

ARCO Oil and Gas Company  
P.O. Box 1611  
Midland, Texas 79702  
Telephone 915 684 0100



December 1, 1981

Mr. Joe D. Ramey, Director  
Oil Conservation Division  
Energy and Minerals Department  
P. O. Box 2088  
Santa Fe, New Mexico 88501

Dear Mr. Ramey:

RE: Conversion to Produced Salt Water Injection  
Empire Abo Unit Wells B-48 and B-49  
Sections 29 and 30, 17S-29E  
Eddy County, New Mexico

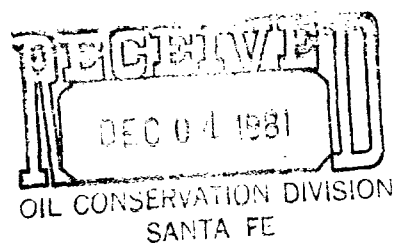
By means of the enclosed Form C-108 and attachments ARCO Oil and Gas Company, as unit operator, makes application for administrative approval to convert Empire Abo Unit Wells B-48 and B-49 to produced salt water injection. These wells will expand an existing pressure maintenance project authorized by Division Order R-4549 (A-E). As noted in the application, analyses of fresh water wells within one mile and a proof of publication will be forwarded to you as soon as they are available. If any additional information is needed, please contact me at (915) 684-0165.

Very truly yours,

Stephen R. Sills  
Engineer

SRS:cn

Attachments



APPLICATION FOR AUTHORIZATION TO INJECT

- I. Purpose: ☐ Secondary Recovery ☒ Pressure Maintenance ☐ Disposal ☐ Storage  
Application qualifies for administrative approval? ☒ Yes ☐ No
- II. Operator: ARCO Oil and Gas Company  
Address: P. O. Box 1610 Midland, Texas  
Contact party: Steve Sills Phone: (915)684-0165
- 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 R-4549 (A-E)
- 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: Stephen R. Sills Title: Operations/Analytical Engineer  
Signature: Stephen R. Sills Date: November 30, 1981
- \* 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. Section X: Log and test data submitted at time of completion

## 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.

APPLICATION FOR AUTHORIZATION TO INJECT, SECTION III  
INJECTION WELL DATA SHEET

ARCO Oil and Gas Co. Empire Abo Unit  
OPERATOR LEASE  
B-48 2310' FNL and 990' FEL 30 ' 17S 29E  
WELL NO. FOOTAGE LOCATION SECTION TOWNSHIP RANGE  
Eddy County, New Mexico

Proposed  
Schematic

All depths referenced to KB, El. 3643'  
Tabular Data

Surface Casing

Size 8 5/8" Cemented with 225 sx.  
TOC 0 feet determined by circulation  
Hole size 11"

Intermediate Casing

Size -" Cemented with - sx.  
TOC - feet determined by -  
Hole size -

Long string

Size 5 1/2" Cemented with 566 sx.  
TOC unknown \* feet determined by -  
Hole size 7 7/8"

Total depth 6306'

Injection interval (Perforated)

6183 feet to 6277 feet(see diagram)  
(perforated or open-hole, indicate which)

Proposed Abo  
Injection Perforations

6183-88'  
6206-13'  
6226-34'  
6265-77'

\*TOC will be located w/CBL, 5 1/2" casing perforated,  
and cement circulated to surface.

8 5/8"  
@ 753'

2 7/8" PC TBG  
set@ 6150'  
(est.) with  
Ret. Pkr.

PBTD @ 6295'

5 1/2" @ TD  
6306'

Proposed

Tubing size 2 7/8" lined with plastic coating set in a  
(material)

Retrievable (Brand subject to availability) packer at 6150 (est.) feet  
(brand and model)

(or describe any other casing-tubing seal).

Other Data

- Name of the injection formation ABO
- Name of Field or Pool (if applicable) Empire Abo Field
- Is this a new well drilled for injection? ☐ Yes ☒ No  
If no, for what purpose was the well originally drilled? Oil Production

- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used)

No. All perforations have been in Abo.

- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area.

Above: 4795' (est.) Tubbs

Below: 7800' (est.) Wolfcamp

APPLICATION FOR AUTHORIZATION TO INJECT, SECTION III  
INJECTION WELL DATA SHEET

ARCO Oil and Gas Company      Empire Abo Unit  
OPERATOR      LEASE

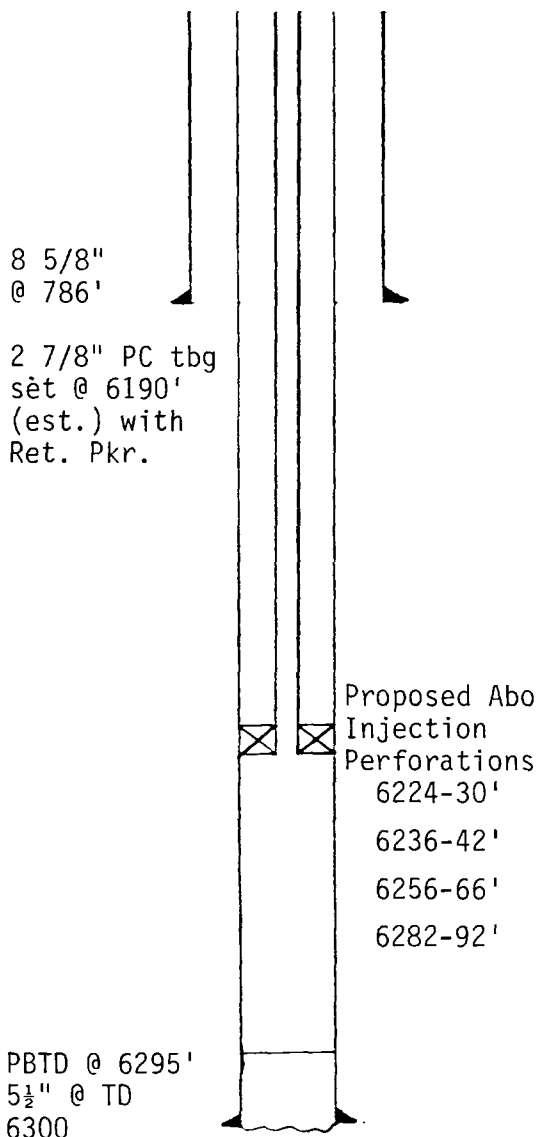
B-49      1980' FNL and 330' FWL      29      '17S      29E  
WELL NO.      FOOTAGE LOCATION      SECTION      TOWNSHIP      RANGE

