

#6652



COMMERCIAL RESOURCES
(505)-827-5724

SURFACE RESOURCES
(505)-827-5793

MINERAL RESOURCES
(505)-827-5744

ROYALTY
(505)-827-5772

State of New Mexico
Commissioner of Public Lands

Ray Powell, M.S., D.V.M.
310 Old Santa Fe Trail, P. O. Box 1148
Santa Fe, New Mexico 87504-1148
Phone (505)-827-5760, Fax (505)-827-5766

PUBLIC AFFAIRS
(505)-827-5763

ADMINISTRATIVE MGMT.
(505)-827-5700

LEGAL
(505)-827-5713

PLANNING
(505)-827-5752

April 17, 1998

Altura Energy Ltd.
P.O. Box 4294
Houston, Texas 77210-4294

Attn: Ms. Barbara Venable

Re: Resignation/Designation of Successor Unit Operator
North Hobbs Unit
Lea County, New Mexico

Dear Ms. Venable:

We are in receipt of your resignation/designation of successor unit operator, wherein Shell Western E & P Inc. and has resigned as unit operator of the North Hobbs Unit and designated Altura Energy Ltd. as the successor unit operator.

The Commissioner of Public Lands has this date approved the resignation of Shell Western E & P Inc. and the designation of Altura Energy Ltd. as the successor unit operator of this unit.

This change in operators is effective March 1, 1997. In accordance with this approval, Altura Energy Ltd. is now responsible for all operations and the reporting of all production for this unit.

If you have any questions or if we may be of further help, please contact Pete Martinez at (505) 827-5791.

Very truly yours,

RAY POWELL, M.S., D.V.M.
COMMISSIONER OF PUBLIC LANDS

BY: *For Anthony H. Nash*
JAMI BAILEY, Director
Oil, Gas and Minerals Division
(505) 827-5744

RP/JB/cpm

pc: Reader File

OCD-Roy Johnson

TRD

BLM

Shell Western E & P Inc.

"WE WORK FOR EDUCATION"



6652

RAY POWELL, M.S., D.V.M.
COMMISSIONER

State of New Mexico
Commissioner of Public Lands

310 OLD SANTA FE TRAIL P.O. BOX 1148

SANTA FE, NEW MEXICO 87504-1148

(505) 827-5760
FAX (505) 827-5766

SLO REF NO. OG-1368

March 21, 1994

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

Attn: Mr. A. J. Durrani

Re: 1994 Plan of Development
North Hobbs Grayburg San Andres Unit
Lea County, New Mexico

Gentlemen:

The Commissioner of Public Lands has this date approved the above captioned Plan of Development. Our approval is subject to like approval by all other appropriate agencies.

The possibility of drainage by wells outside of the Unit Area and the need for further development of the unit may exist. You will be contacted at a later date regarding these possibilities.

If you have any questions, or if we may be of further help, please contact Pete Martinez at (505) 827-5791.

Very truly yours,

RAY B. POWELL, M.S., D.V.M.
COMMISSIONER OF PUBLIC LANDS

BY:

Floyd O. Prando
FLOYD O. PRANDO, Director
Oil and Gas Division
(505) 827-5744

RBP/FOP/pm
cc: OCD -Roy Johnson
BLM

Shell Western E&P Inc.

An affiliate of Shell Oil Company



P. O. Box 576
Houston, TX 77001

February 18, 1994

United States Department of Interior
Bureau of Land Management
Roswell District Office
P. O. Box 1397
Roswell, NM 88201-1397

Gentlemen:

SUBJECT: 1994 PLAN OF DEVELOPMENT AND 1992-1993 REVIEW
NORTH HOBBS (GRAYBURG/SAN ANDRES) UNIT
LEA COUNTY, NEW MEXICO

Enclosed in triplicate is the 1994 Plan of Development and Review of operations for 1992 and 1993 in subject unit.

Should you have any questions, please contact J. M. Winder at (713) 544-3797.

Yours very truly,

A handwritten signature in black ink, appearing to read "A. J. Durrani".

A. J. Durrani, Technical Manager
Asset Administration, Western Asset
Continental Division

JMW:BM

cc: Mr. Floyd O. Prando, Director
Commissioner of Public Lands
Oil and Gas Division
P. O. Box 1148
Santa Fe, NM 87504-1148

Mr. Roy E. Johnson
New Mexico Oil Conservation Division
Energy, Minerals and Natural Resources Department
P. O. Box 2088
Santa Fe, NM 87504-2088

JMW4491.DOC.1

NORTH HOBBS GB/SA WATERFLOOD

1994 PLAN OF DEVELOPMENT

Waterflood Improvements:

Two recently drilled infill wells and three donated wellbores will be completed as North Hobbs Unit producers. These five wells will help to regularize waterflood patterns and increase sweep efficiency.

Additional development in 1994 may include drilling three infill wells in sections 32 and 33. This is contingent upon the successful completions of two recently drilled infill wells and three donated wellbores.

Well Work

1. Producers:

The routine reconditioning of producers will continue in 1994 with a majority of the work concentrated in the best areas of the field.

2. Injectors:

Acid stimulations are planned for most of the injectors located in the best areas of the field. This should increase injectivity and improve waterflood response.

3. Abandonments:

Economics for each well at the North Hobbs Unit were reviewed. Based on the results of this study, several areas of the field have been identified as marginal. An abandonment program to eliminate these poor performing areas of the field has been initiated and will involve temporarily abandoning approximately 40 wellbores along the flanks of the field where rock quality is poor.

4. Estimate of 1994 Well Work:

TYPE OF OPERATION	EST. NUMBER
	OF JOBS 1994
OIL PRODUCERS:	
New Completions	5
Acid Stimulations	20
Water Shut Off	10
Open Additional Pay	5
Temporarily Abandon	20
INJECTORS:	
Acid Stimulation	40
Profile Corrections	2
Temporarily Abandon	20

NORTH HOBBS GB/SA WATERFLOOD 1

REVIEW OF 1992-93 OPERATIONS

Development

Two infill wells (32-144 and 28-332) were drilled during 1993 and are currently being completed as North Hobbs Unit (NHU) producers. In addition, two producers (28-211 and 19-442) were converted to injection in 1992 to increase the injection capacity of the unit and develop additional reserves.

Working interest owners approval was received to accept one Texaco donated wellbore and two SWEPI donated wellbores into the unit. The Texaco donated wellbore will replace an existing unit well and the two SWEPI donated wellbores will be recompleted as new infill wells. The three subject wells are listed below:

Well	New Well No.	Replacement for:
Texaco H.D. McKinley #10	30-313	30-311
SWEPI Grimes #9	28-142	Infill
SWEPI Grimes #11	28-243	Infill

Well Work

During 1993 we continued an aggressive workover program. Well work consisted primarily of acid stimulation treatments and water shut offs. In addition, an effort was made to optimize artificial lift through lift swaps.

NORTH HOBBS GB/SA WATERFLOOD

REVIEW OF 1992-93 OPERATIONS

Development

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Well Work

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NORTH HOBBS GB/SA WATERFLOOD

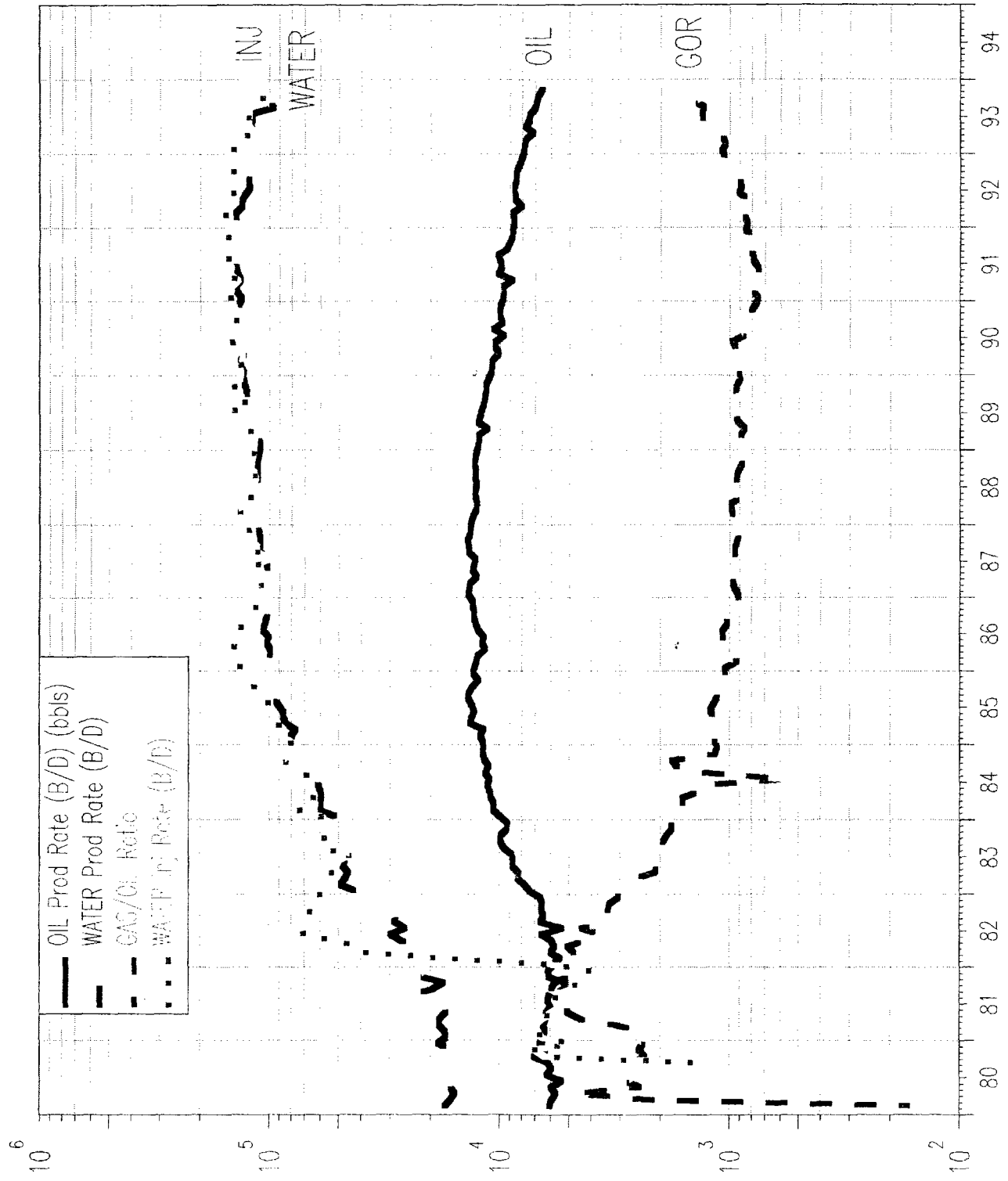
1992-93 Monthly Production And Injection Volumes (BBLs & MCF)

