

April 14, 1986

Shell Western E&P Inc.

A Subsidiary of Shell Oil Company



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.

NMCCD 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.

CDA8609801

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

CDA8609801

Case 8906

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:
 1. Proposed average and maximum ³⁵⁰ 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

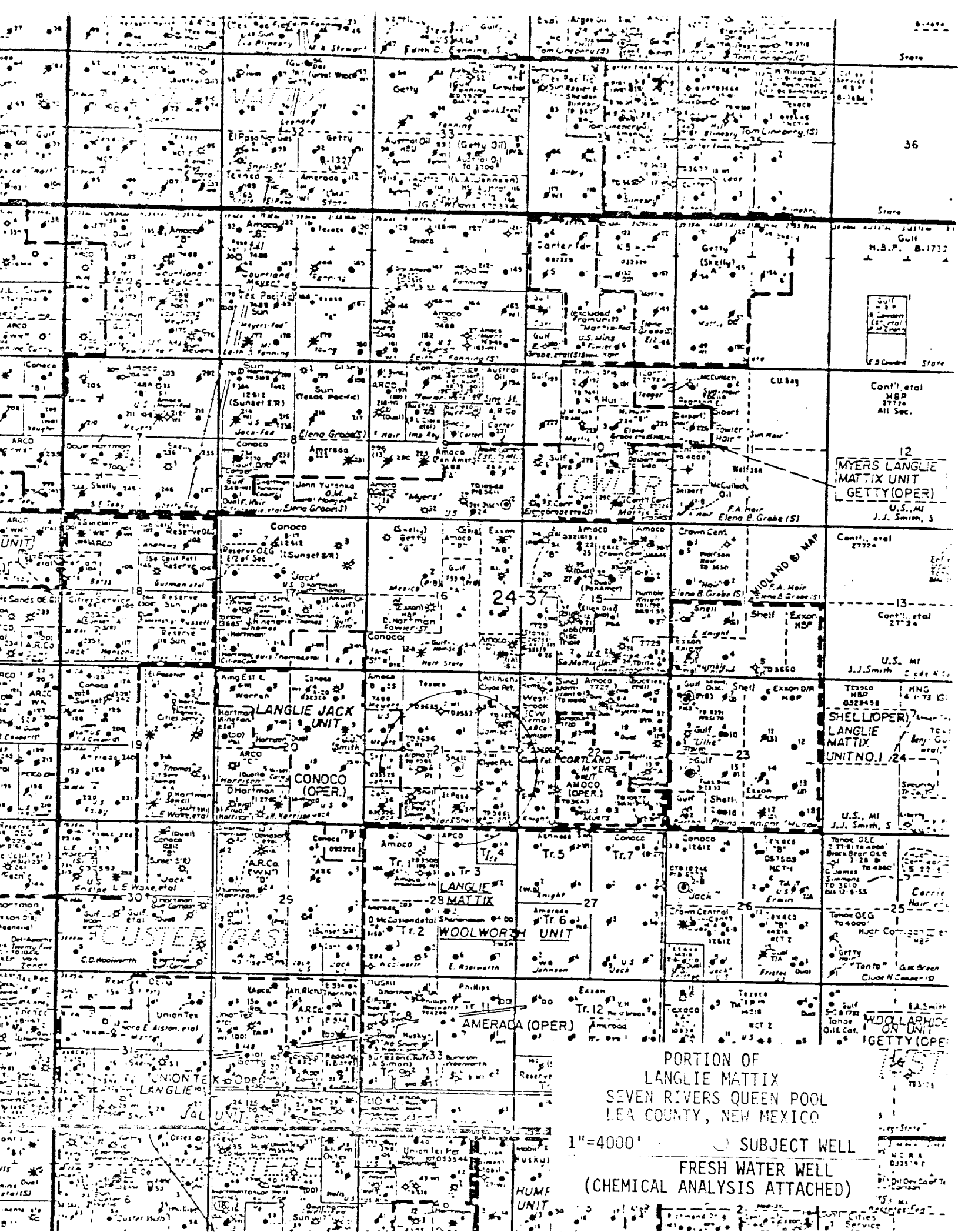
I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: A. J. FORE Title SUPERVISOR REG. & PERMITTING

Signature: [Signature] 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.

