Goetze, Phillip, EMNRD

From: Goetze, Phillip, EMNRD
Sent: Monday, October 06, 2014 8:58 AM
To: 'J. Scott Hall'
Cc: Dawson, Scott, EMNRD; McMillan, Michael, EMNRD; Dade, Randy, EMNRD; Inge, Richard, EMNRD
Subject: RE: Capstone Natural Resources request to use off-lease water

Scott:

My review of Capstone's proposed change in source for injection water shows no compatibility issues with the blended compositions. The information, along with this e-mail, will be placed in Case 15036 file, Well Nos. 4, 7, and 15 well files. If the three injection wells are currently in compliance (i.e. District II and BLM),then Capstone can proceed with the change in injection fluids. Please provide sundry notices to notify District II and BLM when Capstone initiates injection of the new source and the blend (range)selected for injection. Call with any questions. PRG

Phillip R. Goetze, P.G. 10/06/14
Engineering and Geological Services Bureau, Oil Conservation Division
1220 South St. Francis Drive, Santa Fe, NM 87505
O: 505.476.3466 F: 505.476.3462
phillip.goetze@state.nm.us

From: J. Scott Hall [mailto:SHall@montand.com]
Sent: Friday, October 03, 2014 4:17 PM
To: Goetze, Phillip, EMNRD
Subject: Capstone Natural Resources request to use off-lease water

Hi, Phillip

I hope I got the procedural part of this request correct, that no further order will be necessary. Is Capstone authorized to proceed with this or do we need to wait for an authorization letter?

J. Scott Hall
Montgomery & Andrews, P.A.
P. O. Box 2307
Santa Fe, NM 87504-2307
shall@montand.com
(505) 986-2646

MONTGOMERY & ANDREWS LAW FIRM

MONTGOMERY
& ANDREWS
LAW FIRM

10/03/2014

J. Scott Hall
Office: (505) 982-3873
Email: shall@montand.com
Reply To: Santa Fe Office
www.montand.com

September 26, 2014

Ms. Jami Bailey, Director
New Mexico Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, NM 87505

Hand Delivered

Re: NMOCD Case No. 15036; Application of Capstone Natural Resources LLC for Reinstatement of Authorization to Inject for Waterflood Operations, Eddy County, New Mexico; Order No. R-4697-B

Dear Ms. Bailey:

On October 29, 2013, the Division issued Order No. R-4697-B authorizing resumption of injection into the Grayburg and San Andres formations for Capstone Natural Resources's Lea "C" waterflood project in Section 11, T-17-S, R-31-E in Eddy County. Capstone now seeks to augment the injected volumes by utilizing off-lease Grayburg-San Andres formation water produced by Hudson Oil Company of Texas from its Puckett North wells located in adjacent Section 12. The Hudson wells are identified in Capstone's original C-108 filed with the Division last year.

In support of this request, please find the following materials: (1) Capstone's September 25, 2014 transmittal letter; (2) Mr. Clint Brian's summary of the planned operational changes; (3) water compatibility comparison chart; and (4) water analysis report.

It is our understanding that issuance of another order amending Order No. R-4697-B to authorize this request will be unnecessary. If further information is needed, please let me know.

325 Paseo de Peralta
Santa Fe, New Mexico 87501

T: 505.982.3873
F: 505.982.4289

P.O. Box 2307
Santa Fe, New Mexico 87504-2307

Thank you for your consideration of this request.

Very truly yours,

J. Scott Hall

Enclosures

cc: Phillip Goetz, NMOCD (Hand Delivered)
Mike Willis, Esq. and Clint Brian, P.E., Capstone Natural Resources LLC

613101

CAPSTONE
Natural Resources, LLC

10/2/14

September 25, 2014

New Mexico Oil Conservation Division
1220 South St. Francis Drive
Sante Fe, New Mexico 87505

To whomever it may concern:

In support of Capstone Natural Resources, LLC's request to be allowed to inject neighboring off lease water into its Lea "C" water flood project, please find attached the following documents:

1) A narrative from Clint Brian, Capstone's V.P. of Operations, explaining the lack of compatibility issues associated with taking off-lease water;

2) A compatibility comparison chart; and,

3) A water analysis report.

Sincerely,

Phillip W. Terry
CEO

2250 East 73rd Street, Suite 500 • Tulsa, Oklahoma 74136 • Phone 918-236-3800 • Fax 918-236-3818
www.capstonenr.com

24 September 2014

New Mexico Oil Conservation Division:

Capstone Natural Resources would like to request permission to inject neighboring off lease water into the Lea "C" water flood project. Current water production from the lease is 60 BWPD. This limits each of the injectors to about 20 BWPD. Capstone Natural Resources has access to approximately 200 BWPD from an off lease operator of the same production horizon one section to the east. With the additional 200 BWPD Capstone would be able inject approximately 87 BWPD per well. This should help to increase the response of the flood. To date, there has not been a response to the injection.

