

OKLAHOMA

# Corporation Commission

P.O. BOX 52000  
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255 Jim Thorpe Building  
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**OIL & GAS CONSERVATION DIVISION**



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**Tim Baker, Director**

**November 20, 2015**

**Contact: Matt Skinner**  
**405-521-4180**  
**m.skinner@occemail.com**

## **UPDATE**

### **Media Advisory – Crescent Earthquakes** *INCLUDES VOLUME REDUCTIONS, CORRECTED OPERATOR LIST\**

The Oklahoma Corporation Commission's Oil and Gas Conservation Division (OGCD) has completed the volume reduction plan in response to yesterday's earthquakes in the Crescent area. The plan applies to specified oil and gas wastewater disposal wells in the area that dispose into the Arbuckle formation.

The plan calls for the 4 disposal wells within 3 miles of the earthquake activity to stop operations ("shut in") and 50 percent volume reductions for the 7 Arbuckle disposal wells within 3 – 6 miles of the earthquake activity. In addition, operators of wells within 6 – 10 miles of the earthquake activity have been put on notice to be prepared for possible changes to their operations. \*\*

\*Editors, Producers please note: November 19, 2015 Crescent Advisory contained error in ownership of Vonda well. Ownership is Dorado, as listed in table included in this advisory.

\*\* Letter to operators, table, and map attached

-OCC-

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**OIL & GAS CONSERVATION DIVISION**



**Tim Baker, Director**

TO:

FROM: Tim Baker, Director, Oil and Gas Conservation Division

RE: Reduction in Volumes for Wells Located in Area of Interest for Induced Seismicity

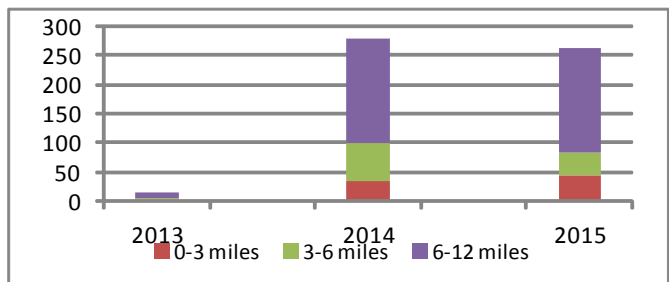
DATE: November 20, 2015

The Commission's Oil and Gas Conservation Division (OGCD) is expanding its efforts to reduce the risk of earthquakes potentially triggered by saltwater disposal wells. The following addresses the reduction of volumes being disposed in the Arbuckle formation within the defined area of interest. Any company that has been identified as operating one or more Arbuckle disposal well(s) located within one of the three zones in the defined area will need to reduce volumes disposed into such well(s) according to the schedule outlined at the end of this letter. The zones are shown on the attached map and are defined from the center point of the recent magnitude 4.0 earthquake near the town of Crescent, as follows:

- Zero to three miles (0-3 miles)
- Three to six miles (3-6 miles)
- Six to ten miles (6-10 miles)

The area highlighted on the attached map has been designated based upon the dramatic increase in earthquakes within the immediate area. The earthquake activity from January 1, 2013 through November 19, 2015 is shown below. The attached map shows earthquake activity of the last 30 days.

Earthquake Activity Magnitude 2.5 or Greater				
Year	0-3 miles	3-6 miles	6-12 miles	Total
2013	0	3	13	16
2014	33	65	182	280
2015	45	38	179	262



As part of a joint effort to decrease the risk of induced seismicity, you will need to complete reduction of disposal volumes in accordance with the following schedule and as indicated for the wells below. All disposal well volumes shall be calculated on a daily basis. In addition, gauges and flow meters should be placed on such wells on or before Monday, December 7,

2015 so that Commission Field Inspectors can verify pressures and volumes. As has been the practice, pressures and volumes for such wells should continue to be supplied every Monday to the Commission, on a weekly basis, at [ogvolumes@occemail.com](mailto:ogvolumes@occemail.com).