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
1992												
Prod Oil	268,725	252,307	272,231	241,346	265,398	258,220	266,984	263,506	254,548	260,484	246,051	247,571
Prod Gas	225,055	215,058	237,016	225,910	220,458	235,232	238,662	238,677	232,401	239,020	240,137	258,274
Prod Water	4,284,946	4,021,615	4,343,656	3,958,103	4,087,563	3,811,995	3,808,666	3,814,022	3,674,318	3,784,231	3,642,615	3,706,614
Inj Water	3,662,933	3,427,098	3,743,007	3,320,015	3,460,527	3,304,423	3,383,457	3,351,618	3,239,407	3,284,477	3,257,712	3,306,423
1993												
Prod Oil	242,977	218,108	237,626	215,735	240,232	222,984	228,299	217,011	206,621	210,632	196,183	204,266
Prod Gas	262,255	228,256	253,512	253,840	285,976	300,268	308,745	302,915	302,914	268,842	258,309	260,286
Prod Water	3,751,679	3,368,234	3,716,920	3,490,899	3,745,981	3,548,004	3,705,528	2,981,728	2,992,140	3,189,010	3,382,110	3,532,859
Inj Water	3,303,520	3,049,781	3,367,672	3,220,977	3,442,146	3,383,494	3,449,009	3,433,355	3,044,928	2,865,735	2,798,447	3,024,458

Cumulative Volumes As Of 12/31/93 (BBLs & MCF)

From Discovery:	
Prod Oil	224,302,971
From Unitization:	
Prod Oil	49,340,513
Prod Gas	58,223,136
Prod Water	423,716,388
Injected Water	399,859,392

NORTH HOBBS (G/SA) UNIT
PRODUCTION HISTORY



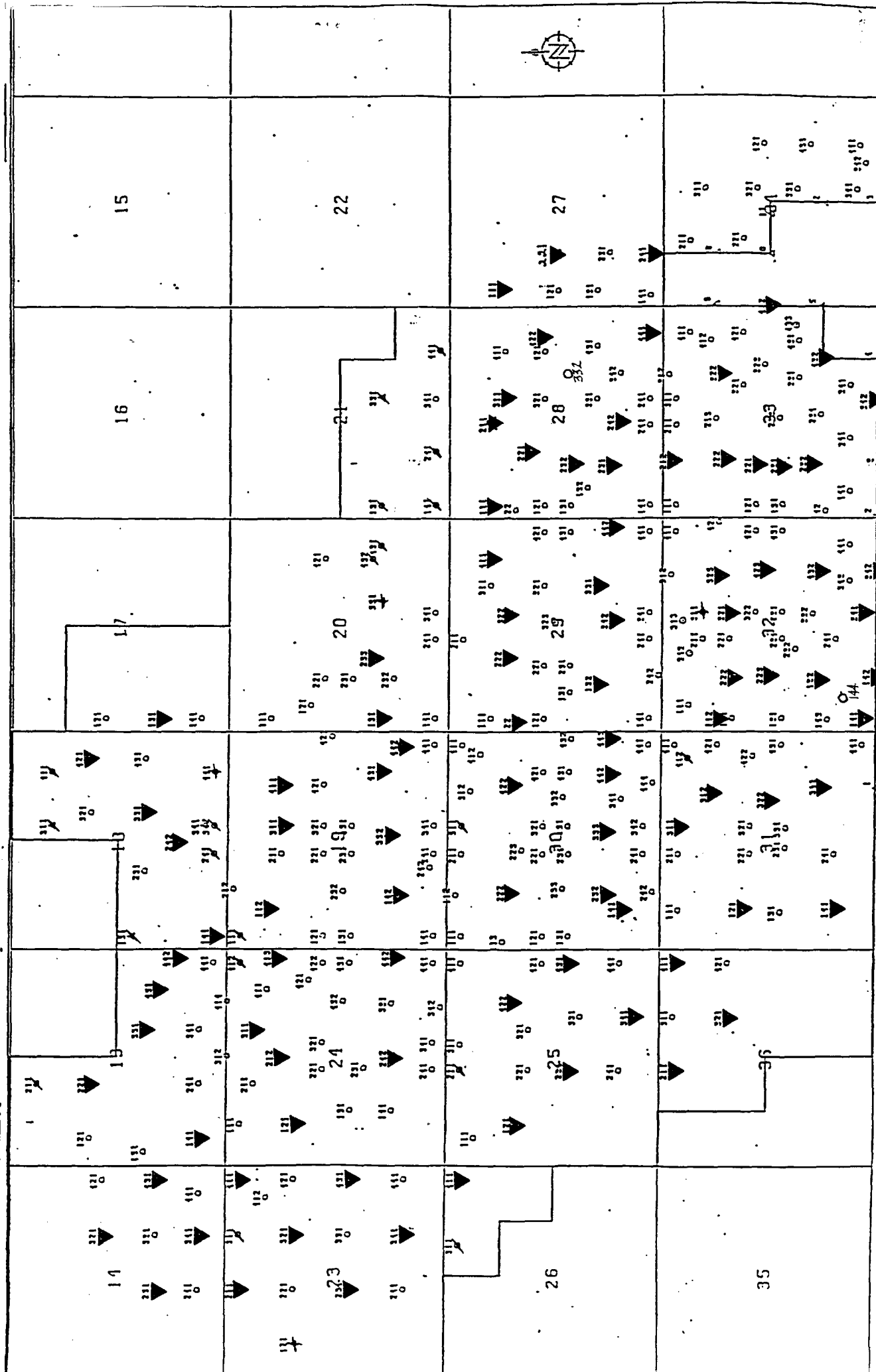
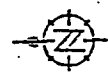
NORTH HOBBS GB/SA WATERFLOOD

WELL STATUS AT END OF CALENDAR YEAR

Status	12/92	12/93
Producers	193	162
Injectors	92	79
Shut In	13	56
Temporarily Abandoned	12	18
Water Source	0	0
Disposal	0	0
Total	310	315

NORTH HOBBS UNIT

SHELL WESTERN P. INC.
WESTERN DIVISION PRODUCTION



NORTH HOBBS GB/SA WATERFLOOD

WELL WORK 1992-93

TYPE OF OPERATION	NUMBER OF JOBS	
	1992	1993
OIL PRODUCERS:		
Acid Stimulations	15	20
Water Shut Off	8	3
Open Additional Pay	5	8
Temporarily Abandon	9	6
INJECTORS:		
Acid Stimulation	9	0
Open Additional Pay	0	2
Convert to Injection	2	0



JIM BACA
COMMISSIONER

State of New Mexico

OFFICE OF THE

Commissioner of Public Lands

Santa Fe

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

#4652

SLO REF NO. OG-1135

June 5, 1992

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

Attn: Mr. W.F.N. Kelldorf

Re: 1992 Plan of Development
North Hobbs (Grayburg/SA) Unit
Lea County, New Mexico

RECEIVED
JUN 07 1992
OIL CONSERVATION DIVISION

Gentlemen:

The Commissioner of Public Lands has this date approved the above captioned Plan of Development. Our approval is subject to like approval by all other appropriate agencies.

The possibility of drainage by wells outside of the Unit Area and the need for further development of the unit may exist. You will be contacted at a later date regarding these possibilities.

If you have any questions, or if we may be of further help, please contact Pete Martinez at (505) 827-5791.

Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

BY: *Floyd O. Prando*
FLOYD O. PRANDO, Director
Oil and Gas Division
(505) 827-5744

JB/FOP/pm
cc: OCD
BLM

OIL CONSERVATION DIVISION
SANTA FE, NM

Shell Western E&P Inc.
An Affiliate of Shell Oil Company



P.O. Box 576
Houston, TX 77001

'92 FEB 13 AM 9 17

January 29, 1992

United States Department of Interior
Bureau of Land Management
Roswell District Office
P. O. Box 1397
Roswell, NM 88201-1397

Gentlemen:

SUBJECT: 1992 PLAN OF DEVELOPMENT AND 1991 REVIEW
NORTH HOBBS (GRAYBURG/SAN ANDRES) UNIT
LEA COUNTY, NEW MEXICO

Enclosed in triplicate is the 1992 Plan of Development and Review of 1991 operations for the subject unit.

Should you have any questions, please contact J. M. Winder at (713) 870-3797.

Yours very truly,

W.F.N. Kelldorf
Division Environmental Engineer
HS&E, Western Division

JMW:SJK

Enclosures

cc: Mr. Floyd O. Prando, Director
Commissioner of Public Lands
Oil and Gas Division
P. O. Box 1148
Santa Fe, NM 87504-1148

Mr. Roy E. Johnson
New Mexico Oil Conservation Division
Energy, Minerals and Natural Resources Department
P. O. Box 2088
Santa Fe, NM 87504-2088

D -
UNIT LETTER
TWR

North Hobbs GB/SA Waterflood

1991 Review of Operations

Summary of Remedial Work

During 1991 we continued an aggressive workover program. Well work consisted primarily of acid and water shut off treatments along with some additional pay openings. Combined, this remedial work resulted in an additional 470 BOPD and 3300 BWPD in 1991.

Conversion to Injection

During 1991, one producer (27-241) was converted to injection and injected 300 BWPD in December 1991. Another producer (28-211) was readied for injection to further develop an East-West line drive in this area of the field and increase the injection capacity of the unit. Facilities will be installed for this well in 1992 when injection is anticipated to be 1000 BWPD.

Completion Activity

One injection well (27-211) was completed as an injector in 1991. This well was directionally drilled and cased in 12/90 on the east flank of the unit and injected 450 BWPD in December 1991.

North Hobbs GB/SA Waterflood
Well Status at End of Calendar Year

Status	12/90	12/91
Producers	220	220
Injectors	91	94
Shut In	4	1
T.A.	8	9
Water Source	0	0
Disposal	0	0
	323	324

North Hobbs GB/SA Waterflood
1990-1991 Monthly Production and Injection Volumes
(BBLS & MCF)

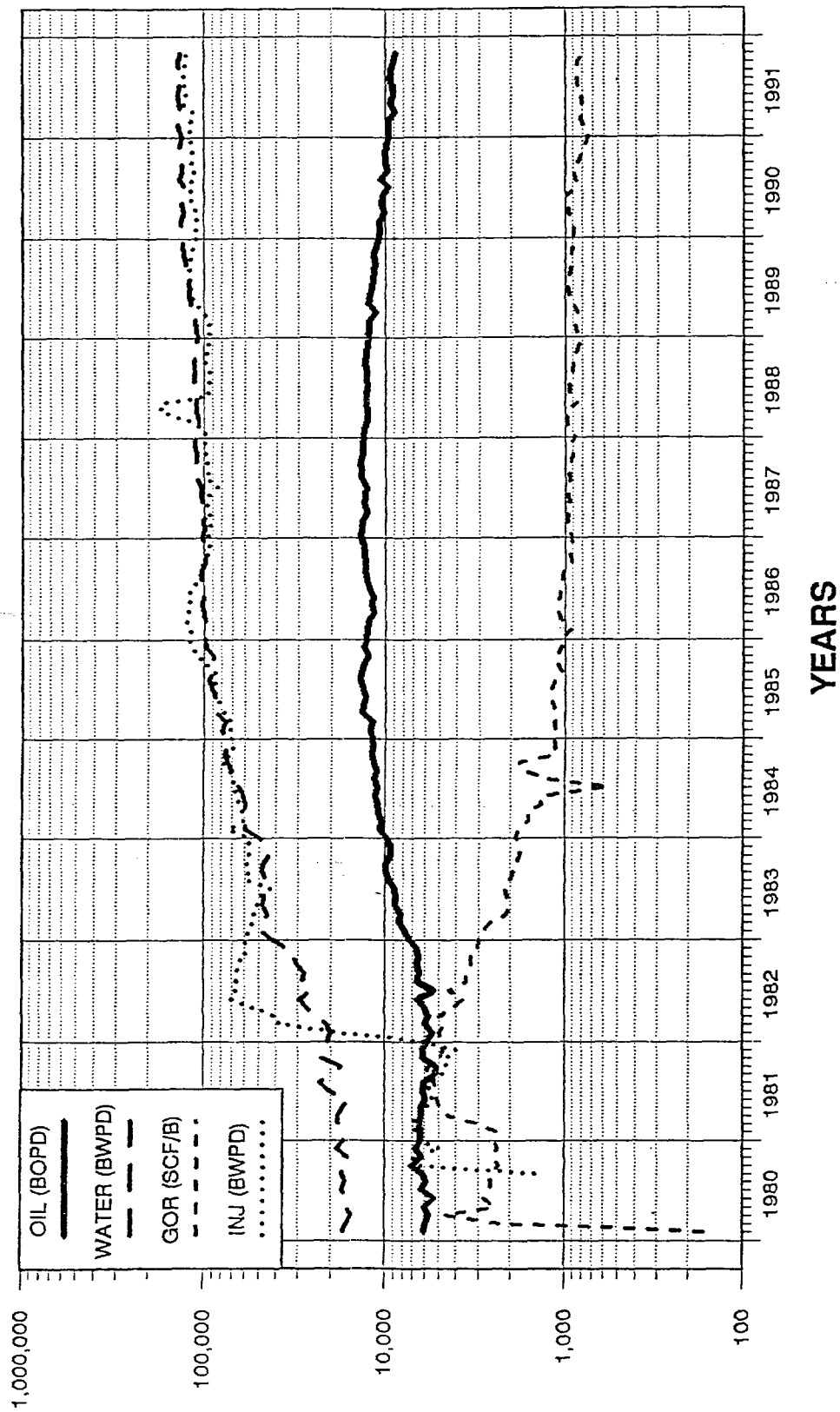
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec *
1991												
Prod Oil	298412	270243	298481	265466	316119	295304	308854	315747	280252	281415	265005	282100
Prod Gas	223829	213780	244751	219187	236277	223596	243326	249869	240556	241801	207739	224964
Prod Water	4080162	3866697	4331703	4000014	4277328	4162434	4258807	4250751	4137317	4288363	4077986	4268150
Inj Water	4502337	4047694	4415610	3451388	4023992	3778896	3985749	3984726	3861085	3954549	3792793	3966126
1990												
Prod Oil	337361	302882	333825	304231	324621	312538	299255	330245	292925	309612	300099	305822
Prod Gas	305988	273127	305117	291621	306663	305629	254109	290676	263758	263758	241215	235498
Prod Water	3994182	3734113	4158358	3869398	4091038	4023651	3975460	4187007	3970747	4121395	4009096	4215400
Inj Water	4112515	3740203	4108293	3906585	4247654	4341911	4281599	4363823	4121844	4390587	4212246	4429391

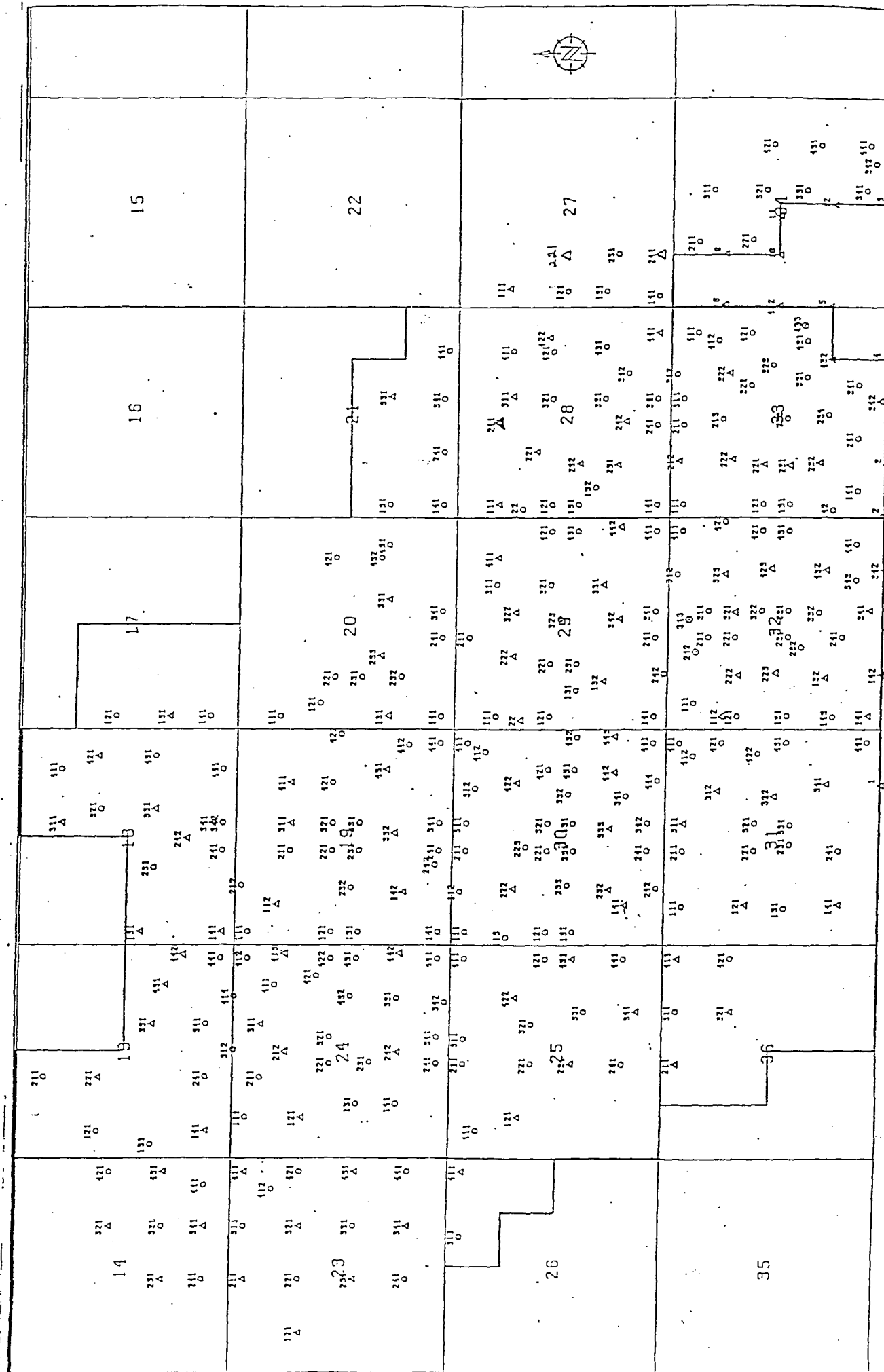
Cumulative Volumes As Of 12/31/91
(BBLS & MCF)

