

Shell Western E&P Inc.

A Subsidiary of Shell Oil Company



April 14, 1986

P.O. Box 576
Houston, TX 77001

State of New Mexico
Energy and Minerals Department
Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 87504-2088

Gentlemen:

SUBJECT: EXPANSION OF WATERFLOOD PROJECT
SHELL-BLACK LEASE
LANGLIE MATTIX SEVEN RIVERS QUEEN POOL
UNIT LETTER J, 1980' FSL & 1980' FEL
WELL NO. 1
SEC. 21, T-24S, R-37E, NMPM
LEA COUNTY, NEW MEXICO

Shell Western E&P Inc. (SWEPI) respectfully requests administrative approval for expansion of the subject waterflood project and conversion of the subject well to water injection service.

NMOCD Order No. R-2747, granted July 29, 1964, authorized SWEPI to institute a waterflood project in the Langlie-Mattix Pool by the injection of water through four wells on the subject lease. Two of these four wells have recently been taken out of injection service: Black No. 5 (temporarily abandoned 2/86) and Black No. 7 (plugged and abandoned 2/86). The Black No. 5 will be plugged following approval of this application.

Black No. 1 has been temporarily abandoned for several years. The well was a Seven Rivers-Queen producer from 1936 until temporary abandonment. We now propose to convert the subject well to injection service for the purpose of enhanced recovery.

The following information is submitted in support of this request:

1. Plat of lease identifying the proposed injector and its project area.
2. A tabulation of data of all wells of public record within the area of review which penetrate the proposed injection interval.
3. Plugging detail for the four plugged and abandoned wells within the area of review.
4. A well data sheet that includes a diagrammatic sketch of the proposed well, injection tubing, packer and proposed Seven Rivers-Queen injection interval.
5. The water source will be reinjected produced water.

6. A chemical analysis of the nearest producing fresh water well.
7. Geological data on the injection zone and the fresh water source overlying the injection zone.
8. Our proposed stimulation program will consist of treating the gross injection interval with 1000 gallons of 15 percent HCl-NEA.
9. Injection will be into the Seven Rivers-Queen formation at an open hole interval of 3226' to 3627' (an uncemented slotted liner exists to 3557'). Daily volume of injection water is anticipated to be maintained at 350 barrels per day. Expected maximum injection pressure is approximately 1000 psig.
10. An Affidavit of Publication certifying the newspaper legal notice.
11. List of offset operators and surface owner.
12. All entities in Item Twelve have been notified by certified mail.

If additional information is required, please advise.

Yours very truly,



A. J. Fore
Supervisor Regulatory and Permitting
Production Administration
Western Division

JMW:LG

Attachments

cc: State of New Mexico
Energy and Minerals Department
Oil Conservation Division
P. O. Box 1980
Hobbs, NM 88240

State of New Mexico
Office of Land Commissioner
P. O. Box 1148
Santa Fe, NM 87501

APPLICATION FOR AUTHORIZATION TO INJECT

- I. Purpose: ☒ Secondary Recovery ☐ Pressure Maintenance ☐ Disposal ☐ Storage
Application qualifies for administrative approval? ☒ yes ☐ no
- II. Operator: SHELL WESTERN E&P INC.
Address: P. O. BOX 576, HOUSTON, TX 77001 (WCK 4435)
Contact party: A. J. FORE Phone: (713) 870-3797
- 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-2747.
- 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:
350 350
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; AVG = 300 PSI; MAX = 1000 PSI
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: A. J. FORE Title SUPERVISOR REG. & PERMITTING
Signature: *A. J. Fore* Date: APRIL 14, 1986
- * 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.

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

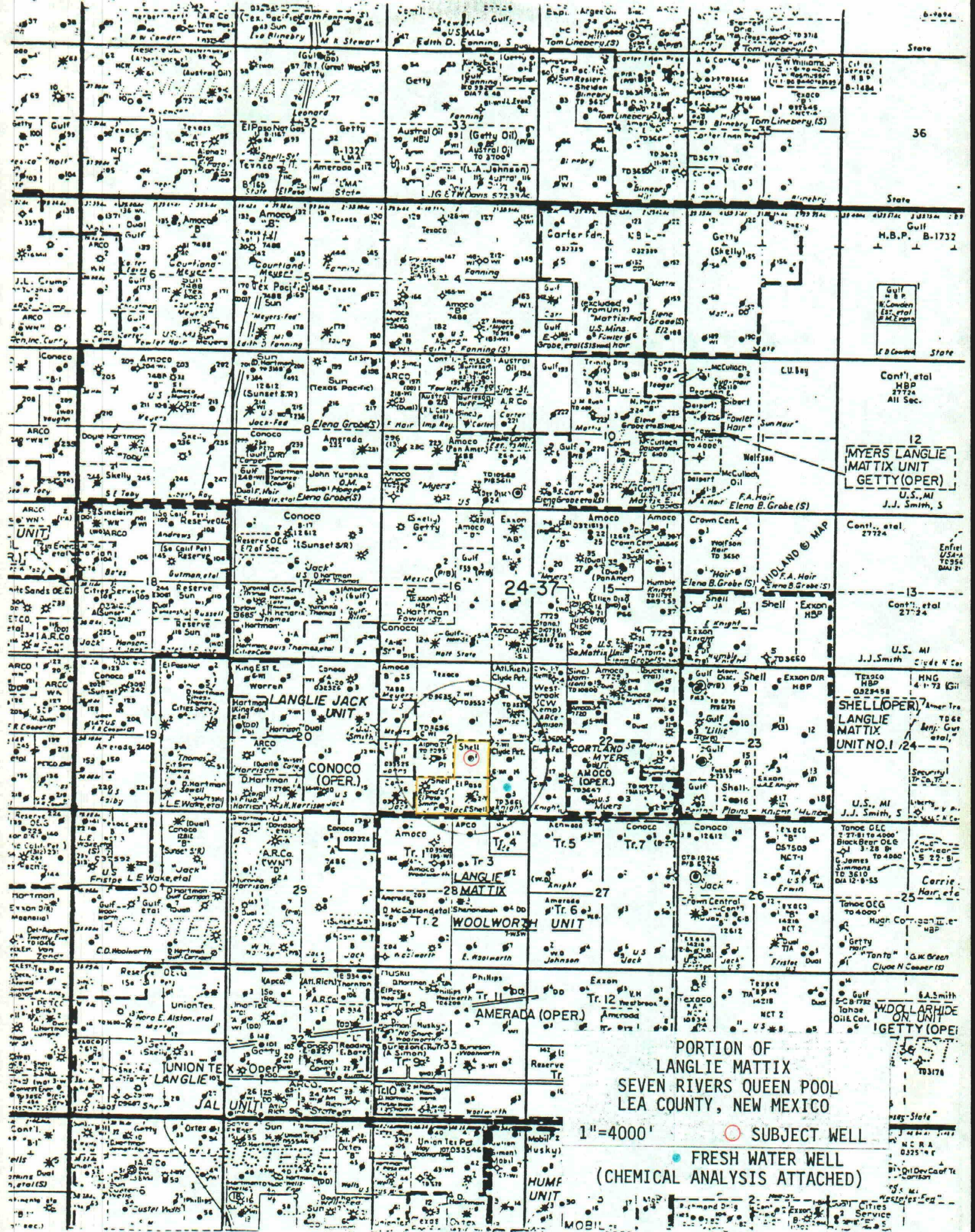
All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