Print name and title of applicant on reverse side of this form and send to the appropriate Division



UNICHEM INTERNATIONAL

707 NORTH LEECH

P.O. BOX 1477

HOBBS, NEW MEXICO 88240

COMPANY : SHELL WESTERN
 DATE : 04/04/88
 FIELD, LEASE & WELL : LANGLEY MATTIX (BLACK)
 SAMPLING POINT: DOOM WATER WELL
 DATE SAMPLED : 04/03/88

SE/4 SE/4 sec. 21
 T-24-S 2-37-E

SPECIFIC GRAVITY = 1
 TOTAL DISSOLVED SOLIDS = 756
 PH = 8.04

		ME/L	MG/L
CATIONS			
CALCIUM	(CA)+2	4.4	88.1
MAGNESIUM	(MG)+2	1.6	19.2
SODIUM	(NA), CALC.	5.0	116.
ANIONS			
BICARBONATE	(HCO3)-1	2.6	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)		.04
BARIUM	(BA)+2	0	0
MANGANESE	(MN)	NOT RUN	

IONIC STRENGTH (MOLAL) = .016

SCALING INDEX	TEMP
	300
	86F
CARBONATE INDEX	2.14
CALCIUM CARBONATE SCALING	LIVELY
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.

I, _____

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 made.

LEGAL NOTICE

MARCH 2, 1986

NOTICE is hereby given of the application of Shell Western E&P Inc., ATTN: A. J. Fors, Supervisor Regulatory and Permitting, P. O. Box 376, 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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NEW MEXICO OIL CONSERVATION COMMISSION

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

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-DRILL OR WELL BACK TO A DIFFERENT RESERVOIR.
SEE APPLICATION FOR PERMIT TO DRILL (FORM C-101) FOR SUCH PROPOSALS.

1. ☐ OIL WELL ☒ GAS WELL ☐ OTHER-
2. Name of Operator TEXACO Inc.
3. Address of Operator P. O. Box 728 - Hobbs, New Mexico 88240
4. Location of Well UNIT LETTER <u>K</u> <u>1980</u> FEET FROM THE <u>South</u> LINE AND <u>1980</u> FEET FROM THE <u>West</u> LINE, SECTION <u>21</u> TOWNSHIP <u>24-S</u> RANGE <u>37-E</u> N.M.P.M.

7. Unit Agreement Name
8. Name of Lease Holder J. F. Black
9. Well No. 2
10. Field and Pool, or Wildcat Jalmit 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 ☐	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 JOB ☐	

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.

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

APPROVED BY <u>John W. Runyan</u>	TITLE <u>Asst. District Supt.</u>	DATE <u>8-23-77</u>
CONDITIONS OF APPROVAL, IF ANY:		

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

AFE No. 93998

Form C-103 -
Revised 10-1-73

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.)

1. ☐ OIL WELL ☐ GAS WELL ☐ OTHER- INJECTOR	7. Unit Agreement Name BLACK WATERFLOOD PROJECT
2. Name of Operator SHELL OIL COMPANY	8. Farm or Lease Name BLACK
3. Address of Operator P. O. BOX 991, HOUSTON, TX 77001	9. Well No. 34
4. 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-E NMPM.	10. Field and Pool, or Wildcat TANGLE-MATTIX 7 RIVERS QUEEN
15. Elevation (Show whether DF, RT, GR, etc.) 3247' DF	12. County LEA

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

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.

11-12-82: 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.

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

Eddie Seay A. J. FORE TITLE SUPERVISOR REG. & PERMITTING DATE JANUARY 17, 1983

APPROVED BY ORIGINAL SIGNED BY EDDIE SEAY OIL & GAS INSPECTOR TITLE DATE DEC 8 1983

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OIL CONSERVATION DIVISION
P. O. BOX 2033
SANTA FE, NEW MEXICO 87501

AFE No. 93999

Form C-103
Revised 10-1-73

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 - I" (FORM C-101) FOR SUCH PROPOSALS.)

1. OIL WELL ☐ GAS WELL ☐ OTHER- INJECTOR		7. Unit Agreement Name BLACK WATERFLOOD PROJECT
2. Name of Operator SHELL OIL COMPANY		8. Farm or Lease Name BLACK
3. Address of Operator P. O. BOX 991, HOUSTON, TX 77001		9. Well No. 6
4. 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 RMPM.		10. Field and Pool or Wildcat LANGLEY-MATTIX 7 RIVERS QUEEN
11. Elevation (Show whether DF, RT, GR, etc.) 3229' 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 ☐	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.

