



RECEIVED

MAY 17 '89

HOBBS AREA

Amoco Production Company

501 WestLake Park Boulevard
Post Office Box 3092
Houston, Texas 77253

May 12, 1989

Technical Committee Members
Proposed Eunice Monument West Unit
Addressee List Attached

File: MJH-119-416

Revision of Remaining Reserves
Proposed Eunice Monument West Unit
Lea County, New Mexico

As charged by the Working Interest Owners at the April 11, 1989 Eunice Monument West Unit (EMWU) WIO meeting, please find attached the revisions to the primary reserves for tracts in the proposed unit area. The revisions meet the goal of a compromise position between the current EMWU decline curve analysis and the current proposed Monument Unit "life index" method.

Prior to reassessing remaining reserves associated with each tract in the EMWU area, it was noted that some of the tabulations in the "Oil Participation Values as of 9/30/82" table and resulting calculations in Appendix A of the March 17, 1987 report were in error. A review of remaining reserves as calculated for each production graph indicated the correct values were not transferred to the table. For example, the first production graph was for the Amerada Hess H. W. Andrews lease which produces from the Eumont. Calculated remaining reserves from October 1, 1982 were 40,346 BO. The value reflected in the table for remaining reserves was 33,261 BO. Further review of the table in Appendix A revealed additional minor errors. All corrections have been made, and a revised "Oil Participation Values as of 9/30/82" table is included as Attachment No. 1.

With the corrected table, participation for each Working Interest Owner was calculated using the participation formula for the Eunice Monument South Unit. A comparison of the revised participation calculated from the corrected table to the participation calculated using remaining reserve values from the proposed Monument Unit Technical Committee report indicated Amoco and ARCO continued to have the greatest disparity, while the remaining working interests differed by a maximum of only 0.24%:

BEFORE EXAMINER CATANACH
OIL CONSERVATION DIVISION

CHEURON EXHIBIT NO. 6

CASE NO. 10059-61

	Revised Table (5/89)	EMWU Participation Using AHC Values
Amerada Hess	1.6721%	1.79%
Amoco	32.8523	29.66
ARCO	28.5064	31.15
Chevron	19.0641	19.30
Conoco	13.5200	13.49
SWEPI	4.3851	4.61

The corrections made to the "Oil Participation Values as of 9/30/82" table did not satisfy the charge of the Working Interest Owners, indicating additional analysis was needed.

It is recommended to use the decline curve analysis from the EMWU Technical Committee report in combination with a variation of the "life index" concept as used in the analysis of the proposed Monument Unit. From Page 7 of the EMWU Technical Committee report, an economic life of 39 years was estimated for the entire unit area under continued primary operations. The remaining life of each tract was also calculated using the current rate, the economic limit, and the exponential decline rate noted on each production graph. Six of the ten leases which produce from the Grayburg-San Andres had a projected lease life greater than 39 years. The "life index" concept in the proposed Monument Unit was used for leases where conventional decline curve analysis was not applicable. The current rate for a lease without a decline was multiplied by a determined time period (or Life Index, LI) to obtain a value for remaining reserves. The life index value was also used as a "cap" or upper limit for leases which production was on a decline, but whose tract life exceeded the predetermined LI value. Again, the current rate was multiplied by the LI to determine remaining reserves.

The variation to the "life index" method is to continue to use the decline rate values for the EMWU Technical Committee report with a maximum lease life of 39 years from October 1, 1982. It was also noted the Gillully A lease had the shallowest decline rate (3.41%) and the longest life (78.37 years). A review of the lease production indicated a decline rate of 4.7% could be estimated using the third quarter 1970 and fourth quarter 1981 oil production values (Attachment No. 2). This change in the Gillully A lease decline rate, in conjunction with the maximum 39 year life for all tracts under continued primary decline was used to calculate remaining primary reserves (Attachment No. 3).

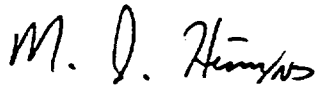
With the change in remaining reserves, a revised participation table was generated (Attachment No. 4). The calculated Working Interest Owner participation is shown in Attachment No. 5 along with previous values. The method of using a 39 year maximum life for the leases in the EMWU area along with the change in the decline rate on the Gil-

Technical Committee Members
May 12, 1989
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lully A lease satisfies the charge to the Technical Committee, i.e. a compromise position for the remaining reserve parameters.

