30-015-33622

LATIGO
Petroleum, Inc.

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OCD-ARTESIA

Memo

To: William V. Jones
From: Sabra Woody
CC: Bryan Arrant
Date: 9/2/2005
Re: Kimball Federal #1 Injection Application – Water Analysis

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Attached is a water analysis from the Two Marks "36" State #1. The water was produced from the Indian Basin, Upper Penn Assoc. pool.

Enclosure

30-015-33622

MILLER CHEMICALS, INC.
Post Office Box 298
Artesia, N.M. 88211-0298
(505) 746-1919 Artesia Office
(505) 392-2893 Hobbs Office
(505) 746-1918 Fax

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M C I
CHEMICALS and CONSULTING

WATER ANALYSIS REPORT

Company : LATIGO
Address :
Lease : TWO MARKS "36" STATE
Well : #1
Sample Pt. : WELLHEAD

Date : JUNE 6th, 2005
Date Sampled : JUNE 3rd, 2005
Analysis No. :

	ANALYSIS		mg/L		* meq/L
1.	pH	6.9			
2.	H2S	120			
3.	Specific Gravity	1.005			
4.	Total Dissolved Solids		9984.0		
5.	Suspended Solids		NR		
6.	Dissolved Oxygen		NR		
7.	Dissolved CO2		NR		
8.	Oil In Water		NR		
9.	Phenolphthalein Alkalinity (CaCO3)				
10.	Methyl Orange Alkalinity (CaCO3)				
11.	Bicarbonate	HCO3	1464.0	HCO3	24.0
12.	Chloride	Cl	4899.0	Cl	138.2
13.	Sulfate	SO4	500.0	SO4	10.4
14.	Calcium	Ca	1360.0	Ca	67.9
15.	Magnesium	Mg	753.8	Mg	62.0
16.	Sodium (calculated)	Na	982.1	Na	42.7
17.	Iron	Fe	25.0		
18.	Barium	Ba	NR		
19.	Strontium	Sr	NR		
20.	Total Hardness (CaCO3)		6500.0		

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter

68	*Ca <----- *HCO3	24
	/------->	
62	*Mg -----> *SO4	10
	<----------/	
43	*Na -----> *Cl	138

Saturation Values Dist. Water 20 C

CaCO3	13 mg/L
CaSO4 * 2H2O	2090 mg/L
BaSO4	2.4 mg/L

Compound	Equiv wt	X meq/L	= mg/L
Ca(HCO3)2	81.0	24.0	1945
CaSO4	68.1	10.4	709
CaCl2	55.5	33.5	1856
Mg(HCO3)2	73.2		
MgSO4	60.2		
MgCl2	47.6	62.0	2952
NaHCO3	84.0		
Na2SO4	71.0		
NaCl	58.4	42.7	2497

REMARKS:

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SCALE TENDENCY REPORT

Company	: LATIGO	Date	: JUNE 6th, 2005
Address	:	Date Sampled	: JUNE 3rd, 2005
Lease	: TWO MARKS "36" STATE	Analysis No.	:
Well	: #1	Analyst	: S. TIGERT
Sample Pt.	: WELLHEAD		

STABILITY INDEX CALCULATIONS
(Stiff-Davis Method)
CaCO3 Scaling Tendency

S.I. =	1.2	at	70 deg. F	or	21 deg. C
S.I. =	1.2	at	90 deg. F	or	32 deg. C
S.I. =	1.2	at	110 deg. F	or	43 deg. C
S.I. =	1.3	at	130 deg. F	or	54 deg. C
S.I. =	1.3	at	150 deg. F	or	66 deg. C

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CALCIUM SULFATE SCALING TENDENCY CALCULATIONS
(Skillman-McDonald-Stiff Method)
Calcium Sulfate

S =	1705	at	70 deg. F	or	21 deg C
S =	1765	at	90 deg. F	or	32 deg C
S =	1793	at	110 deg. F	or	43 deg C
S =	1785	at	130 deg. F	or	54 deg C
S =	1763	at	150 deg. F	or	66 deg C

Respectfully submitted,

S. TIGERT