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Commissioner

Todd Hiett
Commissioner

Dana Murphy
Commissioner

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**OIL & GAS CONSERVATION DIVISION**

**Tim Baker, Director**

**August 3, 2015**

**Contact: Matt Skinner**
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## MEDIA ADVISORY – OIL AND GAS DISPOSAL WELL VOLUME REDUCTION PLAN

The Oklahoma Corporation Commission's Oil and Gas Conservation Division (OGCD) has put in place a plan to reduce oil and gas wastewater disposal well volume in an proscribed area of northern Oklahoma County and southern Logan County. Under the plan, operators will have a 60 day period during which volume will be reduced 38 percent, or about 3.4 million barrels under the 2014 total. Such a reduction will bring total volume for the area to a level under the 2012 total by about 2.4 million barrels. The area saw its sharpest rise in seismicity start in late 2012.

An example of the letter that is being sent out to operators is attached, Also attached is a graphic of what is called the "Logan County trend" area (the impacted area), a listing of the wells and operators involved, and a statement from Commission Vice Chairman Dana Murphy on the matter.

Also attached is the latest report on the April and July "plug-back" actions taken by the OGCD.

This is the latest development under the "traffic light" system". The system was first put in place in 2013 in response to the concerns over the possibility of earthquake activity being caused by oil and gas wastewater disposal wells in Oklahoma. It has been in a state of constant evolution since then, as new data becomes available.

Other elements of the traffic light system include:

- A "plug-back" program covering more than 500 disposal wells. Wells are reducing their depth if found to be at a depth that sharply increases the risk of induced seismicity.
- Required seismicity review for any proposed disposal well.
    - Those proposed wells that do not meet "red light" (stop) standards but are still of concern:

1. Must have public review
2. Permit is temporary (six months)
3. Permit language requires**
    1. Seismometers
    2. Shut down if rise in background seismicity or there is a defined seismic event
    3. Shut in and perform reservoir pressure testing every 60 days.

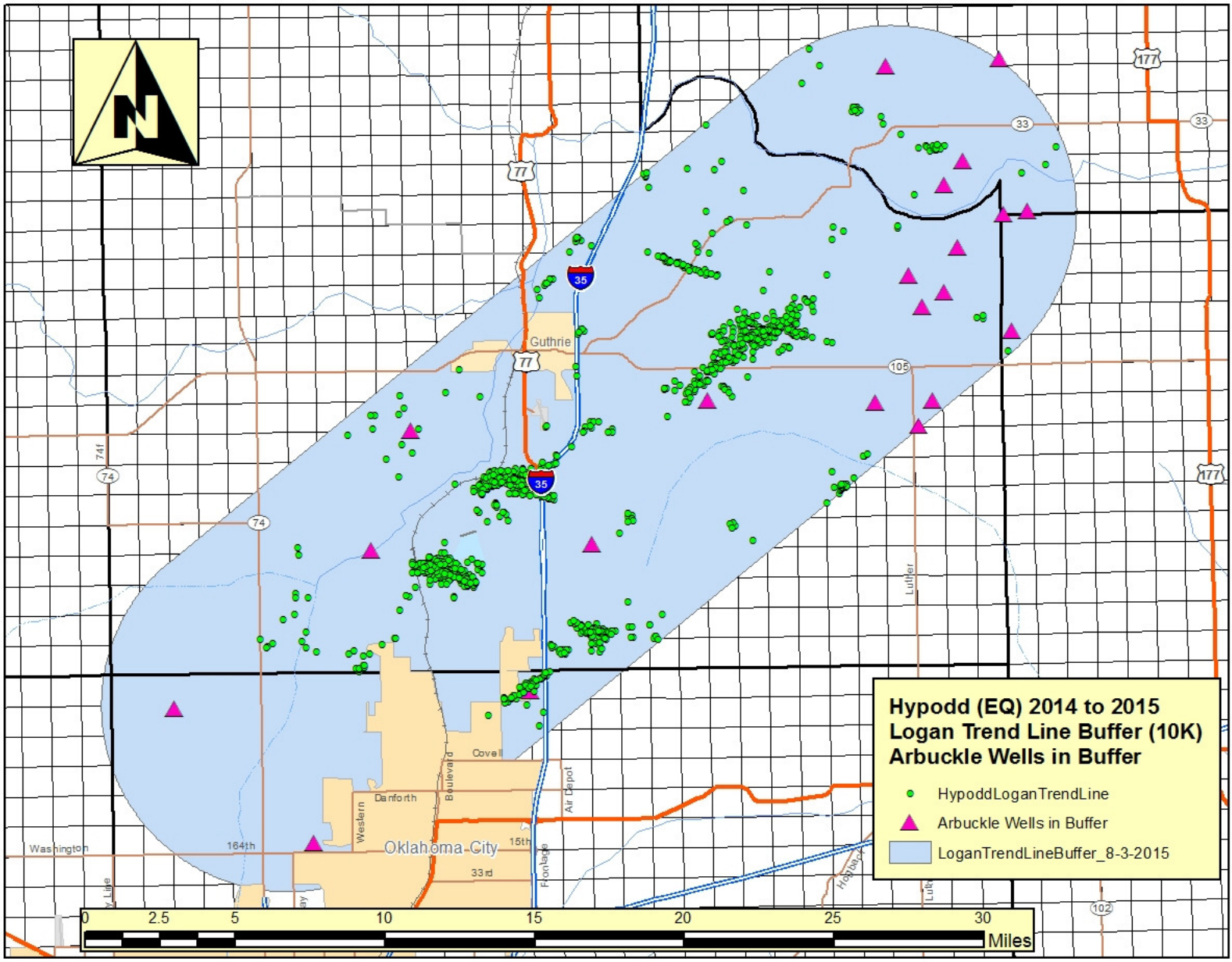
    ** Applicant agreement to conditions does not guarantee approval

