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CHEVRON (OPER)
NORTHWEST EUMONT UNITSIRGO (OPER)
EAST EUMONT UNITCONOCO (OPER)
REED SANDERSON
(EUMONT) UNIT.GREENHILL (OPER)
SKAGGS GRAYBURG UNITCHEVRON (OPER)
EUMONT MONUMENT
SOUTH UNITCONOCO (OPER)
SEMUGREENHILL (OPER)
EUMONT MONUMENT
GRAYBURG UNIT

LEGEND

- OIL WELL
- + PMA WELL
- TA OR SHUT-IN OIL
- GAS WELL
- + PMA GAS WELL
- TA OR SHUT-IN GAS
- + BBA WELL
- INJECTION WELL
- ▽ PROPOSED INJECTION WELL
- { 1/2 MILE RADIUS OF REVIEW
AROUND ALL PROPOSED INJECTORS
(INCLUSIVE)
- PROPOSED UNIT BOUNDARY

AMERADA HESS CORPORATION

NORTH MONUMENT GRAYBURG / SAN ANDRES UNIT
Lin County, New Mexico

AREA OF REVIEW

NORTH MONUMENT GRAYBURG SAN ANDRES UNIT

ATTACHMENT VI TO FORM C-108
APPLICATION FOR AUTHORIZATION
TO INJECT WATER

WELLS WITHIN 1/2 MILE RADIUS OF REVIEW

UNIT AREA PRODUCERS

PROPOSED NMG/SAU#		WELL		UNIT SEC T R				OPERATOR		STATUS	
BLOCK	WELL #	LEASE NAME	NO	API NUMBER	UNIT	SEC	T	R	OPERATOR	STATUS	
4	4	MONSTATE	1	3002503999	P	13	19S	36E	TEXACO INC.	ACTIVE GS	
		WM WEIR	2	3002504042	N	23	19S	36E	TEXACO INC.	ACTIVE QN	
4	10	GRAHAM STATE NCT C	1	3002504043	J	24	19S	36E	CHEVRON USA INC.	ACTIVE QN	
4	2	GRAHAM STATE NCT C	2	3002504044	B	24	19S	36E	CHEVRON USA INC.	ACTIVE GS	
4	24	STATE C	2Y	3002504045	H	24	19S	36E	SHELL WESTERN	ACTIVE GS	
4	13	J L BARR	1	3002504046	M	24	19S	36E	ORYX ENERGY	ACTIVE GS	
4	16	NEW MEXICO F STATE	2	3002504049	P	24	19S	36E	TEXACO INC.	ACTIVE GS	
4	14	NEW MEXICO J STATE	2	3002504051	N	24	19S	36E	TEXACO INC.	ACTIVE GS	
9	14	STATE T	1	3002504053	N	25	19S	36E	AMERADA HESS	ACTIVE GS	
9	6	STATE T	3	3002504055	F	25	19S	36E	AMERADA HESS	ACTIVE QN	
9	12	W A WEIR A	1	3002504057	L	25	19S	36E	AMERADA HESS	ACTIVE GS	
9	2	GRAHAM STATE NCT C	5	3002504058	B	25	19S	36E	CHEVRON USA INC.	ACTIVE GS	
9	10	GRAHAM STATE NCT C	8	3002504061	J	25	19S	36E	CHEVRON USA INC.	ACT DUAL GS QN	
9	16	LOLA MARTIN	2	3002504063	P	25	19S	36E	CHEVRON USA INC.	ACTIVE GS	
9	8	NEW MEXICO STATE	2	3002504066	H	25	19S	36E	ORYX ENERGY	ACTIVE GS	
9	5	WM WEIR	1	3002504067	E	25	19S	36E	TEXACO INC.	ACT DUAL GS QN	
9	4	WM WEIR	3	3002504068	D	25	19S	36E	TEXACO INC.	ACTIVE GS	
8	6	W A WEIR B	2	3002504071	F	26	19S	36E	AMERADA HESS	ACTIVE GS	
		STATE A 26	1	3002504072	M	26	19S	36E	CONOCO INC.	ACTIVE QN	
8	10	W A WEIR NCT B	1	3002504077	J	26	19S	36E	CHEVRON USA INC.	TA GS	
8	14	MCGRAIL STATE	1	3002504078	N	26	19S	36E	MARATHON	ACTIVE QN	
8	11	MCGRAIL STATE	2	3002504079	K	26	19S	36E	MARATHON	ACTIVE GS	
8	8	WM WEIR	4	3002504080	H	26	19S	36E	TEXACO INC.	TA GS	
		M E GAITHER	1	3002504101	I	34	19S	36E	AMERADA HESS	ACTIVE QN	
13	17	J W SMITH	1	3002504104	H	34	19S	36E	CHEVRON USA INC.	TA GS	
		J W SMITH	2	3002504105	A	34	19S	36E	CHEVRON USA INC.	TA GS	
4	18	FOSTER	1	3002504112	P	34	19S	36E	SHELL WESTERN	ACTIVE GS	
		FOSTER	2	3002504113	O	34	19S	36E	SHELL WESTERN	ACTIVE QN	
13	12	W A WEIR	3	3002504118	L	35	19S	36E	AMERADA HESS	ACTIVE GS	
13	6	W A WEIR	4	3002504119	F	35	19S	36E	AMERADA HESS	ACTIVE QN	
13	4	W A WEIR	8	3002504122	D	35	19S	36E	AMERADA HESS	ACTIVE GS	
13	14	SELBY MAVEETY	1	3002504124	N	35	19S	36E	ARCO OIL & GAS	ACTIVE GS	
13	16	STATE A	1	3002504127	P	35	19S	36E	SHELL WESTERN	ACTIVE GS	
19	4	STATE D	1	3002504139	D	1	20S	36E	AMERADA HESS	ACTIVE GS	
19	6	STATE D	3	3002504141	F	1	20S	36E	AMERADA HESS	TA QN	
19	3	STATE D	4	3002504142	C	1	20S	36E	AMERADA HESS	ACTIVE GS	
19	13	NEW MEXICO E STATE NCT 1	1	3002504151	M	1	20S	36E	TEXACO INC.	ACTIVE GS	
19	14	NEW MEXICO E STATE NCT 1	2	3002504152	N	1	20S	36E	TEXACO INC.	ACTIVE QN	
19	12	NEW MEXICO E STATE NCT 1	3	3002504153	L	1	20S	36E	TEXACO INC.	ACTIVE GS	
19	11	NEW MEXICO E STATE NCT 1	4	3002504154	K	1	20S	36E	TEXACO INC.	ACTIVE GS	
18	10	STATE J	2	3002504157	J	2	20S	36E	AMERADA HESS	ACTIVE GS	
18	6	STATE M	1	3002504159	F	2	20S	36E	AMERADA HESS	ACTIVE GS	

