



SYLVAN SOURCE CONFIDENTIAL

DATE: June 4, 2013

SUBJECT: Produced Water Test Results Summary

This is a summary of test results performed on two produced water samples obtained from an oil company. The test was run using the Sylvan Source Industrial System Pilot Unit located in San Carlos, CA. The following results were attained:

PARAMETER	SAMPLE A FEED WATER	SSI PRODUCT WATER	COMMENTS
sample #	(050213A-1)	(052313A-5)	
TPH-Gasoline	5200 ppb	ND	
MTBE	ND<50 ppb	ND	
Benzene	920 ppb	ND	
Toluene	850 ppb	ND	
Ethylbenzene	14 ppb	ND	
Xylenes	320 ppb	ND	
TPH-Diesel	23,000 ppb	560 ppb	
SAR	119.9	see comment	Product water SAR not calculable due to non-detectable Ca, Mg concentrations
Sodium	8310 ppm	3 ppm	
Calcium	150 ppm	ND	
Magnesium	130 ppm	ND	
Chloride	12708 ppm	21 ppm	
Boron	77 ppm	0.06 ppm	
Ammonia	252 ppm	3.5 ppm	
pH	7.2	5.3	Product water pH slightly acidic due to CO2 absorption from air

PARAMETER	SAMPLE B FEED WATER	SSI PRODUCT WATER	COMMENTS
sample #	(050213B-1)	(052213B-5)	
TPH- Gasoline	170 ppb	ND	
MTBE	ND	ND	
Benzene	25 ppb	ND	
Toluene	18 ppb	ND	
Ethylbenzene	2.6 ppb	ND	
Xylenes	8.7 ppb	ND	
TPH-Diesel	9800 ppb	210 ppb	
SAR	64.8	see comment	Product water SAR not calculable due to non-detectable Ca, Mg concentrations
Sodium	3652 ppm	2 ppm	
Calcium	150 ppm	ND	
Magnesium	55 ppm	ND	
Chloride	5146 ppm	1 ppm	
Boron	58.4 ppm	0.07 ppm	
Ammonia	49.9 ppm	1.9 ppm	
pH	7.2	5.6	Product water pH slightly acidic due to CO2 absorption from air

Notes:

1. Feed water samples provided by the oil company.
2. The Sylvan Source Product Water is the output of the Sylvan Source Industrial System Pilot Unit consisting of proprietary pretreatment and core system technologies.

A detailed analytical test report and further process information is available under non-disclosure.