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SWD-380

RECEIVED

OCT 25 '89

O. C. D.  
ARTESIA, OFFICE

## MALLON OIL COMPANY

1099 18th Street, Suite 2750, Denver, Colorado 80202  
(303) 293-2333

October 23, 1989

New Mexico Oil Conservation Division  
P.O. Drawer DD  
Artesia, NM 88210

Re: Amoco-Federal #1 Well  
NE/4 SE/4, Sec. 27, T26S, R29E  
Eddy County, New Mexico

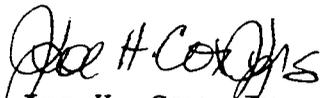
Ladies/Gentlemen:

A copy of the Affidavit of Publication for the public notice for the proposal to dispose of produced saltwater for the captioned well is enclosed. Also, enclosed are copies of the executed certified return receipt cards that were sent out with the October 3, 1989, revision of the Application for Authorization to Inject.

If you should have any questions, please advise.

Sincerely,

MALLON OIL COMPANY

  
Joe H. Cox, Jr.  
Production Manger

JHC:sss  
Enclosures

RECEIVED

No 11958

# Affidavit of Publication

State of New Mexico,  
County of Eddy, ss.

E. C. Cantwell, being first duly sworn,  
on oath says:

That he is publisher of the Carlsbad Current-Argus, a newspaper published daily at the City of Carlsbad, in said county of Eddy, state of New Mexico and of general paid circulation in said county; that the same is a duly qualified newspaper under the laws of the state wherein legal notices and advertisements may be published; that the printed notice attached hereto was published in the regular and entire edition of said newspaper and not in supplement thereof on the date as follows, to wit:

October 9, 1989  
 \_\_\_\_\_, 19\_\_\_\_  
 \_\_\_\_\_, 19\_\_\_\_  
 \_\_\_\_\_, 19\_\_\_\_  
 \_\_\_\_\_, 19\_\_\_\_

that the cost of publication is \$ 11.41,  
and that payment thereof has been made  
and will be assessed as court costs.

E. C. Cantwell

Subscribed and sworn to before me this  
10 day of October, 1989

Donella Taylor

My commission expires 6/01/92  
Notary Public

OCT 25 '89

O. C. D.  
ARTESIA, OFFICE

October 9, 1989  
PUBLIC NOTICE

Mallon Oil Company is proposing to dispose of produced saltwater from their Amoco-Federal lease into the Amoco-Federal #1 well, located 1665' FSL, 330' FEL, of Section 27, T26S-R29E, Eddy County, New Mexico. The proposed interval for disposal injection is within the Cherry Canyon Formation, Delaware Mountain Group, at a depth of 4022-4206'. Maximum injection rate is anticipated to be 1600 Bbl. per day at an anticipated maximum pressure of 804 psig. Any parties who wish to file objections or request a hearing should do so within 15 days of the date of this notice by writing the New Mexico Oil Conservation Division, P.O. Box 2088, Santa Fe, New Mexico 87501. Further information regarding the proposed disposal well can be obtained by contacting Mr. Joe H. Cox, Jr., Mallon Oil Company, 1099 18th Street, Suite 2750, Denver, Colorado 80202. The telephone number is (303) 293-2333. This notice revises and replaces an earlier notice which advertised the proposed injection of a Cherry Canyon Formation interval, 3856-3940'.

**SENDER:** Complete Items 1 and 2 when additional services are desired, and complete Items 3 and 4.  
Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1.  Show to whom delivered, date, and addressee's address. 2.  Restricted Delivery (Extra charge)

3. Article Addressed to: G.H. Mitchell P.O. Box 385 Artesia, NM 88210	4. Article Number P518 873 160
Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise	
Always obtain signature of addressee or agent and <u>DATE DELIVERED.</u>	
5. Signature - Address X	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature - Agent X <i>[Signature]</i>	
7. Date of Delivery 10-5-89	

PS Form 3811, Mar. 1988 \* U.S.G.P.O. 1988-212-865 DOMESTIC RETURN RECEIPT

**SENDER:** Complete Items 1 and 2 when additional services are desired, and complete Items 3 and 4.  
Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1.  Show to whom delivered, date, and addressee's address. 2.  Restricted Delivery (Extra charge)

3. Article Addressed to: New Mexico Oil Conservation DIVISION P.O. Drawer DD Artesia, NM 88210	4. Article Number P518 873 162
Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise	
Always obtain signature of addressee or agent and <u>DATE DELIVERED.</u>	
5. Signature - Address X <i>[Signature]</i>	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature - Agent X	
7. Date of Delivery 10-5-89	

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1.  Show to whom delivered, date, and addressee's address. 2.  Restricted Delivery (Extra charge)

3. Article Addressed to: US Dept of the Interior Bureau of Land Management Cortland Resource Area Headquarters P.O. Box 1778 Cortland, NM 88220	4. Article Number P518 873 163
Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise	
Always obtain signature of addressee or agent and <u>DATE DELIVERED.</u>	
5. Signature - Address X	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature - Agent X <i>[Signature]</i>	
7. Date of Delivery 10-5-89	

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1.  Show to whom delivered, date, and addressee's address. 2.  Restricted Delivery (Extra charge)

3. Article Addressed to: New Mexico Oil Conservation Division 310 Old Santa Fe Trail P.O. Box 1148 Santa Fe, NM 87504-1148 ATTN: Mr. David Cetanach	4. Article Number P518 873 161
Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise	
Always obtain signature of addressee or agent and <u>DATE DELIVERED.</u>	
5. Signature - Address X <i>[Signature]</i>	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature - Agent X	
7. Date of Delivery	

