

MERIDIAN OIL

RECEIVED
APR 14 1988

April 14, 1988

Oil Conservation Commission
Attn: Mr. David Catanach
1000 Rio Brazos Road
Aztec, NM 87410

Dear Mr. Catanach:

RECEIVED
APR 18 1988
OIL CON. DIV.
DIST. 3

Re: San Juan 30-6 Unit #112Y
Sec. 26, T30N, R06W
Rio Arriba County, NM

The San Juan 30-6 Unit #112Y is a disposal well approved for water disposal under order SWD 305. The TDS (total dissolved solids) being injected from the Fruitland coal wells has risen from an initial TDS of 13700 (September 19, 1986) to 22100. Upon discussing this problem, with Mr. Ernie Bush and Mr. Frank Chavez of your Aztec office, we were informed the only requirement is that we keep your office updated on any increases. If there are any questions, please call me.

Sincerely,

Loren W. Fothergill
Loren W. Fothergill
Production Supt.

LWF:jf
doc 35
cc: Frank Chavez
D. Drummond
D. Walker



Attachment #4

Average Composite Analysis

API WATER ANALYSIS REPORT FORM

Company MERIDIAN OIL COMPANY		Sample No.		Date Sampled 2-16-88	
Field	Legal Description	County or Parish Rio Arriba		State NM	
Lease or Unit S.T. 30-6 #1124	Well H30 Disposal	Depth	Formation	Water, B/D	
Type of Water (Produced, Supply, etc.) Produced	Sampling Point after filter pot	Sampled By Jerry Lasater			

DISSOLVED SOLIDS

CATIONS

	mg/l	me/l
Sodium, Na (calc.)	6080	264
Calcium, Ca	68	3.4
Magnesium, Mg	18	1.5
Barium, Ba		

pH
Specific Gravity, 60/60 F. 1.0190
Resistivity (ohm-cm) 280 F. 690 μmho
Conductivity 1440 μmho

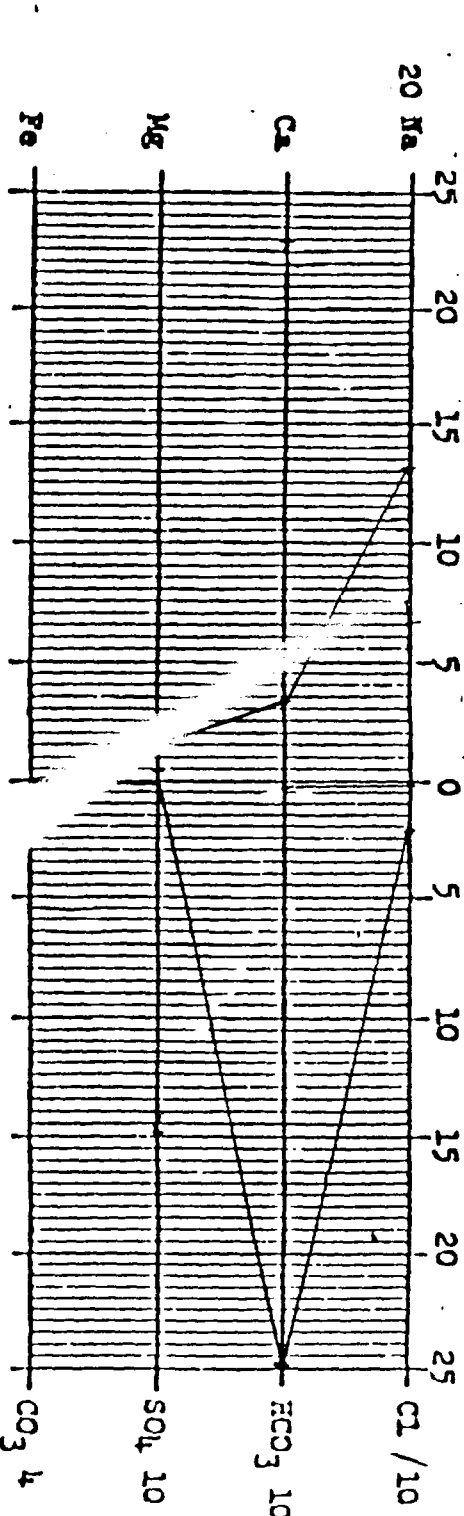
Total Dissolved Solids (calc) 2200

ANIONS

	mg/l	me/l
Chloride, Cl	118	20.3
Sulfate, SO ₄	0	0
Carbonate, CO ₃	15200	249
Bicarbonate, HCO ₃		

Iron, Fe (total) 0
Sulfide, as H₂S 0

REMARKS & RECOMMENDATIONS:



Scale:



API WATER ANALYSIS REPORT FORM

Company	MERIDIAN OIL COMPANY		Sample No.	Date Sampled	
Field	Legal Description		County or Parish	State	
Lease or Unit	Well	Depth	Formation	Water, B/D	
30-6	406				
Type of Water (Produced, Supply, etc.)			Sampling Point	Sampled By	

