



Home Office 707 N. Leech, P.O. Box 1499 / Hobbs, NM 88240 / Ph. 505/393-7751, TWX 910/986-0010

June 28, 1985

Petro Thermo
Box 2069
Hobbs, NM 88240

Attention: Jim Abbott

Dear Mr. Abbott:

Enclosed please find our water analyses report on the samples from the
Brine Stations A-D, submitted to our laboratory on June 26, 1985.

If you have any questions or require further information, please contact
us.

Sincerely,

Bernadette Alarid
Laboratory Technician

BA/kn

cc: Cy Foster

PETRO-THERMO STICKER	
CLUTCH, FINGER, STAMP	
PTC	6
CASE NO.	9051

UNICHEM INTERNATIONAL

707 NORTH LEECH

P.O.BOX 1499

HOBBS, NEW MEXICO 88240

COMPANY : PETRO THERMO

DATE : 06/28/85

FIELD, LEASE & WELL : BRINE STATION "A"

Soft 100

SAMPLING POINT:

DATE SAMPLED : 06/26/85

SPECIFIC GRAVITY = 1.213

TOTAL DISSOLVED SOLIDS = 315547

PH = 7.26

		ME/L	MG/L
CATIONS			
CALCIUM	(CA)+2	77.3	1549.
MAGNESIUM	(MG)+2	30.6	372.
SODIUM	(NA), CALC.	5279.	121384.
ANIONS			
BICARBONATE	(HCO3)-1	1.2	73.2
CARBONATE	(CO3)-2	0	0
HYDROXIDE	(OH)-1	0	0
SULFATE	(SO4)-2	86.7	4166.
CHLORIDES	(CL)-1	5300	188000
DISSOLVED GASES			
CARBON DIOXIDE	(CO2)	NOT RUN	
HYDROGEN SULFIDE	(H2S)	NOT RUN	
OXYGEN	(O2)	NOT RUN	
IRON(TOTAL)	(FE)		3.6
BARIUM	(BA)+2	NOT RUN	
MANGANESE	(MN)	NOT RUN	

IONIC STRENGTH (MOLAL) = 6.127

SCALING INDEX

TEMP

30C

86F

CARBONATE INDEX

1.38

CALCIUM CARBONATE SCALING

LIKELY

CALCIUM SULFATE INDEX

-10.

CALCIUM SULFATE SCALING

UNLIKELY

IONIC STRENGTH IS TOO HIGH FOR SULFATE METHOD
IONIC STRENGTH IS TOO HIGH FOR CARBONATE METHOD

UNICHEM INTERNATIONAL

707 NORTH LEECH

P.O.BOX 1499

HOBBS, NEW MEXICO 88240

COMPANY : PETRO THERMO

DATE : 06/28/85

FIELD, LEASE & WELL : BRINE STATION "B"

SAMPLING POINT:

DATE SAMPLED : 06/26/85

SPECIFIC GRAVITY = 1.192

TOTAL DISSOLVED SOLIDS = 285265

PH = 6.63

		ME/L	MG/L
CATIONS			
CALCIUM	(CA)+2	38	761.
MAGNESIUM	(MG)+2	345	4193.
SODIUM	(NA), CALC.	4542.	104438.
ANIONS			
BICARBONATE	(HCO3)-1	2	122.
CARBONATE	(CO3)-2	0	0
HYDROXIDE	(OH)-1	0	0
SULFATE	(SO4)-2	223.	10750
CHLORIDES	(CL)-1	4700	165000
DISSOLVED GASES			
CARBON DIOXIDE	(CO2)	NOT RUN	
HYDROGEN SULFIDE	(H2S)	NOT RUN	
OXYGEN	(O2)	NOT RUN	
IRON(TOTAL)	(FE)		1
BARIUM	(BA)+2	NOT RUN	
MANGANESE	(MN)	NOT RUN	

