

Submitted Electronically

Customer: Shakespeare Oil Company

Region: Kansas

Location: Lane County, KS

System: Production System

Equipment: Harper Taldo 1-22

Sample Point: Bleeder

Sample ID: AO44634

Acct Rep Email: Michael.Walters@ecolab.com

Collection Date: 01/31/2020

Receive Date: 02/06/2020

Report Date: 02/07/2020

Location Code: 430647

Field Analysis

Bicarbonate	195 mg/L	Dissolved CO2	141 mg/L	Dissolved H2S	71 mg/L
Pressure Surface	25 psi	Temperature	100 °F	pH of Water	7.5

Sample Analysis

Conductivity (Calculated)	89618 µS - cm3	Ionic Strength	1.03	Resistivity	0.112 ohms - m
Specific Gravity	1.038	Total Dissolved Solids	57356.08 mg/L		

Cations

Iron	0.438 mg/L	Manganese	0.170 mg/L	Barium	0.131 mg/L
Strontium	41.24 mg/L	Calcium	794.7 mg/L	Magnesium	330.4 mg/L
Sodium	18020.00 mg/L				

Anions

Chloride	33330 mg/L	Sulfate	4644 mg/L
----------	------------	---------	-----------

Scale Type

Anhydrite CaSO4 PTB	N/A	Anhydrite CaSO4 SI	-0.52
Barite BaSO4 PTB	0.0	Barite BaSO4 SI	0.28
Calcite CaCO3 PTB	N/A	Calcite CaCO3 SI	-0.09
Celestite SrSO4 PTB	10.9	Celestite SrSO4 SI	0.22
Gypsum CaSO4 PTB	N/A	Gypsum CaSO4 SI	-0.40
Hemihydrate CaSO4 PTB	N/A	Hemihydrate CaSO4 SI	-0.39

Comments

Scaling predictions calculated using Odco-Tomson model

This document contains the confidential and/or proprietary information of Nalco Champion. The recipient agrees to maintain the confidentiality of the terms of this document, and shall not reproduce it by any means, disclose the contents of it to any third party, or use the contents of it for any purpose other than the purpose for which it was intended by Nalco Champion.

02/11/2020

Page 1 of 1