DISSOLVED SOLIDS

CATIONS

Sodium, Na (calc.)
Calcium, Ca
Magnesium, Mg
Barium, Ba

mg/l
5580
68
24

me/l
243
3.4
2.0

OTHER PROPERTIES

pH
Specific Gravity, 60/60 F.
Resistivity (ohm-cm)
Conductivity

7.28
1.0175
76.2 cm
1.3110 x 10⁶ mho

ANIONS

Chloride, Cl
Sulfate, SO₄
Carbonate, CO₃
Bicarbonate, HCO₃

636
8
1400
230

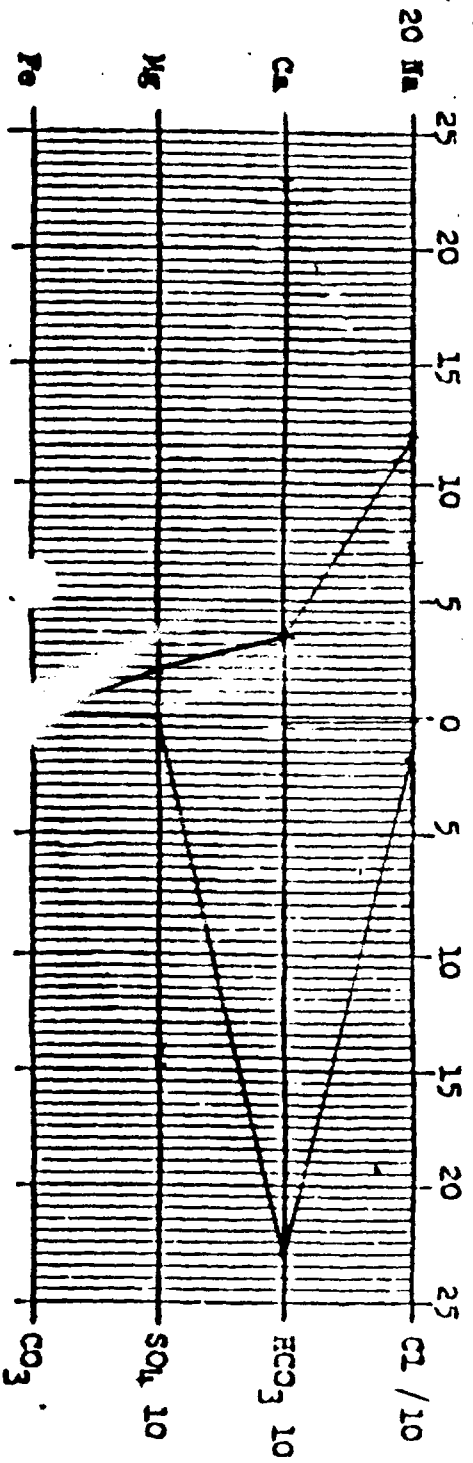
17.9
0
0

Total Dissolved Solids (calc.)
20300

Iron, Fe (total)
Sulfide, as H₂S

0
0

REMARKS & RECOMMENDATIONS:



Scale



API WATER ANALYSIS REPORT FORM

Company	MERIDIAN OIL COMPANY		Sample No.	Date Sampled
Field	Legal Description		County or Parish	State
Lease or Unit	Well #	Depth	Formation	Water, B/D
5-3-30-6	401			
Type of Water (Produced, Supply, etc.)			Sampling Point	Sampled By

DISSOLVED SOLIDS

CATIONS

	mg/l	me/l
Sodium, Na (calc.)	5400	252
Calcium, Ca	66	3.3
Magnesium, Mg	26	2.1
Barium, Ba		

OTHER PROPERTIES
pH
Specific Gravity, 60/60 F.
Resistivity (ohm-meters)
Conductivity

7.63
1.0173
54.4 cm
137104 μmhos

Total Dissolved Solids (calc.) 20700

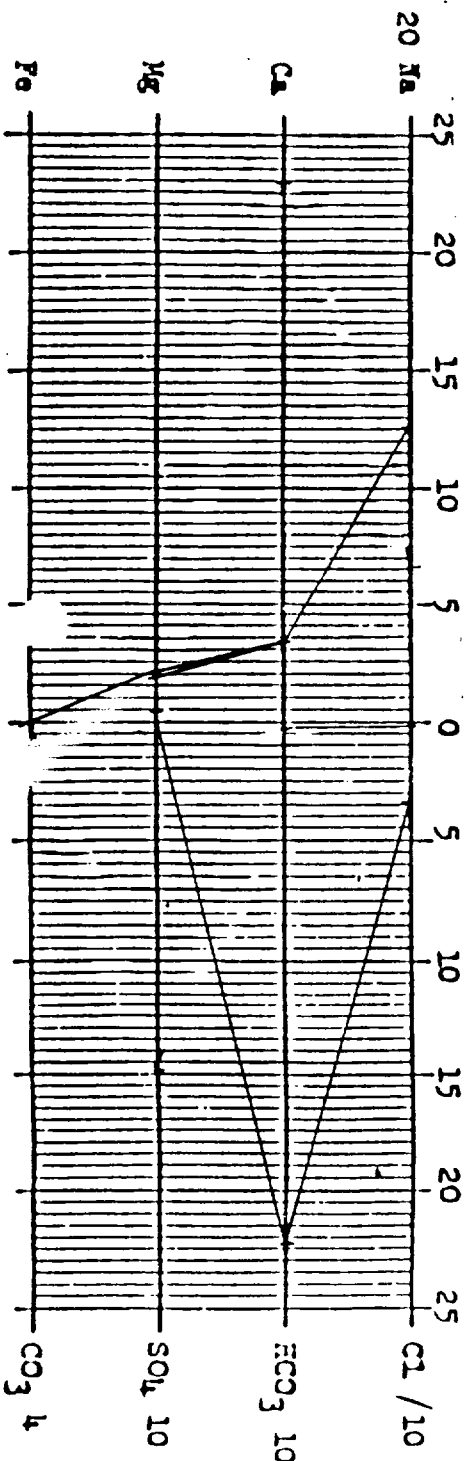
ANIONS

Chloride, Cl	1218	34.4
Sulfate, SO ₄	0	0
Carbonate, CO ₃	0	0
Bicarbonate, HCO ₃	13600	223

Iron, Fe (total)
Sulfide, as H₂S

0
0

REMARKS & RECOMMENDATIONS:





API WATER ANALYSIS REPORT FORM

Attachment #4

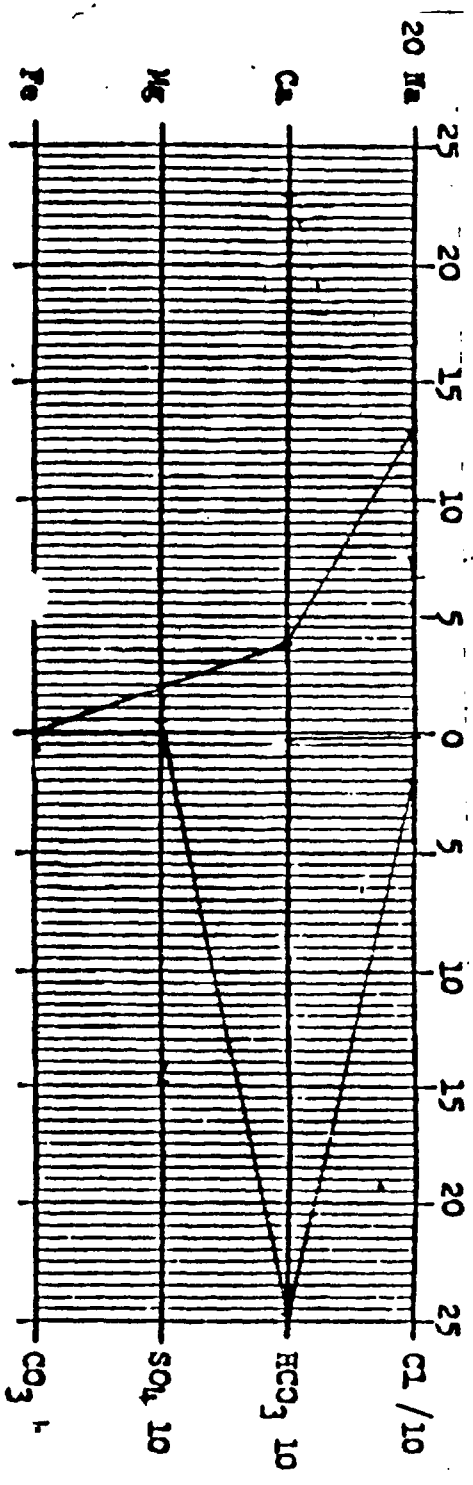
Company	MERIDIAN OIL COMPANY		Sample No.	Date Sampled	
Field	Legal Description		County or Parish	State	
Lease or Unit	30-6	Well	402	Depth	Formation
Type of Water (Produced, Supply, etc.)	Sampling Point		Water, B/D		
			Sampled By		

