

ESTIMATED RATE OF LIQUID
DISCHARGE FROM AMAX

Formula: $gpm = \frac{2.56 X d^2}{\sqrt{Y}}$

gpm=Gallons per minute
d=diameter of pipe, inches
X=inches
Y=inches

$$\begin{aligned} gpm &= \frac{(2.56) (60) (10^2)}{\sqrt{48}} \\ &= \frac{3072}{6.93} \\ &= 443.29 \text{ gpm} \\ &= 10.55 \text{ bbl. per min.} \\ &= 633 \text{ bbls. per hour} \\ &= 15,192 \text{ bbls. per day} \end{aligned}$$

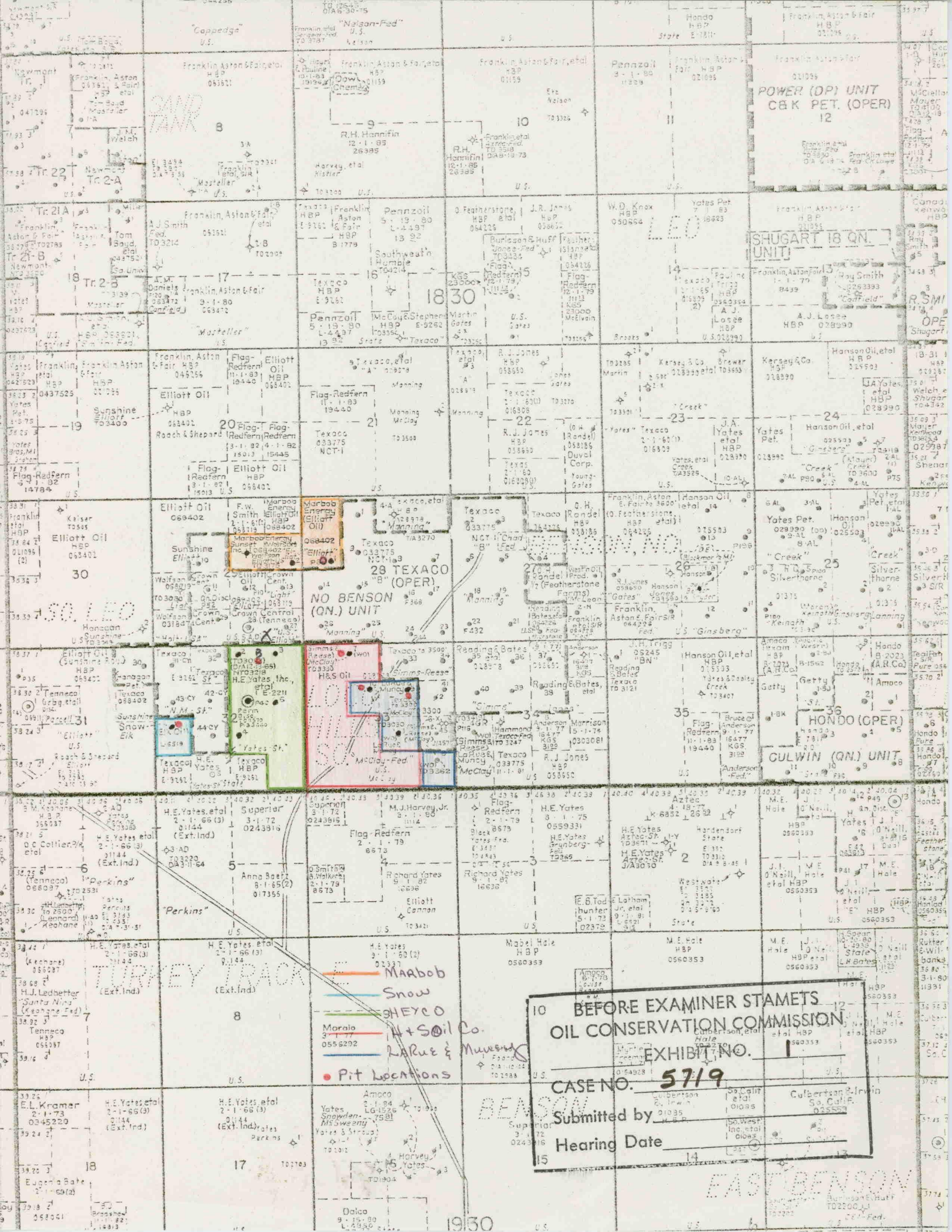
BEFORE EXAMINER STAMETS
OIL CONSERVATION COMMISSION