Water samples were taken from both the Lea "C" and the water station of the proposed off lease water. The waters were mixed in various concentrations to determine if there were any incompatibility issues. The quality of the injection water actually increased with the mixing of the off lease water. The water analysis is attached.

If the state requests any additional data, please contact Capstone Natural Resources and we will provide it.

Sincerely,

Clint Brian P.E.

918-236-3800

Clint Brian

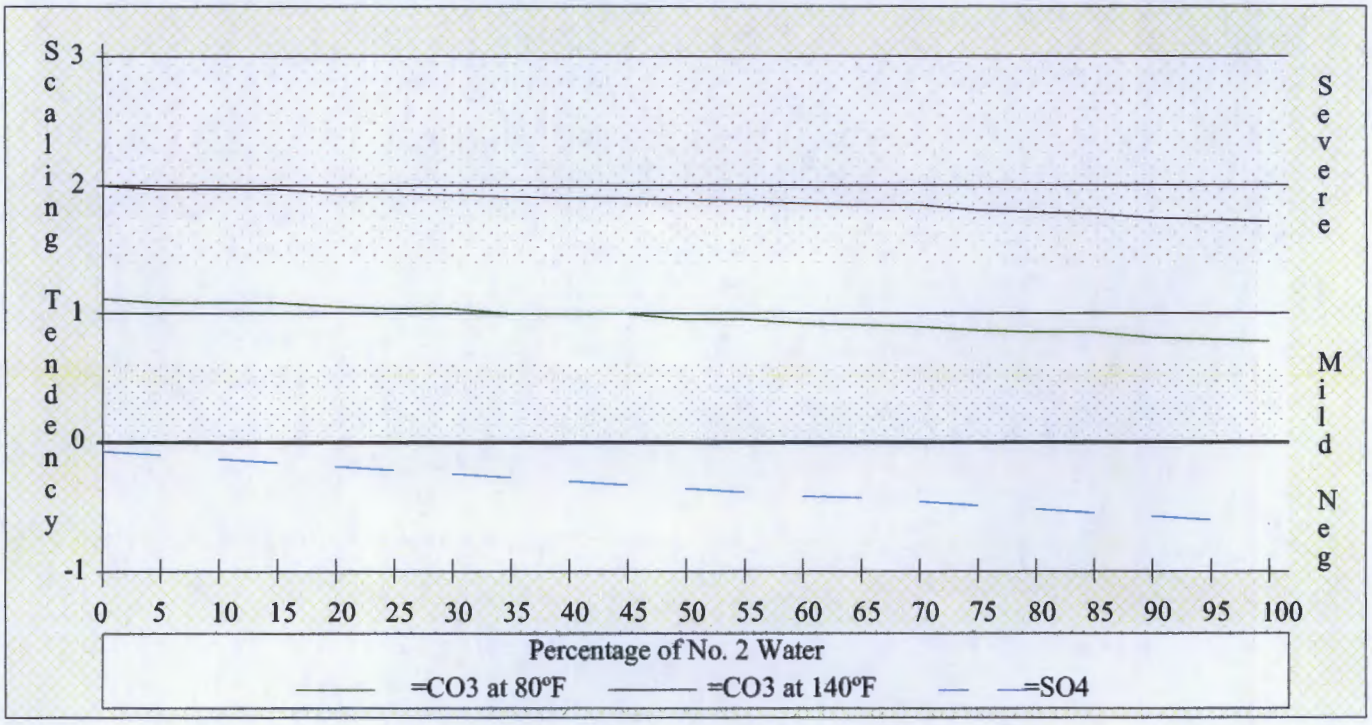
Comparison Between Two Waters

Requested by: Tech Management

Sample No. 1
Capstone
LEA C Transfer Pump
19-August-2014

Sample No. 2
Capstone
Hudson Water Transfer Pump
16-September-2014

Percent of #1 & #2	pH	TDS	SpGr	CaCO3 Saturation @80°F.	CaCO3 Saturation @140°F.	Calcium Sulfate Scaling Potential
100 - 00	7.420	132,014	1.093	1.113	2.003	Marginal
95 - 05	7.436	130,105	1.092	1.091	1.971	Marginal
90 - 10	7.452	128,196	1.091	1.088	1.968	Marginal
85 - 15	7.468	126,287	1.089	1.084	1.964	Marginal
80 - 20	7.484	124,378	1.088	1.051	1.941	Nil
75 - 25	7.500	122,469	1.087	1.047	1.937	Nil
70 - 30	7.516	120,560	1.086	1.042	1.932	Nil
65 - 35	7.532	118,651	1.084	1.007	1.912	Nil
60 - 40	7.548	116,742	1.083	1.001	1.906	Nil
55 - 45	7.564	114,833	1.082	0.995	1.900	Nil
50 - 50	7.580	112,924	1.081	0.958	1.883	Nil
45 - 55	7.596	111,014	1.079	0.951	1.876	Nil
40 - 60	7.612	109,105	1.078	0.923	1.858	Nil
35 - 65	7.628	107,196	1.077	0.914	1.849	Nil
30 - 70	7.644	105,287	1.076	0.904	1.839	Nil
25 - 75	7.660	103,378	1.074	0.874	1.794	Nil
20 - 80	7.676	101,469	1.073	0.863	1.783	Nil
15 - 85	7.692	99,560	1.072	0.851	1.771	Nil
10 - 90	7.708	97,651	1.071	0.818	1.738	Nil
05 - 95	7.724	95,742	1.069	0.804	1.724	Nil