Also enclosed is a ballot for approval of the Technical Committee work completed to date. This includes the March 17, 1987 report, the February 19, 1988 addendum, and this letter documenting the change in remaining reserves. Upon approval, the Technical Committee work will be submitted to working interest owners for their review and approval. Please respond to the ballot by May 24, 1989. Should additional information be needed, please contact Ken Craig at (713) 556-3210 or Nat Simpson at (713) 556-3263.

Yours very truly,

A handwritten signature in dark ink, appearing to read "M. J. Hinn" with a stylized flourish at the end.

M. J. Hinn
Technical Committee Chairman

KNC/knc

Attachments

Enclosure

PROPOSED EUNICE MONUMENT WEST UNIT

TECHNICAL COMMITTEE REPRESENTATIVES

ADDRESSEE LIST

Amerada Hess Corporation

Attn: Mr. J. C. Hefley
P. O. Box 2040
Tulsa, OK 74136

Amerada Hess Corporation

Attn: Jim Almrud
100 N.W. 7th Street
Seminole, TX 79360

Amoco Production Company

Attn: M. J. Hinn
P. O. Box 3092
Houston, TX 77253

ARCO Oil and Gas Company

Attn: Jack Lowder
P. O. Box 1610
Midland, TX 79702

Chevron USA Inc.

Attn: Jim Gardner
P. O. Box 670
Hobbs, NM 88240

Chevron USA Inc.

Attn: Ray Vaden
P. O. Box 1635
Houston, TX 77251

Conoco, Inc.

Attn: Jerry Hoover
P. O. Box 460
Hobbs, NM 88240

Shell Western E&P, Inc.

Attn: Mr. Val Brock
P. O. Box 991
Houston, TX 77001

EUNICE MONUMENT WEST UNIT

REVISED "OIL PARTICIPATION VALUES AS OF 9/30/82"

		EUMONT						GRAYBURG - SAN ANDRES					
OPERATOR	LEASE	CUM	% CUM	RES	% RES	CUR	% CUR	CUM	% CUM	RES	% RES	CUR	% CUR
AMERADA HESS	HW ANDREWS	506.557	15.86782	40.346	34.11924	3.329	22.52673	0	0.00000	0	0.00000	0	0.00000
AMOCO	GILLULLY A FED	0	0.00000	0	0.00000	0	0.00000	3,614.614	17.79966	995.894	25.90602	28.273	17.32053
ARCO	MJ BYRD	0	0.00000	0	0.00000	0	0.00000	1,036.306	5.10314	172.936	4.49855	10.568	6.47414
	WP BYRD	0	0.00000	0	0.00000	0	0.00000	3,003.541	14.79052	307.521	7.99949	16.859	10.32812
CHEVRON	GRAHAM STATE H	0	0.00000	0	0.00000	0	0.00000	625.543	3.08040	172.129	4.47756	5.720	3.50417
	RR BELL G	0	0.00000	0	0.00000	0	0.00000	755.623	3.72096	41.379	1.07638	2.293	1.40473
CONOCO	REED B	1,746.858	54.72006	17.910	15.14588	3,742	25.32142	1,816.884	8.94699	570.605	14.84305	12.748	7.80965
	SANDERSON A	38.078	1.19279	2,969	2.51078	2,115	14.31181	6,245.238	30.75380	1,408.181	36.63077	76.204	46.68390
	SANDERSON AB14	54.484	1.70670	30.448	25.74884	1,730	11.70659	316.395	1.55804	0	0.00000	0	0.00000
	SANDERSON B 1	187.255	5.86573	5,610	4.74419	1,333	9.02017	810.230	3.98986	12,071	0.31400	1,322	0.80988
	SANDERSON B 14	659.122	20.64690	20,967	17.73108	2,529	17.11328	730.539	3.59744	42,353	1.10172	4,183	2.56258
SHELL	STATE E	0	0.00000	0	0.00000	0	0.00000	1,352.296	6.65919	121,188	3.15244	5,064	3.10229
AREA	TOTAL	3,192.354	100.00000	118,250	100.00000	14,778	100.00000	20,307.209	100.00000	3,844,257	100.00000	163,234	100.00000