NORTH MONUMENT GRAYBURG SAN ANDRES UNIT

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PROPOSED NMG/SAU#		WELL						OPERATOR		STATUS	
BLOCK	WELL #	LEASE NAME	NO	API NUMBER	UNIT	SEC	T	R	OPERATOR	STATUS	
18	14	STATE S	1	3002504160	N	2	20S	36E	AMERADA HESS	ACTIVE GS	
18	4	W A WEIR	2	3002504162	D	2	20S	36E	AMERADA HESS	TA GS	
18	16	GRAHAM STATE NCT B	1	3002504163	P	2	20S	36E	CHEVRON USA INC.	ACTIVE GS	
18	2	STATE A	2	3002504166	B	2	20S	36E	MOBIL TX & NM	TA GS	
18	8	STATE A	3	3002504167	H	2	20S	36E	MOBIL TX & NM	ACTIVE GS	
18	12	STATE A	1	3002504170	L	2	20S	36E	DURHAM INC.	ACTIVE GS	
18	18	REED A 3	2	3002504173	H	3	20S	36E	CONOCO INC.	ACTIVE QM	
18	20	REED A 3	4	3002504176	P	3	20S	36E	CONOCO INC.	ACTIVE QM	
1	16	C H KYTE	1	3002505570	P	7	19S	37E	CHEVRON USA INC.	ACTIVE GS	
1	10	STATE KV 7	1	3002505573	J	7	19S	37E	CONOCO INC.	TA GS	
1	14	KYTE	1	3002505574	N	7	19S	37E	AMERADA HESS	ACTIVE GS	
1	12	ELBERT SHIPP NCT B	1	3002505577	L	8	19S	37E	CHEVRON USA INC.	ACTIVE GS	
		ELBERT SHIPP NCT B	2	3002505578	E	8	19S	37E	CHEVRON USA INC.	ACTIVE QM	
3	14	STATE A 17	2	3002505611	N	17	19S	37E	CONOCO INC.	TA GS	
3	12	STATE A 17	3	3002505612	L	17	19S	37E	CONOCO INC.	TA GS	
3	7	STATE A 17	5	3002505614	G	17	19S	37E	CONOCO INC.	TA GS	
3	2	STATE A 17	6	3002505615	B	17	19S	37E	CONOCO INC.	TA GS	
3	10	GRAHAM STATE NCT G	2	3002505617	J	17	19S	37E	CHEVRON USA INC.	ACTIVE GS	
3	16	GRAHAM STATE NCT G	3	3002505618	P	17	19S	37E	CHEVRON USA INC.	ACTIVE GS	
3	6	STATE J	3	3002505621	F	17	19S	37E	TEXACO INC.	ACTIVE GS	
3	3	STATE J	4	3002505622	C	17	19S	37E	TEXACO INC.	TA GS	
2	12	STATE G	2	3002505624	L	18	19S	37E	AMERADA HESS	ACTIVE GS	
2	8	F W KUTTER NCT C	1	3002505625	H	18	19S	37E	CHEVRON USA INC.	ACTIVE GS	
2	6	F W KUTTER NCT C	3	3002505627	F	18	19S	37E	CHEVRON USA INC.	ACTIVE GS	
2	2	B M KEOHANE B	1	3002505631	B	18	19S	37E	TEXACO INC.	ACTIVE GS	
2	14	C J SAUNDERS FEDERAL	1	3002505632	N	18	19S	37E	TEXACO INC.	ACTIVE GS	
2	15	C J SAUNDERS FEDERAL	2	3002505634	O	18	19S	37E	TEXACO INC.	ACTIVE GS	
2	10	C J SAUNDERS FEDERAL	3	3002505635	J	18	19S	37E	TEXACO INC.	ACTIVE GS	
2	16	NEW MEXICO K STATE	1	3002505637	P	18	19S	37E	TEXACO INC.	TA GS	
2	9	NEW MEXICO K STATE	2	3002505638	I	18	19S	37E	TEXACO INC.	ACTIVE GS	
5	12	STATE AC COM	1	3002505639	L	19	19S	37E	CONOCO INC.	ACTIVE GS	
5	3	B V CULP NCT A	1	3002505641	C	19	19S	37E	CHEVRON USA INC.	ACTIVE GS	
5	6	B V CULP NCT A	3	3002505643	F	19	19S	37E	CHEVRON USA INC.	ACT DUAL GS QM	
5	7	B V CULP NCT A	4	3002505644	G	19	19S	37E	CHEVRON USA INC.	ACTIVE GS	
5	8	B V CULP NCT A	5	3002505645	H	19	19S	37E	CHEVRON USA INC.	ACTIVE GS	
5	2	B V CULP NCT A	6	3002505646	B	19	19S	37E	CHEVRON USA INC.	ACTIVE GS	
5	15	GRAHAM STATE NCT D	1	3002505648	O	19	19S	37E	CHEVRON USA INC.	ACTIVE GS	
5	11	LAND OFFICE	1	3002505650	K	19	19S	37E	PHILLIPS PET.	ACTIVE GS	
5	4	CULP	1	3002505651	D	19	19S	37E	PHILLIPS PET.	ACTIVE GS	
5	14	NEW MEXICO G STATE	1	3002505652	N	19	19S	37E	TEXACO INC.	ACTIVE GS	
5	13	NEW MEXICO G STATE	2	3002505653	M	19	19S	37E	TEXACO INC.	ACTIVE GS	
6	6	STATE L	2	3002505655	F	20	19S	37E	AMERADA HESS	ACTIVE GS	

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BLOCK	WELL #	LEASE NAME	NO	API NUMBER	UNIT	SEC	T	R			
6	2	STATE T BATTERY 3	6	3002505657	B	20	19S	37E	AMERADA HESS	ACTIVE	GS
6	10	F W KUTTER NCT A	2	3002505659	J	20	19S	37E	CHEVRON USA INC.	ACTIVE	GS
		F W KUTTER NCT A	3	3002505660	J	20	19S	37E	CHEVRON USA INC.	ACTIVE	QN
6	8	NEW MEXICO D STATE	1	3002505661	H	20	19S	37E	CLEARY PET.	ACTIVE	GS
6	16	KLINGSMITH B STATE	1	3002505663	P	20	19S	37E	THE WISER OIL CO.	TA	GS
6	12	H T MATTERN	1	3002505664	L	20	19S	37E	TEXACO INC.	ACTIVE	GS
6	14	H T MATTERN	3	3002505666	N	20	19S	37E	TEXACO INC.	ACTIVE	GS
6	4	STATE F	1	3002505668	D	20	19S	37E	TEXACO INC.	TA	GS
7	12	NEW MEXICO E STATE	1	3002505674	L	21	19S	37E	CLEARY PET.	ACTIVE	GS
7	11	HUSTON	1	3002505675	K	21	19S	37E	AMERADA HESS	ACTIVE	GS
12	12	STATE T	7	3002505710	L	28	19S	37E	GRAHAM ROYALTY	ACTIVE	GS
12	6	F W KUTTER NCT B	4	3002505715	F	28	19S	37E	CHEVRON USA INC.	TA	GS
11	6	STATE K	1	3002505721	F	29	19S	37E	AMERADA HESS	ACTIVE	GS
11	12	STATE P	1	3002505723	L	29	19S	37E	AMERADA HESS	ACTIVE	GS
11	14	STATE R	2	3002505726	N	29	19S	37E	AMERADA HESS	ACTIVE	GS
11	4	FRED LUTHY	2	3002505728	D	29	19S	37E	CHEVRON USA INC.	ACT DUAL	GS QN
11	10	D A WILLIAMS	1	3002505729	J	29	19S	37E	CHEVRON USA INC.	ACTIVE	GS
11	2	LUTHY A STATE	2	3002505733	B	29	19S	37E	THE WISER OIL CO.	ACTIVE	GS
		STATE F	1Y	3002505735	I	29	19S	37E	SHELL WESTERN	TA	GS
11	8	SKELLY E STATE	1	3002505737	H	29	19S	37E	TEXACO INC.	TA	GS
10	2	STATE O	1	3002505739	B	30	19S	37E	AMERADA HESS	ACTIVE	GS
10	7	STATE O	2	3002505740	G	30	19S	37E	AMERADA HESS	ACTIVE	GS
10	8	STATE O	3	3002505741	H	30	19S	37E	AMERADA HESS	ACTIVE	GS
10	1	STATE O	4	3002505742	A	30	19S	37E	AMERADA HESS	TA	GS
10	4	STATE AC COM	3	3002505745	D	30	19S	37E	CONOCO INC.	ACTIVE	GS
10	6	STATE AC COM	5	3002505746	F	30	19S	37E	CONOCO INC.	ACTIVE	GS
10	5	STATE AC COM	6	3002505747	E	30	19S	37E	CONOCO INC.	ACTIVE	GS
10	11	STATE E	1	3002505749	K	30	19S	37E	OXY USA INC.	ACTIVE	GS
10	14	STATE E	2	3002505750	N	30	19S	37E	OXY USA INC.	ACTIVE	GS
10	12	STATE E	3	3002505751	L	30	19S	37E	OXY USA INC.	ACTIVE	GS
10	13	STATE E	4	3002505752	M	30	19S	37E	OXY USA INC.	ACTIVE	GS
10	10	ELLIOTT A STATE	1	3002505753	J	30	19S	37E	MARATHON	ACTIVE	GS
10	15	ELLIOTT A STATE	3	3002505755	O	30	19S	37E	MARATHON	ACTIVE	GS
		ELLIOTT A STATE	4	3002505756	P	30	19S	37E	MARATHON	ACTIVE	QN
10	16	ELLIOTT A STATE	5	3002505757	P	30	19S	37E	MARATHON	ACTIVE	GS
15	8	J R PHILLIPS A	2	3002505760	H	31	19S	37E	AMERADA HESS	ACTIVE	GS
15	10	B V CULP NCT B	1	3002505762	J	31	19S	37E	CHEVRON USA INC.	ACTIVE	QN
15	16	B V CULP NCT B	3	3002505764	P	31	19S	37E	CHEVRON USA INC.	ACTIVE	GS
15	2	J R PHILLIPS	1	3002505766	B	31	19S	37E	CHEVRON USA INC.	TA	GS
		J R PHILLIPS A	1	3002505768	M	31	19S	37E	ARCO OIL & GAS	ACTIVE	GS
15	14	J R PHILLIPS A	2	3002505769	N	31	19S	37E	ARCO OIL & GAS	ACTIVE	GS
15	12	J R PHILLIPS A	4	3002505771	L	31	19S	37E	ARCO OIL & GAS	ACTIVE	GS

