



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

RECEIVED

2014 FEB -5 11:33:23

February 3, 2014

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 8060'-8370'. Attached are the following:

- 1) The "Application for Authorization to Inject" form C-108.
- 2) The "Injection Well Data Sheet".
- 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. Legacy Reserves Operating LP operates all wells within this half-mile radius.
- 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) Current and proposed wellbore diagrams of the Hamon Federal Com #1.
- 7) Geological data on the Hamon Federal Com #1, including a log section.
- 8) Engineering data on the Hamon Federal Com #1.
- 9) Lease operating statement for the past two years for the Hamon Federal Com #1.

A notice of this application was published in the Hobbs News-Sun on January 17, 2014. A copy of this application will be sent by certified mail to the surface owner of the well location, the BLM, on or before February 4, 2014. Since Legacy Reserves Operating LP currently operates all wells within the half-mile radius area of review, no offset operators were notified. —

If there are any questions regarding this application or if any additional information is needed, please contact me at 432/689-5201 or by email at [blewis@legacylp.com](mailto:blewis@legacylp.com). Thank you.

Sincerely,

Blain K. Lewis  
Senior Engineer

BKL

Attachments

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



**APPLICATION FOR AUTHORIZATION TO INJECT**

- I. PURPOSE: Secondary Recovery Pressure Maintenance  Disposal Storage  
Application qualifies for administrative approval?  Yes  No
- II. OPERATOR: LEGACY RESERVES OPERATING LP  
ADDRESS: P.O. BOX 10848, MIDLAND, TX 79702  
CONTACT PARTY: BLAIN LEWIS PHONE: 432/689-5201
- 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  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: BLAIN LEWIS TITLE: SENIOR ENGINEER  
SIGNATURE: *Blain Lewis* DATE: 2/3/14  
E-MAIL ADDRESS: blewis@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: \_\_\_\_\_

### 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.

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

INJECTION WELL DATA SHEET

OPERATOR: LEGACY RESERVES OPERATING LP

WELL NAME & NUMBER: HAMON FEDERAL COM #1

WELL LOCATION: 660'FNL, 1980'FEL      B      7      20S      34E  
FOOTAGE LOCATION      UNIT LETTER      SECTION      TOWNSHIP      RANGE

WELLBORE SCHEMATIC

SEE ATTACHED

WELL CONSTRUCTION DATA

Surface Casing

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

Cemented with: 450 sx.      or \_\_\_\_\_ ft<sup>3</sup>

Top of Cement: SURFACE      Method Determined: VISUAL

Intermediate Casing

Hole Size: 12 1/4"      Casing Size: 8 5/8"

Cemented with: 4,510 sx.      or \_\_\_\_\_ ft<sup>3</sup>

Top of Cement: SURFACE      Method Determined: VISUAL

Production Casing

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

Cemented with: 550 sx.      or \_\_\_\_\_ ft<sup>3</sup>

Top of Cement: 8850'      Method Determined: CEMENT

Total Depth: 13,700'      BOND LOG

Injection Interval

8,060 feet to 8,370'

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEETTubing Size: 2 7/8" Lining Material: IPCType of Packer: ARROWSET IXPacker Setting Depth: 8050'

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

Additional Data1. Is this a new well drilled for injection? \_\_\_\_\_ Yes  NoIf no, for what purpose was the well originally drilled? PRODUCTION2. Name of the Injection Formation: DELAWARE BRUSHY CANYON3. Name of Field or Pool (if applicable): QUAIL RIDGE4. 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. MORROW 13,222'-13,533'

(CIBP AT 13,170' W/30' CMT ON TOP), ATOKA 12,524'-12,529' (WILL BE ABANDONED WITH CIBP AT 12,430' W/35' CMT ON TOP)

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

IN THE IMMEDIATE VICINITY IS FROM  
THE BONE SPRINGS INTERVALS BELOW  
10,500'