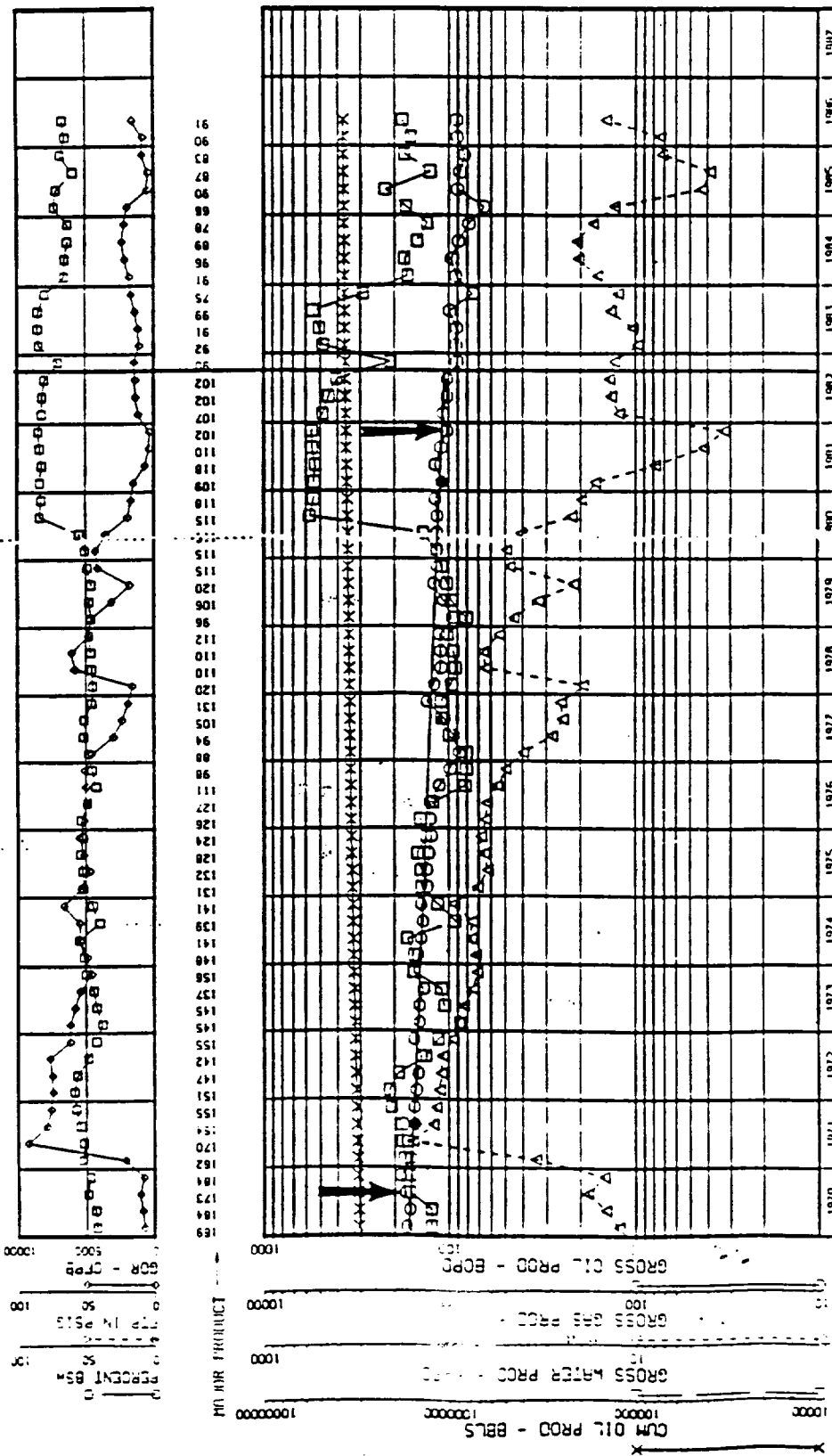
		TOTAL							
OPERATOR	LEASE	CUM	% CUM	RES	% RES	CUR	% CUR	CUM	% CUM
AMERADA HESS	HW ANDREWS	506.557	2.15560	40.346	1.01819	3.329	1.87010		
AMOCO	GILLULLY A FED	3,614.614	15.38162	995.894	25.13293	28.273	15.88264		
ARCO	MJ BYRD	1,036.306	4.40989	172.936	4.36431	10.568	5.93668		
	WP BYRD	3,003.541	12.78126	307.521	7.76077	16.859	9.47071		
CHEVRON	GRAHAM STATE H	625.543	2.66193	172.129	4.34394	5.720	3.21327		
	RR BELL G	755.623	3.21548	41.379	1.04426	2.293	1.28812		
CONOCO	REED B	3,563.742	15.16514	588.515	14.85209	16.490	9.26342		
	SANDERSON A	6,283.316	26.73801	1,411.150	35.61256	78.319	43.99647		
	SANDERSON AB14	370.879	1.57824	30.448	0.76840	1.730	0.97184		
	SANDERSON B 1	997.485	4.24470	17.681	0.44621	2.655	1.49147		
	SANDERSON B 14	1,389.661	5.91356	63.320	1.59798	6.712	3.77053		
SHELL	STATE E	1,352.296	5.75656	121.188	3.05837	5.064	2.84475		
AREA	TOTAL	23,499.563	100.00000	3,962.507	100.00000	178.012	100.00000		