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PS Form 3811, Mar. 1988 \* U.S.G.P.O. 1988-212-865 DOMESTIC RETURN RECEIPT

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Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

Show to whom delivered, date, and addressee's address. (Extra charge)      2.  Restricted Delivery (Extra charge)

Article Addressed to: J.C. Williamson P.O. Box 16 Midland, TX 79702	4. Article Number P518873159
Signature - Address	Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise
Signature - Agent Ann Livingston	Always obtain signature of addressee or agent and DATE DELIVERED.
Date of Delivery OCT 19 1989	8. Addressee's Address (ONLY if requested and fee paid)

Form 3811, Mar. 1988 \* U.S.G.P.O. 1988-212-865 DOMESTIC RETURN RECEIPT

**SENDER:** Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.  
Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

Show to whom delivered, date, and addressee's address. (Extra charge)      2.  Restricted Delivery (Extra charge)

Article Addressed to: Hendrix Oil 21 Dasta Drive Midland, TX 79705	4. Article Number P518873158
Signature - Address	Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise
Signature - Agent M. Williams	Always obtain signature of addressee or agent and DATE DELIVERED.
Date of Delivery OCT 19 1989	8. Addressee's Address (ONLY if requested and fee paid) OCT 19 1989

Form 3811, Mar. 1988 \* U.S.G.P.O. 1988-212-865 DOMESTIC RETURN RECEIPT

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Show to whom delivered, date, and addressee's address. (Extra charge)      2.  Restricted Delivery (Extra charge)

Article Addressed to: Ralph E. Williamson P.O. Drawer 904 Midland, TX 79702	4. Article Number P-518873157
Signature - Address X	Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise
Signature - Agent James Travis	Always obtain signature of addressee or agent and DATE DELIVERED.
Date of Delivery OCT - 6 1989	8. Addressee's Address (ONLY if requested and fee paid) NA

PS Form 3811, Mar. 1988 \* U.S.G.P.O. 1988-212-865 DOMESTIC RETURN RECEIPT

## APPLICATION FOR AUTHORIZATION TO INJECT

- I. Purpose:  Secondary Recovery  Pressure Maintenance  Disposal  Storage  
Application qualifies for administrative approval?  yes  no
- II. Operator: Mallon Oil Company  
Address: 1099 18th Street, Suite 2750, Denver, CO 80202  
Contact party: Joe H. Cox, Jr. Phone: (303) 293-2333
- 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 geological data on the injection zone including appropriate lithologic detail, geological 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 source 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 source 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: Joe H. Cox, Jr. Title Engineer  
Signature: *Joe H. Cox, Jr.* Date: 7-24-89
- \* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal. Submitted with completion report about 7/11/83

## 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 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, P. O. Box 2088, Santa Fe, New Mexico 87501 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.

III A.

1. Amoco-Federal #1 ; 1665' FSL, 330' FEL, Sec. 27, T26S, R29E, Eddy County, New Mexico.
2. Surface Casing: 8 5/8", set in 12 1/4" hole at 450' with 280 sx; calculated cement top at surface.  
  
Production Casing: 4 1/2", 11.6#/ft., set at 5820' with 450 sx in 7 7/8" hole. Bond Log cement top 4970' later squeezed with 2-100 sk squeeze jobs through perfs 4950-58 (1 SPF), 4969-5059' (1 shot/10'). Final calculated cement top 4306'.
3. Proposed injection tubing:  
  
2 3/8", 4.7#/ft., J-55; internally plastic coated (TK-75 or equivalent) or PVC lined.
4. Proposed injection packer:  
  
Baker or Elder Model "R" Double Grip Pkr. Internally coated with nickle or comparable material to tubing coating. Proposed setting depth 3750'.

III B.

1. Proposed injection formation:  
  
Cherry Canyon (Unnamed Member)  
  
Field and Pool Name:  
  
Brushy Draw, Delaware.
2. Injection Interval:  
  
3856-86, 3904-40' (KB) perforated (2 SPF).
3. Well was originally drilled 4-13-83 as a producing well.
4. Other perforations:  
  
"Williamson Sd." Member, Cherry Canyon Formation original perforations 4950-58' (1SPF), 4969-5039' (1 shot/10') squeezed with two 100 sk squeeze jobs. Re-perfed 4984-90', 5000-04 (2 SPF). "Getty Sd." Member, Brushy Canyon Formation tested through perforations 5352-60'. Well presently has a cast iron bridge plug set at 5300' topped with 20' cement. Present production is from Williamson interval 4984-90, 5000-04'. A permanent bridge plug will be set at 4800'. Block squeeze perforations will be shot at 4200' and 2000' and cement will be circulated through a cement retainer from lower perforations to approximately 2700'. Upper perforations will then be squeezed sufficiently to pass casing mechanical integrity tests.

5. Next oil and gas producing zone uphole from proposed injection zone within field:

"Olds Sd." Mbr. Bell Canyon  
Formation 2959-3031'(KB).

Next oil and gas producing zone downhole from proposed injection zone within field:

"Abbey Sd." Mbr. Cherry Canyon Formation  
(approx) 4226-4248'(KB).