EXHIBIT NO. 5

CASE NO. 3719

Submitted by _____

Hearing Date _____



CASES 5719, 5720, 5721, 5722 and 5723
were consolidated. All exhibits and the
transcripts may be found in Case File
5719

64m 01.1 to
5-31-76

2712
7120
1851
563
New

Applicant	Oil Produced Per Day	Water Produced Per Day
HARVEY E. YATES COMPANY -	Section 32: NE/4, N/2 SE/4	T-18-S, R-30-E
Yates State No. 1 G		
Yates State No. 2 B		
Yates State No. 3 A		
Yates State No. 4 J		
Yates State No. 6 H	50	18
GENE SNOW -	Section 32: NW/4 SW/4	T-18-S, R-30-E
Elk No. 1 L	1-1/2 Barrels	Less than 1
MARBOB OIL COMPANY -	Section 28: SW/4 NW/4 Section 29: S/2 NE/4	T-18-S, R-30-E T-18-S, R-30-E
Elliott No. 1 E	12	5
Elliott No. 2 H	2	6
Elliott No. 3 G	5	Less than 1
SIMMS & REESE - 785 C	Section 33: NE/4 NW/4	T-18-S, R-30-E
McClay No. 7	5	15
LARUE & MUNCY - (No. 9) G	Section 33: SW/4 NE/4	T-18-S, R-30-E
- (No. 10) F	Section 33: SE/4 NW/4	T-18-S, R-30-E
McClay No. 9	50 Barrels	3
McClay No. 10	15 Barrels	3

614
4117
131
331
5604
4818
854

5719 PD

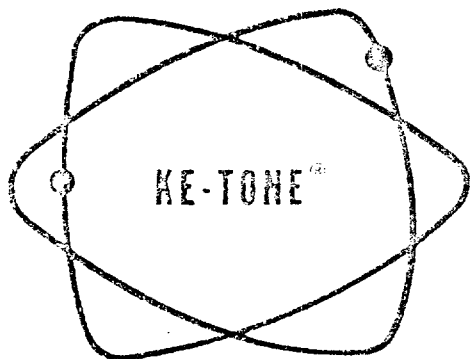
BEFORE EXAMINER STAMETS
OIL CONSERVATION COMMISSION
EXHIBIT NO. 2
CASE NO. 5719
Submitted by _____
Hearing Date _____

WATER ANALYSIS CHART

	Dissolved Solids	PH	Chlorides mg/l	Sulfates mg/l
AMEX	319,927	7.5	194,500	2,249
H & S Oil Company	97,808	8.45	56,000	4,375
LaRue and Muncy	117,398	9.3	67,400	5,000
Gene Snow	80,620	7.75	45,600	4,300
HEYCO	121,645	7.5	70,600	4,063
Marbob	77,935	8.8	45,000	3,208

mg/l = milligrams per Liter

BEFORE EXAMINER STAMETS	
OIL CONSERVATION COMMISSION	
Exhibit No.	<u>3</u>
CASE NO.	<u>5719</u>
Submitted by	_____
Hearing Date	_____



UNITED CHEMICAL CORPORATION

OF NEW MEXICO

601 NORTH LEECH

P. O. BOX 1499

HOBBS, NEW MEXICO 88240

July 15, 1976

H & S Oil Company
216 American Home Bldg.
Artesia, New Mexico 88210

Attention: Mr. Herb Spencer

Dear Mr. Spencer,

Enclosed please find our water analyses reports on the six samples from the North Benson field submitted July 15, 1976.

If you have any questions or need additional information, please call us.

Yours truly,

UNITED CHEMICAL CORP. of N.M.