TABLE OF WELLS WITHIN A HALF-MILE RADIUS AREA OF REVIEW AROUND HAMON FEDERAL COM #1  
LEA COUNTY, NEW MEXICO

Map No.	Operator	Lease	Well No.	Type Completion	API Number	Location (Sec., Twp, Range)	Spud Date	TD	Status
1	Legacy Reserves Operating LP	Hamon Federal Com	1	Gas	30-025-30848	7, 20S, 34E	Apr-90	13,700'	Producing
2	Legacy Reserves Operating LP	Hamon Fed Com A	3H	Oil	30-025-41305	6, 20S, 34E	Aug-13	16,028'	Producing

2 active wells  
 → (one is application well)  
for 1 active well  
 ∅ P&A wells

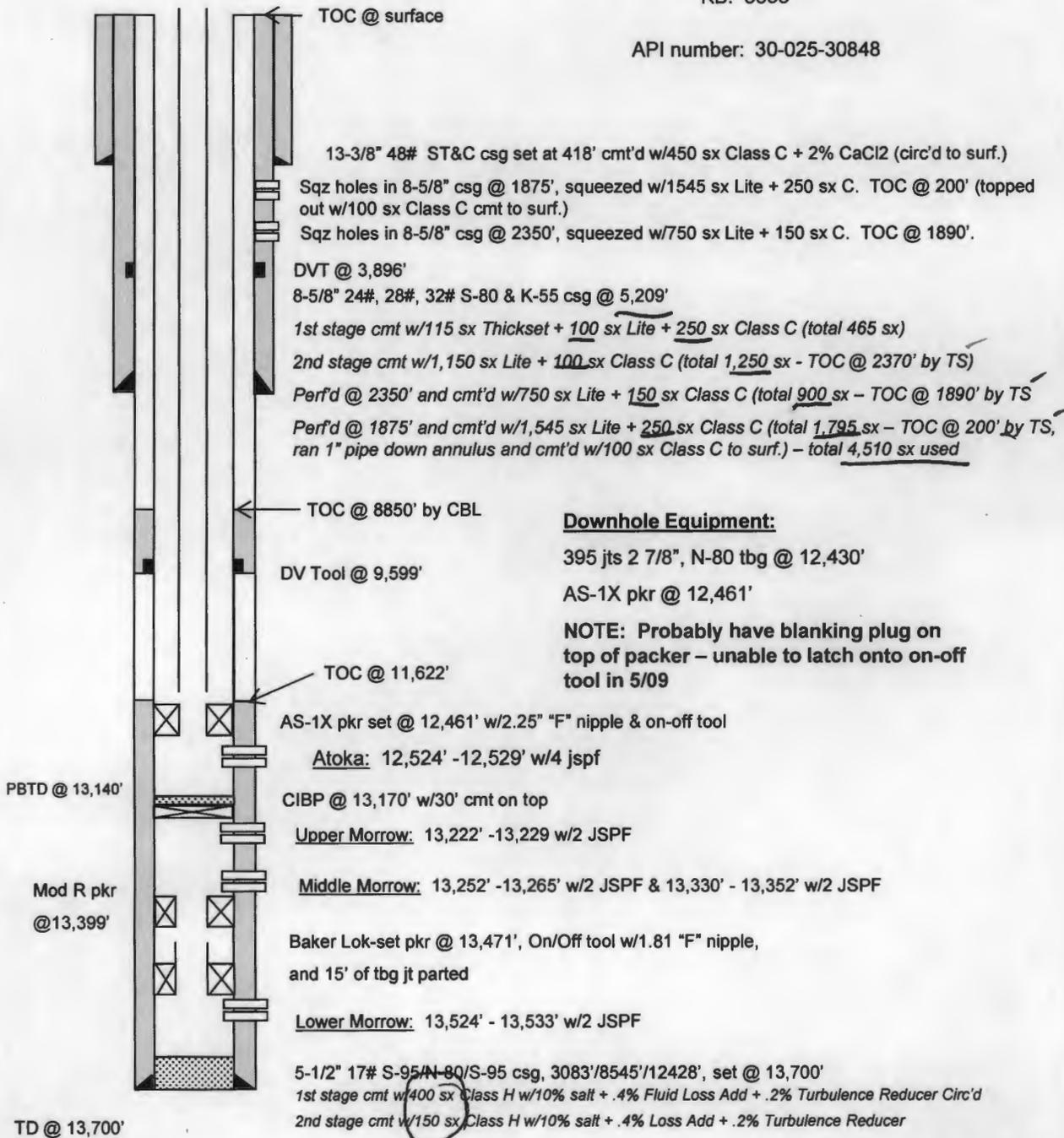


FIELD: QUAIL RIDGE (ATOKA)  
 LEASE: HAMON FEDERAL COM  
