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

IN THE MATTER OF CHANGES TO THE RULES OF PRACTICE AND PROCEDURE OF THE OIL & GAS CONSERVATION COMMISSION OF THE STATE OF COLORADO	))))	Cause No. 1R DOCKET NO. **1211-RM-03**

SHELL OIL COMPANY'S ALTERNATIVE PROPOSED RULE

Shell Oil Company (Shell), by and through the undersigned counsel, and pursuant to the Notice of Rulemaking Hearing issued by the Colorado Oil and Gas Conservation Commission (COGCC) on October 15, 2012, hereby submits its Alternative Proposed Rule in the above-captioned matter, attached hereto.

Submitted this 9th day of November, 2012.

SHELL OIL COMPANY

By:_____

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CERTIFICATE OF SERVICE

I hereby certify that on November 9, 2012, the **ALTERNATIVE RULE PROPOSAL OF SHELL OIL COMPANY** was filed electronically at:

DNR_cogcc.rulemaking@state.co.us

With an additional electronic copy to:

Robert.Frick@state.co.us

In addition, on November 13, 2012, hard copies will be delivered, as follows:

Original and 13 copies:
Robert Frick, Hearings Manager **VIA COURIER SERVICE**
Docket No. 1211-RM-04
Oil and Gas Conservation Commission
1120 Lincoln Street, Suite 801
Denver, CO 80203

Single copy:
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Colorado Department of Law **VIA COURIER SERVICE**
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SERIES SAFETY REGULATIONS

609. STATEWIDE GROUNDWATER BASELINE SAMPLING AND MONITORING:

a. Definitions:

ACTIVE DRILLING AND COMPLETION shall mean the period of time beginning with the commencement of drilling the initial well on a multi-well site and during which drilling or completion activities are occurring, with no more than a 12-month period of continuous inactivity in drilling or completion.

AVAILABLE WATER SOURCE shall mean a water source for which the water well owner, owner of a spring or a land owner, as applicable, has given consent for sampling and testing under this section and has given consent for the results of the sampling and testing to be posted on the COGCC website.

MULTI-WELL SITE shall mean a common well pad from which multiple wells may be drilled to various bottom-hole locations.

WELL SITE shall mean the areas that are directly disturbed during the drilling and subsequent operation of, or affected by production facilities directly associated with, any oil well, gas well, or injection well and its associated well pad.

WATER SOURCE shall mean water wells that are registered with Colorado Division of Water Resources, including household, domestic, livestock, irrigation, municipal/public and commercial wells, permitted or adjudicated springs, and monitoring wells other than monitoring wells that are drilled for the purpose of monitoring water quality changes that are not associated with oil and gas activities.

REASONABLE EFFORTS shall mean a notice that shall be included as part of the Form 2A notice and at least two letters sent by certified mail to any landowner or owner of water source eligible for sampling and testing under this program, as applicable. If a landowner or water source owner does not respond to the 2A notice or the first letter within 30 days, the operator shall send the second letter. Whether or not the landowner or water source owner does not respond to the second letter within 30 days, the operator shall be considered to have made a reasonable effort.

b. Applicability

Except coalbed methane wells, which are subject to Rule 608, new oil and gas well sites and multi-well sites shall be subject to the groundwater baseline sampling and monitoring requirements contained in this section.

c. Sampling

1. Initial baseline samples and subsequent monitoring samples shall be collected from all available water sources within a one-half (1/2) mile radius of the well site or multi-well site.

2. If at least one up-gradient and two down-gradient water sources are not available within the ½ mile radius of the well site or multi-well site, samples from additional water sources within a radius of up to one mile from the well site or multi-well site shall be collected until samples from a total of at least one up-gradient and two down-gradient water sources are collected. Operators should give priority to the selection of water sources closest to the well site or multi-well site. Where multiple defined aquifers are present, the sampling locations should attempt to sample from the different aquifers when possible.

3. Prior to the collection of samples, the operator shall obtain the consent of the owner of the water source to (1) access the water source for collection of baseline and monitoring samples and (2) submit the results of the testing of the samples to the Commission for public posting on the Commission website.

4. If, after reasonable efforts, the operator is unable to locate and obtain permission to access at least one up-gradient and two down-gradient water sources for sampling within one mile of the well site or multi-well site, no additional sampling is required. The operator shall submit to the Commission a signed certification from the authorized agent of the operator that reasonable efforts to locate and access the required water sources were undertaken by the operator, but that such efforts were unsuccessful. The certification shall include details noting the dates on which letters were sent to the landowner or owner of the water source, as applicable, and shall note any additional measures that were taken to secure consent, such as phone calls, in-person contact, etc. If an operator is given permission to sample a water source and identifies the water source as being unsuitable for sampling and testing, the operator shall detail the relevant conditions of the water well that render it unsuitable for sampling and shall include that information in the certification.