DISSOLVED SOLIDS

OTHER PROPERTIES

CATIONS	mg/l	me/l	pH
Sodium, Na (calc.)	59.82	2.60	Specific Gravity, 60/60 F. 65.0 F.
Calcium, Ca	78	3.9	Resistivity (ohm-cm) 1650
Magnesium, Mg	24	2.0	Conductivity
Barium, Ba			
Total Dissolved Solids (calc.)			7.33
			148.5
			148.5
			1.32129 mho

ANIONS	mg/l	me/l	Iron, Fe (total)
Chloride, Cl	670	18.9	Sulfide, as H ₂ S
Sulfate, SO ₄	0	0	
Carbonate, CO ₃	15100	237	
Bicarbonate, HCO ₃			
REMARKS & RECOMMENDATIONS:			





API WATER ANALYSIS REPORT FORM

Company MERIDIAN OIL COMPANY		Sample No.		Date Sampled 3-3-88	
Field	Legal Description	County or Parish		State	
Lease or Unit 3-J 30-6	Well # 404	Depth	Formation	Water, B/D	
Type of Water (Produced, Supply, etc.)			Sampling Point		
			Sampled By		

DISSOLVED SOLIDS

CATIONS	mg/l	me/l
Sodium, Na (calc.)	72.30	3.15
Calcium, Ca	3.8	2.4
Magnesium, Mg	2.8	2.3
Barium, Ba		

OTHER PROPERTIES

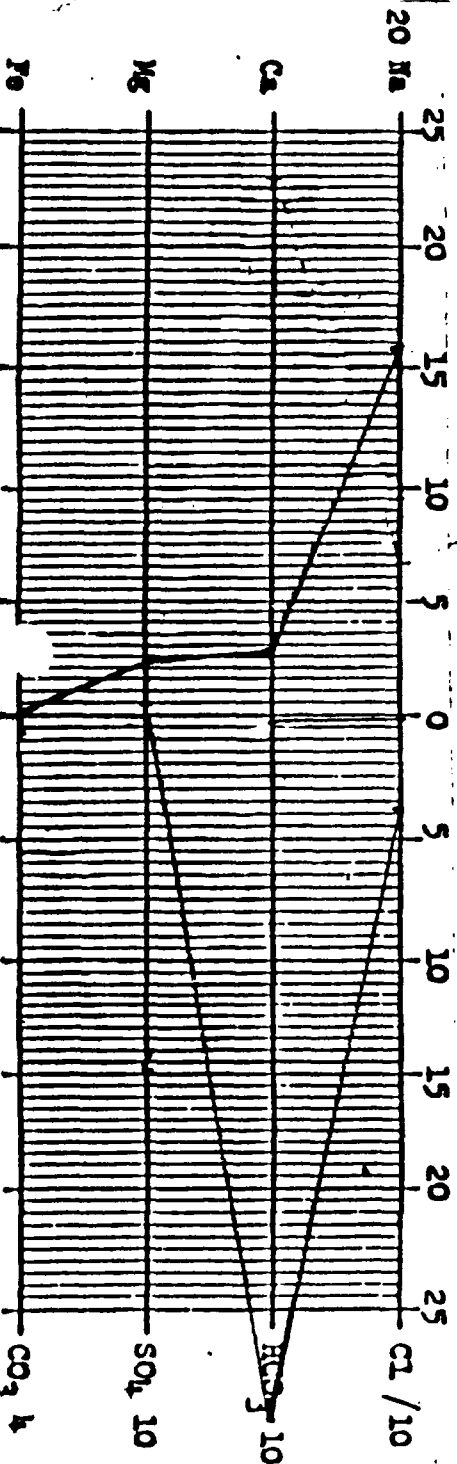
pH _____
 Specific Gravity, 60/60 F. 68°
 Resistivity (ohm-cm) 61.45
 Conductivity 1.6 x 10⁻⁴ mho

Total Dissolved Solids (calc.) 25800

Iron, Fe (total) 0
 Sulfide, as H₂S 0

ANIONS	mg/l	me/l
Chloride, Cl	1400	39.6
Sulfate, SO ₄	0	0
Carbonate, CO ₃	17100	280
Bicarbonate, HCO ₃		

REMARKS & RECOMMENDATIONS:





API WATER ANALYSIS REPORT FORM

Company	MERIDIAN OIL COMPANY	Sample No.		Date Sampled	3-8-88
Field		Legal Description		County or Parish	State
Lease of Unit	30-6	Well	406	Depth	
Type of Water (Produced, Supply, etc.)		Sampling Point		Formation	
				Water, B/D	
				Sampled By	

DISSOLVED SOLIDS

CATIONS

Sodium, Na (calc.)	mg/l	me/l
Calcium, Ca	5610	244
Magnesium, Mg	38	24
Barium, Ba		

OTHER PROPERTIES

pH 7.26
Specific Gravity, 60/60 F. 1.0175
Resistivity (ohm-cm) 650
Conductivity 1.3 x 10⁴ mho

