

DATA FOR  
PROPOSED WEST DOLLARHIDE DEVONIAN UNIT WATERFLOOD PROJECT  
DOLLARHIDE DEVONIAN POOL  
LEA COUNTY, NEW MEXICO

OIL CONSERVATION COMMISSION HEARING

MAY 10, 1962

CASE NUMBER 2557

GULF OIL CORPORATION  
ROSWELL DISTRICT

WATERFLOOD DATA FOR HEARING BEFORE  
OIL CONSERVATION COMMISSION OF NEW MEXICO

Operator Gulf Oil Corporation Date May 10, 1962  
Project West Dollarhide Devonian Unit Waterflood  
Pool Dollarhide Devonian County Lea  
Reservoir Devonian  
Other Operators Injecting into this Reservoir (Texas Portion) \_\_\_\_\_  
The Pure Oil Company and Cities Service Producing Company \_\_\_\_\_

I. RESERVOIR AND FLUID CHARACTERISTICS

A. Information on Reservoir

1. Name of Reservoir Devonian
2. Composition Upper Devonian: White to brown fine to coarse  
crystalline limestone with scattered lenses of intercrystalline  
porosity - Lower Devonian: White to light buff weathered chert  
having inter-granular and solution type porosities.
3. Structure Northwest-southeast trending anticline which dips  
about 450 feet per mile on the north and east flanks and  
approximately 1500 feet per mile on the south and west flanks.
4. Type Drive During Depletion Solution gas drive
5. Original Reservoir Pressure 3300 psig

B. Information on Proposed Project Area

1. Number of Productive Acres In Project Area to be Flooded \_\_\_\_\_  
Unitized area is 765 acres as shown on the project plat, Figure  
No. 1. 747
2. Average Depth to Top of Pay 7800 feet
3. Estimated Average Gross Thickness Upper: 70 feet -  
Lower: 40 feet.
4. Estimated Average Effective Thickness Upper: 15 feet -  
Lower: 30 feet.

5. Estimated Average Effective Porosity Upper: 8.1% - Lower: 17.2%
6. Average Horizontal Permeability Upper: 3 mds. - Lower: 16 mds.  
Range 0-48 mds.
7. Gravity of Oil About 36.5° API

## II. PRIMARY PRODUCTION HISTORY AND PRESENT STATUS OF PROJECT AREA

1. Date First Well Completed April 9, 1952
2. Oil and Water Production History by Months Since Date of First Well Completion to Present Time See Table I and Production Performance Curves
3. Stage of Depletion of Project Area Late
4. Number of Wells in Project Area 18, nine of which will be converted to water injection.
5. Average Daily Oil Production Per Well at Present Time 13.2 barrels
6. Cumulative Oil Production as of March 1, 1962 from Area to be Flooded 2,565,299 barrels

## III. INJECTION

1. Source of Injected Water Water to be injected will be obtained from source wells to be completed in the Santa Rosa formation on State water easements in Sections 32 and 33, T-24-S, R-38-E. Based on capacity tests in nearby Santa Rosa wells, it is believed that four or possibly five source wells will be needed to provide the estimated 9,000 barrels of water that will be needed.
2. Type of Water Brackish - Injection system will be corrosion-proof.
3. Treatment of Injected Water None is anticipated; however, if water analysis after development indicates treatment is needed, appropriate action will be taken.
4. Pattern and Spacing 80-acre 5-spot patterns as shown on the area plat, Figure No. 2.

5. Initial Injection Pressure to be Used Approximately 500 psig.  
Maximum pressure expected will be in the range of 1500 to 2000 psig.
6. Estimated Initial Per Well Rate of Injection 1000 barrels per day.
7. Additional Injection and Producing Wells to be Drilled None

#### IV. RESULTS EXPECTED

It is expected that the proposed waterflood project will effectively result in increased oil recovery from the Devonian Age formation. It is believed that the proposed waterflood will recover from 75 to 100 per cent of the reservoir's ultimate primary recovery. In terms of barrels, the increased recovery due to waterflooding due to secondary recovery measures should be in the magnitude of 2 to 2.7 million barrels of oil.

#### V. REASONS AND RECOMMENDATIONS

The Dollarhide Devonian Pool produces by a solution gas drive mechanism and as a result, a considerable quantity of oil will remain unrecovered at the end of primary depletion unless some type of fluid injection project is inaugurated to increase the ultimate oil recovery.

Production from the wells in the proposed unit area has declined to an average daily oil production of about 13 barrels per well per day. At the existing rate of decline, these wells have only a few years remaining to produce prior to depletion and abandonment. Therefore, in order to prolong the productive life of these wells and to increase the ultimate recovery, some type of secondary recovery project should be inaugurated. The available data indicate that the Devonian formation underlying the proposed West Dollarhide Devonian Unit is susceptible to waterflooding operations and that the proposed plan should increase ultimate recovery.

In view of the above considerations, Gulf, in association with Pan American, Skelly and Texaco, has concluded that the best course of action is the unitization of the 18 wells completed in the Dollarhide Devonian

Pool as shown on Figure 2 so that a joint waterflood project can be undertaken. In so doing, the entire Dollarhide Devonian Pool of New Mexico will be waterflooded in conjunction with the full-scale waterflooding of the Texas properties producing from the same reservoir. Therefore, Gulf Oil Corporation, as the West Dollarhide Devonian Unit Operator, respectfully requests that the Oil Conservation Commission approve the installation of the proposed waterflood facilities.

TABLE I  
MONTHLY OIL PRODUCTION BY LEASES - PROPOSED WEST DOLLARHIDE DEVONIAN UNIT  
DOLLARHIDE DEVONIAN POOL  
LEA COUNTY, NEW MEXICO

MONTH AND YEAR	GULF SNOWDEN UNIT NO. 1	GULF SNOWDEN UNIT NO. 2	GULF LEONARD (NCT-G)	TOTAL GULF	PAN AMERICAN STATE Y	SKELLY MEXICO J	SKELLY MEXICO L	TOTAL SKELLY	TEXACO PENNY	TOTAL UNIT
<u>1952</u>										
Jan.									1,297	1,297
Feb.									322	322
Mar.									4,827	4,827
Apr.									7,054	7,054
May									8,031	8,031
June			1,144	1,144	4,035				8,206	8,206
July			3,205	3,205	3,790				8,557	8,557
Aug.			2,860	2,860	4,056				8,022	8,022
Sept.		1,592	3,192	4,784	4,257				7,480	7,480
Oct.		4,025	3,976	8,001	4,120					
Nov.	196	4,844	11,658	16,698	4,348					
Dec.	3,115	3,678	12,367	19,160						
Total	3,311	14,139	38,402	55,852	24,606				53,796	134,254
<u>1953</u>										
Jan.	3,759	3,758	18,165	25,682	4,024				6,620	36,326
Feb.	3,348	3,348	15,786	22,482	2,814				5,441	30,737
Mar.	3,682	3,683	20,331	27,696	3,080				5,467	36,243
Apr.	3,542	3,541	20,331	27,414	3,005				4,715	35,134
May	3,618	3,618	20,784	28,020	3,049				4,462	35,531
June	3,512	3,512	19,943	26,967	2,997				3,995	33,959
July	3,701	3,701	20,663	28,065	3,046				3,831	34,942
Aug.	3,638	3,636	20,812	28,086	3,086				3,626	34,798
Sept.	3,522	3,522	20,404	27,448	2,971				3,591	34,010
Oct.	3,666	3,666	21,019	28,351	3,128				3,550	35,029
Nov.	3,503	3,502	20,207	27,212	2,976				3,327	33,515
Dec.	3,705	3,704	21,059	28,468	3,131				3,366	34,965
Total	43,196	43,191	239,504	325,891	37,307				51,991	415,189

