronic Submission #341778 verified by the BLM Well Information System
For LEGACY RESERVES OPERATING LP, sent to the Hobbs

Name (Printed/Typed): STEVE OWEN — Title: SENIOR ENGINEER

Signature: (Electronic Submission) — Date: 06/13/2016

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

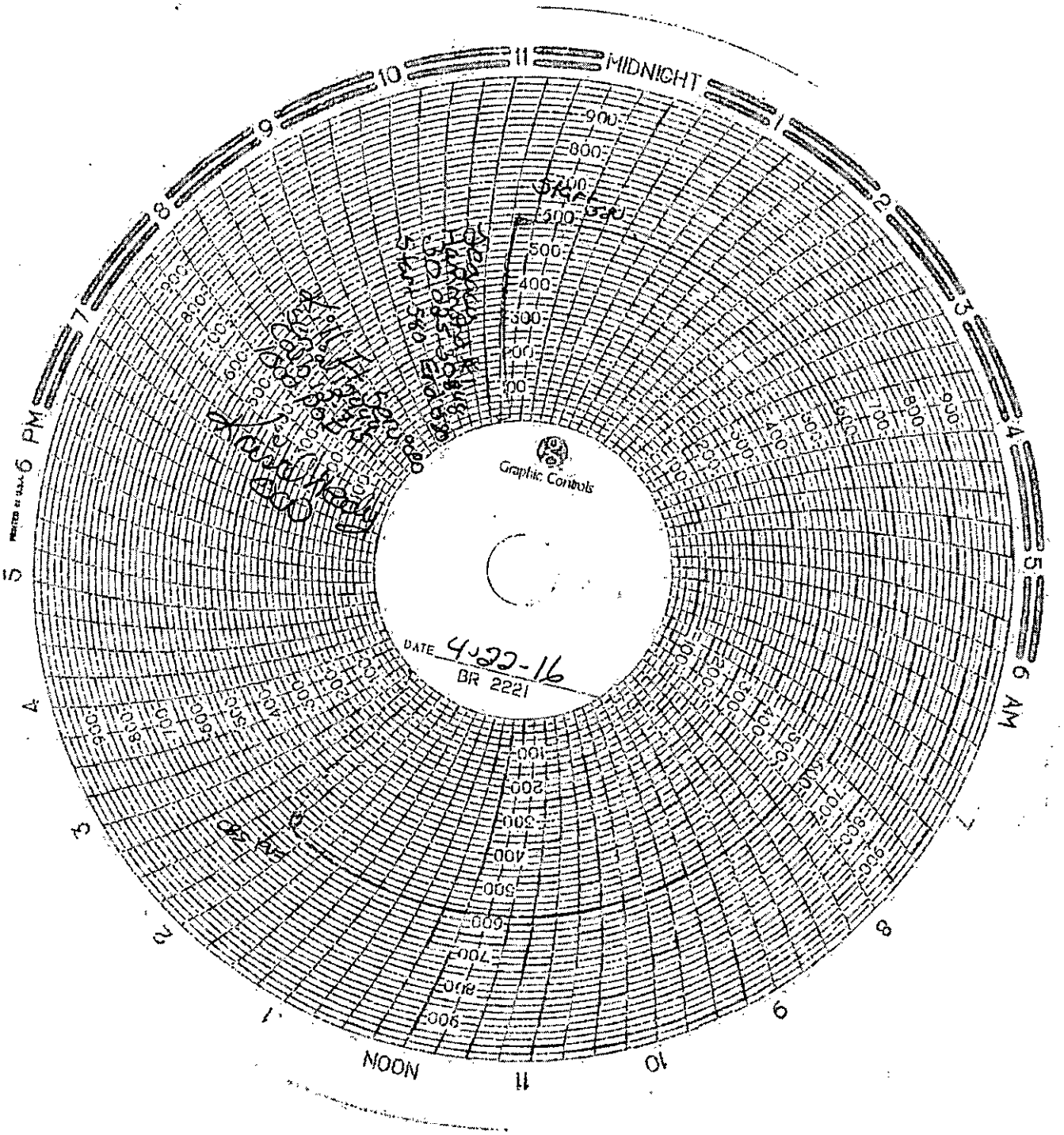
Approved By _____ Title _____ Date JUN 24 2016

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

ACCEPTED FOR RECORD
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.