Eddy County, New Mexico

All depths referenced to KB, El. 3630'

Schematic

Tabular Data\*



Surface Casing

Size 8 5/8 "      Cemented with 225 sx.

TOC Unknown feet determined by -

Hole size 11 "

Intermediate Casing

Size - "      Cemented with - sx.

TOC - feet determined by -

Hole size -

Long string

Size 5 1/2 "      Cemented with 570 sx.

TOC unknown\*\* feet determined by -

Hole size 7 7/8 "

Total depth 6300 '

Injection interval (perforated)

6224 feet to 6292 feet (see diagram)  
(perforated or open-hole, indicate which)

\* Prior to running 5 1/2", an original hole was plugged back with cement to 2973', a whipstock set, and the well redrilled. Data given is for redrilled well.

\*\* TOC will be located w/CBL, 5 1/2" casing perforated, and cement circulated to surface.

Proposed  
Tubing size 2 7/8 " lined with Plastic coating set in a  
(material)

Retrievable (Brand subject to availability) packer at 6190 (est.) feet  
(brand and model)

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation Abo

2. Name of Field or Pool (if applicable) Empire Abo Field

3. Is this a new well drilled for injection? ☐ Yes ☒ No

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

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used)

No. All perforations have been in Abo

5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area.

Above: 4775' Tubbs

Below: 7800' (est.) Wolfcamp

## APPLICATION FOR AUTHORIZATION TO INJECT

### SECTION VI

All wells of public record within the area of review which penetrate the Abo zone are discussed below. Any other wells within this area do not penetrate the Abo.

#### Empire Abo Unit B-47 (formerly General American Green A # 5)

Location: 2310' FNL and 2310' FEL Sec. 30-17S-29E

Oil Well: Shut in 10/73

Drilled: 1961, TD=6313' (Depths referenced to KB @ 3653' E1.)

Casing: 8 5/8" @ 800', 5 1/2" @ 6313'

Perforations: Abo zone, TOP-6165', BOP-6286'

#### Empire Abo Unit C-46 (formerly Exxon State #1)

Location: 1256' FWL and 2314' FSL Sec. 30-17S-29E

Oil Well: Shut-in 10/73

Drilled: 1961, TD=6360' (Depths reference to KB @ 3661' E1.)

Casing: 8 5/8" @ 800', 4 1/2" @ 6358'

Perforations: Abo zone, TOP-6204', BOP-6233'

#### Empire Abo Unit C-47 (formerly DEPCO, Inc. Leonard Federal #7)

Location: 2150' FSL and 2310' FEL Sec 30-17S-29E

Oil well: Shut-in 10/73

Drilled: 1961, TD=6370' (Depths referenced to KB @ 3657' E1.)

Casing: 8 5/8" @ 760', 5 1/2" @ 6369'

Perforations: Abo zone, 6177-87'

#### Empire Abo Unit C-48 (formerly DEPCO, Inc., Leonard Federal #8)

Location: 1980' FSL and 990' FEL Sec 30-17S-29E

Oil well: Shut-in 11/71

Drilled: 1961, TD=6360' (Depths referenced to KB @ 3642' E1.)

Casing: 8 5/8" @ 765', 5 1/2" @ 6360'

Perforations: Abo zone, 6255-66'

#### Empire Abo Unit C-49 (formerly General American Green A #8)

Location: 2310' FSL and 330' FWL Sec 29-17S-29E

Water Injector: Active

Drilled: 1962, TD=6294' (Depths referenced to KB @ 3641' E1.)

Casing: 8 5/8" @ 778', 5 1/2" @ 6294'

Perforations: Abo zone, 6247-57', 6272-82'

#### Empire Abo Unit C-50 (formerly General American Green A #9)

Location: 2310' FSL and 1650' FWL Sec 29-17S-29E

Water Injector: Active

Drilled: 1962, TD=6292 (Depths referenced to KB @ 3620' E1.)

Casing: 8 5/8" @ 760', 5 1/2" @ 6273'

Perforations: Abo zone, 6273-92' OH

#### Green "A" #10

Location: 1980' FSL and 1980' FWL Sec 29-17S-29E

Oil Well: Active

Drilled: 1976, TD=11,003' (Depths referenced to KB @ 3618' EL.)

Casing: 11 3/4" @ 333', 8 5/8" @ 2674'

Perforations: Premier zone, Approx. 2050' (PBSD = 2600')

Exact perms not available

#### Empire South Deep Unit #7

Location: 760' FSL and 2310' FEL, Sec 30-17S-29E

Oil well: P&A, see attached schematic

Drilled: 1975, TD=10,982' (KB not available)

Original Casing: 13 3/8" @ 425', 9 5/8" @ 2894, 5 1/2" @ 10,982.

NOTE: Upon P&A, 5 1/2" casing was cut at 2890' and pulled.

Perforations: All are below CIBP's. (See Schematic).