VI. Wells Penetrating Proposed Disposal Zone Within One Half Mile of Proposed Site:

1. Well Name and Number: #1-Y Pecos Federal  
Operator: Meridian Oil (El Paso Exploration)  
Location: 860' FSL, 2180' FWL (SE SE) , Sec. 27, T26S, R29E,  
Eddy County, New Mexico.
- Type well: Oil  
Spud Date: 5-2-84  
Completion Date: 7-11-84  
Total Depth: 6,000'  
PBTD: 5909'  
Casing Data: Surface - 9 5/8", set at 2854' with 1025 sacks;  
Production - 4 1/2", set at 5970 with 760 sacks; calculated  
cement top = 3,287'.
- Completion Data: Perforated 4945-5006', fraced 24,000 gallons  
water + N<sub>2</sub>' 34,000# Sd.
2. Well Name and Number: #2 Pecos Federal  
Operator: Meridian Oil (El Paso Exploration)  
Location: 1980' FNL, 2030' FEL, (SW NE) Sec. 27, T26N, R29E,  
Eddy County, New Mexico.
- Type well: Oil  
Spud Date: 10-22-85  
Completion Date: 11-13-85  
Total Depth: 5509'  
PBTD: 5470'  
Casing Data: Surface-13 3/8" set at 366' with 350 sx cement.  
Intermediate - 8 5/8" set at 2860' with 1500 sacks.  
Production - 4 1/2" set at 5509' with 3500 sx; calculated  
cement top = 2,692'.
- Completion Data: Perforate 4901-90'. Acidized with 4000  
gallons 15% HCl, fraced with unreported vol. gelled water +  
78,500# Sd.
3. Well Name and Number : #3 Pecos Federal  
Operator: Meridian Oil (El Paso Exploration)  
Location: 760' FSL, 1980' FEL (SW SE), Sec. 27, T26S, R29E,  
Eddy County, New Mexico.

VI (Cont.):

3. Type Well: Oil  
Spud Date: 11-5-85  
Completion Date: 12-11-85  
Total Depth: 5505'  
PBSD: 5457'  
Casing Data: Surface - 13 3/8", set at 396' with 420 sx.  
Intermediate - 8 5/8" set at 2845' with 775 sx.  
Production - 4 1/2" set at 5500' with 375 sx; calculated cement top = 4178'.  
Completion Data: Perforated 4883-4979' with 46 shots, acidized with 3800 gallons 15% NEFE acid, (No frac record).

3850 T.S.

4. Well Name and Number: #2 BO, Littlefield Federal  
Operator: George H. Mitchell  
Location: 724' FNL, 660' FEL, Sec. 34, T26S, R29E, Eddy County, New Mexico.  
Type Well: Oil  
Spud Date: 5-29-84  
Completion Date: 8-6-84  
Total Depth: 5,900'  
Casing Data: Surface - 9 5/8" set at 350' with 485 sx.  
Intermediate - 7" set at 2880' with 200 sx.  
Production - 4 1/2" set at 5900' with 356 sx; calculated cement top = 2512'.  
Completion Data: Perforate 4950', 4953', 4957', 4961', 4964', 4967', 4973, 4976', 4979', 4983', 4989', 4992', 4995', 4998', acidized with 1500 gallons 7 1/2% MSR acid, frac with 24,000 gallons foamed, gelled water + 34,000# Sd.

ok

5. Well Name and Number: #1 Stateline Federal  
Operator: Ralph Williamson (originally New Tex Oil)  
Location: 740' FNL, 330' FWL, Sec. 35, T26S, R29E, Eddy County, New Mexico.  
Type Well: Oil  
Spud Date: 6-4-83  
Completion Date: 8-7-83  
Total Depth: 6750'  
PBSD: 6708'  
Casing Data: Surface - 13 3/8" set at 455' with 450 sx.  
Intermediate - 8 5/8" set at 2901' with 650 sx.  
Production - 5 1/2" set at 6750' with 1800 sx; calculated cement top at surface.  
Completion Data: Perforated 6442-6565' (22 holes) squeezed off with 150 sx. Perforated 5863-5892' (15 holes), acidized with 1500 gallons HCl, fraced with 12,000 gallons gelled water + 17,000# Sd; Perforated 5758'- 70' with 1 SPF, acidized with 1250 gallons, fraced with 12,000 gallons, 17,000 # Sd.; Perforated 5308-30' (1 SPF); acidized with 2,000 gallons frac with 15,000 gallons + 23,000# Sd.; Perforated 5103-07', 5129-35' (2SPF). Acidized with 1500 gallons frac with 12,000 gallons + 19,000# Sd.; Perf 4935-5005', acidized with 3000 gallons, fraced with 20,000 gallons + 25,000# Sd.

ok

6. Well Name and Number: #5 EP-USA  
Operator: J.C. Williamson  
Location: 660' FSL, 1980' FWL, (SE SW), Sec. 26, T26S, R29E,  
Eddy County, New Mexico  
Type Well: Oil  
Spud Date: 1-31-85  
Completion Date: 2-26-85  
Total Depth: 6,250'  
PBSD: 6,208  
Casing Data: Surface - 13 3/8" set at 452' with 500 sx.  
Intermediate - 8 5/8" set at 2770' with 150 sx.  
Production - 4 1/2" set at 6250' with 1150 sx; calculated  
cement top = 2195'.  
Completion Data: Perforated 4985-5057' (28 holes), acidized  
with 3000 gallons 7 1/2% NEFE, frac with 55,700 gallons gelled  
water + 100,000# Sd.

