

# VISCO WATER ANALYSIS WORK SHEET

COMPANY Timko Resources LOCATION Logan County, Colorado  
 TIME 5-12-18 LEASE Whittier WATER SOURCE Water Tank

## TOTAL DISSOLVED SOLIDS:

ATIONS	Column 1 mg/l as compound	Column 2 mg/l as ions	Column 3 mg/l
A. Sodium		<u>7090.464</u> as Na+ = 23.0X	<u>308.28128</u> A.
B. Total hardness, as CaCO <sub>3</sub> =	<u>875</u>		
C. Calcium, as CaCO <sub>3</sub> =	<u>700</u> X 0.400 =	<u>280</u> as Ca++ X 0.050 =	<u>14</u> C.
D. Magnesium, as CaCO <sub>3</sub> =	<u>175</u> X 0.243 =	<u>45.525</u> as Mg++ X 0.0243 =	<u>3.4998075</u> D.
E. Barium, as BaSO <sub>4</sub> =	<u>0</u> X 0.589 =	<u>0</u> as Ba++ X 0.0148 =	<u>0</u> E.
		Subtotal	<u>17.499807</u>
F. Total Cations =		<u>7415.944</u>	<u>325.78108</u> F.
ANIONS			
G. Chloride, as NaCl =	<u>17800</u> X 0.607 =	<u>10804.6</u> as Cl- X 0.0282 =	<u>304.69972</u> G.
H. Sulfate, as Na <sub>2</sub> SO <sub>4</sub> =	<u>6</u> X 0.678 =	<u>4.056</u> as SO <sub>4</sub> X 0.0206 =	<u>.0843648</u> H.
I. Carbonate, as CaCO <sub>3</sub> =	<u>50</u> X 0.800 =	<u>30</u> as CO <sub>3</sub> X 0.0333 =	<u>.999</u> I.
J. Bicarbonate, as CaCO <sub>3</sub> =	<u>1000</u> X 1.220 =	<u>1220</u> as HCO <sub>3</sub> X 0.0184 =	<u>20.008</u> J.
K. Total Anions =			<u>325.78108</u> K.
L. Total Dissolved Solids	<u>18</u>	<u>12058.456</u>	
M. Total Iron, as Fe		<u>19474.65</u>	
N. Acidity to Phen., as CaCO <sub>3</sub>	<u>260</u> X 0.440 =	<u>114.4</u> as CO <sub>2</sub>	

## OTHER PROPERTIES:

1. Sulfide, as H <sub>2</sub> S	<u>0</u>	S. Turbidity	<u>n/a</u>
2. Oxygen, as O <sub>2</sub>	<u>n/a</u>	T. Temperature, °F	<u>62°F</u>
3. pH	<u>7.1</u>	V. Spec. Grav.	<u>1.01</u>

## COMMENTS:

## DISTRICT/AREA:

ANALYST: Steve Mastros/Walco

## DIRECTIONS:

Step 1: Complete tests in Column 1, and "Other Properties".

Step 2: Complete the multiplication steps for Columns 2 and 3, except Line A.

Step 3: In Column 3, add C, D, E to get subtotal. In Column 2, add G, H, I and J and enter total in 3K.

Step 4: Subtract subtotal from 3K and enter difference in 3A. In Column 3, add 3A to subtotal and enter in 3F.

Step 5: Multiply 3A by 23.0 and enter in 3A.

Step 6: Add column 2 Cations to get Total in 3F. Add Anions to get Total in 3K. Add 3F to 3K to get 2L.