#### Empire South Deep Unit #18

Location: 1980' FNL and 1980' FWL, Sec 30-17S-29E

Gas Well: Active

Drilled: 1978, TD=11,010' (Depths referenced to KB @ 3655' EL.)

Casing: 12 3/4" @ 400', 8 5/8" @ 2895', 5 1/2" @ 11,010

Perforations: Morrow zone, 10,722-758'

### SECTION VII

1. ARCO Oil and Gas Company proposes to inject produced water from the Abo formation back into same using Empire Abo Unit Wells B-48 and B-49. The estimated average daily injection rate is 2500 BWPd/well with a maximum estimated rate of 4000 BWPd/well.
2. The injection system is closed.
3. Average expected wellhead injection pressure is 800 PSI with a maximum of 1200 PSI.
4. The injection fluid is reinjected produced water.
5. Injection is part of an approved pressure maintenance project (See Section IV).

### SECTION VIII

The Empire Abo reservoir is located approximately 8 miles southeast of the town of Artesia, in Eddy County, New Mexico. This formation is part of a reef trend which extends across the State in a generally east-west direction. The Empire Abo

rock is composed of Leonardian Age dolomitized limestone and is fractured and vugular. The average reef thickness in the Empire Abo Unit is 300' with the reef top occurring at approximately 5800'.

No major fresh water aquifers exist in this area, however, shallow triassic fresh water zones are found from approximately 300 to 350 feet. It is general practice in the area to set surface pipe in a salt section which occurs from 600 to 800 feet.

#### SECTION IX

The proposed stimulation programs call for treating each injection well with 7500 gal. of 15% HCL-LSTNE FEXX agent with rock salt, followed by a formation water flush. Temperature surveys will be run before and after treatment.

#### SECTION X

Log and test data for these wells were filed with the Division at the time of original completion.

#### SECTION XI

A one mile radius around the subject well is being examined for producing fresh water wells. If any are found, samples will be taken and analyzed. These reports or a statement that no producing wells were found will be forwarded as soon as possible to complete this application.

#### SECTION XII

The subject wells are to become part of an existing pressure maintenance project.

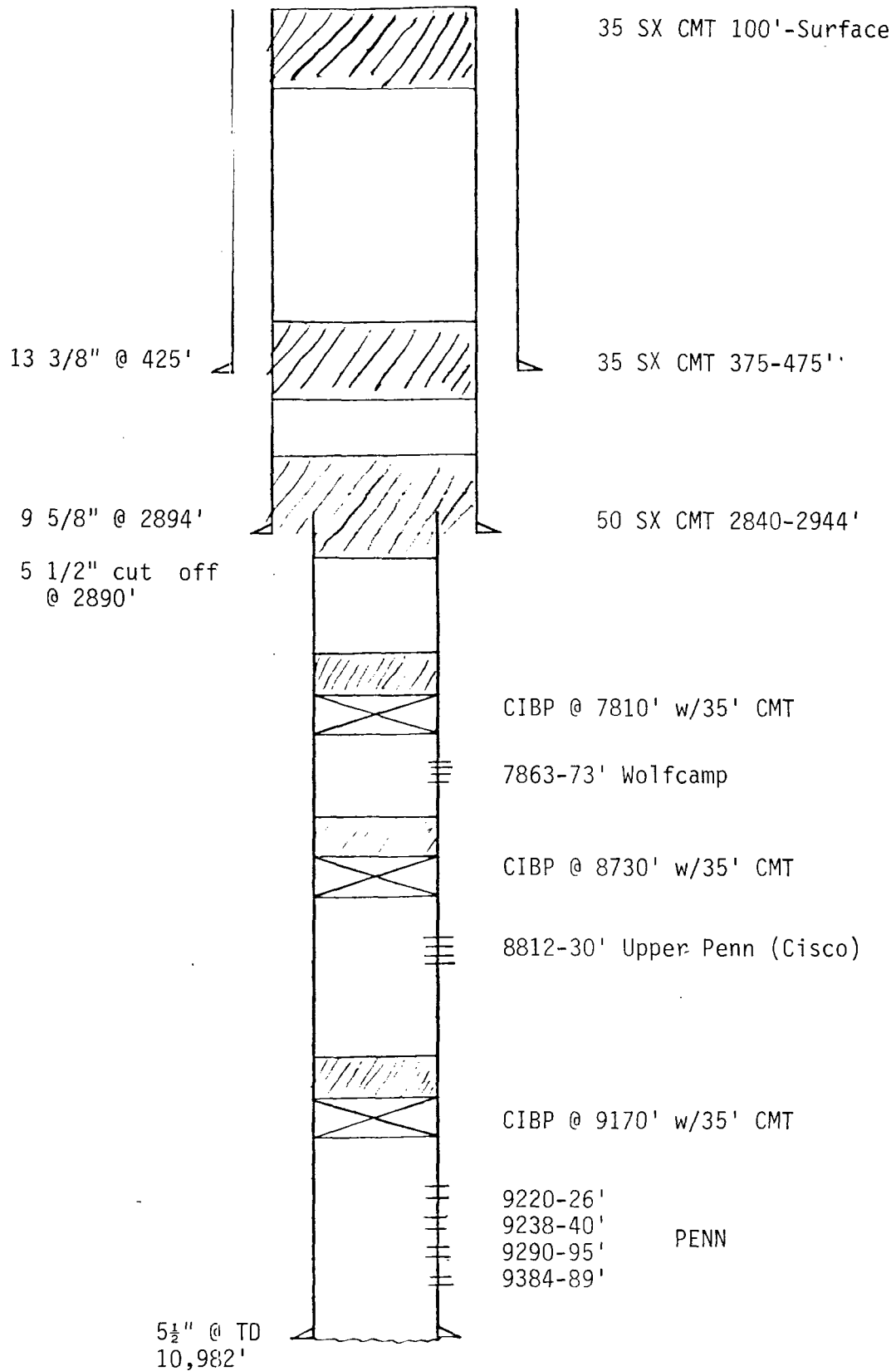
#### SECTION XIII

A copy of this application has been sent by certified mail to each leasehold operator within one-half mile of the subject wells. The surface rights are Federal and the appropriate forms have been filed with the USGS.