TABLE I

MONTH AND YEAR	GULF SNOWDEN UNIT NO. 1	GULF SNOWDEN UNIT NO. 2	GULF LEONARD (NCT-G)	TOTAL GULF	PAN AMERICAN STATE Y	SKELLY MEXICO J	SKELLY MEXICO L	TOTAL SKELLY	TEXACO PENNY	TOTAL UNIT
<u>1954</u>										
Jan.	3,689	3,693	21,109	28,491	3,077				3,158	34,726
Feb.	3,334	3,334	18,997	25,665	2,801				2,834	31,300
Mar.	3,705	3,706	20,996	28,407	3,101				2,939	34,447
Apr.	3,508	3,509	18,747	25,764	2,992				2,640	31,396
May	3,660	3,659	19,447	26,766	3,116				2,612	32,494
June	3,523	3,522	17,402	24,447	1,112				2,449	28,008
July	3,608	3,608	17,982	25,198	2,341				2,410	29,949
Aug.	3,605	3,606	16,813	24,024	2,647				2,354	29,025
Sept.	3,509	3,508	16,465	23,482	2,536				2,218	28,236
Oct.	3,648	3,640	17,103	24,391	2,406				2,273	29,070
Nov.	3,550	3,546	16,614	23,710	2,358				2,019	28,087
Dec.	3,691	3,685	19,558	26,934	2,351				2,207	31,492
Total	43,030	43,016	221,233	307,279	30,838				30,113	368,230
<u>1955</u>										
Jan.	3,677	3,681	20,821	28,179	2,252				2,174	32,605
Feb.	3,306	3,306	20,551	27,163	1,994				1,898	31,055
Mar.	3,715	3,715	20,829	28,259	2,060			995	2,002	33,316
Apr.	3,246	1,709	18,101	23,056	1,958		2,430	2,430	1,851	29,295
May	3,172	1,742	18,550	23,464	1,948		2,115	2,115	1,741	29,268
June	3,149	1,692	17,988	22,829	1,827		1,578	1,578	1,684	27,918
July	3,293	1,754	18,841	23,888	1,853		1,233	1,233	1,687	28,661
Aug.	3,243	1,744	18,570	23,557	1,784		941	941	1,455	27,737
Sept.	3,171	1,698	17,984	22,853	1,680		2,839	2,839	1,622	28,994
Oct.	3,409	1,887	19,177	24,473	1,662		3,179	3,179	1,595	30,909
Nov.	3,345	1,872	18,205	23,422	1,664		3,087	3,087	1,603	29,776
Dec.	3,339	1,794	18,877	24,010	1,682		3,116	3,116	1,514	30,322
Total	40,065	26,594	228,494	295,153	22,364		21,513	21,513	20,826	359,856
<u>1956</u>										
Jan.	3,414	1,832	19,303	24,549	1,593		3,256	3,256	1,501	30,899
Feb.	3,177	1,750	15,989	20,916	1,475		2,892	2,892	1,396	26,679
Mar.	3,300	1,775	16,960	22,035	1,465		2,824	2,824	1,390	27,714
Apr.	3,378	1,820	15,544	20,742	1,348		3,427	3,427	1,287	26,804
May	1,972	1,735	12,315	16,022	1,354		2,712	2,712	1,266	21,354
June	1,896	1,729	11,750	15,375	1,200		2,947	2,947	1,116	20,638
July	1,885	1,780	12,366	16,031	1,069	666	3,134	3,800	1,187	22,087
Aug.	1,154	856	11,715	13,725	1,313	3,103	3,103	6,206	1,086	22,330
Sept.	1,839	1,688	11,715	15,242	1,202	3,111	3,112	6,223	1,073	23,740
Oct.	1,898	3,105	12,488	17,491	1,238	3,235	3,235	6,470	1,030	26,229
Nov.	1,826	2,201	12,271	16,298	1,188	2,888	2,888	5,776	607	23,869
Dec.	1,944	2,234	12,714	16,892	1,197	3,024	3,025	6,049	1,254	25,392
Total	27,683	22,505	165,130	215,318	15,642	16,027	36,555	52,582	14,193	297,735

