

BEFORE THE OIL AND GAS CONSERVATION COMMISSION  
OF THE STATE OF COLORADO

IN THE MATTER OF ALLEGED VIOLATIONS OF THE ) CAUSE NO. 1V  
RULES AND REGULATIONS OF THE COLORADO OIL )  
AND GAS CONSERVATION COMMISSION BY ) DOCKET NO. 1002-OV-01  
**PIONEER NATURAL RESOURCES USA, INC.,** )  
LAS ANIMAS COUNTY, COLORADO )

NOTICE OF ADMINISTRATIVE ORDER BY CONSENT

TO ALL INTERESTED PARTIES AND TO WHOM IT MAY CONCERN:

On August 18, 1995, a domestic water well was constructed for Virgil John Dolores and Marilyn Dolores ("Mr. and Mrs. Dolores") under Colorado Division of Water Resources Permit No. 188783, Receipt No. 0386689. The well hereinafter referred to as the "Dolores water well" is located in the NE $\frac{1}{4}$  SE $\frac{1}{4}$  of Section 35, Township 32 South, Range 68 West, 6<sup>th</sup> P.M.

On May 4, 2005, Glibota Environmental Inc. ("Glibota"), on behalf of Mr. and Mrs. Dolores, collected a water sample from the Dolores water well. The sample was submitted to STL Laboratories Inc. for analysis. The results of this baseline sample showed the quality of the water from the Dolores water well, for the parameters tested, met the standards for ground water promulgated by the Colorado Water Quality Control Commission ("WQCC"), Regulation 41, *The Basic Standards of Ground Water Rule 41*, 5 CCR 1002-41 ("WQCC Regulation 41") and listed in Table 1, Domestic Water Supply - Human Health Standards ("WQCC Table 1"), Table 2, Domestic Water Supply - Drinking Water Standards ("WQCC Table 2"), and the narrative standards in WQCC Regulation 41.

On June 30, 2006, the Colorado Oil and Gas Conservation Commission ("COGCC" or "Commission") approved an Application for Permit to Drill the Molokai #13-36 TR Well (API #05-071-08837). The permit required Pioneer Natural Resources USA Inc. ("Pioneer") to drill a borehole to 1,050 feet, install surface casing, and cement that casing back to surface before drilling the well to a total depth of 2,250 feet. The Molokai #13-36 TR Well is located in the NW $\frac{1}{4}$  SW $\frac{1}{4}$  of Section 36, Township 32 South, Range 68 West, 6<sup>th</sup> P.M., approximately 1550 feet east-southeast from the Dolores water well.

On Tuesday, July 18, 2006, Pioneer began drilling the borehole for the surface casing of the Molokai #13-36 TR Well. At approximately 18:45 a mechanical problem shut down the main air compressor used at the site. Contrary to Pioneer's standard drilling practice to pull the pipe back to a safe zone under these circumstances, the drilling contractor attempted to drill ahead while repairing the compressor. This resulted in the drill bit becoming stuck in the open, uncased borehole. The contractor pressurized the drill pipe to 600 pounds per square inch in an unsuccessful attempt to break the drill bit free. At 19:00 hours the pressure was bled off the drill pipe and the operation was shut down to wait on tools.

On Wednesday, July 19, 2006, COGCC Staff received a complaint from Mr. and Mrs. Dolores stating that their water well had been impacted by activities at the Molokai #13-36 TR Well site.

On Thursday, July 20, 2006, COGCC Staff collected a water sample from the Dolores water well and submitted it to Evergreen Analytical Inc. for analysis. Fluoride and manganese concentrations in the water, and the pH, exceeded WQCC Regulation 41 standards for those constituents. The fluoride concentration was 6.6 milligrams per liter ("mg/l"), compared to the WQCC Table 1 standard of 4.0 mg/l; the manganese was 0.095 mg/l, compared to the WQCC Table 2 standard of 0.05 mg/l; and the pH of the sample was 8.92 standard units ("su"), compared to the WQCC Table 2 standard of 6.5-8.5 su.