Since this application is subject to administrative approval, proper notice will be published in the Artesia Daily Press (see attached letter). Copies of this notice will be forwarded by the paper to Santa Fe and the Artesia district office at the time of publication.



PLUGGING SCHEMATIC  
EMPIRE SOUTH DEEP UNIT #7



## RECORDS OF COMPLETION

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE

Form approved.  
Budget Bureau No. 42-R355.5.

LEASE DESIGNATION AND SERIAL NO.

LC-052407

IF INDIAN, ALLOTTEE OR TRIBE NAME

## WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. TYPE OF WELL: OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> DRY <input type="checkbox"/> OTHER <input type="checkbox"/>		OIL CONSERVATION DIVISION		UNIT AGREEMENT NAME EMPIRE SOUTH DEEP UNIT	
b. TYPE OF COMPLETION: NEW WELL <input checked="" type="checkbox"/> WORK OVER <input type="checkbox"/> DEEP-EN <input type="checkbox"/> PLUG BACK <input type="checkbox"/> DIFF. RESVR. <input type="checkbox"/> Other _____		SANTA FE		S. FARM OR LEASE NAME " " " "	
2. NAME OF OPERATOR TANCO PRODUCTION COMPANY				9. WELL NO. 7	
3. ADDRESS OF OPERATOR ADMINISTRATIVE SERVICES 79714				10. FIELD AND POOL, OR WILDCAT SOUTH EMPIRE - WOLFCAMP	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)* At surface 700' FSL & 2310' FEL Sec. 30 (Unit D, SW 1/4 SE 1/4) At top prod. interval reported below At total depth				11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA 30-17-29 NMPM	
14. PERMIT NO.		DATE ISSUED		12. COUNTY OR PARISH EDDY	
15. DATE SPUNDED 5-25-75		16. DATE T.D. REACHED 7-10-75		17. DATE COMPL. (Ready to prod.) 10-2-75	
18. ELEVATIONS (OF, RKB, RT, GR, ETC.)* 3637' GL		19. ELEV. CASINGHEAD -		20. TOTAL DEPTH, MD & TVD 10982'	
21. PLUG, BACK T.D., MD & TVD 8695'		22. IF MULTIPLE COMPL., HOW MANY*		23. INTERVALS DRILLED BY ROTARY TOOLS CABLE TOOLS	
24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)* 7863'-73' WOLFCAMP		25. WAS DIRECTIONAL SURVEY MADE -		26. TYPE ELECTRIC AND OTHER LOGS RUN DUAL L.L. COMP NEUTRON FORM DENSITY	
27. WAS WELL CORED YES		28. CASING RECORD (Report all strings set in well)		29. LINER RECORD	
Casing Size		Weight, LB./FT.		Depth Set (MD)	
13 3/8"		48#		425'	
9 5/8"		32.3#		2894'	
5 1/2"		15-17.5#		10982'	
Hole Size		Cementing Record		Amount Pulled	
17 1/2"		475 Sx. Circ.			
12 1/4"		1305 Sx. Circ.			
7 7/8"		2220 Sx. (Grout 3230)			
30. TUBING RECORD		31. PERFORATION RECORD (Interval, size and number)		32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.	
Size		Top (MD)		Bottom (MD)	
2 3/8"		7718		7718	
Sacks Cement*		Screen (MD)		Depth Interval (MD)	
				Amount and Kind of Material Used	
				7863-73 6000 gal 15% 8812-30 250 gal 7 1/2% MCA 9220-9349 6000 gal 15%.	
33. PRODUCTION		34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)		35. LIST OF ATTACHMENTS	
Date First Production 10-2-75		Production Method (Flowing, gas lift, pumping—size and type of pump) PMP		Well Status (Producing or shut-in) PRODUCING	
Date of Test 10-9-75		Hours Tested 24		Choke Size PMP	
Prod'n. for Test Period 169		Oil—BBL. 241		Gas—MCF. 53	
Water—BBL. 1426		Flow. Tubing Press. —		Casing Pressure —	
Calculated 24-Hour Rate 44.9		Oil—BBL. —		Gas—MCF. —	
Water—BBL. —		Oil Gravity-API (Corr.) —		Test Witnessed By —	
36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records		37. SIGNATURE Roy Rybakum		DATE OCT 13 1975	
38. TITLE ADMINISTRATIVE ASSISTANT		39. SIGNATURE —		DATE —	

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

NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico

(Form C-104)  
Revised 7/1/57

REQUEST FOR (OIL) - (GAS) ALLOWABLE

RECEIVED

New Well  
Recompletion

JAN 29 1962

This form shall be submitted by the operator before an initial allowable will be assigned to any completed Oil or Gas well. Form C-104 is to be submitted in QUADRUPLICATE to the same District Office to which Form C-101 was sent. The allowable will be assigned effective 7:00 A.M. on date of completion or recompletion, provided this form is filed during calendar month of completion or recompletion. The completion date shall be that date in the case of an oil well when new oil is delivered into the stock tanks. Gas must be reported on 15.025 psia at 60° Fahrenheit.