 COUNTY: LEA  
 STATE: NEW MEXICO  
 WELL: 1  
 LOCATION: 1980' FEL & 660' FNL,  
 Sec. 7, T20S, R34E

**CURRENT WELLBORE DIAGRAM**

GL: 3610'  
 KB: 3633'

API number: 30-025-30848



**Downhole Equipment:**

395 jts 2 7/8", N-80 tbg @ 12,430'  
 AS-1X pkr @ 12,461'

NOTE: Probably have blanking plug on top of packer - unable to latch onto on-off tool in 5/09

DATE: 11/12/13  
 BKL



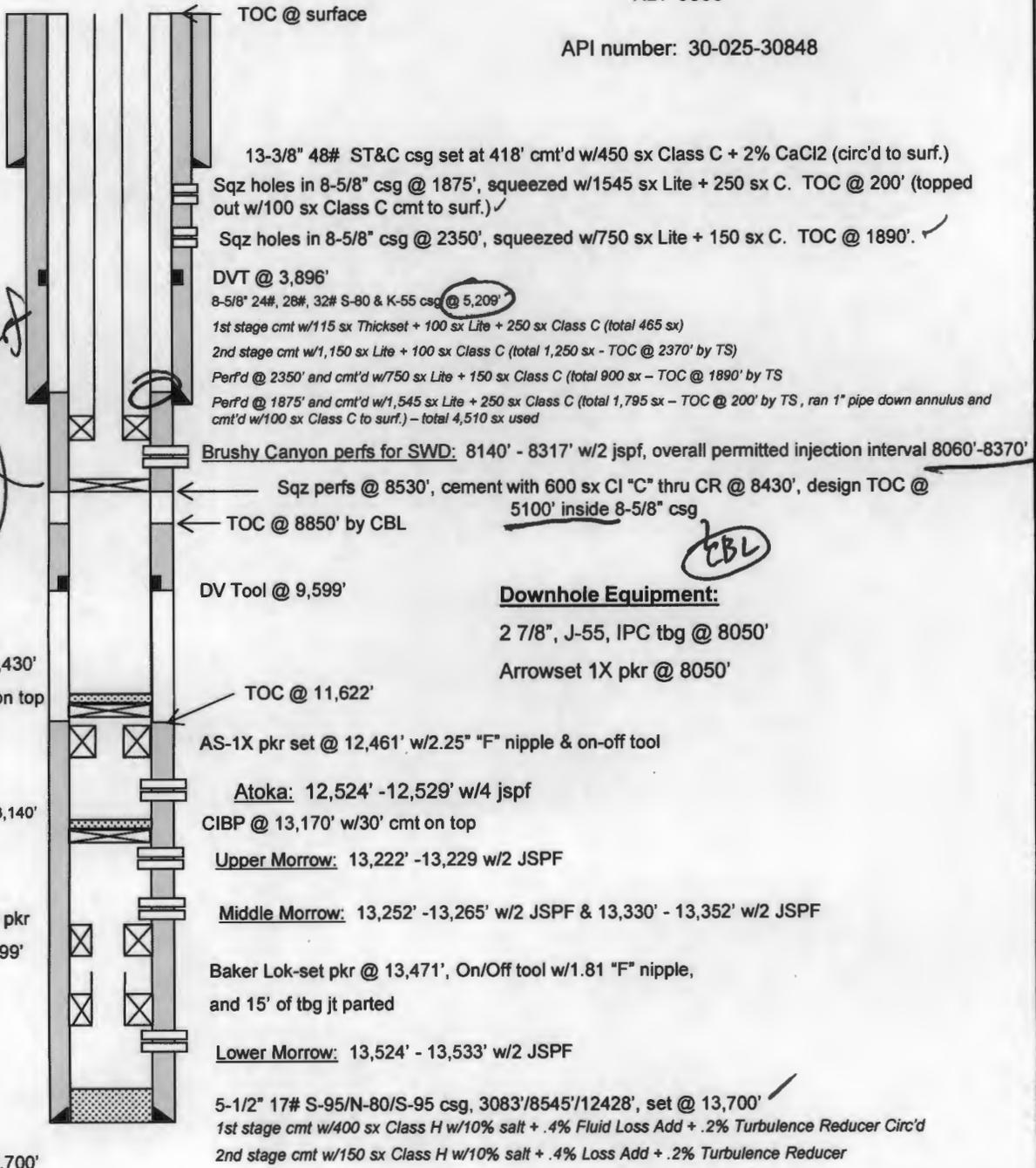
FIELD: QUAIL RIDGE (ATOKA)  
 LEASE: HAMON FEDERAL COM  
 COUNTY: LEA  
 STATE: NEW MEXICO  
 WELL: 1  
 LOCATION: 1980' FEL & 660' FNL,  
 Sec. 7, T20S, R34E

