Sinkula, Nathan <nathan.sinkula@bsee.gov>

APM FOR SOCKEYE WELL E8 ST 02 2009 AND 2010

1 message

Mayerson, Drew <drew.mayerson@bsee.gov> Tue, Feb 26, 2013 at 5:07 PM
To: Daniel Knowlson <daniel.knowlson@bsee.gov>, "Masri, Nabil" <Nabil.Masri@bsee.gov>, Kenneth Seeley <kenneth.seeley@bsee.gov>
Cc: Nathan Sinkula <nathan.sinkula@bsee.gov>, "Ming, Jaron" <Jaron.Ming@bsee.gov>, Bobby Kurtz <geokurtz@gmail.com>

All,
Attached is the original APM and two revisions spanning the period from 12-09 to 2-2010. I needed to look up whether it was a Monterey frac or other. It was Monterey. Just thought I'd send these along in case they're needed by your offices.
Drew

Drew Mayerson
Regional Supervisor
Office of Production and Development
Pacific OCS Region

3 attachments

APM E8 ST02 REVISED 1-2010.pdf
177K

APM E8 ST02 REVISED 2-2010.pdf
834K

APM E8 ST02 12-2009.pdf
1021K

BISON CONNECT

Kurtz, Bobby <bobby.kurtz@bsee.gov>

Fwd: Draft Fracking Regulations from DOGGR

Bobby Kurtz <geokurtz@gmail.com> Wed, Dec 19, 2012 at 11:40 AM
To: bobby.kurtz@bsee.gov

Sent from my iPhone

Begin forwarded message:

From: "Mayerson, Drew" <drew.mayerson@bsee.gov>
Date: December 19, 2012 9:30:00 AM PST
To: "Masri, Nabil" <Nabil.Masri@bsee.gov>, Michael Mitchell <michael.mitchell@bsee.gov>, "Ming, Jaron" <Jaron.Ming@bsee.gov>
Cc: Bobby Kurtz <geokurtz@gmail.com>, Allan Shareghi <allan.shareghi@bsee.gov>, "Dame, Robert" <Robert.Dame@bsee.gov>, "Michael Brickey" <michael.brickey@bsee.gov>, Armen Voskanian <armen.voskanian@bsee.gov>
Subject: Draft Fracking Regulations from DOGGR

Attached are draft regulations. I suspect that (b) (5) [redacted]. As far as we can Venoco fracked well E11 off Gail in August 1992. The target was Upper Sespe and there was a slight bump in production. The Sespe was abandoned in March of 1993 and Venoco moved uphole to the Upper Topanga.

Bobby and Allan also researched and found that well C-11 off of Hidalgo in the Pt. Arguello Field had an attempted Frack in the Monterey in April of 1997. We're still looking into it but per Tom Goeres' memory, Chevron couldn't muster to the pump power to do a complete job and had to abort.

Drew Mayerson
Regional Supervisor
Office of Production and Development
Pacific OCS Region

CDOGGER FRACKING DISCUSSION DRAFT.pdf
98K

Masri, Nabil <nabil.masri@bsee.gov>

Fwd: E-8 Fracture Stimulation Detail

1 message

Knowlson, Daniel <daniel.knowlson@bsee.gov> Fri, Mar 1, 2013 at 9:18 AM
To: Kenneth Seeley <kenneth.seeley@bsee.gov>, "Masri, Nabil" <Nabil.Masri@bsee.gov>

Not sure how much this helps at this point, we will have to contact BJ and find out what these products are!!

——— Forwarded message ———
From: **Zach Schock** <za.schock@venocoinc.com>
Date: Thu, Feb 28, 2013 at 12:51 PM
Subject: E-8 Fracture Stimulation Detail
To: "Daniel.Knowlson@bsee.gov" <Daniel.Knowlson@bsee.gov>
Cc: Larry Huskins <larry.huskins@venocoinc.com>, Brian Musso <brian.musso@venocoinc.com>, Jon Snyder <jon.snyder@venocoinc.com>

Dan,

Attached is the E-8 Frac Data Summary I was referring to in our phone call yesterday afternoon. Please note the job dates are incorrect on the reports, they should be January 7-12, 2010.

Thanks,

Zach Schock

Petroleum Engineer

Venoco Inc.

office: (805) 745-2172

cell: (303) 330-2939

—
Daniel R. Knowlson
DOI/BSEE/POCSR
CA District Manager
805-389-7746

E-8 Frac Details.pdf

Frac Data Summary

Customer:	Venoco	**Formation:**	M2
Customer Rep:	Don Schmohr	**Interval/Stage:**	Stage 1 Injection
Well/ Field	E-8ST2	**BHST:**	125°F
Job Date:	January 7, 2009	**BJ Rep:**	Berny Lopez/Chris Smith
Job Number	1001544406	**TMV:**	Offshore Unit

Tubulars				
	Size/wt	Length	bbl/ft	bbls
Tubulars	3.5"	0	0.0087	0.0
Casing	4.5"	9380	0.01522	142.8
Surface Line	2.75	30	0.00735	0.2
		Volume to Top Perf		**143.0**
		Flush		**138.0**

Injection Data	Inj #1	Inj #2	Mini Frac	Main Frac
Volume to fill	0.2	0	-	0
Rate	11.3	17.8	-	18.1
STP	1773	2827	-	3110
FG	0.62	0.64	-	0.68
Volume	16.7	54.1	-	443.6
ET@Startup	6:45 PM	7:48 PM	-	9:20 PM
ET@Shutdown	6:52 PM	7:53 PM	-	9:52 PM
Pump Time	0:07	0:05	-	0:32
ISIP	840	916	-	1100
5 min SIP	721	723	-	925
10 min SIP	666	654	-	849
15 min SIP	598	592	-	787

Step Down Data Inj. # 2	1	2	3	4
Rate(bpm)	17.8	14.4	10.6	5.5
STP(psi)	2827	2294	1734	1164

Step Down Data Minifrac	1	2	3	4
Rate(bpm)	-	-	-	-
STP(psi)	-	-	-	-

Main Frac	1	2	3	4
Rate(bpm)	18.1	16.2	15.1	12.3
STP(psi)	3110	2610	2108	1179

Proppant Type:	20/40 White		Proppant Data	
Program	51,744	lbs	2.65	
Computer	6,323	lbs	928.2	SG
Blender	7,723	lbs		lbs/bbl
BH Sand	6,311	lbs	Dirty bbls	515
Casing	11	lbs		
Placed	12%	by design	Clean bbls	508

Detail		MD	TVD	units
Top Perf		9380	4704	ft
Bottom Perf		9381	4704	ft
Mid Zone		9381	4704	ft
Gross Interval		1	0	ft
Net Interval		1	0	ft
Fluid SG / HH		1.027	2095	psi
Shots/foot		3	3	holes
Size		0.63		inch

Fluid System Additives	SpectraFrac G 3000
	Seawater
7.50 GPT	GLFC-1B
3.00 GPT	XLW-56
1.50 GPT	BF-8L
1.00 GPT	Claymaster 5C
2.00 GPT	MA 844W
1.00/2.00 GPT	BC-3
2.00 GPT	GBW-12

Treatment Schedule	Slurry Volumes(bbls) Design Treatment		Actual Treatment	
	bbls	Stage	bbls	Stage
1	100	Load Hole	0.2	Load Hole
2	100	Injection	16.7	Injection
3	100	Injection 2	54.1	Injection 2
4	30	XO	16.4	XO
5	75	Pad	75.2	Pad
6	10	1 ppa	10.2	2 ppa
7	75	Pad	75	Pad
8	55	2 ppa	59.5	2 ppa
9	57	3 ppa	29.9	3 ppa
10	59	4 ppa	177.4	Overflush
11	61	5 ppa		
12	44	6 ppa		
13	48	8 ppa		
14	7	Sand Plug		
15	138	Flush		
16				
17				
18				
19				
20				

Closure occurred at 459 psi surface, 2553 psi bottomhole with a gradient of 0.543 psi/ft, efficiency of 72.2%, and closure time of 23.6 minutes based on injection #1. During the 3 ppa stage, the proppant silo could not keep up with the pumping rate. The decision to overflush the well with seawater was made by company man.

Frac Data Summary

Customer:	Venoco	**Formation:**	M2
Customer Rep:	Don Schmohr	**Interval/Stage:**	Stage 2
Well/ Field	E-8ST2	**BHST:**	125°F
Job Date:	January 9, 2009	**BJ Rep:**	Chris Zoda/Chris Smith/Mike Sansinena
Job Number	1001544407	**TMV:**	Offshore Unit

Tubulars	Size/wt	Length	bbl/ft	bbls
Tubulars	3.5"	0	0.0087	0.0
Casing	4.5"	8770	0.01522	133.5
Surface Line	2.75	30	0.00735	0.2
		Volume to Top Perf		**133.7**
		Flush		**126.0**

Detail		MD	TVD	units
Top Perf		8770	4702	ft
Bottom Perf		8770	4702	ft
Mid Zone		8770	4702	ft
Gross Interval		0	0	ft
Net Interval		0	0	ft
Fluid SG / HH		1.027	2094	psi
Shots/foot		3	3	holes
Size		0.63		inch

Injection Data	Inj #1	Inj #2	Main Frac	
Volume to fill	0	-	0	-
Rate	11.7	-	15.8	-
STP	3844	-	3682	-
FG	0.65	-	1.70	-
Volume	64.3	-	524.8	-
ET@Startup	8:25 PM	-	10:46 PM	-
ET@Shutdown	8:35 PM	-	11:35 PM	-
Pump Time	0:10	-	0:49	-
ISIP	942	-	5893	-
5 min SIP	686	-	4389	-
10 min SIP	560	-	3600	-
15 min SIP	473	-	-	-

Fluid System Additives	SpectraFrac G 3000
	Seawater
7.50 GPT	GLFC-1B
3.00 GPT	XLW-56
1.50 GPT	BF-8L
1.00 GPT	Claymaster 5C
2.00 GPT	MA 844W
1.00/2.00 GPT	BC-3
2.00 GPT	GBW-12

Step Down Data Inj. # 1	1	2	3	4
Rate(bpm)	11.7	10	8.1	2.8
STP(psi)	3844	3140	2509	1191

Step Down Data Minifrac	1	2	3	4
Rate(bpm)	-	-	-	-
STP(psi)	-	-	-	-

Main Frac	1	2	3	4
Rate(bpm)	-	-	-	-
STP(psi)	-	-	-	-

Proppant Type:	20/40 White		
Proppant Type:		Proppant Data	
Program	53,726 lbs	2.65	
Computer	57,210 lbs	928.2 SG	
Blender	53,874 lbs		lbs/bbl
BH Sand	37,393 lbs	Dirty bbls	525
Casing	19,817 lbs		
Placed	70% by design	Clean bbls	461

Treatment Schedule	Slurry Volumes(bbls) Design Treatment bbls	Design Treatment Stage	Actual Treatment bbls	Actual Treatment Stage
1	10	Load Hole	0	Load Hole
2	100	Injection	64.3	Injection
3	30	XO	19.8	XO
4	50	Pad	50.1	Pad
5	21	1 ppa	21.4	1 ppa
6	50	Pad	50.3	Pad
7	49	2 ppa	49.7	2 ppa
8	51	3 ppa	51.3	3 ppa
9	41	4 ppa	41.2	4 ppa
10	43	5 ppa	43.2	5 ppa
11	44	6 ppa	44.5	6 ppa
12	34	8 ppa	34.1	8 ppa
13	36	10 ppa	36.9	10 ppa
14	7	Sand Plug	11.2	Sand Plug
15	128	Flush	71.1	Flush
16				
17				
18				
19				
20				

Closure occurred at 547 psi surface, 2640 psi bottomhole with a gradient of 0.56 psi/ft, efficiency of 41.5%, and closure time of 10.44 minutes. The well screened out 71.1 bbl into a 128 bbl flush.

Frac Data Summary

Customer:	Venoco	**Formation:**	M2
Customer Rep:	Don Schmohr	**Interval/Stage:**	Stage 3
Well/ Field	E-8ST2	**BHST:**	125°F
Job Date:	January 10, 2009	**BJ Rep:**	Berny Lopez/Chris Smith
Job Number	1001544408	**TMV:**	Offshore Unit

Tubulars				
	Size/wt	Length	bbl/ft	bbls
Tubulars	3.5"	0	0.0087	0.0
Casing	4.5"	8000	0.01522	121.8
Surface Line	2.75	30	0.00735	0.2
		Volume to Top Perf		**122.0**
		Flush		**114.0**

Injection Data	Inj #1	Inj #2	Main Frac	
Volume to fill	0	-	0	-
Rate	10.8	-	17.7	-
STP	3146	-	3638	-
FG	0.70	-	0.84	-
Volume	127.8	-	585	-
ET@Startup	12:01 PM	-	2:27 PM	-
ET@Shutdown	12:15 PM	-	3:03 PM	-
Pump Time	0:14	-	0:36	-
ISIP	1164	-	1800	-
5 min SIP	707	-	-	-
10 min SIP	586	-	-	-
15 min SIP	493	-	-	-
Step Down Data Inj. # 1	1	2	3	4
Rate(bpm)	10.8	9	4.3	-
STP(psi)	3146	2718	1792	-

Step Down Data Minifrac	1	2	3	4
Rate(bpm)	-	-	-	-
STP(psi)	-	-	-	-

Main Frac	1	2	3	4
Rate(bpm)	17.7	4.9	-	-
STP(psi)	3638	2073	-	-

Proppant Type:	20/40 White			
Proppant Type:			**Proppant Data**	
Program	52,122	lbs	2.65	
Computer	53,084	lbs	928.2	SG
Blender	49,690	lbs		lbs/bbl
BH Sand	50,181	lbs	Dirty bbls	585
Casing	2,903	lbs		
Placed	96%	by design	Clean bbls	525

Detail		MD	TVD	units
Top Perf		8000	4603	ft
Bottom Perf		8001	4603	ft
Mid Zone		8001	4603	ft
Gross Interval		1	0	ft
Net Interval		1	0	ft
Fluid SG / HH		1.027	2050	psi
Shots/foot		3	3	holes
Size		0.63		inch

Fluid System Additives	SpectraFrac G 3000
	Seawater
7.50 GPT	GLFC-1B
3.00 GPT	XLW-56
1.00 GPT	BF-8L
1.00 GPT	Claymaster 5C
2.00 GPT	MA 844W
1.00/2.00 GPT	BC-3
2.00 GPT	GBW-12

Treatment Schedule	Slurry Volumes(bbls) Design Treatment		Actual Treatment	
	bbls	Stage	bbls	Stage
1		Load Hole	0	Load Hole
2		Injection	127.8	Injection
3	30	XO	33.1	XO
4	30	Pad	30.5	Pad
5	16	1 ppa	16.1	1 ppa
6	30	Pad	30.1	Pad
7	16	2 ppa	16.2	2 ppa
8	30	Pad	30	Pad
9	44	2 ppa	44.3	2 ppa
10	45	3 ppa	45.2	3 ppa
11	47	4 ppa	47	4 ppa
12	49	5 ppa	49.2	5 ppa
13	89	6 ppa	89.3	6 ppa
14	27	8 ppa	27.2	8 ppa
15	7	Sand Plug	8.2	Sand Plug
16	114	Flush	118.6	Flush
17				
18				
19				
20				

Closure occurred at 467 psi surface, 2516 psi bottomhole with a gradient of 0.547 psi/ft, efficiency of 45.1%, and closure time of 17.4 minutes. The sand plug was successfully set.

Frac Data Summary

Customer:	Venoco	**Formation:**	M2
Customer Rep:	Don Schmohr	**Interval/Stage:**	Stage 4
Well/ Field	E-8ST2	**BHST:**	125°F
Job Date:	January 10, 2009	**BJ Rep:**	Chris Zoda/Chris Smith
Job Number	1001544409	**TMV:**	Offshore Unit

Tubulars	Size/wt	Length	bbl/ft	bbls
Tubulars	3.5"	0	0.0087	0.0
Casing	4.5"	7500	0.01522	114.2
Surface Line	2.75	30	0.00735	0.2
		Volume to Top Perf		114.4
		Flush		108.0

Detail		MD	TVD	units
Top Perf		7500	4563	ft
Bottom Perf		7501	4563	ft
Mid Zone		7501	4563	ft
Gross Interval		1	0	ft
Net Interval		1	0	ft
Fluid SG / HH		1.027	2032	psi
Shots/foot		3	3	holes
Size		0.63		inch

Injection Data	Inj #1	Inj #2	Inj #3	
Volume to fill	0	-	-	-
Rate	10.6	-	-	-
STP	5671	-	-	-
FG	-	-	-	-
Volume	16.8	-	-	-
ET@Startup	7:19 PM	-	-	-
ET@Shutdown	7:24 PM	-	-	-
Pump Time	0:05	-	-	-
ISIP	-	-		-
5 min SIP	-	-	-	-
10 min SIP	-	-	-	-
15 min SIP	-	-	-	-

Fluid System Additives	SpectraFrac G 3000
	Seawater
7.50 GPT	GLFC-1B
3.00 GPT	XLW-56
1.00 GPT	BF-8L
1.00 GPT	Claymaster 5C
2.00 GPT	MA 844W
1.00/2.00 GPT	BC-3
2.00 GPT	GBW-12

Step Down Data Inj. # 1	1	2	3	4
Rate(bpm)	-	-	-	-
STP(psi)	-	-	-	-

Step Down Data Minifrac	1	2	3	4
Rate(bpm)	-	-	-	-
STP(psi)	-	-	-	-

Main Frac	1	2	3	4
Rate(bpm)	-	-	-	-
STP(psi)	-	-	-	-

Proppant Type:	20/40 White			
Proppant Type:			Proppant Data	
Program	52,122	lbs	2.65	
Computer	-	lbs	928.2	SG
Blender	-	lbs		lbs/bbl
BH Sand	-	lbs	Dirty bbls	17
Casing	-	lbs		
Placed	0%	by design	Clean bbls	17

Treatment Schedule	Slurry Volumes(bbls)			
	Design Treatment		Actual Treatment	
	bbls	Stage	bbls	Stage
1	10	Load Hole	0	Load Hole
2	120	Injection #1	16.8	Injection #1
3	30	XO		
4	30	Pad		
5	16	1 ppa		
6	30	Pad		
7	16	2 ppa		
8	30	Pad		
9	44	2 ppa		
10	45	3 ppa		
11	47	4 ppa		
12	49	5 ppa		
13	89	6 ppa		
14	27	8 ppa		
15	7	Sand Plug		
16	114	Flush		
17				
18				
19				
20				

The well pressured up when a seawater injection was performed.

Frac Data Summary

Customer:	Venoco	**Formation:**	M2
Customer Rep:	Don Schmohr	**Interval/Stage:**	Stage 5
Well/ Field	E-8ST2	**BHST:**	125°F
Job Date:	January 11, 2009	**BJ Rep:**	Berny Lopez/Chris Smith/Mike Sansinena
Job Number	1001544410	**TMV:**	Offshore Unit

Tubulars				
	Size/wt	Length	bbl/ft	bbls
Tubulars	3.5"	0	0.0087	0.0
Casing	4.5"	7350	0.01522	111.9
Surface Line	2.75	30	0.00735	0.2
		Volume to Top Perf		**112.1**
		Flush		**104.0**

Detail		MD	TVD	units
Top Perf		7350	4555	ft
Bottom Perf		7351	4555	ft
Mid Zone		7351	4555	ft
Gross Interval		1	0	ft
Net Interval		1	0	ft
Fluid SG / HH		1.027	2029	psi
Shots/foot		3	3	holes
Size		0.63		inch

Injection Data	Inj #1	Inj #2	Main Frac	
Volume to fill	0.3	-	0	-
Rate	11.5	-	15.3	-
STP	3614	-	3351	-
FG	0.71	-	-	-
Volume	27.2	-	487.4	-
ET@Startup	8:08 AM	-	10:03 AM	-
ET@Shutdown	8:12 AM	-	10:54 AM	-
Pump Time	0:04	-	0:51	-
ISIP	1222	-	-	-
5 min SIP	297	-	-	-
10 min SIP	200	-	-	-
15 min SIP	154	-	-	-

Fluid System Additives	SpectraFrac G 3500
	Seawater
8.75 GPT	GLFC-1B
3.00 GPT	XLW-56
1.00 GPT	BF-8L
1.00 GPT	Claymaster 5C
2.00 GPT	MA 844W
1.00/2.00 GPT	BC-3
2.00 GPT	GBW-12

Step Down Data Inj. # 1	1	2	3	4
Rate(bpm)	11.5	9.5	4.8	-
STP(psi)	3614	3382	2330	-

Step Down Data Minifrac	1	2	3	4
Rate(bpm)	-	-	-	-
STP(psi)	-	-	-	-

Main Frac	1	2	3	4
Rate(bpm)	-	-	-	-
STP(psi)	-	-	-	-

Proppant Type:	20/40 White		
Proppant Type:		Proppant Data	
Program	52,122 lbs	2.65	
Computer	21,219 lbs	928.2 SG	
Blender	19,829 lbs		lbs/bbl
BH Sand	9,016 lbs	Dirty bbls	516
Casing	12,202 lbs		
Placed	17% by design	Clean bbls	493

Treatment Schedule	Slurry Volumes(bbls) Design Treatment		Actual Treatment	
	bbls	Stage	bbls	Stage
1	10	Load Hole	0.3	Load Hole
2	100	Injection	27.2	Injection
3	30	XO	64.7	XO
4	40	Pad	40	Pad
5	16	1 ppa	16	1 ppa
6	30	Pad	30.1	Pad
7	16	2 ppa	16	2 ppa
8	50	Pad	99.9	Pad
9	44	2 ppa	44.1	1 ppa
10	45	3 ppa	44.1	2 ppa
11	47	4 ppa	45.1	3 ppa
12	49	5 ppa	62.4	4 ppa
13	89	6 ppa	25	Flush
14	27	8 ppa		
15	7	Sand Plug		
16	104	Flush		
17				
18				
19				
20				

Closure occurred at 507 psi surface, 2536 psi bottomhole with a gradient of 0.56 psi/ft, efficiency of 24.2 %, and closure time of 1.74 minutes. The pumping schedule was changed during the job to account for high treating pressures. The well screened out approximately 25 bbl into a 104 bbl flush.

Frac Data Summary

Customer:	Venoco	**Formation:**	M2
Customer Rep:	Don Schmohr	**Interval/Stage:**	Stage 6
Well/ Field	E-8ST2	**BHST:**	125°F
Job Date:	January 12, 2009	**BJ Rep:**	Berny Lopez/Chris Smith/Mike Sansinena
Job Number	1001544411	**TMV:**	Offshore Unit

Tubulars	Size/wt	Length	bbl/ft	bbls
Tubulars	3.5"	0	0.0087	0.0
Casing	4.5"	6741	0.01522	102.6
Surface Line	2.75	30	0.00735	0.2
		Volume to Top Perf		102.8
		Flush		100.0

Detail		MD	TVD	units
Top Perf		6740	4472	ft
Bottom Perf		6742	4472	ft
Mid Zone		6741	4472	ft
Gross Interval		2	0	ft
Net Interval		2	0	ft
Fluid SG / HH		1.027	1992	psi
Shots/foot		3	3	holes
Size		0.63		inch

Injection Data	Inj #1	Inj #2	Main Frac	
Volume to fill	0	0	1.1	-
Rate	6.6	6.4	-	-
STP	3733	3657	-	-
FG	0.82	0.89	-	-
Volume	84.7	43.7	42.8	-
ET@Startup	7:04 AM	8:29 AM	12:00 PM	-
ET@Shutdown	7:28 AM	8:39 AM	12:29 PM	-
Pump Time	0:24	0:10	0:29	-
ISIP	1690	1982	-	-
5 min SIP	722	836	-	-
10 min SIP	587	693	-	-
15 min SIP	572	-	-	-

Fluid System Additives		SpectraFrac G 3500
		Seawater
8.75	GPT	GLFC-1B
3.00	GPT	XLW-56
1.00	GPT	BF-8L
1.00	GPT	Claymaster 5C
2.00	GPT	MA 844W
1.00/2.00	GPT	BC-3
2.00	GPT	GBW-12

Step Down Data Injection #2	1	2	3	4
Rate(bpm)	6.6	4.7	3.3	-
STP(psi)	3733	3251	2840	-

Step Down Data Injection #2	1	2	3	4
Rate(bpm)	6.4	4.7	1.7	-
STP(psi)	3657	3290	2729	-

Main Frac	1	2	3	4
Rate(bpm)	-	-	-	-
STP(psi)	-	-	-	-

Proppant Type:	20/40 White		Proppant Data	
Program	29,484	lbs	2.65	
Computer	-	lbs	928.2	SG
Blender	-	lbs		lbs/bbl
BH Sand	-	lbs	Dirty bbls	97
Casing	-	lbs		
Placed	0%	by design	Clean bbls	97

Treatment Schedule	Slurry Volumes(bbls) Design Treatment		Actual Treatment	
	bbls	Stage	bbls	Stage
1	10	Load Hole	0	Load Hole
2	120	Injection #1	84.7	Injection #1
3	120	Injection #2	43.7	Injection #2
4	30	XO	10.6	XO
5	50	Pad	38	Pad
6	25	1 ppa 100M	4.8	Water
7	50	Pad		
8	26	2 ppa 100 M		
9	40	Pad		
10	10	1 ppa		
11	50	Pad		
12	42	1 ppa		
13	65	2 ppa		
14	68	3 ppa		
15	83	4 ppa		
16	100	Flush		
17				
18				
19				
20				

The original holes were at 6740'. However, after injection #1, new holes were cut at 6741'. Near-wellbore from injection #1 was 1380 psi, perf friction was 475 psi, with a beta factor of 0.77 and 1.37 open holes. Near-wellbore from injection #2 was 982 psi, perf friction was 290 psi, with a beta factor of 0.68 and 1.72 open holes. Closure was not found. The job started to pressure out approximately 38 bbls in the pad, so the company decided to go to water. No frac was performed

Kurtz, Bobby <bobby.kurtz@bsee.gov>

Enhanced-recovery operations

Kurtz, Bobby <bobby.kurtz@bsee.gov> Fri, Jan 11, 2013 at 10:10 AM
To: bzahner@venocoinc.com
Cc: mcarlsen@venocoinc.com, chris.peltonen@venocoinc.com

Bob,

I am drafting a response for the director of the BSEE (formerly MMS) to the recent VC Reporter article on offshore fracking and was hoping that you (or Monica and Chris) could verify my findings before I pass them along. According to our well files, the VC Reporter claim that Venoco, Inc. performed a fracking procedure on a Platform Gail well in 2009 is inaccurate. The only record we have of fracking by Venoco, Inc. shows that fracking was performed on only one occasion with unfavorable results in well E-11 from Platform Gail, Sockeye Field, in August 1992. Can you please confirm that this information is accurate as soon as possible.

Thank you very much,

–

Bobby Kurtz

Geologist

Production and Development

Pacific OCS Region

Bureau of Safety and Environmental Enforcement

(805)389-7713

Sinkula, Nathan <nathan.sinkula@bsee.gov>

Fwd: Fracking

1 message

Voskanian, Armen <armen.voskanian@bsee.gov> Tue, Jan 15, 2013 at 3:17 PM
To: Nathan Sinkula <nathan.sinkula@bsee.gov>

FYI

——— Forwarded message ———
From: **Mayerson, Drew** <drew.mayerson@bsee.gov>
Date: Tue, Jan 15, 2013 at 1:10 PM
Subject: Fwd: Fracking
To: BSEE PAC OPD <bseepacopd@bsee.gov>

fyi
Drew Mayerson
Regional Supervisor
Office of Production and Development
Pacific OCS Region

——— Forwarded message ———
From: **Ming, Jaron** <jaron.ming@bsee.gov>
Date: Tue, Jan 15, 2013 at 12:59 PM
Subject: Fracking
To: Daniel Knowlson <daniel.knowlson@bsee.gov>
Cc: "Masri, Nabil" <Nabil.Masri@bsee.gov>, Drew Mayerson <drew.mayerson@bsee.gov>

As you know, fracking has been of great interest to the Department and the general public in recent months. For that reason, I am asking you to pay close attention to any APDs and/or APMs that we receive and let me know if you believe any of them would be considered a "frac job". Thanks and feel free to contact me if you have any questions.

Jaron

–

Armen Voskanian, P.E.
Reservoir Engineer
Bureau of Safety and Environmental Enforcement
Pacific OCS Region
Office of Production and Development
770 Paseo Camarillo, Second Floor
Camarillo, CA 93010
805.389.7727
armen.voskanian@bsee.gov

Mayerson, Drew <drew.mayerson@bsee.gov>

Fracking Article from Dec in VC Reporter

3 messages

Mayerson, Drew <drew.mayerson@bsee.gov> Wed, Feb 27, 2013 at 10:48 AM
To: Bobby Kurtz <geokurtz@gmail.com>, "Dame, Robert" <Robert.Dame@bsee.gov>, Michael Brickey <michael.brickey@bsee.gov>, Armen Voskanian <armen.voskanian@bsee.gov>, Nathan Sinkula <nathan.sinkula@bsee.gov>

As you know yesterday Dan, Nabil, Ken Seeley, and I were asked to provide a point by point response to the comments and allegations made in the subject article.

My assignment was to handle the geologic comments, Dan to handle the drilling and fluid comments, and Ken to handle the environmental aspects of the article.

Attached is my first run through of the article with point by point geo coments. p

Please take a look and see if 1) I missed anything, and 2) I'm in error.

Can I get it back by 2pm today? If you have no comments, please state that.

Thanks,
Drew

Drew Mayerson
Regional Supervisor
Office of Production and Development
Pacific OCS Region

Point by point response to VC Reporter Article.docx
41K

Brickey, Michael <michael.brickey@bsee.gov> Wed, Feb 27, 2013 at 11:36 AM
To: "Mayerson, Drew" <drew.mayerson@bsee.gov>

My only suggestion is to mention offshore Monterey oil production. Through December 2011, the offshore Monterey formation has produced more than 700 million barrels of oil. And one well has produced more than 30 million barrels of oil.
[Quoted text hidden]

Dame, Robert <robert.dame@bsee.gov> Wed, Feb 27, 2013 at 12:03 PM
To: "Mayerson, Drew" <drew.mayerson@bsee.gov>

No comments, the responses look fine to me.