5. All sampling shall be conducted pursuant to the requirements and protocols of the Sampling and Analysis Plan (SAP) contained in Appendix XX, unless the operator receives approval from the Director to deviate from such requirements and protocols

after submitting a request for deviation in writing citing the circumstances that render compliance with the SAP technically infeasible or demonstrating that a deviation would improve the quality of the data collected. If during the course of conducting sampling activities an operator or its agent encounters conditions in the field that require deviation from the SAP, prior approval from the Director for deviation from the SAP shall not be required. In such cases, the operator shall note such deviations on Form XYZ.

6. An operator may rely on existing groundwater sampling data collected from any water source within the radii described above, provided the data was collected within the 12 months preceding the commencement of drilling the well, the data includes measurement of all of the constituents measured pursuant to the SAP attached hereto as Appendix XX and samples were collected and analyzed in a manner consistent with such SAP, and there has been no significant oil and gas activity within a one-mile radius in the time period between the original sampling and the commencement of drilling the well.

7. Operators are not required to take samples from water sources that are determined to be improperly maintained, nonoperational or otherwise unsuitable for sampling and testing.

8. Nothing in this section shall prohibit an operator from collecting samples from additional water sources or from sources that do not meet the requirements of this section, including samples for which a landowner or water source owner will not consent to public posting of the sampling and testing data; provided, however, that any collected samples that do not meet all of the requirements of this section, including requirements for public posting of data, shall not count toward satisfying the requirements of this section.

d. Alternative Compliance Measures

1. Operators may propose, for prior approval by the Director, an alternative sampling program in the event that there is an exceptionally large number of available water sources within a ½ mile radius of the well site or multi-well site or if other conditions exist that would justify a modification in order to improve the efficacy of the sampling program. In such cases, the Director shall ensure that any modifications to the sampling program:
    i. Take into account hydrogeologic conditions and ensure that an adequate number of suitable water sources are sampled upgradient and downgradient

from the well in order to assure that any significant changes in water quality will be detected; and

ii. Provide opportunities for landowners or owners of water sources, as applicable, who are similarly located with respect to the well site or multi-well site to be included in the sampling and testing program.

e. Timing of Sampling

1. Well Sites:
    a. Initial collection and testing of baseline samples from available water sources shall occur within 12 months prior to the commencement of drilling a well, or within 12 months prior to the re-stimulation of an existing well for which no samples were collected and tested during the previous 12 months.
    b. Post-stimulation samples of available water sources shall be collected and tested pursuant to the following time frame:
        i. One sample between 6 and 12 months after completion; and
        ii. One sample between 60 and 72 months after completion.

2. Multi-Well Sites:
    a. Initial collection and testing of baseline samples from available water sources shall occur within 12 months prior to commencement of drilling the first well.
    b. Collection and sampling from available water sources shall occur annually during active drilling and completion.
    c. Post-completion samples of available water sources shall be collected and tested pursuant to the following time frame:
        i. One sample between 6 and 12 months after completing the final well; and
        ii. One sample between 60 and 72 months after completing the final well.

3. Results from sampling and testing shall be provided to landowners and water sources owners, as applicable, and to the Commission pursuant to the schedule established in Appendix XX.

4. Additional sampling may be required by the Director in response test results that show changes in water quality or in response to complaints from landowners or water source owners, as applicable, of a distinct or measureable change in water quality, such as a change in odor, color, taste or turbidity. Nothing in this section shall be construed to limit existing Commission authorities.

f. Liability

This section shall not be interpreted to create, impute to or limit the liability of, operators for changes in the constituents and concentrations in samples from water sources collected and tested pursuant to this section. The admissibility and probity of the results of tests conducted pursuant to this section in an administrative or legal proceeding shall be subject to existing administrative rules and rules of evidence.

Appendix A
Sampling and Analysis Plan
Rule 609 Statewide Groundwater Baseline Sampling and Monitoring

1.0 Program Guidelines

The SAP presents instructions for oil and gas operators and their consultants and contractors to follow when collecting groundwater data as part of Rule 609. The procedures for groundwater sampling presented herein have been developed to ensure the groundwater samples are collected and analyzed in a consistent manner and will accurately represent conditions at the site.

The primary objective of this SAP is to identify proper field data collection and data management procedures to:

- Provide consistency in data collection;
- Allow uniform and efficient data handling and transfer; and
- Provide clear documentation of sample locations, field procedures, and analytical methods.