**PROPOSED WELLBORE DIAGRAM**

GL: 3610'  
 KB: 3633'

API number: 30-025-30848

*within 60'  
 of lowest perf*  
 CIP  
 w/cont cap



DATE: 11/12/13  
 BKL

# GEOLOGICAL DESCRIPTION

## DELAWARE BRUSHY CANYON FORMATION

### HAMON FEDERAL COM #1

Rock type: Sand

Thickness: 310' of gross sand interval with at least 40' of porosity greater than 10% in Hamon Federal Com #1

Depth: 8060'-8370'

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)

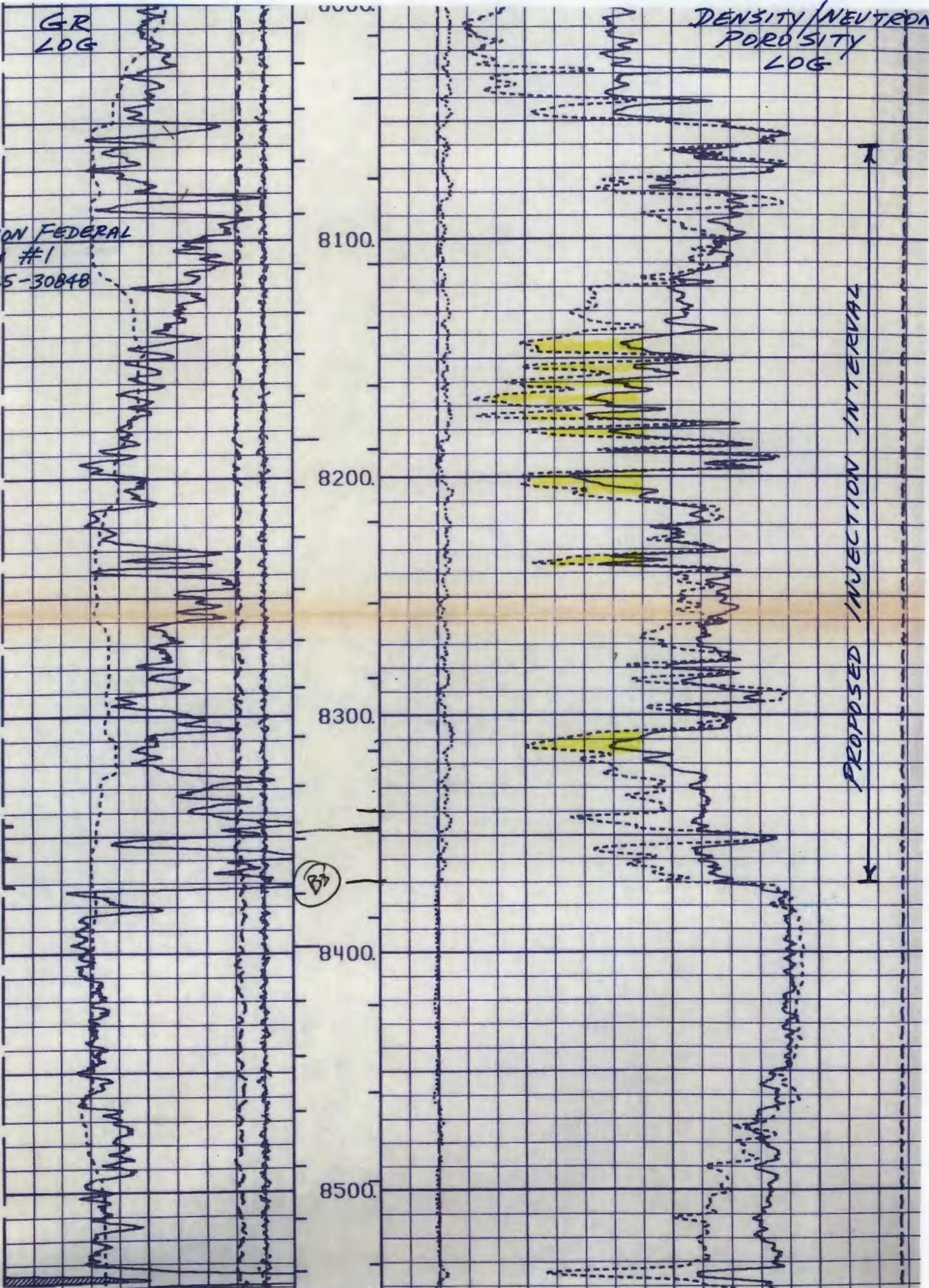
Planned maximum injection pressure: ~~4,000 pounds per square inch (psi)~~

