



Oilfield Labs of America  
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Midland, Texas 79706  
1-855-OIL-LAB1

Report Date: 2/23/2018

### Complete Water Analysis

Customer:	Pine Island Chemical	Account Rep:	Chase Cornelius
Operator:	Solaris	Sample ID:	1180219178
Lease:	115 SWD	Sample Date:	2/15/2018
Sample Point:	Downstream	Received Date:	2/19/2018
Region:	Permian	Log Out Date:	2/23/2018

### Pine Island Chemical, Solaris, 115 SWD,Downstream

Field Data			Analysis of Sample						
		Anions:		mg/L	meq/L	Cations:		mg/L	meq/L
Initial Temperature (°F):	190	Chloride (Cl <sup>-</sup> ):	71400	2014.1	Sodium (Na <sup>+</sup> ):	42470	1848.1		
Final Temperature (°F):	80	Sulfate (SO <sub>4</sub> <sup>2-</sup> ):	510	10.6	Potassium (K <sup>+</sup> ):	394	10.1		
Initial Pressure (psi):	1250	Borate (H <sub>3</sub> BO <sub>3</sub> ):	224	3.6	Magnesium (Mg <sup>2+</sup> ):	310	25.5		
Final Pressure (psi):	15	Silica (SiO <sub>2</sub> ):	45.6	0.8	Calcium (Ca <sup>2+</sup> ):	1507	75.2		
Sample Specifics									
pH:	8.0					Strontium (Sr <sup>2+</sup> ):	394	9.0	
						Barium (Ba <sup>2+</sup> ):	1.5	0.0	
						Iron (Fe <sup>2+</sup> ):	10.0	0.4	
		Phosphate (PO <sub>4</sub> <sup>3-</sup> ):	6.5	0.2	Manganese (Mn <sup>2+</sup> ):	0.7	0.0		
						Lead (Pb <sup>2+</sup> ):	ND		
						Zinc (Zn <sup>2+</sup> ):	ND		
						Lithium (Li <sup>+</sup> ):	14.2	2.0	
						Aluminum (Al <sup>3+</sup> ):	ND		
Alkalinity by Titration:		mg/L	meq/L						
Bicarbonate (HCO <sub>3</sub> <sup>-</sup> ):	781	12.8							
Carbonate (CO <sub>3</sub> <sup>2-</sup> ):	0.0	0.0							
Hydroxide (OH <sup>-</sup> ):	ND								
aqueous CO <sub>2</sub> (ppm):		80.0							
aqueous H <sub>2</sub> S (ppm):		6.0							
Calculated TDS (mg/L):		118054							
Calculated Density (g/cm <sup>3</sup> ):		1.0742							
Resistivity (Ωcm):		N/A							
Conductivity (mS/cm):		N/A							
Turbidity (NTU):		N/A							
		Anion EPM Total:		2041	Cation EPM Total:		1968		
N/A - Not Applicable		% RPD of Cations/Anions:		3.6%	ND = Not Detected				