-Robbie

On Wed, Feb 27, 2013 at 10:48 AM, Mayerson, Drew <drew.mayerson@bsee.gov> wrote:
[Quoted text hidden]

Fracking offshore

Lack of transparency for the controversial practice raises major concerns for locals

http://www.vcreporter.com/cms/story/detail/fracking_offshore/10432/

In the summer leading up to Hurricane Sandy, crowds surrounded the state capitol at Albany, N.Y. They wanted to know what would happen in case of a natural gas leak, or a bigger natural gas disaster, to their drinking water. What sparked them? Many had seen the footage of water so contaminated from natural gas frack drilling that it turned brown or caught fire. These water debacles sparked a nationwide movement against natural gas fracking. Fewer people know about fracking in California, and the anti-fracking movement is smaller, but the tide has turned since the time when natural gas was considered a safer alternative energy.

The days when oil companies could find enough oil through conventional drilling are long over on the Central Coast. Drillers cannot get oil trapped tightly in the shale the older ways. It is trapped in rock and has to be coerced out through fracking. Now they need an Olympic-size pool's worth of water infused with chemicals to splinter the rock and discharge the oil from it. They drill a hole, lay a pipe, and drop a bomb where it explodes and tears into the pipe. Making its way down through the pipe hole are sand and chemical water at such force that it splinters the shale and dislodges the oil from it. Central Coast frack drilling can tunnel down a mile and through the water table. Scientists are split on whether fracking can contaminate our drinking supply or cause earthquakes. Wastewater composed of toxic, safe and unknown chemicals is injected into a well and pushed down thousands of feet, where it builds pressure. That pressure under the earth could be a problem.

Comment [DKNOWLSON1]: THIS IS A FALSE STATEMENT for federal waters. A very small percentage of POCSR wells are fracked<5%??

Oil company executives can describe the thick and sticky shale oil with the same kind of loving tenderness and cravings as any Central Coast reckless wine sipper. Washington and Sacramento have simultaneously fed and regulated the thirst for it. The Dick Cheney-created Halliburton loophole made fracking exempt from much EPA regulation and from the Safe Drinking Water Act. This means frackers do not have to disclose the chemicals they use. This is true under the Safe Drinking Water Act, but that does not apply in the case of OCS operations. Discharges of fracking fluids are covered under EPA's General Discharge Permit for OCS oil and gas operations. Drillers in California are not required to notify landowners or residents who utilize nearby water sources of their intent to frack. This lack of transparency has been a sore spot for the often-locked-in-conflict local farmers, commercial fishing industry and environmentalists who now find themselves allied in the battle against fracking's quest for water. Because so little transparency exists, rumors swirl around the where and when of offshore fracking.

The view from McGrath State Beach

Last June, fresh off the primary election, local campaigning Democrats staged a press conference for Oxnard's McGrath Beach, which was reopening after being closed for lack of funding following Department of Parks and Recreation's sordid fund hoarding. Das Williams, D-Santa Barbara, who was running for re-election for the State Assembly district stretching from Santa Barbara to parts of Oxnard, took advantage of the news cameras and changed from an orange T-shirt into a full wetsuit and bright-yellow boogie board, walked into the ocean, and rode the whitewash of the small choppy waves for more shoots. What the camera could not capture was the crossing of slant- and horizontally-laid oil pipes underneath the waves, chemical injection wells on federally regulated oil rigs beyond the white wash, and the Channel Islands thrust fault capable of producing a magnitude 7.2 earthquake. **ACCORDING TO REPORTS FROM THE CALIFORNIA DIVISION OF MINES AND GEOLOGY AND THE USGS IN 1996 (OFR 96-08**

(b) (5)

Comment [DKNOWLSON2]: [redacted]. POCSR does not have chemical injection wells, we do have produced water injection wells where the same product that came out of the ground(reservoir) is put right back where it came from.

AND 96-706, RESPECTIVELY), THE CHANNEL ISLANDS THRUST IS APPROXIMATELY 65 KM LONG AND CAN PRODUCE A MAX MAGNITUDE 7.4 EARTHQUAKE. AN EARLIER PAPER FROM SHAW AND SUPPE (1994 IN THE GEOLOGICAL SOCIETY OF AMERICA BULLETIN) ESTIMATED A MAGNITUDE 7.2 WAS POSSIBLE. From Williams' vantage point, he could see the reeds and fences hiding more oil company chemically injected and disposal wells. If he had walked south down the beach past McGrath Lake, he would have found Well 1218 THIS IS A STATE WELL. producing more than 32,000 barrels so far this year alone.

Williams splashed around over one of the county's major access points to the oil-abundant underground geological development called the Monterey Shale. This now-commercialized piece of geological property encompasses parts of Ventura, Santa Barbara and Monterey counties. Tim Marquez, president of Venoco, told the Oil & Gas Financial Journal that "We knew that our future efforts were going to be focused on the Monterey Shale." Venoco literature claims the company has explored the shale since 1997. THE MONTEREY SHALE IS ONE OF THE PRIMARY PRODUCING FORMATIONS IN CALIFORNIA. IT IS PROLIFIC ONSHORE AS WELL AS OFFSHORE. IN THE OCS IT ACCOUNTS FOR ABOUT 40,000 BARRELS PER DAY OF THE 54,000 BARRELS PRODUCED. NONE OF THE OIL IS THE RESULT OF HYDRAULIC FRACTURING. IN THE OFFSHORE, THE MONTEREY IS NATURALLY FRACTURED.

Fracking is a new frontier HYDRAULIC FRACTURING HAS BEEN AROUND FOR 60 YEARS and Marquez embraces its Wild West nature and its financial and environmental riskiness. The Monterey Shale is about the closest thing an energy company can get to a new oil frontier on the Central Coast in decades. THE MONTEREY SHALE FIRST PRODUCED IN CALIFORNIA ABOUT 1902. BY 1956 ALMOST 300,000,000 BARRELS OF OIL HAD BEEN PRODUCED FROM THE MONTEREY IN THE ONSHORE SANTA MARIA AREA AND SAN JOAQUIN BASIN IN THE CENTRAL VALLEY. THE MONTEREY IS HARDLY A NEW FRONTIER HOWEVER; THE AUTHOR MAY BE REFERRING TO BAKKEN LIKE HYDRAULIC FRACTURING AS A NEW FRONTIER THAT COULD BE APPLIED TO THE MONTEREY FORMATION. But like the old Wild West, the federal government is still bankrolling while letting companies use its national forests and federal waters.

According to a Venoco report, the company is leasing 380,000 acres in California valued at $1.4 billion. VENOCO HAS 5 OCS BLOCKS TOTALLING ABOUT 29,000 ACRES. It claims that it has already devoted millions of dollars into setting up new wells and exploring the shale, including the Sockeye field offshore from McGrath Beach. PER VENOCO'S OPERATIONS MANAGER, THEIR 2010 FRAC WAS NOT VERY SUCCESSFUL AND ALTHOUGH THEY DIDN'T WANT TO RULE OUT A FRAC AGAIN THEY INDICATED THEY DID NOT HAVE PLANS TO FRAC IN THE NEAR FUTURE. Evidence points to more local shale in its future. Venoco recently advertised for a Monterey Shale expertise job for its Carpinteria office. THIS WOULD NOT BE UNUSUAL....VENOCO PRODUCES FROM NATURALLY FRACTURED MONTEREY ON THE OCS AND FROM THE PLATFORM IN STATE WATERS.

What wells has Venoco fracked so far? WELL E-11 DURING THE 1990's (note: this was a frac in the Sespe sandstone, not Monterey) & WELL E-8 SIDETRACK 2 IN 2010. The company dodges that question. The anti-fracking movement has grown large enough to put oil companies on edge. Calls to Venoco were not returned. But just two years ago, the mood was different. Scarlett Johansson was not hosting celebrity screenings for Gasland, the anti-fracking movie that had not yet won an Academy Award. New York farmers, chefs, wine connoisseurs and environmentalists had not yet joined to push New York Gov. Andrew Cuomo, Democrat, to regulate fracking. Matt Damon was not releasing an anti-fracking movie called #Promised Land# that he would use as his next Oscar platform HOW'D THAT WORK OUT?.

But in the more frack-friendly year 2010, Venoco's promotional literature claimed it had fracked and horizontally drilled one well and acidized a second to get to the shale offshore from McGrath Beach. Nestled in federal waters between Oxnard and Santa Cruz Island is Platform Gail. The Santa Barbara-based Environmental Defense Center found that Venoco fracked Platform Gail in Sockeye offshore. **Where did the wastewater from the offshore frack go? What was the chemical composition?** Still waiting on this information from Veneco, but it appears that only 941 gallons of water were discharged under the general discharge permit during February, March and April of 2010 and these discharges were related to maintenance activities. So far, the only two institutions likely to know for certain are Venoco and a few of the federal regulatory bureaucracies such as the Bureau of Ocean Management or Bureau of Safety and Environmental Enforcement. But none is informing the public actually, EPA would be the appropriate agency to ask,since the discharges would have been under their authority.

Comment [DKNOWLSON3]: Venoco has an extensive water-flood project whereby >95%?? Of the produced water is re-injected into the formation that it came from for pressure management

Comment [DKNOWLSON4]: I have contacted Venoco and they are providing additional information, the majority of the frac product was sea water and white sand (20/40)

As for spills and water contamination, frack watchers are still trying to get at the chemical formulas of fracking fluid**. A 2005 Venoco document reveals XC polymer, a xanthum gum manufactured by Halliburton.** It's not clear what this report from 2005 is about, or if it is related to 2010 fracking at Gail, in which case, it's not clear why a 2005 report would be relevant. Xanthum gum is used in large quantities in the oil industry, usually to thicken drilling mud. It is also commonly used as a food additive, for example, as a thickening agent in salad dressings. Discharge of XC polymer is covered under EPA's general NPDES discharge permit for OCS oil operations (as Discharge 001: Drilling Fluids and Cuttings). **Reporters from the nonprofit investigative unit Propublica found hazardous chemicals such as benzene, formaldehyde, sulfuric acid, kerosene, hydrofluoric acid, hydrochloric acid, formic acid and lead. Researchers at the State University of New York at Albany found radioactive materials such as uranium, radium and radon in tests of fracking wastewater.** This statement is too general and vague to respond to – these reports could be about anything, but we have no evidence to suggest that similar chemicals have been discharged at Gail, although if they had been, it would have fallen under EPA's purview under the Clean Water Act, and they would have had to determine if a violation of the general discharge permit had occurred. The National Resources Defense Council found a chemical connected to cancer development, arsenic. The Breast Cancer Fund has reported on the risks for breast cancer from toluene and endocrine-disrupting compounds such as phthalate DEHP found in fracking fluid. EPA studies show that toluene can cause spontaneous abortion. Then there is the question that remains of how the hundreds of thousands of gallons of chemical wastewater are disposed of. Again, we have no evidence to support or refute this claim, but the mere presence of a contaminant in a permitted discharge does not constitute a violation of the discharge permit. EPA sets discharge limits based on the toxicity of the chemicals of concern. During the period in question, we do know that Veneco was reinjecting produced water from Gail back into the formation for the waterflood program.

According to the Environmental Defense Center, Venoco fracked platform Gail in Sockeye field in the Santa Barbara Channel.

According to the Ventura County Star, **Venoco spilled 63 barrels of oil in 2010 from Platform Gail,** the year following the reported frack job. Ordinarily, a 63-barrel leak is not controversial, but if it includes fracking fluid or its waste, a concern exists. A frack spill is not an ordinary oil spill. When the chemicals get into the water they are difficult to get out. They spread fast and easy, do not easily breakdown, and can cause more health hazards than crude oil. This could probably be easily refuted if we had information on the chemicals used by Veneco.

Comment [DKNOWLSON5]: 23.17 gallons confirmed by USCG-MSD Santa Barbara; 21.17 gal. recovered by Clean Seas. The spill occurred on 10/22/10, fracking occurred +/-1/10/10. Also, due to their water-flood project they almost never discharge into the ocean. They did discharge (941 bbl total) of NPDES-conforming produced water in Feb., Mar., & Apr 2010 due to an upset condition

The acidity of carbon waste through oil spills threatens marine life and commercial fishing. Shellfish can be especially vulnerable to the acidic water that comes with fracking. But it's not just commercial fishing that fracking can threaten. Venoco's fracking and well acidization next to the Channel Islands Marine Reserve undermines I think the author is trying to imply that the mere presence of these activities near the marine reserve undermines its mission, but there is no evidence to support that activities at Platform Gail have negatively impacted that mission to date. Furthermore, the spill volume mentioned above is grossly exaggerated (the volume reported is approximately 126 times greater than the actual volume and there's no acknowledgement that the spill was cleaned up before significant impacts were allowed to occur), finally, there is no evidence or reason to believe that fracking fluids in any significant quantities, if at all, were in the oil that was spilled the mission of protecting marine life and habitats, much as state and national parks protect wildlife on land. Little research exists on the impact of fracking chemicals on ocean life. **THE FOLLOWING WERE EXCERPTED FROM 15 CFR PART 922.71-74, THE GOVERNING REGULATIONS FOR THE CHANNEL ISLANDS NATIONAL MARINE SANCTUARY**

§ 922.72 Prohibited or otherwise regulated activities—Sanctuary-wide.

(1) ***Exploring for, developing, or producing hydrocarbons within the Sanctuary, except pursuant to leases executed prior to March 30, 1981, and except the laying of pipeline pursuant to exploring for, developing, or producing hydrocarbons.*** **THE VENOCO LEASES IN FEDERAL WATERS WERE ISSUED IN 1968 (LEASE SALE P4).**

(2) Exploring for, developing, or producing minerals within the Sanctuary, except producing byproducts incidental to hydrocarbon production allowed by paragraph (a)(1) of this section.

(3)(i) Discharging or depositing from within or into the Sanctuary any material or other matter except:
(E) Effluent routinely and necessarily discharged or deposited incidental to hydrocarbon exploration, development, or production allowed by paragraph (a)(1) of this section; or

(4) Drilling into, dredging, or otherwise altering the submerged lands of the Sanctuary; or constructing or placing any structure, material, or other matter on or in the submerged lands of the Sanctuary, except as incidental to and necessary to:
(i) Anchor a vessel;
(ii) Install an authorized navigational aid;
(iii) Conduct lawful fishing activity;
(iv) Lay pipeline pursuant to exploring for, developing, or producing hydrocarbons; or
(v) Explore for, develop, or produce hydrocarbons as allowed by paragraph (a)(1) of this section.

Fracking started 60 years ago. So why all the fuss? For many, the newer form of horizontal drilling, that is drilling (that goes down, then across) is what makes the new practices more dangerous than those old Fillmore and Los Padres National Forest frack jobs. With horizontal's criss-crossing through the water table, it is more likely to cause contamination. **THE E8 WELL WAS HORIZONTAL AT THE DEPTHS WHERE FRACKING WAS DONE, THE E11 WELL WAS NOT.**

Venoco's drilling onshore and offshore from McGrath, with its slant and horizontal drilling, has created a regulatory conundrum. **McGRATH IS IN STATE TIDELANDS.** Fracking skeptics argue that it is specifically what makes slant and horizontal drilling so appealing. Horizontal drilling can start onshore, then cross to offshore. If there is another spill like in 2010, who regulates this? The U.S. Coast Guard would lead a response to a spill in Federal waters, with the State responding to any spills that impact State waters or resources. If the spill is the result of an unauthorized discharge from a permitted produced water discharge, EPA would have jurisdiction under the Clean Water Act. The federal government? The state? When asked about who regulates a frack job that burrows underneath both land and ocean, Erin Curtis, Federal Bureau of Land Management's external affairs representative, told me that "Whoever is responsible is who is permitting the oil company. That is who should regulate." That's misleading and it is not clear why the author would have approached BLM on this issue, rather than BOEM or BSEE, or EPA or the U.S. Coast Guard. But if Venoco should spill again as it did in 2010, and it pollutes both offshore and onshore, who will be in charge of remedying that? There is no clear answer from Venoco's office about this question Spill response plans are in place and response drills take place regularly; there's no real mystery regarding which agency will lead spill response efforts.

The campaigning Democratic candidates also had a wonderful view of the Santa Clara River running through McGrath State Beach and into the ocean. As of August, conversations with the United Water Conservation District, the local agency regulating drinking water coming from the Santa Clara River, revealed that fracking was not even on the radar. This is the agency that must divvy out scarce water. Drinking water aquifers in this area are not impacted by offshore drilling activities on the Pacific OCS.

Aera Energy off McGrath Beach

According to interviews with the California Department of Land Conservation, the state agency in charge of regulating the energy industry, fracking waste fluid can end up in either a waterflood injection well or a water disposal well. While oil and gas companies are not required to report on their fracking chemical compositions, or where they have drilled or injected it into the earth, they do have to get approvals to build wells to dispose of the waste. Wherever one can find an injection or a water disposal well, it is likely some fracking happened nearby. **THIS IS A GROSS EXAGERATION. THERE ARE NO DISPOSAL WELLS AT SOCKEYE AND ABOUT 12 WATER INJECTION WELLS THAT ARE USED FOR PRESSURE SUPPORT OF THE RESERVOIR (this is standard conservation practice). THE INJECTED WATER HAS TO BE COMPATIBLE WITH THE WATER IN THE RESERVOIR TO AVOID VARIOUS MALADIES THAT MIGHT INHIBIT INJECTION (E.G., BACTERIAL GROWTH, SCALE FORMATION, CLAY SWELLING, ETC...). THE ENTIRE POCS HAS ABOUT 70 WATER INJECTION WELLS ONGOING AT ANY ONE TIME, MOSTLY TO PROVIDE PRESSURE SUPPORT FOR THE RESERVOIR. FRACKING HAS BEEN RARE, OCCURRING ONLY ABOUT 11 TIMES IN THE LAST 20+ YEARS, MOST BEING "MINI FRACKS" IN THE IMMEDIATE VICINITY AROUND THE WELLBORE TO CLEAN UP SAND THAT MAY PLUG THE PERFORATIONS.**

Two of the biggest global oil companies, Shell and ExxonMobil, teamed up to form Aera Energy. Aera has a new waterflow well near McGrath Beach. This well has only August production on record with the California Department of Conservation. In that month, Aera injected 13,262 barrels of waste.

Our region is what seismologists call seismically active. **TRUE.** Several earthquakes have been caused by faults that extend into the Santa Barbara-Ventura ocean basin **EARTHQUAKES OCCUR ON FAULTS.** We have San Andreas and the Santa Ynez River fault zone to the north, the San Cayetano fault to the east, the offshore Pitas Point near Carpinteria, Red Mountain fault to the east, the Oak Ridge lying on both Ventura and Oxnard, and the offshore Santa Cruz Island and Channel Islands faults to the west. Even the Pacific Operators Offshore LLC (PACOPS), a local offshore driller, in a report to the Federal Bureau of Energy Management (BOEM) admits that all these faults can produce shaking around the wells. The cracking of the shale and the reinjection of waste water back to the strata causes pressure. **WATER INJECTION FOR WATERFLOOD PROGRAMS REPLACES THE PRESSURE THAT HAS BEEN BLED OFF THROUGH OIL AND GAS DEVELOPMENT. THE IDEA IS TO MATCH THE ORIGINAL RESERVOIR PRESSURE AND AVOID INADVERTANTLY FRACTURING THE FORMATION, THEREBY POSSIBLY NEGATING THE BENEFITS OF REPRESSURIZATION OR SENDING THE INJECTED WATER INTO THE OIL AND CHOKING OFF OIL PRODUCTION IN THE WELLS THAT WERE TO BE THE BENEFICIARY OF RESTORED PRESSURE. FOR THIS REASON ALL WATER INJECTION WELLS ARE MONITORED CAREFULLY TO SEE THAT THIS DOES NOT HAPPEN.** All this happens on these fault systems.

Aera is no stranger to fracking. Last May, Aera fracked in the mountains above Ventura Avenue. This job used 32,004 gallons of water and drilled down 4,960 feet. Aera admits to using methanol, a common chemical used in fracking and also found in fuel, antifreeze and paint solvent. Inhaling methanol can cause eye irritation, headaches and can be fatal. Ingesting it can produce eye damage or death. Aera's chemical cocktail also included, boric acid, insecticide and flame retardants.

According to a joint study by the U.S. Department of Energy, the National Academy of Sciences, the Institute of Medicine and the National Research Council, fracturing of rock has a lower risk of earthquake, but the disposal of the waste fluid into a well is high risk. Where lies an injection well also lies an earthquake risk. According to this study, the hundreds of thousands of gallons of waste do not simply disappear in the earth's strata. Underground, the waste builds pressure and causes more cracks in the already cracked earth. Conducting the frack jobs on fault zones just exacerbates the earthquake risk. **THE FOLLOWING IS THE PRESS RELEASE FROM THE NAS DATED 6/15/2012**

Hydraulic Fracturing Poses Low Risk for Causing Earthquakes,
But Risks Higher for Wastewater Injection Wells

WASHINGTON — Hydraulic fracturing has a low risk for inducing earthquakes that can be felt by people, but underground injection of wastewater produced by hydraulic fracturing and other energy technologies has a higher risk of causing such earthquakes, says a new report from the National Research Council. In addition, carbon capture and storage may have the potential for inducing seismic events, because significant volumes of fluids are injected underground over long periods of time. However, insufficient information exists to understand the potential of carbon capture and storage to cause earthquakes, because no large-scale projects are as yet in operation. The committee that wrote the report said continued research will be needed to examine the potential for induced seismicity in large-scale carbon capture and storage projects.

The report examines the potential for energy technologies -- including shale gas recovery, carbon capture and storage, geothermal energy production, and conventional oil and gas development -- to cause earthquakes. Hydraulic fracturing, commonly known as fracking, extracts natural gas by injecting a mixture of water, sand, and chemicals in short bursts at high pressure into deep underground wells. The process cracks the shale rock formation and allows natural gas to escape and flow up the well, along with some wastewater. The wastewater can be discarded in several ways, including injection underground at a

separate site. Carbon capture and storage, also known as carbon capture and sequestration, involves collecting carbon dioxide from power plants, liquefying it, and pumping it at high rates into deep underground geologic formations for permanent disposal. Geothermal energy harnesses natural heat from within the Earth by capturing steam or hot water from underground.

Although induced seismic events associated with these energy technologies have not resulted in loss of life or significant damage in the United States, some effects have been felt by local residents and have raised concern about additional seismic activity and its consequences in areas where energy development is ongoing or planned. While scientists understand the general mechanisms that induce seismic events, they are unable to accurately predict the magnitude or occurrence of these earthquakes due to insufficient information about the natural rock systems and a lack of validated predictive models at specific energy development sites.

*The factor most directly correlated with induced earthquakes is the total balance of fluid introduced or removed underground, the committee said. Because oil and gas development, carbon capture and storage, and geothermal energy production each involve net fluid injection or withdrawal, all have at least the potential to induce earthquakes that could be felt by people. However, technologies designed to maintain a balance between the amounts of fluid being injected and withdrawn, such as most geothermal and **conventional oil and gas development**, appear to produce fewer induced seismic events than technologies that do not maintain fluid balance.*

A number of federal and state agencies have regulatory oversight related to different aspects of underground injection activities associated with energy technologies. Responses from these agencies to energy development-related seismic events have been successful, the report says, but interagency cooperation is warranted as the number of earthquakes could increase due to expanding energy development.

The study was sponsored by the U.S. Department of Energy. The National Academy of Sciences, National Academy of Engineering, Institute of Medicine, and National Research Council make up the National Academies. They are independent, nonprofit institutions that provide science, technology, and health policy advice under an 1863 congressional charter. Panel members, who serve pro bono as volunteers, are chosen by the Academies for each study based on their expertise and experience and must satisfy the Academies' conflict-of-interest standards. The resulting consensus reports undergo external peer review before completion. For more information, visit http://national-academies.org/studycommitteprocess.pdf.

What makes this study unique is that its researchers and peer reviewers did not possess ties to energy companies. This is not as common as one might expect. A Plains Exploration study claimed fracking in the Baldwin Hills in Los Angeles was safe, but community groups complained that the peer reviewer had connections to oil and gas. Plains Exploration reportedly paid a Texas geologist $400,000 to write a study that showed that fracking did not contaminate ground water. The oil and gas industry gave State University of New York at Buffalo's geology department $6 million. A new term has been coined to describe these Ph.D.s: frackademics.

Greka's Rincon

Nestled between Carpinteria and Ventura is the Rincon oil field, the desirable piece of ocean property with legendary breaks that has surfers, environmentalists and oil interests competing for its future. Where the state's Conservation Department gave Venoco safety awards in spite of its 32 violations for not following operating procedures from 2005 to 2010, Greka, with its perishing pipelines and rusting facilities, has the opposite reputation with 21 separate crude oil spills in Santa Barbara waterways from 2005 through 2010. One of the spills included a 67,000-gallon oil spill in early December 2007 followed by an 84,000-gallon spill in 2008. Greka's poor public image prompted a name change to HVI Canyon Cat last year. The Santa Barbara Independent

reported that the U.S. Department of Justice alleges that HVI Cat Canyon failed to implement adequate plans to prevent spills, which is required by the Clean Water Act.

Photo by Matthew Hill
Venoco has operations on the pier off the coast in Carpinteria, where, apparently, work has ramped up recently.

In 2002, the company acquired Rincon Island Partnership. According to California Department of Conservation records, Rincon Island Partnership has at least five waterflood injection wells. Two are drilled either on a slant or horizontally. Greka has a thing for horizontal drilling. One of its holdings is Horizontal Ventures, so it is likely that some of its wells are horizontally drilled.

Venoco and Carpinteria's uneasy relationship
Venoco has operations in Carpinteria right near the beach and leases the pier that the city owns. Former Carpinteria mayor Richard Weinberg has witnessed increased Venoco activity near his house, a short distance from the pier — "Trucks go by day and night," he says. Miguel Checa, a member of the board of directors of the advocacy organization, the Carpinteria Valley Association, once only saw a few trucks a day going to the pier a day. Now he notices "six to eight." Some question whether this means offshore fracking is a fixation of many Carpinteria residents. Buzz spreads around Carpinteria environmental circles that Venoco could slant-drill offshore to get entrance to oil under the city limits, but Nathan Alley, a staff attorney with the Environmental Defense Center, claims that would be a feat of engineering.

Comment [DKNOWLSON6]: This could be due to DCOR using this pier after a long absence. Also, rig demob and rig transfer to Gail from Grace.

Carpinteria resident Ted Rhodes has had Venoco in his sites since the company created Carpinteria's 2010 Measure J that would have produced more drilling in the city near the aquifer. His mind is on the municipal water and he has no reservoir of good will for Venoco. The company can bypass local laws by going through federal land management instead of the city.

Weinberg thinks Venoco's plan is to drill slant or horizontal to reach the oil under the city without having to abide by local laws or answer to local activists. The last time Venoco wanted to dramatically increase drilling through city legislation, environmentalists staged a paddling protest. They jumped in the water and paddled out to sea. The paddlers included Rhodes and Weinberg.

Weinberg calls federal and state land management "weak." Federal and state land management will not be as open to citizens' participation. Weinberg may be correct. In October, Alley found that Venoco will drill just north of the city and slant-drill to the oil underneath the city.

Comment [DKNOWLSON7]: I believe the federal program is well balanced, collaborative(w/other state and federal entities), adequate, detailed and comprehensive

Comment [DKNOWLSON8]: Put them to the task, how is it that they want to be involved as far as Federal OCS!!??

The Carpinteria Valley Association hired hydrogeologist from UCSB Hugo Loáiciga to defend against Measure J. Loáiciga publicly testified drilling beneath the city would be detrimental to the aquifer. Although environmentalists point to the dishonesty of oil companies, the prediction tools that oil companies use could be a factor. Sophisticated oil company mapping has provided innumerable safety gains by predicting a picture of the underground. But all these layers might be more fractured and uniform than the technology shows. The assumption of safety depends on the premise that layers of underground rock tightly hold the injected chemicals. But the underground may be more fractured and cracked than these programs predict. More cracks mean more chemicals moving about.

UCSB: gas to the south, oil to the north
Venoco has had its share of Southern California controversy. It had a run-in with famous local environmentalist Erin Brockovich over fracking at Beverly Hills High right next to the track. Where

Pennsylvania may allow fracking right on public university campuses, UCSB has the status of having likely oil fracking directly north and PG&E gas south of the campus. Entering the campus on Highway 217, you can see the natural gas field. It is estimated that 90 percent of natural gas wells are fracked.

Elwood lies just north of the campus. **THE ELWOOD FIELD (PLATFORM HOLLY) IS IN STATE WATERS.** Venoco claims, in a 2010 business magazine, to have been drilling to the Monterey Shale at Elwood since 1999. It only took a few short years for this exploration to transform into abundant shale oil collection. In 2007, Venoco wrote to the California Department of Conservation to say it will be injecting waste from the Elwood well offshore to platform Holly. In that letter, Venoco writes, "We have three wells injecting the produced water back to the Monterey Shale." Produced water is the wastewater that is laden with chemicals. Venoco also claims to have injected this produced water on Holly beginning April 2006. Platform Holly has been productive. The state lands commission filed a lawsuit last year claiming Venoco owes the state $9.5 million in royalties.

Venoco ships some of this waste to a water disposal well north of UCSB, in between the posh Bacara resort and the Sandpiper Golf Course. The company has another water disposal well offshore in front of UCSB. It has disposed of 1.3 million barrels of wastewater from the beginning of 2012 through August.

The EPA classifies an oil company's waste disposal well as class II disposal. If some of the fracking chemicals were to be used instead in manufacturing or farming, the EPA would give it a more hazardous classification. Oil and gas companies have exceptions other industries do not.

Bureaucracy and politicians
Checa and Weinberg joined 173 other people in a May 20 meeting at Ventura County Government Center on fracking, organized by the state's Department of Conservation. It was public comment time before the state came out with a draft of fracking rules to be passed around to various environmental groups and the industry. Erin Curtis, the spokeswoman from Federal Bureau of Land Management, says, "We are in rule-making on hydraulic fracturing." Like the state Department of Conservation, that office is inviting public input before making draft regulations. Alley recommends that locals get involved and work toward making fracking transparent. Of course it is much easier to be part of the rulemaking process if you are a mover and shaker at environmental organizations. For ordinary folks, like those at Albany, N.Y., protesting is the only way to get their voice heard.

Ventura County will have to address protecting agriculture, water and property despite the revenues received from oil companies. As for rising oil prices, more local drilling does not translate into cheaper prices at the pump for Ventura County residents. The fracked oil from underneath our feet gets traded to the highest bidder on the international market just like any other oil. **43 USC 1354 PLACED LIMITATIONS ON THE EXPORT OF OIL OR GAS. IT READS IN PART AS FOLLOWS. I DON'T KNOW IF THIS HAS CHANGED:**

(a) Application of Export Administration provisions
Except as provided in subsection (d) of this section, any oil or gas produced from the outer Continental Shelf shall be subject to the requirements and provisions of the Export Administration Act of 1969.
(b) Condition precedent to exportation; express finding by President of no increase in reliance on imported oil or gas

Before any oil or gas subject to this section may be exported under the requirements and provisions of the Export Administration Act of 1969, the President shall make and publish an express finding that such exports will not increase reliance on imported oil or gas, are in the national interest, and are in accord with the provisions of the Export Administration Act of 1969.