INDIVIDUAL PRODUCTION DATA KATIE-TIME FLOIS
 API NO: VARIOUS
 LOCATION
 RESERVOIR: GS
 COMP DATE
 TOT. OIL CUM: 3733846
 TOT. GAS CUM: 3999775
 STATE NM 30 COUNTY: LEA
 FIRST PROD LAST PROD 06 06
 REQUESTOR: YAROSKY-2IFRAY LOCATION: HOUSTON
 PERFS:

Q1 = 152.8 BOPD FROM 3RD QTR OF '71
 Q2 = 110.5 BOPD FROM 1ST QTR OF '81
 : = 9.50 YEARS
 D = .0341 YEAR -1
 Q (10-1-82) = 3040 BOPM
 EL = 210 BOPM
 N = 995.892 BO

$$D = \ln(173/102)/11.25 \text{ yrs} = 4.7\%$$



REPORT NUMBER 321

TIME

1986 10 30

FILENAME: EMMULET

RESERVE CALCULATIONS - MAXIMUM LEASE LIFE EQUAL 39 YEARS
GILLULLY A LSE DECLINE EQUAL 4.7%

OPERATOR	LEASE	ZONE	DECLINE (%)	Q1 (BOPM)	Q EL (BOPM)	N (BO)
AMERADA HESS	HW ANDREWS	EUMONT	11.57	479	90	40,346
AMOCO	GILLULLY A FED	GB-SA	4.70	3,040	486	652,085
ARCO	MJ BYRD	GB-SA	7.39	1,125	63	172,449
	WP BYRD	GB-SA	7.18	1,990	150	307,521
CHEVRON	GRAHAM STATE H	GB-SA	4.65	697	114	150,452
	RR BELL G	GB-SA	7.83	300	30	41,379
CONOCO	REED B	EUMONT	10.72	340	180	17,910
		GB-SA	3.47	1,830	473	469,280
	SANDERSON A	EUMONT	73.56	212	30	2,969
		GB-SA	7.09	8,710	548	1,381,439
	SANDERSON AB14	EUMONT	6.03	183	30	30,448
	SANDERSON B 1	EUMONT	24.17	173	60	5,610
		GB-SA	16.90	230	60	12,071
	SANDERSON B 14	EUMONT	17.17	360	60	20,967
		GB-SA	8.50	360	60	42,353
SWEPI	STATE E	GB-SA	5.05	570	80	116,436
AREA	TOTAL		13.50			3,463,715

REVISED REMAINING RESERVES (5/89)