*admin*  
0.2 psi/ft  
 $8060 \times 0.2 = 1612 \text{ psi}$

GR LOG

DENSITY/NEUTRON  
POROSITY  
LOG

HAMON FEDERAL  
COM #1  
30-025-30848



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: ~~4,000~~ pounds per square inch (psi)

*Admin*  
*0.2 psi/ft*

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.

Hamon Federal Com #1 Lease Operating Statement 12/1/11 - 11/30/13 (last 2 years)

LOS LINE DESCRIPTION (GLOSA)	Dec 2011	Jan 2012	Feb 2012	Mar 2012	Apr 2012	May 2012	Jun 2012	Jul 2012	Aug 2012	Sep 2012	Oct 2012	Nov 2012	Dec 2012	Jan 2013	Feb 2013	Mar 2013	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sep 2013	Oct 2013	Nov 2013	TOTAL	AVERAGE	
<b>REVENUE</b>																											
OIL VOLUME - BBLs	0	0	0	0	0	341	0	184	0	0	0	0	0	0	0	0	0	370	0	0	0	181	0	0	30	1,106	46
GAS VOLUME - MCF	18	0	5	10	6	413	859	131	272	87	91	167	120	88	164	0	197	192	297	326	165	14	0	1	3,623	151	
NGL VOLUME - GALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OIL PRICE						85.48		81.91									88.49				104.38				89.24	89.09	18.73
GAS PRICE	6.62		5.02	5.31	4.87	4.08	3.69	4.03	4.44	4.30	4.47	4.69	4.61	4.32	4.44		4.60	4.70	4.72	4.62	4.83	4.91		4.37	4.32	4.07	
NGL PRICE																											
OIL REVENUE	0	0	0	0	0	29,128	0	15,063	0	0	0	0	0	0	0	0	32,762	0	0	0	18,896	0	0	2,640	98,489	4,104	
GAS REVENUE	119	0	25	53	29	1,687	3,173	528	1,209	374	406	783	553	380	728	0	907	902	1,403	1,506	798	69	0	4	15,638	652	
NGL REVENUE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL OPERATING REVENUE</b>	<b>119</b>	<b>0</b>	<b>25</b>	<b>53</b>	<b>29</b>	<b>30,815</b>	<b>3,173</b>	<b>15,591</b>	<b>1,209</b>	<b>374</b>	<b>406</b>	<b>783</b>	<b>553</b>	<b>380</b>	<b>728</b>	<b>0</b>	<b>33,669</b>	<b>902</b>	<b>1,403</b>	<b>1,506</b>	<b>19,694</b>	<b>69</b>	<b>0</b>	<b>2,644</b>	<b>114,127</b>	<b>4,755</b>	
PRODUCTION TAXES	11	0	2	5	3	2,618	292	1,322	111	34	37	72	51	35	67	0	2,842	83	129	138	1,665	6	0	224	9,746	406	
<b>TOTAL REVENUE NET</b>	<b>108</b>	<b>0</b>	<b>23</b>	<b>48</b>	<b>27</b>	<b>28,197</b>	<b>2,881</b>	<b>14,269</b>	<b>1,098</b>	<b>340</b>	<b>369</b>	<b>711</b>	<b>503</b>	<b>345</b>	<b>662</b>	<b>0</b>	<b>30,827</b>	<b>820</b>	<b>1,274</b>	<b>1,368</b>	<b>18,029</b>	<b>62</b>	<b>0</b>	<b>2,420</b>	<b>104,380</b>	<b>4,349</b>	
<b>TOTAL BOEs</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>410</b>	<b>143</b>	<b>206</b>	<b>45</b>	<b>15</b>	<b>15</b>	<b>28</b>	<b>20</b>	<b>15</b>	<b>27</b>	<b>0</b>	<b>403</b>	<b>32</b>	<b>50</b>	<b>54</b>	<b>209</b>	<b>2</b>	<b>0</b>	<b>30</b>	<b>1,709</b>	<b>71</b>	
<b>OPERATING</b>																											
LE-COMPANY LABOR & SERVICES	45	145	45	48	74	68	68	68	70	68	71	71	71	41	20	22	17	41	41	41	41	41	41	43	43	1,300	54
LE-LABOR BURDEN	16	33	18	19	32	30	30	30	31	30	31	31	31	8	12	13	9	15	15	15	15	15	15	16	16	508	21
LE-MILEAGE	13	13	17	16	28	20	28	26	27	25	26	25	21	10	11	9	11	19	24	16	17	22	19	21	464	19	
LE-CONTRACT PUMPING	287	287	287	287	287	287	287	287	287	287	287	293	293	320	321	321	321	315	321	321	321	321	321	321	321	7,265	303
LE-CHEMICAL TREATING	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LE-SUPPLIES & MATERIALS	0	0	0	0	0	0	0	0	0	0	0	0	3	0	1	0	1	0	0	1	1	0	0	0	0	6	0
LE-ELECTRICITY & POWER	0	0	0	0	0	0	0	0	1	0	0	3	1	0	186	182	187	196	205	179	196	486	0	282	2,103	88	
LE-NATURAL GAS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LE-PROPANE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LE-COMPRESSOR/VRU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LE-SUB PUMP RENTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LE-SALT WATER DISPOSAL - TRUCK	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	188	0	0	806	0	0	0	994	41