- Weekly volume reporting requirements for and close scrutiny of all disposal wells in an Area of Interest (AOI):
    - AOI now defined as a 10 kilometer (about 122 square miles) area surrounding the center mass of an earthquake "cluster"
- Rules increasing from monthly to daily the required recording of well pressure and volume from disposal wells that dispose into the Arbuckle formation (the state's deepest injection formation)
- Rules requiring Mechanical Integrity Tests for wells disposing of volumes of 20,000 barrels a day or more have increased from once every five years to every year, or more often if so directed by the Commission

**-OCC-**

**All OCC advisories and releases are available at www.occeweb.com**

Editors, Producers: See www.occeweb.com and www.earthquakes.ok.gov for maps, directives and other information on earthquake response


Hypodd (EQ) 2014 to 2015
Logan Trend Line Buffer (10K)
Arbuckle Wells in Buffer
HypoddLoganTrendLine
Arbuckle Wells in Buffer
LoganTrendLineBuffer_8-3-2015
Guthrie
Oklahoma City
Covell
Danforth
Western
Boulevard
Air Depot
Fonlage
Washington
164th
15th
33rd
Luther
Hogback
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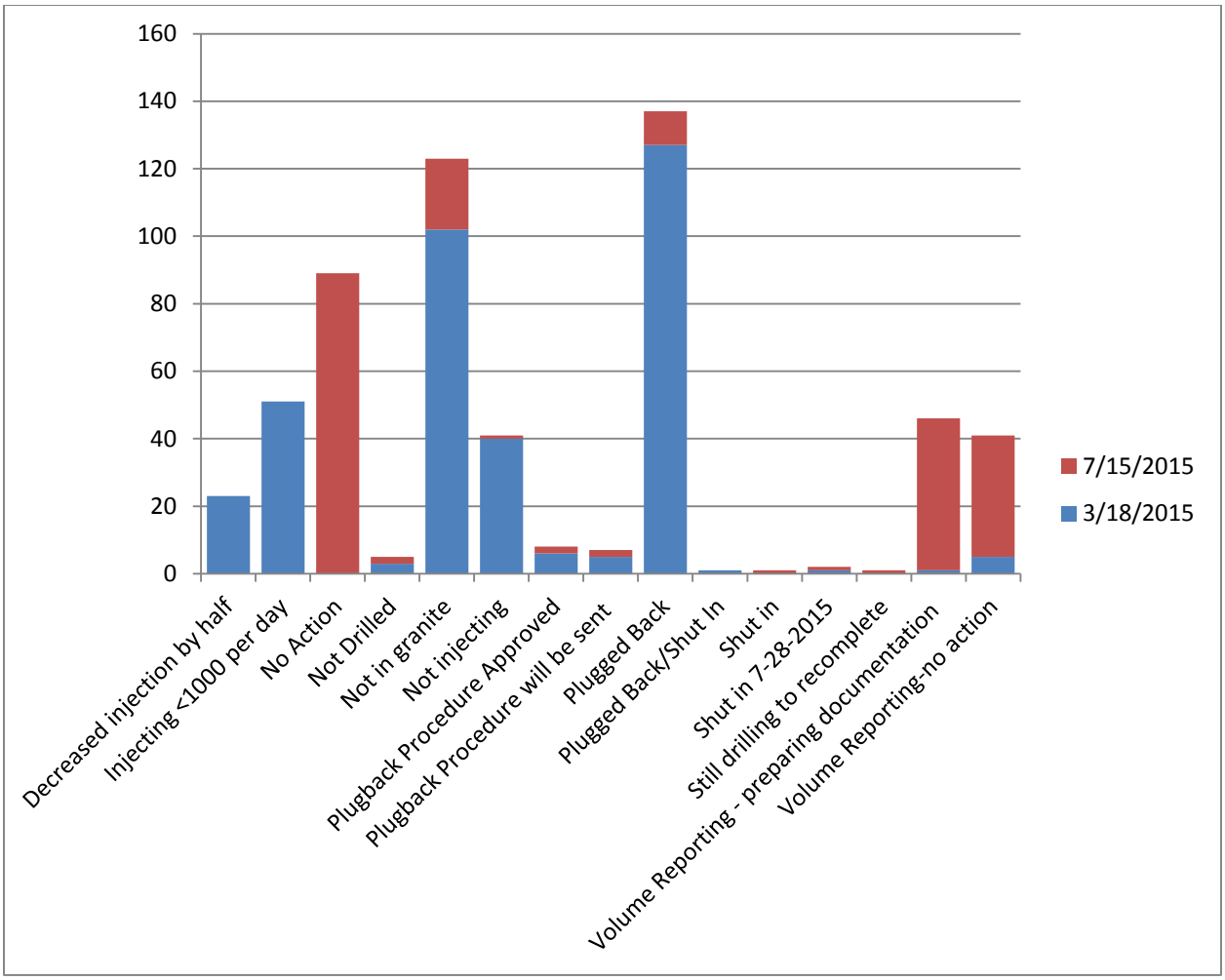
Miles