1)	From Discovery Prod Oil	219,181,388
2)	From Unitization Prod Oil Prod Gas Prod Water Injected Water	42,948,582 49,242,957 346,870,043 352,994,398

* December 1991 Estimate

NORTH HOBBS (G/SA) UNIT PRODUCTION HISTORY





SHELL WESTERN E P :HC.
WESTERN DIVISION PRODUCT:BN

NORTH HOBBS UNIT

North Hobbs GB/SA Waterflood

1992 Plan of Development

San Andres Waterflood Improvements

We plan to convert two producers (19-442 and 20-121) to injectors in 1992. These conversions follow the conversion of 28-211 and are designed to improve injection in Sections 19 and 20. Further development in 1992 may include drilling three wells in Sections 28 and 32 which will follow the successful infill programs of 1987 and 1988.

Well Work

Our estimate of 1992 well work is as follows:

Producers

Water Shut Off	15
Plug Back	5
Acid Treatment	20
Open Additional Pay	15
Install Liner	2

Injectors

Profile Control	5
Acid Treatment	5
Conversion to Injection	2

North Hobbs GB/SA Waterflood

Well Work 1990-1991

	1990	1991
Producers		
Water Shut Off	10	12
Plug Back	1	1
Acid Treatment	14	17
Open Additional Pay	19	16
Install Liner	2	0
Clean Out	0	1
Injectors		
Profile Control	6	0
Acid Treatment	6	2
Clean Out	1	0
Conversion to Injection	2	1
Frac Treatment	0	0
Return to Injection	1	0
Install Liner	1	0

#6652



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

March 7, 1991

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

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

Attention: J. H. Smitherman

Re: 1991 Plan of Development and
1990 Review - North Hobbs
(Grayburg/San Andres) Unit
Lea County, New Mexico

Gentlemen:

The above-referenced submittal has been approved by the New Mexico Oil Conservation Division effective this date. Such approval is contingent upon like approval by the New Mexico Commissioner of Public Lands and the Bureau of Land Management.

Sincerely,

A handwritten signature in cursive script, appearing to read "Roy E. Johnson".

ROY E. JOHNSON,
Senior Petroleum Geologist

REJ/dr

cc: Commissioner of Public Lands
Bureau of Land Management

1991 JAN 26 PM 9 14

Shell Western E&P Inc.
A Subsidiary of Shell Oil Company



P.O. Box 576
Houston, TX 77001

3-7-91

D-Unit letter

January 23, 1991

United States Department of Interior
Bureau of Land Management
Roswell District Office
P. O. Box 1397
Roswell, NM 88201-1397

Gentlemen:

SUBJECT: 1991 PLAN OF DEVELOPMENT AND 1990 REVIEW
NORTH HOBBS (GRAYBURG/SAN ANDRES) UNIT
LEA COUNTY, NEW MEXICO

Enclosed in triplicate is the 1991 Plan of Development and Review of 1990 operations for the subject unit.

Should you have any questions, please contact J. M. Winder at (713) 870-3797.

Yours very truly,

A handwritten signature in cursive script that reads "J. H. Smitherman".

J. H. Smitherman
Regulatory Supervisor
Western Division

JMW:SJK

Enclosures

cc: Mr. Floyd O. Prando, Director
Commissioner of Public Lands
Oil and Gas Division
P. O. Box 1148
Santa Fe, NM 87504-1148

Mr. Roy E. Johnson
New Mexico Oil Conservation Division
Energy, Minerals and Natural Resources Department
P. O. Box 2088
Santa Fe, NM 87504-2088

North Hobbs GB/SA Waterflood

1990 Review of Operations

Section 30 Injector Workovers

During 1990 we completed an aggressive workover program in 6 injectors in Section 30. The offset producers' rapid decline was arrested, and the workovers resulted in a 300 BOPD sustained increase.

East Flank Waterflood Initiation

Water injection was initiated into the San Andres Zone I reservoir on the east flank of the unit. The project involves drilling one injection well (27-221), converting one producer (27-241) to injection and returning another well (27-111) to injection.

NORTH HOBBS GB/SA WATERFLOOD
1989-1990 MONTHLY PRODUCTION AND INJECTION VOLUMES
(BBLs & MCF)

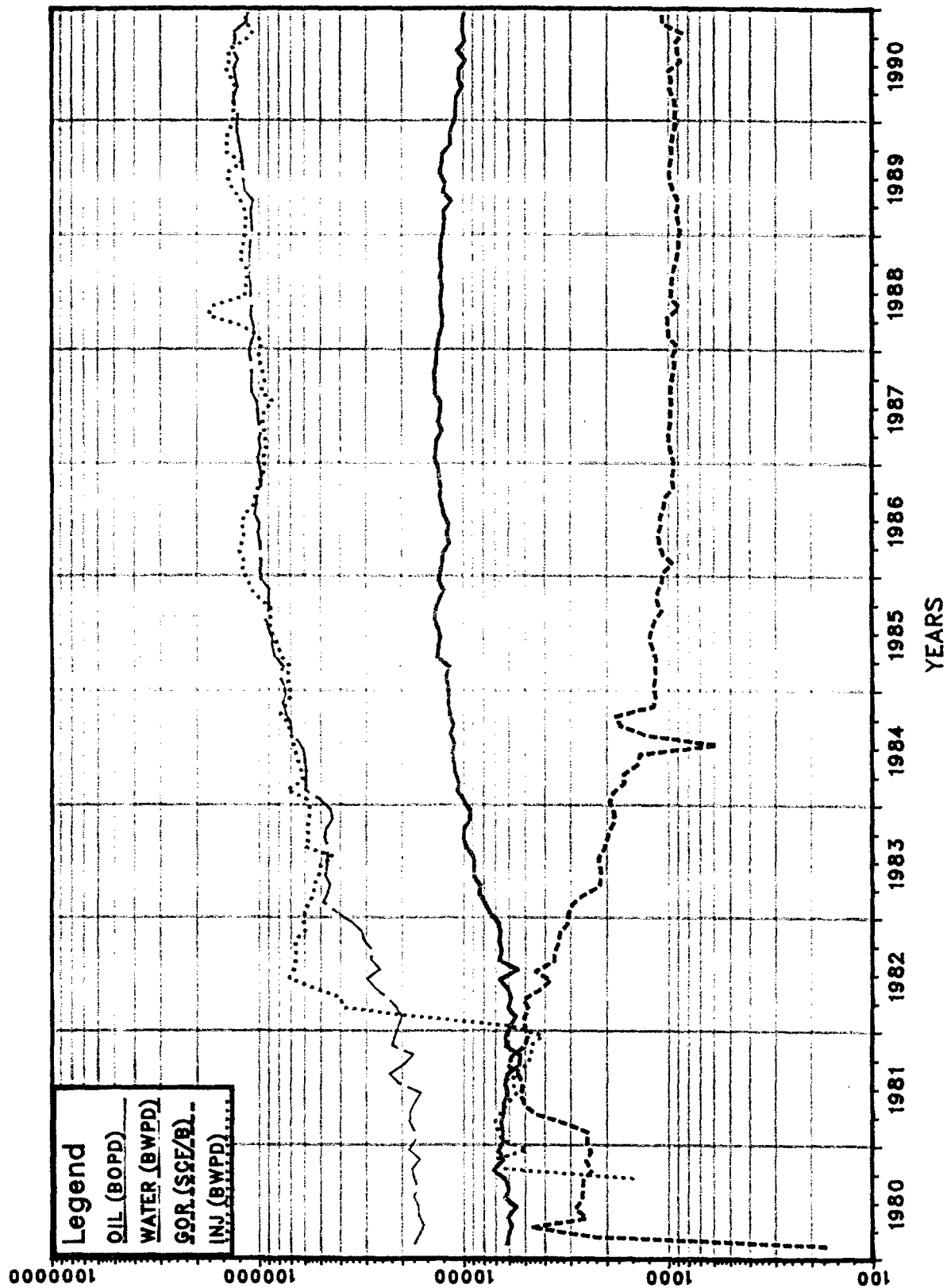
1990	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC*
Prod Oil	337361	302882	333825	304231	324621	312538	299255	330245	292925	309612	300063	304700
Prod Gas	305988	273127	305117	291621	306663	305629	254109	290676	263758	257173	312802	318900
Prod Water	3994182	3734113	4158358	3869398	4091038	4023651	3975460	4187007	3970747	4121395	3489078	3558000
Inj Water	4112515	3740203	4108293	3906585	4247654	4341911	4281579	4363823	346014	3306177	3480567	3550000
1989												
Prod Oil	386624	344777	385154	340803	386521	367332	370261	362806	349137	355648	346736	347763
Prod Gas	330103	301324	343864	293620	355187	347735	358208	346865	328553	335566	321521	313667
Prod Water	3387429	3087418	3436835	3229085	3680149	3618623	3725351	3792365	3714470	3907682	3857929	4033423
Inj Water	3622532	3236836	3633414	3047184	3447003	3544638	3692628	3736210	3605941	3725285	4251907	4182109

