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CERTIFICATE OF ANALYSIS

NUMBER 102314

FINAL REPORT 28 DAY RESULTS

COMPANY: Undisclosed

ATTN: Steve

SAMPLE: #1 FRAC WATER #2 PRODUCED WATER

DATE: October 24, 2014

INTRODUCTION: WELL SAMPLE PRODUCTION WATER FROM UNDISCLOSED SITES ,TWO (2) IN TOTAL. THESE SAMPLES WERE EXPOSED TO ANOLITE AT 0.5 G/1000 G FW, AS WELL AS GLUTARALDEHYDE 0.3 G/1000 G FW.

SRB = SULFATE REDUCING BACTERIA

APB = ACID PRODUCING BACTERIA

BIOCIDES:

- 1. ANOLITE 0.5 GALL./1000 GALL. FRAC WATER**
- 2. GLUTARALDEHYDE 0.3 GALL./1000 GALL. FRAC WATER**

CONTROL #1 FRAC WATER WITH NO ADDED BACTERIA

CONTROL #2 PRODUCED WATER WITH NO ADDED BACTERIA

CONTROL #3 FRAC WATER WITH ADDED BACTERIA

CONTROL #4 PRODUCED WATER WITH ADDED BACTERIA

RESULTS:

Sulfate-reducing Bacteria (SRB) and Acid-producing Bacteria (APB) Time Kill Study- 28 Day Result

Water #	Contact Time (Hours)	SRB's (Colonies/mL)	APB's (Colonies/mL)
Control 1 Frac Water Only	2	10 ¹	10 ²
Control 2 Produced Water Only	2	10 ⁵	10 ⁵
Control 3 Frac Water with Added Bacteria	2	10 ⁴	10 ⁹
Control 4 Produced Water with Added Bacteria	2	10 ⁶	10 ⁹

Anolite Results

Anolite	Concentration (Gallons per Thousand)	Contact Time (Hours)	SRB's (Colonies/mL)	APB's (Colonies/mL)
Frac Water	.5	2	10 ²	10 ¹
Frac Water	.5	24	10 ¹	0
Produced Water	.5	2	10 ¹	10 ¹
Produced Water	.5	24	10 ¹	10 ¹

Glutaraldehyde Results

Glutaraldehyde	Concentration (Gallons per Thousand)	Contact Time (Hours)	SRB's (Colonies/mL)	APB's (Colonies/mL)
Frac Water	.3	2	10 ¹	0
Frac Water	.3	24	0	10 ¹
Produced Water	.3	2	10 ¹	10 ¹
Produced Water	.3	24	0	10 ¹

Test Procedures:

Sulfate-reducing Bacteria and Acid-producing Bacteria Time Kill Study

100 ml of Produced Water is measured out, The desired amount of Bacteria (2%) to be tested is introduced into test water samples. The test water samples are then treated with desired amount of Anolite as well as separate testing with Glutaraldehyde and both bottles are shaken. After the desired time interval has elapsed, Modified

Postgate "B" Sulfate –reducer Serial Dilution vials and Phenol Red Acid-producer Serial Dilution vials are then inoculated from the treated samples. The vials are then placed in an incubator for the desired time interval.

Respectfully submitted,

Envirocleanse LLC

Phil Bellan, MD