LE-WATER DISPOSAL SYSTEMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LE-COMMUNICATIONS	2	3	2	4	1	1	1	2	1	3	2	2	2	0	0	0	0	0	0	0	0	0	1	1	0	31	1
LE-CHARTS / GAS MEASUREMENT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	804	0	804	33
LE-HOT OILERS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LE- CO2 PURCHASED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LE-RULE 15 COMPLIANCE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LE-GHG TESTING	0	3	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0
LE-NET PROFITS PAYMENTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LE-NET PROFITS EXPENSES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LE-OTHER	37	36	34	232	36	29	31	631	38	39	43	40	42	36	31	31	36	60	32	25	1,308	201	189	26	3,243	135	
<b>TOTAL LEASE EXPENSE</b>	<b>401</b>	<b>519</b>	<b>403</b>	<b>606</b>	<b>459</b>	<b>436</b>	<b>447</b>	<b>1,043</b>	<b>455</b>	<b>453</b>	<b>461</b>	<b>464</b>	<b>463</b>	<b>415</b>	<b>580</b>	<b>578</b>	<b>581</b>	<b>833</b>	<b>637</b>	<b>597</b>	<b>2,704</b>	<b>1,890</b>	<b>588</b>	<b>708</b>	<b>16,720</b>	<b>697</b>	
<b>SURFACE MAINTENANCE</b>																											
SM-SUPERVISION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SM-CONTRACT SERVICES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	999	454	0	0	1,453	61	
SM-ELECTRICAL REPAIRS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SM-SURFACE MAINT SUPPLIES	1	0	2	72	1	0	2	0	0	0	0	263	0	0	0	1	1	1	1	0	0	0	7	0	351	15	
SM-ENVIRONMENTAL CLEANUP	0	0	1	0	0	0	0	0	0	0	0	1	0	6	0	0	0	0	0	0	0	0	0	0	7	0	0
SM-EQUIPMENT RENTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	4	1	12	1	
SM-SURFACE EQUIPMENT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SM-ARTIFICIAL LIFT MAINTENANCE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SM-CHEMICALS/EQUIP SCALE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SM-TRANSPORTATION, TRUCKING	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,293	0	0	0	2,753	529	0	0	4,574	191	
SM-SURFACE MAINT OTHER	0	0	0	0	0	0	0	0	344	3	0	0	0	0	273	0	0	0	0	0	0	0	0	0	0	619	26
<b>TOTAL SURFACE MAINTENANCE EXPENSE</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>72</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>344</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>264</b>	<b>0</b>	<b>278</b>	<b>0</b>	<b>1,294</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>3,755</b>	<b>986</b>	<b>11</b>	<b>1</b>	<b>7,017</b>	<b>292</b>	
<b>SUBSURFACE MAINTENANCE</b>																											
SSM-SUPERVISION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SSM-CONTRACT SERVICES	0	0	0	0	0	5,640	0	0	6,223	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11,863	494
SSM-DOWNHOLE PUMPS / REPAIR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SSM-MATERIALS AND SUPPLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SSM-EQUIPMENT RENTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SSM-CHEMICALS/TRUCK TREATING	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SSM-REGULATORY COMPLIANCE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SSM-DOWNHOLE EQUIP REPAIR/OTHR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL SUBSURFACE MAINTENANCE EXPENSE</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0&lt;/</b>																						