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UNIT AREA PRODUCERS

PROPOSED NMG/SAU#		WELL						OPERATOR		STATUS	
BLOCK	WELL #	LEASE NAME	NO	API NUMBER	UNIT	SEC	T	R			
15	13	J R PHILLIPS A	5	3002505772	M	31	19S	37E	ARCO OIL & GAS		TA GS
15	3	J R PHILLIPS B	1	3002505773	C	31	19S	37E	ARCO OIL & GAS		ACTIVE GS
15	4	J R PHILLIPS B	2	3002505774	D	31	19S	37E	ARCO OIL & GAS		ACTIVE GS
15	6	J R PHILLIPS B	3	3002505775	F	31	19S	37E	ARCO OIL & GAS		ACTIVE GS
16	6	D F LARSEN	1	3002505781	F	32	19S	37E	AMERADA HESS		ACTIVE GS
16	2	D F LARSEN	3	3002505783	B	32	19S	37E	AMERADA HESS		TA GS
16	10	MAY L LOVE COM	1	3002505785	J	32	19S	37E	AMERADA HESS		ACTIVE GS
16	4	STATE U	2	3002505787	D	32	19S	37E	AMERADA HESS		ACTIVE GS
16	16	MAY L LOVE COM	2	3002505790	P	32	19S	37E	CHEVRON USA INC.		ACTIVE GS
16	14	BERTHA BARBER	3	3002505794	N	32	19S	37E	MARATHON		ACTIVE GS
16	12	STATE H	1	3002505796	L	32	19S	37E	TEXACO INC.		ACTIVE GS
17	14	S PHILLIPS	1	3002505799	N	33	19S	37E	AMERADA HESS		TA GS
17	9	J H WILLIAMS B	3	3002505801	I	33	19S	37E	AMERADA HESS		ACTIVE GS
17	12	HATCHETT	1	3002505803	L	33	19S	37E	CHEVRON USA INC.		P&A
17	4	BORDAGES	1	3002505805	D	33	19S	37E	GREAT WESTERN		ACTIVE QN
17	2	J H WILLIAMS B	1	3002505807	B	33	19S	37E	AMERADA HESS		ACTIVE GS
17	1	J H WILLIAMS	1	3002505809	A	33	19S	37E	ARCO OIL & GAS		TA GS
17	16	J H WILLIAMS B	1	3002505812	P	33	19S	37E	AMERADA HESS		ACTIVE GS
17	10	J H WILLIAMS B	2	3002505813	J	33	19S	37E	AMERADA HESS		ACTIVE GS
23	16	J H WILLIAMS	1	3002505814	P	34	19S	37E	AMERADA HESS		ACTIVE GS
23	14	J H WILLIAMS A	1	3002505815	N	34	19S	37E	AMERADA HESS		ACTIVE GS
23	15	J H WILLIAMS	4	3002505817	O	34	19S	37E	AMERADA HESS		ACTIVE GS
23	2	J W COOPER C	2	3002505870	B	3	20S	37E	AMERADA HESS		ACTIVE GS
23	7	J W COOPER D	1	3002505872	G	3	20S	37E	AMERADA HESS		ACTIVE GS
23	6	J W COOPER B	1	3002505875	F	3	20S	37E	AMERADA HESS		ACTIVE GS
		J W COOPER F	2	3002505881	D	3	20S	37E	W K BYROM		ACTIVE QN
23	4	J W COOPER F	4	3002505882	D	3	20S	37E	AMERADA HESS		ACTIVE GS
22	14	M E LAUGHLIN	3	3002505890	N	4	20S	37E	AMERADA HESS		ACTIVE GS
22	10	M E LAUGHLIN	5	3002505892	J	4	20S	37E	AMERADA HESS		ACTIVE GS
22	8	HUMBLE LAUGHLIN	1	3002505894	H	4	20S	37E	AMERADA HESS		ACTIVE GS
22	16	HUMBLE LAUGHLIN BATTERY 2	3	3002505896	P	4	20S	37E	AMERADA HESS		ACTIVE GS
22	12	M E LAUGHLIN	1	3002505898	L	4	20S	37E	ORYX ENERGY		ACTIVE GS
22	6	M E LAUGHLIN	1	3002505899	F	4	20S	37E	TEXACO INC.		ACTIVE GS
21	16	LAUGHLIN	3	3002505906	P	5	20S	37E	GRAHAM ROYALTY		ACTIVE GS
21	11	BERTHA BARBER	4	3002505909	K	5	20S	37E	MARATHON		TA GS
21	4	BERTHA BARBER	5	3002505910	D	5	20S	37E	MARATHON		ACTIVE GS
21	12	BERTHA BARBER	6	3002505911	L	5	20S	37E	MARATHON		TA GS
21	6	BERTHA BARBER	7	3002505912	F	5	20S	37E	MARATHON		TA GS
21	5	BERTHA BARBER	8	3002505913	E	5	20S	37E	MARATHON		TA GS
21	9	M E LAUGHLIN	2	3002505918	I	5	20S	37E	ORYX ENERGY		ACTIVE GS
21	2	J W COOPER	1	3002505919	B	5	20S	37E	TEXACO INC.		ACTIVE GS
21	7	J W COOPER	3	3002505921	G	5	20S	37E	TEXACO INC.		ACTIVE GS

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PROPOSED NMG/SAU#		WELL							
BLOCK	WELL #	LEASE NAME	NO	API NUMBER	UNIT	SEC	T	R	STATUS
21	8	J W COOPER	4	3002505922	H	5	20S	37E	ACTIVE GS
		L M LAMBERT	1	3002505925	B	6	20S	37E	ACTIVE QN
20	7	L M LAMBERT	2	3002505926	G	6	20S	37E	ACTIVE ELLEN
20	8	L M LAMBERT	4	3002505928	H	6	20S	37E	TA GS
		L M LAMBERT	6	3002505930	H	6	20S	37E	ACTIVE GS
20	6	L M LAMBERT	11	3002505935	B	6	20S	37E	ACTIVE GS
20	3	J R PHILLIPS	2	3002505955	D	6	20S	37E	P&A
20	5	J R PHILLIPS	3	3002505956	E	6	20S	37E	ACTIVE GS
20	6	J R PHILLIPS	4	3002505957	F	6	20S	37E	ACTIVE PDCK
24	7	W H LAUGHLIN	3	3002506036	G	9	20S	37E	ACT DUAL GS QN
24	2	V LAUGHLIN	3	3002506037	B	9	20S	37E	TA GS
24	5	W H LAUGHLIN	1	3002506038	E	9	20S	37E	ACTIVE GS
24	6	W H LAUGHLIN	2	3002506039	F	9	20S	37E	ACTIVE GS
24	8	W H LAUGHLIN	4	3002506040	H	9	20S	37E	TA GS
4	17	STATE C	1Y	3002509318	A	24	19S	36E	ACT DUAL GS QN
5	10	STATE D	1	3002509882	J	19	19S	37E	ACTIVE GS
22	2	COOPER A	1	3002509891	B	4	20S	37E	TA GS
13	8	W B MAVEETY	3	3002512461	H	35	19S	36E	ACTIVE GS
13	10	W B MAVEETY	4	3002512462	J	35	19S	36E	ACTIVE GS
13	2	W B MAVEETY	6	3002512463	B	35	19S	36E	ACTIVE GS
		W B MAVEETY	5	3002512464	G	35	19S	36E	ACTIVE QN
14	2	STATE V	2	3002512466	B	36	19S	36E	ACTIVE GS
14	12	STATE F	2	3002512470	L	36	19S	36E	ACTIVE GS
14	14	STATE F	4	3002512472	N	36	19S	36E	ACTIVE GS
14	16	GRAHAM STATE NCT F	1	3002512474	P	36	19S	36E	ACTIVE GS
14	9	GRAHAM STATE NCT F	2	3002512475	I	36	19S	36E	ACTIVE GS
		GRAHAM STATE NCT F	3	3002512476	J	36	19S	36E	TA GS
14	15	GRAHAM STATE NCT F	4	3002512477	O	36	19S	36E	ACTIVE QN
14	16	GRAHAM STATE NCT F	5	3002512478	P	36	19S	36E	ACTIVE GS
14	6	STATE B	4	3002512480	F	36	19S	36E	ACTIVE GS
14	15	GRAHAM STATE NCT F	7	3002512482	O	36	19S	36E	ACTIVE ABO
14	4	STATE B	2	3002512484	D	36	19S	36E	ACTIVE GS
4	8	STATE C	2	3002512773	H	24	19S	36E	TA GS
		STATE A 17	7	3002520226	M	17	19S	37E	ACTIVE GS
7	5	NEW MEXICO E STATE	2	3002523208	E	21	19S	37E	ACTIVE GS
7	4	NEW MEXICO E STATE	3	3002523346	D	21	19S	37E	ACTIVE GS
22	4	COOPER B	2Y	3002524081	D	4	20S	37E	ACTIVE GS
3	9	GRAHAM STATE NCT G	4	3002524082	I	17	19S	37E	ACTIVE GS
14	8	STATE V	6	3002524094	H	36	19S	36E	ACTIVE GS
14	10	GRAHAM STATE NCT F	8	3002524166	J	36	19S	36E	TA GS
		STATE T	8	3002524423	K	25	19S	36E	TA GS
5	25	STATE D	3	3002526214	I	19	19S	37E	ACTIVE GS