7. Well Name and Number: #6 EP-USA  
Operator: J.C. Williamson  
Location: 660' FSL, 660' FWL, (SW SW), Sec. 26, T26S, R29E,  
Eddy County, New Mexico.

Type Well: Oil  
Spud Date: 3-19-85  
Completion Date: 4-23-85  
Total Depth: 6200'  
PBSD: 6160'  
Casing Data: Surface - 12 3/4" set at 425' with 450 sx.  
Intermediate - 8 5/8" set at 2810' with 150 sx.  
Production - 4 1/2" set at 6200' with 1150 sx.  
Calculated cement top = 2145'.  
Completion Data: Perforated 4958-5042'. Acidized with 3000  
gallons 7 1/2% NEFE; fraced with 58,256 gallons + 99,000# Sd.

8. Well Name and Number: #9 EP-USA  
Operator: J.C. Williamson  
Location: 1650' FSL, 990' FWL, (NW SW), Sec. 26, T26S, R29E,  
Eddy County, New Mexico.

Type Well: Oil  
Spud Date: 3-14-85  
Completion Date: 4-16-85  
Total Depth: 6,220'  
PBSD: 6178'  
Casing Date: Surface - 13 3/8" set at 425' with 450 sx.  
Intermediate - 8 5/8" set at 2764' with 150 sx.  
Production - 5 1/2" set at 6220' with 1300 sx.  
Calculated Cement Top: 178'.  
Completion Data: Perforated 4961-5024 (25 shots), acidized  
with 3000 gallons 7 1/2% HCl; fraced with 56,000 gallons +  
82,450#.

9. Well Name and Number : #8 EP-USA  
Operator: J.C. Williamson  
Location: 1980' FSL, 1980' FWL, Sec. 26, T26S, R29E, Eddy  
County, New Mexico.  
Type Well: Oil  
Spud Date: 2-28-85  
Completion Date: 3-27-85  
Total Depth: 6250'  
PBTID: 6208'  
Casing Data: Surface - 13 3/8" set at 425' with 450 sx.  
Intermediate - 8 5/8" set at 2775' with 150 sx.  
Production - 5 1/2" set at 6250' with 1000 sx.  
Calculated Cement Top = 1602'  
Completion Data: Perforated 4983-5065', acidized with 3000  
gallons, fraced with 57,496 gallons + 100,000# Sd.
10. Well Name and Number: #3 Holly "A" Federal  
Operator: J.C. Williamson  
Location: 1980' FNL, 660' FWL, (SW NW), Sec. 26, T26S, R29E,  
Eddy County, New Mexico  
Type Well: Oil  
Spud Date: 12-17-84  
Completion Date: 1-17-85  
Total Depth: 5452'  
PBTID: 5412'  
Casing Data: Surface 13 3/8" set at 472' with 500 sx.  
Intermediate - 8 5/8" set at 5432' with 900 sx.  
Calculated Cement Top = 2259'  
Completion Data: Perforated 4935-5026'; acidized with 3000  
gallons 7 1/2% NEFE: fraced with 55,000 gallons gelled water  
and 89,000# Sd.
11. Well Name and Number: Amoco-Federal #3  
Operator: Mallon Oil Company  
Location: 2310' FSL, 1681' FEL (NW SE), Sec. 27, T26S, R29E,  
Eddy County, New Mexico  
Type Well: Oil  
Spud Date: 8-16-83  
Completion Date: 10-14-83  
Total Depth: 5075'  
PBTID: 5035'  
Casing Data: Surface - 8 5/8", set at 445' with 280 sx;  
Production - 5 1/2", set at 5070' with 400 sx;  
Cement Top (CBL) - 3219'  
Completion Data: Perforated 4909-4974' (1 SPF). Acidized with  
1500 gallons, fraced with 30,000 gallons + 64,000# sd.
12. Well Name and Number: Amoco-Federal #4  
Operator: Mallon Oil Company  
Location: 2310' FNL, 330' FEL, (SE NE), Sec. 27, T26S, R29E,  
Eddy County, New Mexico  
Type Well: Oil  
Spud Date: 11-28-83  
Completion Date: 2-27-84  
Total Depth: 5052'

VI:

12. PBTD: 5037'

Casing Data: Surface - 8 5/8", set at 517' with 1275 sx.

Production - 5 1/2" set at 5046' with 450 sx.

Cement Top (CBL) - 3180'.

Completion Data: Perforated 4962-5017' (18 shots); Acidized with 2500 gallons HCl; Fraced with 30,000 gallons + 50,000# sd.

Part VII:

1. Proposed Average Daily Injection Rate: 800 BWPD.

Proposed Maximum Daily Injection Rate: 1600 BWPD.

2. Closed system.

3. Proposed Average Surface Injection Pressure: 300 psi.

Proposed Maximum Surface Injection Pressure: 771 psi.

4. All injected fluid will be water produced from the "Williamson Sd", Cherry Canyon Fm. (analysis attached). No water from the proposed injection zone is available for analysis although the zone is presently being used in several wells in the area for water disposal purposes.

5. The apparent water resistivity back calculated from the open hole logs indicates a sodium chloride equivalent concentration of 13,000 PPM (mg/L). There are no wells producing from proposed disposal zone within one mile.

VIII Proposed Injection Zone:

Unnamed Sand, Cherry Canyon Fm., Delaware Mountain Group.

Fine to medium grained sandstone bounded by dense limestone above and below.

Net sand thickness (porosity greater than 20%) 66'  
(3856-86', 3904-40').