Loco Hills, New Mexico

January 29, 1962

(Place)

(Date)

WE ARE HEREBY REQUESTING AN ALLOWABLE FOR A WELL KNOWN AS:

General American Oil Co. of Texas Green A, Well No. 8, in 14 1/4 Sec. 54 1/4

(Company or Operator)

(Lease)

L, Sec. 27, T. 17-S, R. 2-E, NMPM., Undesignated Pool

Unit Letter

Eddy

County. Date Spudded. 1-14-62

Date Drilling Completed

1-24-62

Please indicate location:

Elevation 3612 Total Depth 6219 FBTD 6219

Top Oil/Gas Pay 6272 Name of Prod. Form. Abu Reef

PRODUCING INTERVAL -

Perforations 6272 - 6281

Open Hole Depth Casing Shoe 6271 Depth Tubing 6281

OIL WELL TEST -

Natural Prod. Test: No Test, Natural bbls. oil, bbls. water in hrs, min. Choke Size

Test After Acid or Fracture Treatment (after recovery of volume of oil equal to volume of load oil used): 11 bbls. oil, 5 bbls. water in 5 hrs, 15 min. Choke Size 1 1/2

GAS WELL TEST -

Natural Prod. Test: MCF/Day; Hours flowed Choke Size

Method of Testing (pitot, back pressure, etc.):

Test After Acid or Fracture Treatment: MCF/Day; Hours flowed

Choke Size Method of Testing:

Acid or Fracture Treatment (Give amounts of materials used, such as acid, water, oil, and sand): 1000 gal. 20% HCl

Casing Tubing Date first new

Press. 800 Press. 715 oil run to tanks 1-27-62

Oil Transporter Permian Corporation

Gas Transporter No connection as yet.

Remarks:

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

Approved: 19

General American Oil Company of Texas  
(Company or Operator)

OIL CONSERVATION COMMISSION

By: R. J. Heard (Signature)

By: M. J. O'Connell

Title District Superintendent  
Send Communications regarding well to:

Title OIL AND GAS INSPECTOR

Name General American Oil Company of Texas

Address Box 416, Loco Hills, New Mexico

REQUEST FOR (OIL) - ~~(GAS)~~ ALLOWABLE ☐ O. C. C. ☒ New Well  
ARTESIA, OFFICE ☒ Recompletion

This form shall be submitted by the operator before an initial allowable will be assigned to any completed Oil or Gas well. Form C-104 is to be submitted in QUADRUPLICATE to the same District Office to which Form C-101 was sent. The allowable will be assigned effective 7:00 A.M. on date of completion or recompletion, provided this form is filed during calendar month of completion or recompletion. The completion date shall be that date in the case of an oil well when new oil is delivered into the stock tanks. Gas must be reported on 15.025 psia at 60° Fahrenheit.

Loco Hills, New Mexico December 6, 1961  
(Place) (Date)

WE ARE HEREBY REQUESTING AN ALLOWABLE FOR A WELL KNOWN AS:

General American Oil Co. of Texas Green A, Well No. 5, in S<sub>1</sub> 1/4, T<sub>18</sub> 1/4,  
(Company or Operator) (Lease)

C, Sec. 30, T. 17-3, R. 20-E, NMPM, Undesignated Pool  
Unit Letter

City

County Date Spudded 11-21-61 Date Drilling Completed 12-2-61

Please indicate location:

Elevation 3653' Total Depth 6313' PBTD 629'

Top Oil/Gas Pay 6161' Name of Prod. Form. Also Reef

PRODUCING INTERVAL -

Perforations 6212' - 6246'

Open Hole Depth Casing Shoe Depth Tubing 6255'

OIL WELL TEST -

Natural Prod. Test: No Test Natural bbls. oil, bbls water in hrs, min. Size Choke

Test After Acid or Fracture Treatment (after recovery of volume of oil equal to volume of load oil used): 72.0 bbls. oil, 0 bbls water in 2 hrs, 0 min. Size Choke

GAS WELL TEST -

Natural Prod. Test: MCF/Day; Hours flowed Choke Size

Method of Testing (pitot, back pressure, etc.):

Test After Acid or Fracture Treatment: MCF/Day; Hours flowed

Choke Size Method of Testing:

Acid or Fracture Treatment (Give amounts of materials used, such as acid, water, oil, and sand): 1000 gallons 15% HCl

Casing Tubing Date first new Press. 9.0 Press. 3.0 oil run to tanks 12-1-61

Oil Transporter Hottel Corp.

Gas Transporter Undecided

Remarks:

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

Approved: DEC 8 1961, 19.

General American Oil Company of Texas  
(Company or Operator)

By: R. J. Heard, District Superintendent  
(Signature)

Title: District Superintendent  
Send Communications regarding well to:

Name: General American Oil Co. of Texas

Address: Box 416 Loco Hills, New Mexico

OIL CONSERVATION COMMISSION

By: M. L. Armstrong

Title: OIL AND GAS INSPECTOR

## NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

(Form C-104)  
Revised 7/1/57

RECEIVED

REQUEST FOR (OIL) - ~~(GAS)~~ ALLOWABLENew Well  
~~EXISTING~~

MAR 12 1962

This form shall be submitted by the operator before an initial allowable will be assigned to any completed Oil or Gas well. Form C-104 is to be submitted in QUADRUPLICATE to the same District Office to which Form C-101 was sent. The allowable will be assigned effective 7:00 A.M. on date of completion or recompletion, provided this form is filed during calendar month of completion or recompletion. The completion date shall be that date in the case of an oil well when new oil is delivered into the stock tanks. Gas must be reported on 15.025 psia at 60° Fahrenheit.