2.0 DATA COLLECTION PROCEDURES

This section describes the procedures to be used when collecting water quality data under the Program. Procedures described in this section include: selection of sampling locations, field preparation/mobilization, sampling of wells and springs, equipment decontamination, analytical program and quality assurance, sample handling and shipment, personal protective equipment, documentation, and sample point global positioning system (GPS) coordinate documentation.

2.1 Selection of Sampling Locations

The Division of Water Resources (DWR) of the Colorado Department of Natural Resources (DNR) maintains records of permitted water wells and some springs that may be used to identify candidate sampling locations. This information may be accessed in several ways:

1. The records may be downloaded directly from the DNR website (http://www.water.state.co.us/DataMaps/GISandMaps/Pages/GISDownloads.aspx) for use in a Geographic Information System (GIS) software program.

2. The records may be accessed using DNR's online mapping tool, AquaMap (http://www.water.state.co.us/DataMaps/GISandMaps/AquaMap/Pages/default.aspx). AquaMap can be used to develop customized figures showing a wide variety of data, including:

- Permitted water wells registered with DNR
- Seeps and springs
- U.S.G.S. topo quads showing topography, surfaces water features, and springs
- Oil and gas wells recorded by COGCC
- Aerial imagery

3. The well records may be accessed directly from DWR's search tables located at http://www.dwr.state.co.us/waterwellpermitsearch/default.aspx.

The COGCC maintains a web based GIS mapping tool (GIS Online 2010 Prototype) that displays locations of facilities where samples have been collected and whose data have been uploaded into the COGCC Environmental Database. COGCC's mapping tool also links to the DWR database. It can be accessed by clicking on the Maps link on the left column of the COGCC website (http://www.cogcc.state.co.us). This mapping tool identifies DWR water wells, oil and gas wells, and other related information.

The COGCC GIS application must be checked to determine if a current facility ID is associated with a planned sample location. If no current facility ID exists then a new facility ID must be generated in the COGCC Environmental Data application for data to be successfully uploaded to the database.

The U.S. Geological Survey (USGS) also maintains seep and spring data. These data are contained within the National Hydrography Dataset GIS data for Colorado, which can be downloaded at ftp://nhdftp.usgs.gov/DataSets/Staged/States/ for use in a GIS software program.

From these sources, candidate sampling locations may be identified. Preference should be given to sampling locations which are closest to the well pad, provided reasonable access can be obtained. Existing information from water well data or other sources of hydrogeologic information (USGS, CGS, DNR, etc.) should be reviewed, including groundwater depth and flow direction, when selecting the well locations for sampling.

It is preferable to select wells that are in good condition and being maintained by the well owner in order to produce data that are more representative of the ground water quality in the water- bearing zone.

Springs may be used as sampling locations, but may have reduced flow in certain seasons. This may result in sample timing limitations. Data from springs are likely to be more representative of the uppermost portion of the water-bearing zone than deep water wells.

Land owner contact and approval, along with field reconnaissance will be required to confirm the candidate sampling points are accessible, in suitable condition, and otherwise appropriate for inclusion in the monitoring program. Informal contacts with nearby land owners may also be used to identify water wells that are not currently registered with the DWR and may serve as appropriate sampling locations. However, operators are not obligated to conduct an extensive search for non-registered wells. Operators may deem unregistered wells to be unsuitable based on lack of use and/or poor well conditions or maintenance.

Final locations for sampling will be selected by the operator or its consultant or contractor.

2.2 Field Preparation and Mobilization

Field preparation and mobilization includes tasks that must be conducted prior to the start of field activities. Tasks included in field preparation are:

- Obtain executed access agreements from affected landowners;
- Determine if the sampling location has a COGCC Facility ID number. If not, access the COGCC website and obtain a Facility ID for the sampling location;
- Contact the landowner or tenant to schedule the sampling event and reconfirm the day before sampling;
- Procure all necessary field instruments and sampling equipment, including pre-cleaned sample containers and required sample preservatives from the laboratory; and
- Develop a program-specific Health and Safety Plan for field personnel.

2.3 Sampling Procedures

All groundwater samples (baseline, post-completion and complaint response) will be analyzed for each of the constituents listed on Table 1.

It is recommended that sufficient sample volumes be collected for both the Basic Analysis and the Compositional Analysis in a single sampling event so that sampling crews do not need to return to the sampling location. The laboratory should be instructed to initially perform only the Basic Analysis. If dissolved methane is found at a concentration greater than 1 mg/L in the Basis Analysis, the Compositional Analysis shall be performed. The laboratory should be directed to complete the Basic Analysis in a timely fashion so that the sample hold time limits for the Compositional Analysis are not exceeded.