00 - 100	7.740	93,833	1.068	0.789	1.709	Nil



Tech Management
WATER ANALYSIS REPORT

SAMPL

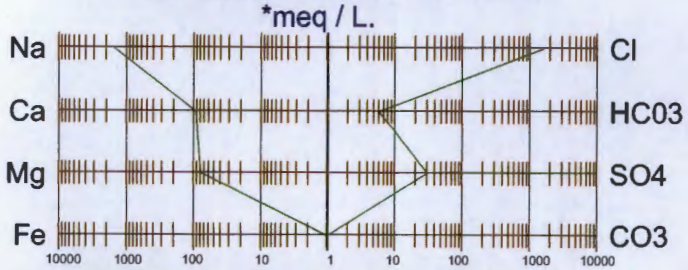
Oil Co. : **Capstone**
Lease : **Hudson Water**
Well No.: **Transfer Pump**
Location:
Attention:

Date Sampled : **15-September-2014**
Date Analyzed: **16-September-2014**
Lab ID Number: **Sep1614.003- 1**
Salesperson :
File Name : **Sep1614.003**

ANALYSIS

1.	Ph			7.740		
2.	Specific Gravity 60/60 F.			1.068		
3.	CACO3 Saturation Index	@ 80F		0.789	Moderate	
		@140F		1.709	Severe	
	Dissolved Gasses			**MG/L.**	**EQ. WT.**	***MEQ/L**
4.	Hydrogen Sulfide			Not Present		
5.	Carbon Dioxide			Not Determined		
6.	Dissolved Oxygen			Not Determined		
	Cations					
7.	Calcium	(Ca++)		1,776	/ 20.1 =	88.36
8.	Magnesium	(Mg++)		916	/ 12.2 =	75.08
9.	Sodium	(Na+)	(Calculated)	33,359	/ 23.0 =	1,450.39
10.	Barium	(Ba++)		Not Determined		
	Anions					
11.	Hydroxyl	(OH-)		0	/ 17.0 =	0.00
12.	Carbonate	(CO3=)		0	/ 30.0 =	0.00
13.	Bicarbonate	(HCO3-)		345	/ 61.1 =	5.65
14.	Sulfate	(SO4=)		1,450	/ 48.8 =	29.71
15.	Chloride	(Cl-)		55,987	/ 35.5 =	1,577.10
16.	Total Dissolved Solids			93,833		
17.	Total Iron	(Fe)		2.50	/ 18.2 =	0.14
18.	Manganese	(Mn++)		Not Determined		
19.	Total Hardness as CaCO3			8,205		
20.	Resistivity @ 75 F. (Calculated)			0.100 Ohm · meters		

LOGARITHMIC WATER PATTERN



Calcium Sulfate Solubility Profile

PROBABLE MINERAL COMPOSITION

COMPOUND	*meq/L	X	EQ. WT.	=	mg/L.
Ca(HCO3)2	5.65		81.04		458
CaSO4	29.71		68.07		2,023
CaCl2	53.00		55.50		2,941
Mg(HCO3)2	0.00		73.17		0
MgSO4	0.00		60.19		0
MgCl2	75.08		47.62		3,575
NaHCO3	0.00		84.00		0
NaSO4	0.00		71.03		0
NaCl	1,449.02		58.46		84,710

* milliequivalents per Liter

Tony Abernathy, Analyst