Loco Hills, New Mexico  
(Place)March 9, 1962  
(Date)

WE ARE HEREBY REQUESTING AN ALLOWABLE FOR A WELL KNOWN AS:

General American Oil Co. of Texas Green A, Well No. 9, in E 1/4, S 1/4,  
(Company or Operator) (Lease)K, Sec. 29, T. 17-S, R. 29-E, NMPM, Empire Abo Pool  
Unit Letter

Elev

County. Date Spudded 2-19-62 Date Drilling Completed 3-2-62

Please indicate location:

Elevation 3620' FB Total Depth 6273' FBTD

Top Oil/Gas Pay 6273' Name of Prod. Form. Abo Reef

## PRODUCING INTERVAL -

## Perforations

Open Hole 6273-6229 Depth Casing Shoe 6273' Depth Tubing 6228'

## OIL WELL TEST -

Natural Prod. Test: 324 bbls. oil, 0 bbls water in 24 hrs, 0 min. Size 1 1/2" Choke

Test After Acid or Fracture Treatment (after recovery of volume of oil equal to volume of load oil used): bbls. oil, bbls water in hrs, min. Size Choke

## GAS WELL TEST -

Natural Prod. Test: MCF/Day; Hours flowed Choke Size

Method of Testing (pitot, back pressure, etc.):

Test After Acid or Fracture Treatment: MCF/Day; Hours flowed

Choke Size Method of Testing:

Acid or Fracture Treatment (Give amounts of materials used, such as acid, water, oil, and

sand): None

Casing Tubing Date first new Press. PKR Press. 600' oil run to tanks March 7, 1962

Oil Transporter The Permian Corp.

Gas Transporter

Remarks:

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

Approved: MAR 12 1962, 19

General American Oil Company of Texas  
(Company or Operator)

OIL CONSERVATION COMMISSION

By: R. J. Beard  
R. J. Beard (Signature)

Title: District Superintendent

Send Communications regarding well to:

Name: General American Oil Company of Texas

Address: P. O. Box 416, Loco Hills, New Mexico

By:

Title: OIL &amp; GAS INSPECTOR

## Tubing, Casing and Cementing Record

Size Feet Sax

2 5/8"	760'	225
5 1/2"	6273'	160
2 3/8"	6228'	

RECEIVED

NE MEXICO OIL CONSERVATION COM. SSION  
Santa Fe, New Mexico

(Form C-104)  
Revised 7/1/57

NOV 16 1961

REQUEST FOR (OIL) - (GAS) ALLOWABLE

New Well  
Recompletion

This form shall be submitted by the operator before an initial allowable will be assigned to any completed Oil or Gas well. Form C-104 is to be submitted in QUADRUPLICATE to the same District Office to which Form C-101 was sent. The allowable will be assigned effective 7:00 A.M. on date of completion or recompletion, provided this form is filed during calendar month of completion or recompletion. The completion date shall be that date in the case of an oil well when new oil is delivered into the stock tanks. Gas must be reported on 15.025 psia at 60° Fahrenheit.

Artesia, New Mexico November 15, 1961  
(Place) (Date)

WE ARE HEREBY REQUESTING AN ALLOWABLE FOR A WELL KNOWN AS:

Western Development Co. of Del. Leonard Fed. Well No. 8, in NE 1/4 SE 1/4,  
(Company or Operator) (Lease)

I, Sec. 30, T. 17-S, R. 29-E, NMPM, Empire Abo *Hyden* Pool  
Unit Letter

Eddy

Please indicate location:

D	C	B	A
E	F	G	H
L	K	J	I x
M	N	O	P

County. Date Spudded 10-18-61 Date Drilling Completed 11-12-61

Elevation 3642' KB Total Depth 6360' PBD 6347'

Top Oil/Gas Pay 6240' Name of Prod. Form. Abo

PRODUCING INTERVAL -

Perforations 6256'-66'

Open Hole None Depth Casing Shoe 6360' Depth Tubing 6223'

OIL WELL TEST -

Natural Prod. Test: bbls. oil, bbls water in hrs, min. Size Choke

Test After Acid or Fracture Treatment (after recovery of volume of oil equal to volume of load oil used): 1275 bbls. oil, 0 bbls water in 24 hrs, 0 min. Size 1/2" Choke

GAS WELL TEST -

Natural Prod. Test: MCF/Day; Hours flowed Choke Size

Method of Testing (pitot, back pressure, etc.):

Test After Acid or Fracture Treatment: MCF/Day; Hours flowed

Choke Size Method of Testing:

Acid or Fracture Treatment (Give amounts of materials used, such as acid, water, oil, and sand): Acidized with 500 gallons acid

Casing Tubing Date first new Press. packer Press. 525 oil run to tanks November 14, 1961

Oil Transporter McWood Corporation

Gas Transporter None

Remarks: Lost 4 drill collars and bit in hole from 6050' to 6165'. Set whipstock at 6000' and bypassed junk.

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

Approved NOV 16 1961, 19

Western Development Company of Delaware  
(Company or Operator)

OIL CONSERVATION COMMISSION

By: *M. L. Armstrong*

By: *P. M. Carpenter*  
(Signature)

Title Prod. Supt.

Send Communications regarding well to:

Title OIL AND GAS INSPECTOR

Name Western Development Co. of Delaware

Address P. O. Box 427, Artesia, New Mexico

NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico

RECEIVED  
(Form C-104)  
Rev. 6-27-57  
New Well  
Completion

REQUEST FOR (OIL) - (~~GAS~~) ALLOWABLE OCT 18 1961

This form shall be submitted by the operator before an initial allowable will be assigned to any completed Oil or Gas well. Form C-104 is to be submitted in QUADRUPLICATE to the same District Office to which Form C-104 was sent. The allowable will be assigned effective 7:00 A.M. on date of completion or recompletion, provided this form is filed during calendar month of completion or recompletion. The completion date shall be that date in the case of an oil well when new oil is delivered into the stock tanks. Gas must be reported on 15.025 psia at 60° Fahrenheit.