As for local electoral connections to fracking, only state Sen. Fran Pavely, D-Agoura Hills, has put fracking front and center on her agenda, going as far as writing a bill requiring drillers to notify nearby property owners before fracking. Though one bill died earlier this year, Pavley has reintroduced another bill this month that would regulate fracking, which includes advance notice to neighbors of planned fracking and disclosure of the chemicals used in the process. State Assemblyman Jeff Gorell, R-Camarillo, had Venoco as a client during his lobbyist days. Venoco later joined ExxonMobile in contributing to his campaign. Recently retired Carpinteria City Councilman Joe Armendariz started a consulting firm. His new client is Western Petroleum Association. Councilwoman Carmen Ramirez, who also attended the McGrath Beach opening, might be the next local leader likely to take this up as an agenda item. The Sierra Club adores her. She earned their admiration for fighting to keep development off Ormond Beach.

On the federal level, ProPublica found that Exxon is pushing for legislation so it does not have to reveal fracking chemicals, but federal regulators have their own agenda. John Romero at the Bureau of Ocean Energy Management said that office will not be issuing any more federal offshore permits, but is working on environmental studies for offshore wind power. **THIS PASSAGE LEAVES THE IMPRESSION THAT THE GOVERNMENT WILL NOT BE ISSUING ANY MORE OFFSHORE PERMITS SINCE MOST READERS WON'T KNOW BOEM FROM BSEE. CLARIFY THAT THIS RESPONSIBILITY LIES WITH BSEE AND THAT PERMITS WILL BE ISSUED.** Even if the local and state governments conflict on offshore agendas, the feds are installing more alternative energy regardless of who is in office. As for when this will happen, UCSB biologist Milton Love is already conducting an environmental impact study for the federal government to bring offshore wind power to our region. The Department of Defense has already made plans to develop more wind power on San Nicolas Island.

A few months after the Democratic candidate at McGrath Beach, I asked a ranger about the fracking rumors. "I have heard them," he says, "but we have cameras. Cameras are all over the park." But the cameras do not show everything behind the walls of the rigs and wells. So I ask him if he sees anything else bad happening in the park. "Yes," and then he laughs.

On Mon, Feb 25, 2013 at 5:03 PM, Mayerson, Drew <drew.mayerson@bsee.gov> wrote:
Is 1:30 pm pst ok? or anytime thereafter.

Drew Mayerson
Regional Supervisor
Office of Production and Development
Pacific OCS Region

On Mon, Feb 25, 2013 at 1:39 PM, Nicholas Pardi <nicholas.pardi@bsee.gov> wrote:
Sure, what works for you?

From: Mayerson, Drew [mailto:drew.mayerson@bsee.gov]
Sent: Monday, February 25, 2013 01:28 PM
To: Pardi, Nicholas <nicholas.pardi@bsee.gov>
Cc: Ming, Jaron <jaron.ming@bsee.gov>; Masri, Nabil <Nabil.Masri@bsee.gov>; Kenneth Seeley <kenneth.seeley@bsee.gov>
Subject: Re: Media Inquiry for PAC region

Any chance we can move it to the afternoon here? I was just informed I have a contractor coming to our house and I have to be there to guide him in the morning.
Drew

Drew Mayerson
Regional Supervisor
Office of Production and Development
Pacific OCS Region

On Mon, Feb 25, 2013 at 12:36 PM, Pardi, Nicholas <nicholas.pardi@bsee.gov> wrote:
(b) (5) [redacted]

On Mon, Feb 25, 2013 at 3:26 PM, Ming, Jaron <jaron.ming@bsee.gov> wrote:
Just FYI, Platform Holly is a State facility. We are aware of this issue and should be able to provide you a response. Thanks.

On Mon, Feb 25, 2013 at 11:58 AM, Pardi, Nicholas <nicholas.pardi@bsee.gov> wrote:
Of note, he added Platform Holly to that list, another Venoco platform. So that's Platforms Holly, Gail and Grace.

On Mon, Feb 25, 2013 at 2:43 PM, Pardi, Nicholas <nicholas.pardi@bsee.gov> wrote:
Hi Jaron,

I got an inquiry from a news organization on the following:

- BSEE permits and operational/inspection documents for drilling operations on Venoco's Platform Gail and Platform Grace off the California coast in the Monterey Shale play. Gail produces from the Sockeye Field and Grace produces in the Santa Clara field.

- Injection well permits for these platforms, if any, and any information on offshore injection well programs, if any.

- Here's why - There are concerns that hydraulic fracturing operations on Platform Gail in 2009 and 2010 produced wastewater, and the disposal of this wastewater was not tracked by BOEM or BSEE, or that BOEM/BSEE are not informing the public.

Here's from the VC Reporter - "The Santa Barbara-based Environmental Defense Center found that Venoco fracked Platform Gail in Sockeye offshore. Where did the wastewater from the offshore frack go? What was the chemical composition? So far, the only two institutions likely to know for certain are Venoco and a few of the

federal regulatory bureaucracies such as the Bureau of Ocean Management or Bureau of Safety and Environmental Enforcement. But none is informing the public."

Do you have a minute today or tomorrow to chat about this?

cheers,
Nick

Mayerson, Drew <drew.mayerson@bsee.gov>

Re: Fw: Fracking issue

1 message

Ming, Jaron <jaron.ming@bsee.gov> Thu, Jan 3, 2013 at 9:49 AM
To: "Gregory, John" <john.gregory@bsee.gov>
Cc: Rosalind Barr <Rosalind.Barr@boemre.gov>, Ericka Williams <ericka.williams@boem.gov>
Bcc: drew.mayerson@bsee.gov

BOEM and BSEE in the Pacific are working together to prepare a response. The BOEM POC will be back in the office next week so we can finalize it. Thanks.

On Thu, Jan 3, 2013 at 9:29 AM, Gregory, John <john.gregory@bsee.gov> wrote:

> Hello All,
>
> I have a couple of related letters to the one attached here and was not sure where to task them:
>
> WIC: "Venoco has fracked its oil fields along the Santa Barbara coast, an alarming expansion of this dangerous drilling process (tasked to "BSEE" and "Closed")
>
> &
>
> Concerned about oil company Venoco's use of hydraulic fracturing off coast of California. ("BSEE" "Closed")
>
> I will take them to you in ODM (BOEM) so you can see them and give me an idea what needs to be done.
>
> Thanks,
> John
>
> ——— Forwarded message ———
> From: **Thomas Lillie** <thomas.lillie@bsee.gov>
> Date: Fri, Dec 21, 2012 at 10:08 AM
> Subject: Fw: Fracking issue
> To: jaron.ming@bsee.gov
> Cc: james.watson@bsee.gov, margaret.schneider@bsee.gov, Lisa_Cannuscio@ios.doi.gov, douglas.morris@bsee.gov
>
> **Jaron: please work with BOEM on drafting a response to this. My note to Walter is an initial read. Not sure if I sumaarized the approach correctly, but take a look and let us know your thoughts. Happy holidays. Tom**
>
> ---
>
> **From:** Lillie, Thomas [mailto:thomas.lillie@bsee.gov]
> **Sent:** Tuesday, December 18, 2012 10:34 AM
> **To:** Aronson, Ellen <ellen.aronson@boem.gov>
> **Subject:** Re: Fracking issue
>
> Ellen: Here is the letter and my note to Walter. He is out of the office until tomorrow. Tom

Walter: I reviewed the letter regarding fracking offshore California. It alleges that fracking has occurred at a platform operated by Venoco off the Santa Barbara coast. The author makes a statement, but provides no evidence to support it. The response should address: (1) has Venoco or any other operator actually conducted any fracking offshore California as alleged in the letter (a BSEE issue); (2) is the alleged activity being conducted in the Federal OCS or state offshore property (a BOEM issue); (3) has fracking ever been considered in a five-year plan and been assessed in any NEPA document for the area in question (i.e., is it even allowed; a BOEM issue); (4) If so, has Venoco or any other operator ever submitted an application for permit to conduct fracking in the Pacific Region (a BSEE issue). Let me know when you get in. Thanks.

On Tue, Dec 18, 2012 at 1:25 PM, Aronson, Ellen <ellen.aronson@boem.gov> wrote:

> Could you send me the letter, please. I cannot seem to download it in the chain of emails. Thank you.
>
> --
>
> *Ellen G. Aronson*
> *Regional Director*
> *Pacific Region, Bureau of Ocean Energy Management*
> *770 Paseo Camarillo*
> *Camarillo, CA 93010*
> *(805) 389-7502*
> *(805) 389-72511 (Direct)*

--

Tom Lillie
Chief of Staff
Bureau of Safety and Environmental Enforcement
(202) 208-6286
thomas.lillie@bsee.gov

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thomas.lillie@bsee.gov

Kurtz, Bobby <bobby.kurtz@bsee.gov>

Fracking response (long draft)

Kurtz, Bobby <bobby.kurtz@bsee.gov> Fri, Jan 11, 2013 at 12:48 PM
To: Drew Mayerson <drew.mayerson@bsee.gov>

Dear Marie C. Vought,

Dear Leopoldo L. Lopez,

Secretary Salazar has asked that I respond to your concerns on his behalf regarding fracking in oil and gas reservoirs of the Pacific Federal Outer Continental Shelf Region. There have only been two occasions when hydraulic fracturing was utilized as a recovery technique in Federal waters off the California coast. According to the State Lands Commission which governs oil and gas operations in California state waters which extend 3 miles offshore, no fracking has been performed on any wells under their jurisdiction. Onshore fracking activities in California have generally been performed at true vertical depths ranging from 2500-6000' below the Earth's surface. The well casing perforation method described in the VC Reporter article as "drop a bomb" is inaccurate. In reality most oil and gas wells, including those that do not employ hydraulic fracturing, are completed at hydrocarbon-bearing zones by perforating the casing of the well with a lowered tool containing a grid of multiple directional charges designed to blast small, individual holes in the casing for production. Some oil and gas wells still utilize the earlier technology of open-hole completions when productive intervals are thick and reservoir pressures are low.

The only occasion that Venoco, Inc. utilized fracking for reservoir stimulation in the Pacific OCS region was in August 1992 in the Santa Barbara Channel approximately 10 miles off the coast of Oxnard, CA. The frac job was performed on well E-11 (API: 043112068200) off of Platform Gail in the Sockeye Field of the Santa Clara Unit, Federal lease P-205. The target was three intervals which were completed (perforated) in sandstone of the Upper Sespe Formation from: 6,288-6,287', 6,206-6,224', and 6,206-6,224' in measured depth, approximately 5,600' in true vertical depth beneath the drilling deck of the platform. At the location of Platform Gail the water depth is 730'. Oil and gas production from this well had dropped significantly in May 1992 from 2,700bbl/5,3000Mcf per month to 1,500bbl/1,3000Mcf per month, then steadily declined to 300bbl/4,000Mcf by August prior to the frac job. The hydraulic fracturing was unsuccessful and Venoco was only able to recover production to 833bbl/9,900Mcf per month which was quickly stunted to zero production by February 1993. The target was abandoned in March 1993 and the Sespe Formation intervals of the well were plugged. Venoco moved up hole to the Upper Topanga Formation which they have been producing through traditional recovery techniques for this region, not involving hydraulic fracturing.

The second instance of hydraulic fracturing was in late April 1997 when Chevron attempted to frac well C-11 (API: 560452006701) off Platform Hidalgo in the Pt. Arguello Field, Federal lease P-450 where the water depth is 430' approximately 6 miles offshore Vandenberg Air Force Base. The target was the M-1 zone of the Monterey Formation. They isolated a zone from 10,775' to 11,248' in measured depth at approximately 10,500' in true vertical depth, leaving a deeper Monterey completion unaffected by the frac job. Perforations were added to the to the isolated zone with 50 holes between 11,051'-11,061' MD. The planned operation was to inject 50,000gals of frac fluid containing 90,000lbs of proppant to maintain void space induced by the procedure at 30-40bpm into the reservoir maintaining a pressure of 5,500-7,500psi. It appears that they underestimated the requisite pressure to perform the job effectively causing the frac fluids to back up in the wellbore. They were only able to inject 62,622gals of frac fluid with 29,736lbs of proppant. The maximum flowback rate achieved after the main frac was 1.1bpm. As a result of the attempted fracking, production was decreased substantially in May and June 1997 from a steady 4,000bbl/mo prior down to 2,800bbl and 842bbl respectively. In June 1997 an enzyme breaker was injected into the reservoir and recovered steady production to approximately 4,000bbl/mo.

Flowback fluids from these frac jobs were cleaned and disposed of according to federal regulations just as any produced water from oil and gas operations. At the time of the oil spill on Platform Gail in 2010 there were no fracking operations being conducted and the claim that fracking had been performed in 2009 is inaccurate. In

the event of an oil spill, detailed spill contingency plans take effect which are required to be submitted, approved, and readied prior to oil and gas operations. On December 18, 2012 the California Division of Oil, Gas, and Geothermal Resources and the Department of Conservation released a draft of onshore regulations that are being developed for governing hydraulic fracturing operations including well design competency testing, well monitoring during and for 5 years following fracking activities, geologic modeling of the propagation of induced fractures, disclosure of operations on the currently active website fracfocusdata.org, the disclosure of frac fluid components, and the storage and handling of frac fluids. The Bureau of Land Management began an overhaul in 2012 of hydraulic fracturing regulations for Federal public and Indian lands that it oversees requiring similar disclosure and operational scrutiny. All regulations and findings determined by these agencies will be carefully evaluated when adopting future policies governing hydraulic fracturing operations in the Federal Pacific Outer Continental Shelf region.

If onshore fracking of the Monterey Formation turns out to be a successful, long-term recovery technique it may follow that operators who produce the Monterey in offshore regions of California may look to fracking as a viable enhanced-recovery technique. I assure you that at such time, the BSEE will treat these applications with the utmost scrutiny and will not allow such operations to be conducted until detailed environmental impact assessments, such as the EPA study of affects on drinking water due in 2014, are conducted and effective operating procedures are determined so that they may be enforced to preserve our environment and natural resources.

--

BSEE Director James Watson

Fracking response (short draft)

Kurtz, Bobby <bobby.kurtz@bsee.gov> Fri, Jan 11, 2013 at 12:48 PM
To: Drew Mayerson <drew.mayerson@bsee.gov>

Dear Marie C. Vought,

Secretary Salazar has asked that I respond to your concerns on his behalf regarding fracking in oil and gas reservoirs of the Pacific Federal Outer Continental Shelf Region. There have only been two occasions when hydraulic fracturing was utilized as a recovery technique in Federal waters off the California coast.

The only occasion that Venoco, Inc. utilized fracking for reservoir stimulation in the Pacific OCS region was in August 1992 in the Santa Barbara Channel approximately 10 miles off the coast of Oxnard, CA. The frac job was performed on well E-11 (API: 043112068200) off of Platform Gail in the Sockeye Field of the Santa Clara Unit, Federal lease P-205. The target was approximately 5,600' in true vertical depth beneath the drilling deck of the platform. At the location of Platform Gail the water depth is 730'. The hydraulic fracturing was unsuccessful and the target was abandoned in March 1993 and the Sespe Formation intervals of the well were plugged.

The second instance of hydraulic fracturing was in late April 1997 when Chevron attempted to frac well C-11 (API: 560452006701) off Platform Hidalgo in the Pt. Arguello Field, Federal lease P-450 where the water depth is 430' approximately 6 miles offshore Vandenberg Air Force Base. The target was the M-1 zone of the Monterey Formation. They isolated a zone at approximately 10,500' in true vertical depth, leaving a deeper Monterey completion unaffected by the frac job. As a result of the attempted fracking, production was decreased substantially.

Flowback fluids from these frac jobs were cleaned and disposed of according to federal regulations just as any produced water from oil and gas operations. At the time of the oil spill on Platform Gail in 2010 there were no fracking operations being conducted and the claim that fracking had been performed in 2009 is inaccurate. In the event of an oil spill, detailed spill contingency plans take effect which are required to be submitted, approved, and readied prior to oil and gas operations. On December 18, 2012 the California Division of Oil, Gas, and Geothermal Resources and the Department of Conservation released a draft of onshore regulations that are being developed for governing hydraulic fracturing operations including well design competency testing, well monitoring during and for 5 years following fracking activities, geologic modeling of the propagation of induced fractures, disclosure of operations on the currently active website fracfocusdata.org, the disclosure of frac fluid components, and the storage and handling of frac fluids. The Bureau of Land Management began an overhaul in 2012 of hydraulic fracturing regulations for Federal public and Indian lands that it oversees requiring similar disclosure and operational adherence. All regulations and findings determined by these agencies will be carefully evaluated when adopting future policies governing hydraulic fracturing operations in the Federal Pacific Outer Continental Shelf region.

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--

BSEE Director James Watson

Masri, Nabil <nabil.masri@bsee.gov>

Re: Hydraulic fracturing

1 message

Mayerson, Drew <drew.mayerson@bsee.gov> Thu, Mar 14, 2013 at 3:38 PM
To: "Pardi, Nicholas" <nicholas.pardi@bsee.gov>
Cc: Nathan Sinkula <nathan.sinkula@bsee.gov>, Bobby Kurtz <geokurtz@gmail.com>, "Ming, Jaron" <Jaron.Ming@bsee.gov>, "Masri, Nabil" <Nabil.Masri@bsee.gov>, Daniel Knowlson <daniel.knowlson@bsee.gov>

Nick,
Attached, in Word, is a rewrite that Nathan (PE), Bobby (Geol.), and I worked on. We've tried to keep it simple but wanted to make sure that we captured the actual methodology. See what you think.
Drew

Drew Mayerson
Regional Supervisor
Office of Production and Development
Pacific OCS Region

On Thu, Mar 14, 2013 at 11:21 AM, Pardi, Nicholas <nicholas.pardi@bsee.gov> wrote:

> We have started to get some questions on hydraulic fracturing and have kicked around the idea of establishing an informational webpage to describe the process. Something basic that we could point folks towards if asked. I will admit to not being a trained geologist or engineer so I won't try and fake it but I did some basic research along with some information I got from you and came up with the following. Please let me know if you have any comments or suggestions.
>
> Though uncommon, hydraulic fracturing does occur from time to time within BSEE's Gulf of Mexico and Pacific Regions.
>
> **What is Hydraulic Fracturing?**
>
> Hydraulic fracturing produces fractures in the rock formation that stimulate the flow of natural gas or oil, increasing the volumes that can be recovered. Fractures are created by pumping large quantities of fluids at high pressure down a wellbore and into the target rock formation. Hydraulic fracturing fluid commonly consists of water, proppant and chemical additives that open and enlarge fractures within the rock formation. These fractures can extend several hundred feet away from the wellbore. The proppants - sand, ceramic pellets or other small incompressible particles - hold open the newly created fractures.
>
> Once the injection process is completed, the internal pressure of the rock formation causes fluid to return to the surface through the wellbore. This fluid is known as both "flowback" and "produced water" and may contain the injected chemicals plus naturally occurring materials such as brines, metals, radionuclides, and hydrocarbons. The flowback and produced water is then treated and either injected underground for disposal or treated and reused or processed by a wastewater treatment facility and then discharged in accordance with an Environmental Protection Agency issued discharge permit.

Hydraulic Fracturing Offshore

Within the BSEE Gulf of Mexico Region, hydraulic fracturing is not a widespread operation due to the productive nature of the geologic formations. Operators will occasionally utilize a process called "frac-packing" which is an application for sand control that improves production sustainability and well completion in unconsolidated offshore sand reservoirs. The process creates short, highly-conductive fractures near the wellbore where the proppant interacts with the formation, creating a barrier that prevents sand production. The fractures that are created often do not extend more than a few feet from the well bore.

Within the BSEE Pacific Region, hydraulic fracturing is rarely utilized. When it does occur, operators use hydraulic fracturing for a brief period to stimulate production. The vast majority of these have been "mini-fracs" which occur in the immediate vicinity of the wellbore and are used to cleanup sand that may plug the perforations. A "mini-frac" is performed without a proppant with the intent of breaking down the formation to create a short fracture.

BSEE ensures that all drilling operations proposed by offshore operators receive an environmental review in accordance with the National Environmental Policy Act while coordinating with the Environmental Protection Agency and other federal agencies to ensure that proposed activities are consistent with all applicable rules and regulations. Additionally, BSEE drilling and production engineering staff fully review proposals for safety issues.

A Closer Look at Hydraulic Fracturing

View "Breaking Fuel From the Rock," an interactive feature from National Geographic showing the drilling technique that some energy producers have used to unlock natural gas in shale rock. Though this guide covers onshore production, some of the basic drilling techniques are used offshore-

http://news.nationalgeographic.com/news/2010/10/101022-breaking-fuel-from-the-rock/

Public Affairs Web Explanation.docx
32K

~~Though uncommon, h~~Hydraulic fracturing does occur ~~from time to time within~~in ~~BSEE's~~ on the OCS in the Gulf of Mexico and Pacific Regions, although not to the levels and magnitude seen onshore in areas like North Dakota and Texas.~~.~~

People (5)
Pardi, Nicholas
BSEE

What is Hydraulic Fracturing?

Show details

Hydraulic fracturing produces fractures in the rock formation that stimulate the flow of natural gas or oil, increasing the volumes that can be recovered. Fractures are created by pumping large quantities of fluids at high pressure down a wellbore and into the target rock formation. Hydraulic fracturing fluid is mostly water with minor amounts of chemical additives Proppants, such as sand or ceramic pellets are injected with the fluid under high pressures into the target formation. The pressunzed slurry fractures the rock with the proppants helping hold open the newly created fractures~~commonly consists of water, proppant and chemical additives that open and enlarge fractures within the rock formation. These fractures can extend several hundred feet away from the wellbore. The proppants - sand, ceramic pellets or other small incompressible particles - hold open the newly created fractures.~~

Once the injection process is completed, the internal pressure of the rock formation causes fluid to return to the surface through the wellbore. This fluid, ~~is~~ known as ~~both~~ "flowback," ~~and "produced water" and may~~ contains the injected water and ~~the injected~~ chemicals plus naturally occurring materials from the reservoir, including ~~such as brines, metals, radionuclides, and~~ hydrocarbons. The flowback ~~and~~ along with produced water is ~~then treated and~~ either injected underground ~~for disposal or treated and reused~~ or processed by a wastewater treatment facility and then reused or discharged in accordance with an Environmental Protection Agency issued discharge permit

Hydraulic Fracturing Offshore

Within the ~~BSEE~~ Gulf of Mexico Region, large scale hydraulic fracturing is not a widespread operation due to the ~~productive~~ nature of the geologic formations However, o~~O~~perators often ~~will occasionally~~ utilize a process called "frac-packing" which is an application mainly used for sand control that improves production sustainability and well completion stability in poorly ~~un~~consolidated offshore sand reservoirs The process creates short, highly-conductive fractures near the wellbore, ~~where the proppant interacts with the formation,~~ creating an ~~barrier~~ interface that ~~prevents~~ minimizes sand ~~production~~influx into the well. ~~The fractures that are created often do not extend more than a few feet from the well bore.~~

Within the Pacific region, hydraulic fracturing has been rarely utilized. When it does occur, operators have normally employed frac-packs in sandstone reservoirs to stimulate production, reduce small particle migration, and to break through areas where reservoir rock was damaged by the drilling process. "Mini-fracs," which are diagnostic tests to determine reservoir properties, may be used prior to hydraulic fracturing operations in order to enhance their efficiency and design. Large scale hydraulic fracturing, as is common in the Bakken Shale of North Dakota, is not common in the Pacific Region due to offshore equipment constraints and the naturally fractured nature of the Monterey Shale in the POCS.

~~Within the BSEE Pacific Region, hydraulic fracturing is rarely utilized. When it does occur, operators use hydraulic fracturing for a brief period to stimulate production. The vast majority of these have been "mini-fracs" which occur in the immediate vicinity of the wellbore and are used to cleanup sand that may plug the perforations. A "mini-frac" is performed without a proppant with the intent of breaking down the formation to create a short fracture.~~

BSEE ensures that all drilling operations proposed by offshore operators receive an environmental review in accordance with the National Environmental Policy Act while coordinating with the Environmental Protection Agency and other federal agencies to ensure that proposed activities are consistent with all applicable rules and regulations. Additionally, BSEE ~~drilling and production engineering~~engineers and geoscientists ~~staff~~ fully review proposals for safety issues.

A Closer Look at Hydraulic Fracturing

View "Breaking Fuel From the Rock," an interactive feature from National Geographic showing the drilling technique that some energy producers have used to unlock natural gas in shale rock. Though this guide covers onshore production, some of the basic drilling techniques are used offshore-

http://news.nationalgeographic.com/news/2010/10/101022-breaking-fuel-from-the-rock/

~~To~~ ~~Nathan Sinkula~~ ~~CeBee~~

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~~Though uncommon, hydraulic fracturing does occur from time to time within BSEE's Gulf of Mexico and Pacific Regions.~~

~~**What is Hydraulic Fracturing?**~~

~~Hydraulic fracturing produces fractures in the rock formation that stimulate the flow of natural gas or oil, increasing the volumes that can be recovered. Fractures are created by pumping large quantities of fluids at high pressure down a wellbore and into the target rock formation. Hydraulic fracturing fluid commonly consists of water, proppant and chemical additives that open and enlarge fractures within the rock formation. These fractures can extend several hundred feet away from the wellbore. The proppants - sand, ceramic pellets or other small incompressible particles - hold open the newly created fractures.~~

Once the injection process is completed, the internal pressure of the rock formation causes fluid to return to the surface through the wellbore. This fluid is known as both "flowback" and "produced water" and may contain the injected chemicals plus naturally occurring materials such as brines, metals, radionuclides, and hydrocarbons. The flowback and produced water is then treated and either injected underground for disposal or treated and reused or processed by a wastewater treatment facility and then discharged in accordance with an Environmental Protection Agency issued discharge permit.

Hydraulic Fracturing Offshore

Within the BSEE Gulf of Mexico Region, hydraulic fracturing is not a widespread operation due to the productive nature of the geologic formations. Operators will occasionally utilize a process called "frac-packing" which is an application for sand control that improves production sustainability and well completion in unconsolidated offshore sand reservoirs. The process creates short, highly conductive fractures near the wellbore where the proppant interacts with the formation, creating a barrier that prevents sand production. The fractures that are created often do not extend more than a few feet from the well bore.

Within the BSEE Pacific Region, hydraulic fracturing is rarely utilized. When it does occur, operators use hydraulic fracturing for a brief period to stimulate production. The vast majority of these have been "mini-fracs" which occur in the immediate vicinity of the wellbore and are used to cleanup sand that may plug the perforations. A "mini-frac" is performed without a proppant with the intent of breaking down the formation to create a short fracture.

BSEE ensures that all drilling operations proposed by offshore operators receive an environmental review in accordance with the National Environmental Policy Act while coordinating with the Environmental Protection Agency and other federal agencies to ensure that proposed activities are consistent with all applicable rules and regulations. Additionally, BSEE drilling and production engineering staff fully review proposals for safety issues.

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Hydraulic Fracturing in the Federal Offshore, California
Facts and Figures

- The Monterey Shale (Monterey Formation) is present in onshore and offshore California.
- The Monterey Formation is the most prolific oil and gas reservoir in the Pacific Region.
- Approximately 750 million barrels of oil (60% of the Region's production) has been produced from the POCS Monterey Formation. Over 1.2 billion barrels of oil have been produced from all Pacific Region reservoirs, including non-shale reservoirs.
- The Department of Energy estimates that approximately 15 billion barrels of oil are recoverable from the onshore Monterey formation using conventionally available technology.
- Hydraulic fracturing has only occurred 11 times in the last 25 years in the Federal offshore and none of the wells were horizontal (see table below).

Date	Lease & Well	Operator	Comments
1990's	OCS-P 0205 Well E-11	Venoco, Inc.	Not a Monterey formation frac. Upper Sespe formation fracked with limited success.
	OCS-P 0450 Well C-11	Chevron	Unsuccessful in increasing production.
	6 well program	Torch/Nuevo	Short radius "frac-packs." Somewhat successful. Not Monterey.
2001	3 well program	Torch/Nuevo	1 well very successful. Re-frac of 1 well. Not Monterey.
January 2010	OCS-P 0XXX Well E-8 Sidetrack 2	Venoco, Inc.	Small increase in production, but not enough to be commercial.

- Most hydraulic fracturing has been near well "frac-packs" or "mini-fracs" in sandstone with frac wings extending 30 to 50 feet from the well.
- During that time approximately 335 wells have been drilled in the Federal offshore, California.
- A telephone survey of POCS operators revealed that only one operator has plans for hydraulic fracturing in the near future although most did not want to rule out the possibility of hydraulic fracturing in the distant future.
- The POCS is currently reviewing the APD for DCOR, LLC to use hydraulic fracturing in their next sandstone well. This could be termed a "moderate" fracture job in terms of the projected length of fractures (200-300 feet) from the well, and using about 30 to 50 times less water as fracture jobs in the Bakken and Eagle Ford shales onshore.
- Some of the petroleum engineers responding to the telephone survey commented that the offshore Monterey Formation is much more brittle than its onshore counterpart and, as a result, responded to hydraulic fracturing by only fracturing the area nearest the well bore instead of propagating outward from the well bore. Therefore, any increased recovery was short-lived.

Mayerson, Drew <drew.mayerson@bsee.gov>

Re: Media Inquiry for PAC region

17 messages

Ming, Jaron <jaron.ming@bsee.gov> Mon, Feb 25, 2013 at 12:11 PM
To: "Pardi, Nicholas" <nicholas.pardi@bsee.gov>
Cc: "Masri, Nabil" <Nabil.Masri@bsee.gov>, Drew Mayerson <drew.mayerson@bsee.gov>, Kenneth Seeley <kenneth.seeley@bsee.gov>

Hi Nick. Unfortunately I am heading out of the office, but you can follow up with Nabil, who is acting for me today. Drew may also have some information related to your request. Thanks.