**The following schedule applies to all wells within the defined zones in the Area of Interest:**

- Zero to three miles (0-3 miles):
  - A shut-in of wells on or before November 26, 2015.
- Three to six miles (3-6 miles): Fifty percent reduction (50%).
  - On or before December 3, 2015, daily volumes should be reduced by twenty-five percent (25%) of the daily average of the total volume reported reported to the Commission on the weekly volume reports through November 18, 2015.
  - On or before December 17, 2015, daily volumes should be reduced by an additional twenty-five percent (25%), for a total volume reduction of twenty-five percent (50%) of the daily average of the total volume reported reported to the Commission on the weekly volume reports through November 18, 2015.
- Six to ten miles (6-10 miles):
  - Maintain current levels at this time. This letter shall serve as notification that future seismic activity might result in an expanded area for reductions to include these wells.

If you have any questions contact the OGCD:

Charles Lord                      or  
(405) 522-2751  
[c.lord@occemail.com](mailto:c.lord@occemail.com)

Jim Marlatt  
(405) 522-2758  
[j.marlatt@occemail.com](mailto:j.marlatt@occemail.com)

Thank you in advance for your continued cooperation and attention to this matter.

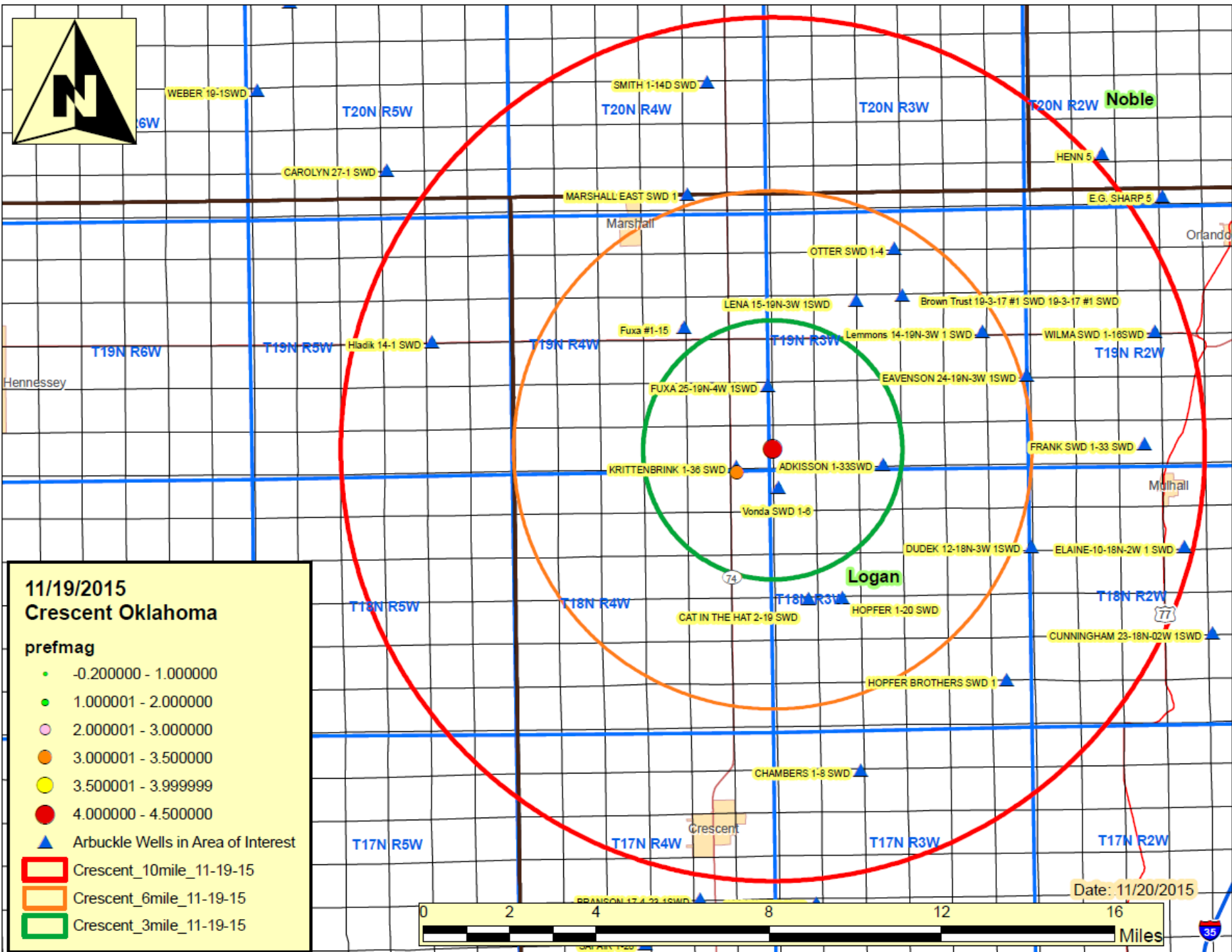
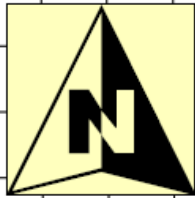
Sincerely,