CUMULATIVE VOLUMES AS OF 12/31/90
(BBLs & MCF)

1.	From Discovery Prod Oil	215,702,832
2.	From Unitization Prod Oil Prod Gas Prod Water Injected Water	39,470,026 46,621,686 295,692,913 298,758,143

*December 1990 estimate

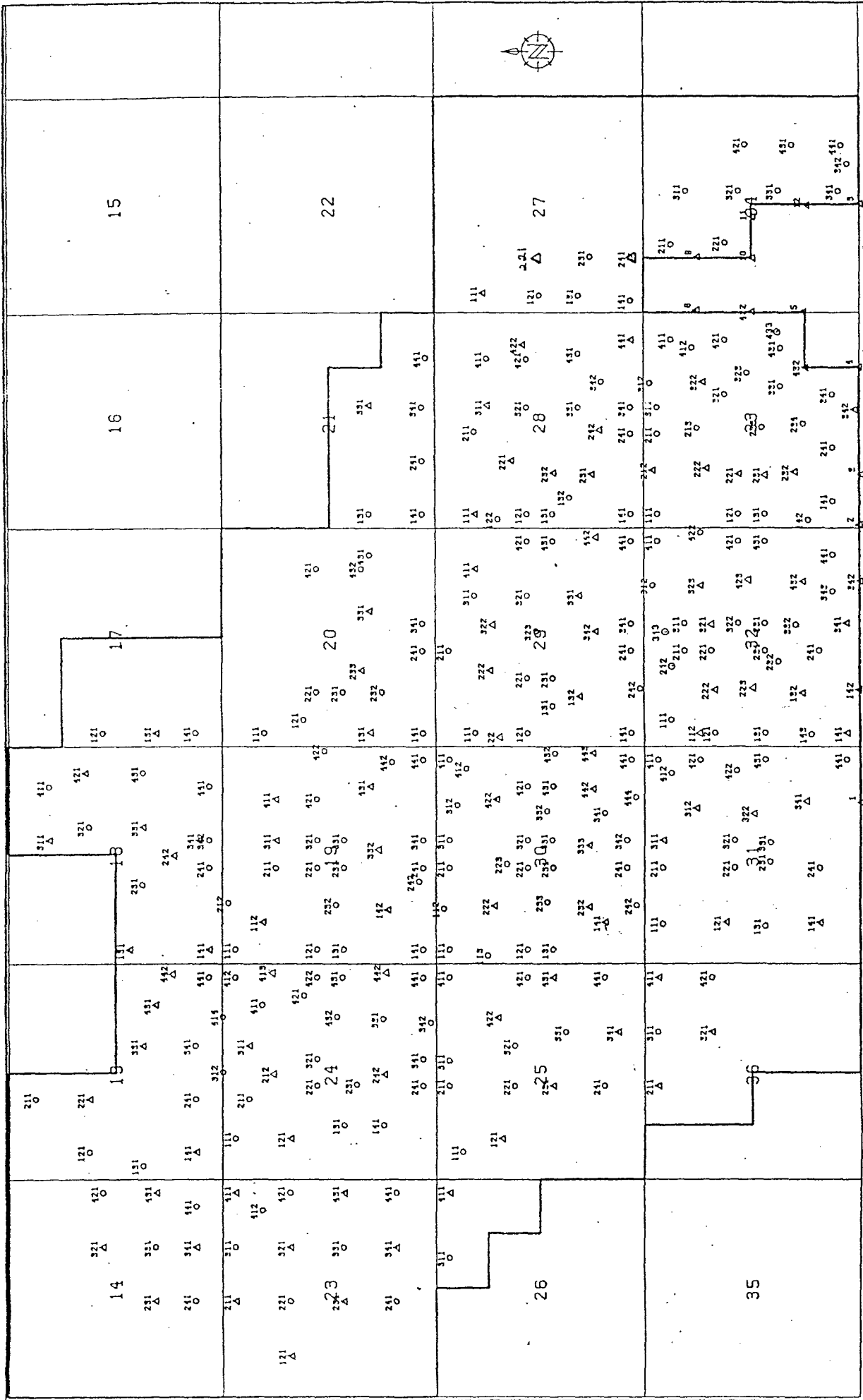
NORTH HOBBS (G/SA) UNIT PRODUCTION HISTORY



North Hobbs GB/SA Waterflood

Well Status at End of Calendar Year

<u>Status</u>	<u>12/89</u>	<u>12/90</u>
Producers	222	220
Injectors	93	91
Shut In	1	4
T.A.	6	8
Water Source	0	0
Disposal	0	0



SHELL WESTERN E. P. INC.
WESTERN DIVISION PRODUCTION

NORTH HOBBS UNIT

North Hobbs GB/SA Waterflood

1991 Plan of Development

San Andres Waterflood Improvements

We plan to drill two new producers in Section 28 and two new injectors in Section 30 and to convert two wells to injection (19-211 and 20-232). The two infill producers follow-up the successful infill drilling of 6 producers during 1987 and 1988. The remainder of the development is based on recent surveillance which has identified insufficient injection in several areas. To improve performance in these areas two injectors and two CTIs will be proposed.

Well Work

Our estimate of 1991 well work is as follows:

Producers

Water Shut Off	12
Plug Back	1
Acid Treatment	20
Open Additional Pay	8
Install Liner	2

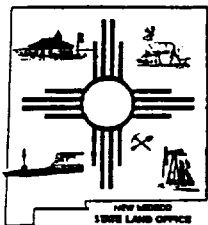
Injectors

Profile Control	4
Acid Treatment	6
Conversion to Injection	2

North Hobbs GB/SA Waterflood

Well Work 1989-1990

<u>Producers</u>	<u>1989</u>	<u>1990</u>
Water Shut Off	2	10
Plug Back	0	1
Acid Treatment	24	14
Open Additional Pay	43	19
Install Liner	2	2
<u>Injectors</u>		
Profile Control	8	6
Acid Treatment	12	6
Clean Out	1	1
Convert to Injection	1	1
Frac Treatment	1	0
Return to Injection	0	1
Install Liner	0	1



State of New Mexico
Commissioner of Public Lands

#6652

W. R. Humphries
COMMISSIONER

May 18, 1990

Advisory Board

George Clark
Chairman

Kristin Conniff
Vice Chairman

Melvin Cordova

Joe Kelly

Robert Portillos

Nancy Lynch Vigil

Rex Wilson

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

ATTN: Mr. J.H. Smitherman

RE: North Hobbs (GSA) Unit
1990 Plan of Development

Gentlemen:

The Commissioner of Public Lands has this date approved the 1990 Plan of Development for the North Hobbs (GSA) Unit. Our approval is subject to like approval by all other appropriate agencies.

The possibility of drainage by wells outside of the Unit Area and the need for further development of the Unit may exist. You will be contacted at a later date regarding these possibilities.

Enclosed is an approved copy of the 1990 Plan of Development for your files. If we may be of further help, please do not hesitate to contact this office at (505) 827-5746.

Very truly yours,

W.R. HUMPHRIES,
COMMISSIONER OF PUBLIC LANDS

BY:

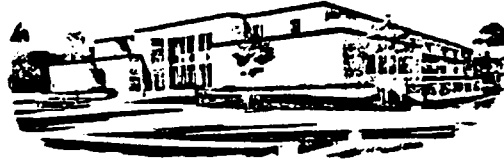
Floyd O. Prando

FLOYD O. PRANDO, Director
Oil and Gas Division
(505) 827-5746

cc: OCD - Santa Fe, New Mexico
BLM
Unit Correspondence File
Unit P.O.D. File

WRH/FOP/SMH

State of New Mexico



JIM BACA
COMMISSIONER

Commissioner of Public Lands

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

January 29, 1991

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

Attn: J. H. Smitherman

Re: North Hobbs (Grayburg/San Andres) Unit
1991 Plan of Development

Dear Mr. Smitherman:

The Commissioner of Public Lands has this date approved the 1991 Plan of Development for the North Hobbs Unit. Our approval is subject to like approval by all other appropriate agencies.