A local Pioneer representative in charge of its Raton Basin operations also was at the Dolores well site on July 20, 2006 and met with COGCC Staff. Pioneer decided to begin providing city water for a cistern and bottled drinking water to the Dolores household, and placed an employee at the water well site to log events at the well and keep management informed of the situation.

On July 20, 2006, COGCC Staff directed Pioneer to shut down and plug and abandon the Molokai #13-36 TR Well. Pioneer suspended operations on the well the same day and plugged and abandoned the well as directed by COGCC Staff.

Also on July 20, 2006, Pioneer's hydrologic consultant, Norwest-Applied Hydrology ("NAH"), collected a water sample from the Dolores water well and sent it to STL Laboratories in Denver for analysis. Manganese was detected at a concentration of 1.2 mg/l, which exceeded the

WQCC Table 2 standard of 0.05 mg/l. The pH of this sample was 8.9 su, which exceeded the WQCC Table 2 standard of 6.5-8.5 su. (This sample was not tested for fluoride.)

On July 23, 2006, a water sample was collected from the Dolores water well by Glibota on behalf of Mr. and Mrs. Dolores. The analytical data indicated that WQCC Table 1, WQCC Table 2, and WQCC Regulation 41 narrative standards were exceeded as follows: fluoride was detected at a concentration of 5.7 mg/l, which exceeded the WQCC Table 1 standard of 4.0 mg/l; the pH of this sample was 8.6 su, which exceeded the WQCC Table 2 standard of 6.5-8.5 su; and methane was detected at a concentration of 5.1 mg/l. The concentration of methane constituted a violation of the WQCC Regulation 41 narrative standards that require ground water to be free from pollutants that are in concentrations shown to be a danger to public health, safety or welfare. After extensive study the COGCC has determined that dissolved methane at a concentration of 1.1 mg/l could theoretically allow methane to accumulate to explosive levels in confined spaces.

Between July 20, 2006 and October 24, 2006, a total of 17 samples were collected from the Dolores water well: two by Glibota and 15 by NAH for Pioneer. Analyses of those samples indicated WQCC Table 1 standards for fluoride were exceeded in two samples; WQCC Table 2 standards for manganese were exceeded in thirteen samples and for pH in one sample. Methane exceeded WQCC narrative standards in two samples collected from the Dolores water well during those sampling events.

Starting on October 24, 2006, and continuing into 2007, Pioneer arranged to pay Glibota to sample the Dolores water well on a regular basis and provide the laboratory results directly to Mr. and Mrs. Dolores.

On July 28, 2006, COGCC staff issued Notice of Alleged Violation (“NOAV”) #1393099 to Pioneer citing violations of the following rules:

a. Rule 324A.a., which requires an operator to take precautions to prevent significant adverse environmental impacts to water to the extent necessary to protect human health, safety and welfare by using cost effective and technically feasible measures to protect environmental quality and to prevent the unauthorized discharge of oil, gas, chemical substances, or exploration and production waste; and

b. Rule 324A.b., which prohibits an operator from performing any act or practice in the conduct of oil and gas operations that constitutes a violation of water quality standards or classifications established by the WQCC for waters of the state.

The NOAV required Pioneer to develop a Site Investigation and Remediation Workplan (the “Plan”) to address water quality impacts, to develop metrics to be used to monitor and measure effectiveness of the Plan, and to develop secondary goals and objectives if initial objectives could not be reached. The NOAV also required Pioneer to complete and submit an investigative report (“Report”) on the cause of the upset drilling conditions and identification of standard operating practices that could be implemented to reduce potential for additional upsets.

August 4, 2006, Pioneer met one of the corrective action deadlines by submitting the Plan. The Plan included a description of tasks to investigate, monitor and mitigate the impact to the Dolores water well.

On August 16, 2006, Pioneer submitted the Report. The Report stated that some deviations from standard oil field drilling procedures were found during their investigation of the incident. In this case the contract drillers continued drilling operations after a compressor failure and continued to drill while working on the equipment. The standard practice would be to pull drilling pipe back to a safe zone which would typically be inside casing or out of the borehole if casing has not been set.