| **Company** | (All) |
|---|---|

| **Count of Wells** | **Date Added** | | |
|---|---|---|---|
| **Current Status** | **3/18/2015** | **7/15/2015** | **Grand Total** |
| Decreased injection by half | 23 | | 23 |
| Injecting <1000 per day | 51 | | 51 |
| Not Drilled | 3 | 2 | 5 |
| Not in granite | 102 | 21 | 123 |
| Not injecting | 40 | 1 | 41 |
| Plugback Procedure Approved | 6 | 2 | 8 |
| Plugback Procedure will be sent | 5 | 2 | 7 |
| Plugged Back | 127 | 10 | 137 |
| Plugged Back/Shut In | 1 | | 1 |
| Shut in | | 1 | 1 |
| Shut in 7-28-2015 | 1 | 1 | 2 |
| Still drilling to recomplete | | 1 | 1 |

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**News from Commissioner Dana Murphy**

For Further Information, Contact: Teryl Williams (405) 521- 2267

**August 3, 2015**

## STATEMENT OF CORPORATION COMMISSIONER DANA MURPHY REGARDING LATEST STAFF DIRECTIVE ON SEISMICITY

**I fully support going forward with a plan based on volume cuts, and am pleased to see a real beginning in that regard. This is an issue completely outside the scope of the experience of not only this agency, but all our partner agencies and stakeholders as well. There was a time when the scientific, legal, policy and other concerns related to this issue had to first be carefully researched and debated in order to provide a valid framework for such action. That time is over. Based on the research and analysis of the data compiled, we must continue to take progressive steps, and do so as quickly as possible as part of the continuing efforts to resolve this complex and challenging issue.**

**-OCC-**
**All OCC advisories and releases are available at www.occeweb.com**

BOB ANTHONY
Commissioner

Todd Hiett
Commissioner

Dana Murphy
Commissioner

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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: August 3rd, 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 the defined area will need to reduce volumes disposed into such well(s).

The area highlighted on the attached map has been designated based upon the dramatic increase in earthquakes within the immediate area. The OGCD has reviewed the earthquake activity of magnitude 2.5 mm and greater, as reported by the Oklahoma Geological Survey (OGS). The earthquake activity from the last three years and seven months is summarized below and is also reflected in the attached map:

| | |
|---|---|
| Earthquake activity in 2012: | 2 |
| Earthquake activity in 2013: | 14 |
| Earthquake activity in 2014: | 359 |
| Earthquake activity in 2015: (as of 7/31/15) | 253 |

Total volumes of produced water disposed of in the Arbuckle formation, by wells within the designated area, as reported on OCC Forms 1012A beginning in 2012 are as follows:

2012 volumes: 7,788,710 Bls.

2013 volumes: 6,039,802 Bls.

2014 volumes: 8,847,093 Bls.

As part of an 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 August 14, 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 to the Commisson on a weekly basis at ogvolumes@occemail.com.

**Using the daily average of the total volume reported on the 2014 1012A Annual Fluid Injection Report, disposal volumes need to be reduced in accordance with the following schedule:**

(a) On or before August 23rd, 2015, daily volumes should be reduced by thirteen percent (13%) of the daily average of the total volume reported on the 2014 1012A Annual Fluid Injection Report.

(b) On or before September 12th, 2015, daily volumes should be reduced by an additional thirteen percent (13%), for a total volume reduction of twenty-six percent (26%) of the daily average of the total volume reported on the 2014 1012A Annual Fluid Injection Report.

(c) On or before October 2nd, 2015, daily volumes should be reduced by an additional twelve percent (12%), for a total volume reduction of thirty-eight percent (38%) of the daily average of the total volume reported on the 2014 1012A Annual Fluid Injection Report.

Contact Charles Lord of the OGCD at 405-522-2751 or c.lord@occemail.com if you have any questions.

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