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.

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.



UNICHEM INTERNATIONAL

707 NORTH LEECH

P.O. BOX 1499

HOBBS, NEW MEXICO 88240

COMPANY : SHELL WESTERN

DATE : 04/04/86

FIELD, LEASE & WELL : LANGLIE MATTIX (BLACK)

SAMPLING POINT: DOOM WATER WELL

DATE SAMPLED : 04/03/86

SE/4 SE/4 sec. 21
T-24-S R-37-E

SPECIFIC GRAVITY = 1

TOTAL DISSOLVED SOLIDS = 756

PH = 6.04

		ME/L	MG/L
CATIONS			
CALCIUM	(CA)+2	4.4	88.1
MAGNESIUM	(MG)+2	1.6	19.4
SODIUM	(NA), CALC.	5.0	116.
ANIONS			
BICARBONATE	(HCO3)-1	2.8	170.
CARBONATE	(CO3)-2	0	0
HYDROXIDE	(OH)-1	0	0
SULFATE	(SO4)-2	4.2	205
CHLORIDES	(CL)-1	4	156
DISSOLVED GASES			
CARBON DIOXIDE	(CO2)	NOT RUN	
HYDROGEN SULFIDE	(H2S)	NOT RUN	
OXYGEN	(O2)	NOT RUN	
IRON(TOTAL)	(FE)		.34
BARIUM	(BA)+2	0	0
MANGANESE	(MN)	NOT RUN	

IONIC STRENGTH (MOLAL) = .016

SCALING INDEX	TEMP
	30C
	86F
CARBONATE INDEX	2.14
CALCIUM CARBONATE SCALING	LIKELY
CALCIUM SULFATE INDEX	-15.
CALCIUM SULFATE SCALING	UNLIKELY

GEOLOGICAL DATA

Injection Zone

- 1) Geological Name: Seven Rivers
Thickness: 357'
Depth: 3070'
Lithology: Predominantly limestone with significant anhydrite and sand.
- 2) Geological Name: Queen
Thickness: 203'
Depth: 3427'
Lithology: Predominantly limestone with significant sand and anhydrite. (The sand component is substantially greater in the Queen than in the Seven Rivers.)

Underground Sources of Drinking Water (10,000 mg/l or less)

- 1) Geological Name: Ogallala
Depth: Base at 140'
- 2) Geological Name: Santa Rosa
Depth: Base at 800'

AFFIDAVIT OF PUBLICATION

State of New Mexico,

County of Lea.

1, _____

Robert L. Summers

of the Hobbs Daily News-Sun, a daily newspaper published at Hobbs, New Mexico, do solemnly swear that the clipping attached hereto was published once a week in the regular and entire issue of said paper, and not in a supplement thereof for a period

of _____

One _____ weeks.

Beginning with the issue dated

March 2, 19 86

and ending with the issue dated

March 2, 19 86

Robert L. Summers
Publisher.

Sworn and subscribed to before

me this 4 day of

March, 19 86

Vera Murphy
Notary Public.

My Commission expires _____

Nov. 14, 19 88

(Seal)

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

LEGAL NOTICE

MARCH 2, 1986

NOTICE is hereby given of the application of Western E&P Inc., ATTN: J. F. Black, Supervisor Regulatory and Permitting, P. O. Box 576, Houston, TX 77001, (713) 870-3787, to the Oil Conservation Division, New Mexico Energy & Minerals Department, for approval of the following injection well for the purpose of enhanced recovery operations.

Pool Name: Langlie Mattix
Seven Rivers Queen

Lease Name: J. F. Black

Well No.: 1

Location: 1980 FSL & 1980 FEL
of Sec. 21, T-24-S, R-37-E;
NMPM, Lea County, New Mexico

The injection formation is the Seven Rivers-Queen at a depth of 3226 feet below the surface of the ground. Expected maximum injection rate is 350 barrels per day and expected maximum injection pressure is 1000 psig. Interested parties must file objections or request for hearing with the Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87504-2088, within fifteen (15) days of this publication.

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OPERATOR	

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-103
Supersedes Old
C-102 and C-103
Effective 1-1-65

EUNICE

5a. Indicate Type of Lease	
State ☐	Fee ☒

5. State Oil & Gas Lease No.

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO RE-ENTER OR PLUG BACK TO A DIFFERENT RESERVOIR. USE APPLICATION FOR PERMIT - (FORM C-101) FOR SUCH PROPOSALS.)

OIL WELL ☐ GAS WELL ☒ OTHER -

6. Name of Operator

TEXACO Inc.