Artesia, New Mexico October 17, 1961  
(Place) (Date)

WE ARE HEREBY REQUESTING AN ALLOWABLE FOR A WELL KNOWN AS:

Western Development Co. of Del. Leonard-Fed., Well No. 7, in NW 1/4 SE 1/4,

(Company or Operator)

(Lease)

J, Sec. 30, T. 17-S, R. 29-E, NMPM, Empire Abo Pool

Unit Letter

Eddy

County. Date Spudded 9-30-61 Date Drilling Completed 10-15-61

Please indicate location:

Elevation 3646' GL Total Depth 6370' PBTD 6353'

Top Oil/Gas Pay 6161' Name of Prod. Form. Abo

PRODUCING INTERVAL -

Perforations 6270'-80'

Open Hole None Depth Casing Shoe 6369' Depth Tubing 5996' 609'

OIL WELL TEST -

Natural Prod. Test: bbls. oil, bbls water in hrs, min. Choke Size

Test After Acid or Fracture Treatment (after recovery of volume of oil equal to volume of load oil used): 1590 bbls. oil, 0 bbls water in 24 hrs, 0 min. Choke Size 1 1/2"

GAS WELL TEST -

Natural Prod. Test: MCF/Day; Hours flowed Choke Size

Method of Testing (pitot, back pressure, etc.):

Test After Acid or Fracture Treatment: MCF/Day; Hours flowed

Choke Size Method of Testing:

Acid or Fracture Treatment (Give amounts of materials used, such as acid, water, oil, and sand): Acidized w/ 1000 gallons regular acid.

Casing Tubing Date first new Press. packer Press. 525 oil run to tanks October 16, 1961

Oil Transporter

Gas Transporter

Remarks:

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

Approved OCT 19 1961, 19

Western Development Company of Delaware  
(Company or Operator)

OIL CONSERVATION COMMISSION

By: P. J. Darnport  
(Signature)

By: M. L. Armstrong

Title: Prod. Supt.

Title: OIL AND GAS INSPECTOR

Send Communications regarding well to:

Name: Western Development Company of Del.

Address: P. O. Box 427, Artesia, New Mexico



P-51 (10-60)

Drilling Days: 17

Completion Days: None

Type of Completion: Oil, Proven.

## HUMBLE OIL &amp; REFINING COMPANY

## WELL RECORD (EXXON STATE #1)

FIELD Empire Abo LEASE New Mexico State BK WELL NO. 1  
 COUNTY Eddy SURVEY -  
 JOB ORDER NO. WA-188 LOCATION OF WELL 1256 FWL, 2314 FSL, Sec. 30, T-17-S, R-29-E,  
Eddy County, New Mexico,  
 OPERATOR Humble Oil & Refining Company ADDRESS Box 2180, Houston, Texas

## WELL DATA

ELEV. OF DERRICK FLOOR 3660 ELEV. OF TOP FLG. OF OIL STRING CASINGHEAD 3650  
 DISTANCE BETWEEN TOP OF RTY. DR. BUSHING AND TOP OF TOP FLG. OF OIL STRING CASINGHEAD 11.0  
 DISTANCE BETWEEN TOP OF RTY. DR. BUSHING AND TOP OF DERRICK FLOOR 1.0 TYPE WELL Oil  
 COMPLETION FLUID Water TOTAL DEPTH 6360 COMPLETION DEPTH 6320  
 UPPER FORMATION Lime RESERVOIR Empire Abo PRODUCING FROM 6268-76 TO 6302-08  
 LOWER FORMATION - RESERVOIR - PRODUCING FROM -  
 COMPLETION DATE 3-21-61 HOLE SIZE BEHIND OIL STRING CSG 7-7/8" SIZE OF OPEN HOLE BELOW CSG -

## PRODUCTION TESTS

INTL OR POT	DATE	SIZE CHOKE OR PLUNGER	HOURS TESTED	BBL/DAY		% BS & W	GAS M C F /DAY	GAS OIL RATIO	TGB PR OR S P M	CSG PR OR L STROKE	COR GRAV
				FLUID	OIL						
IP	3-21-61	7/32	17-3/4	189	180	5	343.4	1910	790	-	36.1°

## DRILL STEM TESTS

DATE	TYPE OF TEST OPEN HOLE OR PERF CSG	FORMATION TESTED		SIZE CHOKE		TOOL OPEN MIN	FORMATION PRESSURE		RECOVERY - FEET				WAS TEST SATIS.
		FROM	TO	TOP	BOTTOM		FLOWING	SHUT-IN	OIL	WATER	MUD	OTHER	
	None												

## - CASING, SCREEN AND LINER RECORD -

SIZE	GRADE AND KIND	WT/FT	NO. AND FORM THREADS	CLASS	MANUFACTURER	JOINTS	AMOUNT SET FEET	DEPTH SET AT
8-5/8"	Guide Shoe	-	8rd	1	HOWCO	-	1.20	
"	H-40, Csg	24	8rd	1	Unknown	1	32.10	
"	Float Collar	-	8rd	1	HOWCO	-	1.67	
"	H-40, Csg	24	8rd	1	Unknown	24	752.35	
						25	787.32	800.3
4-1/2"	Guide Shoe	-	8rd	1	HOWCO	-	1.25	
"	J-55, Csg	9.5	8rd	1	Unknown	1	26.06	
"	Float Collar	-	8rd	1	HOWCO	-	1.05	
"	J-55, Csg	9.5	8rd	1	Unknown	200	6318.97	
						201	6347.33	6358.33

LAND AREA	
FILE	
U.S.O.E.	
LAND OFFICE	
TRANSPORTER	OIL GAS
OPERATION	
PRODUCTION OFFICE	

REQUEST FOR ALLOWABLE  
AND  
AUTHORIZATION TO TRANSPORT OIL AND NATURAL GAS

Superseded OIL CON. 101  
Effective 1-1-65

RECEIVED

JUN - 8 1978

O. C. G.  
ARTIST, OFFICIAL

Operator  
Harvey E. Yates Company (Agent for Amoco Production Co. - Unit Operator)