TABLE 1

MONTH AND YEAR	GULF SNOWDEN UNIT NO. 1	GULF SNOWDEN UNIT NO. 2	GULF LEONARD (NCT-G)	TOTAL GULF	PAN AMERICAN STATE Y	SKELLY MEXICO J	SKELLY MEXICO L	TOTAL SKELLY	TEXACO PENNY	TOTAL UNIT
<u>1957</u>										
Jan.	1,910	2,231	12,757	16,898	1,094	3,019	3,019	6,038	1,463	25,493
Feb.	1,713	1,994	11,306	15,013	1,012	2,868	2,869	5,737	1,395	23,157
Mar.	1,890	2,201	12,924	17,015	1,826	3,110	3,111	6,221	1,525	26,587
Apr.	1,852	2,128	12,197	16,177	1,466	3,100	3,100	6,200	1,403	25,246
May	2,341	2,864	8,985	14,190	1,494	2,979	2,979	5,958	1,529	23,171
June	2,260	2,764	8,638	13,662	1,321	2,962	2,961	5,923	1,421	22,327
July	2,318	2,791	8,881	13,990	1,274	3,088	3,088	6,176	1,146	22,586
Aug.	2,342	2,820	8,787	13,949	1,240	3,053	3,052	6,105	1,021	22,315
Sept.	2,252	2,798	8,653	13,703	1,206	3,073	3,074	6,147	1,243	22,299
Oct.	2,340	2,865	8,986	14,191	1,210	3,079	3,079	6,158	1,295	22,854
Nov.	2,229	2,844	8,639	13,712	1,167	3,044	3,043	6,087	1,047	22,013
Dec.	2,304	2,834	8,966	14,104	1,144	3,206	6,308	9,514	1,072	25,834
Total	25,751	31,134	119,719	176,604	15,454	36,581	39,683	76,264	15,560	283,882
<u>1958</u>										
Jan.	2,252	2,780	9,055	14,087	1,071	3,043	6,089	9,132	1,230	25,520
Feb.	2,137	2,263	8,125	12,525	903	2,792	5,583	8,375	1,047	22,850
Mar.	2,344	2,356	9,432	14,132	1,224	3,089	6,177	9,266	1,191	25,813
Apr.	2,247	1,986	9,906	14,139	990	2,952	5,906	8,858	1,077	25,064
May	930	467	9,519	10,916	1,029	3,140	6,278	9,418	838	22,201
June	887	446	8,747	10,080	906	3,097	6,195	9,292	914	21,192
July	924	468	8,587	9,979	894	3,040	6,078	9,118	864	20,855
Aug.	917	460	8,515	9,892	864	3,044	6,088	9,132	849	20,737
Sept.	889	445	7,950	9,284	833	4,172	6,031	10,203	838	21,158
Oct.	924	401	8,029	9,354	819	4,621	6,162	10,783	837	21,793
Nov.	899	391	7,051	8,341	727	4,572	6,094	10,666	879	20,613
Dec.	938	468	7,421	8,827	835	4,660	6,212	10,872	907	21,441
Total	16,288	12,931	102,337	131,556	11,095	42,222	72,893	115,115	11,471	269,237
<u>1959</u>										
Jan.	939	471	7,320	8,730	686	4,837	6,450	11,287	901	21,604
Feb.	1,406	423	6,262	8,091	823	3,907	5,242	9,149	790	18,853
Mar.	1,815	468	6,572	8,855	724	3,952	5,269	9,221	908	19,708
Apr.	1,748	451	5,846	8,045	606	3,482	4,642	8,124	779	17,554
May	1,809	679	4,902	7,390	576	3,430	4,571	8,001	702	16,669
June	1,744	653	4,727	7,124	522	3,218	4,288	7,506	757	15,909
July	1,781	676	4,074	6,531	516	3,077	4,104	7,181	687	14,915
Aug.	1,771	673	3,846	6,290	492	2,960	3,947	6,907	655	14,344
Sept.	1,753	654	4,653	7,060	477	2,791	3,721	6,512	661	14,710
Oct.	1,789	680	4,404	6,873	463	2,821	3,760	6,581	668	14,585
Nov.	1,742	662	4,130	6,534	518	2,648	3,531	6,179	631	13,862
Dec.	1,838	688	4,402	6,928	488	2,642	3,523	6,165	589	14,170
Total	20,135	7,178	61,138	88,451	6,891	39,765	53,048	92,813	8,728	196,883



TABLE I

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MONTH AND YEAR	GULF SNOWDEN UNIT NO. 1	GULF SNOWDEN UNIT NO. 2	GULF LEONARD (NCT-G)	TOTAL GULF	PAN AMERICAN STATE Y	SKELLY MEXICO J	SKELLY MEXICO L	TOTAL SKELLY	TEXACO PENNY	TOTAL UNIT
<u>1960</u>										
Jan.	1,845	690	4,179	6,714	465	2,400	3,199	5,599	687	13,465
Feb.	1,722	645	4,130	6,497	421	2,143	2,856	4,999	644	12,561
Mar.	1,837	687	4,054	6,578	419	2,223	2,964	5,187	779	12,963
Apr.	1,736	659	3,804	6,199	339	2,080	2,799	4,879	771	12,188
May	1,274	795	3,169	5,238	255	2,017	2,705	4,722	632	10,847
June	1,154	769	3,087	5,010	251	1,878	2,505	4,383	665	10,309
July	1,193	795	3,187	5,175	404	1,890	2,519	4,409	543	10,531
Aug.	1,192	786	3,104	5,082	374	1,899	2,530	4,429	655	10,540
Sept.	1,159	772	3,091	5,022	338	1,390	2,713	4,103	504	9,967
Oct.	1,227	816	3,190	5,233	333	3,329	841	4,170	581	10,317
Nov.	1,181	787	3,073	5,041	306	1,864	2,110	3,974	551	9,872
Dec.	1,227	817	2,930	4,974	321	792	2,810	3,602	544	9,441
Total	16,747	9,018	40,998	66,763	4,226	23,905	30,551	54,456	7,556	133,001
<u>1961</u>										
Jan.	1,226	816	2,874	4,916	286	377	3,204	3,581	398	9,181
Feb.	1,099	733	2,293	4,125	265	458	3,063	3,521	352	8,263
Mar.	1,207	804	2,504	4,515	266	519	3,470	3,989	482	9,252
Apr.	1,160	773	2,305	4,238	241	473	3,160	3,633	407	8,519
May	950	736	2,038	3,724	224	444	2,997	3,441	594	7,983
June	955	740	1,519	3,214	208	409	2,761	3,170	649	7,241
July	947	731	1,889	3,567	209	338	2,284	2,622	633	7,031
Aug.	806	755	2,091	3,652	191	394	2,662	3,056	539	7,438
Sept.	869	704	1,840	3,413	189	382	2,580	2,962	450	7,014
Oct.	906	737	2,115	3,758	380	401	2,706	3,107	529	7,774
Nov.	699	843	1,948	3,490	228	339	2,287	2,626	534	6,878
Dec.	889	708	1,961	3,558	263	365	2,467	2,832	574	7,227
Total	11,713	9,080	25,377	46,170	2,950	4,899	33,641	38,540	6,141	93,801
<u>1962</u>										
Jan.	895	758	1,984	3,637	173	322	2,319	2,641	513	6,964
Feb.	747	572	1,578	2,897	127	341	2,455	2,796	447	6,267

Note: Production data obtained from New Mexico Oil and Gas Committee Reports.

TABLE II

## INJECTION WELL CASING PROGRAM

WELL NAME	DATE OF COMPLETION	CASING SIZE, INCHES			CASING SETTING, FEET	CEMENT USED, SACKS	CEMENT TOP AS INDICATED BY TEMPERATURE SURVEY
		SURFACE	INTERMEDIATE	PRODUCING			
Harry Leonard (NCT-G) No. 2	5-13-52	13-5/8	9-5/8	5-1/2	316' 2,905' 10,299'	350 1,700 1,750	Circulated 1,825' 2,895'
Harry Leonard (NCT-G) No. 5	10-20-52	13-3/8	9-5/8	7	305' 2,899' 7,750'	330 1,100 275	Circulated 1,420' 5,345'
Harry Leonard (NCT-G) No. 7	3-16-53	13	8-5/8	5-1/2	282' 2,900' 8,779'	325 1,450 500	Circulated 1,335' 5,358'
Harry Leonard (NCT-G) No. 9	3-6-53	13-3/8	9-5/8	7	302' 2,899' 7,899'	350 1,610 600	Circulated 845' 3,800'
Harry Leonard (NCT-I) No. 1	9-21-52	13-3/8	9-5/8	7	306' 2,899' 7,842	350 1,050 300	Circulated 1,450' 5,300'
State Y No. 1	6-20-52	13-3/8	9-5/8	7	311' 4,277' 8,019'	375 550 250	Circulated 900' 6,570'
Mexico J No. 24	7-26-56	None	8-5/8	5-1/2	3,150' 8,700'	2,000 805	Circulated 3,491'