# 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, do 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  
January 17, 2014  
and ending with the issue dated  
January 17, 2014



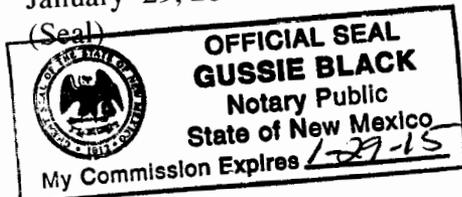
PUBLISHER

Sworn and subscribed to before me  
this 27th day of  
January, 2014



Notary Public

My commission expires  
January 29, 2015



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  
publication has been made.

LEGAL NOTICE  
January 17, 2014

## NOTICE OF APPLICATION FOR FLUID INJECTION WELL PERMIT

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

**CONTACT:** Blain Lewis (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 in 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.  
#28699

67110800

00129182

LEGACY RESERVES OPERATING LP  
PO BOX 10848  
MIDLAND, TX 79702



**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): Harmon 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 Upit B Sec 7 Tsp 20S Rge 34 E County Lea

General Location: ~8mi NE of Halfway / south of US180 Pool: Morrow & Atoka / Qual Ridge\* Pool No.: 83280

BLM 100K Map: Hobbs Operator: Legacy Reserves Operating GRID: 240 974 Contact: Blaine Lewis

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

WELL FILE REVIEWED  Current Status: Depleted Morrow producer, well has packer above Atoka perms.