There is a possibility of drainage by wells outside the Unit Area and the need for further development may exist.

If we may be of further assistance please contact Clyde Langdale at (505) 827-5791.

Sincerely,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

By: *Floyd O. Prando*
Floyd O. Prando, Director
Oil, Gas & Minerals Division

JB/FOP/CL/dm

cc: OCD
Unit POD File
Unit Correspondence File

#6652

2-6-90

Shell Western E&P Inc.

A Subsidiary of Shell Oil Company



1990 FEB 5 AM 9 07
P.O. Box 976
Houston, TX 77001

January 31, 1990

D -
UNIT LETTER
THX
Ry

United States Department of the Interior
Bureau of Land Management
Roswell District Office
P. O. Box 1397
Roswell, NM 88201-1397

Gentlemen:

SUBJECT: 1990 PLAN OF DEVELOPMENT AND 1989 REVIEW
~~NORTH HOBBS~~ (GRAYBURG/SAN ANDRES) UNIT
LEA COUNTY, NEW MEXICO

Enclosed, in triplicate, is the 1990 Plan of Development and Review of 1989 operations for the subject unit.

Should you have any questions, please contact J. M. Winder at (713) 870-3797.

Yours very truly,

J. H. Smitherman
Regulatory Supervisor
Western Division

JMW:SJK

Enclosures

cc: Mr. Floyd O. Prando, Director
Commissioner of Public Lands
Oil and Gas Division
P. O. Box 1148
Santa Fe, NM 87504-1148

Mr. Roy E. Johnson
New Mexico Oil Conservation Division
Energy, Minerals and Natural Resources Department
P. O. Box 2088
Santa Fe, NM 87504-2088

North Hobbs GB/SA Waterflood

1989 Review of Operations

Open Additional Pay - Zone 1A

As part of our ongoing effort to maximize economic recovery, Zone 1A was perforated in 22 wells. Until late 1988, this zone was generally considered wet. Analysis of our recent experience, indicates that wells with Zone 1A potential can be identified and produced economically. This work resulted in a production increase of approximately 500 BOPD and 5500 BWPD.

Conversion to Injection

A producing well (32-321) was converted to injection to fill in a gap in the Section 32 East-West line drive. This well currently injects approximately 2500 BWPD.

North Hobbs GB/SA Waterflood
1988-1989 Monthly Production and Injection Volumes
(BBLs & MCF)

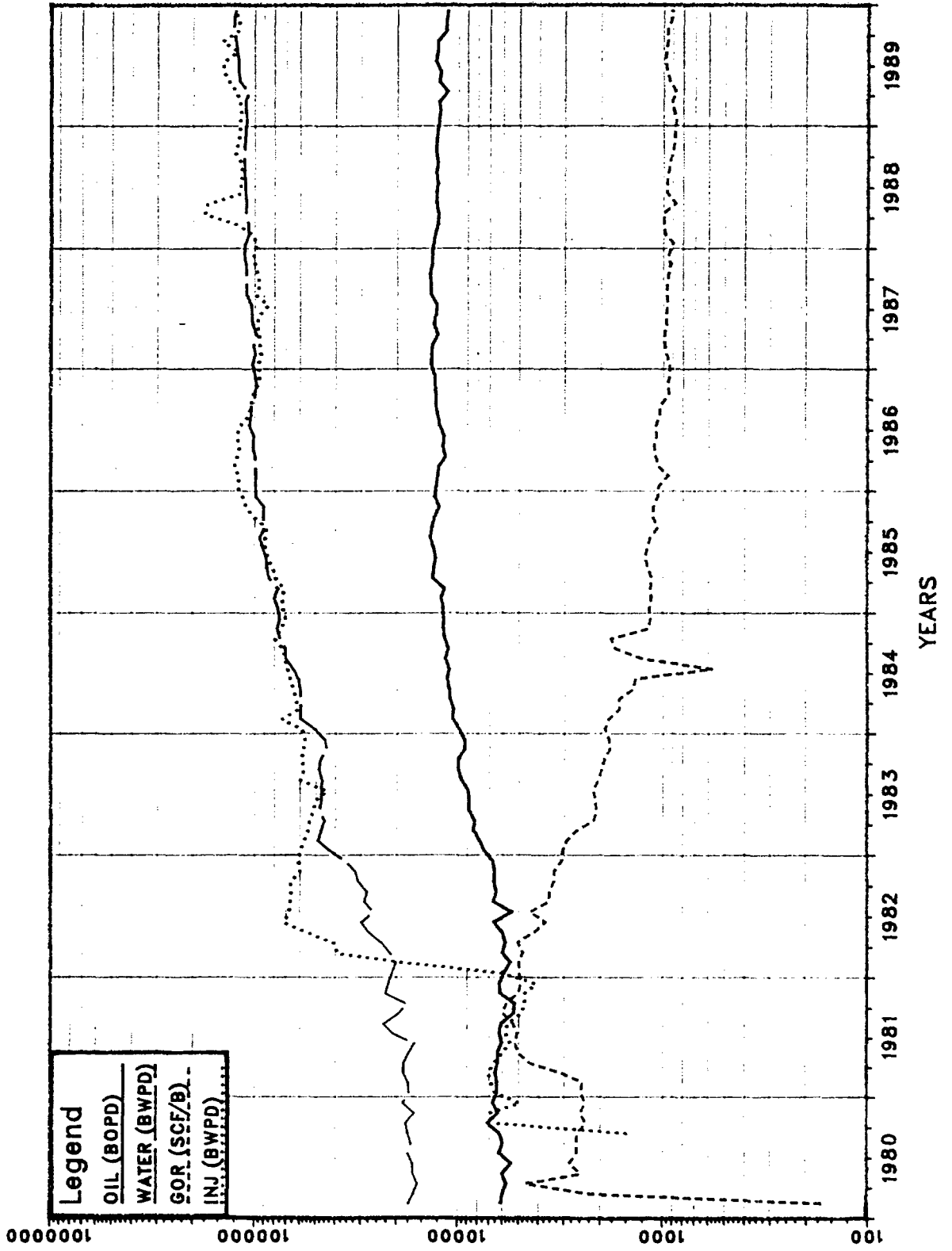
<u>1988</u>	<u>Jan.</u>	<u>Feb.</u>	<u>Mar.</u>	<u>Apr.</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Oct.</u>	<u>Nov.</u>	<u>Dec.*</u>
Prod Oil	412644	378744	392247	377337	397955	385404	391312	399209	382077	400830	385142	393890
Prod Gas	362934	361674	381733	368195	333517	355997	359230	362334	342332	3480771	326619	247280
Prod Water	3453060	3104589	3327419	3321729	3408711	3324393	3440024	3482672	3383459	3495526	3354593	3437488
Inj Water	2627488	2638390	3320435	2778996	2690539	2839024	2963451	2890793	2835907	3113114	2904334	2977651
<u>1989</u>												
Prod Oil	386624	344777	385154	340803	386521	367332	370261	362806	349137	355648	345297	350300
Prod Gas	330103	301324	343864	293620	355187	347735	358208	346865	328553	335566	313665	336288
Prod Water	3387429	3087418	3436835	3229085	3680149	3618623	3725351	3792365	3714470	3907682	3814823	3870100
Inj Water	3622532	3236836	3633414	3047184	3447003	3544638	3692628	3736210	3605941	3725285	3538059	3870100

Cumulative Volumes as of 12/31/88
(BBLs & MCF)

1.	From Discovery Prod Oil	211,951,672
2.	From Unitization Prod Oil Prod Gas Prod Water Injected Water	35,718,886 43,150,888 248,314,057 253,946,965

