To: Blumenfeld, Jared[BLUMENFELD.JARED@EPA.GOV]; Quast, Sylvia[Quast.Sylvia@epa.gov]; Diamond, Jane[Diamond.Jane@epa.gov]; Montgomery, Michael[Montgomery.Michael@epa.gov]; Albright, David[Albright.David@epa.gov]
Cc: Skadowski, Suzanne[Skadowski.Suzanne@epa.gov]; Mogharabi, Nahal[MOGHARABI.NAHAL@EPA.GOV]; Keener, Bill[Keener.Bill@epa.gov]; Rao, Kate[Rao.kate@epa.gov]
From: Zito, Kelly
Sent: Tue 3/3/2015 9:49:52 PM
Subject: FW: DOC News release announcing well shut ins

FYI

From: Schilling, Teresa@DOC [mailto:Teresa.Schilling@conservation.ca.gov]
Sent: Tuesday, March 03, 2015 1:41 PM
To: Zito, Kelly
Subject: DOC News release announcing well shut ins

Kelly –

A heads up the following news release is going out now and will soon be live at www.conservation.ca.gov

CALIF. DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

SEEKS END TO INJECTION IN 12 KERN COUNTY WELLS

State's Review is Ongoing; Look at High-Priority Wells Nearly Complete

SACRAMENTO -- State of California regulators have directed the

operators of 12 underground injection wells in Kern County to halt injection in order to protect high-quality groundwater. In 10 cases, the operators voluntarily relinquished their permits to inject; two cease-and-desist orders have been issued. This move is part of a systematic statewide review of injection related to the oil and gas industry being conducted by the California Division of Oil, Gas, and Geothermal Resources and the State Water Resources Control Board.

"As we've said before, the protection of California's groundwater resources – as well as public health -- is paramount, particularly in this time of extreme drought," State Oil and Gas Supervisor Dr. Steven Bohlen said. "Halting injection into these wells is a significant step toward that goal. Thus far, testing of limited water supply wells by the Water Board has revealed no contamination of water used for drinking or agricultural purposes related to underground injection by the oil and gas industry. We intend to keep it that way."

Additionally, the Central Valley Regional Water Quality Control Board this week will begin issuing information orders to those well operators. The oil operators will be required to sample the groundwater at the point of injection. The orders will also direct the operators to locate all water supply wells within a one-mile radius of the injection well and to test certain nearby water supply wells. In addition, the operators will be required to submit information about the injected fluids to the Central Valley Water Board.

In a related action, the California Environmental Protection Agency today released the findings of its review of the State's history of permitting underground injection wells into aquifers that are or could become sources of drinking water. Last year, CalEPA was asked by Governor Brown's office to conduct a review to better understand how these practices were allowed to occur. CalEPA's findings are available at www.calepa.ca.gov/Publications/Reports/2015/UICFindings.pdf.

Due to the nature of California's geology, drilling for oil and gas yields far more water than oil. In 2014, California produced 205.3 million barrels of oil. It also produced more than 3.3 billion barrels of water, which is usually very brackish and unsuitable for human use. That water must be disposed of. Typically it is injected back into the reservoir from which it was produced, either for enhanced oil recovery or to maintain reservoir pressure to prevent subsidence.

“Some people confuse this `produced water’ with the fluid used in hydraulic fracturing,” Bohlen added. “They are two different things. To be clear, in standard oil and gas operations, the producers skim off the oil and reinject the water back where it came from. So in some cases, what goes back underground is cleaner than what came out. Still, out of an abundance of caution, we want to be sure that no injection is taking place into zones containing water that could, with treatment, be used for human activities.”

It was discovered that some injection was taking place into zones not approved (“exempted”) by the U.S. Environmental Protection Agency under the terms of the federal Safe Drinking Water Act. That prompted, beginning last summer, the evaluation of all 50,000 underground injection wells in California, with an immediate emphasis on those into zones with the highest water quality.