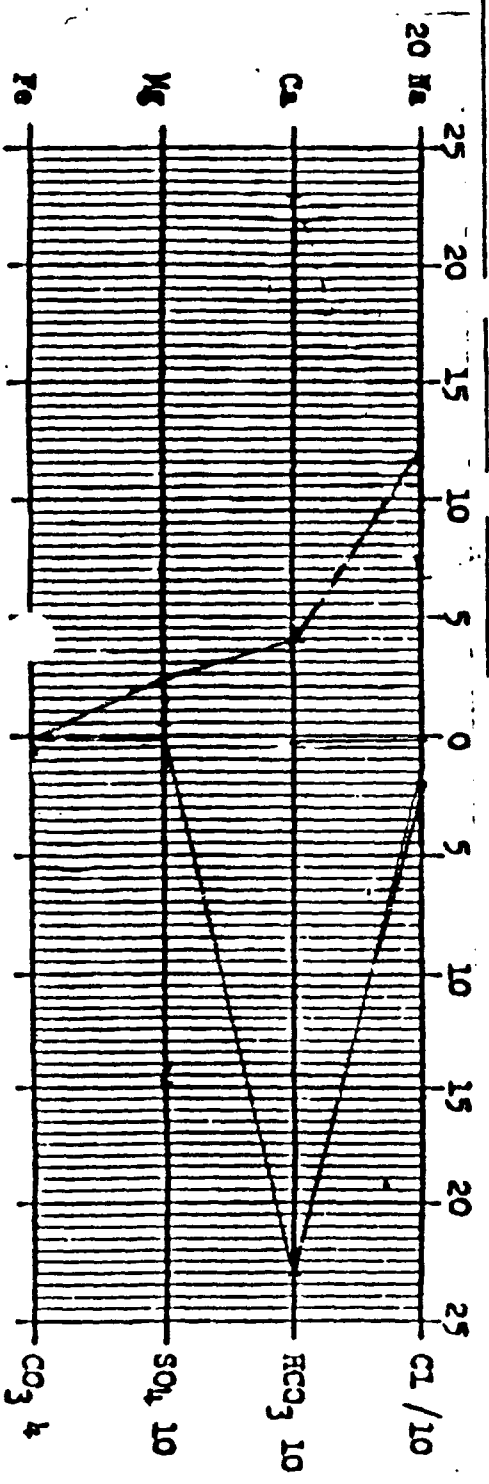
Total Dissolved Solids (calc.) 20400

ANIONS

Chloride, Cl	670	18.9
Sulfate, SO ₄	0	0
Carbonate, CO ₃	14000	232
Bicarbonate, HCO ₃		

Iron, Fe (total) 0
Sulfide, as H₂S 0

REMARKS & RECOMMENDATIONS:



API WATER ANALYSIS REPORT FORM

Company MERIDIAN OIL COMPANY		Sample No.		Date Sampled 3-2-88	
Field	Legal Description	County or Parish		State	
Lease or Unit 30-6	Well # 411	Depth	Formation	Water, B/D	
Type of Water (Produced, Surface)		Sampling Point		Sampled By	

DISSOLVED SOLIDS

CATIONS	mg/l	me/l
Sodium, Na (calc.)	6670	290
Calcium, Ca	36	1.9
Magnesium, Mg	27	2.2
Barium, Ba		

OTHER PROPERTIES

pH
Specific Gravity, 60/60 F. 1.0204
Resistivity (ohm-cm) 1270
Conductivity 125 x 10³ μ mho

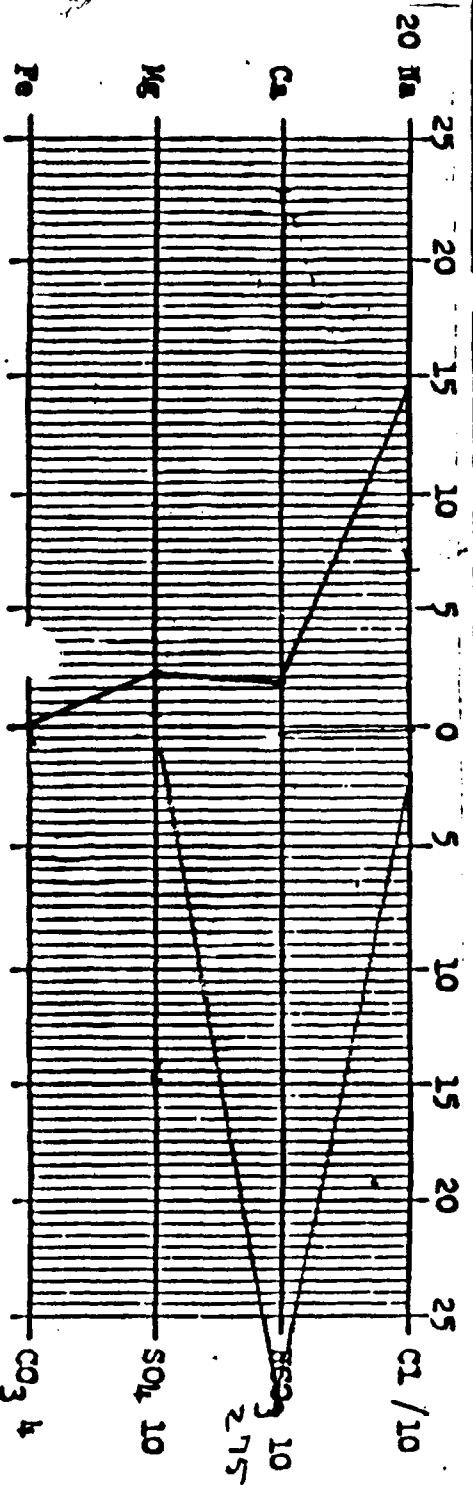
Total Dissolved Solids (calc.) 34100

ANIONS

Chloride, Cl	712	20.1
Sulfate, SO ₄	0	0
Carbonate, CO ₃	16700	274
Bicarbonate, HCO ₃		

Iron, Fe (total) 0
Sulfide, as H₂S 0

REMARKS & RECOMMENDATIONS:



Scale: 1 cm

API WATER ANALYSIS REPORT FORM

Company MERIDIAN OIL COMPANY		Sample No.		Date Sampled 3-3-88	
Field	Legal Description	County or Parish		State	
Lease or Unit SJT 30-6	Well # 412	Depth	Formation	Water, B/D	
Type of Water (Produced, Secondary, etc.)			Sampling Point		
			Sampled By		

DISSOLVED SOLIDS

CATIONS	mg/l	me/l
Sodium, Na (calc.)	5990	260
Calcium, Ca	60	3.0
Magnesium, Mg	28	3.3
Barium, Ba		