NORTH MONUMENT GRAYBURG SAN ANDRES UNIT

ATTACHMENT VI TO FORM C-108
APPLICATION FOR AUTHORIZATION
TO INJECT WATER

WELLS WITHIN 1/2 MILE RADIUS OF REVIEW

UNIT AREA PRODUCERS

PROPOSED NMG/SAU#										
BLOCK	WELL #	LEASE NAME	WELL NO	API NUMBER	UNIT	SEC	T	R	OPERATOR	STATUS
12	14	BORDAGES	3	3002526607	N	28	19S	37E	GREAT WESTERN	ACTIVE GS
17	3	BORDAGES	4	3002526608	C	33	19S	37E	GREAT WESTERN	TA GS
		NEW MEXICO J STATE	4	3002528803	I	24	19S	36E	TEXACO INC.	ACTIVE GS
4	32	NEW MEXICO F STATE	3	3002529735	P	24	19S	36E	TEXACO INC.	ACTIVE GS
4	25	NEW MEXICO F STATE	4	3002529771	I	24	19S	36E	TEXACO INC.	ACTIVE GS
		GRAHAM STATE NCT D	3	3002530332	P	19	19S	37E	CHEVRON USA INC.	ACTIVE GS

LEGEND

D&A - DRY AND ABANDONED WELL
 P&A - PLUGGED AND ABANDONED WELL
 TA - TEMPORARILY ABANDONED WELL
 ACTIVE,ACT - ACTIVE PRODUCING WELL
 DUAL - DUALY COMPLETED WELL

GS,G - GRAYBURG/SAN ANDRES PRODUCER
 QN - EUMONT/YATES/SEVEN RIVERS/QUEEN PRODUCER
 BLBR,BL,B - BLINEBRY PRODUCER
 ABO,A - ABO PRODUCER
 ELLEN - ELLENBURGER PRODUCER
 PDCK,PD,P - PADDOCK PRODUCER
 MCK,MK - MCKEE PRODUCER

NORTH MONUMENT GRAYBURG SAN ANDRES UNIT

ATTACHMENT VI TO FORM C-108
APPLICATION FOR AUTHORIZATION
TO INJECT WATER

WELLS WITHIN 1/2 MILE RADIUS OF REVIEW

OTHER WELLS IN THE AREA OF REVIEW

PROPOSED NMG/SAU#		WELL								
BLOCK	WELL #	LEASE NAME	NO	API NUMBER	UNIT	SEC	T	R	OPERATOR	STATUS
		STATE KP 13	1	3002503998	F	13	19S	36E	CONOCO INC.	ACTIVE QN
		MONSTATE	4	3002504002	N	13	19S	36E	TEXACO INC.	ACTIVE QN
		MONSTATE	5	3002504003	H	13	19S	36E	TEXACO INC.	ACTIVE QN
		J L BARR	2	3002504047	L	24	19S	36E	ORYX ENERGY	ACTIVE QN
		NEW MEXICO J STATE	3	3002504052	F	24	19S	36E	TEXACO INC.	ACTIVE QN
		NORTHWEST EUMONT UNIT	139	3002504074	E	26	19S	36E	CHEVRON USA INC.	TA QN
		NORTHWEST EUMONT UNIT	159	3002504102	K	34	19S	36E	CHEVRON USA INC.	TA QN
		NORTHWEST EUMONT UNIT	160	3002504103	J	34	19S	36E	CHEVRON USA INC.	ACTIVE QN
		NORTHWEST EUMONT UNIT	162	3002504114	N	34	19S	36E	CHEVRON USA INC.	ACTIVE QN
		NORTHWEST EUMONT UNIT	161	3002504116	O	34	19S	36E	CHEVRON USA INC.	TA QN
		J R PHILLIPS	1	3002504130	A	1	20S	36E	AMERADA HESS	TA GS
		J R PHILLIPS	2	3002504131	H	1	20S	36E	AMERADA HESS	ACTIVE GS
		J R PHILLIPS	3	3002504132	G	1	20S	36E	AMERADA HESS	ACTIVE QN
		J R PHILLIPS	4	3002504133	B	1	20S	36E	AMERADA HESS	ACT DUAL GS PD
		J R PHILLIPS	5	3002504134	A	1	20S	36E	AMERADA HESS	ACTIVE ELLEN
		J R PHILLIPS	6	3002504135	B	1	20S	36E	AMERADA HESS	ACTIVE PDCK
		J R PHILLIPS	7	3002504136	H	1	20S	36E	AMERADA HESS	TA DUAL AB PDK
		J R PHILLIPS	8	3002504137	G	1	20S	36E	AMERADA HESS	ACTIVE GS
		J R PHILLIPS	9	3002504138	A	1	20S	36E	AMERADA HESS	TA GS
		STATE D	5	3002504143	C	1	20S	36E	AMERADA HESS	ACTIVE BLBR
		STATE D	6	3002504144	F	1	20S	36E	AMERADA HESS	ACT DUAL GS BL
		STATE H	1	3002504145	O	1	20S	36E	AMERADA HESS	ACTIVE GS
		STATE H	2	3002504146	J	1	20S	36E	AMERADA HESS	ACTIVE GS
		STATE H	3	3002504147	J	1	20S	36E	AMERADA HESS	ACTIVE BLBR
		STATE A	6	3002504169	A	2	20S	36E	MOBIL TX & NM	ACTIVE QN
		REED SANDERSON UNIT	10	3002504181	K	3	20S	36E	CONOCO INC.	TA QN
		REED SANDERSON UNIT	12	3002504185	O	3	20S	36E	CONOCO INC.	TA QN
		REED SANDERSON UNIT	11	3002504186	J	3	20S	36E	CONOCO INC.	TA QN
		REED SANDERSON UNIT	4	3002504187	B	3	20S	36E	CONOCO INC.	ACTIVE QN
		SANDERSON B 1	1	3002504198	A	10	20S	36E	CONOCO INC.	TA GS
		SANDERSON B 1	2	3002504204	H	10	20S	36E	CONOCO INC.	ACTIVE QN
		H W ANDREWS	2	3002504210	A	11	20S	36E	AMERADA HESS	ACTIVE GS
		H W ANDREWS	3	3002504211	H	11	20S	36E	AMERADA HESS	TA GS
		MARY J BYRD	1	3002504218	B	11	20S	36E	ARCO OIL & GAS	ACTIVE GS
		WILLIAM P BYRD	1	3002504221	C	11	20S	36E	ARCO OIL & GAS	ACTIVE GS
		WILLIAM P BYRD	2	3002504222	D	11	20S	36E	ARCO OIL & GAS	P&A GS
		WILLIAM P BYRD	4	3002504224	F	11	20S	36E	ARCO OIL & GAS	ACTIVE GS
		BYRD GAS COM	5	3002504225	E	11	20S	36E	ARCO OIL & GAS	ACTIVE QN
		BYRD GAS COM	7	3002504226	C	11	20S	36E	ARCO OIL & GAS	ACTIVE QN
		H W ANDREWS	1	3002504227	D	12	20S	36E	AMERADA HESS	ACTIVE QN
		H W ANDREWS	8	3002504231	D	12	20S	36E	AMERADA HESS	ACTIVE GS
		AMERICAN NATIONAL-KEOHANE	1	3002505630	C	18	19S	37E	TEXACO INC.	ACTIVE QN