*4000 lb. cement  
plastered casing  
by workers in  
casing*

INJECTION WELL CASING PROGRAM (Continued)

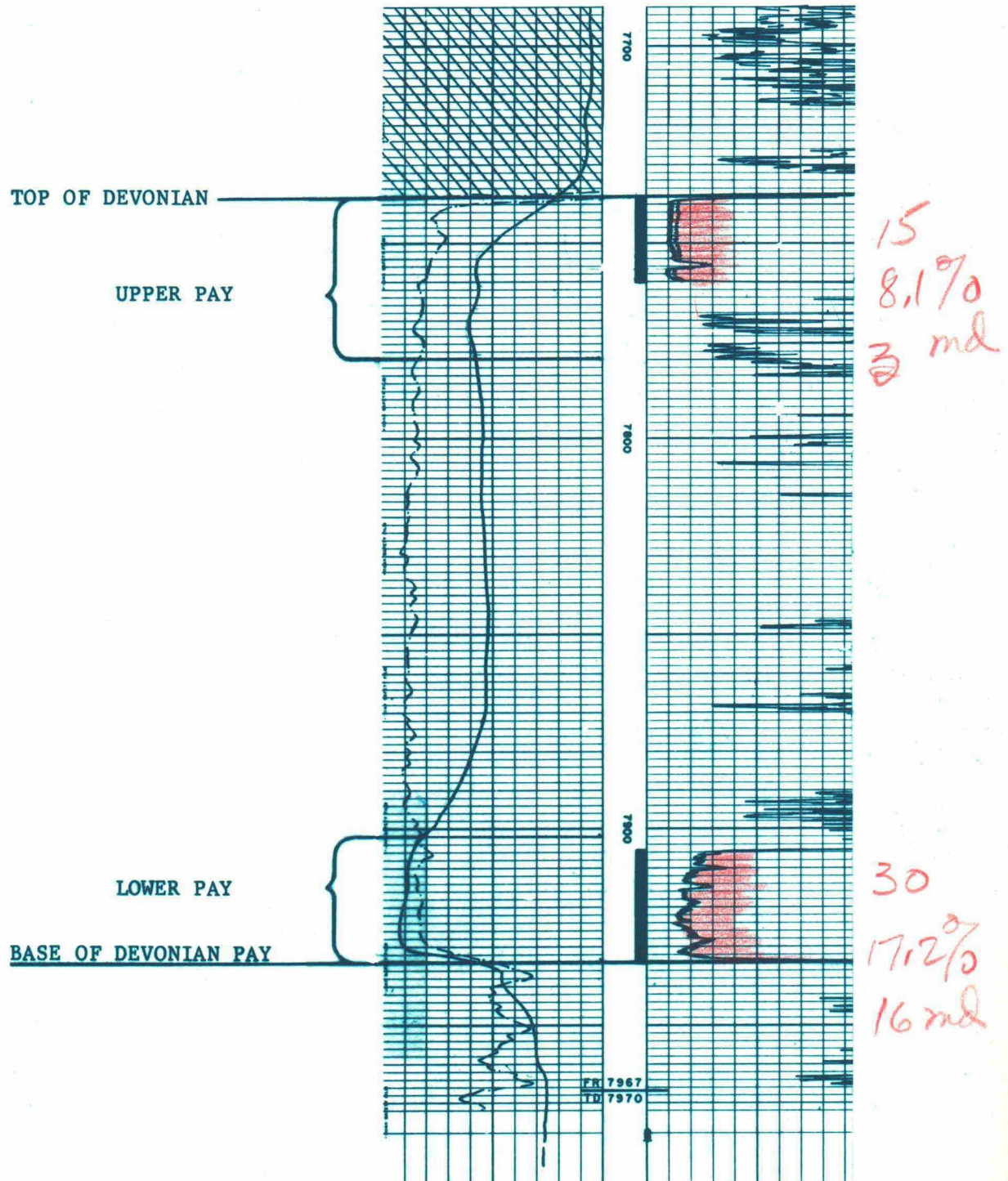
<u>WELL NAME</u>	<u>DATE OF COMPLETION</u>	<u>SURFACE</u>	<u>CASING SIZE, INCHES</u>	<u>INTERMEDIATE</u>	<u>PRODUCING</u>	<u>CASING SETTING, FEET</u>	<u>AMOUNT OF CEMENT USED, SACKS</u>	<u>CEMENT TOP AS INDICATED BY TEMPERATURE SURVEY</u>
Mexico L No. 22	3-26-55	None	8-5/8		5-1/2	3,850 7,660	2,000 700	Circulated 3,404'
Penny-Federal No. 2	6-27-52	13-3/8	8-5/8		5-1/2	324 3,404 8,570	300 2,200 1,698	Circulated Circulated 3,650'

FIGURE NO. 4

GULF OIL CORPORATION

LEONARD (NCT-G) NO. 6  
UNIT C SEC 4 T25S R38E

MICROLOG SURVEY



GOVERNOR  
JACK M. CAMPBELL  
CHAIRMAN

State of New Mexico  
**Oil Conservation Commission**



P. O. BOX 871  
SANTA FE

LAND COMMISSIONER  
E. S. JOHNNY WALKER  
MEMBER

STATE GEOLOGIST  
A. L. PORTER, JR.  
SECRETARY - DIRECTOR

Mr. J. L. Pike  
Gulf Oil Corporation  
Post Office Box 980  
Kermit, Texas

Re: Case No. 2557  
Order No. R-2248-A  
Applicant:  
Gulf Oil Corporation

Dear Sir:

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

Very truly yours,

A. L. PORTER, Jr.  
Secretary-Director

ir/

Carbon copy of order also sent to:

Hobbs OCC   x  

Artesia OCC           

Antec OCC           

OTHER           Mr. M. I. Taylor

# Gulf Oil Corporation

KERMIT PRODUCTION AREA

J. L. Pike  
AREA PRODUCTION MANAGER

June 19, 1963

P. O. Box 980  
Kermit, Texas

Secretary Director  
New Mexico Oil Conservation Commission  
P.O. Box 871  
Santa Fe, N w Mexico

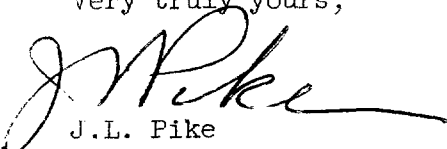
Re: Case No. 2557  
Order No. R2248

Dear Sir:

The Gulf Oil Corporation respectfully request an amendment to Order No. R2248, which approves the West Dollarhide Devonian Unit Agreement and authorizes a waterflood project. The proposed water-injection well described on the Commission Order as- Harry Leonard (NCT-G) Well No. 1, located in Unit C, Section 33, Township 24 South, Range 38, East- does not correspond with exhibits presented at the hearing. The well should be described as- Harry Leonard (NCT-I) Well No. 1, located in Unit F, Section 33, Township 24 South, Range 38, East.