6. Name of Lease Holder

J. F. Black

7. Address of Operator

P. O. Box 728 - Hobbs, New Mexico 88240

9. Well No.

2

8. Location of Well

UNIT LETTER K 1980 FEET FROM THE South LINE AND 1980 FEET FROM

THE West LINE, SECTION 21 TOWNSHIP 24-S RANGE 37-E N.M.P.M.

10. Field and Pool, or Wildcat

Jalmat Yates Gas

15. Elevation (Show whether DF, RT, GR, etc.)

3227' (GR)

12. County

Lea

Check Appropriate Box To Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

SUBSEQUENT REPORT OF:

PERFORM REMEDIAL WORK ☐
TEMPORARILY ABANDON ☐
PULL OR ALTER CASING ☐

PLUG AND ABANDON ☐
CHANGE PLANS ☐

REMEDIAL WORK ☐
COMMENCE DRILLING OPNS. ☐
CASING TEST AND CEMENT JOBS ☐

ALTERING CASING ☐
PLUG AND ABANDONMENT ☒

OTHER ☐

7. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

1. Rigged Up.
2. Set CIBP @ 2850'. Spot 8 sx (35') cement on top of plug.
3. Ran free point. Cut 7" OD csg @ 1338' & pulled 45 joints.
4. Spot 90 sx. cement plug from 1388-1222' (166').
5. Ran free point. Cut 8-1/4" csg @ 302' & pulled 13 joints.
6. Spot 170 sx cmt plug from 360-140' (220').
7. Spot 20 sx cmt plug from 20' - surface (20').
8. Install Dry Hole Marker. Clean up. Well P&A 3-19-77.

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

WITNESSED BY [Signature]

TITLE Asst. District Supt.

DATE 3-23-77

APPROVED BY [Signature]

TITLE Geologist

DATE AUG 29 1977

CONDITIONS OF APPROVAL, IF ANY:

OIL CONSERVATION DIVISION

P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

AFE No. 93998

Form C-103
Revised 10-1-78

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OPERATOR	

5a. Indicate Type of Lease
State ☐ Fee ☒
5. State Oil & Gas Lease No.

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR.
USE "APPLICATION FOR PERMIT -" (FORM C-101) FOR SUCH PROPOSALS.)

OIL WELL ☐ GAS WELL ☐ OTHER- INJECTOR

6. Name of Operator

SHELL OIL COMPANY

7. Address of Operator

P. O. BOX 991, HOUSTON, TX 77001

8. Location of Well

UNIT LETTER N 5 FEET FROM THE SOUTH LINE AND 1340 FEET FROM
THE WEST LINE, SECTION 21 TOWNSHIP 24-S RANGE 37-F NMPM.

7. Unit Agreement Name

BLACK WATERFLOOD PROJECT

8. Farm or Lease Name

BLACK

9. Well No.

4

10. Field and Pool, or Wildcat

LANGFIE-MATTIX
7 RIVERS QUEEN

15. Elevation (Show whether DF, RT, GR, etc.)

3247' DF

12. County

LEA

Check Appropriate Box To Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

SUBSEQUENT REPORT OF:

PERFORM REMEDIAL WORK ☐

PLUG AND ABANDON ☐

REMEDIAL WORK ☐

ALTERING CASING ☐

TEMPORARILY ABANDON ☐

COMMENCE DRILLING OPNS. ☐

PLUG AND ABANDONMENT ☒

PULL OR ALTER CASING ☐

CHANGE PLANS ☐

CASING TEST AND CEMENT JOBS ☐

OTHER ☐

7. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

11-12-82: Set CIBP @ 3440'.

11-13-82: Circ hole w/9.5# mud and spotted 100' cmt plug.

11-15-82: Cut 4-1/2" csg @ 1490'. Circ hole w/9.5# mud. Spotted 40 sx cmt up to 1440'.

11-16-82: Spotted 30 sx cmt up to 215'. Spotted 15 sx cmt from 50' to surface. Cut 7-5/8" csg 4' below GL and capped 7-5/8" csg w/1/2" steel plate.

11-17-82: Filled cellar and cleaned location. Well now P&A.

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

Eddie Seay for A. J. FORE

TITLE SUPERVISOR REG. & PERMITTING

DATE JANUARY 17, 1983

ORIGINAL SIGNED BY EDDIE SEAY
OIL & GAS INSPECTOR

PROVED BY
INDICATIONS OF APPROVAL, IF ANY:

TITLE

DATE DEC 8 1983

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OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

AFE No. 93999

Form C-103
Revised 10-1-78

5a. Indicate Type of Lease
State ☐ Fee ☒
5. State Oil & Gas Lease No.

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR.
USE "APPLICATION FOR PERMIT -" (FORM C-101) FOR SUCH PROPOSALS.)

OIL WELL ☐ GAS WELL ☐ OTHER- INJECTOR
1. Name of Operator
SHELL OIL COMPANY
2. Address of Operator
P. O. BOX 991, HOUSTON, TX 77001
3. Location of Well
UNIT LETTER 0 1300 FEET FROM THE SOUTH LINE AND 2660 FEET FROM THE WEST LINE, SECTION 21 TOWNSHIP 24-S RANGE 37-E NMPM.

7. Unit Agreement Name
BLACK WATERFLOOD PROJECT
8. Farm or Lease Name
BLACK
9. Well No.
6
10. Field and Pool, or Wildcat
LANGLE-MATTIX
7 RIVERS QUEEN

15. Elevation (Show whether DF, RT, GR, etc.)
3229' DF
12. County
LEA

16. Check Appropriate Box To Indicate Nature of Notice, Report or Other Data
NOTICE OF INTENTION TO:
PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐ REMEDIAL WORK ☐ ALTERING CASING ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐ COMMENCE DRILLING OPNS. ☐ PLUG AND ABANDONMENT ☒
PULL OR ALTER CASING ☐ OTHER ☐ CASING TEST AND CEMENT JOBS ☐
OTHER ☐

17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

11-09-82: Set CIBP @ 3430'. Circ hole w/9.5# mud and spotted 100' cmt plug on top of BP.
11-10-82: Cut off 4-1/2" csg @ 1150'. Spotted 100' cmt plug 1200' to 1100'.
11-11-82: Spotted cmt plug 308' to 208. Set 50' cmt plug @ surface. Installed dry hole marker. Filled cellar and cleaned location. Well P&A.