On Mon, Feb 25, 2013 at 11:43 AM, Pardi, Nicholas <nicholas.pardi@bsee.gov> wrote:

> Hi Jaron,
>
> I got an inquiry from a news organization on the following:
>
> - BSEE permits and operational/inspection documents for drilling operations on Venoco's Platform Gail and Platform Grace off the California coast in the Monterey Shale play. Gail produces from the Sockeye Field and Grace produces in the Santa Clara field.
>
> - Injection well permits for these platforms, if any, and any information on offshore injection well programs, if any.
>
> - Here's why - There are concerns that hydraulic fracturing operations on Platform Gail in 2009 and 2010 produced wastewater, and the disposal of this wastewater was not tracked by BOEM or BSEE, or that BOEM/BSEE are not informing the public.
>
> Here's from the VC Reporter - "The Santa Barbara-based Environmental Defense Center found that Venoco fracked Platform Gail in Sockeye offshore. Where did the wastewater from the offshore frack go? What was the chemical composition? So far, the only two institutions likely to know for certain are Venoco and a few of the federal regulatory bureaucracies such as the Bureau of Ocean Management or Bureau of Safety and Environmental Enforcement. But none is informing the public."
>
> Do you have a minute today or tomorrow to chat about this?
>
> cheers,
> Nick

Ming, Jaron <jaron.ming@bsee.gov> Mon, Feb 25, 2013 at 12:26 PM
To: "Pardi, Nicholas" <nicholas.pardi@bsee.gov>
Cc: Drew Mayerson <drew.mayerson@bsee.gov>, "Masri, Nabil" <Nabil.Masri@bsee.gov>, Kenneth Seeley <kenneth.seeley@bsee.gov>

Just FYI, Platform Holly is a State facility. We are aware of this issue and should be able to provide you a response. Thanks.

On Mon, Feb 25, 2013 at 11:58 AM, Pardi, Nicholas <nicholas.pardi@bsee.gov> wrote:

> Of note, he added Platform Holly to that list, another Venoco platform. So that's Platforms Holly, Gail and Grace.

On Mon, Feb 25, 2013 at 2:43 PM, Pardi, Nicholas <nicholas.pardi@bsee.gov> wrote:

Hi Jaron,

I got an inquiry from a news organization on the following:

- BSEE permits and operational/inspection documents for drilling operations on Venoco's Platform Gail and Platform Grace off the California coast in the Monterey Shale play. Gail produces from the Sockeye Field and Grace produces in the Santa Clara field.

- Injection well permits for these platforms, if any, and any information on offshore injection well programs, if any.

- Here's why - There are concerns that hydraulic fracturing operations on Platform Gail in 2009 and 2010 produced wastewater, and the disposal of this wastewater was not tracked by BOEM or BSEE, or that BOEM/BSEE are not informing the public.

Here's from the VC Reporter - "The Santa Barbara-based Environmental Defense Center found that Venoco fracked Platform Gail in Sockeye offshore. Where did the wastewater from the offshore frack go? What was the chemical composition? So far, the only two institutions likely to know for certain are Venoco and a few of the federal regulatory bureaucracies such as the Bureau of Ocean Management or Bureau of Safety and Environmental Enforcement. But none is informing the public."

Do you have a minute today or tomorrow to chat about this?

cheers,
Nick

–
Nicholas Pardi
Press Secretary
Bureau of Safety and Environmental Enforcement
U.S. Department of the Interior
Direct (202) 208-7746
Main (202) 208-3985
nicholas.pardi@bsee.gov

Pardi, Nicholas <nicholas.pardi@bsee.gov> Mon, Feb 25, 2013 at 12:36 PM
To: "Ming, Jaron" <jaron.ming@bsee.gov>
Cc: Drew Mayerson <drew.mayerson@bsee.gov>, "Masri, Nabil" <Nabil.Masri@bsee.gov>, Kenneth Seeley <kenneth.seeley@bsee.gov>

(b) (5) [redacted]

Mayerson, Drew <drew.mayerson@bsee.gov> Mon, Feb 25, 2013 at 1:28 PM
To: "Pardi, Nicholas" <nicholas.pardi@bsee.gov>
Cc: "Ming, Jaron" <jaron.ming@bsee.gov>, "Masri, Nabil" <Nabil.Masri@bsee.gov>, Kenneth Seeley

<kenneth.seeley@bsee.gov>

Any chance we can move it to the afternoon here? I was just informed I have a contractor coming to our house and I have to be there to guide him in the morning.
Drew

Drew Mayerson
Regional Supervisor
Office of Production and Development
Pacific OCS Region
[Quoted text hidden]

Nicholas Pardi <nicholas.pardi@bsee.gov> Mon, Feb 25, 2013 at 1:39 PM
To: drew.mayerson@bsee.gov
Cc: Jaron.Ming@bsee.gov, Nabil.Masri@bsee.gov, kenneth.seeley@bsee.gov

Sure, what works for you?

From: Mayerson, Drew [mailto:drew.mayerson@bsee.gov]
Sent: Monday, February 25, 2013 01:28 PM
To: Pardi, Nicholas <nicholas.pardi@bsee.gov>
Cc: Ming, Jaron <jaron.ming@bsee.gov>; Masri, Nabil <Nabil.Masri@bsee.gov>; Kenneth Seeley <kenneth.seeley@bsee.gov>
Subject: Re: Media Inquiry for PAC region

[Quoted text hidden]

Mayerson, Drew <drew.mayerson@bsee.gov> Mon, Feb 25, 2013 at 2:03 PM
To: Nicholas Pardi <nicholas.pardi@bsee.gov>
Cc: "Ming, Jaron" <Jaron.Ming@bsee.gov>, "Masri, Nabil" <Nabil.Masri@bsee.gov>, Kenneth Seeley <kenneth.seeley@bsee.gov>

Is 1:30 pm pst ok? or anytime thereafter.

Drew Mayerson
Regional Supervisor
Office of Production and Development
Pacific OCS Region

[Quoted text hidden]

Nicholas Pardi <nicholas.pardi@bsee.gov> Mon, Feb 25, 2013 at 2:20 PM
To: drew.mayerson@bsee.gov

Ok. Thanks!

From: Mayerson, Drew [mailto:drew.mayerson@bsee.gov]
Sent: Monday, February 25, 2013 02:03 PM
To: Nicholas Pardi <nicholas.pardi@bsee.gov>
Cc: Ming, Jaron <Jaron.Ming@bsee.gov>; Masri, Nabil <Nabil.Masri@bsee.gov>; Kenneth Seeley <kenneth.seeley@bsee.gov>
[Quoted text hidden]

[Quoted text hidden]

Seeley, Kenneth <kenneth.seeley@bsee.gov> Mon, Feb 25, 2013 at 2:23 PM
To: "Mayerson, Drew" <drew.mayerson@bsee.gov>
Cc: Nicholas Pardi <nicholas.pardi@bsee.gov>, "Ming, Jaron" <Jaron.Ming@bsee.gov>, "Masri, Nabil" <Nabil.Masri@bsee.gov>

I can do that.

[Quoted text hidden]

–
Kenneth R. Seeley, Ph.D.
Regional Environmental Officer, Pacific OCS Region
Bureau of Safety and Environmental Enforcement
770 Paseo Camarillo
Camarillo, CA 93010
(P): 805-389-7799
(F): 805-389-7592
(C): 805-377-8618
Kenneth.Seeley@BSEE.gov

Masri, Nabil <nabil.masri@bsee.gov> Mon, Feb 25, 2013 at 3:11 PM
To: "Seeley, Kenneth" <kenneth.seeley@bsee.gov>
Cc: "Mayerson, Drew" <drew.mayerson@bsee.gov>, Nicholas Pardi <nicholas.pardi@bsee.gov>, "Ming, Jaron" <Jaron.Ming@bsee.gov>, Daniel Knowlson <daniel.knowlson@bsee.gov>

O.K. for me.

Nabil F. Masri
Regional Supervisor, Office of Field Operations
Pacific OCS Region
Bureau of Safety and Environmental Enforcement
805.389.7581
nabil.masri@bsee.gov
[Quoted text hidden]

Pardi, Nicholas <nicholas.pardi@bsee.gov> Tue, Feb 26, 2013 at 8:54 AM
To: "Mayerson, Drew" <drew.mayerson@bsee.gov>
Cc: "Ming, Jaron" <Jaron.Ming@bsee.gov>, "Masri, Nabil" <Nabil.Masri@bsee.gov>, Kenneth Seeley <kenneth.seeley@bsee.gov>

For your awareness, this latest inquiry is the result of the following article:

Fracking offshore

Lack of transparency for the controversial practice raises major concerns for locals

http://www.vcreporter.com/cms/story/detail/fracking_offshore/10432/

In the summer leading up to Hurricane Sandy, crowds surrounded the state capitol at Albany, N.Y. They wanted to know what would happen in case of a natural gas leak, or a bigger natural gas disaster, to their drinking water. What sparked them? Many had seen the footage of water so contaminated from natural gas frack drilling that it turned brown or caught fire. These water debacles sparked a nationwide movement against natural gas fracking. Fewer people know about fracking in California, and the anti-fracking movement is smaller, but the tide has turned since the time when natural gas was considered a safer alternative energy.

The days when oil companies could find enough oil through conventional drilling are long over on the Central Coast. Drillers cannot get oil trapped tightly in the shale the older ways. It is trapped in rock and has to be coerced out through fracking. Now they need an Olympic-size pool's worth of water infused with chemicals to splinter the rock and discharge the oil from it. They drill a hole, lay a pipe, and drop a bomb where it explodes and tears into the pipe. Making its way down through the pipe hole are sand and chemical water at such force that it splinters the shale and dislodges the oil from it. Central Coast frack drilling can tunnel down a mile and through the water table. Scientists are split on whether fracking can contaminate our drinking supply or cause earthquakes. Wastewater composed of toxic, safe and unknown chemicals is injected into a well and pushed down thousands of feet, where it builds pressure. That pressure under the earth could be a problem.

Oil company executives can describe the thick and sticky shale oil with the same kind of loving tenderness and cravings as any Central Coast reckless wine sipper. Washington and Sacramento have simultaneously fed and regulated the thirst for it. The Dick Cheney-created Halliburton loophole made fracking exempt from much EPA regulation and from the Safe Drinking Water Act. This means frackers do not have to disclose the chemicals they use. Drillers in California are not required to notify landowners or residents who utilize nearby water sources of their intent to frack. This lack of transparency has been a sore spot for the often-locked-in-conflict local farmers, commercial fishing industry and environmentalists who now find themselves allied in the battle against fracking's quest for water. Because so little transparency exists, rumors swirl around the where and when of offshore fracking.

The view from McGrath State Beach

Last June, fresh off the primary election, local campaigning Democrats staged a press conference for Oxnard's McGrath Beach, which was reopening after being closed for lack of funding following Department of Parks and Recreation's sordid fund hoarding. Das Williams, D-Santa Barbara, who was running for re-election for the State Assembly district stretching from Santa Barbara to parts of Oxnard, took advantage of the news cameras and changed from an orange T-shirt into a full wetsuit and bright-yellow boogie board, walked into the ocean, and rode the whitewash of the small choppy waves for more shoots. What the camera could not capture was the crossing of slant- and horizontally-laid oil pipes underneath the waves, chemical injection wells on federally regulated oil rigs beyond the white wash, and the Channel Islands thrust fault capable of producing a magnitude 7.2 earthquake. From Williams' vantage point, he could see the reeds and fences hiding more oil company chemically injected and disposal wells. If he had walked south down the beach past McGrath Lake, he would have found Well 1218 producing more than 32,000 barrels so far this year alone.

Williams splashed around over one of the county's major access points to the oil-abundant underground geological development called the Monterey Shale. This now-commercialized piece of geological property encompasses parts of Ventura, Santa Barbara and Monterey counties. Tim Marquez, president of Venoco, told the Oil & Gas Financial Journal that "We knew that our future efforts were going to be focused on the Monterey Shale." Venoco literature claims the company has explored the shale since 1997.

Fracking is a new frontier and Marquez embraces its Wild West nature and its financial and environmental riskiness. The Monterey Shale is about the closest thing an energy company can get to a new oil frontier on the Central Coast in decades. But like the old Wild West, the federal government is still bankrolling while letting companies use its national forests and federal waters.

According to a Venoco report, the company is leasing 380,000 acres in California valued at $1.4 billion. It claims that it has already devoted millions of dollars into setting up new wells and exploring the shale, including the Sockeye field offshore from McGrath Beach. Evidence points to more local shale in its future. Venoco recently advertised for a Monterey Shale expertise job for its Carpinteria office.

What wells has Venoco fracked so far? The company dodges that question. The anti-fracking movement has grown large enough to put oil companies on edge. Calls to Venoco were not returned. But just two years ago, the mood was different. Scarlett Johansson was not hosting celebrity screenings for Gasland, the anti-fracking movie that had not yet won an Academy Award. New York farmers, chefs, wine connoisseurs and environmentalists had not yet joined to push New York Gov. Andrew Cuomo, Democrat, to regulate fracking. Matt Damon was not releasing an anti-fracking movie called #Promised Land# that he would use as his next Oscar platform.

But in the more frack-friendly year 2010, Venoco's promotional literature claimed it had fracked and horizontally drilled one well and acidized a second to get to the shale offshore from McGrath Beach. Nestled in federal waters between Oxnard and Santa Cruz Island is Platform Gail. The Santa Barbara-based Environmental Defense Center found that Venoco fracked Platform Gail in Sockeye offshore. Where did the wastewater from the offshore frack go? What was the chemical composition? So far, the only two institutions likely to know for certain are Venoco and a few of the federal regulatory bureaucracies such as the Bureau of Ocean Management or Bureau of Safety and Environmental Enforcement. But none is informing the public.

As for spills and water contamination, frack watchers are still trying to get at the chemical formulas of fracking fluid. A 2005 Venoco document reveals XC polymer, a xanthum gum manufactured by Halliburton. Reporters from the nonprofit investigative unit Propublica found hazardous chemicals such as benzene, formaldehyde, sulfuric acid, kerosene, hydrofluoric acid, hydrochloric acid, formic acid and lead. Researchers at the State University of New York at Albany found radioactive materials such as uranium, radium and radon in tests of fracking wastewater. The National Resources Defense Council found a chemical connected to cancer development, arsenic. The Breast Cancer Fund has reported on the risks for breast cancer from toluene and endocrine-disrupting compounds such as phthalate DEHP found in fracking fluid. EPA studies show that toluene can cause spontaneous abortion. Then there is the question that remains of how the hundreds of thousands of gallons of chemical wastewater are disposed of.

According to the Environmental Defense Center, Venoco fracked platform Gail in Sockeye field in the Santa Barbara Channel.

According to the Ventura County Star, Venoco spilled 63 barrels of oil in 2010 from Platform Gail, the year following the reported frack job. Ordinarily, a 63-barrel leak is not controversial, but if it includes fracking fluid or its waste, a concern exists. A frack spill is not an ordinary oil spill. When the chemicals get into the water they are difficult to get out. They spread fast and easy, do not easily breakdown, and can cause more health hazards than crude oil.

The acidity of carbon waste through oil spills threatens marine life and commercial fishing. Shellfish can be especially vulnerable to the acidic water that comes with fracking. But it's not just commercial fishing that fracking can threaten. Venoco's fracking and well acidization next to the Channel Islands Marine Reserve undermines the mission of protecting marine life and habitats, much as state and national parks protect wildlife on land. Little research exists on the impact of fracking chemicals on ocean life.

Fracking started 60 years ago. So why all the fuss? For many, the newer form of horizontal drilling, that is drilling (that goes down, then across) is what makes the new practices more dangerous than those old Fillmore and Los Padres National Forest frack jobs. With horizontal's criss-crossing through the water table, it is more likely to cause contamination.

Venoco's drilling onshore and offshore from McGrath, with its slant and horizontal drilling, has created a

regulatory conundrum. Fracking skeptics argue that it is specifically what makes slant and horizontal drilling so appealing. Horizontal drilling can start onshore, then cross to offshore. If there is another spill like in 2010, who regulates this? The federal government? The state? When asked about who regulates a frack job that burrows underneath both land and ocean, Erin Curtis, Federal Bureau of Land Management's external affairs representative, told me that "Whoever is responsible is who is permitting the oil company. That is who should regulate." But if Venoco should spill again as it did in 2010, and it pollutes both offshore and onshore, who will be in charge of remedying that? There is no clear answer from Venoco's office about this question.

The campaigning Democratic candidates also had a wonderful view of the Santa Clara River running through McGrath State Beach and into the ocean. As of August, conversations with the United Water Conservation District, the local agency regulating drinking water coming from the Santa Clara River, revealed that fracking was not even on the radar. This is the agency that must divvy out scarce water.

Aera Energy off McGrath Beach

According to interviews with the California Department of Land Conservation, the state agency in charge of regulating the energy industry, fracking waste fluid can end up in either a waterflood injection well or a water disposal well. While oil and gas companies are not required to report on their fracking chemical compositions, or where they have drilled or injected it into the earth, they do have to get approvals to build wells to dispose of the waste. Wherever one can find an injection or a water disposal well, it is likely some fracking happened nearby.

Two of the biggest global oil companies, Shell and ExxonMobil, teamed up to form Aera Energy. Aera has a new waterflow well near McGrath Beach. This well has only August production on record with the California Department of Conservation. In that month, Aera injected 13,262 barrels of waste.

Our region is what seismologists call seismically active. Several earthquakes have been caused by faults that extend into the Santa Barbara-Ventura ocean basin. We have San Andreas and the Santa Ynez River fault zone to the north, the San Cayetano fault to the east, the offshore Pitas Point near Carpinteria, Red Mountain fault to the east, the Oak Ridge lying on both Ventura and Oxnard, and the offshore Santa Cruz Island and Channel Islands faults to the west. Even the Pacific Operators Offshore LLC (PACOPS), a local offshore driller, in a report to the Federal Bureau of Energy Management (BOEM) admits that all these faults can produce shaking around the wells. The cracking of the shale and the reinjection of waste water back to the strata causes pressure. All this happens on these fault systems.

Aera is no stranger to fracking. Last May, Aera fracked in the mountains above Ventura Avenue. This job used 32,004 gallons of water and drilled down 4,960 feet. Aera admits to using methanol, a common chemical used in fracking and also found in fuel, antifreeze and paint solvent. Inhaling methanol can cause eye irritation, headaches and can be fatal. Ingesting it can produce eye damage or death. Aera's chemical cocktail also included, boric acid, insecticide and flame retardants.

According to a joint study by the U.S. Department of Energy, the National Academy of Sciences, the Institute of Medicine and the National Research Council, fracturing of rock has a lower risk of earthquake, but the disposal of the waste fluid into a well is high risk. Where lies an injection well also lies an earthquake risk. According to this study, the hundreds of thousands of gallons of waste do not simply disappear in the earth's strata. Underground, the waste builds pressure and causes more cracks in the already cracked earth. Conducting the frack jobs on fault zones just exacerbates the earthquake risk.

What makes this study unique is that its researchers and peer reviewers did not possess ties to energy companies. This is not as common as one might expect. A Plains Exploration study claimed fracking in the Baldwin Hills in Los Angeles was safe, but community groups complained that the peer reviewer had connections to oil and gas. Plains Exploration reportedly paid a Texas geologist $400,000 to write a study that showed that fracking did not contaminate ground water. The oil and gas industry gave State University of New York at Buffalo's geology department $6 million. A new term has been coined to describe these Ph.D.s: frackademics.

Greka's Rincon

Nestled between Carpinteria and Ventura is the Rincon oil field, the desirable piece of ocean property with legendary breaks that has surfers, environmentalists and oil interests competing for its future. Where the state's Conservation Department gave Venoco safety awards in spite of its 32 violations for not following operating procedures from 2005 to 2010, Greka, with its perishing pipelines and rusting facilities, has the opposite reputation with 21 separate crude oil spills in Santa Barbara waterways from 2005 through 2010. One of the spills included a 67,000-gallon oil spill in early December 2007 followed by an 84,000-gallon spill in 2008. Greka's poor public image prompted a name change to HVI Canyon Cat last year. The Santa Barbara Independent reported that the U.S. Department of Justice alleges that HVI Cat Canyon failed to implement adequate plans to prevent spills, which is required by the Clean Water Act.

Photo by Matthew Hill

Venoco has operations on the pier off the coast in Carpinteria, where, apparently, work has ramped up recently.

In 2002, the company acquired Rincon Island Partnership. According to California Department of Conservation records, Rincon Island Partnership has at least five waterflood injection wells. Two are drilled either on a slant or horizontally. Greka has a thing for horizontal drilling. One of its holdings is Horizontal Ventures, so it is likely that some of its wells are horizontally drilled.

Venoco and Carpinteria's uneasy relationship

Venoco has operations in Carpinteria right near the beach and leases the pier that the city owns. Former Carpinteria mayor Richard Weinberg has witnessed increased Venoco activity near his house, a short distance from the pier — "Trucks go by day and night," he says. Miguel Checa, a member of the board of directors of the advocacy organization, the Carpinteria Valley Association, once only saw a few trucks a day going to the pier a day. Now he notices "six to eight." Some question whether this means offshore fracking is a fixation of many Carpinteria residents. Buzz spreads around Carpinteria environmental circles that Venoco could slant-drill offshore to get entrance to oil under the city limits, but Nathan Alley, a staff attorney with the Environmental Defense Center, claims that would be a feat of engineering.

Carpinteria resident Ted Rhodes has had Venoco in his sites since the company created Carpinteria's 2010 Measure J that would have produced more drilling in the city near the aquifer. His mind is on the municipal water and he has no reservoir of good will for Venoco. The company can bypass local laws by going through federal land management instead of the city.

Weinberg thinks Venoco's plan is to drill slant or horizontal to reach the oil under the city without having to abide by local laws or answer to local activists. The last time Venoco wanted to dramatically increase drilling through city legislation, environmentalists staged a paddling protest. They jumped in the water and paddled out to sea. The paddlers included Rhodes and Weinberg.

Weinberg calls federal and state land management "weak." Federal and state land management will not be as open to citizens' participation. Weinberg may be correct. In October, Alley found that Venoco will drill just north of the city and slant-drill to the oil underneath the city.

The Carpinteria Valley Association hired hydrogeologist from UCSB Hugo Loáiciga to defend against Measure J. Loáiciga publicly testified drilling beneath the city would be detrimental to the aquifer. Although environmentalists point to the dishonesty of oil companies, the prediction tools that oil companies use could be a factor. Sophisticated oil company mapping has provided innumerable safety gains by predicting a picture of the underground. But all these layers might be more fractured and uniform than the technology shows. The assumption of safety depends on the premise that layers of underground rock tightly hold the injected chemicals. But the underground may be more fractured and cracked than these programs predict. More cracks mean more chemicals moving about.

UCSB: gas to the south, oil to the north

Venoco has had its share of Southern California controversy. It had a run-in with famous local environmentalist Erin Brockovich over fracking at Beverly Hills High right next to the track. Where Pennsylvania may allow fracking right on public university campuses, UCSB has the status of having likely oil fracking directly north and PG&E gas south of the campus. Entering the campus on Highway 217, you can see the natural gas field. It is estimated that 90 percent of natural gas wells are fracked.

Elwood lies just north of the campus. Venoco claims, in a 2010 business magazine, to have been drilling to the Monterey Shale at Elwood since 1999. It only took a few short years for this exploration to transform into abundant shale oil collection. In 2007, Venoco wrote to the California Department of Conservation to say it will be injecting waste from the Elwood well offshore to platform Holly. In that letter, Venoco writes, "We have three wells injecting the produced water back to the Monterey Shale." Produced water is the wastewater that is laden with chemicals. Venoco also claims to have injected this produced water on Holly beginning April 2006. Platform Holly has been productive. The state lands commission filed a lawsuit last year claiming Venoco owes the state $9.5 million in royalties.

Venoco ships some of this waste to a water disposal well north of UCSB, in between the posh Bacara resort and the Sandpiper Golf Course. The company has another water disposal well offshore in front of UCSB. It has disposed of 1.3 million barrels of wastewater from the beginning of 2012 through August.

The EPA classifies an oil company's waste disposal well as class II disposal. If some of the fracking chemicals were to be used instead in manufacturing or farming, the EPA would give it a more hazardous classification. Oil and gas companies have exceptions other industries do not.

Bureaucracy and politicians

Checa and Weinberg joined 173 other people in a May 20 meeting at Ventura County Government Center on fracking, organized by the state's Department of Conservation. It was public comment time before the state came out with a draft of fracking rules to be passed around to various environmental groups and the industry. Erin Curtis, the spokeswoman from Federal Bureau of Land Management, says, "We are in rule-making on hydraulic fracturing." Like the state Department of Conservation, that office is inviting public input before making draft regulations. Alley recommends that locals get involved and work toward making fracking transparent. Of course it is much easier to be part of the rulemaking process if you are a mover and shaker at environmental organizations. For ordinary folks, like those at Albany, N.Y., protesting is the only way to get their voice heard.

Ventura County will have to address protecting agriculture, water and property despite the revenues received from oil companies. As for rising oil prices, more local drilling does not translate into cheaper prices at the pump for Ventura County residents. The fracked oil from underneath our feet gets traded to the highest bidder on the international market just like any other oil.

As for local electoral connections to fracking, only state Sen. Fran Pavely, D-Agoura Hills, has put fracking front and center on her agenda, going as far as writing a bill requiring drillers to notify nearby property owners before fracking. Though one bill died earlier this year, Pavley has reintroduced another bill this month that would regulate fracking, which includes advance notice to neighbors of planned fracking and disclosure of the chemicals used in the process. State Assemblyman Jeff Gorell, R-Camarillo, had Venoco as a client during his lobbyist days. Venoco later joined ExxonMobile in contributing to his campaign. Recently retired Carpinteria City Councilman Joe Armendariz started a consulting firm. His new client is Western Petroleum Association. Councilwoman Carmen Ramirez, who also attended the McGrath Beach opening, might be the next local leader likely to take this up as an agenda item. The Sierra Club adores her. She earned their admiration for fighting to keep development off Ormond Beach.

On the federal level, ProPublica found that Exxon is pushing for legislation so it does not have to reveal fracking chemicals, but federal regulators have their own agenda. John Romero at the Bureau of Ocean Energy Management said that office will not be issuing any more federal offshore permits, but is working on environmental studies for offshore wind power. Even if the local and state governments conflict on offshore agendas, the feds are installing more alternative energy regardless of who is in office. As for when this will happen, UCSB biologist Milton Love is already conducting an environmental impact study for the federal government to bring offshore wind power to our region. The Department of Defense has already made plans to develop more wind power on San Nicolas Island.

A few months after the Democratic candidate at McGrath Beach, I asked a ranger about the fracking rumors. "I have heard them," he says, "but we have cameras. Cameras are all over the park." But the cameras do not show everything behind the walls of the rigs and wells. So I ask him if he sees anything else bad happening in the park. "Yes," and then he laughs.

On Mon, Feb 25, 2013 at 5:03 PM, Mayerson, Drew <drew.mayerson@bsee.gov> wrote:
[Quoted text hidden]
[Quoted text hidden]

Mayerson, Drew <drew.mayerson@bsee.gov> Tue, Feb 26, 2013 at 1:10 PM
To: "Pardi, Nicholas" <nicholas.pardi@bsee.gov>
Cc: "Ming, Jaron" <Jaron.Ming@bsee.gov>, "Masri, Nabil" <Nabil.Masri@bsee.gov>, Kenneth Seeley <kenneth.seeley@bsee.gov>

Nick, do you have a dial-in number.

Drew Mayerson
Regional Supervisor
Office of Production and Development
Pacific OCS Region

[Quoted text hidden]

Pardi, Nicholas <nicholas.pardi@bsee.gov> Tue, Feb 26, 2013 at 1:32 PM
To: "Mayerson, Drew" <drew.mayerson@bsee.gov>
Cc: "Ming, Jaron" <Jaron.Ming@bsee.gov>, "Masri, Nabil" <Nabil.Masri@bsee.gov>, Kenneth Seeley <kenneth.seeley@bsee.gov>

Call in number is 866-819-6658
code 2988276
[Quoted text hidden]

Seeley, Kenneth <kenneth.seeley@bsee.gov> Wed, Feb 27, 2013 at 2:41 PM
To: Drew Mayerson <drew.mayerson@bsee.gov>, Daniel Knowlson <daniel.knowlson@bsee.gov>, Nabil Masri <nabil.masri@bsee.gov>, Jaron Ming <jaron.ming@bsee.gov>

I highlighted the sections of the VC Reporter story that I thought I should address. If anyone thinks there are others let me know.

Ken

——— Forwarded message ———
From: **Pardi, Nicholas** <nicholas.pardi@bsee.gov>
Date: Tue, Feb 26, 2013 at 8:54 AM
Subject: Re: Media Inquiry for PAC region
To: "Mayerson, Drew" <drew.mayerson@bsee.gov>
Cc: "Ming, Jaron" <Jaron.Ming@bsee.gov>, "Masri, Nabil" <Nabil.Masri@bsee.gov>, Kenneth Seeley <kenneth.seeley@bsee.gov>

For your awareness, this latest inquiry is the result of the following article:

Fracking offshore

Lack of transparency for the controversial practice raises major concerns for locals

http://www.vcreporter.com/cms/story/detail/fracking_offshore/10432/

In the summer leading up to Hurricane Sandy, crowds surrounded the state capitol at Albany, N.Y. They wanted to know what would happen in case of a natural gas leak, or a bigger natural gas disaster, to their drinking water. What sparked them? Many had seen the footage of water so contaminated from natural gas frack drilling that it turned brown or caught fire. These water debacles sparked a nationwide movement against natural gas fracking. Fewer people know about fracking in California, and the anti-fracking movement is smaller, but the tide has turned since the time when natural gas was considered a safer alternative energy.

The days when oil companies could find enough oil through conventional drilling are long over on the Central Coast. Drillers cannot get oil trapped tightly in the shale the older ways. It is trapped in rock and has to be coerced out through fracking. Now they need an Olympic-size pool's worth of water infused with chemicals to splinter the rock and discharge the oil from it. They drill a hole, lay a pipe, and drop a bomb where it explodes and tears into the pipe. Making its way down through the pipe hole are sand and chemical water at such force that it splinters the shale and dislodges the oil from it. Central Coast frack drilling can tunnel down a mile and through the water table. Scientists are split on whether fracking can contaminate our drinking supply or cause earthquakes. Wastewater composed of toxic, safe and unknown chemicals is injected into a well and pushed down thousands of feet, where it builds pressure. That pressure under the earth could be a problem.

Oil company executives can describe the thick and sticky shale oil with the same kind of loving tenderness and cravings as any Central Coast reckless wine sipper. Washington and Sacramento have simultaneously fed and regulated the thirst for it. The Dick Cheney-created Halliburton loophole made fracking exempt from much EPA regulation and from the Safe Drinking Water Act. This means frackers do not have to disclose the chemicals they use. Drillers in California are not required to notify landowners or residents who utilize nearby water sources of their intent to frack. This lack of transparency has been a sore spot for the often-locked-in-conflict local farmers, commercial fishing industry and environmentalists who now find themselves allied in the battle against fracking's quest for water. Because so little transparency exists, rumors swirl around the where and when of offshore fracking.