Tim Baker, Director  
Oil and Gas Conservation Division

The wells in this area operated by your company, and the volume reduction schedule are listed below:

Company	Status	Well Name	Buffer Zone	Reduction	Data				Requested Average Daily Volume
					Max of Volume	Average of Volume	Sum of Volume	Max of Rolling 30	
STEPHENS ENERGY GROUP LLC	Not in Granite	HOPFER BROTHERS SWD 1	6-10	Permit	2990	1774	459498	2161	1774
		CAT IN THE HAT 2-19 SWD	3-6	50%	2207	820	211654	1622	410
		CHAMBERS 1-8 SWD	6-10	Permit	1211	450	61584	856	450
		Fuxa #1-15	3-6	50%	1018	212	54967	334	106
		KRITTENBRINK 1-36 SWD	0-3	Shut In	590	213	55284	293	0
DORADO E & P PARTNERS LLC	Not in Granite	Vonda SWD 1-6	0-3	Shut In	820	460	119081	712	0
DEVON ENERGY PRODUCTION CO LP	Plugged Back	EAVENSON 24-19N-3W 1SWD	6-10	Permit	12568	7636	1870890	10428	7636
		ADKISSON 1-33 SWD	0-3	Shut In	12457	7359	1803074	12147	0
		FRANK SWD 1-33 SWD	6-10	Permit	11629	7927	1942228	11479	7927
		LENA 15-19N-3W 1SWD	3-6	50%	7843	1339	328033	4572	669
		DUDEK 12-18N-3W 1SWD	6-10	Permit	6764	2908	712351	4296	2908
		HOPFER 1-20 SWD	3-6	50%	6728	2289	563010	4821	1144
		FUXA 25-19N-4W 1SWD	0-3	Shut In	5062	947	246269	4140	0
	WILMA SWD 1-16SWD	6-10	Permit	315	20	4975	71	20	
	Volume Reporting - preparing c	Lemmons 14-19N-3W 1 SWD	3-6	50%	11771	2939	314484	9023	1470
Injecting <1000 per day	ELAINE-10-18N-2W 1 SWD	6-10	Permit	3962	3803	403077	3897	3803	
	SMITH 1-14D SWD	6-10	Permit	1685	579	150536	779	579	
KIRKPATRICK OIL COMPANY INC	Not in Granite	MARSHALL EAST SWD 1	6-10	Permit	2800	1574	405989	2125	1574
	Plugged Back	OTTER SWD 1-4	3-6	50%	2095	1364	352029	1697	682
SUNDANCE ENERGY OKLAHOMA LLC DBA SEO LLC	Not in Granite	Brown Trust 19-3-17 #1 SWD	3-6	50%	1080	397	103202	572	198
LONGFELLOW ENERGY LP	Not in Granite	Hladik 14-1 SWD	6-10	Permit	5583	2772	720792	4269	2772
					<b>Total Daily Average</b>	<b>47783</b>	<b>Reduced Daily Average</b>		<b>34123</b>
							<b>% Reduction</b>		<b>29%</b>

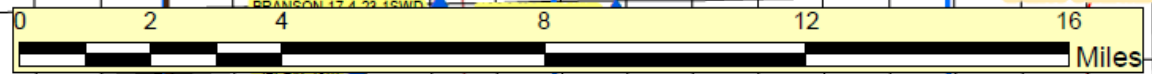


**11/19/2015  
Crescent Oklahoma**

**prefmag**

- -0.200000 - 1.000000
- 1.000001 - 2.000000
- 2.000001 - 3.000000
- 3.000001 - 3.500000
- 3.500001 - 3.999999
- 4.000000 - 4.500000

- ▲ Arbuckle Wells in Area of Interest
- ◻ Crescent\_10mile\_11-19-15
- ◻ Crescent\_6mile\_11-19-15
- ◻ Crescent\_3mile\_11-19-15



Date: 11/20/2015