PROPOSED EUNICE MONUMENT WEST UNIT

EUMONT

GRAYBURG - SAN ANDRES

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OPERATOR	LEASE	CUM	% CUM	RES	% RES	CUR	% CUR	CUM	% CUM	RES	% RES	CUR	% CUR
AMERADA HESS	HW ANDREWS	506,557	15.86782	40,346	34.11924	3,329	22.52673	0	0.00000	0	0.00000	0	0.00000
AMOCO	GILLULLY A FED	0	0.00000	0	0.00000	0	0.00000	3,614,614	17.79966	652,085	19.49161	28,273	17.32053
ARCO	MJ BYRD	0	0.00000	0	0.00000	0	0.00000	1,036,306	5.10314	172,449	5.15471	10,568	6.47414
	WP BYRD	0	0.00000	0	0.00000	0	0.00000	3,003,541	14.79032	307,521	9.19218	16,859	10.32812
CHEVRON	GRAHAM STATE H	0	0.00000	0	0.00000	0	0.00000	625,543	3.08040	150,452	4.49719	5,720	3.50417
	RR BELL G	0	0.00000	0	0.00000	0	0.00000	755,623	3.72096	41,379	1.23687	2,293	1.40473
CONOCO	REED B	1,746,858	54.72006	17,910	15.14588	3,742	25.32142	1,816,884	8.94699	469,280	14.02735	12,748	7.80965
	SANDERSON A	38,078	1.19279	2,969	2.51078	2,115	14.31181	6,245,238	30.75380	1,381,439	41.29288	76,204	46.68390
	SANDERSON AB14	54,484	1.70670	30,448	25.74884	1,730	11.70659	316,395	1.55804	0	0.00000	0	0.00000
	SANDERSON B 1	187,255	5.86573	5,610	4.74419	1,333	9.02017	810,230	3.98986	12,071	0.36082	1,322	0.80988
	SANDERSON B 14	659,122	20.64690	20,967	17.73108	2,529	17.11328	730,539	3.59744	42,353	1.26598	4,183	2.56258
SWEPI	STATE E	0	0.00000	0	0.00000	0	0.00000	1,352,296	6.65919	116,436	3.48041	5,064	3.10229
AREA	TOTAL	3,192,354	100.00000	118,250	100.00000	14,778	100.00000	20,307,209	100.00000	3,345,465	100.00000	163,234	100.00000

TOTAL

OPERATOR	LEASE	CUM	% CUM	RES	% RES	CUR	% CUR
AMERADA HESS	HW ANDREWS	506,557	2.15560	40,346	1.16482	3,329	1.87010
AMOCO	GILLULLY A FED	3,614,614	15.38162	652,085	18.82617	28,273	15.88264
ARCO	MJ BYRD	1,036,306	4.40989	172,449	4.97873	10,568	5.93668
	WP BYRD	3,003,541	12.78126	307,521	8.87836	16,859	9.47071
CHEVRON	GRAHAM STATE H	625,543	2.66193	150,452	4.34366	5,720	3.21327
	RR BELL G	755,623	3.21548	41,379	1.19464	2,293	1.28812
CONOCO	REED B	3,563,742	15.16514	487,190	14.06553	16,490	9.26342
	SANDERSON A	6,283,316	26.73801	1,384,408	39.96888	78,319	43.99647
	SANDERSON AB14	370,879	1.57824	30,448	0.87906	1,730	0.97184
	SANDERSON B 1	997,485	4.24470	17,681	0.51046	2,655	1.49147
	SANDERSON B 14	1,389,661	5.91356	63,320	1.82809	6,712	3.77053
SWEPI	STATE E	1,352,296	5.75456	116,436	3.36159	5,064	2.84475
AREA	TOTAL	23,499,563	100.00000	3,463,715	100.00000	178,012	100.00000

PARTICIPATION VALUES *

	(1)		(3)		
	MARCH 17, 1987 TECH. COMM. REPORT	REVISED TABLE USING CORRECTED REMAINING RESERVES	EMMU AREA W/AHC VALUES	AVG. OF COLUMNS 1 & 3	RECOMMENDED PARTICIPATION USING 39 YR LIFE
AMERADA HESS	1.6514 %	1.6721 %	1.79 %	1.72 %	1.73074 %
AMOCO	32.2317	32.8523	29.66	30.94	30.72705
ARCO	28.9705	28.5064	31.15	30.06	29.59665
CHEVRON	19.5553	19.0641	19.30	19.43	19.52167
CONOCO	13.3271	13.5200	13.49	13.41	13.91750
CWEPI	4.2660	4.3851	4.61	4.44	4.50639

* USING THE EUNICE MONUMENT SOUTH UNIT PARTICIPATION FORMULA

BALLOT

As a Representative of the Technical Committee formed to study the proposed Eunice Monument West Unit, I (we) approve the submittal of the Technical Committee Study (which includes the March 17, 1987 report, the February 19, 1988 addendum, and data from the letter dated May 12, 1989 to the Technical Committee representatives) to the working interest owners for their consideration.

Signed: _____

Title: _____

Company: _____