The view from McGrath State Beach

Last June, fresh off the primary election, local campaigning Democrats staged a press conference for Oxnard's McGrath Beach, which was reopening after being closed for lack of funding following Department of Parks and Recreation's sordid fund hoarding. Das Williams, D-Santa Barbara, who was running for re-election for the State Assembly district stretching from Santa Barbara to parts of Oxnard, took advantage of the news cameras and changed from an orange T-shirt into a full wetsuit and bright-yellow boogie board, walked into the ocean, and rode the whitewash of the small choppy waves for more shoots. What the camera could not capture was the crossing of slant- and horizontally-laid oil pipes underneath the waves, chemical injection wells on federally regulated oil rigs beyond the white wash, and the Channel Islands thrust fault capable of producing a magnitude 7.2 earthquake. From Williams' vantage point, he could see the reeds and fences hiding more oil company chemically injected and disposal wells. If he had walked south down the beach past McGrath Lake, he would have found Well 1218 producing more than 32,000 barrels so far this year alone.

Williams splashed around over one of the county's major access points to the oil-abundant underground geological development called the Monterey Shale. This now-commercialized piece of geological property encompasses parts of Ventura, Santa Barbara and Monterey counties. Tim Marquez, president of Venoco, told the Oil & Gas Financial Journal that "We knew that our future efforts were going to be focused on the Monterey Shale." Venoco literature claims the company has explored the shale since 1997.

Fracking is a new frontier and Marquez embraces its Wild West nature and its financial and environmental riskiness. The Monterey Shale is about the closest thing an energy company can get to a new oil frontier on the Central Coast in decades. But like the old Wild West, the federal government is still bankrolling while letting companies use its national forests and federal waters.

According to a Venoco report, the company is leasing 380,000 acres in California valued at $1.4 billion. It claims that it has already devoted millions of dollars into setting up new wells and exploring the shale, including the Sockeye field offshore from McGrath Beach. Evidence points to more local shale in its future. Venoco recently advertised for a Monterey Shale expertise job for its Carpinteria office.

What wells has Venoco fracked so far? The company dodges that question. The anti-fracking movement has grown large enough to put oil companies on edge. Calls to Venoco were not returned. But just two years ago, the mood was different. Scarlett Johansson was not hosting celebrity screenings for Gasland, the anti-fracking movie that had not yet won an Academy Award. New York farmers, chefs, wine connoisseurs and environmentalists had not yet joined to push New York Gov. Andrew Cuomo, Democrat, to regulate fracking. Matt Damon was not releasing an anti-fracking movie called #Promised Land# that he would use as his next Oscar platform.

But in the more frack-friendly year 2010, Venoco's promotional literature claimed it had fracked and horizontally drilled one well and acidized a second to get to the shale offshore from McGrath Beach. Nestled in federal waters between Oxnard and Santa Cruz Island is Platform Gail. The Santa Barbara-based Environmental Defense Center found that Venoco fracked Platform Gail in Sockeye offshore. Where did the wastewater from the offshore frack

go? What was the chemical composition? So far, the only two institutions likely to know for certain are Venoco and a few of the federal regulatory bureaucracies such as the Bureau of Ocean Management or Bureau of Safety and Environmental Enforcement. But none is informing the public.

As for spills and water contamination, frack watchers are still trying to get at the chemical formulas of fracking fluid. A 2005 Venoco document reveals XC polymer, a xanthum gum manufactured by Halliburton. Reporters from the nonprofit investigative unit Propublica found hazardous chemicals such as benzene, formaldehyde, sulfuric acid, kerosene, hydrofluoric acid, hydrochloric acid, formic acid and lead. Researchers at the State University of New York at Albany found radioactive materials such as uranium, radium and radon in tests of fracking wastewater. The National Resources Defense Council found a chemical connected to cancer development, arsenic. The Breast Cancer Fund has reported on the risks for breast cancer from toluene and endocrine-disrupting compounds such as phthalate DEHP found in fracking fluid. EPA studies show that toluene can cause spontaneous abortion. Then there is the question that remains of how the hundreds of thousands of gallons of chemical wastewater are disposed of.

According to the Environmental Defense Center, Venoco fracked platform Gail in Sockeye field in the Santa Barbara Channel.

According to the Ventura County Star, Venoco spilled 63 barrels of oil in 2010 from Platform Gail, the year following the reported frack job. Ordinarily, a 63-barrel leak is not controversial, but if it includes fracking fluid or its waste, a concern exists. A frack spill is not an ordinary oil spill. When the chemicals get into the water they are difficult to get out. They spread fast and easy, do not easily breakdown, and can cause more health hazards than crude oil (So, they don't know what the chemicals are, but they can conclude that they spread fast and easy, don't break down, are more hazardous and harder to clean up. Interesting).

The acidity of carbon waste through oil spills threatens marine life and commercial fishing. Shellfish can be especially vulnerable to the acidic water that comes with fracking. But it's not just commercial fishing that fracking can threaten. Venoco's fracking and well acidization next to the Channel Islands Marine Reserve undermines the mission of protecting marine life and habitats, much as state and national parks protect wildlife on land. Little research exists on the impact of fracking chemicals on ocean life.

Fracking started 60 years ago. So why all the fuss? For many, the newer form of horizontal drilling, that is drilling (that goes down, then across) is what makes the new practices more dangerous than those old Fillmore and Los Padres National Forest frack jobs. With horizontal's criss-crossing through the water table, it is more likely to cause contamination.

Venoco's drilling onshore and offshore from McGrath, with its slant and horizontal drilling, has created a regulatory conundrum. Fracking skeptics argue that it is specifically what makes slant and horizontal drilling so appealing. Horizontal drilling can start onshore, then cross to offshore. If there is another spill like in 2010, who regulates this? The federal government? The state? When asked about who regulates a frack job that burrows underneath both land and ocean, Erin Curtis, Federal Bureau of Land Management's external affairs representative, told me that "Whoever is responsible is who is permitting the oil company. That is who should regulate." But if Venoco should spill again as it did in 2010, and it pollutes both offshore and onshore, who will be in charge of remedying that? There is no clear answer from Venoco's office about this question.

The campaigning Democratic candidates also had a wonderful view of the Santa Clara River running through McGrath State Beach and into the ocean. As of August, conversations with the United Water Conservation

District, the local agency regulating drinking water coming from the Santa Clara River, revealed that fracking was not even on the radar. This is the agency that must diwy out scarce water.

Aera Energy off McGrath Beach

According to interviews with the California Department of Land Conservation, the state agency in charge of regulating the energy industry, fracking waste fluid can end up in either a waterflood injection well or a water disposal well. While oil and gas companies are not required to report on their fracking chemical compositions, or where they have drilled or injected it into the earth, they do have to get approvals to build wells to dispose of the waste. Wherever one can find an injection or a water disposal well, it is likely some fracking happened nearby.

Two of the biggest global oil companies, Shell and ExxonMobil, teamed up to form Aera Energy. Aera has a new waterflow well near McGrath Beach. This well has only August production on record with the California Department of Conservation. In that month, Aera injected 13,262 barrels of waste.

Our region is what seismologists call seismically active. Several earthquakes have been caused by faults that extend into the Santa Barbara-Ventura ocean basin. We have San Andreas and the Santa Ynez River fault zone to the north, the San Cayetano fault to the east, the offshore Pitas Point near Carpinteria, Red Mountain fault to the east, the Oak Ridge lying on both Ventura and Oxnard, and the offshore Santa Cruz Island and Channel Islands faults to the west. Even the Pacific Operators Offshore LLC (PACOPS), a local offshore driller, in a report to the Federal Bureau of Energy Management (BOEM) admits that all these faults can produce shaking around the wells. The cracking of the shale and the reinjection of waste water back to the strata causes pressure. All this happens on these fault systems.

Aera is no stranger to fracking. Last May, Aera fracked in the mountains above Ventura Avenue. This job used 32,004 gallons of water and drilled down 4,960 feet. Aera admits to using methanol, a common chemical used in fracking and also found in fuel, antifreeze and paint solvent. Inhaling methanol can cause eye irritation, headaches and can be fatal. Ingesting it can produce eye damage or death. Aera's chemical cocktail also included, boric acid, insecticide and flame retardants.

According to a joint study by the U.S. Department of Energy, the National Academy of Sciences, the Institute of Medicine and the National Research Council, fracturing of rock has a lower risk of earthquake, but the disposal of the waste fluid into a well is high risk. Where lies an injection well also lies an earthquake risk. According to this study, the hundreds of thousands of gallons of waste do not simply disappear in the earth's strata. Underground, the waste builds pressure and causes more cracks in the already cracked earth. Conducting the frack jobs on fault zones just exacerbates the earthquake risk.

What makes this study unique is that its researchers and peer reviewers did not possess ties to energy companies. This is not as common as one might expect. A Plains Exploration study claimed fracking in the Baldwin Hills in Los Angeles was safe, but community groups complained that the peer reviewer had connections to oil and gas. Plains Exploration reportedly paid a Texas geologist $400,000 to write a study that showed that fracking did not contaminate ground water. The oil and gas industry gave State University of New York at Buffalo's geology department $6 million. A new term has been coined to describe these Ph.D.s: frackademics.

Greka's Rincon

Nestled between Carpinteria and Ventura is the Rincon oil field, the desirable piece of ocean property with legendary breaks that has surfers, environmentalists and oil interests competing for its future. Where the state's Conservation Department gave Venoco safety awards in spite of its 32 violations for not following operating procedures from 2005 to 2010, Greka, with its perishing pipelines and rusting facilities, has the opposite reputation with 21 separate crude oil spills in Santa Barbara waterways from 2005 through 2010. One of the spills included a 67,000-gallon oil spill in early December 2007 followed by an 84,000-gallon spill in 2008. Greka's poor public image prompted a name change to HVI Canyon Cat last year. The Santa Barbara Independent reported that the U.S. Department of Justice alleges that HVI Cat Canyon failed to implement adequate plans to prevent spills, which is required by the Clean Water Act.

Photo by Matthew Hill
Venoco has operations on the pier off the coast in Carpinteria, where, apparently, work has ramped up recently.

In 2002, the company acquired Rincon Island Partnership. According to California Department of Conservation records, Rincon Island Partnership has at least five waterflood injection wells. Two are drilled either on a slant or horizontally. **Greka has a thing for horizontal drilling. One of its holdings is Horizontal Ventures, so it is likely that some of its wells are horizontally drilled.** (Using that logic, you could also say it is likely that they sell mattresses).
[Quoted text hidden]

[Quoted text hidden]

–
Kenneth R. Seeley, Ph.D.
Regional Environmental Officer, Pacific OCS Region
Bureau of Safety and Environmental Enforcement
770 Paseo Camarillo
Camarillo, CA 93010
(P): 805-389-7799
(F): 805-389-7592
(C): 805-377-8618
Kenneth.Seeley@BSEE.gov

Mayerson, Drew <drew.mayerson@bsee.gov> Wed, Feb 27, 2013 at 3:02 PM
To: "Seeley, Kenneth" <kenneth.seeley@bsee.gov>
Cc: Daniel Knowlson <daniel.knowlson@bsee.gov>, Nabil Masri <nabil.masri@bsee.gov>, Jaron Ming <jaron.ming@bsee.gov>

On Wed, Feb 27, 2013 at 2:41 PM, Seeley, Kenneth <kenneth.seeley@bsee.gov> wrote:
> **- Here's why - There are concerns that hydraulic fracturing operations on Platform Gail in 2009 and 2010 produced wastewater, and the disposal of this wastewater was not tracked by BOEM or BSEE, or that BOEM/BSEE are not informing the public.**

Ken, looks good. Although, I wouldn't stray too far away from the OCS and start answering questions about where the wastewater goes onshore or the chemicals that Aera used since they may not be what was used offshore.

Drew Mayerson
Regional Supervisor
Office of Production and Development
Pacific OCS Region

Seeley, Kenneth <kenneth.seeley@bsee.gov> Wed, Feb 27, 2013 at 3:27 PM
To: "Mayerson, Drew" <drew.mayerson@bsee.gov>
Cc: Daniel Knowlson <daniel.knowlson@bsee.gov>, Nabil Masri <nabil.masri@bsee.gov>, Jaron Ming <jaron.ming@bsee.gov>

No, definitely not. That's part of the problem with the article - there's so many irrelevant statements thrown in that's it's hard to sift through to the relevant ones. For something like the Aera statement, I was only going to say that we don't know that they were the same chemicals as the ones used offshore.

Does anyone know who I can contact at Veneco to find out what chemicals were used in 2010? Has anyone else contacted them about this already. I've pulled together quite a bit of information regarding the almost complete lack of toxicity of Guar gum, but I don't know if Veneco used the same process.

[Quoted text hidden]

—

Kenneth R. Seeley, Ph.D.
Regional Environmental Officer, Pacific OCS Region
Bureau of Safety and Environmental Enforcement
770 Paseo Camarillo
Camarillo, CA 93010
(P): 805-389-7799
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To: "Seeley, Kenneth" <kenneth.seeley@bsee.gov>
Cc: Daniel Knowlson <daniel.knowlson@bsee.gov>, Nabil Masri <nabil.masri@bsee.gov>, Jaron Ming <jaron.ming@bsee.gov>

You could try:
Larry Huskins, Operations Manager: 805.745.2199 or
Jon Snyder, Petroleum Engineer: 805.745.2198

Drew Mayerson
Regional Supervisor
Office of Production and Development
Pacific OCS Region

[Quoted text hidden]

Masri, Nabil <nabil.masri@bsee.gov> Fri, Mar 1, 2013 at 2:52 PM
To: Jaron Ming <jaron.ming@bsee.gov>
Cc: Drew Mayerson <drew.mayerson@bsee.gov>, Daniel Knowlson <daniel.knowlson@bsee.gov>, Kenneth Seeley <kenneth.seeley@bsee.gov>, Robert Dame <robert.dame@bsee.gov>

Jaron

Comments are consolidated in the attached document. Drew's comments are in red, Ken's comments are highlighted in yellow and Dan comments are in blue.

The inquiry information is still being assembled and reviewed, and we will discuss it with you later this afternoon.

Nabil F. Masri
Regional Supervisor, Office of Field Operations
Pacific OCS Region
Bureau of Safety and Environmental Enforcement
805.389.7581
nabil.masri@bsee.gov

——— Forwarded message ———
From: **Lim, Eddie Lee** <eddielee.lim@bsee.gov>
Date: Fri, Mar 1, 2013 at 1:31 PM
Subject: Re: Media Inquiry for PAC region
To: "Masri, Nabil" <nabil.masri@bsee.gov>

Here's a version that combines the two drafts.

On Fri, Mar 1, 2013 at 1:20 PM, Masri, Nabil <nabil.masri@bsee.gov> wrote:

> **Nabil F. Masri**
> **Regional Supervisor, Office of Field Operations**
> **Pacific OCS Region**
> **Bureau of Safety and Environmental Enforcement**
> 805.389.7581
> nabil.masri@bsee.gov
>
> **WARNING:** *This e-mail (including any attachments) may contain Privacy Act Data/Sensitive Data which is intended only for the use of individual(s) to whom it is addressed. It may contain information that is privileged, confidential, or otherwise protected from disclosure under applicable laws. If you are not the intended recipient, you are hereby notified that any distribution or copy of this e-mail is strictly prohibited.*
>
> ——— Forwarded message ———
> From: **Knowlson, Daniel** <daniel.knowlson@bsee.gov>
> Date: Fri, Mar 1, 2013 at 6:38 AM
> Subject: Re: Media Inquiry for PAC region
> To: "Masri, Nabil" <nabil.masri@bsee.gov>
>
> my comments

On Mon, Feb 25, 2013 at 1:40 PM, Masri, Nabil <nabil.masri@bsee.gov> wrote:

> We need to discuss this issue.
>
> Nabil F. Masri
> Regional Supervisor, Office of Field Operations
> Pacific OCS Region
> Bureau of Safety and Environmental Enforcement
> 805.389.7581
> nabil.masri@bsee.gov
>
> ---------- Forwarded message ----------
> From: **Pardi, Nicholas** <nicholas.pardi@bsee.gov>
> Date: Mon, Feb 25, 2013 at 12:36 PM
> Subject: Re: Media Inquiry for PAC region
> [Quoted text hidden]

--

Daniel R. Knowlson
DOI/BSEE/POCSR
CA District Manager
805-389-7746

Point by point response to VC Reporter Article KS & DK.docx
47K

Masri, Nabil <nabil.masri@bsee.gov>

Fwd: Media Inquiry for PAC region

1 message

Masri, Nabil <nabil.masri@bsee.gov> Fri, Mar 1, 2013 at 2:52 PM
To: Jaron Ming <jaron.ming@bsee.gov>
Cc: Drew Mayerson <drew.mayerson@bsee.gov>, Daniel Knowlson <daniel.knowlson@bsee.gov>, Kenneth Seeley <kenneth.seeley@bsee.gov>, Robert Dame <robert.dame@bsee.gov>

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> Nabil F. Masri
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> ——— Forwarded message ———
> From: **Pardi, Nicholas** <nicholas.pardi@bsee.gov>
> Date: Mon, Feb 25, 2013 at 12:36 PM
> Subject: Re: Media Inquiry for PAC region
> To: "Ming, Jaron" <jaron.ming@bsee.gov>
> Cc: Drew Mayerson <drew.mayerson@bsee.gov>, "Masri, Nabil" <Nabil.Masri@bsee.gov>, Kenneth Seeley <kenneth.seeley@bsee.gov>
>
> Thanks! The VC article is pretty shoddy but this new request is from an investigative journalism group that likes to dig for this type of info. I'd like to bring Dave into this. Is there a time we could all chat tomorrow? possibly 9 or 10 your time? We have had run ins with this group in the past so we just want to get informed before we move forward.
>
> On Mon, Feb 25, 2013 at 3:26 PM, Ming, Jaron <jaron.ming@bsee.gov> wrote:
> > Just FYI, Platform Holly is a State facility. We are aware of this issue and should be able to provide you a response. Thanks.
> >
> > On Mon, Feb 25, 2013 at 11:58 AM, Pardi, Nicholas <nicholas.pardi@bsee.gov> wrote:
> > > Of note, he added Platform Holly to that list, another Venoco platform. So that's Platforms Holly, Gail and Grace.
> > >
> > > On Mon, Feb 25, 2013 at 2:43 PM, Pardi, Nicholas <nicholas.pardi@bsee.gov> wrote:

Hi Jaron,

I got an inquiry from a news organization on the following:

- BSEE permits and operational/inspection documents for drilling operations on Venoco's Platform Gail and Platform Grace off the California coast in the Monterey Shale play. Gail produces from the Sockeye Field and Grace produces in the Santa Clara field.

- Injection well permits for these platforms, if any, and any information on offshore injection well programs, if any.

- Here's why - There are concerns that hydraulic fracturing operations on Platform Gail in 2009 and 2010 produced wastewater, and the disposal of this wastewater was not tracked by BOEM or BSEE, or that BOEM/BSEE are not informing the public.

Here's from the VC Reporter - "The Santa Barbara-based Environmental Defense Center found that Venoco fracked Platform Gail in Sockeye offshore. Where did the wastewater from the offshore frack go? What was the chemical composition? So far, the only two institutions likely to know for certain are Venoco and a few of the federal regulatory bureaucracies such as the Bureau of Ocean Management or Bureau of Safety and Environmental Enforcement. But none is informing the public."

Do you have a minute today or tomorrow to chat about this?

cheers,
Nick

–
Nicholas Pardi
Press Secretary
Bureau of Safety and Environmental Enforcement
U.S. Department of the Interior
Direct (202) 208-7746
Main (202) 208-3985
nicholas.pardi@bsee.gov

--
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–
Daniel R. Knowlson
DOI/BSEE/POCSR
CA District Manager

805-389-7746

Point by point response to VC Reporter Article KS & DK.docx
47K

Re: Media Inquiry for PAC region

Inbox x

Mayerson, Drew <drew.mayerson@bsee.gov> Feb 26

to Nicholas, Jaron, me, Kenneth

Nick, do you have a dial-in number.

Drew Mayerson
Regional Supervisor
Office of Production and Development
Pacific OCS Region

On Tue, Feb 26, 2013 at 8:54 AM, Pardi, Nicholas <nicholas.pardi@bsee.gov> wrote:

For your awareness, this latest inquiry is the result of the following article:

Fracking offshore

Lack of transparency for the controversial practice raises major concerns for locals

http://www.vcreporter.com/cms/story/detail/fracking_offshore/10432/

In the summer leading up to Hurricane Sandy, crowds surrounded the state capitol at Albany, N.Y. They wanted to know what would happen in case of a natural gas leak, or a bigger natural gas disaster, to their drinking water. What sparked them? Many had seen the footage of water so contaminated from natural gas frack drilling that it turned brown or caught fire. These water debacles sparked a nationwide movement against natural gas fracking. Fewer people know about fracking in California, and the anti-fracking movement is smaller, but the tide has turned since the time when natural gas was considered a safer alternative energy.

The days when oil companies could find enough oil through conventional drilling are long over on the Central Coast. Drillers cannot get oil trapped tightly in the shale the older ways. It is trapped in rock and has to be coerced out through fracking. Now they need an Olympic-size pool's worth of water infused with chemicals to splinter the rock and discharge the oil from it. They drill a hole, lay a pipe, and drop a bomb where it explodes and tears into the pipe. Making its way down through the pipe hole are sand and chemical water at such force that it splinters the shale and dislodges the oil from it. Central Coast frack drilling can tunnel down a mile and through the water table. Scientists are split on whether fracking can contaminate our drinking supply or cause earthquakes. Wastewater composed of toxic, safe and unknown chemicals is injected into a well and pushed down thousands of feet, where it builds pressure. That pressure under the earth could be a problem.

Oil company executives can describe the thick and sticky shale oil with the same kind of loving tenderness and cravings as any Central Coast reckless wine sipper. Washington and Sacramento have simultaneously fed and regulated the thirst for it. The Dick Cheney-created Halliburton loophole made fracking exempt from much EPA regulation and from the Safe Drinking Water Act. This means frackers do not have to disclose

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The days when oil companies could find enough oil through conventional drilling are long over on the Central Coast. Drillers cannot get oil trapped tightly in the shale the older ways. It is trapped in rock and has to be coerced out through fracking. Now they need an Olympic-size pool's worth of water infused with chemicals to splinter the rock and discharge the oil from it. They drill a hole, lay a pipe, and drop a bomb where it explodes and tears into the pipe. Making its way down through the pipe hole are sand and chemical water at such force that it splinters the shale and dislodges the oil from it. Central Coast frack drilling can tunnel down a mile and through the water table. Scientists are split on whether fracking can contaminate our drinking supply or cause earthquakes. Wastewater composed of toxic, safe and unknown chemicals is injected into a well and pushed down thousands of feet, where it builds pressure. That pressure under the earth could be a problem.

Comment [DKNOWLSON1]: THIS IS A FALSE STATEMENT for federal waters. A very small percentage of POCSR wells are fracked<5%??

Oil company executives can describe the thick and sticky shale oil with the same kind of loving tenderness and cravings as any Central Coast reckless wine sipper. Washington and Sacramento have simultaneously fed and regulated the thirst for it. The Dick Cheney-created Halliburton loophole made fracking exempt from much EPA regulation and from the Safe Drinking Water Act. This means frackers do not have to disclose the chemicals they use. This is true under the Safe Drinking Water Act, but that does not apply in the case of OCS operations. Discharges of fracking fluids are covered under EPA's General Discharge Permit for OCS oil and gas operations. Drillers in California are not required to notify landowners or residents who utilize nearby water sources of their intent to frack. This lack of transparency has been a sore spot for the often-locked-in-conflict local farmers, commercial fishing industry and environmentalists who now find themselves allied in the battle against fracking's quest for water. Because so little transparency exists, rumors swirl around the where and when of offshore fracking.

The view from McGrath State Beach

Last June, fresh off the primary election, local campaigning Democrats staged a press conference for Oxnard's McGrath Beach, which was reopening after being closed for lack of funding following Department of Parks and Recreation's sordid fund hoarding. Das Williams, D-Santa Barbara, who was running for re-election for the State Assembly district stretching from Santa Barbara to parts of Oxnard, took advantage of the news cameras and changed from an orange T-shirt into a full wetsuit and bright-yellow boogie board, walked into the ocean, and rode the whitewash of the small choppy waves for more shoots. What the camera could not capture was the crossing of slant- and horizontally-laid oil pipes underneath the waves, chemical injection wells on federally regulated oil rigs beyond the white wash, and the Channel Islands thrust fault capable of producing a magnitude 7.2 earthquake. **ACCORDING TO REPORTS FROM THE CALIFORNIA DIVISION OF MINES AND GEOLOGY AND THE USGS IN 1996 (OFR 96-08**

(b) (5)

Comment [DKNOWLSON2]: [redacted]. POCSR does not have chemical injection wells, we do have produced water injection wells where the same product that came out of the ground(reservoir) is put right back where it came from.

AND 96-706, RESPECTIVELY), THE CHANNEL ISLANDS THRUST IS APPROXIMATELY 65 KM LONG AND CAN PRODUCE A MAX MAGNITUDE 7.4 EARTHQUAKE. AN EARLIER PAPER FROM SHAW AND SUPPE (1994 IN THE GEOLOGICAL SOCIETY OF AMERICA BULLETIN) ESTIMATED A MAGNITUDE 7.2 WAS POSSIBLE. From Williams' vantage point, he could see the reeds and fences hiding more oil company chemically injected and disposal wells. If he had walked south down the beach past McGrath Lake, he would have found Well 1218 THIS IS A STATE WELL. producing more than 32,000 barrels so far this year alone.

Williams splashed around over one of the county's major access points to the oil-abundant underground geological development called the Monterey Shale. This now-commercialized piece of geological property encompasses parts of Ventura, Santa Barbara and Monterey counties. Tim Marquez, president of Venoco, told the Oil & Gas Financial Journal that "We knew that our future efforts were going to be focused on the Monterey Shale." Venoco literature claims the company has explored the shale since 1997. THE MONTEREY SHALE IS ONE OF THE PRIMARY PRODUCING FORMATIONS IN CALIFORNIA. IT IS PROLIFIC ONSHORE AS WELL AS OFFSHORE. IN THE OCS IT ACCOUNTS FOR ABOUT 40,000 BARRELS PER DAY OF THE 54,000 BARRELS PRODUCED. NONE OF THE OIL IS THE RESULT OF HYDRAULIC FRACTURING. IN THE OFFSHORE, THE MONTEREY IS NATURALLY FRACTURED.

Fracking is a new frontier HYDRAULIC FRACTURING HAS BEEN AROUND FOR 60 YEARS and Marquez embraces its Wild West nature and its financial and environmental riskiness. The Monterey Shale is about the closest thing an energy company can get to a new oil frontier on the Central Coast in decades. THE MONTEREY SHALE FIRST PRODUCED IN CALIFORNIA ABOUT 1902. BY 1956 ALMOST 300,000,000 BARRELS OF OIL HAD BEEN PRODUCED FROM THE MONTEREY IN THE ONSHORE SANTA MARIA AREA AND SAN JOAQUIN BASIN IN THE CENTRAL VALLEY. THE MONTEREY IS HARDLY A NEW FRONTIER HOWEVER; THE AUTHOR MAY BE REFERRING TO BAKKEN LIKE HYDRAULIC FRACTURING AS A NEW FRONTIER THAT COULD BE APPLIED TO THE MONTEREY FORMATION. But like the old Wild West, the federal government is still bankrolling while letting companies use its national forests and federal waters.

According to a Venoco report, the company is leasing 380,000 acres in California valued at $1.4 billion. VENOCO HAS 5 OCS BLOCKS TOTALLING ABOUT 29,000 ACRES. It claims that it has already devoted millions of dollars into setting up new wells and exploring the shale, including the Sockeye field offshore from McGrath Beach. PER VENOCO'S OPERATIONS MANAGER, THEIR 2010 FRAC WAS NOT VERY SUCCESSFUL AND ALTHOUGH THEY DIDN'T WANT TO RULE OUT A FRAC AGAIN THEY INDICATED THEY DID NOT HAVE PLANS TO FRAC IN THE NEAR FUTURE. Evidence points to more local shale in its future. Venoco recently advertised for a Monterey Shale expertise job for its Carpinteria office. THIS WOULD NOT BE UNUSUAL....VENOCO PRODUCES FROM NATURALLY FRACTURED MONTEREY ON THE OCS AND FROM THE PLATFORM IN STATE WATERS.

What wells has Venoco fracked so far? WELL E-11 DURING THE 1990's (note: this was a frac in the Sespe sandstone, not Monterey) & WELL E-8 SIDETRACK 2 IN 2010. The company dodges that question. The anti-fracking movement has grown large enough to put oil companies on edge. Calls to Venoco were not returned. But just two years ago, the mood was different. Scarlett Johansson was not hosting celebrity screenings for Gasland, the anti-fracking movie that had not yet won an Academy Award. New York farmers, chefs, wine connoisseurs and environmentalists had not yet joined to push New York Gov. Andrew Cuomo, Democrat, to regulate fracking. Matt Damon was not releasing an anti-fracking movie called #Promised Land# that he would use as his next Oscar platform HOW'D THAT WORK OUT?.

But in the more frack-friendly year 2010, Venoco's promotional literature claimed it had fracked and horizontally drilled one well and acidized a second to get to the shale offshore from McGrath Beach. Nestled in federal waters between Oxnard and Santa Cruz Island is Platform Gail. The Santa Barbara-based Environmental Defense Center found that Venoco fracked Platform Gail in Sockeye offshore. **Where did the wastewater from the offshore frack go? What was the chemical composition?** Still waiting on this information from Veneco, but it appears that only 941 gallons of water were discharged under the general discharge permit during February, March and April of 2010 and these discharges were related to maintenance activities. So far, the only two institutions likely to know for certain are Venoco and a few of the federal regulatory bureaucracies such as the Bureau of Ocean Management or Bureau of Safety and Environmental Enforcement. But none is informing the public actually, EPA would be the appropriate agency to ask,since the discharges would have been under their authority.