Please issue a corrected order changing the description of the well.

Very truly yours,

  
J.L. Pike

WWW:mlw

cc: OCC-Hobbs, N.M.  
M.I. Taylor



GOVERNOR  
EDWIN L. MECHEM  
CHAIRMAN

State of New Mexico  
**Oil Conservation Commission**



LAND COMMISSIONER  
L. S. JOHNNY WALKER  
MEMBER

STATE GEOLOGIST  
A. L. PORTER, JR.  
SECRETARY - DIRECTOR

P. O. BOX 871  
SANTA FE

June 4, 1962

Mr. Bill Kastler  
Gulf Oil Corporation  
Box 669  
Roswell, New Mexico

Re: Case No. 2557  
Order No. R-2248  
Applicant:  
Gulf Oil Corporation

Dear Sir:

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

Very truly yours,

A. L. PORTER, Jr.  
Secretary-Director

ir/

Carbon copy of order also sent to:

Hobbs OCC   x  

Artesia OCC           

Aztec OCC           

OTHER                                     
                                  

Note: A special letter will follow instructing you  
as to the allowable which this project will receive.

C  
O  
P  
Y

Gulf Oil Corporation  
P. O. Box 1938  
Roswell, New Mexico  
June 4, 1962  
Page 2

Very truly yours,

E. S. JOHNNY WALKER  
COMMISSIONER OF PUBLIC LANDS

BY:  
(Mrs.) Marian M. Rhea, Supervisor  
Unit Division

ESW/mm/v  
cc:

U. S. Geological Survey  
P. O. Drawer 1857  
Roswell, New Mexico  
Attention: Mr. John Anderson

Oil Conservation Commission  
Santa Fe, New Mexico



2551  
June 4, 1962

C  
O  
P  
Y  
Gulf Oil Corporation  
P. O. Box 1938  
Roswell, New Mexico

Re: West Dollarhide  
- Devonian Unit,  
Lea County, New Mexico

Attention: Mr. W. A. Shellishear

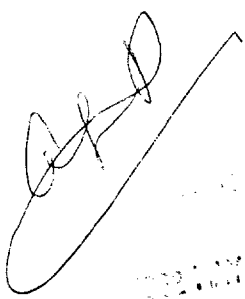
Gentlemen:

The Commissioner of Public Lands has approved as of June 4, 1962 the West Dollarhide Devonian Unit, Lea County, New Mexico. We are enclosing three originally signed Certificates of Approval.

This office received a copy of Oil Conservation Commission Order No. R-2248 dated June 4, 1962 approving the West Dollarhide Devonian Unit and Waterflood Project.

Also enclosed is Official Receipt No. 88817 in the amount of Twenty Dollars (\$20.00) which covers the filing fee for this Unit.

Please furnish us a copy of the U. S. Geological Survey Certificate of Determination at such time as they approve or notification if they should disapprove. Also state the effective date of this Unit.

  
Mr. A. L. Porter, Jr. Secretary-Director  
New Mexico Oil Conservation Commission  
Post Office Box 871  
Santa Fe, New Mexico

Dear Mr. Porter:

This is to inform you that the undersigned, being an operator in the Dollarhide Devonian Pool, Lea County, New Mexico, has no objection to the granting of approval of the Unit Agreement and authorization to subsequently water flood the Dollarhide Devonian formation under lands to be included in the West Dollarhide Devonian Unit. The request for approval will be made during the May 10, 1962 Examiner Hearing in Case 2557 by the Gulf Oil Corporation, the proposed Unit Operator.

Yours very truly,

ELLIOTT, INC.

By Wm Lorne Hall and party  
Address Box 1355  
Roswell NM NM  
Date 5-8-62



*pm*

# SKELLY OIL COMPANY

P. O. Box 1650  
TULSA 2, OKLAHOMA

## PRODUCTION DEPARTMENT

C. L. BLACKSHER, VICE PRESIDENT  
W. P. WHITMORE, MGR. PRODUCTION  
W. D. CARSON, MGR. TECHNICAL SERVICES  
ROBERT G. HILTZ, MGR. JOINT OPERATIONS  
GEORGE W. SELINGER, MGR. CONSERVATION

May 2, 1962

Re: Case 2557

Oil Conservation Commission  
P. O. Box 871  
Santa Fe, New Mexico

Gentlemen:

Application of Gulf Oil Corporation for a unit agreement and secondary recovery project of the West Dollarhide Devonian Unit is to be heard by the Commission at an Examiner's Hearing Thursday, May 10, 1962.

As an interested party, we wish to concur in the request of the applicant.

Very truly yours,

*George W. Selinger*

GWS:br

cc: Gulf Oil Corporation  
P. O. Box 1938  
Roswell, New Mexico Attn: Mr. M. I. Taylor

TEXACO

INC.

PETROLEUM PRODUCTS



DOMESTIC PRODUCING DEPARTMENT

MIDLAND DIVISION

B. L. FRANCIS, ASSISTANT DIVISION MANAGER

P. O. BOX 3109

MIDLAND, TEXAS

April 30, 1962

REFERENCE CASE 2557

New Mexico Oil Conservation Commission  
P. O. Box 871  
Santa Fe, New Mexico

Gentlemen:

Texaco Inc. will be a working interest owner in the West Dollarhide Devonian Unit as proposed by the Gulf Oil Corporation. Texaco has executed the Unit Agreement and concurs with Gulf's application for approval of the Unit Agreement and secondary recovery project.

Yours very truly,

*B. L. Francis*

CRB-MM

Case 2537

# Gulf Oil Corporation

ROSWELL PRODUCTION DISTRICT

W. A. Shellshear  
DISTRICT MANAGER  
F. O. Mortlock  
DISTRICT EXPLORATION  
MANAGER  
M. J. Taylor  
DISTRICT PRODUCTION  
MANAGER  
H. C. Vivian  
DISTRICT SERVICES MANAGER

1962 MAR 27 PM 4:45 Drawer 1938  
Roswell, New Mexico

March 27, 1962

Secretary Director  
New Mexico Oil Conservation Commission  
P. O. Box 871  
Santa Fe, New Mexico

Re: Application of Gulf Oil Corporation for the  
Approval of the West Dollarhide Devonian  
Unit Agreement providing for secondary re-  
covery operations in the West Dollarhide  
Devonian Oil Pool, Lea County, New Mexico.