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

NO. OF EXPLORATION PERMITS	
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OPERATOR	

OIL CONSERVATION DIVISION

P. O. BOX 2028
SANTA FE, NEW MEXICO 87501Form C-103
Revised 10-1-75

3a. Indicate Type of Lease	
State ☐	Fee ☒
3. 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 TO WORK C-1011 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 2560 FEET FROM THE WEST LINE, SECTION 21, TOWNSHIP 24S, RANGE 37E, SUFF.	10. Field and Pool, or Whichever LANGLIE MATTIX
11. Elevation (Show surface DF, RT, GR, etc.) 3225' 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 ☐	PLUG AND ABANDON ☐	REMEDIAL WORK ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐	CHANGE PLANS ☐	COMMENCE DRILLING OPER. ☐	PLUG AND ABANDONMENT ☒
PULL OR ALTER CASING ☐	OTHER ☐	CASING TEST AND CEMENT JOBS ☐	

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.

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' & tapped 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 320# 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.

SIGNED <u>A. J. Fore</u>	A. J. FORE	TITLE <u>SUPERVISOR REG. & PERMITTING</u>	DATE <u>FEBRUARY 6, 1986</u>
SIGNED <u>[Signature]</u>		TITLE <u>OIL & GAS INSPECTOR</u>	DATE <u>APR 1 - 1986</u>

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

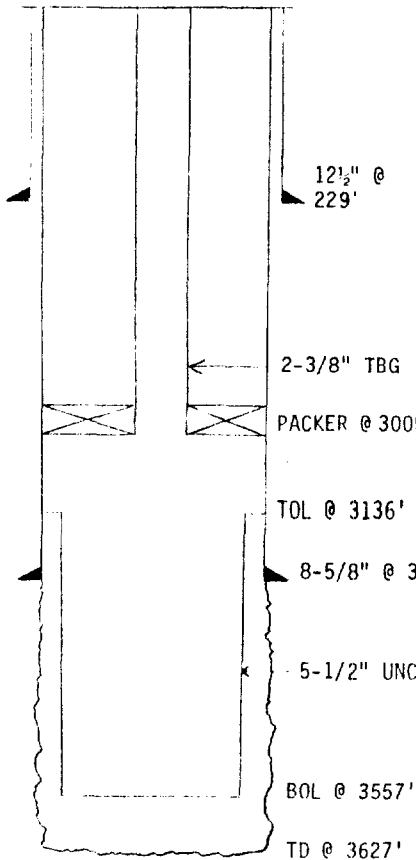
El Paso Natural Gas Company
P. O. Box 1492
El Paso, TX 79978

BN8609901

SHELL WESTERN E&P INC.
OPERATORBLACK
LEASE1 1980' FSL & 1980' FEL
WELL NO. PORTAGE LOCATION21
SECTION24-S
TOWNSHIP37-E
RANGE

Schematic

(NOT TO SCALE)



Tabular Data

Surface Casing

Size 12-1/2" Cemented with 150 sx.

TDC SURFACE feet determined by CALCULATION

Hole size 17-1/2"

Intermediate Casing

Size " Cemented with sx.

TDC feet determined by

Hole size

Long string

Size 8-5/8" Cemented with 575 sx.

TDC 286 feet determined by CALCULATION

Hole size 11"

Total depth 3627'

Injection interval

TOL @ 3136' 3226 feet to 3627 feet
(perforated or open-hole, indicate which)

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
(brand and model)

packer at 3005 feet

(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. YALCS @ 2730', 7 RIVERS @ 3070' & QUEEN @ 3427'

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>EI 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	5 1/2" @ 3300	525
<u>Lanette Maccix 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)	12 3/4" @ 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 8 3/4" @ 1393	set 300	7" @ 3234	150

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

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 8½" @ 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 8½" @ 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

Casing									
Lease Name/Operator Zone	Well Status	Original Comp. Date	Footage Location	Total Depth	Perts	Surface Size & Depth	Cement	Production Size & Depth	Cement
Black/Zone									
2Y. Seven Rivers-Queen	Producer	10/25/1964	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" @ 145 10 3/4" @ 359 8 5/8" (O.D.)@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
Knight/Clyde Petroleum Inc.									
1. Seven Rivers-Queen	Producer	09/05/1936	1980 FSL + 660 FEL Section 21	3,470	3,367-3,470	15¾" @ 100 12½" @ 735 10" @ 830 8¾" @ 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)	15¾" @ 142 10 3/4" @ 785 8¾" @ 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)	15¾" @ 140 10 3/4" @ 821 8 5/8" @ 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

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 Size & Depth	Cement	Production Size & Depth	Cement	
Langilia Black 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	40 set		
							8 5/8"	@ 1304	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	50 set		
							10"	@ 820	set		
							8 5/8"	@ 1384	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	50 set		
							10½"	@ 852	set		
							8 5/8"	@ 1368	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