IONIC STRENGTH (MOLAL) =5.747

SCALING INDEX

TEMP

30C

86F

CARBONATE INDEX

.399

CALCIUM CARBONATE SCALING

LIKELY

CALCIUM SULFATE INDEX

-2.3

CALCIUM SULFATE SCALING

UNLIKELY

IONIC STRENGTH IS TOO HIGH FOR SULFATE METHOD
IONIC STRENGTH IS TOO HIGH FOR CARBONATE METHOD

UNICHEM INTERNATIONAL

707 NORTH LEECH

P.O.BOX 1499

HOBBS, NEW MEXICO 88240

COMPANY : PETRO THERMO

DATE : 06/28/85

FIELD, LEASE & WELL : BRINE STATION "C"

SAMPLING POINT:

DATE SAMPLED : 06/26/85

Truckers Hobbs

SPECIFIC GRAVITY = 1.206

TOTAL DISSOLVED SOLIDS = 305987

PH = 7.22

		ME/L	MG/L
CATIONS			
CALCIUM	(CA)+2	42.6	855.
MAGNESIUM	(MG)+2	57.3	696.
SODIUM	(NA), CALC.	5116.	117622.
ANIONS			
BICARBONATE	(HCO3)-1	2.4	146.
CARBONATE	(CO3)-2	0	0
HYDROXIDE	(OH)-1	0	0
SULFATE	(SO4)-2	13.8	666.
CHLORIDES	(CL)-1	5200	186000
DISSOLVED GASES			
CARBON DIOXIDE	(CO2)	NOT RUN	
HYDROGEN SULFIDE	(H2S)	NOT RUN	
OXYGEN	(O2)	NOT RUN	
IRON(TOTAL)	(FE)		.4
BARIUM	(BA)+2	NOT RUN	
MANGANESE	(MN)	NOT RUN	

IONIC STRENGTH (MOLAL) = 5.89

SCALING INDEX

TEMP

30C

86F

CARBONATE INDEX

1.19

CALCIUM CARBONATE SCALING

LIKELY

CALCIUM SULFATE INDEX

-67.

CALCIUM SULFATE SCALING

UNLIKELY

IONIC STRENGTH IS TOO HIGH FOR SULFATE METHOD
IONIC STRENGTH IS TOO HIGH FOR CARBONATE METHOD

UNICHEM INTERNATIONAL

707 NORTH LEECH

P.O.BOX 1499

HOBBS, NEW MEXICO 88240

COMPANY : PETRO THERMO

DATE : 06/28/85

FIELD, LEASE & WELL : BRINE STATION "D"

SAMPLING POINT:

DATE SAMPLED : 06/26/85

SPECIFIC GRAVITY = 1.211

TOTAL DISSOLVED SOLIDS = 311540

PH = 6.86

Wassgrund

		ME/L	MG/L
CATIONS			
CALCIUM	(CA)+2	50.6	1015.
MAGNESIUM	(MG)+2	266.	3237.
SODIUM	(NA), CALC.	5037.	115819.
ANIONS			
BICARBONATE	(HCO3)-1	2.2	134.
CARBONATE	(CO3)-2	0	0
HYDROXIDE	(OH)-1	0	0
SULFATE	(SO4)-2	152.	7333.
CHLORIDES	(CL)-1	5200	184000
DISSOLVED GASES			
CARBON DIOXIDE	(CO2)	NOT RUN	
HYDROGEN SULFIDE	(H2S)	NOT RUN	
OXYGEN	(O2)	NOT RUN	
IRON(TOTAL)	(FE)		.4
BARIUM	(BA)+2	NOT RUN	
MANGANESE	(MN)	NOT RUN	

IONIC STRENGTH (MOLAL) = 6.221

SCALING INDEX

TEMP

30C

86F

CARBONATE INDEX

1.16

CALCIUM CARBONATE SCALING

LIKELY

CALCIUM SULFATE INDEX

-2.5

CALCIUM SULFATE SCALING

UNLIKELY

IONIC STRENGTH IS TOO HIGH FOR SULFATE METHOD
IONIC STRENGTH IS TOO HIGH FOR CARBONATE METHOD