Dear Sir:

Gulf Oil Corporation respectfully herein requests the Commission's approval of the West Dollarhide Devonian Unit Agreement, 3 copies of which are attached hereto, on the grounds that the proposed unit plan will in principle tend to promote the conservation of oil and gas and the prevention of waste. In support of its application, Gulf states as follows:

1. That the Unit Area shall be

T. 24 S., R. 38 E.,  
Sec. 32: E/2 SE/4 & SE/4 NE/4  
Sec. 33: Lots 1, 2, 3, 4, NE/4  
NW/4, S/2 NW/4 & SW/4

T. 25 S., R. 38 E.,  
Sec. 4: Lots 1, 2, 3, 4, S/2  
NW/4 & NW/4 SW/4  
Sec. 5: Lots 1, 2 & NE/4 SE/4

containing 765.25 acres, more or less.

2. That the project area described above includes all producing oil wells in the West Dollarhide Devonian Oil Pool which are presently situated in the State of New Mexico. Prior to expanding the Unit, Applicant will request that the expansion be authorized by administrative approval in accordance with the procedure outlined in paragraph 5 of N.M.O.C.C. Rule 701 (E).

3. Applicant proposes to inject approximately 1000 barrels of water per well per day into the oil producing intervals of the Devonian Age formation which are encountered in the Unit Area at an average depth of 7,600 feet beneath the surface.

4. That the Unit Operator shall file with the Commission an executed original or an executed counterpart of the West Dollarhide Devonian Unit Agreement within 30 days after the effective date thereof.



Secretary Director  
New Mexico Oil Conservation Commission  
March 27, 1962  
Page 2

5. That any party owning rights in the unitized substances who does not commit such rights to said Unit Agreement before the effective date thereof may thereafter become a party thereto by subscribing to such agreement or counterpart thereof or by ratifying the same. The Unit Operator shall file with the Commission within 30 days an original of any such counterpart or ratification.

6. That the order of the Commission should become effective upon the approval of said Unit Agreement by the Director of the United States Geological Survey and the Commissioner of Public Lands of the State of New Mexico and shall terminate ipso facto upon the termination of said Unit Agreement. The last Unit Operator shall immediately notify the Commission in writing of such termination.

Gulf Oil Corporation has previously obtained a preliminary designation of the Unit Area from the Acting Director of the United States Geological Survey, a verifax copy of which is attached hereto.

It is requested that this matter be set for hearing before an examiner at the earliest hearing in May, 1962.

Respectfully submitted,

GULF OIL CORPORATION

By



W. A. Shellshear

WVK:ejl  
Enclosures



UNITED STATES  
DEPARTMENT OF THE INTERIOR OFFICE OGC  
GEOLOGICAL SURVEY  
WASHINGTON 25, D. C. 1962 MAR 2 - PM 1962 46 9766

IN REPLY REFER TO:

*Copy 2551*

Gulf Oil Corporation  
Post Office Box 1957  
Roswell, New Mexico



Gentlemen:

Your application of October 15, filed with the Regional Oil and Gas Supervisor, Roswell, New Mexico, requested the designation of 765.25 acres, more or less, in Lea County, New Mexico, as logically subject to operation under the unitization provisions of the Mineral Leasing Act, as amended. The unit area contains 94.45 acres (12.342 percent) of Federal land, and 670.80 acres (87.658 percent) of State of New Mexico land.

Unitization will be limited to the "Devonian Age Formation" as identified in section 2 of the proposed form of unit agreement. The unit area has 15 producing oil wells completed in the formation to be unitized.

Unit participation during the "primary phase of operation" will be based 50 percent on estimated remaining primary reserves and 50 percent on gross oil production as measured during the period from July 1, 1961, to January 1, 1962. Unit participation during the "secondary phase of operation" will be based on estimated ultimate primary reserves. Unit participation parameters are set forth in section 3 of the unit agreement. You estimate that the proposed waterflood project will result in the recovery of about 2,725,000 barrels of oil over and above that recoverable by primary methods.

The land outlined on your map marked "Exhibit A, West Dollarhide Devonian Unit" is acceptable as a logical unit area for secondary-recovery operations. Your proposed form of unit agreement which modified the standard form (1961 reprint) to the extent necessary to cover additional material to secondary-recovery operation of a producing unit is acceptable. Returned herewith is one copy of said form showing, in colored pencil or by attachments, necessary changes and additions. One such form is being retained and one is being sent to the Regional Oil and Gas Supervisor, Roswell, New Mexico. Please contact the State of New Mexico before soliciting joinders.

In the absence of any other type of land requiring special provisions, or any objections not now apparent, a duly executed agreement identical with said form, approved by the appropriate officials of the State of New Mexico and accompanied by an acceptable allocation schedule calculated in accordance with the basic participation formulas, will

ILLEGIBLE

be approved or submitted in an appropriate status within a reasonable period of time. We reserve the right, however, to deny approval of any existing agreement which, in our opinion, does not have the full commitment and sufficient funds to afford effective control of secondary recovery operations. Please include the latest status of all agreements when the executed agreement is submitted to the Supervisor for approval.

Very truly yours,



Acting Director

ILLEGIBLE



CERTIFICATION - DETERMINATION

14-08-0001 8188

Pursuant to the authority vested in the Secretary of Interior, under the act approved February 25, 1920, 41 Stat. 437, as amended, 30 U. S. C. secs. 181, et seq., and delegated to the Director of the Geological Survey pursuant to Departmental Order No. 2365 of October 8, 1947, I do hereby:

A. Approve the attached agreement for the development and operation of the West Dollarhide-Devonian Unit Area, State of New Mexico.

B. Certify and determine that the unit plan of development and operation contemplated in the attached agreement is necessary and advisable in the public interest for the purpose of more properly conserving the natural resources.

C. Certify and determine that the drilling, producing, rental, minimum royalty, and royalty requirements of all Federal leases committed to said agreement are hereby established, altered, changed, or revoked to conform with the terms and conditions of this agreement.

JUN 27 1962

Dated \_\_\_\_\_.