Drinking Water Zone:

"Dewey Lake" 150-200'+ (KB), no other known fresh water zones in area.

IX. Proposed Stimulation:

Zone will be perforated and broken down with acid. If injection tests prior to beginning disposal indicate a need for further stimulation, a frac job consisting of approximately 20,000 gallons gelled water and 40,000# of sand will be conducted.

X.

Logs previously submitted.

XI.

See attachments for water analyses from the two known fresh water wells in the area.

Well #1 SW SW Sec. 22, T26S, R29E, "Challenger Fresh", sampled 5-27-88.

Well #2 NW SW Sec. 26, T26S, R29E, "Williamson Fresh", sampled 5-27-88.

XII.

Statement regarding hydrologic connection between fresh water aquifer and proposed disposal zone:

Detailed mapping of the Williamson Sd (Cherry Canyon Formation) which lies between the proposed disposal zone and known fresh water aquifer shows no indication of faulting or other potential conduits for fluid flow between the proposed disposal zone and the aquifer in the Dewey Lake Formation. Further, no indications have been observed during drilling of the wells to make such geologic phenomena seem likely.

HALLIBURTON DIVISION LABORATORY  
HALLIBURTON SERVICES  
MIDLAND DIVISION  
HOBBS, NEW MEXICO 88240

RECEIVED JUN 03 1988

LABORATORY WATER ANALYSIS

No. \_\_\_\_\_

To Mallon Oil

Date 5-25-88

This report is the property of Halliburton Company and neither it nor any part thereof nor a copy thereof is to be published or disclosed without first securing the express written approval of laboratory management; it may however, be used in the course of regular business operations by any person or concern and employees thereof receiving such report from Halliburton Company.

Submitted by \_\_\_\_\_ Date Rec. \_\_\_\_\_

Well No. \_\_\_\_\_ Depth \_\_\_\_\_ Formation \_\_\_\_\_

County \_\_\_\_\_ Field \_\_\_\_\_ Source \_\_\_\_\_

	<u>Williamson Fresh</u>	<u>Amoco Production</u>	<u>Challenger Fresh</u>
Resistivity .....	<u>.854 @ 70°</u>	<u>.059 @ 70°</u>	<u>1.75 @ 70°</u>
Specific Gravity .....	<u>1.005</u>	<u>1.205</u>	<u>1.000</u>
pH .....	<u>7.2</u>	<u>6.7</u>	<u>7.1</u>
Calcium (Ca) .....	<u>1350</u>	<u>32,500</u>	<u>450</u> *MPL
Magnesium (Mg) .....	<u>90</u>	<u>5100</u>	<u>Nil</u>
Chlorides (Cl) .....	<u>4000</u>	<u>189,000</u>	<u>1600</u>
Sulfates (SO <sub>4</sub> ) .....	<u>1800</u>	<u>100</u>	<u>1700</u>
Bicarbonates (HCO <sub>3</sub> ) .....	<u>180</u>	<u>24</u>	<u>193</u>
Soluble Iron (Fe) .....	<u>Nil</u>	<u>25</u>	<u>nil</u>
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....

Remarks: \_\_\_\_\_ \*Milligrams per liter

Respectfully submitted,

Analyst: \_\_\_\_\_

HALLIBURTON COMPANY

cc:

By \_\_\_\_\_  
CHEMIST

NOTICE

THIS REPORT IS LIMITED TO THE DESCRIBED SAMPLE TESTED. ANY USER OF THIS REPORT AGREES THAT HALLIBURTON SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE, WHETHER IT BE TO ACT OR OMISSION, RESULTING FROM SUCH REPORT OR ITS USE.

