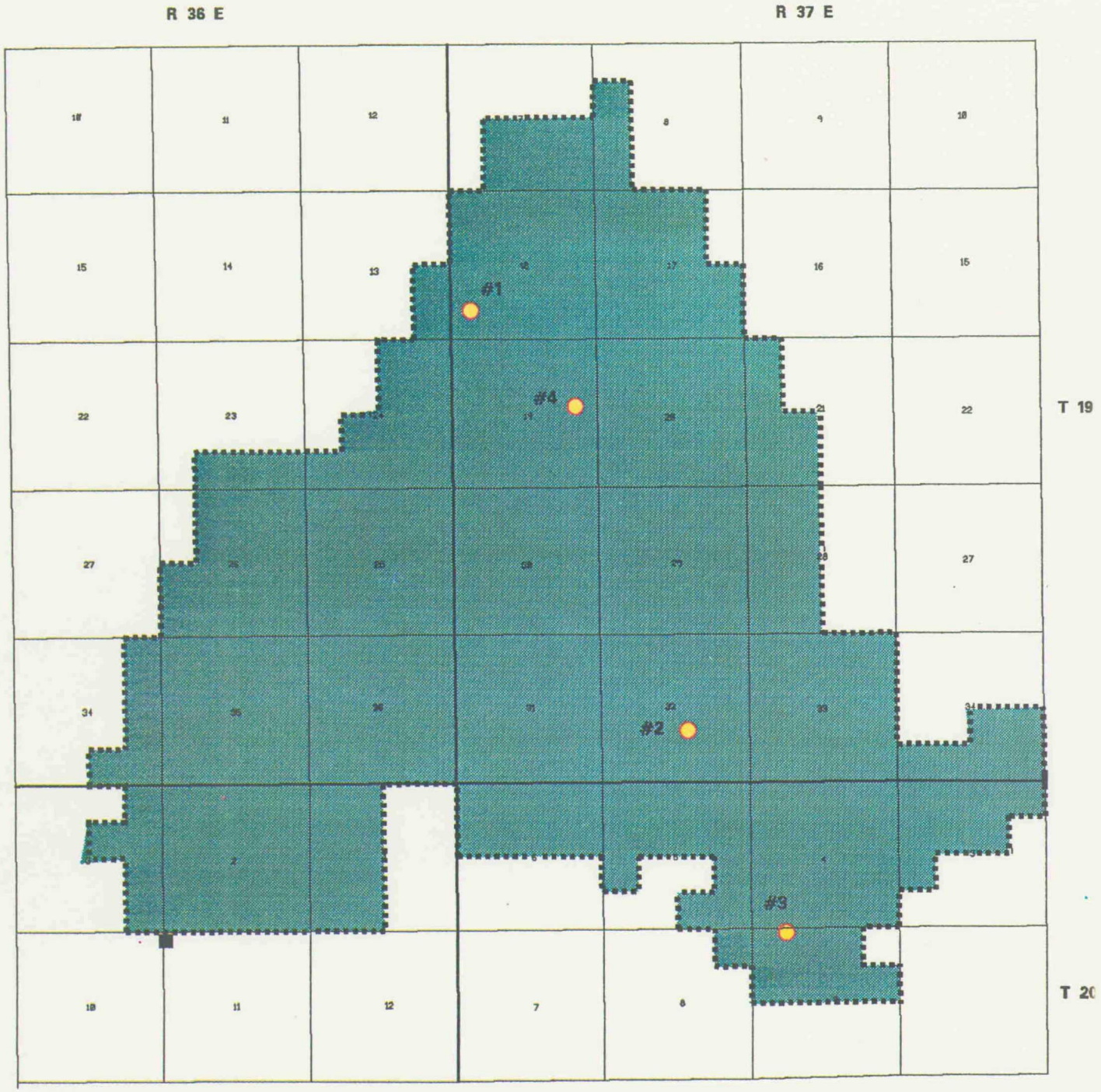

LEGEND

- WATER WELL
- # LOCATION
- PROPOSED UNIT BOUNDARY

AMERADA HESS CORPORATION

FRESH WATER SAMPLING POINTS

NORTH MONUMENT GRAYBURG/ SAN ANDRES UNIT

Lea County, New Mexico

0 1 2

MILES

DATE: 7/29/

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

Martin Water Laboratories, Inc.

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. 990227
SAMPLE RECEIVED 9-27-90
RESULTS REPORTED 10-1-90

COMPANY Amerada Hess Corporation LEASE
FIELD OR POOL
SECTION 18 BLOCK SURVEY T19S & R-37E COUNTY Lea STATE NM
SOURCE OF SAMPLE AND DATE TAKEN:
NO. 1 Raw water - taken from Windmill #1.
NO. 2
NO. 3
NO. 4
REMARKS:

CHEMICAL AND PHYSICAL PROPERTIES	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0015			
pH When Sampled				
pH When Received	7.17			
Bicarbonate as HCO_3	239			
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	246			
Calcium as Ca	81			
Magnesium as Mg	11			
Sodium and/or Potassium	40			
Sulfate as SO_4	62			
Chloride as Cl	52			
Iron as Fe	0.08			
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	485			
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen,				
Hydrogen Sulfide	0.0			
Resistivity, ohms/m at 77° F.	17.20			
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Nitrate, as N	2.8			

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.

Form No. 3

By Ronnie Tucker
Ronnie D. Tucker, B.S.

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

Martin Water Laboratories, Inc.

709 W INDIANA
MIDLAND TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

LABORATORY NO. 990228
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 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.

Form No. 3

By Ronnie D. Tucker

Ronnie D. Tucker, B.S.

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

Martin Water Laboratories, Inc.

709 W INDIA
MIDLAND, TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

LABORATORY NO. 990229

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

SAMPLE RECEIVED 9-27-90

RESULTS REPORTED 10-1-90

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.

Form No. 3

By Ronnie D. Tucker

Ronnie D. Tucker, B.S.

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

Martin Water Laboratories, Inc.

709 W INDIANA
MIDLAND TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

LABORATORY NO. 990230

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

SAMPLE RECEIVED 9-27-90

RESULTS REPORTED 10-1-90

COMPANY Amerada Hess Corporation LEASE

FIELD OR POOL

SECTION 19 BLOCK SURVEY T-19S & R-37E COUNTY Lea STATE NM

SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Raw water - taken from Windmill #4.

NO. 2

NO. 3

NO. 4

REMARKS:

CHEMICAL AND PHYSICAL PROPERTIES	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0017			
pH When Sampled				
pH When Received	7.26			
Bicarbonate as HCO_3	256			
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	364			
Calcium as Ca	123			
Magnesium as Mg	14			
Sodium and/or Potassium	82			
Sulfate as SO_4	82			
Chloride as Cl	175			
Iron as Fe	0.04			
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	732			
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen,				
Hydrogen Sulfide	0.0			
Resistivity, ohms/m at 77° F.	9.83			
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Nitrate, as N	2.5			

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.

Form No. 3

By Ronnie D. Tucker

Ronnie D. Tucker, B.S.

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.