OTHER PROPERTIES

pH
Specific Gravity, 60/60 F. 67° F.
Resistivity (ohm-centimeters)
Conductivity

7.41
1.0189
17.05 m
1.4 x 10⁴ μmho

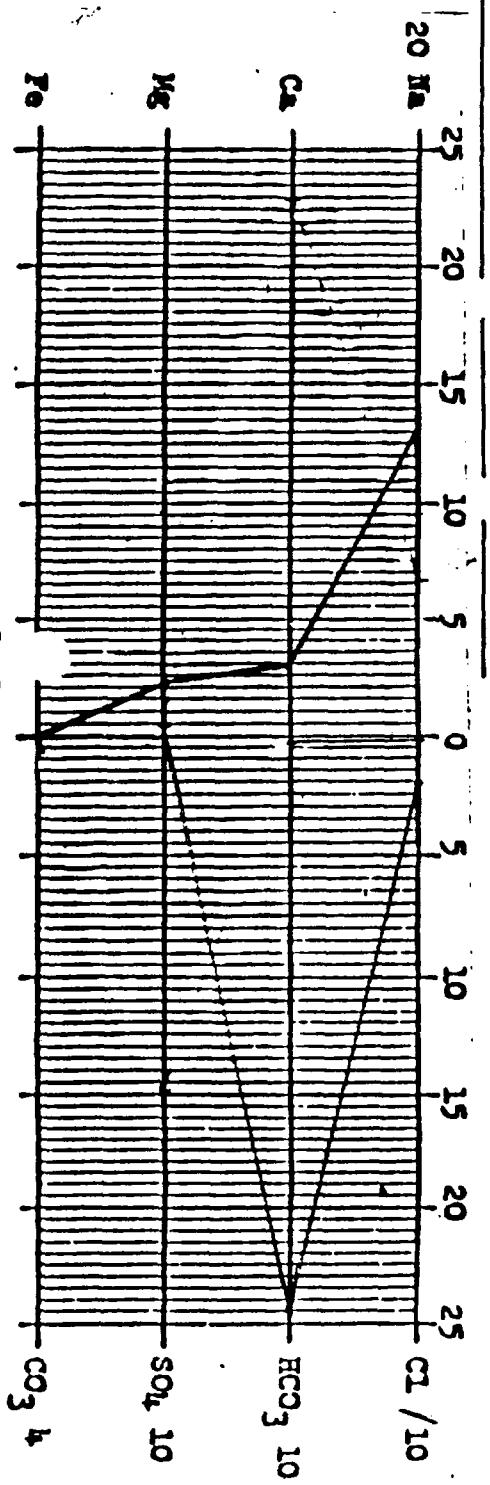
Total Dissolved Solids (calc)
21800

Iron, Fe (total)
Sulfide, as H₂S

0

ANIONS	mg/l	me/l
Chloride, Cl	718	20.3
Sulfate, SO ₄	0	0
Carbonate, CO ₃	15000	245
Bicarbonate, HCO ₃		

REMARKS & RECOMMENDATIONS:



Scale: 1 cm = 1000 mg/l



API WATER ANALYSIS REPORT FORM

Attachment #4

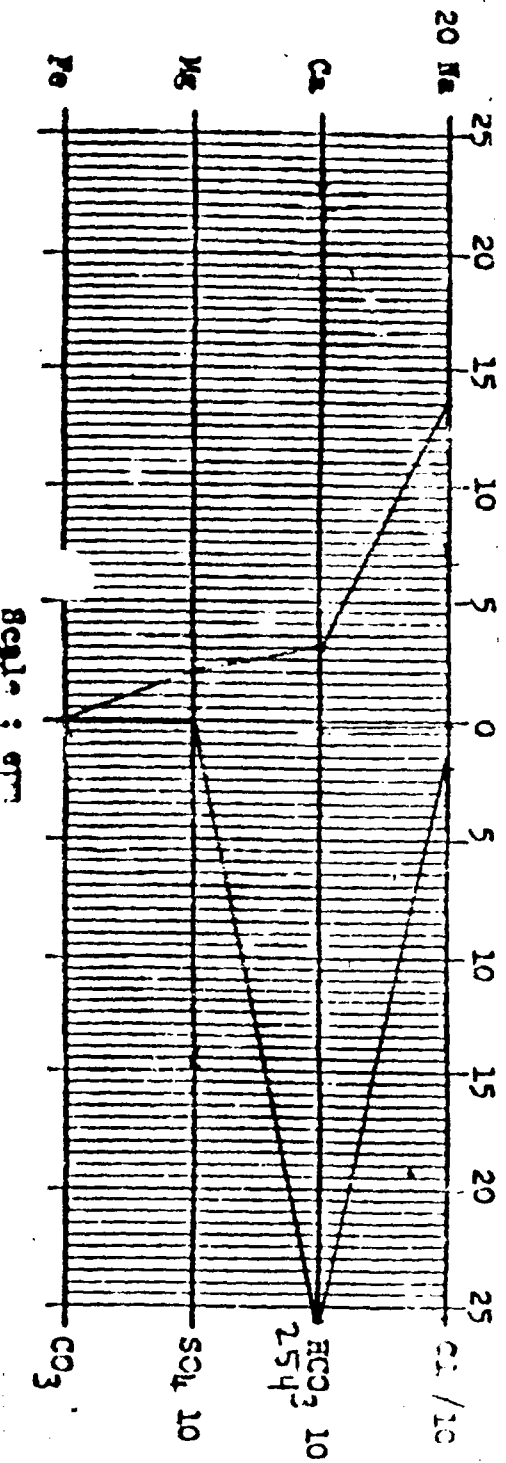
Company	MERIDIAN OIL COMPANY		Sample No.	Date Sampled	
Field	Legal Description		County or Parish	State	
Lease or Unit	Well	Depth	Formation	Water, B/D	
2.730-6	413				
Type of Water (Produced, Supply, etc.)			Sampling Point	Sampled By	

DISSOLVED SOLIDS

OTHER PROPERTIES

CATIONS	mg/l	me/l	PH
Sodium, Na (calc.)	6150	268	Specific Gravity, 60/60 F
Calcium, Ca	63	3.1	Resistivity (ohm-inches)
Magnesium, Mg	26	2.1	Conductivity
Barium, Ba			
Total Dissolved Solids (calc.)			7.31
			1.0188
			1.412129 mho

ANIONS			Iron, Fe (total)
Chloride, Cl	664	18.8	Sulfide, as H ₂ S
Sulfate, SO ₄	0	0	
Carbonate, CO ₃	15800	284	
Bicarbonate, HCO ₃			
REMARKS & RECOMMENDATIONS:			



API WATER ANALYSIS REPORT FORM

Company MERIDIAN OIL COMPANY		Sample No.		Date Sampled 3-3-88	
Field	Legal Description	County or Parish		State	
Lease or Unit S.T. 30-6	Well # 414	Depth	Formation	Water, B/D	
Type of Water (Produced, Stephens)		Sampling Point		Sampled By	

DISSOLVED SOLIDS

CATIONS	mg/l	me/l
Sodium, Na (calc.)	6860	298
Calcium, Ca	42	201
Magnesium, Mg	38	2.3
Barium, Ba		

OTHER PROPERTIES

pH
Specific Gravity, 60/60 F. 68°
Resistivity (ohm-meters) 1.5 x 10⁶ μmho
Conductivity