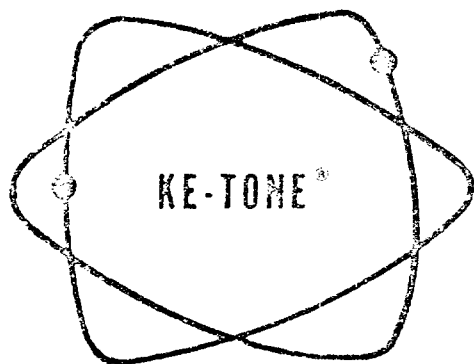
Lucille Little
Analyst

LL/mb

cc: Charlie Kyle
Jim Sealy
Pacho Jara
Cy Foster

~~~~~ Makes Water Work ~~~~~





# UNITED CHEMICAL CORPORATION

OF NEW MEXICO

601 NORTH LEECH

P. O. BOX 1499

HOBBS, NEW MEXICO 88240

Company H & S Oil Company

Field North Benson

Lease McClay #10

Sampling Date 7-14-76

Type of Sample

## WATER ANALYSIS

### IONIC FORM

Calcium ( $\text{Ca}^{++}$ )  
Magnesium ( $\text{Mg}^{++}$ )  
Sodium ( $\text{Na}^{+}$ )  
Iron (Total)

(CALCULATED)

| me/l *   | mg/l * |
|----------|--------|
| 120.00   | 2,400  |
| 94.76    | 1,137  |
| 1,795.02 | 41,268 |
|          | 425    |

Bicarbonate ( $\text{HCO}_3^-$ )  
Carbonate ( $\text{CO}_3^{--}$ )  
Hydroxide ( $\text{OH}^-$ )  
Sulphate ( $\text{SO}_4^{--}$ )  
Chloride ( $\text{Cl}^-$ )

|          |        |
|----------|--------|
| 1.40     | 85     |
| 3.60     | 108    |
| Not      | Found  |
| 104.10   | 5,000  |
| 1,900.68 | 67,400 |

Total Dissolved Solids

117,398

9.3 pH c 68 °F

Dissolved Solids on Evap. at 103° - 105° C

Hardness as  $\text{CaCO}_3$

Carbonate Hardness as  $\text{CaCO}_3$  (temporary)

Non-Carbonate Hardness as  $\text{CaCO}_3$  (permanent)

Alkalinity as  $\text{CaCO}_3$

Specific Gravity c 68° F 1.082

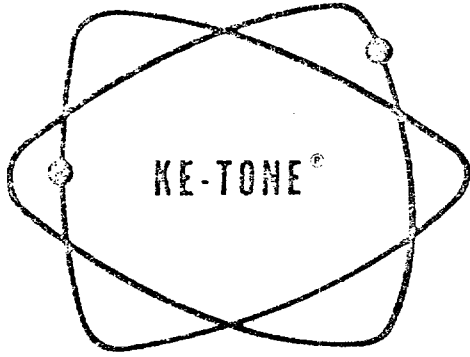
|        |        |
|--------|--------|
| 214.76 | 10,738 |
| 5.00   | 250    |
| 209.76 | 10,488 |
| 5.00   | 250    |

\* mg/l = milligrams per Liter

\* me/l = milliequivalents per Liter

# WATER ANALYSIS — IONIC

TELEPHONE: HOBBS 393-7751  
AREA CODE - 505



## UNITED CHEMICAL CORPORATION

OF NEW MEXICO

601 NORTH LEECH

P. O. BOX 1499

HOBBS, NEW MEXICO 88240

Company

H & S Oil Company

Field

North Benson