* December estimate

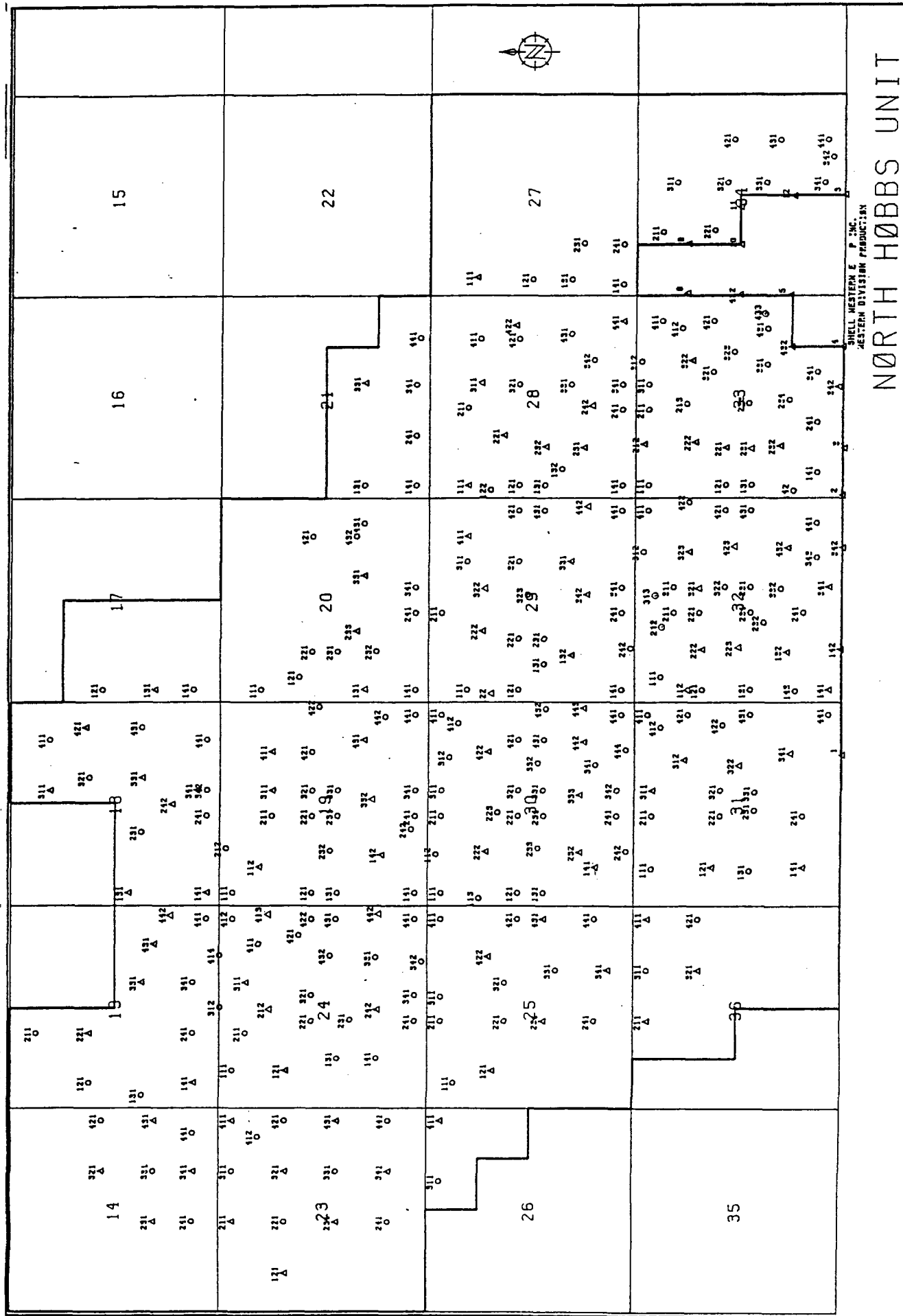
NORTH HOBBS (G/SA) UNIT PRODUCTION HISTORY



North Hobbs GB/SA Waterflood

Well Status at End Calendar Year

<u>Status</u>	<u>12/88</u>	<u>12/89</u>
Producers	204	222
Injectors	82	93
Shut In	27	1
T.A.	9	6
Water Source	0	0
Disposal	0	0



SHELL WESTERN E. P. INC.
WESTERN DIVISION PRODUCTION

NORTH HOBBS UNIT

North Hobbs GB/SA Waterflood

Well Work 1988-1989

<u>Producers</u>	<u>1988</u>	<u>1989</u>
Water Shut Off	14	2
Plug Back	2	0
Acid Treatment	23	24
Open Additional Pay	41	43
Install liner		2
<u>Injectors</u>		
Profile Control	13	8
Acid Treatment	5	12
Clean Out		1
Convert to injection		1
Frac Treat		1

North Hobbs GB/SA Waterflood

1990 Plan of Development

Drilling Activity/East Flank Waterflood Initiation

We plan to initiate water injection into the San Andres Zone I reservoir on the east flank of the unit. The project involves drilling one injection well (27-221W), converting one producer (27-241) to injection and returning another well (27-111W) to injection.

At the time of unitization, the San Andres Zone I reservoir was considered to be continuous and under a strong waterdrive. However, well performance and reservoir pressure now suggest that the east flank of the Zone I reservoir is not receiving aquifer support. Because natural water influx is not occurring, we believe this area is an excellent waterflood candidate.

Wells in East Flank Zone I Flood Plan:

27-111W
27-121
27-131
27-221W
27-231
27-241W
28-411

Well Work

Our estimate of 1990 well work is as follows:

Producers

Water Shutoff	10
Plug Back	0
Acid Treatment	40
Open Additional Pay	30

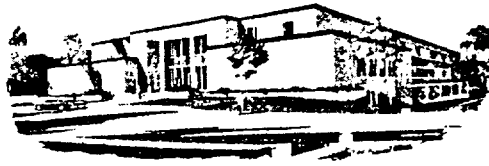
Injectors

Profile Control	5
Acid Treatment	15
Conversion to Injection	2

State of New Mexico



W.R. HUMPHRIES
COMMISSIONER



Commissioner of Public Lands

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

SLO REF NO. OG-1045

March 20, 1989

#6652

Shell Western E & P Inc.
Attn: Mr. W. F. N. Kelldorf
P. O. Box 576
Houston, Tx 77001

Re: 1989 Plan of Development
North Hobbs Unit
Lea, New Mexico

Gentlemen:

The Commissioner of Public Lands has this date approved the above captioned Plan of Development.

Our approval is subject to like approval by all other appropriate agencies.

Enclosed is an approved copy for your files.

If we may be of further help please do not hesitate to call on us.

Very truly yours,

W. R. HUMPHRIES
COMMISSIONER OF PUBLIC LANDS

BY: *Floyd O. Prando*
FLOYD O. PRANDO, Director
Oil and Gas Division
(505) 827-5744

cc: OCD
BLM

Shell Western E&P Inc.

A Subsidiary of Shell Oil Company



P.O. Box 576
Houston, TX 77001

January 25, 1989

United States Department of the Interior
Bureau of Land Management
Roswell District Office
P. O. Box 1397
Roswell, NM 88201



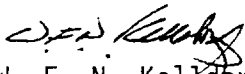
Gentlemen:

SUBJECT: 1989 PLAN OF DEVELOPMENT AND 1988 REVIEW
NORTH HOBBS (GRAYBURG/SAN ANDRES) UNIT
LEA COUNTY, NEW MEXICO

Enclosed, in triplicate, is the 1989 Plan of Development and Review of 1988 operations for the subject unit.

Should you have any questions, please contact A. J. Fore at (713) 870-3787.

Yours very truly,


W. F. N. Keldorf
Staff Production Engineer
Safety, Environmental, and Administration
Western Division Production

JMW:VJC

Enclosures

cc: Mr. Floyd O. Prando, Director
Commissioner of Public Lands
Oil and Gas Division
State Land Office Building
310 Old Santa Fe Trail
Santa Fe, New Mexico 87503

Mr. David R. Catanach
New Mexico Oil Conservation Division
State Land Office Building
310 Old Santa Fe Trail
Santa Fe, New Mexico 87503

ATTACHMENT 1
1988 REVIEW OF OPERATIONS

INFILL DRILLING

As part of our ongoing efforts to improve inter-well continuity and sweep, two 20-acre infill producers and one infill injector were drilled in the Unit during 1988:

No. 31-322W	2480' FNL, 1509' FEL Sec 31 T18S R38E
No. 32-323	639' FNL, 1885' FWL Sec 32 T18S R38E
No. 32-313	500' FNL, 2370' FEL Sec 32 T18S R38E

In addition to the three wells above, a fourth well was drilled as a proposed San Andres I producer:

No. 33-433	Surf: 1847' FSL, 985' FEL Sec 33 T18S R38E
	BHL: 1867' FSL, 360' FEL Sec 33 T18S R38E

This well was deemed necessary to offset a perceived reserve loss across the Unit boundary due to a recent South Hobbs Unit producer completed in this zone. However, upon completion of the well, the productive interval in the SHU well could not be found in 33-433. Therefore, the San Andres I was squeezed and the well was recompleted in the San Andres II/III. Because of the absence of the productive interval in the San Andres I, we feel that the South Hobbs Unit producer is not detrimentally affecting our reserve position at the North Hobbs Unit.

PATTERN MODIFICATION

Modification of the existing 160-acre, 9-spot flood pattern to a line drive pattern, begun in December 1987 was completed. All 18 conversions were completed by the first quarter of 1988. Along with the conversion to a line drive waterflood pattern, the capacity of the injection system was increased to 130,000 BWPD.