NORTH MONUMENT GRAYBURG SAN ANDRES UNIT

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TO INJECT WATER

WELLS WITHIN 1/2 MILE RADIUS OF REVIEW

OTHER WELLS IN THE AREA OF REVIEW

PROPOSED NMG/SAU#		WELL							
BLOCK	WELL #	LEASE NAME	NO	API NUMBER	UNIT	SEC	T	R	STATUS
		SAUNDERS STATE K GAS COM	1	3002505633	O	18	19S	37E	ACTIVE QN
		MONUMENT UNIT	1	3002505640	F	19	19S	37E	D&A
		BORDAGES	2	3002505677	N	21	19S	37E	D&A
		HUSTON COM	1	3002505679	K	21	19S	37E	TA QN
		MEXICO X COM	1	3002505736	H	29	19S	37E	ACTIVE QN
		STATE E	5	3002505743	N	30	19S	37E	ACTIVE QN
		STATE AC	4	3002505748	C	30	19S	37E	ACTIVE QN
		J R PHILLIPS A COM	1	3002505759	G	31	19S	37E	ACTIVE QN
		B V CULP NCT B	4	3002505765	P	31	19S	37E	ACT DUAL GS BL
		J R PHILLIPS B	5	3002505777	E	31	19S	37E	TA QN
		J R PHILLIPS A	6	3002505778	L	31	19S	37E	ACTIVE QN
		J R PHILLIPS A	7	3002505779	N	31	19S	37E	ACT DUAL GS BL
		WILLIAMS	5	3002505808	I	33	19S	37E	TA QN
		J H WILLIAMS A	2	3002505820	M	34	19S	37E	ACTIVE QN
		J W COOPER	3	3002505876	B	3	20S	37E	ACTIVE QN
		STATE SEC 3	1	3002505879	A	3	20S	37E	TA QN
		SHELL STATE	14	3002505883	H	3	20S	37E	ACTIVE QN
		EUMONT GAS COM NO 1	1	3002505886	J	4	20S	37E	ACTIVE QN
		EUMONT GAS COM NO 1	2	3002505887	L	4	20S	37E	ACTIVE QN
		E S ADKINS	1	3002505901	M	5	20S	37E	TA DUAL GS PDK
		EUNICE MONUMENT EUMONT SW	5	3002505902	M	5	20S	37E	SWD
		E S ADKINS	3	3002505903	M	5	20S	37E	ACTIVE QN
		LAUGHLIN B	5	3002505907	O	5	20S	37E	ACTIVE QN
		BERTHA BARBER	9	3002505914	E	5	20S	37E	TA BLBR
		BERTHA BARBER	10	3002505915	L	5	20S	37E	ACTIVE BLBR
		BERTHA BARBER	11	3002505916	D	5	20S	37E	ACTIVE QN
		BERTHA BARBER	12	3002505917	L	5	20S	37E	TA DUAL PD/MCK
		L M LAMBERT	5	3002505929	G	6	20S	37E	TA BLBRY
		L M LAMBERT	7	3002505931	A	6	20S	37E	ACTIVE GS
		L M LAMBERT	8	3002505932	B	6	20S	37E	ACTIVE PDDCK
		L M LAMBERT	9	3002505933	H	6	20S	37E	TA PDK
		L M LAMBERT	10	3002505934	G	6	20S	37E	ACTIVE PDK
		G C MATTHEWS	4	3002505945	I	6	20S	37E	TA GS
		G C MATTHEWS	5	3002505946	J	6	20S	37E	ACTIVE ABO
		G C MATTHEWS	6	3002505947	I	6	20S	37E	TA TRIP B/MK/G
		G C MATTHEWS	11	3002505952	I	6	20S	37E	TA DUAL PD BL
		J R PHILLIPS	5	3002505958	D	6	20S	37E	ACTIVE ABO
		J R PHILLIPS	6	3002505959	E	6	20S	37E	ACTIVE ABO
		J R PHILLIPS	7	3002505960	E	6	20S	37E	TA BLBR
		J R PHILLIPS	8	3002505961	F	6	20S	37E	TA BLBR
		J R PHILLIPS	9	3002505962	C	6	20S	37E	ACTIVE GS
		J R PHILLIPS	10	3002505963	F	6	20S	37E	TA QN

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WELLS WITHIN 1/2 MILE RADIUS OF REVIEW

OTHER WELLS IN THE AREA OF REVIEW

PROPOSED NMG/SAU#		WELL							
BLOCK	WELL #	LEASE NAME	NO	API NUMBER	UNIT	SEC	T	R	STATUS
		J R PHILLIPS	11	3002505964	D	6	20S	37E	ACTIVE ELLEN
		J R PHILLIPS	12	3002505965	F	6	20S	37E	ACTIVE PDCK
		L VAN ETTEM	4	3002506044	K	9	20S	37E	ACTIVE GS
		H T MATTERN	5	3002509885	L	20	19S	37E	ACTIVE QN
		J W COOPER	5	3002509894	G	5	20S	37E	ACTIVE QN
		STATE V	3	3002512467	H	36	19S	36E	ACTIVE QN
		STATE F	5	3002512473	N	36	19S	36E	TA TRIP G/A/MK
		GRAHAM STATE NCT F	6	3002512479	P	36	19S	36E	ACT DUAL GS BL
		STATE B	5	3002512481	F	36	19S	36E	D&A
		G C MATTHEWS	2	3002512721	J	6	20S	37E	ACTIVE QN
		NEW MEXICO E STATE NCT 1	5	3002512722	K	1	20S	36E	ACT DUAL GS AB
		J W COOPER	1	3002520452	F	3	20S	37E	TA PADD
		BRITT B	23	3002520648	K	3	20S	37E	TA TUBB
		BERTIE WHITWIRE	9	3002520686	H	8	20S	37E	TA GS
		EUNICE MONUMENT		3002521496	K	33	19S	37E	SERVICE
		LEA 373 A	1	3002521714	I	34	19S	37E	TA TUBB
		V LAUGHLIN	4	3002521926	A	9	20S	37E	ACTIVE QN
		J R PHILLIPS A	9	3002523632	M	31	19S	37E	ACTIVE ELLEN
		STATE F	6	3002524422	M	36	19S	36E	TA GS
		J R PHILLIPS B	6	3002524799	C	31	19S	37E	ACTIVE QN
		STATE J GAS COM	4	3002525216	K	2	20S	36E	ACTIVE QN
		STATE P GAS COM	3	3002525396	K	29	19S	37E	ACTIVE QN
		CITIES LAUGHLIN	1	3002525667	J	5	20S	37E	ACTIVE QN
		R. H. HOUSTON JR.	1	3002525873	O	8	19S	37E	ACTIVE QN
		MAVEETY STATE GAS COM	8	3002526152	O	35	19S	36E	ACTIVE QN
		W A WEIR B	3	3002526168	B	26	19S	36E	ACTIVE QN
		STATE U GAS COM	2	3002526169	C	32	19S	37E	ACTIVE QN
		STATE O	5	3002526170	H	30	19S	37E	ACTIVE QN
		R H HUSTON	2	3002526417	J	8	19S	37E	ACTIVE GS
		NEW MEXICO G STATE COM	3	3002526441	M	19	19S	37E	ACTIVE QN
		STATE L GAS COM	3	3002526535	E	20	19S	37E	ACTIVE QN
		B V CULP NCT A	9	3002526663	J	19	19S	37E	ACTIVE QN
		GULF-HOUSTON	1	3002526674	B	7	19S	37E	ACTIVE QN
		GRAHAM STATE NCT C	10	3002526771	B	24	19S	36E	ACTIVE QN
		MONUMENT ABO UNIT	1	3002526886	C	2	20S	36E	ACTIVE ABO
		GRAHAM STATE NCT C COM	9	3002527082	B	25	19S	36E	ACTIVE QN
		ELLEN WEIR	1	3002527660	M	3	20S	37E	ACTIVE QN
		BYRON-WILLIAMS	1	3002527808	G	33	19S	37E	ACTIVE QN
		STATE 28	1	3002528024	O	28	19S	37E	ACTIVE QN
		C H KYTE	3	3002528176	M	7	19S	37E	ACTIVE QN
		MONSTATE "TN"	6	3002530063	J	13	19S	36E	TA GS
		AMERICAN NATIONAL KEOHANE	2	3002530814	G	18	19S	37E	ACTIVE QN