Comment [DKNOWLSON3]: Venoco has an extensive water-flood project whereby >95%?? Of the produced water is re-injected into the formation that it came from for pressure management

Comment [DKNOWLSON4]: I have contacted Venoco and they are providing additional information, the majority of the frac product was sea water and white sand (20/40)

As for spills and water contamination, frack watchers are still trying to get at the chemical formulas of fracking fluid. **A 2005 Venoco document reveals XC polymer, a xanthum gum manufactured by Halliburton.** It's not clear what this report from 2005 is about, or if it is related to 2010 fracking at Gail, in which case, it's not clear why a 2005 report would be relevant. Xanthum gum is used in large quantities in the oil industry, usually to thicken drilling mud. It is also commonly used as a food additive, for example, as a thickening agent in salad dressings. Discharge of XC polymer is covered under EPA's general NPDES discharge permit for OCS oil operations (as Discharge 001: Drilling Fluids and Cuttings). **Reporters from the nonprofit investigative unit Propublica found hazardous chemicals such as benzene, formaldehyde, sulfuric acid, kerosene, hydrofluoric acid, hydrochloric acid, formic acid and lead. Researchers at the State University of New York at Albany found radioactive materials such as uranium, radium and radon in tests of fracking wastewater.** This statement is too general and vague to respond to – these reports could be about anything, but we have no evidence to suggest that similar chemicals have been discharged at Gail, although if they had been, it would have fallen under EPA's purview under the Clean Water Act, and they would have had to determine if a violation of the general discharge permit had occurred. The National Resources Defense Council found a chemical connected to cancer development, arsenic. The Breast Cancer Fund has reported on the risks for breast cancer from toluene and endocrine-disrupting compounds such as phthalate DEHP found in fracking fluid. EPA studies show that toluene can cause spontaneous abortion. Then there is the question that remains of how the hundreds of thousands of gallons of chemical wastewater are disposed of. Again, we have no evidence to support or refute this claim, but the mere presence of a contaminant in a permitted discharge does not constitute a violation of the discharge permit. EPA sets discharge limits based on the toxicity of the chemicals of concern. During the period in question, we do know that Veneco was reinjecting produced water from Gail back into the formation for the waterflood program.

According to the Environmental Defense Center, Venoco fracked platform Gail in Sockeye field in the Santa Barbara Channel.

According to the Ventura County Star, **Venoco spilled 63 barrels of oil in 2010 from Platform Gail**, the year following the reported frack job. Ordinarily, a 63-barrel leak is not controversial, but if it includes fracking fluid or its waste, a concern exists. A frack spill is not an ordinary oil spill. When the chemicals get into the water they are difficult to get out. They spread fast and easy, do not easily breakdown, and can cause more health hazards than crude oil. This could probably be easily refuted if we had information on the chemicals used by Veneco.

Comment [DKNOWLSON5]: 23.17 gallons confirmed by USCG-MSD Santa Barbara; 21.17 gal. recovered by Clean Seas. The spill occurred on 10/22/10, fracking occurred +/-1/10/10. Also, due to their water-flood project they almost never discharge into the ocean. They did discharge (941 bbl total) of NPDES-conforming produced water in Feb., Mar., & Apr 2010 due to an upset condition

The acidity of carbon waste through oil spills threatens marine life and commercial fishing. Shellfish can be especially vulnerable to the acidic water that comes with fracking. But it's not just commercial fishing that fracking can threaten. Venoco's fracking and well acidization next to the Channel Islands Marine Reserve undermines I think the author is trying to imply that the mere presence of these activities near the marine reserve undermines its mission, but there is no evidence to support that activities at Platform Gail have negatively impacted that mission to date. Furthermore, the spill volume mentioned above is grossly exaggerated (the volume reported is approximately 126 times greater than the actual volume and there's no acknowledgement that the spill was cleaned up before significant impacts were allowed to occur), finally, there is no evidence or reason to believe that fracking fluids in any significant quantities, if at all, were in the oil that was spilled the mission of protecting marine life and habitats, much as state and national parks protect wildlife on land. Little research exists on the impact of fracking chemicals on ocean life. **THE FOLLOWING WERE EXCERPTED FROM 15 CFR PART 922.71-74, THE GOVERNING REGULATIONS FOR THE CHANNEL ISLANDS NATIONAL MARINE SANCTUARY**

§ 922.72 Prohibited or otherwise regulated activities—Sanctuary-wide.

(1) ***Exploring for, developing, or producing hydrocarbons within the Sanctuary, except pursuant to leases executed prior to March 30, 1981, and except the laying of pipeline pursuant to exploring for, developing, or producing hydrocarbons.*** **THE VENOCO LEASES IN FEDERAL WATERS WERE ISSUED IN 1968 (LEASE SALE P4).**

(2) Exploring for, developing, or producing minerals within the Sanctuary, except producing byproducts incidental to hydrocarbon production allowed by paragraph (a)(1) of this section.

(3)(i) Discharging or depositing from within or into the Sanctuary any material or other matter except:
(E) Effluent routinely and necessarily discharged or deposited incidental to hydrocarbon exploration, development, or production allowed by paragraph (a)(1) of this section; or

(4) Drilling into, dredging, or otherwise altering the submerged lands of the Sanctuary; or constructing or placing any structure, material, or other matter on or in the submerged lands of the Sanctuary, except as incidental to and necessary to:
(i) Anchor a vessel;
(ii) Install an authorized navigational aid;
(iii) Conduct lawful fishing activity;
(iv) Lay pipeline pursuant to exploring for, developing, or producing hydrocarbons; or
(v) Explore for, develop, or produce hydrocarbons as allowed by paragraph (a)(1) of this section.

Fracking started 60 years ago. So why all the fuss? For many, the newer form of horizontal drilling, that is drilling (that goes down, then across) is what makes the new practices more dangerous than those old Fillmore and Los Padres National Forest frack jobs. With horizontal's criss-crossing through the water table, it is more likely to cause contamination. **THE E8 WELL WAS HORIZONTAL AT THE DEPTHS WHERE FRACKING WAS DONE, THE E11 WELL WAS NOT.**

Venoco's drilling onshore and offshore from McGrath, with its slant and horizontal drilling, has created a regulatory conundrum. **McGRATH IS IN STATE TIDELANDS.** Fracking skeptics argue that it is specifically what makes slant and horizontal drilling so appealing. Horizontal drilling can start onshore, then cross to offshore. If there is another spill like in 2010, who regulates this? The U.S. Coast Guard would lead a response to a spill in Federal waters, with the State responding to any spills that impact State waters or resources. If the spill is the result of an unauthorized discharge from a permitted produced water discharge, EPA would have jurisdiction under the Clean Water Act. The federal government? The state? When asked about who regulates a frack job that burrows underneath both land and ocean, Erin Curtis, Federal Bureau of Land Management's external affairs representative, told me that "Whoever is responsible is who is permitting the oil company. That is who should regulate." That's misleading and it is not clear why the author would have approached BLM on this issue, rather than BOEM or BSEE, or EPA or the U.S. Coast Guard. But if Venoco should spill again as it did in 2010, and it pollutes both offshore and onshore, who will be in charge of remedying that? There is no clear answer from Venoco's office about this question. Spill response plans are in place and response drills take place regularly; there's no real mystery regarding which agency will lead spill response efforts.

The campaigning Democratic candidates also had a wonderful view of the Santa Clara River running through McGrath State Beach and into the ocean. As of August, conversations with the United Water Conservation District, the local agency regulating drinking water coming from the Santa Clara River, revealed that fracking was not even on the radar. This is the agency that must divvy out scarce water. Drinking water aquifers in this area are not impacted by offshore drilling activities on the Pacific OCS.

Aera Energy off McGrath Beach

According to interviews with the California Department of Land Conservation, the state agency in charge of regulating the energy industry, fracking waste fluid can end up in either a waterflood injection well or a water disposal well. While oil and gas companies are not required to report on their fracking chemical compositions, or where they have drilled or injected it into the earth, they do have to get approvals to build wells to dispose of the waste. Wherever one can find an injection or a water disposal well, it is likely some fracking happened nearby. **THIS IS A GROSS EXAGERATION. THERE ARE NO DISPOSAL WELLS AT SOCKEYE AND ABOUT 12 WATER INJECTION WELLS THAT ARE USED FOR PRESSURE SUPPORT OF THE RESERVOIR (this is standard conservation practice). THE INJECTED WATER HAS TO BE COMPATIBLE WITH THE WATER IN THE RESERVOIR TO AVOID VARIOUS MALADIES THAT MIGHT INHIBIT INJECTION (E.G., BACTERIAL GROWTH, SCALE FORMATION, CLAY SWELLING, ETC...). THE ENTIRE POCS HAS ABOUT 70 WATER INJECTION WELLS ONGOING AT ANY ONE TIME, MOSTLY TO PROVIDE PRESSURE SUPPORT FOR THE RESERVOIR. FRACKING HAS BEEN RARE, OCCURRING ONLY ABOUT 11 TIMES IN THE LAST 20+ YEARS, MOST BEING "MINI FRACKS" IN THE IMMEDIATE VICINITY AROUND THE WELLBORE TO CLEAN UP SAND THAT MAY PLUG THE PERFORATIONS.**

Two of the biggest global oil companies, Shell and ExxonMobil, teamed up to form Aera Energy. Aera has a new waterflow well near McGrath Beach. This well has only August production on record with the California Department of Conservation. In that month, Aera injected 13,262 barrels of waste.

Our region is what seismologists call seismically active. **TRUE.** Several earthquakes have been caused by faults that extend into the Santa Barbara-Ventura ocean basin **EARTHQUAKES OCCUR ON FAULTS**. We have San Andreas and the Santa Ynez River fault zone to the north, the San Cayetano fault to the east, the offshore Pitas Point near Carpinteria, Red Mountain fault to the east, the Oak Ridge lying on both Ventura and Oxnard, and the offshore Santa Cruz Island and Channel Islands faults to the west. Even the Pacific Operators Offshore LLC (PACOPS), a local offshore driller, in a report to the Federal Bureau of Energy Management (BOEM) admits that all these faults can produce shaking around the wells. The cracking of the shale and the reinjection of waste water back to the strata causes pressure. **WATER INJECTION FOR WATERFLOOD PROGRAMS REPLACES THE PRESSURE THAT HAS BEEN BLED OFF THROUGH OIL AND GAS DEVELOPMENT. THE IDEA IS TO MATCH THE ORIGINAL RESERVOIR PRESSURE AND AVOID INADVERTANTLY FRACTURING THE FORMATION, THEREBY POSSIBLY NEGATING THE BENEFITS OF REPRESSURIZATION OR SENDING THE INJECTED WATER INTO THE OIL AND CHOKING OFF OIL PRODUCTION IN THE WELLS THAT WERE TO BE THE BENEFICIARY OF RESTORED PRESSURE. FOR THIS REASON ALL WATER INJECTION WELLS ARE MONITORED CAREFULLY TO SEE THAT THIS DOES NOT HAPPEN.** All this happens on these fault systems.

Aera is no stranger to fracking. Last May, Aera fracked in the mountains above Ventura Avenue. This job used 32,004 gallons of water and drilled down 4,960 feet. Aera admits to using methanol, a common chemical used in fracking and also found in fuel, antifreeze and paint solvent. Inhaling methanol can cause eye irritation, headaches and can be fatal. Ingesting it can produce eye damage or death. Aera's chemical cocktail also included, boric acid, insecticide and flame retardants.

According to a joint study by the U.S. Department of Energy, the National Academy of Sciences, the Institute of Medicine and the National Research Council, fracturing of rock has a lower risk of earthquake, but the disposal of the waste fluid into a well is high risk. Where lies an injection well also lies an earthquake risk. According to this study, the hundreds of thousands of gallons of waste do not simply disappear in the earth's strata. Underground, the waste builds pressure and causes more cracks in the already cracked earth. Conducting the frack jobs on fault zones just exacerbates the earthquake risk. **THE FOLLOWING IS THE PRESS RELEASE FROM THE NAS DATED 6/15/2012**

Hydraulic Fracturing Poses Low Risk for Causing Earthquakes.
But Risks Higher for Wastewater Injection Wells

WASHINGTON — Hydraulic fracturing has a low risk for inducing earthquakes that can be felt by people, but underground injection of wastewater produced by hydraulic fracturing and other energy technologies has a higher risk of causing such earthquakes, says a new report from the National Research Council. In addition, carbon capture and storage may have the potential for inducing seismic events, because significant volumes of fluids are injected underground over long periods of time. However, insufficient information exists to understand the potential of carbon capture and storage to cause earthquakes, because no large-scale projects are as yet in operation. The committee that wrote the report said continued research will be needed to examine the potential for induced seismicity in large-scale carbon capture and storage projects.

The report examines the potential for energy technologies -- including shale gas recovery, carbon capture and storage, geothermal energy production, and conventional oil and gas development -- to cause earthquakes. Hydraulic fracturing, commonly known as fracking, extracts natural gas by injecting a mixture of water, sand, and chemicals in short bursts at high pressure into deep underground wells. The process cracks the shale rock formation and allows natural gas to escape and flow up the well, along with some wastewater. The wastewater can be discarded in several ways, including injection underground at a

separate site. Carbon capture and storage, also known as carbon capture and sequestration, involves collecting carbon dioxide from power plants, liquefying it, and pumping it at high rates into deep underground geologic formations for permanent disposal. Geothermal energy harnesses natural heat from within the Earth by capturing steam or hot water from underground.

Although induced seismic events associated with these energy technologies have not resulted in loss of life or significant damage in the United States, some effects have been felt by local residents and have raised concern about additional seismic activity and its consequences in areas where energy development is ongoing or planned. While scientists understand the general mechanisms that induce seismic events, they are unable to accurately predict the magnitude or occurrence of these earthquakes due to insufficient information about the natural rock systems and a lack of validated predictive models at specific energy development sites.

The factor most directly correlated with induced earthquakes is the total balance of fluid introduced or removed underground, the committee said. Because oil and gas development, carbon capture and storage, and geothermal energy production each involve net fluid injection or withdrawal, all have at least the potential to induce earthquakes that could be felt by people. However, technologies designed to maintain a balance between the amounts of fluid being injected and withdrawn, such as most geothermal and ***conventional oil and gas development****, appear to produce fewer induced seismic events than technologies that do not maintain fluid balance.*

A number of federal and state agencies have regulatory oversight related to different aspects of underground injection activities associated with energy technologies. Responses from these agencies to energy development-related seismic events have been successful, the report says, but interagency cooperation is warranted as the number of earthquakes could increase due to expanding energy development.

The study was sponsored by the U.S. Department of Energy. The National Academy of Sciences, National Academy of Engineering, Institute of Medicine, and National Research Council make up the National Academies. They are independent, nonprofit institutions that provide science, technology, and health policy advice under an 1863 congressional charter. Panel members, who serve pro bono as volunteers, are chosen by the Academies for each study based on their expertise and experience and must satisfy the Academies' conflict-of-interest standards. The resulting consensus reports undergo external peer review before completion. For more information, visit http://national-academies.org/studycommitteprocess.pdf.

What makes this study unique is that its researchers and peer reviewers did not possess ties to energy companies. This is not as common as one might expect. A Plains Exploration study claimed fracking in the Baldwin Hills in Los Angeles was safe, but community groups complained that the peer reviewer had connections to oil and gas. Plains Exploration reportedly paid a Texas geologist $400,000 to write a study that showed that fracking did not contaminate ground water. The oil and gas industry gave State University of New York at Buffalo's geology department $6 million. A new term has been coined to describe these Ph.D.s: frackademics.

Greka's Rincon

Nestled between Carpinteria and Ventura is the Rincon oil field, the desirable piece of ocean property with legendary breaks that has surfers, environmentalists and oil interests competing for its future. Where the state's Conservation Department gave Venoco safety awards in spite of its 32 violations for not following operating procedures from 2005 to 2010, Greka, with its perishing pipelines and rusting facilities, has the opposite reputation with 21 separate crude oil spills in Santa Barbara waterways from 2005 through 2010. One of the spills included a 67,000-gallon oil spill in early December 2007 followed by an 84,000-gallon spill in 2008. Greka's poor public image prompted a name change to HVI Canyon Cat last year. The Santa Barbara Independent

reported that the U.S. Department of Justice alleges that HVI Cat Canyon failed to implement adequate plans to prevent spills, which is required by the Clean Water Act.

Photo by Matthew Hill
Venoco has operations on the pier off the coast in Carpinteria, where, apparently, work has ramped up recently.

In 2002, the company acquired Rincon Island Partnership. According to California Department of Conservation records, Rincon Island Partnership has at least five waterflood injection wells. Two are drilled either on a slant or horizontally. Greka has a thing for horizontal drilling. One of its holdings is Horizontal Ventures, so it is likely that some of its wells are horizontally drilled.

Venoco and Carpinteria's uneasy relationship
Venoco has operations in Carpinteria right near the beach and leases the pier that the city owns. Former Carpinteria mayor Richard Weinberg has witnessed increased Venoco activity near his house, a short distance from the pier — "Trucks go by day and night," he says. Miguel Checa, a member of the board of directors of the advocacy organization, the Carpinteria Valley Association, once only saw a few trucks a day going to the pier a day. Now he notices "six to eight." Some question whether this means offshore fracking is a fixation of many Carpinteria residents. Buzz spreads around Carpinteria environmental circles that Venoco could slant-drill offshore to get entrance to oil under the city limits, but Nathan Alley, a staff attorney with the Environmental Defense Center, claims that would be a feat of engineering.

Comment [DKNOWLSON6]: This could be due to DCOR using this pier after a long absence. Also, rig demob and rig transfer to Gail from Grace.

Carpinteria resident Ted Rhodes has had Venoco in his sites since the company created Carpinteria's 2010 Measure J that would have produced more drilling in the city near the aquifer. His mind is on the municipal water and he has no reservoir of good will for Venoco. The company can bypass local laws by going through federal land management instead of the city.

Weinberg thinks Venoco's plan is to drill slant or horizontal to reach the oil under the city without having to abide by local laws or answer to local activists. The last time Venoco wanted to dramatically increase drilling through city legislation, environmentalists staged a paddling protest. They jumped in the water and paddled out to sea. The paddlers included Rhodes and Weinberg.

Weinberg calls federal and state land management "weak." Federal and state land management will not be as open to citizens' participation. Weinberg may be correct. In October, Alley found that Venoco will drill just north of the city and slant-drill to the oil underneath the city.

Comment [DKNOWLSON7]: I believe the federal program is well balanced, collaborative(w/other state and federal entities), adequate, detailed and comprehensive

Comment [DKNOWLSON8]: Put them to the task, how is it that they want to be involved as far as Federal OCS!!??

The Carpinteria Valley Association hired hydrogeologist from UCSB Hugo Loáiciga to defend against Measure J. Loáiciga publicly testified drilling beneath the city would be detrimental to the aquifer. Although environmentalists point to the dishonesty of oil companies, the prediction tools that oil companies use could be a factor. Sophisticated oil company mapping has provided innumerable safety gains by predicting a picture of the underground. But all these layers might be more fractured and uniform than the technology shows. The assumption of safety depends on the premise that layers of underground rock tightly hold the injected chemicals. But the underground may be more fractured and cracked than these programs predict. More cracks mean more chemicals moving about.

UCSB: gas to the south, oil to the north
Venoco has had its share of Southern California controversy. It had a run-in with famous local environmentalist Erin Brockovich over fracking at Beverly Hills High right next to the track. Where

Pennsylvania may allow fracking right on public university campuses, UCSB has the status of having likely oil fracking directly north and PG&E gas south of the campus. Entering the campus on Highway 217, you can see the natural gas field. It is estimated that 90 percent of natural gas wells are fracked.

Elwood lies just north of the campus. **THE ELWOOD FIELD (PLATFORM HOLLY) IS IN STATE WATERS.** Venoco claims, in a 2010 business magazine, to have been drilling to the Monterey Shale at Elwood since 1999. It only took a few short years for this exploration to transform into abundant shale oil collection. In 2007, Venoco wrote to the California Department of Conservation to say it will be injecting waste from the Elwood well offshore to platform Holly. In that letter, Venoco writes, "We have three wells injecting the produced water back to the Monterey Shale." Produced water is the wastewater that is laden with chemicals. Venoco also claims to have injected this produced water on Holly beginning April 2006. Platform Holly has been productive. The state lands commission filed a lawsuit last year claiming Venoco owes the state $9.5 million in royalties.

Venoco ships some of this waste to a water disposal well north of UCSB, in between the posh Bacara resort and the Sandpiper Golf Course. The company has another water disposal well offshore in front of UCSB. It has disposed of 1.3 million barrels of wastewater from the beginning of 2012 through August.

The EPA classifies an oil company's waste disposal well as class II disposal. If some of the fracking chemicals were to be used instead in manufacturing or farming, the EPA would give it a more hazardous classification. Oil and gas companies have exceptions other industries do not.

Bureaucracy and politicians
Checa and Weinberg joined 173 other people in a May 20 meeting at Ventura County Government Center on fracking, organized by the state's Department of Conservation. It was public comment time before the state came out with a draft of fracking rules to be passed around to various environmental groups and the industry. Erin Curtis, the spokeswoman from Federal Bureau of Land Management, says, "We are in rule-making on hydraulic fracturing." Like the state Department of Conservation, that office is inviting public input before making draft regulations. Alley recommends that locals get involved and work toward making fracking transparent. Of course it is much easier to be part of the rulemaking process if you are a mover and shaker at environmental organizations. For ordinary folks, like those at Albany, N.Y., protesting is the only way to get their voice heard.

Ventura County will have to address protecting agriculture, water and property despite the revenues received from oil companies. As for rising oil prices, more local drilling does not translate into cheaper prices at the pump for Ventura County residents. The fracked oil from underneath our feet gets traded to the highest bidder on the international market just like any other oil. **43 USC 1354 PLACED LIMITATIONS ON THE EXPORT OF OIL OR GAS. IT READS IN PART AS FOLLOWS. I DON'T KNOW IF THIS HAS CHANGED:**

(a) Application of Export Administration provisions
Except as provided in subsection (d) of this section, any oil or gas produced from the outer Continental Shelf shall be subject to the requirements and provisions of the Export Administration Act of 1969.
(b) Condition precedent to exportation; express finding by President of no increase in reliance on imported oil or gas

Before any oil or gas subject to this section may be exported under the requirements and provisions of the Export Administration Act of 1969, the President shall make and publish an express finding that such exports will not increase reliance on imported oil or gas, are in the national interest, and are in accord with the provisions of the Export Administration Act of 1969.

As for local electoral connections to fracking, only state Sen. Fran Pavely, D-Agoura Hills, has put fracking front and center on her agenda, going as far as writing a bill requiring drillers to notify nearby property owners before fracking. Though one bill died earlier this year, Pavley has reintroduced another bill this month that would regulate fracking, which includes advance notice to neighbors of planned fracking and disclosure of the chemicals used in the process. State Assemblyman Jeff Gorell, R-Camarillo, had Venoco as a client during his lobbyist days. Venoco later joined ExxonMobile in contributing to his campaign. Recently retired Carpinteria City Councilman Joe Armendariz started a consulting firm. His new client is Western Petroleum Association. Councilwoman Carmen Ramirez, who also attended the McGrath Beach opening, might be the next local leader likely to take this up as an agenda item. The Sierra Club adores her. She earned their admiration for fighting to keep development off Ormond Beach.

On the federal level, ProPublica found that Exxon is pushing for legislation so it does not have to reveal fracking chemicals, but federal regulators have their own agenda. John Romero at the Bureau of Ocean Energy Management said that office will not be issuing any more federal offshore permits, but is working on environmental studies for offshore wind power. **THIS PASSAGE LEAVES THE IMPRESSION THAT THE GOVERNMENT WILL NOT BE ISSUING ANY MORE OFFSHORE PERMITS SINCE MOST READERS WON'T KNOW BOEM FROM BSEE. CLARIFY THAT THIS RESPONSIBILITY LIES WITH BSEE AND THAT PERMITS WILL BE ISSUED.** Even if the local and state governments conflict on offshore agendas, the feds are installing more alternative energy regardless of who is in office. As for when this will happen, UCSB biologist Milton Love is already conducting an environmental impact study for the federal government to bring offshore wind power to our region. The Department of Defense has already made plans to develop more wind power on San Nicolas Island.

A few months after the Democratic candidate at McGrath Beach, I asked a ranger about the fracking rumors. "I have heard them," he says, "but we have cameras. Cameras are all over the park." But the cameras do not show everything behind the walls of the rigs and wells. So I ask him if he sees anything else bad happening in the park. "Yes," and then he laughs.

On Mon, Feb 25, 2013 at 5:03 PM, Mayerson, Drew <drew.mayerson@bsee.gov> wrote:
Is 1:30 pm pst ok? or anytime thereafter.

Drew Mayerson
Regional Supervisor
Office of Production and Development
Pacific OCS Region

On Mon, Feb 25, 2013 at 1:39 PM, Nicholas Pardi <nicholas.pardi@bsee.gov> wrote:
Sure, what works for you?

From: Mayerson, Drew [mailto:drew.mayerson@bsee.gov]
Sent: Monday, February 25, 2013 01:28 PM
To: Pardi, Nicholas <nicholas.pardi@bsee.gov>
Cc: Ming, Jaron <jaron.ming@bsee.gov>; Masri, Nabil <Nabil.Masri@bsee.gov>; Kenneth Seeley <kenneth.seeley@bsee.gov>
Subject: Re: Media Inquiry for PAC region

Any chance we can move it to the afternoon here? I was just informed I have a contractor coming to our house and I have to be there to guide him in the morning.
Drew

Drew Mayerson
Regional Supervisor
Office of Production and Development
Pacific OCS Region

On Mon, Feb 25, 2013 at 12:36 PM, Pardi, Nicholas <nicholas.pardi@bsee.gov> wrote:
(b) (5) [redacted]

On Mon, Feb 25, 2013 at 3:26 PM, Ming, Jaron <jaron.ming@bsee.gov> wrote:
Just FYI, Platform Holly is a State facility. We are aware of this issue and should be able to provide you a response. Thanks.

On Mon, Feb 25, 2013 at 11:58 AM, Pardi, Nicholas <nicholas.pardi@bsee.gov> wrote:
Of note, he added Platform Holly to that list, another Venoco platform. So that's Platforms Holly, Gail and Grace.

On Mon, Feb 25, 2013 at 2:43 PM, Pardi, Nicholas <nicholas.pardi@bsee.gov> wrote:
Hi Jaron,

I got an inquiry from a news organization on the following:

- BSEE permits and operational/inspection documents for drilling operations on Venoco's Platform Gail and Platform Grace off the California coast in the Monterey Shale play. Gail produces from the Sockeye Field and Grace produces in the Santa Clara field.

- Injection well permits for these platforms, if any, and any information on offshore injection well programs, if any.

- Here's why - There are concerns that hydraulic fracturing operations on Platform Gail in 2009 and 2010 produced wastewater, and the disposal of this wastewater was not tracked by BOEM or BSEE, or that BOEM/BSEE are not informing the public.

Here's from the VC Reporter - "The Santa Barbara-based Environmental Defense Center found that Venoco fracked Platform Gail in Sockeye offshore. Where did the wastewater from the offshore frack go? What was the chemical composition? So far, the only two institutions likely to know for certain are Venoco and a few of the

federal regulatory bureaucracies such as the Bureau of Ocean Management or Bureau of Safety and Environmental Enforcement. But none is informing the public."

Do you have a minute today or tomorrow to chat about this?

cheers,
Nick

Masri, Nabil <nabil.masri@bsee.gov>

My additions to the VC Reporter article comments

1 message

Seeley, Kenneth <kenneth.seeley@bsee.gov> Fri, Mar 1, 2013 at 11:51 AM
To: Nabil Masri <nabil.masri@bsee.gov>, Drew Mayerson <drew.mayerson@bsee.gov>, Daniel Knowlson <daniel.knowlson@bsee.gov>, James Salmons <james.salmons@bsee.gov>

Here's what I have (b) (5) [redacted]

Ken

--
Kenneth R. Seeley, Ph.D.
Regional Environmental Officer, Pacific OCS Region
Bureau of Safety and Environmental Enforcement
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Camarillo, CA 93010
(P): 805-389-7799
(F): 805-389-7592
(C): 805-377-8618
Kenneth.Seeley@BSEE.gov

Point by point response to VC Reporter Article (1).docx
45K

Fracking offshore

Lack of transparency for the controversial practice raises major concerns for locals

http://www.vcreporter.com/cms/story/detail/fracking_offshore/10432/

In the summer leading up to Hurricane Sandy, crowds surrounded the state capitol at Albany, N.Y. They wanted to know what would happen in case of a natural gas leak, or a bigger natural gas disaster, to their drinking water. What sparked them? Many had seen the footage of water so contaminated from natural gas frack drilling that it turned brown or caught fire. These water debacles sparked a nationwide movement against natural gas fracking. Fewer people know about fracking in California, and the anti-fracking movement is smaller, but the tide has turned since the time when natural gas was considered a safer alternative energy.

The days when oil companies could find enough oil through conventional drilling are long over on the Central Coast. Drillers cannot get oil trapped tightly in the shale the older ways. It is trapped in rock and has to be coerced out through fracking. Now they need an Olympic-size pool's worth of water infused with chemicals to splinter the rock and discharge the oil from it. They drill a hole, lay a pipe, and drop a bomb where it explodes and tears into the pipe. Making its way down through the pipe hole are sand and chemical water at such force that it splinters the shale and dislodges the oil from it. Central Coast frack drilling can tunnel down a mile and through the water table. Scientists are split on whether fracking can contaminate our drinking supply or cause earthquakes. Wastewater composed of toxic, safe and unknown chemicals is injected into a well and pushed down thousands of feet, where it builds pressure. That pressure under the earth could be a problem.

Oil company executives can describe the thick and sticky shale oil with the same kind of loving tenderness and cravings as any Central Coast reckless wine sipper. Washington and Sacramento have simultaneously fed and regulated the thirst for it. The Dick Cheney-created Halliburton loophole made fracking exempt from much EPA regulation and from the Safe Drinking Water Act. This means frackers do not have to disclose the chemicals they use. This is true under the Safe Drinking Water Act, but that does not apply in the case of OCS operations. Discharges of fracking fluids are covered under EPA's General Discharge Permit for OCS oil and gas operations. Drillers in California are not required to notify landowners or residents who utilize nearby water sources of their intent to frack. This lack of transparency has been a sore spot for the often-locked-in-conflict local farmers, commercial fishing industry and environmentalists who now find themselves allied in the battle against fracking's quest for water. Because so little transparency exists, rumors swirl around the where and when of offshore fracking.