Pioneer had offered to replace the Dolores water well and asked Mr. and Mrs. Dolores to select a water well contractor. On September 5, 2006 Boday Drilling was contracted to replace the Dolores water well. On September 13, 2006 drilling of the new water well began and was finished on September 16, 2006 to a total depth of 440 feet. The well was completed on September 21, 2006. Subsequent water analysis showed the well to produce good quality, potable water but at a yield lower than the original water well.

To ensure consistent water quality, Pioneer paid for a water treatment system selected by Mr. and Mrs. Dolores to be installed on their water well. Mr. and Mrs. Dolores chose a system that includes carbon filtration and reverse osmosis. Tests conducted for Mr. and Mrs. Dolores by Glibota and paid for by Pioneer, showed the post-treatment water from the new well meets Regulation 41 standards for groundwater. Additional water quality analysis conducted by Glibota on Mr. and Mrs.

Dolores water well on March 7, 2007 and on May 8, 2007, and paid for by Pioneer, verified that Mr. and Mrs. Dolores are continuing to receive water that meets Regulation 41 standards from their water well and treatment system.

Pioneer has performed all requirements of the Plan in a timely manner. Pioneer continued to implement the monitoring and mitigation described in the Plan until October 24, 2006 and to the extent allowed by site conditions. Water quality data for samples collected on October 24, 2006 by NAH on behalf of Pioneer indicated that most numerical standards were within the WQCC Regulation 41 ground water standards, with only manganese (detected at 0.16 mg/l) exceeding WQCC Table 2 standards (0.05 mg/l). Further, Pioneer conducted additional monitoring and mitigation after October 24, 2006, including the installation of the water treatment system for Mr. and Mrs. Dolores described above.

Pioneer acknowledges that drilling the borehole for the surface casing of the initial Molokai #13-36 TR Well resulted in adverse impacts to the water quality in the Dolores water well beginning on July 19, 2006.

Based on the above findings, COGCC Staff recommends that Pioneer be found in violation of the following rules at the Molokai #13-36 TR Well site:

a. Rule 324A.a., for failure to take precautions to prevent significant adverse environmental impacts to water resources to the extent necessary to protect public health, safety and welfare; and

b. Rule 324A.b., for performing an act or practice that constituted a violation of WQCC water quality standards.

Rule 523. specifies a base fine of One Thousand dollars (\$1,000) for each day of violation of Rule 324A.a. Pioneer failed to take precautions to prevent significant adverse impacts to water resources at the Molokai #13-36 TR Well. Adverse impacts to water quality were first observed on July 19, 2006. Pioneer effectively removed the source of the adverse impacts to water quality by plugging and abandoning the Molokai #13-36 TR well on July 21, 2006. For purposes of this AOC, COGCC Staff have calculated a base fine of Three Thousand dollars (\$3,000), based on three days of violation of Rule 324Aa. If the NOAV is not resolved by consent, COGCC Staff reserve the right to present evidence demonstrating that the duration of the violation was more than three days.

Rule 523. specifies a base fine of One Thousand dollars (\$1,000) for each day of violation of Rule 324A.b. Thirteen samples from the Dolores water well taken over a 97-day period (July 20-October 24, 2006) contained manganese concentrations in excess of WQCC Table 2 standards, which is a violation of Rule 324A.b. During that time period, WQCC Table 2 standards for pH and WQCC Table 1 standards for fluoride were exceeded at least six days (July 20-24 and September 26, 2006). During that time period, the WQCC narrative standard for methane was exceeded for at least three days (July 23-24 and October 24, 2006). For purposes of this AOC, COGCC Staff have calculated a base fine of Fourteen Thousand dollars (\$14,000), based on fourteen days of violation of Rule 324A.b. If the NOAV is not resolved by consent COGCC reserves the right to present evidence that the base fine should be higher than \$14,000 based on the number of different WQCC standards that were exceeded by different groundwater constituents, and the frequency and duration of those violations.