NORTH MONUMENT GRAYBURG SAN ANDRES UNIT

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APPLICATION FOR AUTHORIZATION
TO INJECT WATER

WELLS WITHIN 1/2 MILE RADIUS OF REVIEW

PLUGGED AND ABANDONED WELLS INSIDE THE UNIT AREA

PROPOSED NMG/SAU#		WELL		UNIT SEC T R				STATUS	
BLOCK	WELL #	LEASE NAME	NO	API NUMBER			OPERATOR		
8	12	STATE A 26	2	3002504073	L	26 19S 36E	CONOCO INC.	P&A	GS
8	16	C T BATES	1	3002504076	P	26 19S 36E	CHEVRON USA INC.	P&A	GS
		STATE A	1	3002504171	E	2 20S 36E	UNION TEXAS PETRO	P&A	GS
18	21	REED A 3	5	3002504177	G	3 20S 36E	CONOCO INC.	P&A	GS
1	11	STATE C	1	3002505569	K	7 19S 37E	GREAT WESTERN	P&A	GS
3	5	STATE J	1	3002505619	E	17 19S 37E	TEXACO INC.	P&A	GS
3	4	STATE J	2	3002505620	D	17 19S 37E	TEXACO INC.	P&A	GS
5	16	GRAHAM STATE NCT D	2	3002505649	P	19 19S 37E	CHEVRON USA INC.	P&A	GS
7	14	SINCLAIR FEDERAL	2	3002505676	N	21 19S 37E	C E LONG	P&A	GS
12	4	F W KUTTER NCT B	3	3002505714	D	28 19S 37E	CHEVRON USA INC.	P&A	DUAL GS QM
12	3	SINCLAIR FEDERAL	1	3002505716	C	28 19S 37E	C E LONG	P&A	GS
11	16	WILLIAMS	3	3002505731	P	29 19S 37E	CHEVRON USA INC.	P&A	GS
16	3	D F LARSEN	2	3002505782	C	32 19S 37E	AMERADA HESS	P&A	GS
16	9	CRUTCHFIELD	1	3002505788	I	32 19S 37E	ARCO OIL & GAS	P&A	DUAL GS QM
16	8	W L CRUTCHFIELD	1	3002505791	H	32 19S 37E	GREAT WESTERN	P&A	GS
17	5	W E HATCHETT	2	3002505804	E	33 19S 37E	CHEVRON USA INC.	P&A	GS
23	10	MONUMENT STATE	1	3002505816	J	34 19S 37E	CHI ENERGY	P&A	DUAL GS QM
4	34	LEA 373 STATE	4	3002505823	I	34 19S 37E	ARCO OIL & GAS	P&A	GS
23	12	WEIR A	1	3002505884	L	3 20S 37E	M & M PROD CO.	P&A	
		LAUGHLIN	1	3002505904	J	5 20S 37E	HARTMAN	P&A	GS
21	15	LAUGHLIN	2	3002505905	O	5 20S 37E	GRAHAM ROYALTY	P&A	GS
20	4	J R PHILLIPS	1	3002505954	D	6 20S 37E	TEXACO INC.	P&A	GS
24	1	LAUGHLIN	4	3002506005	A	8 20S 37E	GRAHAM ROYALTY	P&A	GS
24	4	V LAUGHLIN	1	3002506034	D	9 20S 37E	AMERADA HESS	P&A	DUAL GS QM
2	4	AMERICAN NATIONAL INS CO	1	3002509881	D	18 19S 37E	AMERADA HESS	P&A	GS
22	4	COOPER B	2	3002509890	D	4 20S 37E	SHELL WESTERN	P&A	GS

NORTH MONUMENT GRAYBURG SAN ANDRES UNIT

ATTACHMENT VI TO FORM C-108
APPLICATION FOR AUTHORIZATION
TO INJECT WATER

WELLS WITHIN 1/2 MILE RADIUS OF REVIEW

PLUGGED AND ABANDONED WELLS OUTSIDE THE UNIT AREA

PROPOSED NMG/SAU#		WELL									
BLOCK	WELL #	LEASE NAME	NO	API NUMBER	UNIT	SEC	T	R	OPERATOR	STATUS	
		W A WEIR A	1	3002504123	A	35	19S	36E	CHEVRON USA INC.	P&A	
		SELBY MAVEETY	1A	3002504128	N	35	19S	36E	ARCO OIL & GAS	P&A	
		SELBY MAVEETY	1Y	3002504129	N	35	19S	36E	ARCO OIL & GAS	P&A	
		ELBERT SHIPP NCT B	3	3002505572	H	7	19S	37E	CHEVRON USA INC.	P&A	
		KUTTER D	2	3002505580	E	8	19S	37E	CHEVRON USA INC.	P&A	
		STATE A 3071 D COM	1	3002505717	J	28	19S	37E	MARATHON	P&A	
		BURKE	1	3002505719	P	28	19S	37E	AZTEC OIL & GAS	P&A	
		J R PHILLIPS A	8	3002505780	M	31	19S	37E	ARCO OIL & GAS	P&A	
		CRUTCHFIELD 32	1	3002505792	I	32	19S	37E	GRAHAM ROYALTY	P&A	
		WILLIAMS	2	3002505806	P	33	19S	37E	RANDEL, O H	P&A	
		WILLIAMS	1	3002505811	J	33	19S	37E	RANDEL, O H	P&A	
		J H WILLIAMS	2	3002505818	O	34	19S	37E	AMERADA HESS	P&A	
		J H WILLIAMS	3	3002505819	N	34	19S	37E	AMERADA HESS	P&A	
		BRITT B	1	3002505873	K	3	20S	37E	CARPER-BARNETT-HA	P&A	
		J W COOPER C	1	3002505878	B	3	20S	37E	AMERADA HESS	P&A	
		WEIR A	2	3002505880	N	3	20S	37E	ORO PESO OIL CO.	P&A	
		HUMBLE LAUGHLIN	4	3002505885	H	4	20S	37E	AMERADA HESS	P&A	
		BRITT B	1	3002505923	N	5	20S	37E	UNION TEXAS	P&A	
		E H BOLDING	1	3002506053	D	10	20S	37E	REPOLLO	P&A	
		STATE B	5	3002512481	F	36	19S	36E	SHELL WESTERN	P&A	
		STATE V	5	3002520517	G	36	19S	36E	AMERADA HESS	P&A	
		ELLEN WEIR	1	3002520589	L	3	20S	37E	ASHMUN & HILLIARD	P&A	
		ELBERT SHIPP	4	3002520684	C	19	19S	37E	CHEVRON USA INC.	P&A	
		SALINE WATER WELL	WS-3	3002524945	N	34	19S	36E	CLIMAX CHEMICAL	P&A	
		SALINE WATER WELL	WS-4	3002525655	P	34	19S	36E	CLIMAX CHEMICAL	P&A	
		COOPER	1	3002530527	B	3	20S	37E	CHI OPERATING	P&A	

NORTH MONUMENT GRAYBURG/SAN ANDRES UNIT
ATTACHMENT VII TO FORM C108
APPLICATION FOR AUTHORIZATION TO INJECT WATER

DATA ON PROPOSED OPERATION
OF
NORTH MONUMENT GRAYBURG/SAN ANDRES UNIT

Proposed average and maximum daily rate and volume of water to be injected:

Average Daily Rate of 750 BWPD
Maximum Daily Rate of 1000 BWPD

The injection volume is expected to reach 196,000,000 barrels of water at 100% fillup. This volume may reach 620,000,000 barrels of water by abandonment.

The injection system is a closed system.

The proposed average and maximum* surface injection pressures are:

Average injection pressure 350 psi
Maximum injection pressure 710 psi

* Until a fracture gradient is determined, maximum injection pressure will be based on a .2 psi/foot gradient.