The view from McGrath State Beach

Last June, fresh off the primary election, local campaigning Democrats staged a press conference for Oxnard's McGrath Beach, which was reopening after being closed for lack of funding following Department of Parks and Recreation's sordid fund hoarding. Das Williams, D-Santa Barbara, who was running for re-election for the State Assembly district stretching from Santa Barbara to parts of Oxnard, took advantage of the news cameras and changed from an orange T-shirt into a full wetsuit and bright-yellow boogie board, walked into the ocean, and rode the whitewash of the small choppy waves for more shoots. What the camera could not capture was the crossing of slant- and horizontally-laid oil pipes underneath the waves, chemical injection wells on federally regulated oil rigs beyond the white wash, and the Channel Islands thrust fault capable of producing a magnitude 7.2 earthquake. **ACCORDING TO REPORTS FROM THE CALIFORNIA DIVISION OF MINES AND GEOLOGY AND THE USGS IN 1996 (OFR 96-08**

AND 96-706, RESPECTIVELY), THE CHANNEL ISLANDS THRUST IS APPROXIMATELY 65 KM LONG AND CAN PRODUCE A MAX MAGNITUDE 7.4 EARTHQUAKE. AN EARLIER PAPER FROM SHAW AND SUPPE (1994 IN THE GEOLOGICAL SOCIETY OF AMERICA BULLETIN) ESTIMATED A MAGNITUDE 7.2 WAS POSSIBLE. From Williams' vantage point, he could see the reeds and fences hiding more oil company chemically injected and disposal wells. If he had walked south down the beach past McGrath Lake, he would have found Well 1218 **THIS IS A STATE WELL.** producing more than 32,000 barrels so far this year alone.

Williams splashed around over one of the county's major access points to the oil-abundant underground geological development called the Monterey Shale. This now-commercialized piece of geological property encompasses parts of Ventura, Santa Barbara and Monterey counties. Tim Marquez, president of Venoco, told the Oil & Gas Financial Journal that "We knew that our future efforts were going to be focused on the Monterey Shale." Venoco literature claims the company has explored the shale since 1997. **THE MONTEREY SHALE IS ONE OF THE PRIMARY PRODUCING FORMATIONS IN CALIFORNIA. IT IS PROLIFIC ONSHORE AS WELL AS OFFSHORE. IN THE OCS IT ACCOUNTS FOR ABOUT 40,000 BARRELS PER DAY OF THE 54,000 BARRELS PRODUCED. NONE OF THE OIL IS THE RESULT OF HYDRAULIC FRACTURING. IN THE OFFSHORE, THE MONTEREY IS NATURALLY FRACTURED.**

Fracking is a new frontier **HYDRAULIC FRACTURING HAS BEEN AROUND FOR 60 YEARS** and Marquez embraces its Wild West nature and its financial and environmental riskiness. The Monterey Shale is about the closest thing an energy company can get to a new oil frontier on the Central Coast in decades. **THE MONTEREY SHALE FIRST PRODUCED IN CALIFORNIA ABOUT 1902. BY 1956 ALMOST 300,000,000 BARRELS OF OIL HAD BEEN PRODUCED FROM THE MONTEREY IN THE ONSHORE SANTA MARIA AREA AND SAN JOAQUIN BASIN IN THE CENTRAL VALLEY. THE MONTEREY IS HARDLY A NEW FRONTIER HOWEVER; THE AUTHOR MAY BE REFERRING TO BAKKEN LIKE HYDRAULIC FRACTURING AS A NEW FRONTIER THAT COULD BE APPLIED TO THE MONTEREY FORMATION.** But like the old Wild West, the federal government is still bankrolling while letting companies use its national forests and federal waters.

According to a Venoco report, the company is leasing 380,000 acres in California valued at $1.4 billion. **VENOCO HAS 5 OCS BLOCKS TOTALLING ABOUT 29,000 ACRES.** It claims that it has already devoted millions of dollars into setting up new wells and exploring the shale, including the Sockeye field offshore from McGrath Beach. **PER VENOCO'S OPERATIONS MANAGER, THEIR 2010 FRAC WAS NOT VERY SUCCESSFUL AND ALTHOUGH THEY DIDN'T WANT TO RULE OUT A FRAC AGAIN THEY INDICATED THEY DID NOT HAVE PLANS TO FRAC IN THE NEAR FUTURE.** Evidence points to more local shale in its future. Venoco recently advertised for a Monterey Shale expertise job for its Carpinteria office. **THIS WOULD NOT BE UNUSUAL....VENOCO PRODUCES FROM NATURALLY FRACTURED MONTEREY ON THE OCS AND FROM THE PLATFORM IN STATE WATERS.**

What wells has Venoco fracked so far? **WELL E-11 DURING THE 1990's (note: this was a frac in the Sespe sandstone, not Monterey) & WELL E-8 SIDETRACK 2 IN 2010.** The company dodges that question. The anti-fracking movement has grown large enough to put oil companies on edge. Calls to Venoco were not returned. But just two years ago, the mood was different. Scarlett Johansson was not hosting celebrity screenings for Gasland, the anti-fracking movie that had not yet won an Academy Award. New York farmers, chefs, wine connoisseurs and environmentalists had not yet joined to push New York Gov. Andrew Cuomo, Democrat, to regulate fracking. Matt Damon was not releasing an anti-fracking movie called #Promised Land# that he would use as his next Oscar platform **HOW'D THAT WORK OUT?.**

But in the more frack-friendly year 2010, Venoco's promotional literature claimed it had fracked and horizontally drilled one well and acidized a second to get to the shale offshore from McGrath Beach. Nestled in federal waters between Oxnard and Santa Cruz Island is Platform Gail. The Santa Barbara-based Environmental Defense Center found that Venoco fracked Platform Gail in Sockeye offshore. **Where did the wastewater from the offshore frack go? What was the chemical composition?** Still waiting on this information from Veneco, but it appears that only 941 gallons of water were discharged under the general discharge permit during February, March and April of 2010 and these discharges were related to maintenance activities. So far, the only two institutions likely to know for certain are Venoco and a few of the federal regulatory bureaucracies such as the Bureau of Ocean Management or Bureau of Safety and Environmental Enforcement. But none is informing the public actually, EPA would be the appropriate agency to ask,since the discharges would have been under their authority.

As for spills and water contamination, frack watchers are still trying to get at the chemical formulas of fracking fluid. **A 2005 Venoco document reveals XC polymer, a xanthum gum manufactured by Halliburton.** It's not clear what this report from 2005 is about, or if it is related to 2010 fracking at Gail, in which case, it's not clear why a 2005 report would be relevant. Xanthum gum is used in large quantities in the oil industry, usually to thicken drilling mud. It is also commonly used as a food additive, for example, as a thickening agent in salad dressings. Discharge of XC polymer is covered under EPA's general NPDES discharge permit for OCS oil operations (as Discharge 001 Drilling Fluids and Cuttings). **Reporters from the nonprofit investigative unit Propublica found hazardous chemicals such as benzene, formaldehyde, sulfuric acid, kerosene, hydrofluoric acid, hydrochloric acid, formic acid and lead. Researchers at the State University of New York at Albany found radioactive materials such as uranium, radium and radon in tests of fracking wastewater.** This statement is too general and vague to respond to – these reports could be about anything, but we have no evidence to suggest that similar chemicals have been discharged at Gail, although if they had been, it would have fallen under EPA's purview under the Clean Water Act, and they would have had to determine if a violation of the general discharge permit had occurred. The National Resources Defense Council found a chemical connected to cancer development, arsenic. The Breast Cancer Fund has reported on the risks for breast cancer from toluene and endocrine-disrupting compounds such as phthalate DEHP found in fracking fluid. EPA studies show that toluene can cause spontaneous abortion. Then there is the question that remains of how the hundreds of thousands of gallons of chemical wastewater are disposed of. Again, we have no evidence to support or refute this claim, but the mere presence of a contaminant in a permitted discharge does not constitute a violation of the discharge permit. EPA sets discharge limits based on the toxicity of the chemicals of concern. During the period in question, we do know that Veneco was reinjecting produced water from Gail back into the formation for the waterflood program.

According to the Environmental Defense Center, Venoco fracked platform Gail in Sockeye field in the Santa Barbara Channel.

According to the Ventura County Star, **Venoco spilled 63 barrels of oil in 2010 from Platform Gail**, the year following the reported frack job. Ordinarily, a 63-barrel leak is not controversial, but if it includes fracking fluid or its waste, a concern exists. A frack spill is not an ordinary oil spill. When the chemicals get into the water they are difficult to get out. They spread fast and easy, do not easily breakdown, and can cause more health hazards than crude oil. This could probably be easily refuted if we had information on the chemicals used by Veneco.

The acidity of carbon waste through oil spills threatens marine life and commercial fishing. Shellfish can be especially vulnerable to the acidic water that comes with fracking. But it's not just commercial fishing that fracking can threaten. Venoco's fracking and well acidization next to the Channel Islands Marine Reserve undermines I think the author is trying to imply that the mere presence of these activities near the marine reserve undermines its mission, but there is no evidence to support that activities at Platform Gail have negatively impacted that mission to date. Furthermore, the spill volume mentioned above is grossly exaggerated (the volume reported is approximately 126 times greater than the actual volume and there's no acknowledgement that the spill was cleaned up before significant impacts were allowed to occur), finally, there is no evidence or reason to believe that fracking fluids in any significant quantities, if at all, were in the oil that was spilled the mission of protecting marine life and habitats, much as state and national parks protect wildlife on land. Little research exists on the impact of fracking chemicals on ocean life. **THE FOLLOWING WERE EXCERPTED FROM 15 CFR PART 922.71-74, THE GOVERNING REGULATIONS FOR THE CHANNEL ISLANDS NATIONAL MARINE SANCTUARY**

§ 922.72 Prohibited or otherwise regulated activities—Sanctuary-wide.

(1) ***Exploring for, developing, or producing hydrocarbons within the Sanctuary, except pursuant to leases executed prior to March 30, 1981, and except the laying of pipeline pursuant to exploring for, developing, or producing hydrocarbons.*** **THE VENOCO LEASES IN FEDERAL WATERS WERE ISSUED IN 1968 (LEASE SALE P4).**

(2) Exploring for, developing, or producing minerals within the Sanctuary, except producing byproducts incidental to hydrocarbon production allowed by paragraph (a)(1) of this section.

(3)(i) Discharging or depositing from within or into the Sanctuary any material or other matter except:
(E) Effluent routinely and necessarily discharged or deposited incidental to hydrocarbon exploration, development, or production allowed by paragraph (a)(1) of this section; or

(4) Drilling into, dredging, or otherwise altering the submerged lands of the Sanctuary; or constructing or placing any structure, material, or other matter on or in the submerged lands of the Sanctuary, except as incidental to and necessary to:
(i) Anchor a vessel;
(ii) Install an authorized navigational aid;
(iii) Conduct lawful fishing activity;
(iv) Lay pipeline pursuant to exploring for, developing, or producing hydrocarbons; or
(v) Explore for, develop, or produce hydrocarbons as allowed by paragraph (a)(1) of this section.

Fracking started 60 years ago. So why all the fuss? For many, the newer form of horizontal drilling, that is drilling (that goes down, then across) is what makes the new practices more dangerous than those old Fillmore and Los Padres National Forest frack jobs. With horizontal's criss-crossing through the water table, it is more likely to cause contamination. **THE E8 WELL WAS HORIZONTAL AT THE DEPTHS WHERE FRACKING WAS DONE, THE E11 WELL WAS NOT.**

Venoco's drilling onshore and offshore from McGrath, with its slant and horizontal drilling, has created a regulatory conundrum. **McGRATH IS IN STATE TIDELANDS.** Fracking skeptics argue that it is specifically what makes slant and horizontal drilling so appealing. Horizontal drilling can start onshore, then cross to offshore. If there is another spill like in 2010, who regulates this? The U.S. Coast Guard would lead a response to a spill in Federal waters, with the State responding to any spills that impact State waters or resources. If the spill is the result of an unauthorized discharge from a permitted produced water discharge, EPA would have jurisdiction under the Clean Water Act. The federal government? The state? When asked about who regulates a frack job that burrows underneath both land and ocean, Erin Curtis, Federal Bureau of Land Management's external affairs representative, told me that "Whoever is responsible is who is permitting the oil company. That is who should regulate." That's misleading and it is not clear why the author would have approached BLM on this issue, rather than BOEM or BSEE, or EPA or the U.S. Coast Guard. But if Venoco should spill again as it did in 2010, and it pollutes both offshore and onshore, who will be in charge of remedying that? There is no clear answer from Venoco's office about this question Spill response plans are in place and response drills take place regularly; there's no real mystery regarding which agency will lead spill response efforts.

The campaigning Democratic candidates also had a wonderful view of the Santa Clara River running through McGrath State Beach and into the ocean. As of August, conversations with the United Water Conservation District, the local agency regulating drinking water coming from the Santa Clara River, revealed that fracking was not even on the radar. This is the agency that must divvy out scarce water. Drinking water aquifers in this area are not impacted by offshore drilling activities on the Pacific OCS.

Aera Energy off McGrath Beach

According to interviews with the California Department of Land Conservation, the state agency in charge of regulating the energy industry, fracking waste fluid can end up in either a waterflood injection well or a water disposal well. While oil and gas companies are not required to report on their fracking chemical compositions, or where they have drilled or injected it into the earth, they do have to get approvals to build wells to dispose of the waste. Wherever one can find an injection or a water disposal well, it is likely some fracking happened nearby. **THIS IS A GROSS EXAGERATION. THERE ARE NO DISPOSAL WELLS AT SOCKEYE AND ABOUT 12 WATER INJECTION WELLS THAT ARE USED FOR PRESSURE SUPPORT OF THE RESERVOIR (this is standard conservation practice). THE INJECTED WATER HAS TO BE COMPATIBLE WITH THE WATER IN THE RESERVOIR TO AVOID VARIOUS MALADIES THAT MIGHT INHIBIT INJECTION (E.G., BACTERIAL GROWTH, SCALE FORMATION, CLAY SWELLING, ETC...). THE ENTIRE POCS HAS ABOUT 70 WATER INJECTION WELLS ONGOING AT ANY ONE TIME, MOSTLY TO PROVIDE PRESSURE SUPPORT FOR THE RESERVOIR. FRACKING HAS BEEN RARE, OCCURRING ONLY ABOUT 11 TIMES IN THE LAST 20+ YEARS, MOST BEING "MINI FRACKS" IN THE IMMEDIATE VICINITY AROUND THE WELLBORE TO CLEAN UP SAND THAT MAY PLUG THE PERFORATIONS.**

Two of the biggest global oil companies, Shell and ExxonMobil, teamed up to form Aera Energy. Aera has a new waterflow well near McGrath Beach. This well has only August production on record with the California Department of Conservation. In that month, Aera injected 13,262 barrels of waste.

Our region is what seismologists call seismically active. **TRUE.** Several earthquakes have been caused by faults that extend into the Santa Barbara-Ventura ocean basin **EARTHQUAKES OCCUR ON FAULTS**. We have San Andreas and the Santa Ynez River fault zone to the north, the San Cayetano fault to the east, the offshore Pitas Point near Carpinteria, Red Mountain fault to the east, the Oak Ridge lying on both Ventura and Oxnard, and the offshore Santa Cruz Island and Channel Islands faults to the west. Even the Pacific Operators Offshore LLC (PACOPS), a local offshore driller, in a report to the Federal Bureau of Energy Management (BOEM) admits that all these faults can produce shaking around the wells. The cracking of the shale and the reinjection of waste water back to the strata causes pressure. **WATER INJECTION FOR WATERFLOOD PROGRAMS REPLACES THE PRESSURE THAT HAS BEEN BLED OFF THROUGH OIL AND GAS DEVELOPMENT. THE IDEA IS TO MATCH THE ORIGINAL RESERVOIR PRESSURE AND AVOID INADVERTANTLY FRACTURING THE FORMATION, THEREBY POSSIBLY NEGATING THE BENEFITS OF REPRESSURIZATION OR SENDING THE INJECTED WATER INTO THE OIL AND CHOKING OFF OIL PRODUCTION IN THE WELLS THAT WERE TO BE THE BENEFICIARY OF RESTORED PRESSURE. FOR THIS REASON ALL WATER INJECTION WELLS ARE MONITORED CAREFULLY TO SEE THAT THIS DOES NOT HAPPEN.** All this happens on these fault systems.

Aera is no stranger to fracking. Last May, Aera fracked in the mountains above Ventura Avenue. This job used 32,004 gallons of water and drilled down 4,960 feet. Aera admits to using methanol, a common chemical used in fracking and also found in fuel, antifreeze and paint solvent. Inhaling methanol can cause eye irritation, headaches and can be fatal. Ingesting it can produce eye damage or death. Aera's chemical cocktail also included, boric acid, insecticide and flame retardants.

According to a joint study by the U.S. Department of Energy, the National Academy of Sciences, the Institute of Medicine and the National Research Council, fracturing of rock has a lower risk of earthquake, but the disposal of the waste fluid into a well is high risk. Where lies an injection well also lies an earthquake risk. According to this study, the hundreds of thousands of gallons of waste do not simply disappear in the earth's strata. Underground, the waste builds pressure and causes more cracks in the already cracked earth. Conducting the frack jobs on fault zones just exacerbates the earthquake risk. **THE FOLLOWING IS THE PRESS RELEASE FROM THE NAS DATED 6/15/2012**

Hydraulic Fracturing Poses Low Risk for Causing Earthquakes,
But Risks Higher for Wastewater Injection Wells

WASHINGTON — Hydraulic fracturing has a low risk for inducing earthquakes that can be felt by people, but underground injection of wastewater produced by hydraulic fracturing and other energy technologies has a higher risk of causing such earthquakes, says a new report from the National Research Council. In addition, carbon capture and storage may have the potential for inducing seismic events, because significant volumes of fluids are injected underground over long periods of time. However, insufficient information exists to understand the potential of carbon capture and storage to cause earthquakes, because no large-scale projects are as yet in operation. The committee that wrote the report said continued research will be needed to examine the potential for induced seismicity in large-scale carbon capture and storage projects.

The report examines the potential for energy technologies -- including shale gas recovery, carbon capture and storage, geothermal energy production, and conventional oil and gas development -- to cause earthquakes. Hydraulic fracturing, commonly known as fracking, extracts natural gas by injecting a mixture of water, sand, and chemicals in short bursts at high pressure into deep underground wells. The process cracks the shale rock formation and allows natural gas to escape and flow up the well, along with some wastewater. The wastewater can be discarded in several ways, including injection underground at a

separate site. Carbon capture and storage, also known as carbon capture and sequestration, involves collecting carbon dioxide from power plants, liquefying it, and pumping it at high rates into deep underground geologic formations for permanent disposal. Geothermal energy harnesses natural heat from within the Earth by capturing steam or hot water from underground.

Although induced seismic events associated with these energy technologies have not resulted in loss of life or significant damage in the United States, some effects have been felt by local residents and have raised concern about additional seismic activity and its consequences in areas where energy development is ongoing or planned. While scientists understand the general mechanisms that induce seismic events, they are unable to accurately predict the magnitude or occurrence of these earthquakes due to insufficient information about the natural rock systems and a lack of validated predictive models at specific energy development sites.

*The factor most directly correlated with induced earthquakes is the total balance of fluid introduced or removed underground, the committee said. Because oil and gas development, carbon capture and storage, and geothermal energy production each involve net fluid injection or withdrawal, all have at least the potential to induce earthquakes that could be felt by people. However, technologies designed to maintain a balance between the amounts of fluid being injected and withdrawn, such as most geothermal and **conventional oil and gas development**, appear to produce fewer induced seismic events than technologies that do not maintain fluid balance.*

A number of federal and state agencies have regulatory oversight related to different aspects of underground injection activities associated with energy technologies. Responses from these agencies to energy development-related seismic events have been successful, the report says, but interagency cooperation is warranted as the number of earthquakes could increase due to expanding energy development.

The study was sponsored by the U.S. Department of Energy. The National Academy of Sciences, National Academy of Engineering, Institute of Medicine, and National Research Council make up the National Academies. They are independent, nonprofit institutions that provide science, technology, and health policy advice under an 1863 congressional charter. Panel members, who serve pro bono as volunteers, are chosen by the Academies for each study based on their expertise and experience and must satisfy the Academies' conflict-of-interest standards. The resulting consensus reports undergo external peer review before completion. For more information, visit http://national-academies.org/studycommitteprocess.pdf.

What makes this study unique is that its researchers and peer reviewers did not possess ties to energy companies. This is not as common as one might expect. A Plains Exploration study claimed fracking in the Baldwin Hills in Los Angeles was safe, but community groups complained that the peer reviewer had connections to oil and gas. Plains Exploration reportedly paid a Texas geologist $400,000 to write a study that showed that fracking did not contaminate ground water. The oil and gas industry gave State University of New York at Buffalo's geology department $6 million. A new term has been coined to describe these Ph.D.s: frackademics.

Greka's Rincon

Nestled between Carpinteria and Ventura is the Rincon oil field, the desirable piece of ocean property with legendary breaks that has surfers, environmentalists and oil interests competing for its future. Where the state's Conservation Department gave Venoco safety awards in spite of its 32 violations for not following operating procedures from 2005 to 2010, Greka, with its perishing pipelines and rusting facilities, has the opposite reputation with 21 separate crude oil spills in Santa Barbara waterways from 2005 through 2010. One of the spills included a 67,000-gallon oil spill in early December 2007 followed by an 84,000-gallon spill in 2008. Greka's poor public image prompted a name change to HVI Canyon Cat last year. The Santa Barbara Independent

reported that the U.S. Department of Justice alleges that HVI Cat Canyon failed to implement adequate plans to prevent spills, which is required by the Clean Water Act.

Photo by Matthew Hill
Venoco has operations on the pier off the coast in Carpinteria, where, apparently, work has ramped up recently.

In 2002, the company acquired Rincon Island Partnership. According to California Department of Conservation records, Rincon Island Partnership has at least five waterflood injection wells. Two are drilled either on a slant or horizontally. Greka has a thing for horizontal drilling. One of its holdings is Horizontal Ventures, so it is likely that some of its wells are horizontally drilled.

Venoco and Carpinteria's uneasy relationship
Venoco has operations in Carpinteria right near the beach and leases the pier that the city owns. Former Carpinteria mayor Richard Weinberg has witnessed increased Venoco activity near his house, a short distance from the pier — "Trucks go by day and night," he says. Miguel Checa, a member of the board of directors of the advocacy organization, the Carpinteria Valley Association, once only saw a few trucks a day going to the pier a day. Now he notices "six to eight." Some question whether this means offshore fracking is a fixation of many Carpinteria residents. Buzz spreads around Carpinteria environmental circles that Venoco could slant-drill offshore to get entrance to oil under the city limits, but Nathan Alley, a staff attorney with the Environmental Defense Center, claims that would be a feat of engineering.

Carpinteria resident Ted Rhodes has had Venoco in his sites since the company created Carpinteria's 2010 Measure J that would have produced more drilling in the city near the aquifer. His mind is on the municipal water and he has no reservoir of good will for Venoco. The company can bypass local laws by going through federal land management instead of the city.

Weinberg thinks Venoco's plan is to drill slant or horizontal to reach the oil under the city without having to abide by local laws or answer to local activists. The last time Venoco wanted to dramatically increase drilling through city legislation, environmentalists staged a paddling protest. They jumped in the water and paddled out to sea. The paddlers included Rhodes and Weinberg.

Weinberg calls federal and state land management "weak." Federal and state land management will not be as open to citizens' participation. Weinberg may be correct. In October, Alley found that Venoco will drill just north of the city and slant-drill to the oil underneath the city.

The Carpinteria Valley Association hired hydrogeologist from UCSB Hugo Loáiciga to defend against Measure J. Loáiciga publicly testified drilling beneath the city would be detrimental to the aquifer. Although environmentalists point to the dishonesty of oil companies, the prediction tools that oil companies use could be a factor. Sophisticated oil company mapping has provided innumerable safety gains by predicting a picture of the underground. But all these layers might be more fractured and uniform than the technology shows. The assumption of safety depends on the premise that layers of underground rock tightly hold the injected chemicals. But the underground may be more fractured and cracked than these programs predict. More cracks mean more chemicals moving about.

UCSB: gas to the south, oil to the north
Venoco has had its share of Southern California controversy. It had a run-in with famous local environmentalist Erin Brockovich over fracking at Beverly Hills High right next to the track. Where

Pennsylvania may allow fracking right on public university campuses, UCSB has the status of having likely oil fracking directly north and PG&E gas south of the campus. Entering the campus on Highway 217, you can see the natural gas field. It is estimated that 90 percent of natural gas wells are fracked.

Elwood lies just north of the campus. **THE ELWOOD FIELD (PLATFORM HOLLY) IS IN STATE WATERS.** Venoco claims, in a 2010 business magazine, to have been drilling to the Monterey Shale at Elwood since 1999. It only took a few short years for this exploration to transform into abundant shale oil collection. In 2007, Venoco wrote to the California Department of Conservation to say it will be injecting waste from the Elwood well offshore to platform Holly. In that letter, Venoco writes, "We have three wells injecting the produced water back to the Monterey Shale." Produced water is the wastewater that is laden with chemicals. Venoco also claims to have injected this produced water on Holly beginning April 2006. Platform Holly has been productive. The state lands commission filed a lawsuit last year claiming Venoco owes the state $9.5 million in royalties.

Venoco ships some of this waste to a water disposal well north of UCSB, in between the posh Bacara resort and the Sandpiper Golf Course. The company has another water disposal well offshore in front of UCSB. It has disposed of 1.3 million barrels of wastewater from the beginning of 2012 through August.

The EPA classifies an oil company's waste disposal well as class II disposal. If some of the fracking chemicals were to be used instead in manufacturing or farming, the EPA would give it a more hazardous classification. Oil and gas companies have exceptions other industries do not.

Bureaucracy and politicians
Checa and Weinberg joined 173 other people in a May 20 meeting at Ventura County Government Center on fracking, organized by the state's Department of Conservation. It was public comment time before the state came out with a draft of fracking rules to be passed around to various environmental groups and the industry. Erin Curtis, the spokeswoman from Federal Bureau of Land Management, says, "We are in rule-making on hydraulic fracturing." Like the state Department of Conservation, that office is inviting public input before making draft regulations. Alley recommends that locals get involved and work toward making fracking transparent. Of course it is much easier to be part of the rulemaking process if you are a mover and shaker at environmental organizations. For ordinary folks, like those at Albany, N.Y., protesting is the only way to get their voice heard.

Ventura County will have to address protecting agriculture, water and property despite the revenues received from oil companies. As for rising oil prices, more local drilling does not translate into cheaper prices at the pump for Ventura County residents. The fracked oil from underneath our feet gets traded to the highest bidder on the international market just like any other oil. **43 USC 1354 PLACED LIMITATIONS ON THE EXPORT OF OIL OR GAS. IT READS IN PART AS FOLLOWS. I DON'T KNOW IF THIS HAS CHANGED:**

(a) Application of Export Administration provisions
Except as provided in subsection (d) of this section, any oil or gas produced from the outer Continental Shelf shall be subject to the requirements and provisions of the Export Administration Act of 1969.
(b) Condition precedent to exportation; express finding by President of no increase in reliance on imported oil or gas

Before any oil or gas subject to this section may be exported under the requirements and provisions of the Export Administration Act of 1969, the President shall make and publish an express finding that such exports will not increase reliance on imported oil or gas, are in the national interest, and are in accord with the provisions of the Export Administration Act of 1969.

As for local electoral connections to fracking, only state Sen. Fran Pavely, D-Agoura Hills, has put fracking front and center on her agenda, going as far as writing a bill requiring drillers to notify nearby property owners before fracking. Though one bill died earlier this year, Pavley has reintroduced another bill this month that would regulate fracking, which includes advance notice to neighbors of planned fracking and disclosure of the chemicals used in the process. State Assemblyman Jeff Gorell, R-Camarillo, had Venoco as a client during his lobbyist days. Venoco later joined ExxonMobile in contributing to his campaign. Recently retired Carpinteria City Councilman Joe Armendariz started a consulting firm. His new client is Western Petroleum Association. Councilwoman Carmen Ramirez, who also attended the McGrath Beach opening, might be the next local leader likely to take this up as an agenda item. The Sierra Club adores her. She earned their admiration for fighting to keep development off Ormond Beach.

On the federal level, ProPublica found that Exxon is pushing for legislation so it does not have to reveal fracking chemicals, but federal regulators have their own agenda. John Romero at the Bureau of Ocean Energy Management said that office will not be issuing any more federal offshore permits, but is working on environmental studies for offshore wind power. **THIS PASSAGE LEAVES THE IMPRESSION THAT THE GOVERNMENT WILL NOT BE ISSUING ANY MORE OFFSHORE PERMITS SINCE MOST READERS WON'T KNOW BOEM FROM BSEE. CLARIFY THAT THIS RESPONSIBILITY LIES WITH BSEE AND THAT PERMITS WILL BE ISSUED.** Even if the local and state governments conflict on offshore agendas, the feds are installing more alternative energy regardless of who is in office. As for when this will happen, UCSB biologist Milton Love is already conducting an environmental impact study for the federal government to bring offshore wind power to our region. The Department of Defense has already made plans to develop more wind power on San Nicolas Island.

A few months after the Democratic candidate at McGrath Beach, I asked a ranger about the fracking rumors. "I have heard them," he says, "but we have cameras. Cameras are all over the park." But the cameras do not show everything behind the walls of the rigs and wells. So I ask him if he sees anything else bad happening in the park. "Yes," and then he laughs.

On Mon, Feb 25, 2013 at 5:03 PM, Mayerson, Drew <drew.mayerson@bsee.gov> wrote:
Is 1:30 pm pst ok? or anytime thereafter.

Drew Mayerson
Regional Supervisor
Office of Production and Development
Pacific OCS Region

On Mon, Feb 25, 2013 at 1:39 PM, Nicholas Pardi <nicholas.pardi@bsee.gov> wrote:
Sure, what works for you?

From: Mayerson, Drew [mailto:drew.mayerson@bsee.gov]
Sent: Monday, February 25, 2013 01:28 PM
To: Pardi, Nicholas <nicholas.pardi@bsee.gov>
Cc: Ming, Jaron <jaron.ming@bsee.gov>; Masri, Nabil <Nabil.Masri@bsee.gov>; Kenneth Seeley <kenneth.seeley@bsee.gov>
Subject: Re: Media Inquiry for PAC region

Any chance we can move it to the afternoon here? I was just informed I have a contractor coming to our house and I have to be there to guide him in the morning.
Drew

Drew Mayerson
Regional Supervisor
Office of Production and Development
Pacific OCS Region

On Mon, Feb 25, 2013 at 12:36 PM, Pardi, Nicholas <nicholas.pardi@bsee.gov> wrote:
(b) (5) [redacted]

On Mon, Feb 25, 2013 at 3:26 PM, Ming, Jaron <jaron.ming@bsee.gov> wrote:
Just FYI, Platform Holly is a State facility. We are aware of this issue and should be able to provide you a response. Thanks.

On Mon, Feb 25, 2013 at 11:58 AM, Pardi, Nicholas <nicholas.pardi@bsee.gov> wrote:
Of note, he added Platform Holly to that list, another Venoco platform. So that's Platforms Holly, Gail and Grace.