WELL DIAGRAMS: NEW: Proposed  or RE-ENTER: Before Conv.  After Conv.  Logs in Imaging: 3 Density / DG Neutron Log / DLT MicroGL & Sonic

Planned Rehab Work to Well: Squeeze cmt 5 1/2 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	—	—	—	—
Planned ___ or Existing ___ Surface	17 1/2 / 13 3/8	0 to 418	450	Circulate to surf
Planned ___ or Existing ___ Interm/Prod	12 1/4 / 8 5/8	0 to 5209	105/289/100+4510+1545	54 Circulate to surf
Planned ___ or Existing ___ Prod/Interm	7 7/8 / 5 1/2	0 to 13700	105/19599	400+150 15 CBL/numas attend
Planned ___ or Existing ___ Liner/Prod	—	—	—	—
Planned ___ or Existing ___ OH / PERF	5 1/2	8000 to 8370	Inj Length 310'	Completion/Operation Details:

Injection Stratigraphic Units:	Depths (ft)	Injection or Confining Units	Tops?	Drilled TD	PBTD
Adjacent Unit: Litho. Struc. Por.	—	—	—	13700	13140
Confining Unit: Litho. Struc. Por.	+1560	Delaware Gp	6360	NEW TD —	NEW PBTD ~8530
Proposed Inj Interval TOP:	8060	Brushy Limestone	8370	NEW Open Hole <input type="checkbox"/> or NEW Perfs <input checked="" type="checkbox"/>	
Proposed Inj Interval BOTTOM:	8370	Formation	8370	Tubing Size 2 7/8 in. Inter Coated? <u>Yes</u>	
Confining Unit: Litho. Struc. Por.	—	Bore Spring	8370	Proposed Packer Depth 8050 ft	
Adjacent Unit: Litho. Struc. Por.	—	Wolfcamp	8370	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  Noticed? NA SALADO: T: — B: — CLIFF HOUSE NA

FRESH WATER: Aquifer Mineral Max Depth 3300' Mile Wells? No FW Analysis NA HYDRO AFFIRM STAT By Qualified Person

Disposal Fluid: Formation Source(s) Bore 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

HC Potential: Producing Interval? Unk Formerly Producing? No Method: Logs/DST/P&A/Other NA 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)? Harmon 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 / Lease N. Date 02/04/2014

RULE 26.7(A): Identified Tracts? No Affected Persons: Legacy - only operator within 1/2 mile N. Date NA

Permit Conditions: Issues: \*BLM/old production; CBIP not noted on proposed; HC potential - not identified

Add Permit Cond: cmt for 5 1/2 in -cmt to be squeezed. CBIP specified; CBL to be completed following cmt squeeze

**Goetze, Phillip, EMNRD**

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**From:** Ingram, Wesley <wingram@blm.gov>  
**Sent:** Monday, February 24, 2014 12:08 PM  
**To:** Goetze, Phillip, EMNRD; Blain Lewis  
**Subject:** Hamon Federal Com 1

Phillip and Blain,

The BLM does not have any objections to the conversion of this well.

However, the plugback procedure when submitted will be modified to place some missing plugs and verify others.

The well bore schematic indicates that the well was re-completed to the Atoka. The BLM never received a request to come up hole as is required by 43 CFR and received no sundries or completion report for this formation. The BLM records still show a Morrow completion. These records are required to be updated prior to any approval for conversion.

Also, the proposed injection pressure is equivalent to 0.49 psi/ft with the usual approval at 0.22 psi/ft. However, this is for NMOCD to decide.

Sincerely,  
Wesley W. Ingram  
Supervisory Petroleum Engineer  
Bureau of Land Management  
Carlsbad Field Office  
620 E. Greene Street  
Phone: 575-234-5982  
Fax: 575-234-5927

**ATTACHMENT**  
**QUAIL RIDGE (DELAWARE) WATER PRODUCED**

Resistivity.....0.052 @ 60° F  
Specific GR.....1.170✓  
pH.....6.2  
Calcium.....15900 }  
Ca } 164,700 mg/L  
Magnesium.....9300 }  
Mg }  
Chlorides.....139500 }  
Cl }  
Sulfates.....light  
SO4  
Bicarbonates.....134  
HCO3  
Soluble Iron.....light  
Fe

Pool Merge Request  
11-2-25

From 50463  
to 37584

AP

Hamon Federal Com. #1