The source of injection water will be from San Andres water supply wells and produced water from existing North Monument Grayburg/San Andres Unit producers. The San Andres formation water is compatible with the produced water from the Unit wells (see attached water analysis).

P.O. BOX 1468
MONAHANS, TEXAS 79756
PH. 943-3234 or 563-1040

Martin Water Laboratories, Inc.
WATER CONSULTANTS SINCE 1953
BACTERIAL AND CHEMICAL ANALYSES

709 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

To: Ms. Denise Wann
P. O. Drawer "D"
Monument, NM 88265

Laboratory No. 1290205
Sample received 12-20-90
Results reported 1-2-91

Company: Amerada Hess Corporation
County: Lea, NM
Field: Eunice Monument
Lease: As Listed

Subject: To determine the amount of precipitated barium sulfate in submitted mixtures of waters.

Mixture of Waters	Precipitated Barium Sulfate	
	as BaSO ₄ , mg/l	
1. 90% EMSU water supply well #460 & 10% Larsen #4	0.2	
2. 60% EMSU water supply well #460 & 40% Larsen #4	0.2	
3. 50% EMSU water supply well #460 & 50% Larsen #4	0.0	
4. 40% EMSU water supply well #460 & 60% Larsen #4	0.3	
5. 90% EMSU water supply well #460 & 10% State F #3	0.4	
6. 60% EMSU water supply well #460 & 40% State F #3	0.0	
7. 50% EMSU water supply well #460 & 50% State F #3	0.4	
8. 40% EMSU water supply well #460 & 60% State F #3	3.4	
9. 90% EMSU water supply well #460 & 10% State F #4	0.0	
10. 60% EMSU water supply well #460 & 40% State F #4	0.3	
11. 50% EMSU water supply well #460 & 50% State F #4	0.3	
12. 40% EMSU water supply well #460 & 60% State F #4	0.5	
13. 90% EMSU water supply well #460 & 10% State K #1	0.2	
14. 60% EMSU water supply well #460 & 40% State K #1	0.2	
15. 50% EMSU water supply well #460 & 50% State K #1	*	
16. 40% EMSU water supply well #460 & 60% State K #1	0.0	
17. 90% EMSU water supply well #461 & 10% Larsen #4	0.4	
18. 60% EMSU water supply well #461 & 40% Larsen #4	0.0	
19. 50% EMSU water supply well #461 & 50% Larsen #4	0.2	
20. 40% EMSU water supply well #461 & 60% Larsen #4	0.0	
21. 90% EMSU water supply well #461 & 10% State F #3	0.0	
22. 60% EMSU water supply well #461 & 40% State F #3	0.1	
23. 50% EMSU water supply well #461 & 50% State F #3	0.2	
24. 40% EMSU water supply well #461 & 60% State F #3	0.2	
25. 90% EMSU water supply well #461 & 10% State F #4	0.0	
26. 60% EMSU water supply well #461 & 40% State F #4	0.0	
27. 50% EMSU water supply well #461 & 50% State F #4	0.0	
28. 40% EMSU water supply well #461 & 60% State F #4	0.3	

*No sample submitted at this mixture. We did not consider it necessary to make an extra mixture of these waters because of the absence of any detectable barium sulfate in the other combinations.

<u>Mixture of Waters</u>	<u>Precipitated Barium Sulfate</u>
	<u>as BaSO₄, mg/l</u>
29. 90% EMSU water supply well #461 & 10% State K #1	0.0
30. 60% EMSU water supply well #461 & 40% State K #1	0.0
31. 50% EMSU water supply well #461 & 50% State K #1	0.0
32. 40% EMSU water supply well #461 & 60% State K #1	0.0

Remarks: The above results clearly need to be qualified. We have reported the results acquired, but our detectable limits are estimated to be approximately 0.5 mg/l; and when we get a reading below that level, we do not consider it conclusive evidence that any barium sulfate is present. Therefore, only a single sample herein showed what we consider to be a reasonable quantity of barium sulfate in the mixed waters. This was 3.4 mg/l that was detected in the combination of 40 percent of well #460 and 60 percent of State "F" #3. It is our carefully considered conclusion that these results do not indicate any significant incompatibility between the waters that were mixed herein. We would only consider it advisable to maintain some observation over conditions in a system handling the mixture of these waters for the possibility of any barium sulfate deposits or precipitates. We do not consider the results to indicate that any of the waters mixed herein are actually sufficiently incompatible to prevent their mixing.


Waylan C. Martin, M.A.

NORTH MONUMENT GRAYBURG/SAN ANDRES UNIT
ATTACHMENT VIII TO FORM C108
APPLICATION FOR AUTHORIZATION TO INJECT WATER

GEOLOGIC DATA
FRESH WATER AQUIFERS
IN THE AREA OF THE
PROPOSED UNIT

The proposed North Monument Grayburg/San Andres Unit is located approximately 10 miles southwest of Hobbs, New Mexico and encircles the small community of Monument.

Fresh water zones within the proposed unit area boundaries are the Quaternary alluvium, Pliocene Ogallala, and the Triassic Chinle and Santa Rosa formations.

The Quaternary aquifers are in recent unconsolidated to semiconsolidated, fine to medium-grained sands of localized extent. They are made up of dune very localized sands and channel or fill sands in the underlying Ogallala at depths of approximately 100 feet from the surface.

The Pliocene Ogallala aquifer is a calcareous, unconsolidated sand containing some silt, clay, and gravel which underlies the Quaternary alluvium and is present across the entire area, and is the principle source of fresh water in the area. The Ogallala is found at approximately 60-125 feet.

The Triassic Chinle and Santa Rose aquifers, which are also significant fresh water-bearing zones in this area, are both fine to medium-grained sandstones interbedded with red clays and siltstones. Within the proposed unit area, the Chinle is approximately 500 feet deep. The Santa Rosa is about 650 feet deep.

Below the Santa Rose and the undifferentiated "red beds" is the Permian Rustler Formation, that has an impermeable anhydrite bed about 65 feet thick which provides a barrier against contamination from brine waters in oil-producing formations below. The Rustler anhydrite is found at depths of approximately 1,250 feet. No known fresh water horizons occur below the Rustler anhydrite.

For the protection of all fresh water zones within the unit boundary, cement will be circulated to surface around casing on all new wells.

NORTH MONUMENT GRAYBURG/SAN ANDRES UNIT
ATTACHMENT VIII TO FORM C108
APPLICATION FOR AUTHORIZATION TO INJECT WATER

GEOLOGICAL DATA
THE INJECTION ZONES

- Grayburg - Approximate depth 3,250-4,000 feet; approximate thickness is 375 feet. Local depth depends on both the structure position and surface elevation of the well.

The Grayburg is a heterogeneous sequence of interbedded dolomitized mudstones, wackestone, packstones and grainstones as well as silty and sandy dolomite. Much of the oil and gas production comes from intercrystalline porosity in the dolomite.

The top of the Grayburg ranges in depth from 3,250' to 4,000'. Along the western margin of the unit area the Grayburg top is at the deeper part of the above range, while in the eastern portion of the unit the shallow portion of the range. The top of the Grayburg is the top of the unitized interval.

- San Andres - Approximate depth 3,620-4,220 feet; approximate thickness is 1,000 feet. Local depth depends on both the structure position and surface elevation of the well.

The San Andres is a massive thick dolomite with some interbedded intervals of silt and sand. The contact between the Grayburg and San Andres is not clear because no consistent marker can be traced over the area. An unconformable contact is possible. While the San Andres does contribute some oil production to the field, it will be the primary source of injection water. The base of the San Andres is the base of the unitized interval.

No known faults cut through the San Andres and Grayburg that may act as conduits for gas, oil or injection fluids to seep into fresh water aquifers above the injection zone within the Grayburg and San Andres.

NORTH MONUMENT GRAYBURG/SAN ANDRES UNIT
ATTACHMENT IX TO FORM C108
APPLICATION FOR AUTHORIZATION TO INJECT WATER

PROPOSED STIMULATION PROGRAM
FOR A
TYPICAL INJECTION WELL

CASED HOLE COMPLETION

It is proposed to selectively perforate the cased hole interval from approximately -100 feet to -350 feet subsea and then open this interval by acidizing with approximately 3,000 gallons of 15% Hydrochloric Acid.

OPEN HOLE COMPLETION

Open hole completions will be cleaned out to total depth, deepened if necessary to approximately -350 feet subsea and acidized with approximately 3,000-5,000 gallons of 15% Hydrochloric Acid.