On Mon, Feb 25, 2013 at 2:43 PM, Pardi, Nicholas <nicholas.pardi@bsee.gov> wrote:
Hi Jaron,

I got an inquiry from a news organization on the following:

- BSEE permits and operational/inspection documents for drilling operations on Venoco's Platform Gail and Platform Grace off the California coast in the Monterey Shale play. Gail produces from the Sockeye Field and Grace produces in the Santa Clara field.

- Injection well permits for these platforms, if any, and any information on offshore injection well programs, if any.

- Here's why - There are concerns that hydraulic fracturing operations on Platform Gail in 2009 and 2010 produced wastewater, and the disposal of this wastewater was not tracked by BOEM or BSEE, or that BOEM/BSEE are not informing the public.

Here's from the VC Reporter - "The Santa Barbara-based Environmental Defense Center found that Venoco fracked Platform Gail in Sockeye offshore. Where did the wastewater from the offshore frack go? What was the chemical composition? So far, the only two institutions likely to know for certain are Venoco and a few of the

federal regulatory bureaucracies such as the Bureau of Ocean Management or Bureau of Safety and Environmental Enforcement. But none is informing the public."

Do you have a minute today or tomorrow to chat about this?

cheers,
Nick

Mayerson, Drew <drew.mayerson@bsee.gov>

OPD WEEKLY REPORT FOR THE WEEK January 6-12, 2013

1 message

Mayerson, Drew <drew.mayerson@bsee.gov> Thu, Jan 10, 2013 at 4:12 PM
To: BSEE PAC OPD <bseepacopd@bsee.gov>, BSEE PAC Managers/Supervisors <BSEEPACManagers_Supervisors@boemre.gov>

OPD WEEKLY REPORT FOR THE WEEK January 6-12, 2013

Items for the Regional Director

PD is drafting a response to speculations and concerns brought to the Secretary by concerned citizens regarding fracking activities in the Pacific OCS region. Hydraulic fracturing is not a recovery technique utilized in the POCS region, but has been unsuccessfully attempted twice over 15 years ago by Chevron and Venoco under the review and approval of the MMS.

Non-relevant

Masri, Nabil <nabil.masri@bsee.gov>

Fwd: Platform Gail 2010 water handling

1 message

Masri, Nabil <nabil.masri@bsee.gov> Fri, Mar 1, 2013 at 9:26 AM
To: James Salmons <james.salmons@bsee.gov>

Per your request.

Nabil F. Masri
Regional Supervisor, Office of Field Operations
Pacific OCS Region
Bureau of Safety and Environmental Enforcement
805.389.7581
nabil.masri@bsee.gov

——— Forwarded message ———
From: **Knowlson, Daniel** <daniel.knowlson@bsee.gov>
Date: Wed, Feb 27, 2013 at 10:52 AM
Subject: Fwd: Platform Gail 2010 water handling
To: "Masri, Nabil" <Nabil.Masri@bsee.gov>

——— Forwarded message ———
From: **Kurtz, Bobby** <bobby.kurtz@bsee.gov>
Date: Wed, Feb 27, 2013 at 7:17 AM
Subject: Platform Gail 2010 water handling
To: Daniel Knowlson <daniel.knowlson@bsee.gov>
Cc: Drew Mayerson <drew.mayerson@bsee.gov>, Nathan Sinkula <nathan.sinkula@bsee.gov>

Hi Dan,

The table below contains the water handling info for Platform Gail in 2010. Nearly all of their produced water was reinjected into Sockeye for the waterflood program. There was no water injection classified as disposal. Please let us know if we can help with anything else.

Sockeye Field (Platform Gail)		
Date	*Water Produced (bbl)*	*Water Injected for Reservoir Support (bbl)*
Jan-2010	1,044,262	1,044,262
Feb-2010	961,243	960,746
Mar-2010	1,007,144	1,006,941
Apr-2010	836,589	836,348
May-2010	1,077,646	1,077,646
Jun-2010	1,092,910	1,092,910
Jul-2010	1,143,570	1,143,570
Aug-2010	1,132,612	1,132,612
Sep-2010	1,100,679	1,100,679
Oct-2010	1,068,210	1,068,210
Nov-2010	1,082,729	1,082,729
Dec-2010	1,149,259	1,149,259
2010 Totals:	**12,696,853**	**12,695,912**

Thanks,

–

Bobby Kurtz

Geologist

Production and Development

Pacific OCS Region

Bureau of Safety and Environmental Enforcement

(805)389-7713

–

Daniel R. Knowlson
DOI/BSEE/POCSR
CA District Manager
805-389-7746

Mayerson, Drew <drew.mayerson@bsee.gov>

Re: Fw: Question on offshore fracking

7 messages

Ming, Jaron <jaron.ming@bsee.gov> Mon, Dec 17, 2012 at 1:16 PM
To: "Barminski, Joan" <joan.barminski@boem.gov>
Cc: Drew Mayerson <drew.mayerson@bsee.gov>

I'm available after 3 pm and I would like to have Drew meet with us as well. Just let me know what time works best for you. Thanks.

On Mon, Dec 17, 2012 at 11:58 AM, Barminski, Joan <joan.barminski@boem.gov> wrote:
Jaron, I'd like to discuss with you today, so that I can respond to BOEM management this afternoon. Thanks.

——— Forwarded message ———
From: **Walter Cruickshank** <walter.cruickshank@boem.gov>
Date: Mon, Dec 17, 2012 at 11:01 AM
Subject: Fw: Question on offshore fracking
To: ellen.aronson@boem.gov, joan.barminski@boem.gov
Cc: Emily.Lindow@boem.gov

I can't read the attachment on the berry, but from the title, looks like it should go to you. Please let mw know what you think.

Thanks,
Walter

From: Cannuscio, Lisa [mailto:lisa_cannuscio@ios.doi.gov]
Sent: Monday, December 17, 2012 11:00 AM
To: Walter Cruickshank <walter.cruickshank@boem.gov>
Subject: Question on offshore fracking

Ciao!

Tom Lillie suggested I check with you on whether BOEM has an interest in this topic at this time. I have a Write-in Campaign and some public comment letters on both onshore and offshore hydraulic fracturing on California coast (Venoco).

Could you please give a brief review and let me know what you think - whether BOEM or BLM?

Thank you!
-Lisa

——— Forwarded message ———
From: **Lillie, Thomas** <thomas.lillie@bsee.gov>
Date: Mon, Dec 17, 2012 at 12:37 PM
Subject: Re: BSEE Correspondence update
To: "Gregory, John" <john.gregory@bsee.gov>
Cc: "Cannuscio, Lisa" <lisa_cannuscio@ios.doi.gov>, Anita Childs <anita.childs@bsee.gov>

On shore fracing is BLM. Offshore would go to BOEM if it is being proposed for the Federal OCS.

On Mon, Dec 17, 2012 at 12:04 PM, Gregory, John <john.gregory@bsee.gov> wrote:

> This is what is listed in CATS:
>
> 11/14 mailed to Chuck Barbee for response.
>
> John
>
> On Mon, Dec 17, 2012 at 12:02 PM, Cannuscio, Lisa <lisa_cannuscio@ios.doi.gov> wrote:
>
> > Ciao!
> >
> > Could you please provide an update on the following:
> >
> > **ESO 42584 Simpson**
> >
> > Also, please let me know if these letters fall within BSEE's purview (Venoco Oil Company and hydraulic fracturing in California). We have a Write-In Campaign on fracking onshore and offshore, and I am trying to determine if it should go to BSEE or BLM.
> >
> > Grazie!
> > -Lisa
> >
> > –
> >
> > Lisa Cannuscio
> > Office of the Executive Secretariat
> > 1849 C Street, N.W., Room 7323
> > Washington, D.C. 20240
> > Office: (202) 208-2443
> > Email: **Lisa_Cannuscio@ios.doi.gov**

–
Tom Lillie
Chief of Staff
Bureau of Safety and Environmental Enforcement
(202) 208-6286
thomas.lillie@bsee.gov

–

Lisa Cannuscio
Office of the Executive Secretariat
1849 C Street, N.W., Room 7323
Washington, D.C. 20240
Office: (202) 208-2443
Email: **Lisa_Cannuscio@ios.doi.gov**

—
Joan Barminski
Regional Supervisor, Strategic Resources
Pacific OCS Region
805.389.7509

Mayerson, Drew <drew.mayerson@bsee.gov> Mon, Dec 17, 2012 at 1:28 PM
To: "Ming, Jaron" <jaron.ming@bsee.gov>

Jaron,
I'll be there. Ordinarily fracking would be a downhole operation similar other downhole operations. It is permitted using an APM and has never (to my knowledge) been an event that need be placed in the DPP. It is essentially an primary recovery methodology like acid stimulation....although the pumps may be more powerful. I'm not an expert.

Also, I believe we've only had two instances when fracking was done. One by Venoco, and possibly one by PXP at Irene.

Drew

Drew Mayerson
Regional Supervisor
Office of Production and Development
Pacific OCS Region
[Quoted text hidden]

Barminski, Joan <joan.barminski@boem.gov> Tue, Dec 18, 2012 at 11:18 AM
To: Jaron Ming <jaron.ming@bsee.gov>, Drew Mayerson <drew.mayerson@bsee.gov>

hi, we need to discuss again, as outlined needs in Lillie's message below involve BOEM and BSEE Pacific as well as some HQ in BOEM, from waht I can see. WE need to come up with a plan to address. I have asked what the due date is from HQ and IOS.

——— Forwarded message ———
From: **Walter Cruickshank** <walter.cruickshank@boem.gov>
Date: Tue, Dec 18, 2012 at 9:02 AM
Subject: Fw: Fw: Question on offshore fracking
To: joan.barminski@boem.gov, ellen.aronson@boem.gov
Cc: Emily.Lindow@boem.gov

I still can't read the letter, but looks like we might need both bureaus weighing in. See Tom Lillie's e-mail below.

From: Lillie, Thomas [mailto:thomas.lillie@bsee.gov]
Sent: Tuesday, December 18, 2012 06:06 AM
To: Walter Cruickshank <walter.cruickshank@boem.gov>
Subject: Re: Fw: Question on offshore fracking

Walter: I reviewed the letter regarding fracking offshore California. It alleges that fracking has occurred at a platform operated by Venoco off the Santa Barbara coast. The author makes a statement, but provides no evidence to support it. The response should address: (1) has Venoco or any other operator actually conducted any fracking offshore California as alleged in the letter (a BSEE issue); (2) is the alleged activity being conducted in the Federal OCS or state offshore property (a BOEM issue); (3) has fracking ever been considered in a five-year plan and been assessed in any NEPA document for the area in question (i.e., is it even allowed; a BOEM issue); (4) If so, has Venoco or any other operator ever submitted an application for permit to conduct fracking in the Pacific Region (a BSEE issue). Let me know when you get in. Thanks. Tom

On Mon, Dec 17, 2012 at 7:54 PM, Walter Cruickshank <walter.cruickshank@boem.gov> wrote:

Okay. I'll look at it when I get back too.

From: Thomas Lillie [mailto:thomas.lillie@bsee.gov]
Sent: Monday, December 17, 2012 05:53 PM

To: walter.cruickshank@boem.gov <walter.cruickshank@boem.gov>
Subject: Re: Fw: Question on offshore fracking

My comment is based on discussion with Lisa in Exec Sec. I will need to look at the letter in the morning.

From: Walter Cruickshank [mailto:walter.cruickshank@boem.gov]
Sent: Monday, December 17, 2012 04:47 PM
To: thomas.lillie@bsee.gov <thomas.lillie@bsee.gov>
Subject: Re: Fw: Question on offshore fracking

I can't read the letter on my blackberry (I'm stuck in SC -- all flights cancelled). Does the incoming point to NEPA or environmental review more generally?

From: Thomas Lillie [mailto:thomas.lillie@bsee.gov]
Sent: Monday, December 17, 2012 05:37 PM
To: walter.cruickshank@boem.gov <walter.cruickshank@boem.gov>
Subject: Re: Fw: Question on offshore fracking

Has there been an EIS to assess the environmental consequences of fracking on the OCS? How can we begin to review permit requests without that?

From: Walter Cruickshank [mailto:walter.cruickshank@boem.gov]
Sent: Monday, December 17, 2012 04:11 PM
To: thomas.lillie@bsee.gov <thomas.lillie@bsee.gov>
Subject: Fw: Fw: Question on offshore fracking

Tom,

Looks like this is coming full circle. Both the BOEM and BSEE folks in PACR think this is a BSEE matter. (See below)

Walter

From: Barminski, Joan [mailto:joan.barminski@boem.gov]
Sent: Monday, December 17, 2012 04:57 PM

To: Walter Cruickshank <walter.cruickshank@boem.gov>
Cc: ellen.aronson@boem.gov <ellen.aronson@boem.gov>; Emily.Lindow@boem.gov <Emily.Lindow@boem.gov>
Subject: Re: Fw: Question on offshore fracking

Walter,

Discussed here with RD Jaron Ming and Drew Mayerson, BSEE Pacific. We agree (as does Ellen) that this is BSEE's purview for offshore areas. Downhole activity that would be permitted on a well basis via an Application for Permit to Modify (APM) at the District Office level. I recommend that the inquiry be redirected to BSEE.

Joan

On Mon, Dec 17, 2012 at 11:57 AM, Barminski, Joan <joan.barminski@boem.gov> wrote:

> Walter, will consider here, and discuss with BSEE as fracking is usually considered to be a well operation and would reside as a permit approval with BSEE in the District Office. I will clarify with folks here and get back to you and Emily as soon as possible.
> [Quoted text hidden]
> [Quoted text hidden]
> [Quoted text hidden]
> [Quoted text hidden]

Ming, Jaron <jaron.ming@bsee.gov> Tue, Dec 18, 2012 at 11:30 AM
To: "Barminski, Joan" <joan.barminski@boem.gov>
Cc: Drew Mayerson <drew.mayerson@bsee.gov>

Ok. A conference call maybe?
[Quoted text hidden]

Ming, Jaron <jaron.ming@bsee.gov> Mon, Jan 7, 2013 at 4:13 PM
To: "Barminski, Joan" <joan.barminski@boem.gov>
Cc: Drew Mayerson <drew.mayerson@bsee.gov>

I have received hard copies of the letters from BSEE HQ. Would you like to meet to discuss tomorrow? Thanks.
[Quoted text hidden]

Barminski, Joan <joan.barminski@boem.gov> Mon, Jan 7, 2013 at 4:43 PM
To: "Ming, Jaron" <jaron.ming@bsee.gov>
Cc: Drew Mayerson <drew.mayerson@bsee.gov>

tomorrow would be good. Time avilable except for 9-1030, and 330-430. Also don't know when Ekholm meeting with BOEM is yet.
[Quoted text hidden]

Ming, Jaron <jaron.ming@bsee.gov> Mon, Jan 7, 2013 at 4:58 PM
To: "Barminski, Joan" <joan.barminski@boem.gov>
Cc: Drew Mayerson <drew.mayerson@bsee.gov>

Ok. Let's try for 2 pm and see how the IT meetings develop. Thanks.
[Quoted text hidden]

Masri, Nabil <nabil.masri@bsee.gov>

Re: Hydraulic fracturing

1 message

Mayerson, Drew <drew.mayerson@bsee.gov> Thu, Mar 14, 2013 at 3:38 PM
To: "Pardi, Nicholas" <nicholas.pardi@bsee.gov>
Cc: Nathan Sinkula <nathan.sinkula@bsee.gov>, Bobby Kurtz <geokurtz@gmail.com>, "Ming, Jaron" <Jaron.Ming@bsee.gov>, "Masri, Nabil" <Nabil.Masri@bsee.gov>, Daniel Knowlson <daniel.knowlson@bsee.gov>

Nick,
Attached, in Word, is a rewrite that Nathan (PE), Bobby (Geol.), and I worked on. We've tried to keep it simple but wanted to make sure that we captured the actual methodology. See what you think.
Drew

Drew Mayerson
Regional Supervisor
Office of Production and Development
Pacific OCS Region

On Thu, Mar 14, 2013 at 11:21 AM, Pardi, Nicholas <nicholas.pardi@bsee.gov> wrote:

> We have started to get some questions on hydraulic fracturing and have kicked around the idea of establishing an informational webpage to describe the process. Something basic that we could point folks towards if asked. I will admit to not being a trained geologist or engineer so I won't try and fake it but I did some basic research along with some information I got from you and came up with the following. Please let me know if you have any comments or suggestions.
>
> Though uncommon, hydraulic fracturing does occur from time to time within BSEE's Gulf of Mexico and Pacific Regions.
>
> **What is Hydraulic Fracturing?**
>
> Hydraulic fracturing produces fractures in the rock formation that stimulate the flow of natural gas or oil, increasing the volumes that can be recovered. Fractures are created by pumping large quantities of fluids at high pressure down a wellbore and into the target rock formation. Hydraulic fracturing fluid commonly consists of water, proppant and chemical additives that open and enlarge fractures within the rock formation. These fractures can extend several hundred feet away from the wellbore. The proppants - sand, ceramic pellets or other small incompressible particles - hold open the newly created fractures.
>
> Once the injection process is completed, the internal pressure of the rock formation causes fluid to return to the surface through the wellbore. This fluid is known as both "flowback" and "produced water" and may contain the injected chemicals plus naturally occurring materials such as brines, metals, radionuclides, and hydrocarbons. The flowback and produced water is then treated and either injected underground for disposal or treated and reused or processed by a wastewater treatment facility and then discharged in accordance with an Environmental Protection Agency issued discharge permit.

Hydraulic Fracturing Offshore

Within the BSEE Gulf of Mexico Region, hydraulic fracturing is not a widespread operation due to the productive nature of the geologic formations. Operators will occasionally utilize a process called "frac-packing" which is an application for sand control that improves production sustainability and well completion in unconsolidated offshore sand reservoirs. The process creates short, highly-conductive fractures near the wellbore where the proppant interacts with the formation, creating a barrier that prevents sand production. The fractures that are created often do not extend more than a few feet from the well bore.

Within the BSEE Pacific Region, hydraulic fracturing is rarely utilized. When it does occur, operators use hydraulic fracturing for a brief period to stimulate production. The vast majority of these have been "mini-fracs" which occur in the immediate vicinity of the wellbore and are used to cleanup sand that may plug the perforations. A "mini-frac" is performed without a proppant with the intent of breaking down the formation to create a short fracture.

BSEE ensures that all drilling operations proposed by offshore operators receive an environmental review in accordance with the National Environmental Policy Act while coordinating with the Environmental Protection Agency and other federal agencies to ensure that proposed activities are consistent with all applicable rules and regulations. Additionally, BSEE drilling and production engineering staff fully review proposals for safety issues.

A Closer Look at Hydraulic Fracturing

View "Breaking Fuel From the Rock," an interactive feature from National Geographic showing the drilling technique that some energy producers have used to unlock natural gas in shale rock. Though this guide covers onshore production, some of the basic drilling techniques are used offshore-

http://news.nationalgeographic.com/news/2010/10/101022-breaking-fuel-from-the-rock/

Public Affairs Web Explanation.docx
32K

~~Though uncommon, h~~Hydraulic fracturing does occur ~~from time to time within~~in ~~BSEE's~~ on the OCS in the Gulf of Mexico and Pacific Regions, although not to the levels and magnitude seen onshore in areas like North Dakota and Texas.~~.~~

People (5)
Pardi, Nicholas
BSEE

What is Hydraulic Fracturing?

Show details

Hydraulic fracturing produces fractures in the rock formation that stimulate the flow of natural gas or oil, increasing the volumes that can be recovered. Fractures are created by pumping large quantities of fluids at high pressure down a wellbore and into the target rock formation. Hydraulic fracturing fluid is mostly water with minor amounts of chemical additives Proppants, such as sand or ceramic pellets are injected with the fluid under high pressures into the target formation. The pressunzed slurry fractures the rock with the proppants helping hold open the newly created fractures~~commonly consists of water, proppant and chemical additives that open and enlarge fractures within the rock formation. These fractures can extend several hundred feet away from the wellbore. The proppants - sand, ceramic pellets or other small incompressible particles - hold open the newly created fractures.~~

Once the injection process is completed, the internal pressure of the rock formation causes fluid to return to the surface through the wellbore. This fluid, ~~is~~ known as ~~both~~ "flowback," ~~and "produced water" and may~~ contains the injected water and ~~the injected~~ chemicals plus naturally occurring materials from the reservoir, including ~~such as brines, metals, radionuclides, and~~ hydrocarbons. The flowback ~~and~~ along with produced water is ~~then treated and~~ either injected underground ~~for disposal or treated and reused~~ or processed by a wastewater treatment facility and then reused or discharged in accordance with an Environmental Protection Agency issued discharge permit

Hydraulic Fracturing Offshore

Within the ~~BSEE~~ Gulf of Mexico Region, large scale hydraulic fracturing is not a widespread operation due to the ~~productive~~ nature of the geologic formations However, o~~O~~perators often ~~will occasionally~~ utilize a process called "frac-packing" which is an application mainly used for sand control that improves production sustainability and well completion stability in poorly ~~un~~consolidated offshore sand reservoirs The process creates short, highly-conductive fractures near the wellbore, ~~where the proppant interacts with the formation,~~ creating an ~~barrier~~ interface that ~~prevents~~ minimizes sand ~~production~~influx into the well. ~~The fractures that are created often do not extend more than a few feet from the well bore.~~

Within the Pacific region, hydraulic fracturing has been rarely utilized. When it does occur, operators have normally employed frac-packs in sandstone reservoirs to stimulate production, reduce small particle migration, and to break through areas where reservoir rock was damaged by the drilling process. "Mini-fracs," which are diagnostic tests to determine reservoir properties, may be used prior to hydraulic fracturing operations in order to enhance their efficiency and design. Large scale hydraulic fracturing, as is common in the Bakken Shale of North Dakota, is not common in the Pacific Region due to offshore equipment constraints and the naturally fractured nature of the Monterey Shale in the POCS.

~~Within the BSEE Pacific Region, hydraulic fracturing is rarely utilized. When it does occur, operators use hydraulic fracturing for a brief period to stimulate production. The vast majority of these have been "mini-fracs" which occur in the immediate vicinity of the wellbore and are used to cleanup sand that may plug the perforations. A "mini-frac" is performed without a proppant with the intent of breaking down the formation to create a short fracture.~~

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http://news.nationalgeographic.com/news/2010/10/101022-breaking-fuel-from-the-rock/

~~To~~ ~~Nathan Sinkula~~ ~~CeBee~~

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Send

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Masri, Nabil <nabil.masri@bsee.gov>

Fwd: Request for some MSDS on fracking technologies.

1 message

Masri, Nabil <nabil.masri@bsee.gov> Tue, Mar 5, 2013 at 12:06 PM
To: Kenneth Seeley <kenneth.seeley@bsee.gov>
Cc: Daniel Knowlson <daniel.knowlson@bsee.gov>, Craig Ogawa <craig.ogawa@bsee.gov>, Janice Hall <janice.hall@bsee.gov>, Jaron Ming <jaron.ming@bsee.gov>

FYI

Nabil F. Masri
Regional Supervisor, Office of Field Operations
Pacific OCS Region
Bureau of Safety and Environmental Enforcement
805.389.7581
nabil.masri@bsee.gov

——— Forwarded message ———
From: **Chandler, Kimberly** <Kimberly.Chandler@bakerhughes.com>
Date: Tue, Mar 5, 2013 at 11:19 AM
Subject: RE: Request for some MSDS on fracking technologies.
To: "Finie, Patrick" <patrick.finie@bsee.gov>
Cc: "Masri, Nabil" <Nabil.Masri@bsee.gov>, Theresa Bell <theresa bell@bsee.gov>, Catherine Hoffman <catherine.hoffman@bsee.gov>

Dear Mr. Finie,

Please find attached a zip file containing the PDF versions of the MSDSs that you requested. Please let me know if you have any questions.

Best regards,

Kim

Kim Chandler | Products and Technology Counsel
Baker Hughes | Pressure Pumping, Water Management, Liner Hangers, Packers, and Safety Systems Portfolios

11211 FM 2920 | Tomball, TX 77375

Office: 832.559.4424 | cell 1.281.658.8353

Fax: 832.559.4428 | kimberly.chandler@bakerhughes.com
http://www.bakerhughes.com | ***Advancing Reservoir Performance***

From: Finie, Patrick [mailto:patrick.finie@bsee.gov]
Sent: Friday, March 01, 2013 2:57 PM
To: Chandler, Kimberly
Cc: Masri, Nabil; Theresa Bell; Catherine Hoffman
Subject: Request for some MSDS on fracking technologies.

I called you earlier about getting some MSDS sheets on some fracking chemicals. Below is a list of the chemicals i was asked to get the MSDS sheets on

GLFC-1B

XLW-56

BF-8L

Claymaster 5C

MA 844W

BC-3

GBW-12

X-cide 207

BF-7L

GS-1L

If you could email me back and CC the following people i would greatly appreciate it. Masri, Nabil Nabil Masri@bsee.gov , Theresa Bell theresa.bell@bsee.gov ,

Thank you

Patrick Finie

Pacific OCS Region/Office of Field Operations

Bureau of Safety and Environmental Enforcement

(805) 389-7587

Main line (805) 389-7550

Fax (805) 389-7592

Email Patrick.Finie@bsee.gov

MSDS.ZIP
677K

February 21, 2013

To: Drew Mayerson

Regional Supervisor, Office of Production and Development

From: Bobby Kurtz

Santa Clara Unit Geologist, Office of Production and Development

Subject: Venoco, Inc. Annual Plan of Operations

Non-Relevant

Santa Clara Unit 2012 Review

– Non-Relevant

Both horizontal completion wells are in the highly fractured opal CT-phase section of the Monterey. Venoco, Inc. mentioned that the majority of hydraulic fracking being performed onshore in the Monterey formation targets the less naturally-fractured quartz-phase sections of the formation.

– Other well activities:

Non-Relevant

–

Non-Relevant

[redacted]

Santa Clara Unit Plans for 2013

Non-Relevant

[redacted]

Sinkula, Nathan <nathan.sinkula@bsee.gov>

WATER USAGE ON GAIL IN 2010

1 message

Mayerson, Drew <drew.mayerson@bsee.gov> Tue, Feb 26, 2013 at 4:23 PM
To: Nathan Sinkula <nathan.sinkula@bsee.gov>, Bobby Kurtz <geokurtz@gmail.com>
Cc: Daniel Knowlson <daniel.knowlson@bsee.gov>

CAN EITHER OF YOU FIND OUT THE AMOUNT OF WATER PRODUCED ON PLATFORM GAIL IN 2010 AND HOW MUCH WAS INJECTED FOR WATERFLOOD?
EMAIL DAN WITH THE RESULTS AND COPY ME.
THIS IS IN RESPONSE TO THAT FRACKING ARTICLE.

DREW

Drew Mayerson
Regional Supervisor
Office of Production and Development
Pacific OCS Region

Mayerson, Drew <drew.mayerson@bsee.gov>

Platform Gail 2010 water handling

2 messages

Kurtz, Bobby <bobby.kurtz@bsee.gov> Wed, Feb 27, 2013 at 7:17 AM
To: Daniel Knowlson <daniel.knowlson@bsee.gov>
Cc: Drew Mayerson <drew.mayerson@bsee.gov>, Nathan Sinkula <nathan.sinkula@bsee.gov>

Hi Dan,

The table below contains the water handling info for Platform Gail in 2010. Nearly all of their produced water was reinjected into Sockeye for the waterflood program. There was no water injection classified as disposal. Please let us know if we can help with anything else.

Sockeye Field (Platform Gail)		
Date	*Water Produced (bbl)*	*Water Injected for Reservoir Support (bbl)*
Jan-2010	1,044,262	1,044,262
Feb-2010	961,243	950,746
Mar-2010	1,007,144	1,006,941
Apr-2010	836,589	836,348
May-2010	1,077,646	1,077,646
Jun-2010	1,092,910	1,092,910
Jul-2010	1,143,570	1,143,570
Aug-2010	1,132,612	1,132,612
Sep-2010	1,100,679	1,100,679
Oct-2010	1,068,210	1,068,210
Nov-2010	1,082,729	1,082,729
Dec-2010	1,149,259	1,149,259
2010 Totals:	**12,696,853**	**12,695,912**

Thanks,

–

Bobby Kurtz

Geologist

Production and Development

Pacific OCS Region

Bureau of Safety and Environmental Enforcement

(805)389-7713

Mayerson, Drew <drew.mayerson@bsee.gov> Wed, Feb 27, 2013 at 8:35 AM
To: "Kurtz, Bobby" <bobby.kurtz@bsee.gov>
Cc: Daniel Knowlson <daniel.knowlson@bsee.gov>, Nathan Sinkula <nathan.sinkula@bsee.gov>

THANKS FOR THE QUICK WORK. VERY HELPFUL.

Drew Mayerson
Regional Supervisor
Office of Production and Development
Pacific OCS Region
[Quoted text hidden]

Mayerson, Drew <drew.mayerson@bsee.gov>

Weekly Report: February 24-March 2, 2013

3 messages

Mayerson, Drew <drew.mayerson@bsee.gov> Thu, Feb 28, 2013 at 2:35 PM
To: BSEE PAC OPD <bseepacopd@bsee.gov>, BSEE PAC Managers/Supervisors <BSEEPACManagers_Supervisors@boemre.gov>, Armen Voskanian <armen.voskanian@bsee.gov>, Stephanie Rozek <stephanie.rozek@boem.gov>

Weekly Report: February 24-March 2, 2013

Items for the Director

New - PD is responding to a reporter's request for POCS injection/fracking data. Working with Public Affairs, PD staff as well as staff from FO and the District Offices are gathering information regarding past hydraulic fractures conducted in the Pacific Region as well as the timing and amount of ongoing water injection in the Region. The reporter is following up on a front page article written for a local weekly paper on the perceived dangers and lack of transparency in offshore hydraulic fracturing in the Pacific Region. We are also compiling a point by point response for OPA regarding the allegations made in the article.

Non-Relevant [redacted]

Conservation Related

Non-Relevant [redacted]

Non-Relev [redacted] They have submitted APDs and will submit an APM for hydraulic fracturing of a Pliocene sandstone. If successful they plan to do more in the future. PD has conducted a geohazard review of their planned well and looked at the area surrounding the well for proximity to larger faults. No large faults were identified within 1500 feet of the planned fracks and the faults that were 1500 feet away did not reach the surface. DCOR estimates that their frack will penetrate about 100 to 200 feet into the formation.

Non-Relevant [redacted]

Regulatory

Safety

Non-Relevant

[redacted]

Production Accounting

Non-Relevant

[redacted]

Strategic Plan

Other

Non-Relevant

[redacted]

Non-Relevant

[redacted]

Non-Relevant

[redacted]