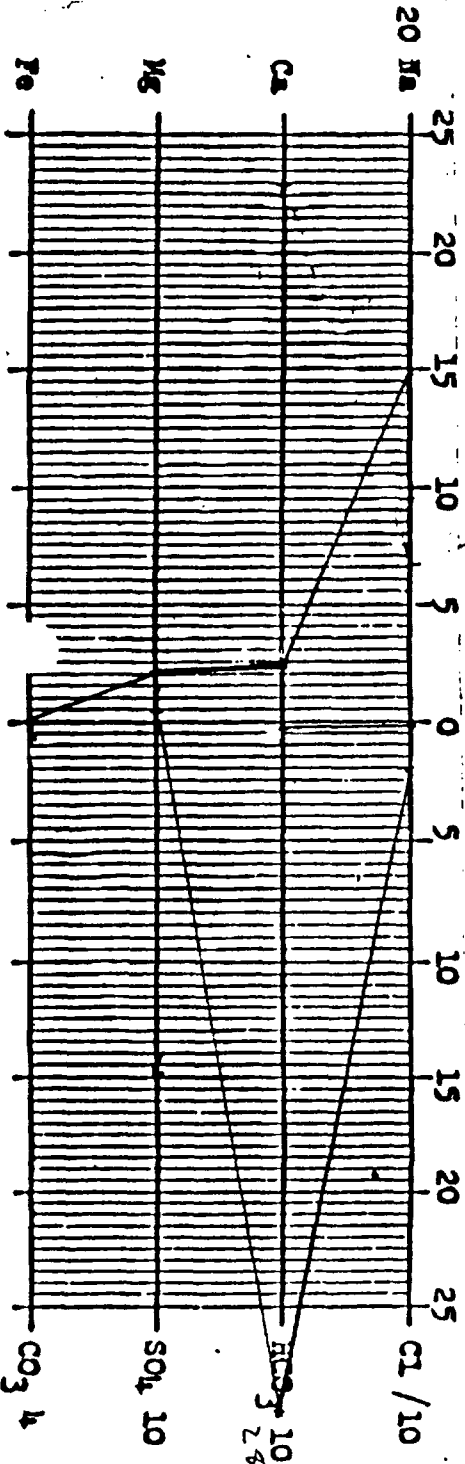
7.91
1.0207
65.25
1.5 x 10⁶ μmho

Total Dissolved Solids (calc) 24400

Iron, Fe (total) 0
Sulfide, as H₂S 0

ANIONS	mg/l	me/l
Chloride, Cl	773	21.8
Sulfate, SO ₄	0	0
Carbonate, CO ₃	17100	281
Bicarbonate, HCO ₃		

REMARKS & RECOMMENDATIONS:



Scale: 1 cm = 1000 mg/l



API WATER ANALYSIS REPORT FORM

Company MERIDIAN OIL COMPANY		Sample No.		Date Sampled 3-3-84	
Field		Legal Description		County or Parish State	
Lease or Unit S-130-6		Well # 415		Depth Formation Water, B/D	
Type of Water (Produced, Surface, etc.)		Sampling Point		Sampled By	

DISSOLVED SOLIDS

CATIONS

Sodium, Na (calc.)	4340 mg/l	199 me/l
Calcium, Ca	34	1.2
Magnesium, Mg	15	1.2
Barium, Ba		

OTHER PROPERTIES

pH 7.25
Specific Gravity, 60/60 F. 1.0142
Resistivity (ohm-cm) 670
Conductivity 1.1 x 10⁴ μmho

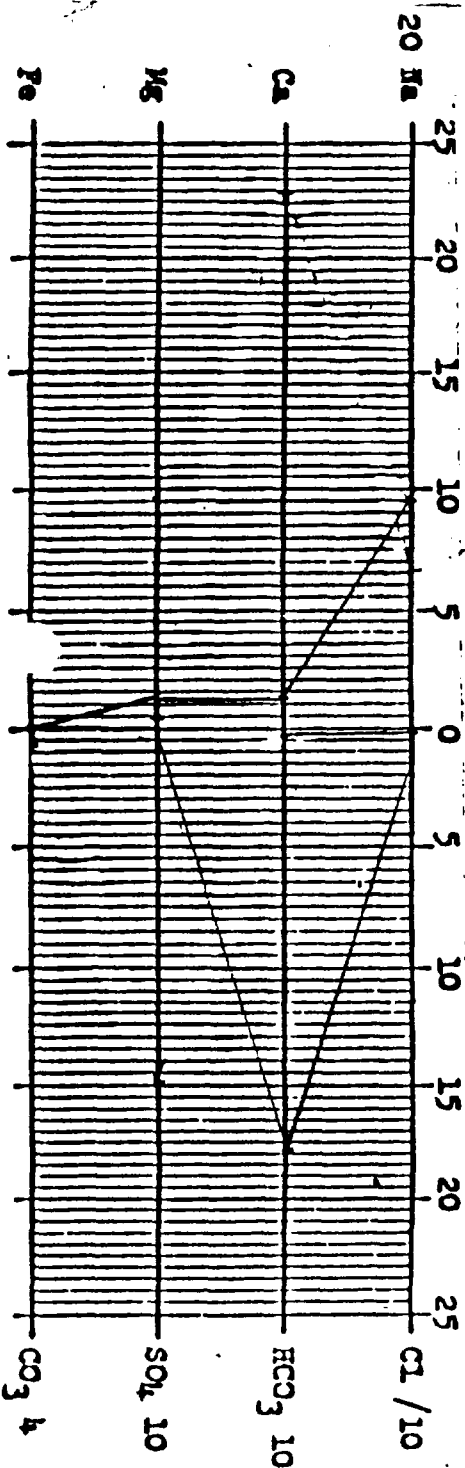
Total Dissolved Solids (calc.) 5700

Iron, Fe (total) 0
Sulfide, as H₂S 0

ANIONS

Chloride, Cl	469	13.2
Sulfate, SO ₄		
Carbonate, CO ₃	10900	178
Bicarbonate, HCO ₃		

REMARKS & RECOMMENDATIONS:



API WATER ANALYSIS REPORT FORM

Company MERIDIAN OIL COMPANY		Sample No.		Date Sampled 3-3-88	
Field	Legal Description	County or Parish		State	
Lease or Unit 30-6	Well # 416	Depth	Formation	Water, B/D	
Type of Water (Produced, Secondary etc.)		Sampling Point		Sampled By	