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****


MIDNIGHT
NOON
6 AM
6 PM
Graphic Controls
DATE 4-22-16
BR 2221

Apr 12 (3 days ago)

Steve Owen <sowen@legacylp.com>

Paul, this is the water analysis I promised you from the swabbing of the Hamon Fed Com #1 well we are converting to SWD. We are swabbing to confirm the currently perforated zone is not capable of producing paying quantities of hydrocarbons as per step #26 of the COA. We have swabbed back the load of 364 bbls plus an additional 694 bbls of produced water. The fluid level is staying at 2500 feet from surface. As per our conversation yesterday, with your approval, since this water sample shows no hydrocarbons and we have recovered only a skim, we will stop swabbing and run our injection equipment as per the approved procedure. If you would prefer that I do something else please let me know.

Stephen D. Owen
Sr. Engineer
Legacy ReservesPO Box 10848
Midland, TX 79702
432-689-5200
sowen@legacylp.com

-----Original Message-----
From: martinwaterlabreports@nts-online.net [mailto:martinwaterlabreports@nts-online.net]
Sent: Tuesday, April 12, 2016 1:32 PM
Subject: Report(s) from Martin Water Labs, Inc.HAMON FED

NOTE: If you respond to this email, YOU MUST REFERENCE THE LABORATORY # IN YOUR MESSAGE so that we may discuss it with you. This message is a default email sent from our Copier/Scanner and we do not keep a record of it.

Thank you and have a nice day.
Thank you for your business.
Martin Water Labs, Inc.
(432)683-4521
(fax)682-8819
(email) martinwaterlabs@nts-online.net

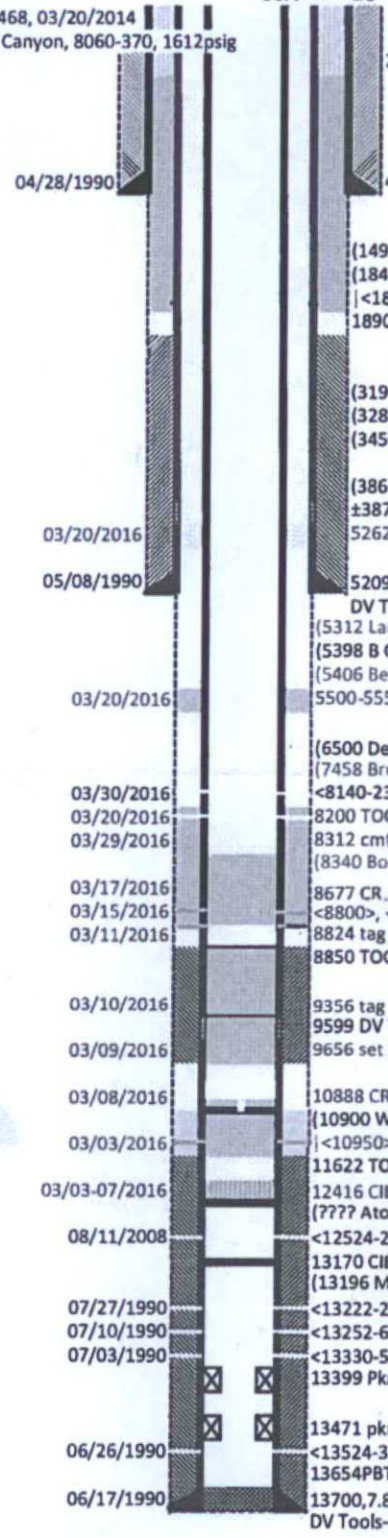
Attachments area

Operator: Legacy Reserves Operating, LP
Surface Lease: NM84652 **BHL:** NM84652
Case No: NM84652 **Lease Agreement**
Subsurface Concerns for Casing Designs: R111P Cap
Well Status: Gas
Spud date: 04/28/1990
WDW, Rt of Way: 0
Admn Order, date: SWD-1468, 03/20/2014
Formation, Depths, psig: Brushy Canyon, 8060-370, 1612psig