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

SIGNED *Eddie Seay* A. J. FORE TITLE SUPERVISOR REG. & PERMITTING DATE JANUARY 17, 1983
ORIGINAL SIGNED BY EDDIE SEAY
OIL & GAS INSPECTOR
PROVED BY _____ TITLE _____ DATE DEC 8 1983
CONDITIONS OF APPROVAL, IF ANY:

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OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-103
Revised 10-1-78

5c. Indicate Type of Lease
State ☐ Fee ☒
5. State Oil & Gas Lease No.

SUNDRY NOTICES AND REPORTS ON WELLS

DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR.
USE APPLICATION FOR PERMIT - FORM C-101 FOR SUCH PROPOSALS.

1. ☐ OIL WELL ☐ GAS WELL ☐ OTHER- INJECTOR	7. Unit Agreement Name
2. Name of Operator SHELL WESTERN E&P INC.	8. Firm or Lease Name BLACK
3. Address of Operator P.O. BOX 576, HOUSTON, TEXAS 77001 (WCK 4435)	9. Well No. 7
4. Location of Well UNIT LETTER J 2640 FEET FROM THE SOUTH LINE AND 2660 FEET FROM THE WEST LINE, SECTION 21 TOWNSHIP 24S RANGE 37E NMPM.	10. Field and Pool, or Whichever LANGLIE MATTIX
11. Elevation (Show whether DF, RT, GR, etc.) 3225' GR	12. County LEA

16. Check Appropriate Box To Indicate Nature of Notice, Report or Other Data.
NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐	PLUG AND ABANDON ☐	REMEDIAL WORK ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐	CHANGE PLANS ☐	COMMENCE DRILLING OPS. ☐	PLUG AND ABANDONMENT ☒
PULL OR ALTER CASING ☐	OTHER ☐	CASING TEST AND CEMENT JOB ☐	

17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1703.

1-23-86: Tagged btm @ 3378'.

1-24-86: Set RBP @ 3346'. Located csg lk btw 251' & 282'. Retrieved RBP.

1-25-86: Set a CIBP @ 3346' & capped w/35' cmt. Circ'd hole w/9.5# mud. Attempted csg lk sqz w/150 sx Class "C" cmt w/2% CaCl₂. Circ'd 31 sx cmt out surface csg. WOC 24+ hrs.

1-27-86: Tagged TOC @ 209'. Drld out cmt to 276'. Tstd sqz, did not hold.

1-28-86: Re-attempted csg lk sqz w/100 sx Thick-O-Tropic cmt + 500 gals flocheck + 2% CaCl₂. WOC 24 hrs.

1-29-86: Tagged TOC @ 196'. Drld out cmt to 283'. Pres tstd sqz to 480#, bled off to 380# in 15 min.

(CONTINUED ON REVERSE SIDE)

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

ISSUED A. J. FORE A. J. FORE TITLE SUPERVISOR REG. & PERMITTING DATE FEBRUARY 6, 1986

APPROVED [Signature] TITLE OIL & GAS INSPECTOR DATE APR 1 - 1986

SHELL - BLACK LEASE
WELL NO. 1

SURFACE OWNER

Mr. J. J. Smith
c/o Sarah Rebecca Smith
Star Route #1
P. O. Box 150
Jal, NM 88252

OFFSET OPERATORS

Clyde Petroleum, Inc.
P. O. Box 1666
Breckenridge, TX 76024

Conoco Inc.
P. O. Box 460
Hobbs, NM 88240

Amerada Hess Corporation
Dr. D
Monument, NM 88265

Texaco USA
P. O. Box 728
Hobbs, NM 88240

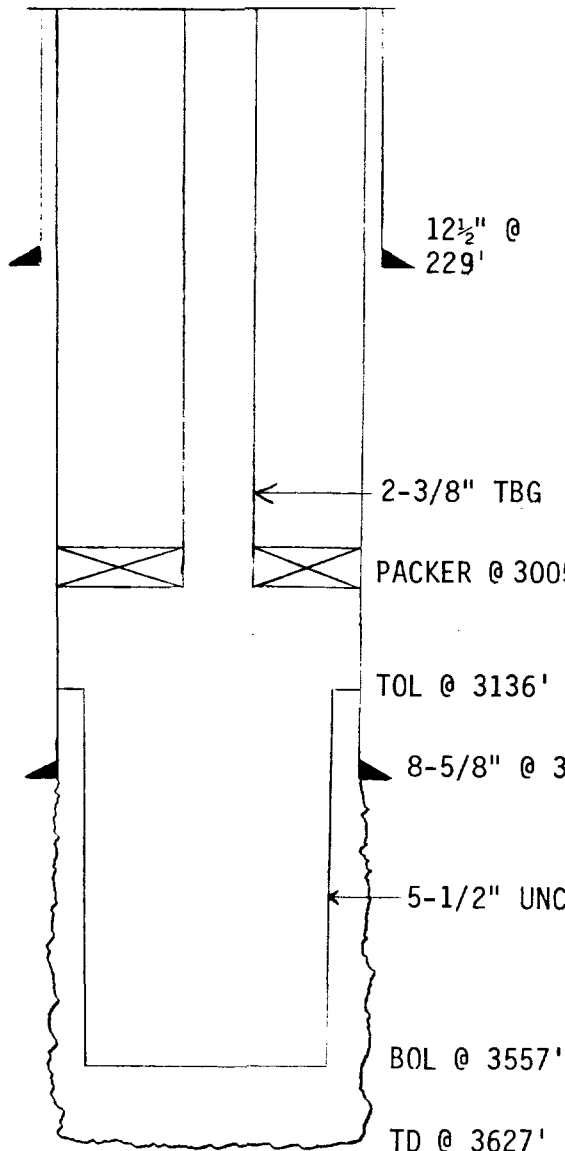
Alpha Twenty-One Production Company
200 West Illinois, Ste. 200
Midland, TX 79701

