

**LABORATORY ANALYTICAL REPORT**

Company: Wesco Operating Inc  
 Project: Rudnik Produced Water  
 Location: NOT GIVEN  
 Laboratory ID: C13101004-001  
 Sample ID: Rudnik

Report Date: 11/4/2013  
 Date Received: 10/28/2013  
 Collection Date: 10/25/2013  
 Matrix: Water

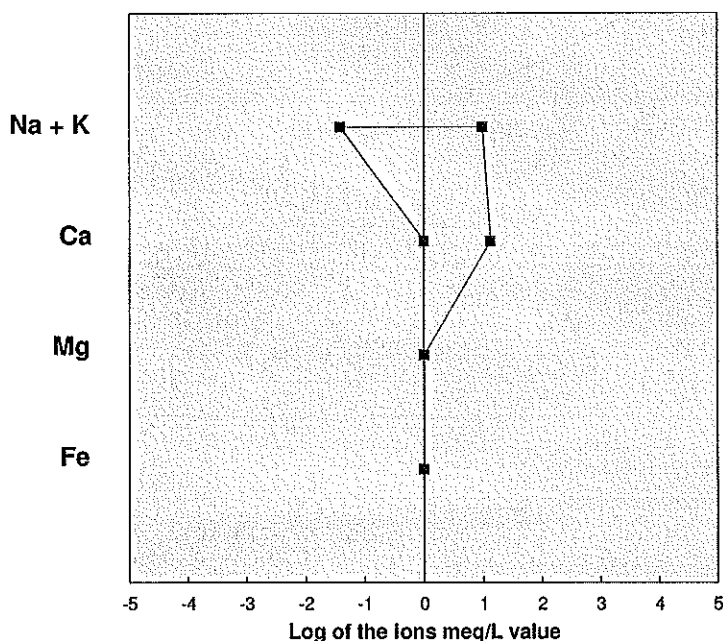
CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L
Calcium	2	0.10	Bicarbonate	824	13.51
Magnesium	<1	<0.08	Carbonate	18	0.61
Potassium	3	0.08	Hydroxide	NA	NA
Sodium	592	25.74	Chloride	348	9.82
Iron, Total	1.00	0.04	Sulfate	<1	<0.02
Barium, Total	0.10	0.00			
Strontium, Total	0.10	0.00			
<b>SUM +</b>	<b>598</b>	<b>25.96</b>	<b>SUM -</b>	<b>1,191</b>	<b>23.94</b>

Solids	Sample Conditions
Total Dissolved Solids, Calc	1,420 mg/L
Total Solids, NaCl equivalents	1,249 mg/L
Chloride as NaCl	574 mg/L
NaCl % of Total Dissolved Solids	40.4 %
	Temperature, °F 68 °F
	pH, s.u. 8.04 s.u.
	Accuracy -4.29 Sigma
	Cation/Anion Balance 4.10 %

Other Properties	
Calcium Hardness as CaCO <sub>3</sub>	5 mg/L
Magnesium Hardness as CaCO <sub>3</sub>	2 mg/L
Total Hardness as CaCO <sub>3</sub>	7 mg/L
	Ionic Strength 0.025 μ
	Specific Gravity, Calc. 1.001 g/cc
	Resistivity, 68°F 4.81 ohm meter
	Conductivity, 25°C 2,284 μmhos/cm <sup>3</sup>

Microbiological	Scaling Conditions
Sulfate Reducing Bacteria	NA col/mL
	CaCO <sub>3</sub> : Yes CaSO <sub>4</sub> : No
	BaSO <sub>4</sub> : No SrSO <sub>4</sub> : No

Water Analysis Pattern	Probable Mineral Residue, Dry
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Calculation error = -8.6 %	
Compound	mg/L
NaHCO <sub>3</sub>	1,105
NaCl	574
Ca(HCO <sub>3</sub> ) <sub>2</sub>	8
Mg(HCO <sub>3</sub> ) <sub>2</sub>	3

NOTE: NA indicates not analyzed