

**AMERICAN PETROLEUM CORPORATION**  
**RESEARCH CENTER**  
**WATER ANALYSIS**

**LOCATION SAMPLED:** Division Fort Worth District Lubbock Area Hobbs  
Operator (Plant) Pan American Well No. 3 Lease State "D"  
State (Province) New Mexico County (Parish) Lea  
Twp. \_\_\_\_\_ Rng. \_\_\_\_\_ Sec. \_\_\_\_\_ Quarter (Lsd.) \_\_\_\_\_ Other (Meridian) \_\_\_\_\_  
Field name Fowler Devonian Sample used for detailed analyses \_\_\_\_\_  
Sample collected from \_\_\_\_\_ Sample collected by T. W. Wilson Date \_\_\_\_\_  
Interval sampled \_\_\_\_\_ to \_\_\_\_\_ Interval name \_\_\_\_\_  
Recovery \_\_\_\_\_  
Form 97 transmitted by V. E. Staley Date transmitted 8-3-67, File: VES-315-538  
Technical Service request authorized by \_\_\_\_\_ Office \_\_\_\_\_  
Technical Service Number: 3094

**ORGANIC CONSTITUENTS in mg/l**

	BOTTOM	MIDDLE	TOP	MUD
Benzene	_____	_____	_____	_____
Toluene	_____	_____	_____	_____
Phenols	_____	_____	_____	_____
HC <sup>+</sup> Gases	_____	_____	_____	_____

**DESCRIPTION OF SAMPLE**

Condition as received \_\_\_\_\_  
Color \_\_\_\_\_  
Odor \_\_\_\_\_  
Suspended solids \_\_\_\_\_  
Bottom sediment \_\_\_\_\_  
Oil content \_\_\_\_\_

**QUALITY OF SAMPLE**

Chloride BOTTOM MIDDLE TOP  
ion mg/l: \_\_\_\_\_  
Comments on quality \_\_\_\_\_

**CONVENTIONAL MAJOR ION ANALYSIS**

	Major Ions mg/l <sup>1</sup>	% of Total Major Ions	Reaction Value meq/l <sup>2</sup>	% of Total Reaction Value
<b>CATIONS</b>				
Sodium Na <sup>+</sup>	51,079	31.26	2,221.92	39.64
Calcium Ca <sup>++</sup>	8,800	5.39	439.12	7.71
Magnesium Mg <sup>++</sup>	2,250	1.38	184.95	3.25
Potassium K <sup>+</sup>	_____	_____	_____	_____
<b>ANIONS</b>				
Chloride Cl <sup>-</sup>	100,000	61.20	2,820.00	49.54
Bicarbonate HCO <sub>3</sub> <sup>-</sup>	63	.04	1.03	.02
Sulfate SO <sub>4</sub> <sup>-</sup>	1,200	.73	24.96	.44
Carbonate CO <sub>3</sub> <sup>-</sup>	0	0	0	0
<b>TOTAL</b>	163,392			

Total solids by evaporation 170,320 mg/l  
NaCl resistivity equivalent (Dunlap) 164,556 mg/l  
Resistivity .054 ohm-meters at 77 °F  
pH 6.0 Specific gravity 1.115 at \_\_\_\_\_ °F  
Ryznar stability index (2pHs-pH) \_\_\_\_\_ at \_\_\_\_\_ °F

**OTHER IONS AND DISSOLVED SOLIDS**

CATIONS	mg/l	ANIONS	mg/l	OTHERS	mg/l
Lithium Li <sup>+</sup>	_____	Bromide Br <sup>-</sup>	_____	Iron Fe	_____
_____	_____	Iodide I <sup>-</sup>	_____	Boron B	_____
_____	_____	_____	_____	Silica SiO <sub>2</sub>	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

<sup>1</sup> Data previously reported on Form 66 7-62 under the heading P.P.M. was actually in milligrams per liter. By definition, ppm = mg/l /sp. gr.  
<sup>2</sup> meq/l means milligram equivalents per liter.

**REMARKS AND CONCLUSIONS:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
cc: \_\_\_\_\_ Date received 8-22-67 Field sample no. \_\_\_\_\_  
Analyst D. W. R. R. Lab. no. T-18715 Date 8-6-67