NORTH HOBBS GB/SA WATERFLOOD

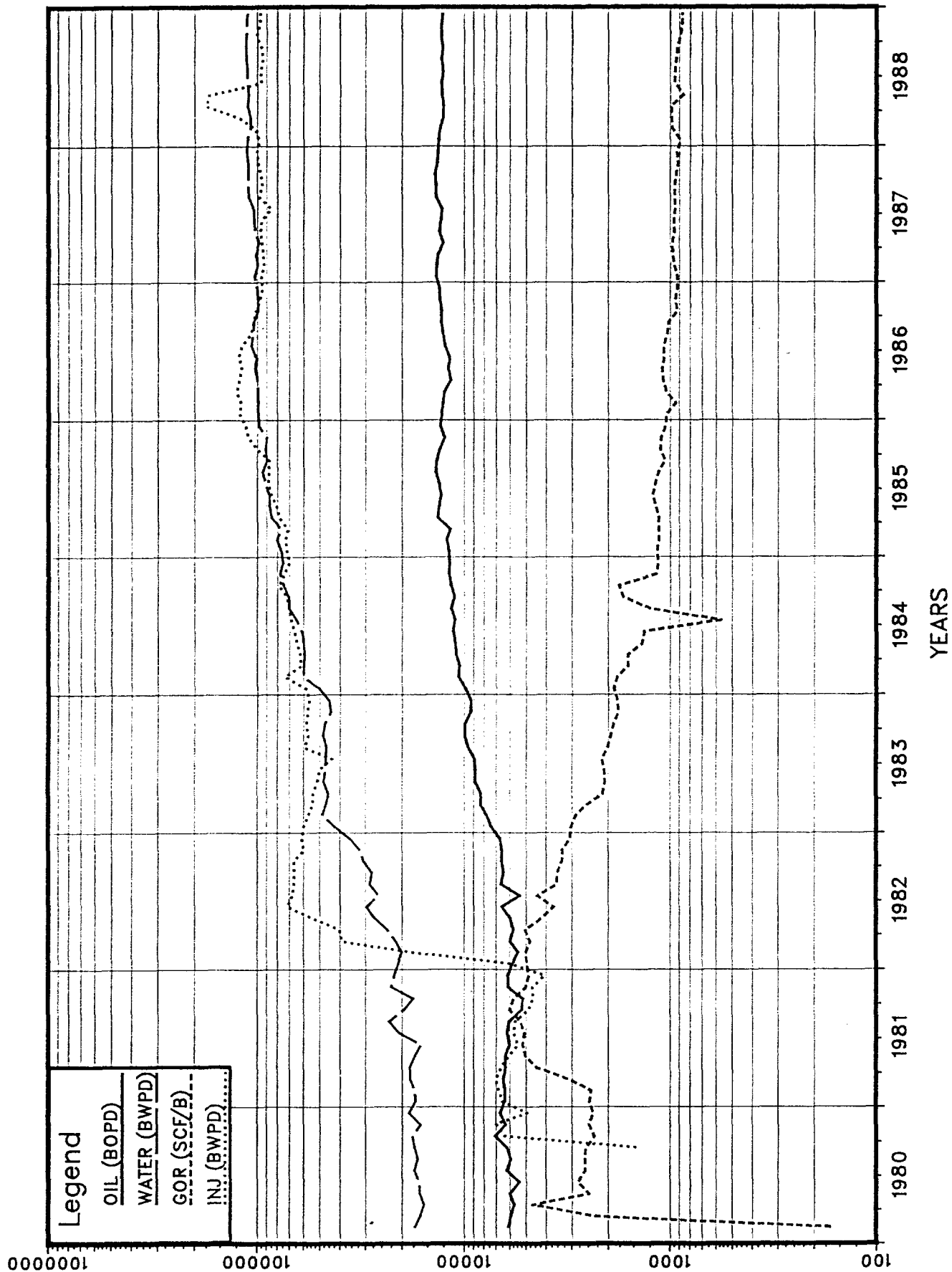
1987 - 88 MONTHLY PRODUCTION AND INJECTION VOLUMES
(BBLs & MCF)

<u>1987</u>	<u>Jan.</u>	<u>Feb.</u>	<u>Mar.</u>	<u>Apr.</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Oct.</u>	<u>Nov.</u>	<u>Dec.</u>
Prod Oil	424772	381056	417184	379013	408869	394176	397084	424326	410678	430003	405540	416585
Prod Gas	381033	353814	394010	359048	377528	362061	365307	393650	374927	389268	269430	295191
Prod Water	3183989	2781776	3134328	2927496	3157913	3105478	3223613	3395590	3302199	3411289	3312810	3480001
Inj Water	2948714	2587534	2895999	2929308	2977420	2833003	2639435	2635040	2607702	2964984	2961478	3185819
<u>1988</u>												
Prod Oil	412644	378744	392247	377337	397955	385404	391312	399209	382077	400830	385142	393890
Prod Gas	362934	361674	381733	368195	333517	355997	359230	362334	342332	348071	326619	247280
Prod Water	3453060	3104589	3327419	3321729	3408711	3324393	3440024	3482672	3383459	3495526	3354593	3437488
Inj Water	2627488	2638390	3320435	2778996	2690539	2839024	2963451	2890793	2835907	3113114	2904334	2977651

CUMULATIVE VOLUMES AS OF 12-31-88
(BBLs & MCF)

1. From Discovery
Prod Oil 207,607,012
2. From Unitization (2/1/80)
Prod Oil 31,374,226
Prod Gas 39,159,990
Prod Water 205,049,727
Injected Water 211,247,135

NORTH HOBBS (G/SA) UNIT PRODUCTION HISTORY

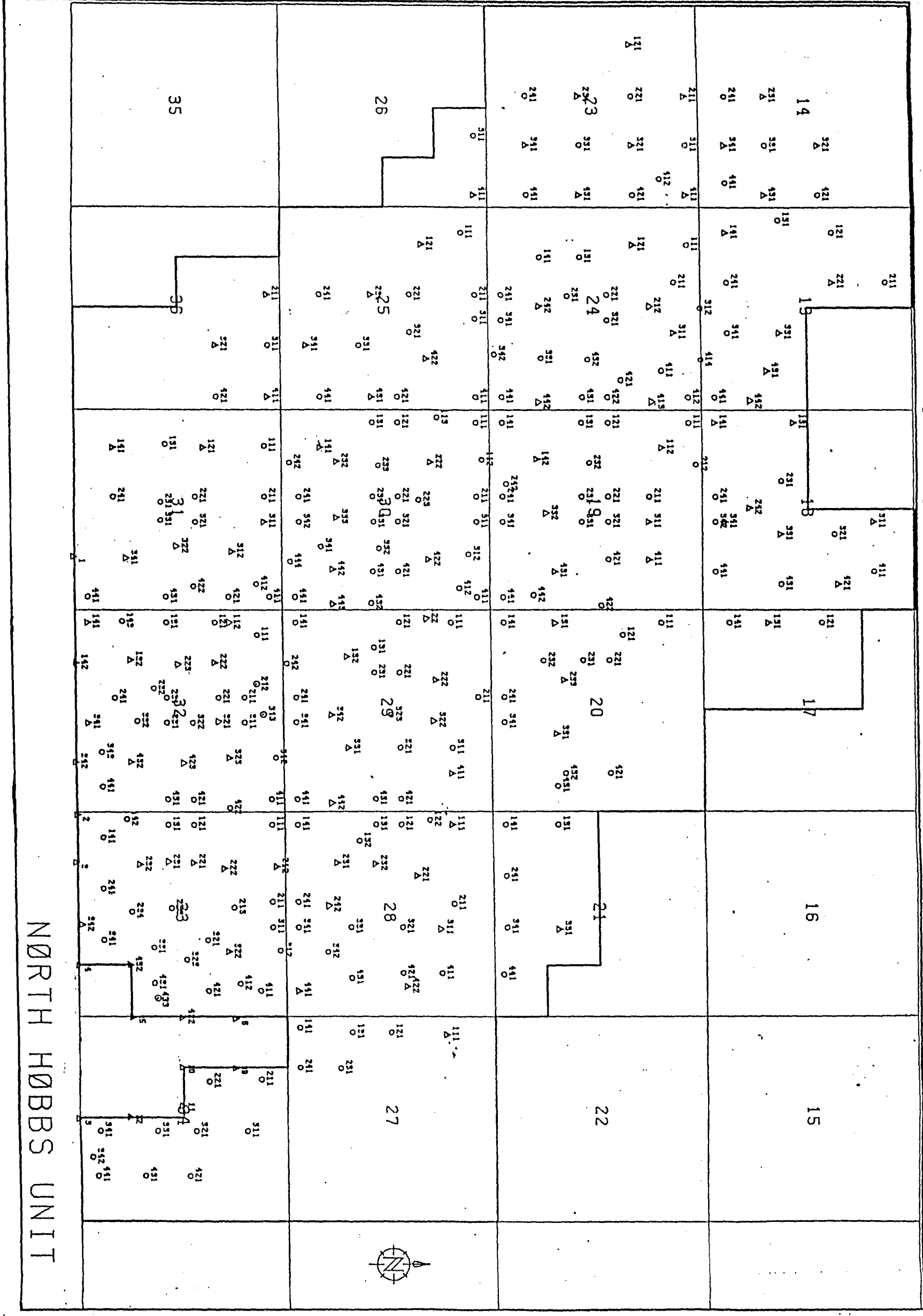


ATTACHMENT 4

NORTH HOBBS GB/SA WATERFLOOD
WELL STATUS AT END CALENDAR YEAR

<u>STATUS</u>	<u>12/87</u>	<u>12/88</u>
Producers	221	203
Injectors	75	80
Shut in	9	24
T.A.	7	9
Water Source	0	0
Disposal	0	0

* The increase in shut-in wells from 1987 to 1988 is a result of shutting in uneconomical producers and injectors which are pressured-up.



NORTH HOBBS UNIT

ATTACHMENT 6

WELL WORK 1987-1988

<u>Producers</u>	<u>Number of Jobs</u>	
	<u>1987</u>	<u>1988</u>
Water Shut Off	15	14
Plug Back	1	2
Acid Treatment	20	23
Open Additional Pay	20	41
<u>Injectors</u>		
Profile Control	8	13
Acid Treatment	1	5

ATTACHMENT 7
1989 PLAN OF DEVELOPMENT

DRILLING ACTIVITY

No drilling activity is currently planned in 1989 for the North Hobbs (G/SA) Unit.

WELL WORK

Our estimate of 1989 well work is as follows:

PRODUCERS

Water Shutoff	9
Plug Back	1
Acid Treatment	14
Open Additional Pay	26

INJECTORS

Profile Control	10
Acid Treatment	10