El Paso Natural Gas Company
P. O. Box 1492
El Paso, TX 79978

SHELL WESTERN E&P INC.		BLACK		
OPERATOR		LEASE		
1	1980' FSL & 1980' FEL	21	24-S	37-E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Schematic

(NOT TO SCALE)



Tabular Data

Surface Casing

Size 12-1/2 " Cemented with 150 sx.
 TOC SURFACE feet determined by CALCULATION
 Hole size 17-1/2"

Intermediate Casing

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

Long string

Size 8-5/8 " Cemented with 575 sx.
 TOC 286 feet determined by CALCULATION
 Hole size 11"
 Total depth 3627'

Injection interval

3226 feet to 3627 feet
 (perforated or open-hole, indicate which)

TOL @ 3136'
 8-5/8" @ 3226'

5-1/2" UNCEMENTED SLOTTED LINER 3136' - 3557'

BOL @ 3557'

TD @ 3627'

Tubing size 2-3/8" lined with FIBERGLASS set in a
 (material)
ARROW TYPE H TENSION packer at 3005 feet
 (brand and model)

(or describe any other casing-tubing seal).

Other Data

- Name of the injection formation SEVEN RIVERS-QUEEN
- Name of Field or Pool (if applicable) LANGLIE MATTIX SEVEN RIVERS QUEEN POOL
- Is this a new well drilled for injection? ☐ Yes ☒ No
 If no, for what purpose was the well originally drilled? PRODUCER
- 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
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. YATES @ 2730', 7 RIVERS @ 3070' & QUEEN @ 3427'

SHELL WESTERN E&P INC. - BLACK NO. 1
 AREA OF REVIEW
 SEC. 21, 22 & 28; T24S, R37E
 LEA COUNTY, NM

Well #	Lease Name/Operator Zone	Well Status	Original Comp. Date	Footage Location	Total Depth	Perfs	CASING			
							Surface		Production	
							Size & Depth	Cement	Size & Depth	Cement
Langlie Jack Unit/Continental Oil										
11.	Seven Rivers-Queen	Producer	01/13/1938	1980 FSL + 660 FWL Section 21	3,575	3,180-3,575(OH)	9 5/8" @ 1170	300	7" @ 3180	200
JF Black/Texaco Inc.										
1.	Seven Rivers-Queen	Producer	01/12/1937	1990 FNL + 1980 FEL Section 21	3495	3,365-3,495(OH)	12½" @ 185 10 3/4" @ 770 8 5/8" @ 1304	40 set 50	7" @ 3365	125
3.	Seven Rivers-Queen	Producer	09/17/1938	660 FNL + 1980 FEL Section 21	3600	3,390-3,495(OH)	15½" @ 130 12½" @ 192 10" @ 820 8 5/8" @ 1384	set 50 set 150	7" @ 3338	125
4.	Seven Rivers-Queen	Producer	01/12/1939	1980 FNL + 1980 FWL Section 21	3565	3,352-3,565(OH)	15½" @ 122 12½" @ 201 10¼" @ 852 8 5/8" @ 1368	set 50 set 100	7" @ 3352	125
5.	Seven Rivers-Queen	Shut-In	09/24/1965	1980 FSL + 2030 FWL Section 21	3700	3,421-3,700(OH)	7" @ 251	250	4½" @ 3421	150
6.	Seven Rivers-Queen	Injector	09/16/1965	2630 FNL + 1340 FWL Section 21	3696	3,457-3,658	7" @ 251	250	2 7/8" @ 3696	325
7.	Seven Rivers-Queen	TA'd	09/29/1965	1310 FNL + 2626 FWL Section 21	3635	3,397-3,555	7" @ 250	250	2 7/8" @ 3631	325

Well #	Lease Name/Operator Zone	Well Status	Original Comp. Date	Footage Location	Total Depth	Perfs	CASING			
							Surface Size & Depth	Cement	Production Size & Depth	Cement
<u>Black/Shell</u>										
2Y.	Seven Rivers-Queen	Producer	10/26/1964	560 FSL + 1880 FEL Section 21	3,653	3,428-3,620	8 5/8"	@ 273	250	5½" @ 3651 175
3.	Seven Rivers-Queen	Producer	11/25/1937	330 FSL + 2310 FWL Section 21	3,565	3,230-3,565(OH)	12½" 10 3/4" 8 5/8"(O.D.)	@ 145 @ 859 @1470	Set Set 450	7" (OD)@3230 4½" liner @ 3133-3563 100
5.	Seven Rivers-Queen	TA'd	11/06/1964	1300 FSL + 1340 FWL Section 21	3,742	3,468-3,657	7 5/8"	@ 278	250	4½" @ 3741 150
<u>Knight/Clyde Petroleum Inc.</u>										
1.	Seven Rivers-Queen	Producer	09/05/1936	1980 FSL + 660 FEL Section 21	3,470	3,367-3,470	15½" 12½" 10" 8¾"	@ 100 @ 735 @ 830 @ 1370	set set set set	6 5/8" @ 3367 150
2.	Seven Rivers-Queen	Producer	11/27/1936	1980 FSL + 660 FWL Section 22	3,485	3,263-3,485(OH)	15¼" 10 3/4" 8¾"	@ 142 @ 785 @ 1377	set set 150	6 5/8" @ 3263 100
3.	Seven Rivers-Queen	Producer	01/04/1937	660 FSL + 660 FEL Section 21	3,535	3,218-3,535(OH)	15½" 10 3/4" 8 5/8"	@ 140 @ 821 @ 1400	set set 150	7" @ 3218 150
5.	Seven Rivers-Queen	Injector	11/27/1963	1315 FSL + 5 FWL Section 22	3,634	3,384-3,634(OH)	10 3/4"	@ 175	set	4½" @ 3384 75
6.	Seven Rivers-Queen	Injector	01/20/1964	1315 FSL + 1315 FEL Section 21	3,640	3,387-3,640(OH)	8 5/8"	@ 796	420	4½" @ 3387 100
7.	Seven Rivers-Queen	Injector	02/24/1964	2635 FSL + 1315 FEL Section 21	3,620	3,363-3,620(OH)	8 5/8"	@ 817	420	4½" @ 3,363 100