A total base fine of Seventeen Thousand dollars (\$17,000) should be assessed against Pioneer for violations of Rule 324A.a. and Rule 324A.B. that resulted in impacts to the Dolores water well.

In accordance with Rule 523.d. the calculated base fine can be reduced if there are mitigating factors. The mitigating factors in this matter are as follows: (1) Pioneer responded promptly to the violations, and investigated and remediated environmental impacts, (2) Pioneer cooperated with the COGCC with respect to the violations, and (3) the costs of correcting the violation reduced or eliminated the economic benefit to Pioneer. Based on these mitigating factors, the total base fine of Seventeen Thousand dollars (\$17,000) should be reduced by twenty percent (20%), resulting in a recommended fine of Thirteen Thousand, Six Hundred dollars (\$13,600). If the NOAV is not resolved by consent, COGCC reserves the right seek the full amount of the base fine without reduction for the factors described above or any other facts or circumstances.

Rule 523.a.(3) specifies that "the maximum penalty for any single violation shall not exceed Ten Thousand dollars (\$10,000) regardless of the number of days of such violation," unless the violation results in significant waste of oil and gas resources or "a significant adverse impact to public health, safety, or welfare." Pioneer does not admit liability for causing significant adverse impact on

public health, safety or welfare. However, to resolve this matter without the necessity of an extended contested hearing, Pioneer agrees to pay the adjusted fine amount.

On December 23, 2009, COGCC staff issued an Administrative Order by Consent ("AOC") to Pioneer Natural Resources USA, Inc. for violation of Rule 324A.a. for not taking adequate precautions to prevent significant adverse environmental impacts to water resources, as described above, and Rule 324A.b. for violating the Water Quality Control Commission's Basic Standards for Ground Water, as described above, at the Molokai #13-36 TR Wellsite located in the NW¼ SW¼ of Section 36, Township 32 South, Range 68 West, 6<sup>th</sup> P.M., proposing a fine of Thirteen Thousand Six Hundred dollars (\$13,600) for violation of the rules. On January 8, 2010, Pioneer Natural Resources USA, Inc. agreed to and accepted the AOC, including the fine of Thirteen Thousand Six Hundred dollars (\$13,600).

NOTICE IS HEREBY GIVEN, that the Oil and Gas Conservation Commission of the State of Colorado, pursuant to the above, has scheduled the above-entitled matter for hearing on:

Date: Monday, February 22, 2010  
Tuesday, February 23, 2010  
Time: 9:00 a.m.  
Place: Suite 801, The Chancery Building  
1120 Lincoln Street  
Denver, Colorado 80203

In accordance with the Americans with Disabilities Act, if any party requires special accommodations as a result of a disability for this hearing, please contact Margaret Humecki at (303) 894-2100 ext. 5139, prior to the hearing and arrangements will be made.

Pursuant to said hearing in the above-entitled matter at the time and place aforesaid, or at any adjourned meeting, the Commission will enter such orders as it deems appropriate to protect the health, safety and welfare of the public and to prevent the waste of oil and gas, either or both, in the operations of said field, and to carry out the purposes of the statute.

**In accordance with Rule 509., any interested party desiring to protest the granting of the application or to intervene on the application should file with the Commission a written protest or intervention no later than February 5, 2010, briefly stating the basis of the protest or intervention.** Such interested party shall, at the same time, serve a copy of the protest or intervention to the person filing the application. An original and 13 copies shall be filed with the Commission. **Anyone who files a protest or intervention must be able to participate in a prehearing conference during the week of February 8, 2010.** Pursuant to Rule 503.f., if a party who has received notice under Rule 503.b. wishes to receive further pleadings in the above-referenced matter, that party must file a protest or intervention in accordance with these rules.

IN THE NAME OF THE STATE OF COLORADO

OIL AND GAS CONSERVATION COMMISSION  
OF THE STATE OF COLORADO

By \_\_\_\_\_  
Carol Harmon, Secretary

Dated at Suite 801  
1120 Lincoln Street  
Denver, Colorado 80203  
January 21, 2010