Lease

Gene Snow

Sampling Date

7-14-76

Type of Sample

### WATER ANALYSIS

#### IONIC FORM

Calcium (Ca++)  
Magnesium (Mg++)  
Sodium (Na+)  
Iron (Total)

(CALCULATED)

me/l \*

mg/l \*

125.88

2,518

108.12

1,297

1,149.35

26,424

1.26

Bicarbonate (HCO<sub>3</sub>-)  
Carbonate (CO<sub>3</sub>-)  
Hydroxide (OH-)  
Sulphate (SO<sub>4</sub>-)  
Chloride (Cl-)

7.90

481

Not

Found

Not

Found

89.53

4,300

1,285.92

45,600

Total Dissolved Solids

80,620

7.75 pH at 68 °F

Dissolved Solids on Evap. at 103° - 105° C

Hardness as Ca CO<sub>3</sub>

234.00

11,700

Carbonate Hardness as CaCO<sub>3</sub> (temporary)

7.90

395

Non-Carbonate Hardness as CaCO<sub>3</sub> (permanent)

226.10

11,305

Alkalinity as CaCO<sub>3</sub>

7.90

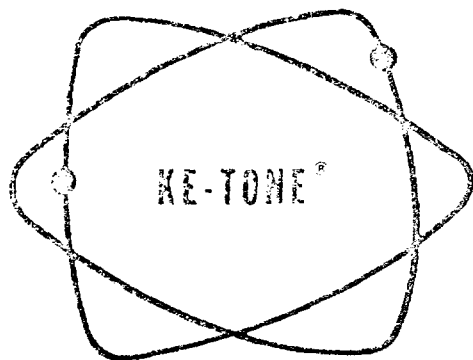
395

Specific Gravity at 68° F 1.055

\* mg/l = milligrams per Liter

\* me/l = milliequivalents per Liter

*Makes Water Work*



**UNITED CHEMICAL CORPORATION**  
OF NEW MEXICO

601 NORTH LEECH

P. O. BOX 1499

HOBBS, NEW MEXICO 88240

Company

H & S Oil Company

Field

North Benson

Lease

Amax Mine

Sampling Date

7-15-76

Type of Sample

WATER ANALYSIS

IONIC FORM

Calcium (Ca++)  
Magnesium (Mg++)  
Sodium (Na+)  
Iron (Total)

(CALCULATED)

me/l \*  
45.00  
371.20  
5 118.12

mg/l \*  
900  
4,454  
117,666  
7.3

Bicarbonate (HCO<sub>3</sub> )  
Carbonate (CO<sub>3</sub> -)  
Hydroxide (OH-)  
Sulphate (SO<sub>4</sub> -)  
Chloride (Cl-)

2.60  
Not  
Not  
46.82  
5,484.90

158  
Found  
Found  
2,249  
194,500

Total Dissolved Solids

319,927

7.5 pH c 68 °F

Dissolved Solids on Evap. at 103° - 105° C

Hardness as Ca CO<sub>3</sub>

Carbonate Hardness as CaCO<sub>3</sub> (temporary)