Well #	Lease Name/Operator Zone	Well Status	Original Comp. Date	Footage Location	Total Depth	Perfs	CASING			
							Surface Size & Depth	Cement	Production Size & Depth	Cement
8.	Seven Rivers-Queen	Injector	01/02/1964	2635 FSL + 5 FWL Section 22	3,645	3,396-3,645(OH)	8 5/8" @ 808	420	4½" @ 3396	100
12.	Seven Rivers-Queen	Injector	03/09/1964	5 FSL + 1315 FEL Section 21	3,660	3,386-3,660(OH)	8 5/8" @ 833	400	4½" @ 3386	100
14.	Queen	Producer	08/29/1982	1315 FSL + 660 FEL Section 21	3,709	3,390-3,492	8 5/8" @ 834	500	5½" @ 3707	280
<u>Jamison/Clyde Petroleum Inc.</u>										
1.	Seven Rivers-Queen	Producer	11/29/1936	2310 FNL + 990 FEL Section 21	3,494	3,060-3,494(OH)	15½" @ 116 12½" @ 190 7 5/8" @ 1351	set 150 200	6 5/8" @ 3060	150
2.	Seven Rivers-Queen	Producer	03/16/1937	2310 FNL + 330 FWL Section 22	3,485	3,092-3,485(OH)	15½" @ 130 12½" @ 227 10 3/4"@ 810 8¼" @ 1387	set 150 set 200	7" @ 3092	150
3.	Seven Rivers-Queen	Producer	10/25/1937	990 FNL + 990 FEL Section 21	3,669	3,336-3,669(OH)	15½" @ 166 12½" @ 238 10" @ 813 8¼" @ 1389	set 200 set 250	6 5/8" @ 3336	150
5.	Seven Rivers-Queen	TA'd	12/21/1964	1325 FNL + 1315 FEL Section 21	3,650	3,354-3,650(OH)	10 3/4"@ 236 8 5/8" @ 825	set 425	4½" @ 3354	100
<u>Shell Black/El Paso Natural Gas Co.</u>										
2.	Yates-Seven Rivers	Producer	04/15/1937	660 FSL + 1980 FEL Section 21	3,484	2,898'-3,076'	15½" @ 147 10 3/4"@ 780 8 5/8" @ 1450	set set 300	6 5/8" @ 3219	314

Well #	Lease Name/Operator Zone	Well Status	Original Comp. Date	Footage Location	Total Depth	Perfs	CASING			
							Surface Size & Depth	Cement	Production Size & Depth	Cement
<u>El Paso Smith/Alpha 21 Prod. Co.</u>										
1.	Yates-Seven Rivers	Producer	03/30/1980	990 FSL + 1650 FWL Section 21	3,300	2,951-3,083	8 5/8" @ 414	300	5½" @ 3300	525
<u>Langlie Mattix Woolworth Unit/Amerada Hess Corp.</u>										
101.	Seven Rivers-Queen	TA'd	10/08/1937	330 FNL + 2310 FWL Section 28	3,601	3,238-3,601(OH)	12½" @ 32 9 5/8" @ 1282	50 450	7" @ 3238	150
301.	Seven Rivers-Queen	Producer	07/13/1937	660 FNL + 1980 FEL Section 28	3,543	3,234-3,543(OH)	10" @ 792 8¼" @ 1393	set 300	7" @ 3234	150

Plugging detail for P&A'd wells within the area of review is attached.

Shell Western E&P Inc.

A Subsidiary of Shell Oil Company



May 9, 1986

P.O. Box 576
Houston, TX 77001

State of New Mexico
Energy and Minerals Department
Oil Conservation Division
ATTN David Catanach
P. O. Box 2088
Santa Fe, NM 87504-2088

Gentlemen:

SUBJECT: APPLICATION FOR AUTHORIZATION TO INJECT
SHELL WESTERN E&P INC. - BLACK NO. 1
LANGLIE MATTIX SEVEN RIVERS QUEEN POOL
UNIT LETTER J, 21-24S-37E
LEA COUNTY, NEW MEXICO

Attached is Shell Western's estimate of cement tops for wells in the one-half ($\frac{1}{2}$) mile radius area of review of Black No. 1. The top of cement for each well was calculated using the following assumptions:

Hole size: Largest bit size which could be run in existing casing string (with obvious exceptions)
Type cement: Neat
Yield (cu ft/sack): 1.32
Fill-up efficiency: 50%.

The results tabulated on the attachment represent conservative estimates.

Shell Western has contacted Mr. Mike Oney (Alpha Twenty-One) and we have agreed to run the following surveys:

- 1) Cement Bond Log
- 2) Tracer Survey thirty (30) days after commencing injection
- 3) Tracer Survey one (1) year after commencing injection.

Based on our agreement, we understand Alpha Twenty-One will advise you, by letter, that it will withdraw its objection to issuance of an injection well permit for Shell Western's Black No. 1.

Should you have any questions concerning the top of cement data, please contact Joe Balbona at (713) 870-3977.

Yours very truly,

A handwritten signature in cursive script, appearing to read "A. J. Fore".