NORTH MONUMENT GRAYBURG/SAN ANDRES UNIT
ATTACHMENT X TO FORM C108
APPLICATION FOR AUTHORIZATION TO INJECT WATER

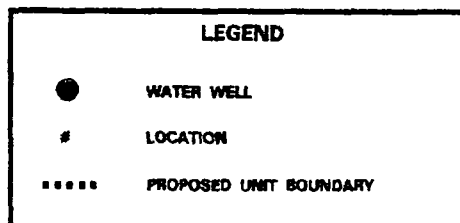
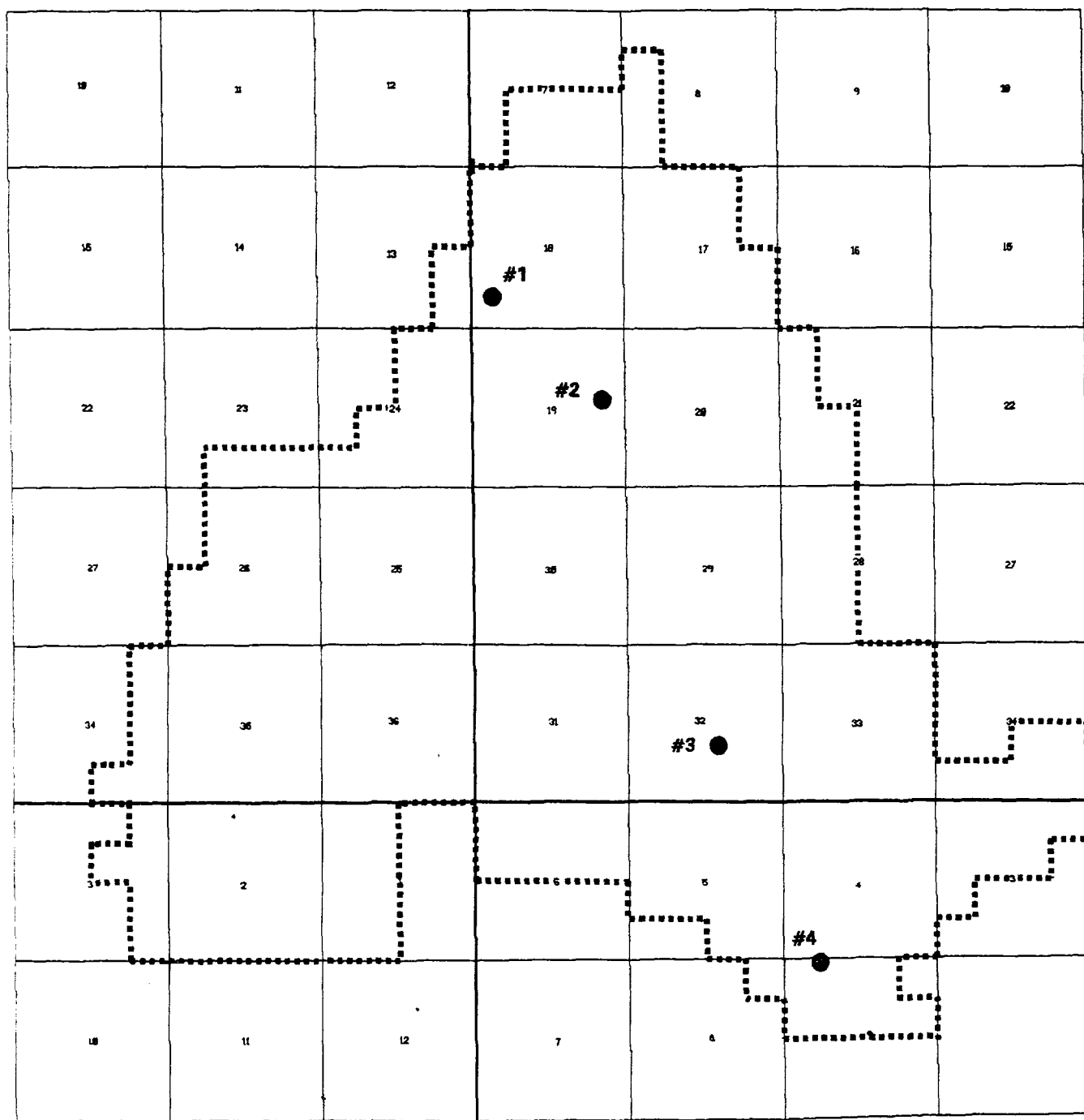
PROPOSED WATER INJECTION WELLS WITH NO LOGS AVAILABLE

Logs on all proposed injection wells are filed with the Oil Conservation Division with the exception of the four wells listed below:

<u>OPERATOR</u>	<u>CURRENT LEASE NAME</u>	<u>WELL NO.</u>	<u>PROPOSED WELL NAME</u>	<u>UNIT WELL NO.</u>
CHEVRON USA INC.	GRAHAM STATE NCT C	6	NMG/SAU	9-15
CHEVRON USA INC.	W. A. WEIR NCT A	2	NMG/SAU	13-1
AMERADA HESS	STATE V	1	NMG/SAU	14-1
AMERADA HESS	J. W. COOPER A	1	NMG/SAU	23-3

R 36 E

R 37 E



AMERADA HESS CORPORATION

NORTH MONUMENT GRAYBURG / SAN ANDRES UNIT
Lea County, New Mexico

WATER SAMPLING POINTS

709 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

709 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

TO: Mr. Eric Haas
P. O. Drawer "D", Monument, NM 88265

LABORATORY NO. 990228
SAMPLE RECEIVED 9-27-90
RESULTS REPORTED 10-1-90

COMPANY Amerada Hess Corporation LEASE

FIELD OR POOL _____
SECTION 32 BLOCK _____ SURVEY T-19S & R-37E COUNTY Lea STATE NM

SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Raw water - taken from Windmill #2.

NO. 2 _____

NO. 3

NO. 4

REMARKS:

CHEMICAL AND PHYSICAL PROPERTIES				
	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0024			
pH When Sampled				
pH When Received	7.23			
Bicarbonate as HCO ₃	405			
Supersaturation as CaCO ₃				
Undersaturation as CaCO ₃				
Total Hardness as CaCO ₃	472			
Calcium as Ca	143			
Magnesium as Mg	28			
Sodium and/or Potassium	140			
Sulfate as SO ₄	107			
Chloride as Cl	236			
Iron as Fe	0.08			
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	1,059			
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen.				
Hydrogen Sulfide	0.0			
Resistivity, ohms/m at 77° F.	6.95			
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Nitrate, as N	1.4			

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

709 W. INDIANA
MIDLAND. TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

LABORATORY NO. 990229
SAMPLE RECEIVED 9-27-90
RESULTS REPORTED 10-1-90

to: Mr. Eric Haas
P. O. Drawer "D", Monument, NM 88265

COMPANY Amerada Hess Corporation LEASE _____

FIELD OR POOL _____

SECTION 9 BLOCK SURVEY T-20S & R-37E COUNTY Lea STATE NM

SOURCE OF SAMPLE AND DATE TAKEN:

No. 1 Raw water - taken from Windmill #3.

NO. 2 _____

NO. 3 _____

NO. 4

REMARKS:

CHEMICAL AND PHYSICAL PROPERTIES				
	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0022			
pH When Sampled				
pH When Received	7.38			
Bicarbonate as HCO ₃	393			
Supersaturation as CaCO ₃				
Undersaturation as CaCO ₃				
Total Hardness as CaCO ₃	398			
Calcium as Ca	121			
Magnesium as Mg	23			
Sodium and/or Potassium	170			
Sulfate as SO ₄	150			
Chloride as Cl	206			
Iron as Fe	0.32			
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	1,063			
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen,				
Hydrogen Sulfide	0.0			
Resistivity, ohms/m at 77° F.	7.05			
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Nitrate, as N	0.7			

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

NORTH MONUMENT GRAYBURG/SAN ANDRES UNIT
ATTACHMENT XII TO FORM C108
APPLICATION FOR AUTHORIZATION TO INJECT WATER

PROPOSED NORTH MONUMENT GRAYBURG/SAN ANDRES UNIT
LEA COUNTY, NEW MEXICO

Amerada Hess Corporation has examined available geological and engineering data and finds no evidence of open faults or any other hydrologic connection between the injection zone and any underground source of drinking water.