*Arthur O. Zahner*  
*Arthur O. Zahner*  
Acting Director,  
United States Geological Survey

CERTIFICATE OF APPROVAL  
BY COMMISSIONER OF PUBLIC LANDS, STATE OF NEW MEXICO


WEST DOLLASHIDE DEVONIAN UNIT

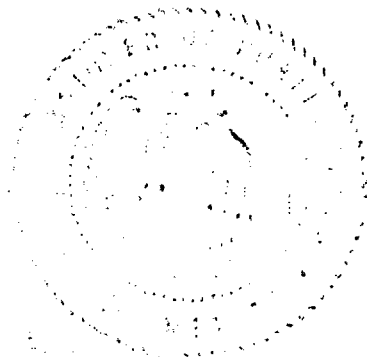
There having been presented to the undersigned Commissioner of Public Lands of the State of New Mexico for examination, the attached Agreement for the development and operation of acreage which is described within the attached Agreement, dated April 26, 1961, which has been executed or is to be executed by parties owning and holding oil and gas leases and royalty interests in and under the property described, and upon examination of said Agreement, the Commissioner finds:

- (a) That such agreement will tend to promote the conservation of oil and gas and the better utilization of reservoir energy in said area.
- (b) That under the proposed agreement the State of New Mexico will receive its fair share of the recoverable oil or gas in place under its lands in the area.
- (c) That each beneficiary Institution of the State of New Mexico will receive its fair and equitable share of the recoverable oil and gas under its lands within the area.
- (d) That such agreement is in other respects for the best interests of the state, with respect to state lands.

NOW, THEREFORE, by virtue of the authority conferred upon me under Sections 7-11-39, 7-11-40, 7-11-41, 7-11-47, 7-11-48, New Mexico Statutes Annotated 1953 Compilation, 1, the undersigned, Commissioner of Public Lands of the State of New Mexico, for the purpose of more properly conserving the oil and gas resources of the State, do hereby consent to and approve the said Agreement, and any leases embracing lands of the State of New Mexico within the area shall be and the same are hereby amended to conform with the terms thereof, and shall remain in full force and effect according to the terms and conditions of said Agreement. This approval is subject to all of the provisions of the aforesaid statutes.

IN WITNESS WHEREOF, this Certificate of Approval is executed, with seal affixed, this 4th day of June 19 62.

  
\_\_\_\_\_  
Commissioner of Public Lands  
of the State of New Mexico



47790

CERTIFICATE OF UNITIZATION  
WEST DOLLARHIDE DEVONIAN UNIT AGREEMENT  
LEA COUNTY, NEW MEXICO  
EFFECTIVE DATE: JULY 1, 1962

WHEREAS, a Unit Agreement, dated April 26, 1962, covering proposed waterflood operations in the West Dollarhide Devonian Oil Pool was adopted by 100 per cent of the Working Interest Owners and ratified by more than 75 per cent of all owners of Royalty Interests; and

WHEREAS, the Commissioner of Public Lands of the State of New Mexico has approved said Unit Agreement by executing a Certificate of Approval dated June 4, 1962; and

WHEREAS, 100 per cent of the tracts of the Unit Area as described in Exhibit "A" attached to and made a part of said Unit Agreement have qualified and the approval of the Oil Conservation Commission of the State of New Mexico has been obtained as evidenced by its Order No. R-2248 (Case No. 2557) dated June 4, 1962; and

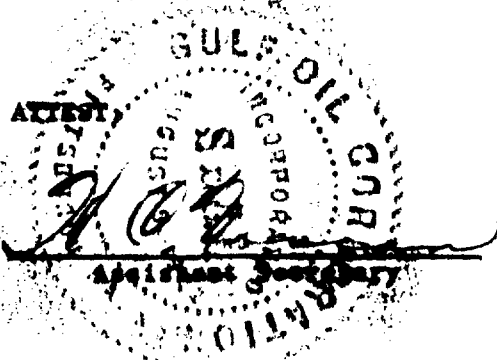
WHEREAS, the Acting Director of the United States Geological Survey has approved the said Unit Agreement by executing Certification -- Determination No. 14-08-0001 8188 dated June 27, 1962; and

WHEREAS, a fully executed counterpart of said Unit Agreement was on July 6, 1962 filed for record and is recorded in Book 187, Page 212, of the Oil and Gas Records of Lea County, New Mexico, such recording having been made as expeditiously as possible after its approval and return by the United States Geological Survey with the consent of more than 90 per cent of all Working Interest Owners; and

WHEREAS, each and every prerequisite to the Unit's effectiveness has now been met as provided in Section 22 of the said West Dollarhide Devonian Unit Agreement.

NOW, THEREFORE, Gulf Oil Corporation as Unit Operator does hereby declare and certify to all of the foregoing, and that said Unit shall be and it is hereby effective as to all Tracts described in Exhibit "A" of said Unit Agreement as of 7:00 A.M., the first day of July, 1962.

IN WITNESS WHEREOF, this certificate is executed this 12th day of July, 1962, by the undersigned, as Unit Operator, pursuant to Section 22 of said Unit Agreement.



GULF OIL CORPORATION

By W. A. Shellshear  
Attorney in Fact

THE STATE OF NEW MEXICO  
COUNTY OF CHAVES

X  
X  
X

NOTARY PUBLIC The foregoing instrument was acknowledged before me this 12th day of July, 1962, by W. A. SHELLSHEAR, Attorney in Fact of GULF OIL CORPORATION, a Pennsylvania corporation on behalf of said corporation.

My Commission Expires: August 15, 1962

STATE OF NEW MEXICO  
COUNTY OF LEA

FILED  
JUL 16 1962

at 9:00 o'clock A.M.  
and Recorded in Book 187  
Page 402

Eva Marie Cooper

47790

SUMMARY OF OPERATIONS  
WEST DOLLARHIDE DEVONIAN UNIT  
GULF OIL CORPORATION - UNIT OPERATOR  
POST OFFICE BOX 670, HOEBES, NEW MEXICO 88240

YEAR: 1972

2557

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
PRODUCTION												
Monthly Allowable, Bbls.	27,125	25,375	27,125	30,700	30,690	29,714	30,690					
Monthly Production, Bbls.	23,434	23,923	27,803	26,689	26,168	26,406	27,461					
Monthly Pipeline Runs	23,408	24,025	27,776	26,776	26,266	26,346	27,351					
Daily Avg. Production	756	825	927	890	844	880	886					
Cum. Prod. Since Discovery	3,676,594	3,700,517	3,728,320	3,755,009	3,781,177	3,807,583	3,835,044					
Cum. Prod. Since Unitiza.	1,086,054	1,109,997	1,137,800	1,164,489	1,190,657	1,217,063	1,244,524					
Cum. Primary Oil	2,735,384	2,735,384	2,735,384	2,735,384	2,735,384	2,735,384	2,735,384					
Cum. Secondary Oil	941,209	965,132	992,935	1,019,624	1,045,792	1,072,198	1,099,659					
GAS PRODUCTION												
Monthly Gas Prod., MCF	12,440	11,010	12,092	12,820	11,384	12,299	13,263					
Total Gas Used On Lease	2,035	2,035	2,035	2,079	2,079	2,079	1,782					
Total Gas Sold	10,405	8,975	11,057	10,741	9,305	10,220	11,481					
Producing GOR, CF/B	531	460	471	480	435	466	483					
WATER PRODUCTION												
Monthly Production, Bbls.	750	700	800	800	430	450	450					
Daily Avg. Prod., Bbls.	24	24	27	27	14	15	15					
Water Percentage	3.1	2.8	2.8	2.9	1.6	1.7	1.6					
WATER INJECTION												
Water Inject. Volume, Bbls	82,652	84,339	85,175	85,710	87,910	92,911	95,760					
Prod. Wtr Vol. Re-Injected	750	700	800	800	430	450	485					
Wtr. Supply Wells, Vol.	0	0	0	0	0	0	0					
Skelly Water Line, Vol In	81,902	83,639	84,375	84,910	87,480	92,461	95,275					
Daily Avg. Injected, Bbls	2,666	2,908	2,839	2,857	2,836	3,097	3,089					
Cum. Injected, Bbls.	8,903,433	8,987,772	9,072,947	9,158,657	9,246,567	9,339,478	9,433,490					
Avg. Wellhead Press, PSI	1,972	2,038	2,019	2,019	2,006	2,100	2,150					
WELL STATUS												
Producing - Active	8	8	8	8	8	8	8					
- Inactive	2	2	2	2	2	2	2					
Injection - Active	8	8	8	8	8	8	8					
Injection - Inactive	0	0	0	0	0	0	0					
Water Supply - Active	0	0	0	0	0	0	0					
- Inactive	7	7	7	7	7	7	7					