Address  
P. O. Box 1933, Roswell, New Mexico 88201

Reason(s) for filing (Check proper box)		Other (Please explain)	
New Well	<input checked="" type="checkbox"/>	Change in Transporter oil	
Recompletion	<input type="checkbox"/>	Oil	<input type="checkbox"/>
Change in Ownership	<input type="checkbox"/>	Condensing Gas	<input type="checkbox"/>
		Dry Gas	<input type="checkbox"/>
		Condensate	<input checked="" type="checkbox"/>

If change of ownership give name  
and address of previous owner

DESCRIPTION OF WELL AND LEASE

Lease Name	Well No.	Pool Name, Including Formation	Kind of Lease	Lease
Empire South Deep Unit	18	So. Empire Morrow	State, Federal or Fee State	E-420
Location				
Unit Letter	F	1980 Feet From The North Line and	1980 Feet From The West	
Line of Section	30	Township	17S	Range
			29E	N.M.P.M., Eddy

DESIGNATION OF TRANSPORTER OF OIL AND NATURAL GAS

Name of Authorized Transporter of Oil	<input type="checkbox"/>	or Condensate	<input checked="" type="checkbox"/>	Address (Give address to which approved copy of this form is to be sent)
Western Oil Transportation Co.				P. O. Box 1183, Houston, Texas 77001
Name of Authorized Transporter of Condensing Gas	<input type="checkbox"/>	or Dry Gas	<input checked="" type="checkbox"/>	Address (Give address to which approved copy of this form is to be sent)
El Paso Natural Gas Company				1800 Wilco Bldg., Midland, Texas 79701
If well produces oil or liquids, give location of tanks.	Unit	Sec.	Twp.	Rge.
	F	30	17S	29E
				Is gas actually connected? When
				Yes 6-8-78

If this production is commingled with that from any other lease or pool, give commingling order number:

COMPLETION DATA

Designate Type of Completion - (X)	Oil Well	Gas Well	New Well	Workover	Deepen	Plug Back	Stim. Res'n.	Other
		X	X					
Date Spudded	Date Compl. Ready to Prod.	Total Depth	P.D.T.D.					
4-8-78	6-2-78	11,010' KB	10,968' KB					
Elevations (D.F., R.R.D., RT, CR, etc.)	Name of Producing Formation	Top Oil/Gas Pay	Tubing Depth					
3643.4' GL	Morrow	10,722'	10,680' KB					
Perforations			Depth Casing Shoe					
10,722' - 10,758'			11010					

TUBING, CASING, AND CEMENTING RECORD

HOLE SIZE	CASING & TUBING SIZE	DEPTH SET	SACKS CEMENT
17 1/2"	12 3/4"	400'	475 Sx Cl C 2% CaCl
11"	8 5/8"	2895'	950 Sx in 2 Stages
7 7/8"	5 1/2"	11,010'	1525 Sx in 2 Stages
	2 7/8"	10,680' KB	

TEST DATA AND REQUEST FOR ALLOWABLE OIL WELL

(Test must be after recovery of total volume of load oil and must be equal to or exceed top  
able for this depth or be for full 24 hours)

Date First New Oil Run To Tanks	Date of Test	Producing Method (Flow, pump, gas lift, etc.)	
Length of Test	Tubing Pressure	Casing Pressure	Choke Size
Actual Prod. During Test	Oil - Bbls.	Water - Bbls.	Gas - MCF

GAS WELL

Actual Prod. Test - MCF/D	Length of Test	Bbls. Condensate	Gravity of Condensate
7340	24		
Testing Method (Flow, back pr.)	Tubing Pressure (Inlet-In)	Casing Pressure	Choke Size
Backpressure	2175		24/64"

CERTIFICATE OF COMPLIANCE

I hereby certify that the rules and regulations of the Oil Conservation Commission have been complied with and that the information given above is true and complete to the best of my knowledge and belief.

*Paul M. Pope*  
(Signature)  
Administrative Assistant  
(Title)  
June 7, 1978

OIL CONSERVATION COMMISSION

APPROVED JUN 13 1978  
BY *W. A. Grissett*  
TITLE SUPERVISOR, DISTRICT II

This form is to be filed in compliance with RULE 1104.  
If this is a request for allowable for a newly drilled or deep well, this form must be accompanied by a tabulation of the new tests taken on the well in accordance with RULE 111.  
All sections of this form must be filled out completely for this request and for completed wells.  
Fill out only Sections I, II, III, and VI for changes of ownership, lease, or transportation, or other such change of record.

A record of completion was not available for  
the Green "A" # 10.

ARCO Oil and Gas Company  
Permian District  
Post Office Box 1610  
Midland, Texas 79702  
Telephone 915 684 0100



November 30, 1981

Artesia Daily Press  
P. O. Box 179  
Artesia, New Mexico

Dear Sirs:

Attached is the contents of a legal advertisement we wish to place in the Artesia Daily Press as soon as possible. Please mail three copies of the advertisement as it appears in your paper using the enclosed, addressed and stamped envelopes. If you need more information, please call me at (915) 684-0165.

Sincerely,

A handwritten signature in black ink that reads "Stephen R. Sills". The signature is fluid and cursive, with the first name being the most prominent.

Stephen R. Sills  
Engineer

STS:cn

Attachment

By this notice, ARCO Oil and Gas Company, P. O. Box 1610, Midland, Texas 79702, (915)684-0165 [Steve R. Sills], announces its intent to convert Empire Abo Unit Wells B-48 (30-17S-29E) and B-49 (29-17S-29E) to water injection in the Abo formation within the interval 6150' to 6300'.

Expected maximum injection rates and surface pressures are 4000 BWPD/well and 1200 psi.

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.