A. J. Fore
Supervisor Regulatory and Permitting
Western Division

AJF/dmu

BNBG8612901

cc: State of New Mexico
Energy and Minerals Department
Oil Conservation Division
P. O. Box 1980
Hobbs, New Mexico 88240

SHELL WESTERN E&P INC. - BLACK NO. 1
AREA OF REVIEW
SEC. 21, 22 & 28; T24S, R37E
LEA COUNTY, NM

CASING												
Well #	Lease Name/Operator Zone	Well Status	Original Comp. Date	Footage Location	Total Depth	Perfs	Surface		Production		Est. TOC	
							Size & Depth	Cmt	Size & Depth	Cmt		
Langlie Jack Unit/Continental Oil												
11.	Seven Rivers-Queen	Producer	01/13/38	1980 FSL/660 FWL Section 21	3575	3180- 3575(OH)	9 5/8" @ 1170	300	7" @ 3180	200	Surface	2423'
JF Black/Texaco Inc.												
1.	Seven Rivers-Queen	Producer	01/12/37	1990 FNL/1980 FEL Section 21	3495	3365- 3495(OH)	12½" @ 185 10 3/4"@ 770 8 5/" @ 1304	40 set 50	7" @ 3365	125	108' FS 1174' FS 1174' FS	2355' FS 2355' FS
3.	Seven Rivers-Queen	Producer	09/17/38	660 FNL/1980 FEL Section 21	3600	3390- 3495(OH)	15½" @ 130 12½" @ 192 10" @ 820 8 5/8" @ 1384	set 50 set 150	7" @ 3338	125	95' FS 224' FS	2328' FS
4.	Seven Rivers-Queen	Producer	01/12/39	1980 FNL/1980 FWL Section 21	3565	3352- 3565(OH)	15½" @ 122 12½" @ 201 10¾" @ 852 8 5/8" @ 1368	set 50 set 100			104' FS 782' FS	2342' FS
5.	Seven Rivers-Queen	Shut-In	09/24/65	1980 FSL/2030 FWL Section 21	3700	3421- 3700(OH)	7" @ 251	250	4½" @ 3421	150	surface	2596' FS
6.	Seven Rivers-Queen	Injector	09/16/65	2630 FNL/1340 FWL Section 21	3696	3457- 3658	7" @ 251	250	2 7/8" @ 3696	325	surface	2539' FS
7.	Seven Rivers-Queen	TA'd	09/29/65	1310 FNL/2626 FWL Section 21	3635	3397- 3555	7" @ 250	250	2 7/8" @ 3631	325	surface	2474' FS

Well #	Lease Name/Operator Zone	Well Status	Original Comp. Date	Footage Location	Total Depth	Perfs	CASING			Est. TOC			
							Surface Size & Depth	Cmt	Production Size & Depth	Cmt	Surface String	Production	
Black/Shell													
2Y.	Seven Rivers-Queen	Producer	10/26/64	560 FSL/1880 FEL Section 21	3653	3428-3620	8 5/8"	@ 273	250	5½" @ 3651	175	surface	2891' FS
3.	Seven Rivers-Queen	Producer	11/25/37	330 FSL/2310 FWL Section 21	3565	3230-3565(OH) 8 5/8"(O.D.)@1470	12½"	@ 145 Set		7" (OD)@3230 4½" liner @ 3133-3563	100	300' FS	2423' FS
5.	Seven Rivers-Queen	TA'd	11/06/64	1300 FSL/1340 FWL Section 21	3742	3468-3657	7 5/8"	@ 278	250	4½" @ 3741	150	surface	3069' FS
Knight/Clyde Petroleum Inc.													
1.	Seven Rivers-Queen	Producer	09/05/36	1980 FSL/660 FEL Section 21	3470	3367-3470	15½"	@ 100 set					
							12½"	@ 735 set					
							10"	@ 830 set					
							8¼"	@ 1370 set		6 5/8" @ 3367	150	-	2247' FS
2.	Seven Rivers-Queen	Producer	11/27/36	1980 FSL/660 FWL Section 22	3485	3263-3485(OH)	15¼"	@ 142 set					
							10 3/4"	@ 785 set					
							8¼"	@ 1377	150	6 5/8" @ 3263	100	842' FS	2515' FS
3.	Seven Rivers-Queen	Producer	01/04/37	660 FSL/660 FEL Section 21	3535	3218-3535(OH)	15½"	@ 140 set					
							10 3/4"	@ 821 set					
							8 5/8"	@ 1400	150	7" @ 3218	150	691' FS	2008' FS
5.	Seven Rivers-Queen	Injector	11/27/63	1315 FSL/5 FWL Section 22	3634	3384-3634(OH)	10 3/4"	@ 175 set		4½" @ 3384	75	-	3048' FS
6.	Seven Rivers-Queen	Injector	01/20/64	1315 FSL/1315 FEL Section 21	3640	3387-3640(OH)	8 5/8"	@ 796	420	4½" @ 3387	100	surface	1597' FS
7.	Seven Rivers-Queen	Injector	02/24/64	2635 FSL/1315 FEL Section 21	3630	3363-3620(OH)	8 5/8"	@ 817	420	4½" @ 3363	100	surface	1573' FS

Well #	Lease Name/Operator Zone	Well Status	Original Comp. Date	Footage Location	Total Depth	CASING					Est. TOC	
						Perfs	Surface Size & Depth	Cmt	Production Size & Depth	Cmt	Surface String	Production
8.	Seven Rivers-Queen	Injector	01/02/64	2635 FSL/5 FWL Section 22	3645	3396- 3645(OH)	8 5/8" @ 808	420	4½" @ 3396	100	surface	1606' FS
12.	Seven Rivers-Queen	Injector	03/09/64	5 FSL/1315 FEL Section 21	3660	3386- 3660(OH)	8 5/8" @ 833	400	4½" @ 3386	100	surface	1596' FS
14.	Queen	Producer	08/29/82	1315 FSL/660 FEL Section 21	3709	3390- 3492	8 5/8" @ 834	500	5½" @ 3707	280	surface	2492' FS
<u>Jamison/Clyde Petroleum Inc.</u>												
1.	Seven Rivers-Queen	Producer	11/29/36	2310 FNL/990 FEL Section 21	3494	3060- 3494(OH)	15½" @ 116 12½" @ 190 7 5/8" @ 1351	set 150 200	@ 3060	150	surface 650' FS	surface
2.	Seven Rivers-Queen	Producer	03/16/37	2310 FNL/330 FWL Section 22	3485	3092- 3485(OH)	15½" @ 130 12½" @ 227 10 3/4"@ 810 8¼" @ 1387	set 150 set 200	@ 3092	150	surface 675' FS	1452' FS
3.	Seven Rivers-Queen	Producer	10/25/37	990 FNL/990 FEL Section 21	3669	3336- 3669(OH)	15½" @ 166 12½" @ 238 10" @ 813 8¼" @ 1389	set 200 set 250	@ 3336	150	surface	2216' FS
5.	Seven Rivers-Queen	TA'd	12/21/64	1325 FNL/1315 FEL Section 21	3650	3354- 3650(OH)	10 3/4"@ 236 8 5/8" @ 825	set 425	4½" @ 3354	100	surface	1564' FS
<u>Shell Black/EI Paso Natural Gas Co.</u>												
2.	Yates-Seven Rivers	Producer	04/15/37	660 FSL/1980 FEL Section 21	3484	2898- 3076	15½" @ 147 10 3/4"@ 780 8 5/8" @ 1450	set set 300	6 5/8" @ 3219	314	33' FS	869' FS