Non-Carbonate Hardness as CaCO<sub>3</sub> (permanent)

Alkalinity as CaCO<sub>3</sub>

Specific Gravity c 68° F 1.210

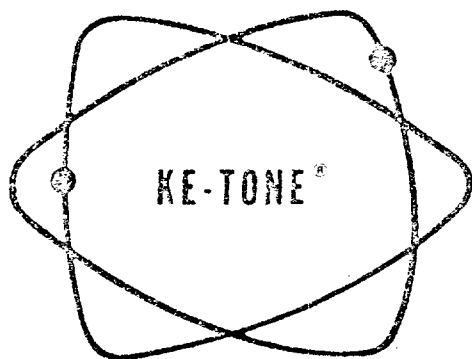
416.20  
2.60  
413.60  
2.60

20,810  
130  
20,680  
130

\* mg/l = milligrams per Liter

\* me/l = milliequivalents per Liter

*Makes Water Work*



# UNITED CHEMICAL CORPORATION

OF NEW MEXICO

601 NORTH LEECH

P. O. BOX 1499

HOBBS, NEW MEXICO 88240

Company H & S Oil Company

Field North Benson

Lease Heyco State

Sampling Date 7-15-76

Type of Sample

## WATER ANALYSIS

### IONIC FORM

Calcium (Ca++)  
Magnesium (Mg++)  
Sodium (Na+)  
Iron (Total)

(CALCULATED)

| me/l *   | mg/l * |
|----------|--------|
| 151.20   | 3,024  |
| 114.26   | 1,371  |
| 1,821.65 | 41,880 |
|          | 4.7    |

Bicarbonate (HCO<sub>3</sub>-)  
Carbonate (CO<sub>3</sub>-)  
Hydroxide (OH-)  
Sulphate (SO<sub>4</sub>-)  
Chloride (Cl-)

|          |        |
|----------|--------|
| 11.60    | 707    |
| Not      | Found  |
| Not      | Found  |
| 84.59    | 4,063  |
| 1,990.92 | 70,600 |

Total Dissolved Solids

121,645

7.7 pH at 68 °F

Dissolved Solids on Evap. at 103° - 105° C

Hardness as Ca CO<sub>3</sub>

Carbonate Hardness as CaCO<sub>3</sub> (temporary)

Non Carbonate Hardness as CaCO<sub>3</sub> (permanent)

Alkalinity as CaCO<sub>3</sub>

Specific Gravity at 68° F 1.085

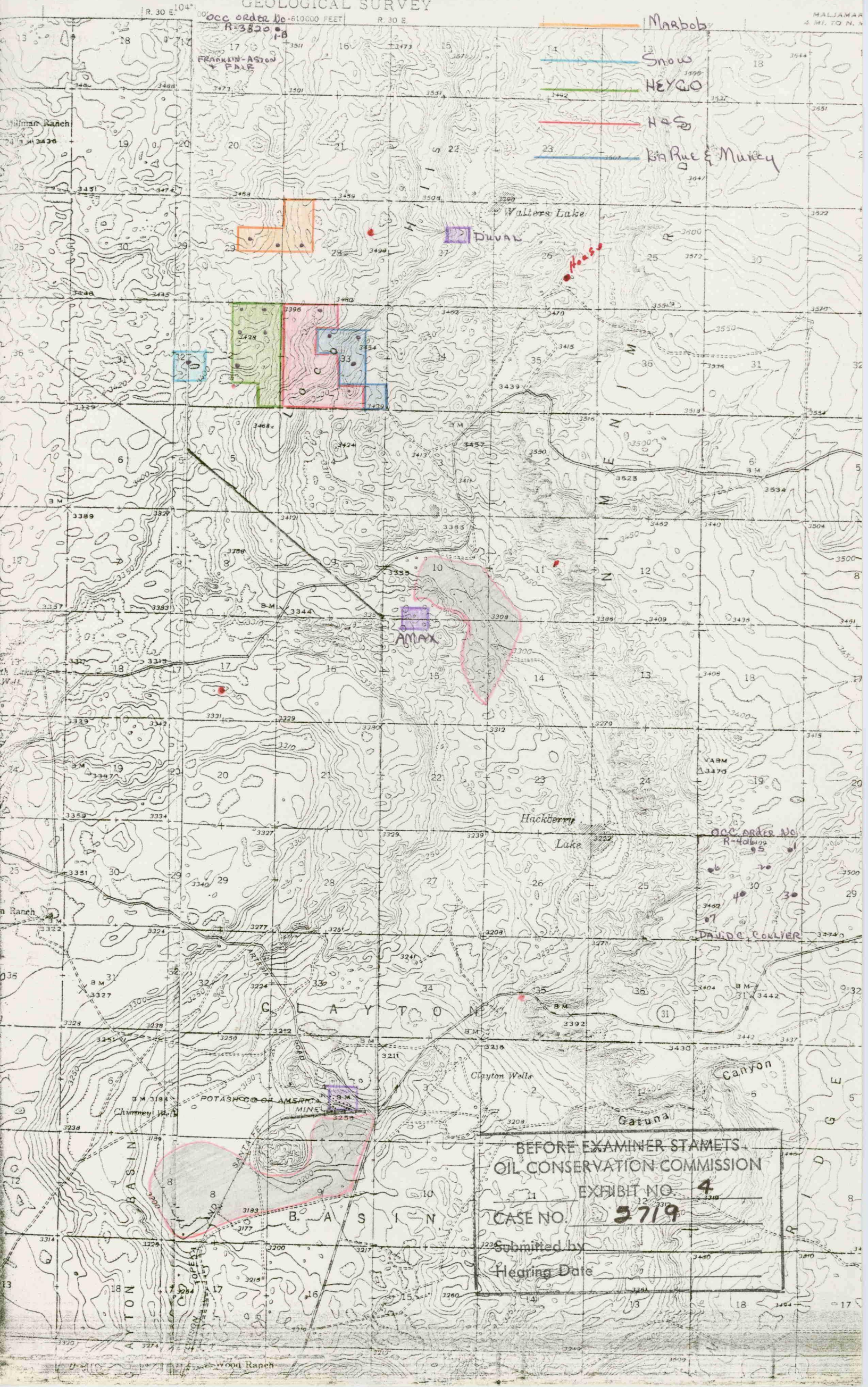
|        |        |
|--------|--------|
| 265.46 | 13,273 |
| 11.60  | 580    |
| 253.86 | 12,693 |
| 11.60  | 580    |

\* mg/l = milligrams per Liter

\* me/l = milliequivalents per Liter

*Makes Water Work*





BEFORE EXAMINER STAMETS  
OIL CONSERVATION COMMISSION  
EXHIBIT NO. **4**  
CASE NO. **3719**  
Submitted by \_\_\_\_\_  
Hearing Date \_\_\_\_\_