The Division of Oil, Gas, and Geothermal Resources started with a list of 2,553 underground wells injecting into “non-exempt” zones; 2,021 of those wells were identified as relatively low priority because injection was occurring into hydrocarbon-bearing zones that might qualify for U.S. EPA exemption. Although those zones are not currently exempted, the State of California will seek to change their status to reflect current rather than mid-1980s understanding of geologic conditions and the boundaries of oil field reservoirs.

Of the 532 remaining wells, it was determined that 176 were injecting into zones containing water with total dissolved solids (TDS) of less than 3,000 milligrams per liter (mg/l), an indicator of higher water quality. (For comparison, the TDS limit for California drinking water is 1,000 mg/l). Regulators are concentrating current efforts on that group, with close scrutiny on injection wells within a mile at the surface and within 500 vertical feet underground of a water supply (drinking or agriculture) well. All of the wells the State seeks to shut-in now are that category. Review of the 176 wells should be complete within three months, then will proceed to wells injecting into aquifers with lesser water quality.

Last summer, 11 Kern County wells injecting into non-exempt aquifers were ordered shut-in. A map of all 23 shut-in injection well can be found here: http://docsharepoint1/index/Documents/DOGGR%20shut-in%20injection%20wells%20as%20of%20March%203,%202015.pdf.

The state now is directing that 12 injection wells be shut-in: three wells

operated by Linn Operating, Inc., three operated by California Resources Corporation (formerly Vintage), two each operated by E&B Natural Resources Management and Chevron U.S.A., and one well each operated by Modus, Inc. and Western States International, Inc. (see list below) cease injection. The latter two operators will receive the cease-and-desist orders.

The Division of Oil, Gas, and Geothermal Resources has primary authority ("primacy") to regulate

underground injection wells related to oil and gas operations in California, granted by the U.S. EPA. In 2010, U.S. EPA audited the State's regulatory program, reporting several areas in which improvement was needed.

"Since 2010 we have upgraded practices, added staff, and provided training," Bohlen said. "Last month we submitted a plan to correct remaining deficiencies in the regulation of underground injection. We feel

we are making substantial progress."

The Division and State Water Board proposed a schedule to eliminate all injection into non-exempt aquifers to the U.S. EPA. For those zones with water quality of less than 3,000 milligrams per liter, the deadline to stop injecting for waste disposal is October 15, 2015, or sooner if water supplies are threatened. Meanwhile, all injection into non-exempt aquifers with water quality between 3,000-10,000 milligrams per liter must cease by February 15, 2017, unless the state applies for and receives an aquifer exemption from U.S. EPA.

Operator	API #	Well Type	Field	Zone Water Quality	1st Injection	Cumulative injection
Modus Inc.	10720109	Active WD	Deer Creek	300 TDS	7/002	1.9 million bbls
Western States	02948128	Active WD	Kern Front	390 TDS	2/1977	959,317 bbls
Chevron	02940729	Active WD	Kern River	750 TDS	9/2007	174,963 bbls
Chevron	02984592	Active WD	Kern River	1,486 TDS	12/1989	9.3 million bbs
CRC	03010794	Active WD	Kern River	1,000 TDS	8/1998	37.5 million bbls
CRC	03010795	Active WD	Kern River	1,000 TDS	8/1998	90 million bbls
CRC	02969364	Idle WD	Mount Poso	2,900 TDS	5/1984	56.6 million bbls
Linn	02958657	Active WD	McKittrick	1,975 TDS	10/1979	2.5 million bbls
Linn	03001169	Active WD	McKittrick	1,975 TDS	5/1993	2.0 million bbls
Linn	03042399	Active WD	McKittrick	1,975 TDS	2/2011	943,515 bbls
E&B	02916041	Idle WD	Poso Creek	1,105 TDS	1/1979	933,172 bbls
E&B	02960214	Idle WD	Poso Creek	262 TDS	12/1998	723,270 bbls