Remarks: Shot fluid levels on Wells No. 100, 106, 110, 113 & 115 in July, 1972

AUG 3 1972

NEW MEXICO OIL CONSERVATION COMMISSION

BOX 871 SANTA FE, NEW MEXICO  
OPERATOR'S MONTHLY REPORT

STATEWIDE FORM C-115 REV.  
SUBMIT: ORIGINAL TO OCC SANTA FE  
ONE COPY TO OCC DIST. OFFICE  
ONE COPY TO TRANSPORTER

OIL CORPORATION

P. O. DRAWER 2100, HOUSTON, TEXAS

JULY , 1972 138

(COMPANY OR OPERATOR)

(ADDRESS)

(DATE)

(PAGE)

LEASE FEDERAL NUMBER	POOL NAME LEASE NAME WELL NO. UNIT LETTER, SEC., TWP., RNG. AND WELL STATUS	TOTAL LIQUIDS PRODUCED			GAS PRODUCED MCF	DAYS PROD.	DISPOSITION OF GAS					DISPOSITION OF OIL				
		MONTHLY OIL ALLOWABLE	ACTUAL BARRELS PRODUCED	BARRELS OF WATER PRODUCED			VENTED	GAS LIFT	USED ON LEASE	SOLD	PURCH.	OTHER	OIL ON HAND BEG. OF MONTH	BARRELS TO PIPELINE	BARRELS TO TRUCKS	OTHER
COUNTY OF LEA																
DOLLARHICE CECVNIAN																
WEST DOLLARHIDE UNIT																
100	C 33 24S 38E	P	4650	4699	621431	31										
101	F 33 24S 38E	I				31										
102	E 33 24S 38E	P	13175	12351	161831	31										
103	H 32 24S 38E	I			102931	31										
104	I 32 24S 38E	P	310	311		31										
105	L 33 24S 38E	I			63631	31										
106	K 33 24S 38E	P	124	124		31										
107	N 33 24S 38E	I				31										
108	M 33 24S 38E	P				0										
109	P 32 24S 38E	I				31										
110	B 5 24S 38E	P	682	312	151423	31										
111	A 5 25S 38E	P	1550	1506	42731	31										
112	D 4 25S 38E	I			254831	31										
113	C 14 25S 38E	P	7905	5948		31										
114	F 4 25S 38E	I				31										
115	E 4 25S 38E	P	2294	2210	79131	0										
116	I 5 25S 38E	P				31										
117	L 4 25S 38E	I				31										
LEASE TOTAL			30650	27461	450	13263			1732	11481	EPG		1277	27351		1387

RECEIVED  
AUG 31 1972  
OIL CONSERVATION COM.

NEW MEXICO  
OIL CONSERVATION COMMISSION  
MONTHLY INJECTION REPORT

Form C-120  
(Revised 5-1-60)

Submit this report in triplicate to the District Office, Oil Conservation Commission.

COMPANY GULF OIL CORPORATION POOL DOLLARHIDE DEVONIAN  
COUNTY LEA MONTH 19

INJECTION WELLS

Lease	Well No.	Location				MCF Gas Injected	Cumulative Gas Inj.	Bbls. Water Injected	Cumulative Water Inj.	Ave. Inj Pressure
		UL	S	T	R					
West Dollarhide Devonian Unit	101	F	33	24	38	-	-	12,850	1,415,834	2150
	103	H	32	24	38	-	-	22,200	1,267,499	2150
	105	L	33	24	38	-	-	15,050	1,451,456	2150
	107	N	33	24	38	-	-	8,850	520,871	2150
	109	P	32	24	38	-	-	11,940	1,128,854	2150
	110	B	5	25	38	-	-	-	843,585	-
	112	D	4	25	38	-	-	10,030	1,047,291	2150
	114	F	4	25	38	-	-	9,860	1,093,208	2150
	117	L	4	25	38	-	-	4,980	664,892	2150
NOTE: Individual injection well cumulatives and total cumulative for injection wells corrected result of error in change over from old unit well numbers to new numbers for unit in July, 1965										
TOTAL						-	-	95,760	9,433,490	2150

PRODUCING WELLS

Lease	Well No.	Location				Bbls. Oil Produced	MCF Gas Produced	GOR	Bbls. Water Produced	% Water Produced
		UL	S	T	R					
West Dollarhide Devonian Unit	100	C	33	24	38	14699	6214	-	0	-
	102	E	33	24	38	12,351	1618	-	0	-
	104	I	32	24	38	311	1029	-	0	-
	106	K	33	24	38	134	636	-	0	-
	108	M	33	24	38	0	0	-	0	-
	111	A	5	25	38	1,506	427	-	450	-
	113	C	4	25	38	3,948	2,548	-	0	-
	115	E	4	25	38	2,210	791	-	0	-
	116	I	5	25	38	0	0	-	0	-
	110	B	5	25	38	312	TST 11	*	0	-
TOTAL						27,461	13,263	-	450	-

PRODUCING WELLS OUTSIDE A PRORATED WATERFLOOD PROJECT AREA WHICH ARE PRODUCING INTO COMMON FACILITIES WITH WELLS INSIDE A PRORATED WATERFLOOD PROJECT AREA

Lease	Well No.	Location				Date of Test	Length of Test	Barrels Produced	Barrels Per Day
		UL	S	T	R				

RECEIVED  
AUG 31 1972  
OIL CONSERVATION COM.

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

REMARKS: \_\_\_\_\_ NAME GULF OIL CORPORATION

BY C. F. KALTEYER  
TITLE C. F. KALTEYER, Area Engineer