CASING											
Well #	Lease Name/Operator Zone	Well Status	Original Comp. Date	Footage Location	Total Depth	Perfs	Surface Size & Depth	Cmt	Production Size & Depth	Cmt	Est. TOC Surface String Production
<u>El Paso Smith/Alpha 21 Prod. Co.</u>											
1.	Yates-Seven Rivers	Producer	03/30/80	990 FSL/1650 FWL Section 21	3300	2951- 3083	8 5/8" @ 414	300	5½" @ 3300	525	surface 1020' FS
<u>Langlie Mattix Woolworth Unit/Amerada Hess Corp.</u>											
101.	Seven Rivers-Queen	TA'd	10/08/37	330 FNL/2310 FWL Section 28	3601	3238- 3601(OH)	12½" @ 32 9 5/8" @ 1282	50 450	7" @ 3238	150	surface 2579' FS surface
301.	Seven Rivers-Queen	Producer	07/13/37	660 FNL/1980 FEL Section 28	3543	3234- 3543(OH)	10" @ 792 8¼" @ 1393	set 300	7" @ 3234	150	surface 1592' FS

Plugging detail for P&A'd wells within the area of review is attached.



ALPHA TWENTY-ONE PRODUCTION COMPANY

POST OFFICE BOX 1206
JAL, NEW MEXICO 88252

505/395-3056

April 25, 1986

Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87501
ATTN: Mr. Richard Stamets

RE: Expansion of Waterflood Project
Shell Black Lease
Langlie Mattix Seven Rivers Queen Pool
Unit Letter J, 1980' FSL & 1980' FEL
Black Well No. 1
Section 21, T-24-S, R-37-E
Lea County, New Mexico

Mr. Stamets:

Alpha Twenty-One Production Company respectfully protests and requests a hearing with notification of hearing regarding the Shell Western E & P Incorporated's (SWEPI) Application for Authorization to Inject Fluid into the above referenced well.

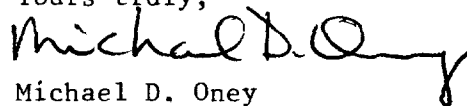
Alpha Twenty-One is concerned with the age of this well, approximately fifty years old, and the fact that it has been temporarily abandoned for several years, in regards to the deterioration of the casing and cement in the referenced well. Another concern is the difference between the top of the injection zone (3226') and the bottom perforation (3083') in the producing zone of our El Paso Smith No. 1 well which is within the area of review of SWEPI's application. This mere difference of 143' is worth considering on the long range effects of the injection of produced water on casing, cement and formation.

Alpha Twenty-One proposes stipulations be set in the advent this application is approved. Stipulations are as follows:

1. Bond log be run to determine the top of the cement and bonding quality.
2. Injection profile be run after a pre-determined time interval to insure injected water is going into the proposed injection zone.

We greatly appreciate your kind and considerate cooperation regarding this matter. If further assistance is needed, please contact me.

Yours truly,

A handwritten signature in dark ink, appearing to read "Michael D. Oney". The signature is fluid and cursive, with the first name "Michael" being the most prominent.

Michael D. Oney
Drilling Superintendent

MDO

cc: Oil Conservation Division
P.O. Box 1980
Hobbs, NM 88240

Alpha Twenty-One Production Company
200 W. Illinois, Suite 200
Midland, Texas 79701

Shell Western E & P Inc.
P.O. Box 576
Houston, Texas 77001



CLYDE PETROLEUM, INC.

Box 1666 -- 1826 W. Walker
Breckenridge, Texas 76024

817/559-6521

April 24, 1986

State of New Mexico
Energy and Minerals Department
Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87504-2088

Re: Shell Western E&P Inc.
Expansion of Waterflood Project
Shell-Black Lease
Langlie Mattix Seven Rivers Queen
Unit Letter J, 1980' FSL&1980' FEL
Well No. 1
Sec. 21, T-24S, R37E, NMPM
Lea County, New Mexico

Gentlemen,

Clyde Petroleum, Inc., as offset operator to the above proposed project, acknowledge and support the application of SWEPI.

If you should desire any additional information, please do not hesitate to contact me.

Sincerely,
CLYDE PETROLEUM, INC.

Bob D. Griffin
General Manager, U.S. Operations

cc: A.J. Fore
Shell Western E&P Inc.
P.O. Box 576
Houston, TX 77001

Energy & Minerals Dept.
P.O. Box 1980
Hobbs, New Mexico 88240



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS DISTRICT OFFICE

April 21, 1986

TONEY ANAYA
GOVERNOR

POST OFFICE BOX 1880
HOBBS, NEW MEXICO 88240
(505) 393-6161

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

RE: Proposed:

MC _____
DHC _____
NSL _____
NSP _____
SWD _____
WFX xx **540** _____
PMX _____

Gentlemen:

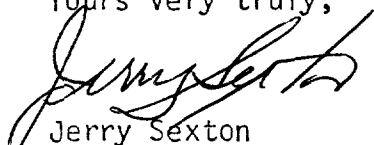
I have examined the application for the:

Shell Western E&P Inc.	Black #1-J-	21-24-37
Operator	Lease & Well No.	Unit S-T-R

and my recommendations are as follows:

OK -- Jerry

Yours very truly,


Jerry Sexton
Supervisor, District 1

/mc