DISSOLVED SOLIDS

CATIONS

Sodium, Na (calc.)
Calcium, Ca
Magnesium, Mg
Barium, Ba

mg/l

6150

60

26

me/l

268

3.0

2.1

OTHER PROPERTIES

pH
Specific Gravity, 60/60 F. 66° F.
Resistivity (ohm-inches)
Conductivity

7.79
1.0190
86
1.12184

µmho

Total Dissolved Solids (calc.) 22400

Iron, Fe (total)
Sulfide, as H₂S

0
0

ANIONS

Chloride, Cl
Sulfate, SO₄
Carbonate, CO₃
Bicarbonate, HCO₃

545

0

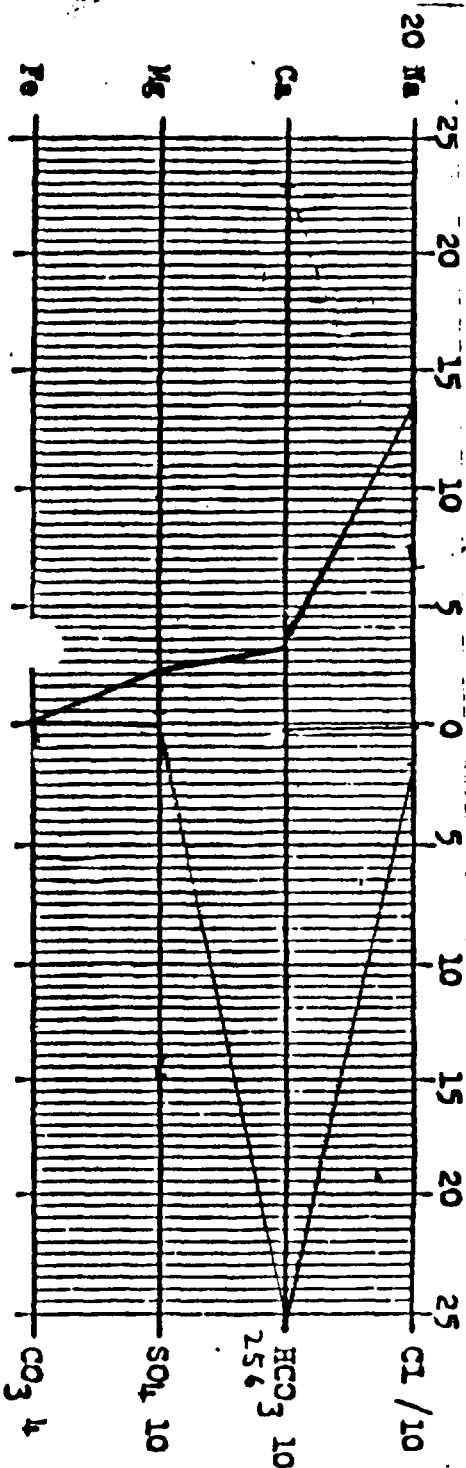
15600

16.2

0

256

REMARKS & RECOMMENDATIONS:



Scale: 1 cm



API WATER ANALYSIS REPORT FORM

Attachment #4

Company MERIDIAN OIL COMPANY		Sample No.		Date Sampled 5-3-88	
Field	Legal Description	County or Parish	State		
Lease or Unit S.J. 36-6	Well # 417	Depth	Formation	Water, B/D	
Type of Water (Produced, Surface etc.)		Sampling Point	Sampled By		

DISSOLVED SOLIDS

CATIONS

	mg/l	me/l
Sodium, Na (calc.)	7360	320
Calcium, Ca	48	2.4
Magnesium, Mg	13	1.8
Barium, Ba		

OTHER PROPERTIES

pH
Specific Gravity, 60/60 F. 670
Resistivity (ohm-cm) 1.6 x 10⁶ mho
Conductivity

7.56
1.0221
6.8 x 10⁶ mho
1.6 x 10⁶ mho

Total Dissolved Solids (calc) 26600

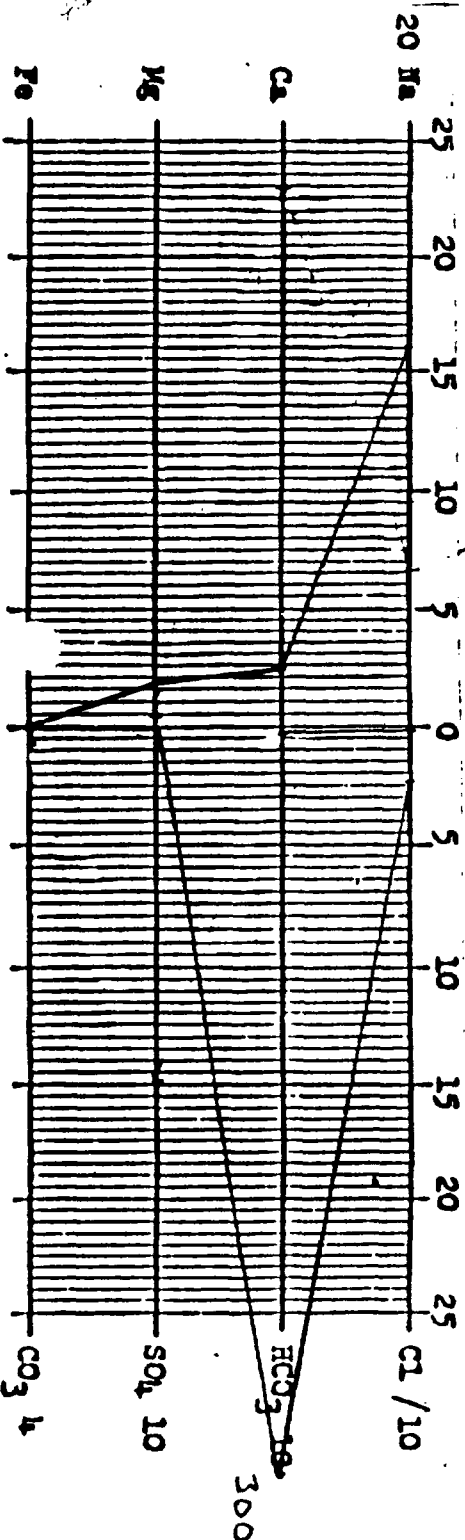
Iron, Fe (total)
Sulfide, as H₂S

0
0

ANIONS

	mg/l	me/l
Chloride, Cl	859	24.2
Sulfate, SO ₄	0	0
Carbonate, CO ₃	18300	300
Bicarbonate, HCO ₃		

REMARKS & RECOMMENDATIONS:



Scale: 1 cm = 1000 mg/l

API WATER ANALYSIS REPORT FORM

Company		MERIDIAN OIL COMPANY		Sample No.	Date Sampled	
Field	Legal Description			County or Parish	State	
Lease or Unit	30-6	Well #	418	Depth	Formation	Water, B/D
Type of Water (Produced, Surfactant)				Sampling Point	Sampled By	

DISSOLVED SOLIDS

CATIONS	mg/l	me/l
Sodium, Na (calc.)	6490	283
Calcium, Ca	36	3.8
Magnesium, Mg	28	2.3
Barium, Ba		