Well: HAMON FEDERAL COM-1
API: 3002530848
@ Srfce: T20S-R34E,07.660n1980e
@ M TD: T20S-R34E,07.660n1980e

KB: 3633
GL: 3610
Corr: 23

Estate: F\F\F



200 TOC 8 5/8" temp, 1" to stc w/100sx
04/28/1990 418,17.5"hole,13.375 48# H40 csg, 450sx ± ??sx circ
(1490 Rustler, BLM)
(1845 T Salt, BLM)
|<1875>| cmt w/2125sx, did not circ cmt
1890 TOC 8 5/8" per temp
(3190 B Salt, BLM)
(3289 Tansill, BLM)
(3450 Yates, BLM)
(3860 Capitan, BLM)
±3876?? <depth DV Tool per penciled note on sundry of 8 5/8"
03/20/2016 5262 operator claims CBL has stringers, was unable to pmp down 5 1/2"x 8 5/8"
05/08/1990 5209,12.25"hole,8.625 24# K55 csg, sx sx circ
DV Tools-4400,,, Stage-Circ: 1-0sx,2- 0sx,3-sx,4-sx
(5312 Lamar)
(5398 B Capitan, BLM)
(5406 Bell Canyon)
03/20/2016 5500-5550 cmt stringers per CBL
(6500 Delaware) (6505 Cherry Canyon) <2016 Legacy geo picks
(7458 Brushy Canyon)
03/30/2016 <8140-237>
03/20/2016 8200 TOC CBL from 8800, after Sqz
03/29/2016 8312 cmt top after drillout 70sx cmt plug set from ???'
(8340 Bone Springs, 8362 per BLM geologist - Rutley 2016)
03/17/2016 8677 CR, sqz w/N+725sx 12.5#/g H +530sx H 16.4#/g. drillout CR & cse
03/15/2016 <8800>, <8750>, unable to circ up 8 5/8 x 5 1/2 annulus
03/11/2016 8824 tag cmt plug
8850 TOC CBL per Legacy WBD 11/12/13
03/10/2016 9356 tag cmt plg, set 97sx H (9388 1st B S)
9599 DV Tool
03/09/2016 9656 set 30sx H
04/22/2016 MIT held 580psig
COAs require an Annular Monitoring Sys
03/08/2016 10888 CR w/5sx cmt cap, tagged at 10860
(10900 Wolfcamp)
03/03/2016 |<10950>| sqz'd w/40sx H
11622 TOC per Legacy WBD 11/12/13
03/03-07/2016 12416 CIBP w/25sx cmt cap, tagged at 12185
(???? Atoka)
08/11/2008 <12524-29>
13170 CIBP w/cmt cap, tagged 13,159 03/02/2016
(13196 Morrow)
07/27/1990 <13222-29>
07/10/1990 <13252-65>
07/03/1990 <13330-52>
13399 Pkr
13471 pkr, on/off tool w/"F" nipple & 15' of parted tbg jt per Legacy WBD 11/12/13
06/26/1990 <13524-33>
13654PBTD
06/17/1990 13700,7.875"hole,5.5" 17# S95 csg, sx 0sx circ
DV Tools-9600,,, Stage-Circ: 1-0sx,2- 0sx,3-sx,4-sx

Diagram last updated: 06/24/2016

_WB Rcd(4.73 Hamon-01 2530848