# MALLON OIL COMPANY

1099 18th Street, Suite 2750, Denver, Colorado 80202  
(303) 293-2333

## RECOMPLETION PROCEDURE- AMOCO-FEDERAL #1 PROPOSED UPPER CHERRY CANYON SALTWATER DISPOSAL ZONE

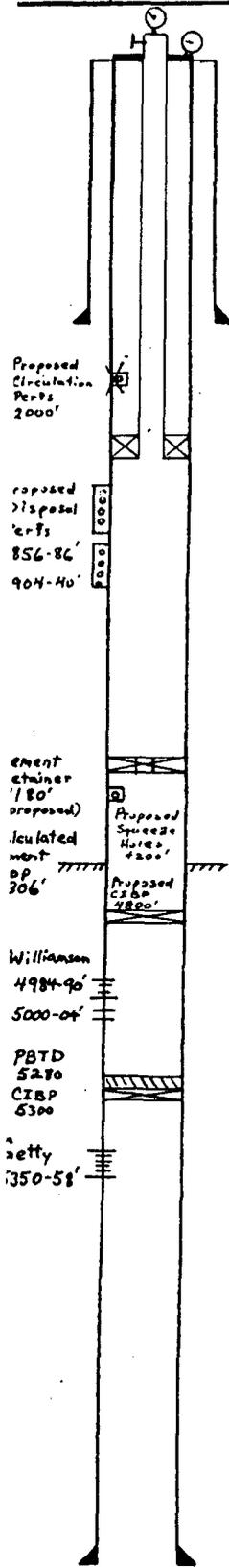
- 1.) Set 4 1/2" cast iron bridge plug at 4800' above presently producing Williamson Sand perforations. Load hole with water and pressure test casing to 1500 psi for 15 minutes.
- 2.) Perforate lower "squeeze" holes 4200-02' 4 SPF. Perforate upper "circulation" holes at 2000-01 2 SPF.
- 3.) TIH with 4 1/2 double grip packer on 2 3/8" tubing to 4250', set packer and pressure test tbq. and packer. Release packer and pick up to 4150', set packer and reverse circulate through casing-borehole annulus at maximum allowable rate until returns are relatively clean.
- 4.) TOH with packer and TIH w/4 1/2" cement retainer. Set retainer at 4180' and establish injection into squeeze perforations. Pump approximately 270 ft<sup>3</sup> 35/65 poz "A" followed by approximately 180 ft<sup>3</sup> class A + 2% bentonite + 0.5% dispersant. Displace to retainer, sting out of retainer and reverse circulate tubing clean.
- 5.) Set retrievable bridge plug at 2100' top with 100# sand. Set squeeze packer at 1650', establish injection with water and squeeze with 100 sx thixotropic cement using hesitation after tbq & pkr. are clear. Reverse circulate tubing clean after achieving standing pressure. Shut-in overnight.
- 6.) Drill out to below squeeze perforations and pressure test squeeze with 500 psi for 30 minutes using pressure recorder. If no leak-off occurs drill out and clean out to RBP. Remove RBP.
- 7.) Perforate proposed injection interval 3856-86, 3904-40 with 2 SPF. TIH with packer and tubing and spot 100 gallons acid across perforations. Set packer and break down perforations with 900 gallons 15% HCl with 80 perf balls.
- 8.) TIH w/internally coated packer on 2 3/8" internally plastic coated tubing, circulate annulus with corrosion inhibiting fluid set packer at 3750' and commence injection.



# MALLON OIL COMPANY

## Well Mechanics & Work History

CASE - WELL <i>Amoco - Federal # 1</i>	FIELD NAME <i>Brushy Draw - Delaware</i>	DATE <i>7-23-89</i>	LOCATION <i>1665' FSL, 330' FEL (NE SE)</i>
COUNTY <i>Eddy</i>	STATE <i>New Mexico</i>	ELEV. DATUM - G.L. <i>2877' KB-2869' GL</i>	Sec. <i>27</i> Twp <i>26S</i> R. <i>29E</i>



**SURFACE CSG:**  
 Size / Wt.: 8 5/8" / 24 #/ft (in 12 1/4" hole)  
 Grade / Thread: J-55 / 8R  
 Depth: 450'  
 Cement: 280 sx

**INTERMEDIATE STRING** None  
 Size: \_\_\_\_\_  
 Grade / Thread: \_\_\_\_\_  
 Depth: \_\_\_\_\_  
 Cement: \_\_\_\_\_

**TUBING** Internally Plastic Coated  
 Size / Wt.: 2 3/8" / 4.7 #/ft  
 Grade / Thread: J-55 / EUE  
 Depth: \_\_\_\_\_

**PACKER** \_\_\_\_\_  
 Type: Baker Model 'R' or Equivalent  
 Depth: 3750'

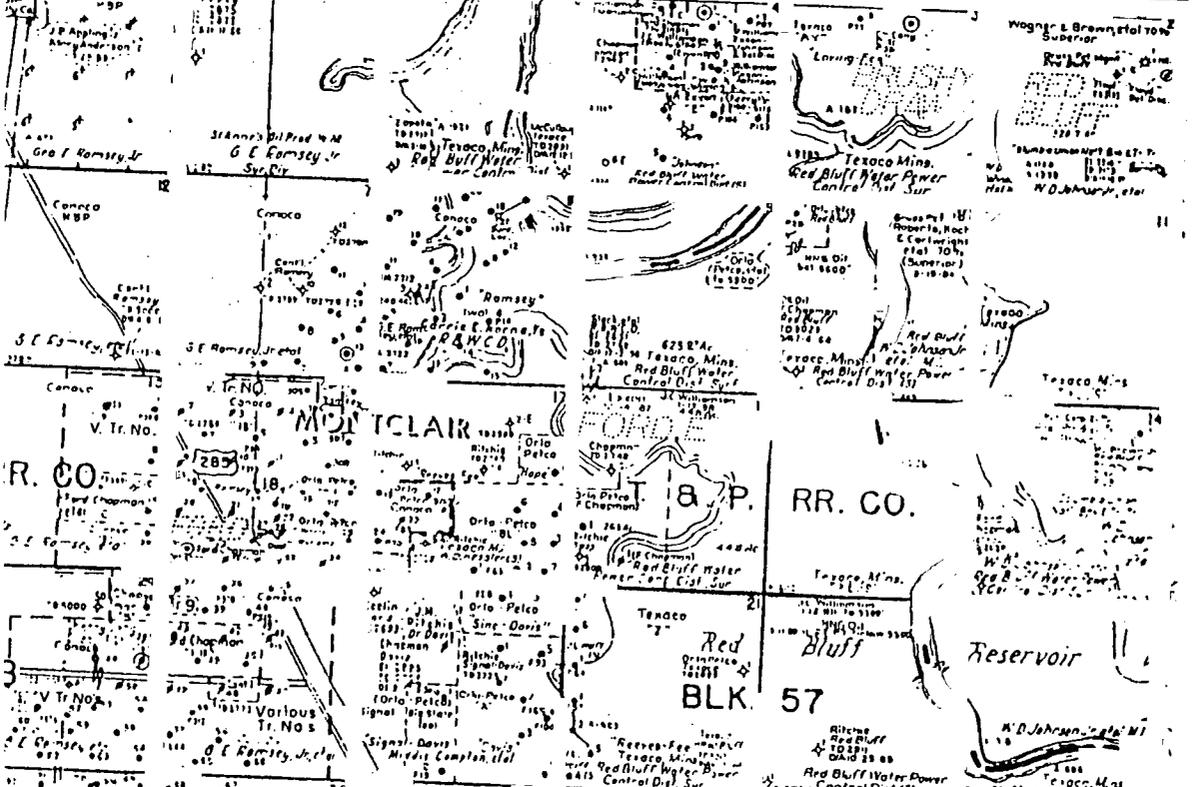
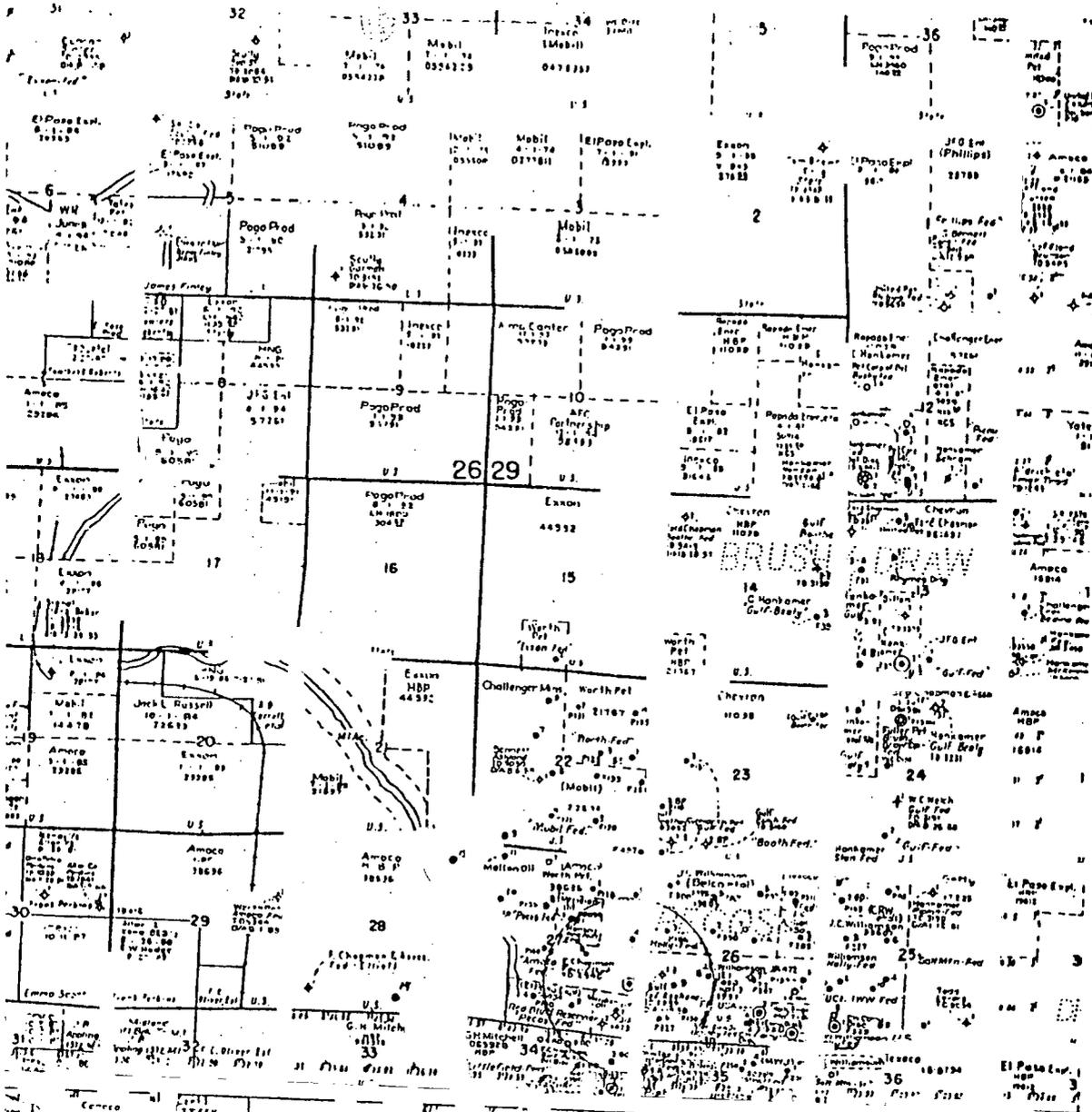
**BRIDGE PLUG** \_\_\_\_\_  
 Type: Cement Retainer  
 Depth: 4180'

**PERFORATIONS / OH** \_\_\_\_\_  
 Intervals: As shown  
 SPF: \_\_\_\_\_

**PRODUCTION CASING** \_\_\_\_\_  
 Size / Wt.: 4 1/2" / 11.6 #/ft (in 7 3/4" hole)  
 Grade / Thread: J-55 / 11.6 #/ft  
 Depth: 5820'  
 Cement: 450 sx primary, 200 sx squeeze  
 PBD \_\_\_\_\_  
 T.D. 6150'

**COMMENTS**

Schematic diagram for application to inject saltwater. Well configuration as shown is proposed, not actual at the time of application.



# MALLON OIL COMPANY

1099 18th Street, Suite 2750, Denver, Colorado 80202  
(303) 293-2333

August 15, 1989

RECEIVED

AUG 17 1989

OIL CONSERVATION DIV.  
SANTA FE

Mr. David Catnach  
New Mexico Oil Conservation Division  
310 Old Santa Fe Trail  
P.O. Box 1148  
Santa Fe, New Mexico 87504-1148

Re: Amoco-Federal #1 well  
NE/4 SE/4, Sec. 27, T26S, R29E  
Eddy County, New Mexico

Ladies/Gentlemen:

A copy of the Affidavit of Publication for the public notice for the proposal to dispose of produced saltwater for the captioned well is enclosed. Also, enclosed are copies of the executed certified return receipt cards that were sent out with the August 2, 1989, revision of the Application for Authorization to Inject.

If you should have any questions, please advise.

Sincerely,

MALLON OIL COMPANY



Joe H. Cox, Jr.  
Production Manager

JHC/ria  
Enclosures

# Affidavit of Publication

State of New Mexico,  
County of Eddy, ss.

E. C. Cantwell, being first duly sworn,  
on oath says:

That he is publisher of the Carlsbad Current-Argus, a newspaper published daily at the City of Carlsbad, in said county of Eddy, state of New Mexico and of general paid circulation in said county; that the same is a duly qualified newspaper under the laws of the state wherein legal notices and advertisements may be published; that the printed notice attached hereto was published in the regular and entire edition of said newspaper and not in supplement thereof on the date as follows, to wit:

August 8, 1989  
\_\_\_\_\_, 19\_\_\_\_  
\_\_\_\_\_, 19\_\_\_\_  
\_\_\_\_\_, 19\_\_\_\_

that the cost of publication is \$ 9.98,  
and that payment thereof has been made  
and will be assessed as court costs.

*E C Cantwell*

Subscribed and sworn to before me this

8 day of August, 1989  
*Donella Dwyer*

My commission expires 6/01/92  
Notary Public

August 8, 1989  
PUBLIC NOTICE  
Matton Oil Company is proposing to dispose of produced saltwater from their Amoco-Federal #1 well, located 1665' FSL, 330' FEL, of Section 27, T26S-R29E, Eddy County, New Mexico. The proposed interval for disposal injection is within the Cherry Canyon Formation - Belzora - Mountain Group, at a depth of 2654-88' and 3804-40'. Maximum injection rate is anticipated to be 1600 bbl. per day at an anticipated maximum pressure of 771 psi. Any parties who wish to file objections or request a hearing should do so within 15 days of the date of this notice by writing the New Mexico Oil Conservation Division, P.O. Box 2068, Santa Fe, New Mexico 87501. Further information regarding the proposed disposal well can be obtained by contacting Mr. Joe H. Cox, Jr., Matton Oil Company, 1099 18th Street, Suite 2150, Denver, Colorado 80202. The telephone number is (303) 269-2333. This notice replaces and replaces an earlier notice which advertised the proposed injection of a Brulee Canyon Formation interval, 6000-6200'.

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.  
 Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1.  Show to whom delivered, date, and addressee's address. (Extra charge) 2.  Restricted Delivery (Extra charge)

3. Article Addressed to: Mr. David Catnach NMOCD 310 Old Santa Fe Trail P.O. Box 1148 Santa Fe, NM 87504-1148	4. Article Number P-518 885 024
5. Signature - Address X <i>Andrew Ferguson</i>	Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise
6. Signature - Agent X	Always obtain signature of addressee or agent and DATE DELIVERED.
7. Date of Delivery	8. Addressee's Address (ONLY if requested and fee paid)

PS Form 3811, Mar. 1988 \* U.S.G.P.O. 1988-212-865 DOMESTIC RETURN RECEIPT

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.  
 Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1.  Show to whom delivered, date, and addressee's address. (Extra charge) 2.  Restricted Delivery (Extra charge)

3. Article Addressed to: State of New Mexico OGD P.O. Drawer DD Artesia, NM 88210	4. Article Number P-518 885 017
5. Signature - Address X <i>M. J. Williams</i>	Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise
6. Signature - Agent X	Always obtain signature of addressee or agent and DATE DELIVERED.
7. Date of Delivery 8-4-89	8. Addressee's Address (ONLY if requested and fee paid)

PS Form 3811, Mar. 1988 \* U.S.G.P.O. 1988-212-865 DOMESTIC RETURN RECEIPT

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.  
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1.  Show to whom delivered, date, and addressee's address. (Extra charge) 2.  Restricted Delivery (Extra charge)

3. Article Addressed to: U.S. Dept. of the Interior Bureau of Land Management Sawtooth Resource Area P.O. Box 1778 Carlsbad, NM 88220	4. Article Number P-518 885 023
5. Signature - Address X	Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise
6. Signature - Agent X <i>Betty Hill</i>	Always obtain signature of addressee or agent and DATE DELIVERED.
7. Date of Delivery	8. Addressee's Address (ONLY if requested and fee paid) 1989

PS Form 3811, Mar. 1988 \* U.S.G.P.O. 1988-212-865 DOMESTIC RETURN RECEIPT

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1.  Show to whom delivered, date, and addressee's address. (Extra charge) 2.  Restricted Delivery (Extra charge)

3. Article Addressed to: G. H. Mitchell P.O. Box 385 Artesia, NM 88210	4. Article Number P-518 885 022
5. Signature - Address X	Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise
6. Signature - Agent X	Always obtain signature of addressee or agent and DATE DELIVERED.
	8. Addressee's Address (ONLY if requested and fee paid)