OTHER PROPERTIES

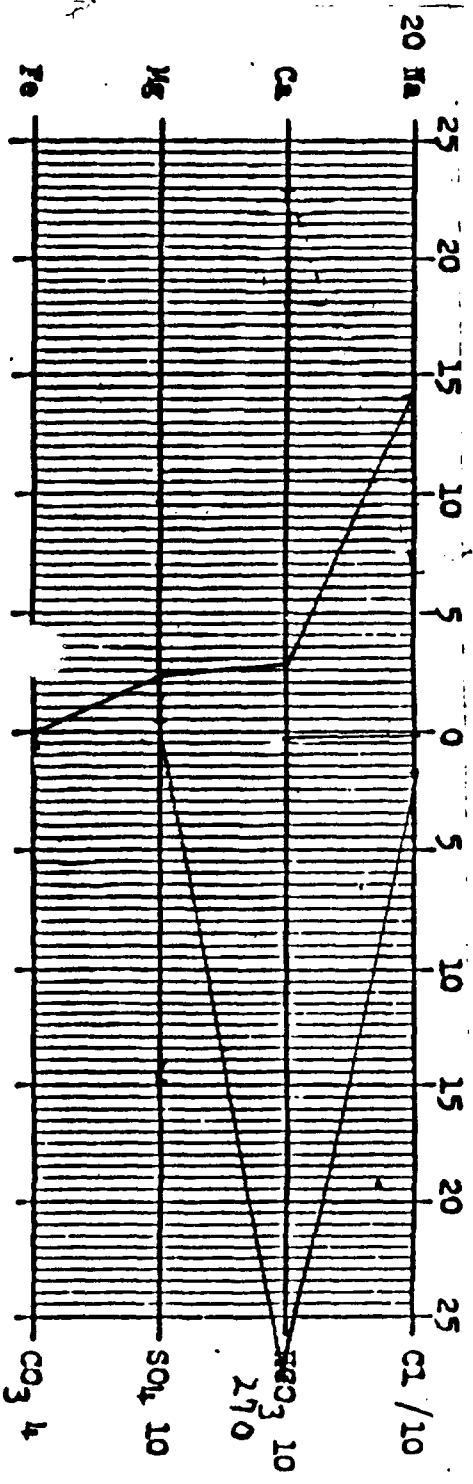
pH
Specific Gravity, 60/60 F. 670
Resistivity (ohm-meters) 18202
Conductivity 157104 μmho

Total Dissolved Solids (calc.) 23700

Iron, Fe (total) 0
Sulfide, as H₂S 0

ANIONS	mg/l	me/l
Chloride, Cl	623	17.6
Sulfate, SO ₄	0	0
Carbonate, CO ₃	0	0
Bicarbonate, HCO ₃	16500	270

REMARKS & RECOMMENDATIONS:



Scale: 1 cm

API WATER ANALYSIS REPORT FORM

Attachment #4

Company MERIDIAN OIL COMPANY		Sample No.		Date Sampled 3-3-89	
Field		Legal Description		County or Parish State	
Lease or Unit 5-3-8		Well # 419		Depth Formation Water, B/D	
Type of Water (Produced, Supply, etc.)		Sampling Point		Sampled By	

DISSOLVED SOLIDS

CATIONS

Sodium, Na (calc.)	4930	mg/l	314	me/l
Calcium, Ca	36		2.8	
Magnesium, Mg	27		2.3	
Barium, Ba				

OTHER PROPERTIES

pH 7.21
Specific Gravity, 60/60 F. 1.0156
Resistivity (ohm-meters) 670
Conductivity 1220 μ mho

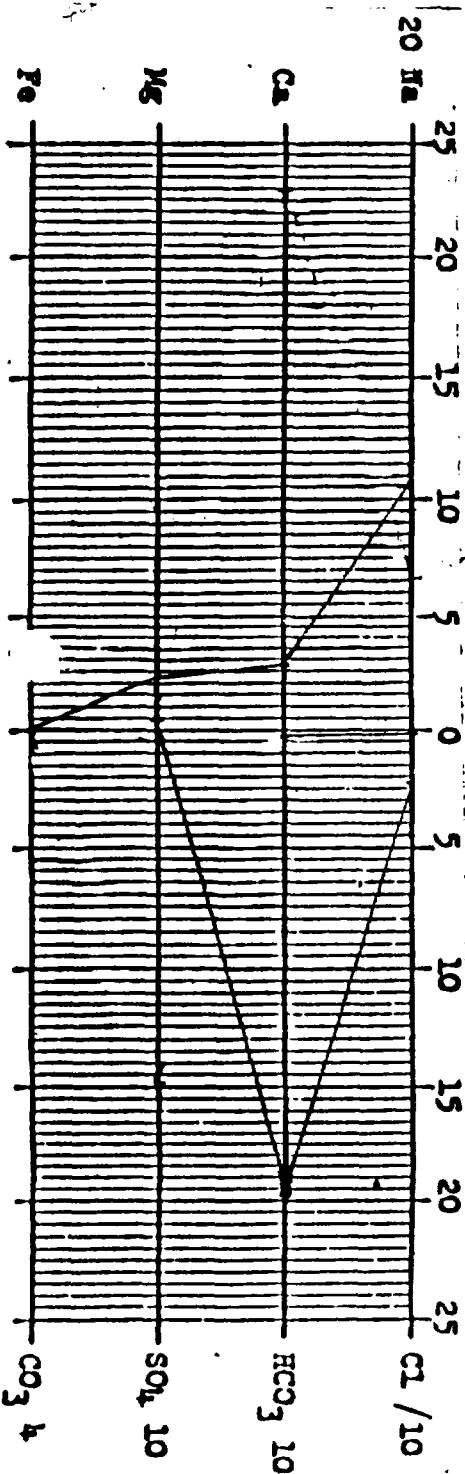
Total Dissolved Solids (calc.) 17800

Iron, Fe (total) 0
Sulfide, as H₂S 0

ANIONS

Chloride, Cl	790		22.3	
Sulfate, SO ₄	0		0	
Carbonate, CO ₃	12000		197	
Bicarbonate, HCO ₃				

REMARKS & RECOMMENDATIONS:





API WATER ANALYSIS REPORT FORM

Company MERIDIAN OIL COMPANY		Sample No.		Date Sampled 3-3-84	
Field	Legal Description	County or Parish		State	
Lease or Unit S-130-6	Well # 420	Depth	Formation	Water, B/D	
Type of Water (Produced, Supplemental)		Sampling Point		Sampled By	

DISSOLVED SOLIDS

CATIONS

	mg/l	me/l
Sodium, Na (calc.)	5390	234
Calcium, Ca	80	4.0
Magnesium, Mg	24	2.3
Barium, Ba		

OTHER PROPERTIES

pH
Specific Gravity, 60/60 F. 67° F.
Resistivity (ohm-inches) 13104
Conductivity 13104 μ mho

Total Dissolved Solids (calc.) 19500

Iron, Fe (total)
Sulfide, as H₂S

ANIONS

	mg/l	me/l
Chloride, Cl	838	23.6
Sulfate, SO ₄		
Carbonate, CO ₃	13200	217
Bicarbonate, HCO ₃		

REMARKS & RECOMMENDATIONS:

