

## **Protecting Public Health, Safety & Welfare in the Conduct of Oil and Gas Operations**

### **Proposed Rulemakings Related to HB 07 – 1341**

*August 31, 2007*

The passage of HB 1341 by the 2007 Legislature requires the Colorado Oil & Gas Conservation Commission (COGCC) to promulgate rules with the Colorado Department of Public Health and Environment (CDPHE) to specifically protect the health, safety, and welfare of the general public in the conduct of oil and gas operations.

A number of organizations who work with impacted citizens and communities in Colorado have discussed possible health and environment rulemaking topics. The following list represents a preliminary set of potential rule changes, with a level of specificity that we hope will be useful to agency personnel as we move forward in the rulemaking process. Where possible, we have tried to provide the rationale and specific examples of where these changes have already been implemented.

Priority rulemakings for the COGCC in this context include:

**1. Full disclosure of all ingredients used in drilling, completion, gas processing and fracturing processes to establish an inventory. This includes every chemical used and the quantity and concentration of chemicals used.**

Colorado communities need chemical disclosure in advance of commencement of operations in case there is an unplanned release to water, soil or air. Additionally, this type of disclosure would allow for targeted monitoring of those chemicals used, rather than trying to monitor for a wide range of potential chemicals. Therefore, the COGCC should promulgate a rule that:

A. Requires all operators to provide a list of the constituents of all substances used in the exploration and production of oil and gas on a per well basis.

B. Maintain a database of all these constituents used in the exploration and production of petroleum products in the state. In addition to the name of

each constituent, the quantity and concentration should also be included. This information should be compiled by the COGCC in a database that is available online and in hardcopy to the public.

Example: In Klickitat County, Washington, the operator (who also operates in Colorado) conferred with the well service company to provide a list of chemicals up-front, committed to update the list if other chemicals were subsequently used and agreed not to use diesel in hydraulic fracturing and not use 2-BE at all. This language is attached (Attachment 1).

## **2. Centralized Exploration and Production (E&P) facilities**

The COGCC should amend the rules governing commercial and non-commercial centralized evaporative E&P waste facilities to create a preference for underground slurry injection of exploration and production wastes, so long as the geology of a particular area allows this method to be safely undertaken. Where geology prohibits underground slurry injection, evaporative waste pits could then be utilized, provided the operators accept only produced water from companies that utilize non-toxic fracking fluids and supply a register of all chemicals used in their drilling operations.

The Colorado Department of Health's Solid and Hazardous Waste Commission (SHWC), whose rules in this area are generally more protective of public health and environment, should have regulatory authority over all centralized E&P waste facilities, including those now regulated under COGCC Rule 908, and all such facilities should be considered Class I facilities, as treated by SHWC regulation.

Furthermore, SHWC's current regulations for these facilities should be strengthened by requiring that any such disposal facility be located at least one mile from any home. Additionally, these waste facilities should be located at least one mile from any surface water so that the risk of the pit's waste contents are unlikely to be released to this surface water.

Additional specific monitoring and construction measures for SHWC regulations that better mitigate impacts to public health, ground water, and other environmental ramifications that may result due to the type and concentration of the pit's specific contents should be added. More detail is provided regarding this proposal in the attached (Attachment 2).

## **3. Setbacks of well sites and other facilities (i.e., evaporation pits, compressor stations) from domestic structures**

Setbacks of well sites and other facilities should mirror the current high density/low density structure in the current COGCC regulations. Domestic structure setback should require 300 to 400 feet within municipalities and at least 1000 feet in rural areas, for wells. Larger facilities like compressors and evaporation pits should be set back at least 1320 feet. For any wells that do not meet the 1320 foot setback from a domestic structure, the COGCC should apply specific criteria that will ensure the mitigation of public health impacts.

Examples: The State of Maryland and municipalities such as Flowermound and Beaumont, TX have 1000 foot setbacks from various types of domestic structures.

Please see:

The Code of Maryland Regulations, Title 26. Department of Environment. Section 19.01.09 Oil and Gas Resources, "[Criteria for Approval of Drilling and Operating Permit.](#)"

Land Development Code, City of Coffeyville. Chapter 3.1 Oil and Gas Drilling and Production. [Section 3.1-145D.](#)

<http://www.flower-mound.com/news/StakeholderPublicMeeting6-29-06.pdf>

#### **4. Production Pits: Require closed loop/pitless drilling systems and tanks in lieu of pits; prohibit unlined pits; and ensure proper testing for contamination before closure.**

Between 2002 and 2006, the COGCC database lists 924 oil and gas spills, of which nearly 200 affect either surface or groundwater. One of the largest risk factors having a bearing on releases that can impact surface and groundwater is the use of pits during drilling operations. The presence of relatively large volumes of fluid, containing contaminants, represents a significant risk that contamination will occur. Therefore, the COGCC should revise its 900 series rules, and specifically rules 902 – 905, to require pitless drilling in some areas, prohibit the use of unlined pits and ensure proper testing for contamination before closure of a pit.

Example: The New Mexico Oil Conservation Division is currently in the process of finalizing the revision of its statewide pit rule. Relevant language from the draft New Mexico pit rule is attached (Attachment 3).

#### **5. Municipal watershed ordinances.**

The cities of Grand Junction and Palisade have each passed watershed ordinances that address activities that may impact municipal water supplies. In addition, the City of Raton, New Mexico is currently involved in discussions with an operator regarding CBM drilling in their municipal watershed, a significant portion of which is located in Colorado. The CDPHE recently recognized the value of the Grand Junction ordinance and plans to post it on its website as a model for other source water planning efforts. Therefore, the COGCC should recognize in its rules the validity of these watershed ordinances and should explicitly support the concurrent authority of municipalities in the area of municipal source water protection.

Example: The City of Lovington, New Mexico has passed an ordinance which requires leakage surveys, additional accident/spill reporting and prohibits the use of pits within its water facilities field. (Attachment 4)

**6. Require testing and characterization of all ground water and require casing to protect all potable ground water sources. Require operators to test well water near drilling operations.**

Operators drilling on federal land are required by federal regulation to test all ground water they encounter and to protect potable ground water sources with cement casing. The COGCC current regulations do not require this level of ground water protection.

An applicant for an APD should be required to offer to pay landowners to obtain independent testing of all water wells and other water sources for BTEX, methane and other VOCs within two miles of a proposed gas well. This testing would have to be done before drilling. A follow-up test should be conducted after the drilling is completed upon request of the surface owner. In La Plata and Garfield County, wells that have provided clean drinking water for decades suddenly became contaminated with methane after gas wells were located near their water wells. Because the landowners did not have baseline testing of their water quality, the industry took the position that the explosive levels of methane had always been in their water and therefore they were under no obligation to compensate those landowners or fix the problems they were experiencing with the water.

The COGCC has required baseline monitoring of water quality in the Ignacio-Blanco field in La Plata, County. In order to appropriately protect the public health and environment, the COGCC needs to have baseline data against which to compare, in the event of any release from an oil or gas facility. The current practice of sporadically monitoring after the fact is not protective of public health and the environment. Therefore, baseline water quality

monitoring on a quarterly basis in all fields where oil and gas exploration and development is taking place should be a standard requirement.

Example: Ignacio-Blance field order <http://www.oil-gas.state.co.us/orders/orders/112/180.html>

### **7. Storm water regulations and penalties should be consistent between the COGCC and WQCD.**

Currently there are two sets of storm water regulations in the state: The COGCC rules and the WQCD rules. The WQCD requires the operator to get a storm water permit. The COGCC does not. We encourage the COGCC to drop their storm water rules or make them consistent with the more thorough WQCD rules.

It simply does not make sense that there would be two different sets of state rules for the same issue. The current situation is akin to having two speed limits and two sets of penalties for speeders – one for the state patrol and one for the county sheriff. The state needs to have consistent regulations. Anything less is unfair to the state inspectors and to those that are being regulated.

### **8. Assess whether reclamation bonds reflect the actual cost of cleaning up and properly plugging and abandoning well sites and other oil and gas facilities.**

COGCC should conduct a study, together with relevant sister agencies, to determine the true costs of proper reclamation of oil and gas wells. The results of this study should then be used to establish a new bonding schedule that reflects these costs.

### **9. All fluids used in the drilling process should not be toxic, hazardous or carcinogenic.**

The COGCC should require that operators not use any drilling or fracturing chemicals that have been shown to cause adverse health impacts to humans.

### **10. Emergency response coordination with CDPHE and local emergency teams. Emergency service providers should receive adequate training, equipment and funding to be able to respond to oil and gas related accidents. MOA with WQCD needs to be terminated or modified.**

The COGCC needs to have better communication, and establish response protocols, with county emergency personnel including county health departments. In 2004 natural gas was found bubbling up into the Divide Creek near Silt, CO. Property owners, who were justifiably concerned about the impacts to human health, notified the Garfield County Health Department. A staff member from County Health arrived at the scene only to be later reprimanded by COGCC staff and told that they "had no jurisdiction" in that case because it involved pollution of surface water.

The MEMORANDUM OF AGREEMENT Between the Water Quality Control Division and the Oil and Gas Conservation Commission Response to Spills/Releases to Surface Water states:

**Article III, Section 3.03.** This Agreement is intended to recognize the OGCC as the lead agency for reporting, response, remediation and enforcement action related to spills/releases to surface waters from oil and gas operations that do not constitute a violation of an existing CDPS permit. For any spill/release that enters or threatens to impact surface waters of the state the OGCC will coordinate reporting, response, remediation and enforcement with the WQCD.

This MOA needs to be terminated or modified to allow for health personnel to respond in the event of an accident or discharge near homes or where there is a real or perceived threat to human health.

The COGCC also has an obligation to develop working relationships and response protocols with county emergency personnel. The accident on March 9, 2007 at Dee Hoffmeister's home in Garfield County near the Town of Silt is a recent example of poor coordination between the Garfield County emergency personnel and the COGCC. A condensate tank that was approximately 450 feet from Dee Hoffmeister's home exploded and fire was shooting an estimated 130 feet into the air for over a half hour. The local fire department responded but never contacted the COGCC about the incident. It was later reported to the COGCC by a neighbor and a notice of alleged violation was issued.

The COGCC should immediately work to develop materials and provide training for local emergency personnel so they will be better able to safely respond to oil and gas related accidents. There also needs to be an expectation that emergency service personnel will contact the COGCC so they may take appropriate corrective action with the operator.

Emergency response crews in the gas patch are currently in the position of having to ask the industry to donate money to fund additional personnel and equipment that are needed to enable them to respond in the event of an oil and gas related emergency. The DNR and COGCC should propose legislation to ensure these mostly volunteer departments are receiving additional state money (from oil and gas revenues, increased fees, fines, etc) to enable them to respond to an emergency.

## **12. Reduction in the number of inactive, noncompliant and orphaned wells.**

Recent events in La Plata County and in the Raton basin demonstrate the financial and environmental risks posed by abandoned oil and gas wells in the state. A first step towards reducing the number of such wells would be to reduce the number of wells that are inappropriately inactive or noncompliant with COGCC rules. Therefore, the COGCC should amend Rule 303 to require that an operator may not receive an APD where it has a significant number of wells that have been inactive for more than a year, or have been improperly abandoned.

Example: In 2005, the New Mexico OCD enacted a new compliance and enforcement rule which lowered the number of noncompliant wells by nearly 50% within one year.

## **13. Suspension of permitting rights for operators that have numerous environmental, public health and wildlife violations. Fines for violations of COGCC rules need to be increased.**

EnCana Oil and Gas was fined nearly \$400,000 for the improper casing and fracking that resulted in the Divide Creek Seep. At the time that was the equivalent of just over two months income from that one well. EnCana was allowed to participate in a process to choose local projects that the money could go to. As a result, EnCana was seen by the public as handing out grants rather than as a company who was fined for violating COGCC rules and causing a significant release of contaminants into the environment. Yet, that same year EnCana had over 30 NOAVs in that same region.

The COGCC has the responsibility to both raise financial penalties to a level that will encourage better compliance with their regulations and to take away the ability for operators to receive additional APDs if they have repeated environmental, public health or wildlife violations.

**14. Reduce oil and gas noise limits in rural, agricultural and residential areas to 45 decibels.**

A provision of the COGCC’s December 2005 noise rule reduced oil and gas noise to 45 decibels in rural, agricultural and residential areas, yet this provision was removed in September 2006.

There are adverse physical and mental effects from noise warrant the reinstating of this rule such that oil and gas noise in rural, agricultural and residential areas is limited to 45 decibels.

**Attachment 1.**

**PROJECT CONDITIONS**

	<b><i>GEOTECHNICAL<sup>1</sup></i></b>
1.	All structural foundations, buildings, and structures will be designed in accordance with the applicable seismic zone requirements (currently Seismic Zone C).
	<b><i>EROSION/DUST CONTROL/STORMWATER</i></b>
2.	Drainages in the Project area will be crossed using existing road crossings, and, if required, existing culverts will be replaced to accommodate storm events consistent with the Eastern Washington Stormwater Manual. The Project will use or upgrade existing roads where possible and minimize construction of new access roads.
3.	Drainage ditches, culverts, and stormwater facilities will be designed for year round conditions including winter snowmelt factors.
4.	Avoid clearing and grading during wet seasons or period of rainy weather.
5.	Water or other dust suppressant measures will be used, when and where appropriate.
6.	All exposed soil surfaces that are not being actively used during construction will be protected by biodegradable erosion-control mats (areas of high winds), weed-

<sup>1</sup> These subheadings do not necessarily reflect all issues the condition is aimed to address, but are designed only for ease of reference.

	free straw or soil tackifier.
7.	Stockpiled soils will be removed or protected from wind and rain consistent with Best Management Practices, which include covering or hydroseeding and use of a soil tackifier.
8.	A water truck will be maintained on-site during construction for dust suppression.
9.	Provide a minimum of 6 inches (15 cm) of gravel surface on new Project roads to reduce wind erosion, where necessary.
10.	Traffic speeds on unpaved roads will be limited to 25 miles per hour to minimize dust generation.
11.	Prior to construction, and before building permits are issued, a stormwater drainage system will be designed in consultation with a professional engineer and submitted to the Planning Department. Construction will proceed in compliance with the design.
12.	A construction stormwater management plan, including a Stormwater Pollution Prevention Plan, will be implemented concurrent with construction and submitted to the County before building permits are issued. Prior to restoration activities, the construction stormwater pollution prevention features will be redesigned to function as permanent stormwater management components of the Project.
13.	After all earth-disturbing activities are complete, the Project site will be monitored for erosion on a bi-weekly basis or after large rainfall or snowmelt events and corrective action taken, as needed.
	<b><i>WILDLIFE HABITAT/PLANTS</i></b>
14.	A contractor training program will be conducted before groundbreaking to explain restrictions protecting wildlife, habitat, and critical area features in or near the construction zone.
15.	The Project will limit construction disturbance by flagging the perimeter of the well site and access roads.
16.	Monitoring will be conducted during construction activities.
17.	After construction, the Project site will be gated to prevent unauthorized public access as necessary to secure the site.

	<i><b>SITE RESTORATION/WELL COMPLETION</b></i>
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18.	<p>A Restoration Plan shall be prepared prior to issuance of building permits. At minimum, the Restoration Plan shall address the following requirements:</p> <ul style="list-style-type: none"> <li>• The Project will revegetate all disturbed areas in accordance with a reseeded/restoration and weed management plan to be developed and approved by the Klickitat County Weed Control Board, before building permits are issued and construction commenced. The plan shall be implemented and updated over the lifetime of the Project.</li> <li>• After construction, the site area will be graded to generally conform to previous contours. Permanent erosion control measures, such as water bars, will be installed as needed, and as the County requires.</li> <li>• Project site restoration will include maintaining access road width to the minimum area needed for maintenance access. As appropriate, areas of high wind or water erosion will be covered with biodegradable erosion control blanket.</li> <li>• All reseeded restored areas will be monitored for 5 years or until vegetation is reasonably established.</li> <li>• The well shall be drilled with water and water based drilling muds.</li> <li>• Mud pit waste shall be analyzed and handled consistent with the requirements of the Department of Natural Resources Oil &amp; Gas Permit issued for this project, however, at a minimum, analysis and handling shall comply with the following requirements: The solid/sludge fractions of the mud pit waste must be analyzed at a Washington Department of Ecology accredited lab. The liquid fraction will be evaporated on site. The solids fraction must be analyzed for the following analytes: total metals, including arsenic, barium, cadmium, chromium, lead mercury, selenium, and silver, chloride, sulfate, TDS, foaming agents, ph, nitrite/nitrate, dissolved oxygen, and total coliform bacteria. Additional parameters may be required after review of the SPC. If a surface film of oil is present, TPH including diesel and heavy oils will be analyzed. A Toxic Characteristic Leaching procedure (TCLP) must be conducted on the mud waste for the analytes as listed above and including TPH and oil and grease. The solids samples shall be taken as a composite sample of a minimum of 5 subsamples. The subsamples shall be taken in a line as a cross section that transects the mud pit from the point of discharge of the cuttings to the most distal extent of the pit. Each subsample shall penetrate the entire thickness of the solid fraction. Samples from the mud pits must be collected and tested in accordance with appropriate state and federal protocols. The samples must be submitted in accordance with the laboratory's QA/QC procedures and in sample containers provided by the lab. The results of the sample analyses from the solid/sludge fractions must be submitted to the Supervisor, the Washington Dept of Ecology and the County Health Dept. A fluids and solids</li> </ul>
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<sup>2</sup> The plan and all related correspondence to Ecology shall be submitted to John Stormon, Water Quality Program,

	<p>management plan shall be developed specifically for this project and approved by Ecology and DNR.<sup>2</sup> The County Planning Department shall be consulted and coordinated with throughout this process, and receive copies of all correspondence, reports, and test results prepared to address this condition. Test results shall be used to determine mud waste disposal methods. Testing, management, and eventual disposal of the mud waste shall be consistent with Chapter 344-12 WAC, and all other applicable regulations. The County shall review the fluids and solids management plan and be provided with comment and consultation opportunities with DNR and Ecology.</p>
<b><i>HEALTH AND SAFETY</i></b>	
19.	<p><u>Personal Safety:</u></p> <ul style="list-style-type: none"> <li>• Offer job-specific health and safety training, including cardio-pulmonary resuscitation, first aid, Occupational Safety and Health Administration training related to the work environment at a drilling rig, and a guidance manual on equipment inspection.</li> <li>• All personnel will have site- and job-specific safety and first aid training and, during construction, prior to initiating work, “tail-gate” safety briefings will be held.</li> <li>• First aid kits will be provided to each construction crew and at the construction laydown and fabrication yard.</li> <li>• During construction, a Project Safety officer will be designed to monitor construction activities and Project personnel provided with cell phones or radios to provide timely communication.</li> <li>• All safety training outlined above shall be repeated for new employees (including, but not limited to managers, supervisors, on-site contractors, and other workers) to ensure all personnel working on the site are adequately prepared to address emergency situations.</li> </ul>
20.	<p><u>Health and Safety Plans:</u></p> <ul style="list-style-type: none"> <li>• An operational Health and Safety Plan will be prepared that will include: emergency notification information, locations of first aid kits, fire extinguishers, location of emergency services, and, in addition to 911, key telephone numbers.</li> <li>• A Project construction Health and Safety Plan will be prepared by each construction contractor to ensure compliance with the state and federal health and safety laws and regulations cited above. All construction</li> </ul>

	<p>workers will be trained in and follow the Project Health and Safety Plan.</p> <ul style="list-style-type: none"><li>• The Health and Safety Plans will be filed with the Planning Department before building permits are issued and construction commences, and will be updated as necessary during the life of the Project.</li></ul>
21.	Portable restrooms will be used during construction. Restroom facilities provided during operation shall comply with state and local sanitation and septic requirements.

22.	<p><u>Fire and Explosion:</u> Prior to construction, and before building permits are issued, the Project will develop and implement a Fire and Explosion Protection Plan that addresses/requires the following, at minimum:</p> <ul style="list-style-type: none"> <li>• All on-site construction and service vehicles will be equipped with a fire extinguisher, shovels, and other fire-fighting equipment during the summer fire season.</li> <li>• Firefighting equipment shall be maintained at the site, including during construction. Such equipment shall include installed and portable fire fighting equipment and personal protective equipment. A large volume water pit shall be equipped with pumps and hoses such that it could be used for fire fighting in emergencies.</li> <li>• Medical or personal injury could occur from accidents on heavy equipment, exposure to dangerous waste, etc. In any event, first aid would be given onsite (all manager, supervisors and lead personnel will be trained in first aid, including CPR) and an ambulance called immediately. Immediate medical care would be provided at area hospitals. If necessary, further medical care will be provided at larger hospitals. In emergency situations, transportation by plane or helicopter would be arranged.</li> <li>• Smoking will be restricted to designated outdoor gravel-covered areas.</li> <li>• Provides contact information for the company who will be called to address a blow out situation, and outlines standard procedures for addressing.</li> <li>• Lists contact information for the government agencies responsible for road closures and evacuations, and provides for coordinate regarding same.</li> <li>• All relevant phone numbers for emergency contacts and proximate residences shall be maintained and regularly updated in the Fire and Explosion Plan.</li> <li>• The Plan shall include provisions requiring the applicant to reimburse emergency responders for costs beyond basic life support, advanced life support, or other emergency response services not otherwise generally available and provided.</li> <li>• The Plan shall be updated as necessary. The applicant shall meet with County planning staff and the local Fire Department as needed to ensure emergency response procedures are adequate and remain current.</li> <li>• A 25-foot graveled buffer area, maintained free of vegetation, from all stored materials and equipment, is required along the drilling pad perimeter.</li> <li>• Coordination with emergency responders.</li> <li>• Coordination with the local Fire District shall be required. Applicant shall coordinate with the Fire District to establish a protocol for shutting down the well if there is an extreme fire risk situation.</li> </ul>
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23.	<p><u>Oil and Hazardous Material:</u></p> <ul style="list-style-type: none"> <li>• Spill Prevention, Containment and Countermeasure Plan, to be approved by County Planning Department required before construction occurs, and before building permit issuance, which will minimize the likelihood of a spill and measures to take in the event of a spill.</li> <li>• Lubrication and maintenance of construction equipment shall occur in designated areas. Liquid-absorbing booms, sock, pads, or loose absorbent materials shall be readily available and maintained on site in the event of minor spills of fuels, oils, lubricants, and other fluids. Such fluids shall be stored in a secure area in the construction laydown and fabrication yard, in approved containers.</li> <li>• Emergency repairs required in the field will be closely supervised and oil-absorbent pads placed under the repair area.</li> <li>• Hazardous materials handling and storage procedures will comply with State of Washington and Klickitat County requirements.</li> <li>• Any small quantities of waste fluids from maintaining vehicles shall be stored in a controlled and secure area on only a temporary basis, and shall be adequately contained to prevent their release. On a periodic basis, these waste materials will be picked up or taken to a local recycler.</li> </ul>
24.	<p><u>Fueling Facility:</u></p> <ul style="list-style-type: none"> <li>• Trenches will be dug around all fuel and oil storage containers that lead to a lined pit, which would collect and contain spills and prevent any spills from migrating off-site and possibly to navigable waters. The collected liquid material would be disposed of off-site at a licensed facility.</li> <li>• Storage tanks used at the drill site shall contain no more than a total of 18,000 gallons of fuel, will be made of steel and will be equipped with corrosion resistance features, and will be grounded.</li> <li>• Fuel tanks will be located within a 24 mil. lined and bermed area, which can contain 50% of the tank contents. The tanks will be designed consistent with building and fire code requirements.</li> </ul>
25.	<p><u>Security:</u></p> <ul style="list-style-type: none"> <li>• Reserve pit will be fenced on three sides. The fourth side will be fenced once the drilling rig is removed.</li> <li>• The site will be monitored for evidence of unauthorized use and additional security will be provided as appropriate.</li> <li>• Emergency contact phone numbers for medical, fire, and law enforcement responders shall be posted. Sign shall be conspicuously posted at the entrance for viewing by on-site workers, workers delivering materials, visitors, and others.</li> </ul>

	<b><i>NOISE</i></b>
26.	<p>Noise:</p> <ul style="list-style-type: none"> <li>• Daytime noise levels at residential structures (Class A EDNA) are required by state regulations (WAC 173-60) not to exceed 60 dBA and nighttime levels are not to exceed 50 dBA. The Project shall maintain sound levels that are under the maximum levels for the adjacent receiving properties based on the receiving properties' environmental designation for noise abatement per state regulations and shall comply with applicable noise control regulations. If these standards cannot be met, the Applicant shall acquire all necessary property rights to achieve compliance. If there is a noise complaint from a resident/property owner proximate to the Project, the Applicant shall pay for a noise study to determine whether the Project is consistent with state noise regulations. The Applicant shall pay the County the estimated cost of the analysis, before the study is completed. All unexpended funds shall be returned to the Applicant. If the Project is shown to be in violation of state noise requirements, the applicant has three options: (1) shut down the project as necessary to achieve compliance; (2) obtain the necessary property rights acquired to achieve compliance; or (3) install appropriate mitigation to achieve compliance.</li> <li>• Construction will not be performed within 1,000 feet of occupied buildings on Sundays, legal holidays or between 10 p.m. and 6 a.m. on other days.</li> <li>• Pile driving or blasting will not be performed within 3,000 feet of an occupied dwelling on Sundays, holidays or between 8 p.m. and 8 a.m. on other days.</li> <li>• Idling of trucks and other heavy equipment, such as concrete delivery trucks, will be minimized to the extent possible.</li> <li>• Construction equipment will, where feasible, be equipped with noise control devices and muffled exhaust systems.</li> </ul>
	<b><i>AESTHETICS</i></b>
27.	Construction areas will be kept clean of construction debris on a daily basis. The facility will be kept free of debris and unused or broken down equipment will be stored off-site or within storage facilities.
	<b><i>CULTURAL RESOURCES</i></b>

28.	<p>Cultural Resource Mitigation:</p> <ul style="list-style-type: none"> <li>• Prior to building permit issuance, the Project will complete archaeological investigations of road corridors. Results of the surveys and mitigation measures directed toward any further resources identified are to be provided to Klickitat County prior to building permit issuance.</li> <li>• Flag and avoid historical/cultural resources during construction. The boundaries of the construction zone will be flagged with sufficient buffers to protect significant sites. Monitor construction activities to ensure that flagged historic/cultural properties are avoided.</li> <li>• The Project will design and implement scientific data recovery in the event further testing confirms eligibility of additional resources and avoidance is not feasible.</li> <li>• Project construction workers will be trained on the need to avoid cultural properties and on the procedures to follow if previously unidentified cultural properties are encountered during construction.</li> <li>• An “unanticipated Discovery Plan” will be prepared to guide response in the event previously unidentified cultural resource properties are encountered during construction. If any previously unidentified cultural resource is discovered during construction, the construction activity will cease in the vicinity of the site pending implementation of the unanticipated Discovery Plan, consultation by a qualified archeologist, and consultation with the State Office of Archaeology and Historic Preservation to identify appropriate mitigation measures such as avoidance or scientific data recovery.</li> <li>• The Project will comply with all applicable state and federal laws governing cultural resource protection.</li> </ul>
29.	<p>If the applicant proposes to construct in areas that have not been delineated for cultural resources or critical areas, the applicant shall perform and document such delineation in a report submitted to the Planning Director prior to disturbing the area. If significant resources cannot be avoided, the report shall propose mitigation, and disturbance of the area shall not occur until the Planning Director approves in writing.</p>
<b><i>ROADS</i></b>	

30.	<p>To the extent economically feasible, the Project will schedule construction activities to avoid the use of paved County roads during likely periods of freeze/thaw cycles and comply with temporary county weight restrictions. County roads will be limited to loads at/under legal weight restrictions, including seasonal restrictions, unless applicant provides a bond to the County and enters into a Road Haul Agreement with the Public Works Department which provides for the assessment by the County and applicant and funding by applicant of road improvements or repairs necessary to protect or restore the condition of County roads to the condition they were in before Project construction. The Road Haul Agreement will be executed before building permits are issued. At a minimum, the Road Haul Agreement will include:</p> <ul style="list-style-type: none"> <li>○ a specified haul route listing the route, load configurations, quantity of loads, and schedules for primary and support traffic;</li> <li>○ identification of structural improvements to the haul route, including roads and bridges, to allow for overweight loads;</li> <li>○ a method and timeframe to assess and address needed road repairs and/or improvements; and</li> <li>○ provisions for traffic control.</li> </ul> <p>For County roads in the designated Haul Route, the bond amount will be calculated at \$70,000 a mile of paved County road to be used, and \$20,000 a mile of gravel county road to be used, or as approved by the Public Works Department. Applicant is responsible for damage from all traffic generated by the project (labor, vendors, etc.) and all generated traffic is required to use the single Haul Route. If needed, the applicant could designate a "plan B" route, with written authorization from the County to utilize "plan B."</p> <p>The applicant shall also obtain such approvals or franchises as are necessary under state or county law before constructing Project utility lines within the county right of way. Applicant shall obtain approach permits from Public Works Department for road approach access to county roads.</p>
<b><i>AIR</i></b>	
31.	<p>The applicant shall obtain all required air permits, and comply with all applicable conditions. Provide copies of all air quality reports, permit applications, and permits, including amendments thereto, to the County Planning Department within three business days of issuance/submittal.</p>
<b><i>SURFACE/GROUND WATER PROTECTION</i></b>	
32.	<p>The applicant shall obtain all state permits required for drilling, including a drilling permit from Department of Natural Resources. The applicant shall comply with all conditions of that permit, with the descriptions of the drilling operation made in application materials, and all applicable state regulatory requirements.</p>

33.	<p><u>Mud Waste Pits:</u></p> <ul style="list-style-type: none"> <li>• Mud waste pit lining material, thickness, and design, shall be determined by DNR, in consultation with Ecology, and the County. In no event shall lining thickness be less than 24 mil.</li> <li>• All open pits shall be designed following guidelines in the Eastern Washington Stormwater Manual and have sufficient capacity to handle a two-year 24 hour storm event. This shall be a minimum of two feet extra capacity. On-site pumping equipment shall be available to address emergency situations, whereby excess water will have to be pumped into a tank.</li> <li>• If the mud pit must be kept in operation longer than 18 months, additional mitigation may be required.</li> <li>• Upon completion of drilling activities the reserve pits shall be flagged or netted.</li> </ul>
34.	<p><u>Chemicals:</u></p> <ul style="list-style-type: none"> <li>• The project will use water and water based muds for drilling.</li> <li>• The applicant shall maintain a comprehensive list of all chemicals which are being used for drilling with the County Planning Department and DNR. The current list is at Attachment A. This list shall be kept current, and the County shall be provided with written notification of the new compound, and MSDS information sheets, at least three working days before a new chemical is used.</li> <li>• The County Planning Department retains the right to prohibit the use of a particular chemical, but only as determined through consultation and collaboration with the Department of Ecology and Department of Natural Resources.</li> <li>• The current list of prohibited chemicals is as follows: <ul style="list-style-type: none"> <li>• Diesel fuel shall not be used in hydraulic fracturing operations.<sup>3</sup></li> <li>• 2-BE shall not be used.</li> <li>• Biocides may be used as necessary to prohibit bacterial growth.</li> </ul> </li> </ul> <p>Delta is responsible for all necessary remediation costs should any of its drilling chemicals be released into County potable water supplies.</p>
<b><i>WATER QUALITY/QUANTITY</i></b>	
35.	<p><u>Baseline Water Quality and Quantity:</u> Baseline water quality and quantity of groundwater in the vicinity of the proposed well shall be established before drilling occurs. Delta has estimated water requirements for well drilling, mud and cementing requirements at three million gallons (approximately nine acre feet) over the course of the project for this well. The water is expected to be supplied</p>

<sup>3</sup> BJ Services has voluntarily agreed to not use diesel fuel in hydraulic fracturing operations.

from a water well to be drilled and completed on the drill site pad location, with the balance from other adjacent farms or municipal supplies. While water wells on the drill site lease and adjacent lands have been identified, no analysis regarding water quality issues has been provided. Given the importance of both water supply and quality, a baseline water study is required before drilling commences, which will be followed up with periodic monitoring of water quality. The baseline water quality study, to be submitted to the County prior to project startup, shall have the following components:

- (a) A map showing the location and designation of all wells within at least three miles of the proposed project (if available);
- (b) A set of drilling logs for all wells within at least three miles of the proposed project;
- (c) A stratigraphic analysis delineating the expected depth and thickness of the principal basalt aquifer zones to be penetrated by the exploration well;
- (d) A compilation of construction and completion data, water level data, and production information (specific capacity, well testing information, production flow rates, etc) for all wells within at least three miles of the proposed project; and
- (e) A tabulation of available water quality data for all wells within at least three miles of the proposed project.

The above requested information only relates to that which is publicly available (and available from publicly published sources).

36. To ensure that groundwater resources are adequately protected during completion of the project, the County Planning Department must approve a written Water Quality Monitoring Plan before construction begins, and before building permits are issued. Details and required components of the Monitoring Plan will be worked out between the applicant and the County, but will include, at minimum, the following components:
1. Identification of selected wells and springs proposed for baseline sampling. The proposed baseline sampling locations must include, at a minimum, the following:
    - (a) A minimum of three wells in the immediate area (< 3 miles). Delta will attempt to collect samples from wells completed in each of the major aquifers in the area (Wanupum, Umatilla, and the Grande Ronde). If Delta cannot obtain access to three such wells, an alternate sampling plan shall be worked out between the County and Delta.
      - i. One of the wells will be the water supply well to be drilled on the McBride Site and located south of the exploration well. It is assumed the well will be completed in the Wanupum formation. The approximate depth of the well will be outlined, and will be designed and drilled to a depth to ensure County potable water supplies are adequately monitored.
      - ii. The other 2 wells will be identified from the wells listed with Ecology either on the WRIA database or its list of registered water wells. The wells selected for sampling will be submitted to the County for review prior to baseline sampling.
    - (b) Sample the mapped spring located approximately 1-1/2 miles southeast of the proposed exploration well in the Alder Creek drainage.
    - (c) The wells will be sampled while they are in use by the owner to avoid having to waste purge volumes or install a pump.
  2. Identification of selected wells for sampling during drilling and after well completion, which shall include, at minimum, the on-site water supply well.
  3. Detailed procedures and protocols for sample collection and management.
  4. A comprehensive list of analytes/compounds to be tested for and the proposed analytical methods for the planned sampling.
  5. A schedule for the proposed baseline sampling events; subsequent sampling during drilling (which shall be of the on-site production well); and after project completion. Additional testing may be required if changes in water quality are identified, in response to complaints from water well owners, or other events occur suggesting ground water quality may be impaired, or in danger of impairment.
  6. A summary monitoring report will be submitted to the County and DNR following each sampling event, along with the attached testing data. Each report shall detail the completed sampling activities, tabulate the collected and historic data, and make comparisons to baseline water quality.

37.	<p><u>Impacts to Water Quality:</u> In the event that impacts to baseline water quality are noted over the course of the required monitoring period, the County will require that Delta continue or expand sampling activities, as deemed appropriate based on the nature of the impact. Any impacts to water quality that result in an exceedance of State Drinking Water Quality or Model Toxics Cleanup Act levels will necessitate additional monitoring and corrective actions. The water quality monitoring plan shall include a specific section addressing how potential water quality impacts will be addressed, and shall require County Planning Department approval. The County Planning Department has authority to order a halt to well operation and drilling, if drilling is contaminating water supplies. Drill operation shall not commence until the Water Quality Monitoring Plan is approved by the County Planning Department.</p>
38.	<p><u>Financial Security:</u></p> <ul style="list-style-type: none"> <li>• \$50,000 in bonding shall be provided to cover surface restoration and plugging. The bonding shall remain in place until restoration is complete, and the County has approved such restoration as consistent with the Restoration Plan. Bonding with DNR for this amount shall meet this requirement. The applicant shall provide a copy of the bond to confirm compliance.</li> <li>• In the event the applicant has additional insurance, the County shall be name as additional insured.</li> </ul>

39.	<p><u>Insurance Coverage</u></p> <p>The applicant shall maintain insurance coverage acceptable to the County for liability, loss, expense, and/or damage arising from the project, including liability insurance that (a) covers contamination and/or pollution arising from or relating to the project, (b) has a policy period of at least 24 months from the issuance of the exploratory drilling’s conditional use permit, and (c) has occurrence, personal injury, completed operations, and aggregate limits of at least \$20 million applicable only to this project. This insurance must make the County an additional insured, and shall not have any insured-verses-insured exclusion. The applicant shall maintain insurance coverage consistent with state law requirements.</p> <p>All insurance policies shall be issued by insurance companies qualified to do business in the State of Washington, and having a rating of not less than A in the most current available A.M. Best Co., Inc.’s, Best Insurance Report. The County retains the right to reject insurance written by an insurer it deems unacceptable because of financial condition or because the insurer is not operating legally in the State of Washington.</p> <p>The applicant shall comply with all of the terms of its insurance policies, and shall not act in any manner that impairs any coverage under those policies. Without limitation, applicant agrees to promptly notify any insurer of any claim or potential claim that applicant may become aware of in connection with such policy consistent with the terms of the policy. Applicant agrees that it shall be liable for the amount of any damages, costs or expenses, including reasonable attorney’s fees, that the County incurs as a result of applicant’s failure to comply or perform as required by the terms of any insurance policy, and the same shall not be reimbursable to applicant. Applicant shall at all times maintain a current and complete copy of its policies with the County Planning Department.</p>
<b><i>LAWS/STANDARDS</i></b>	
40.	<p>The Project will comply with all applicable federal, state, and local regulations, including health industry health and safety codes, regulations, and standards, and including permit conditions required by the State Department of Natural Resources. If there is a conflict in requirements, the applicant shall comply with the strictest conditions. The applicant shall provide copies of all permit applications, approvals, and SEPA determinations to the County Planning Department within three business days of issuance/submittal.</p>
41.	<p>Except as provided herein, the Project shall be developed consistent with the SEPA Checklist and all application materials. If there is an inconsistency between the DNR or County permit conditions and/or application materials, the stricter permit conditions shall govern.</p>
42.	<p>The Applicant is responsible for achieving compliance with all permit terms and conditions. As provided for in the County Code, the County may take enforcement action to achieve compliance with any permit condition.</p>
<b><i>ENFORCEMENT</i></b>	

43.	The County and the applicant will work with DNR to ensure DNR has adequate resources and personnel to conduct inspections at critical intervals in the drilling program and provide adequate regulatory oversight. Whether regulatory oversight is conducted by DNR, or the County, at minimum there shall be field inspections of operations at critical intervals of the drilling program, (e.g. such as during setting and cementing casing, approval of hydraulic fracturing design, plugging); necessary monitoring of the facility; and other inspections as needed to confirm regulatory compliance. Field inspections shall be conducted by either DNR or an engineer hired by the County with adequate technical expertise. If it becomes necessary for the County to conduct such oversight, the applicant shall reimburse the County for its reasonable expenses. The County will coordinate with DNR on these issues.
44.	These conditions must all be complied with during the life of the project. It is the applicant's responsibility to ensure all conditions are met. The Planning Department has the authority to require compliance with any condition, at any time, should it become aware that a condition has not been met, or is not being complied with. The Planning Department may issue a stop work order, and/or terminate drilling operations, if necessary to achieve compliance. The Board of Adjustment may rescind the County Conditional Use Permit (CUP) for failure to comply with any condition herein.
45.	The CUP may be transferred to another company only if the Planning Department approves the transfer in writing, and: (1) the new permit holder assumes all permit obligations, and executes all agreements with the County, including those for cost reimbursement; (2) the new permit holder has the financial ability to comply with all permit conditions, has adequate experience with operating this type of project, and does not have a history of significant regulatory violations; (3) the project is in compliance with all permit conditions; and (4) otherwise complies with all other applicable regulatory requirements.
46.	The CUP shall expire twelve months from the date of the expiration of the appeal period for the permit unless construction <sup>4</sup> of Project facilities has commenced within that period. The filing of any appeals shall defer the running of such period until the final resolution of such appeals and the expiration of any appeal period following such resolution. The Planning Director may extend the permit validity upon a showing of need by the applicant for not more than two six-month periods. The permit applicant shall continue to make substantial progress toward Project completion after construction commences.
47.	The CUP authorizes the drilling, testing, and completion of an exploratory test well. Should the well be completed for production, the CUP must be amended to ensure adequate mitigation and additional environmental review shall be required.
48.	The CUP is valid for an 18 month period following the commencement of

<sup>4</sup> Construction is defined as a physical activity that would lead to the construction of project facilities on the project site, including but not limited to land clearing or road construction.

	construction, as defined in condition 46. Should the applicant need to continue the exploratory drilling past this 18 month period, the applicant shall request the Planning Department for an extension. The extension may be granted if the applicant is in compliance with all permit conditions. The Planning Department may impose additional conditions as needed to address the extension or other issues which have arisen during project operation.
49.	The applicant shall provide copies to the County of all SEPA determinations and DNR permits, permit applications or amended permit applications which relate to this proposal. Such copies shall be provided by mail or email (PDF) to the Klickitat County Planning Department within five working days of applicant's actual receipt of SEPA determinations and DNR permits, or the filing date of permits applications and amended permit applications.

Attachment 2.

August 29, 2007

## **CENTRALIZED E&P WASTE FACILITIES IN COLORADO – POLICY/RULE PROPOSAL**

**Summary:** WCC proposes to amend the rules governing commercial and non-commercial centralized evaporative E&P waste facilities in Colorado to create a preference for underground slurry injection of exploration and production wastes, so long as the geology of a particular area allows this method to be safely undertaken. Where geology prohibits underground slurry injection, evaporative waste pits should be utilized provided they accept only produced water from companies that utilize non-toxic fracturing fluids and supply a register of all chemicals used in their drilling operations.

WCC also proposes that the Colorado Department of Health's Solid and Hazardous Waste Commission (SHWC) have regulatory authority over all centralized E&P waste facilities, including those now regulated under COGCC Rule 908, and all said facilities should be considered Class I facilities, as treated by SHWC regulation.

Furthermore, SHWC's current regulations for these facilities should be strengthened by requiring that any facility be located at least one mile from any home or school unless the home's owner consents to such facility within the one mile exclusionary zone. Additionally, these facilities should be located at least one mile from any surface water so that pit contents cannot be introduced to this surface water.

WCC also proposes additional specific monitoring and construction measures for SHWC regulations that better mitigate impacts to wildlife, ground water, and other environmental ramifications that may result due to the type and concentration of the pit's specific contents.

Amending current regulations in this fashion will create an unprecedented setback buffer for centralized E&P waste facilities in Colorado. Additionally, consolidation of regulatory authority under SHWC will eliminate construction, monitoring, and reporting discrepancies that exist under dual agency regulation.

### **Regulatory Background:**

Currently, centralized evaporative waste facilities are regulated by two different agencies in Colorado.

The COGCC regulates centralized facilities under Rule 908 that are non-commercial, which means “the operator does not represent itself as providing E&P waste management services to third parties, except as part of a unitized area or joint operating agreement or in response to an emergency.”

For facilities that accept waste from third parties, C.R.S. §30 – 20 – 101 (6) (b) (VI) controls. It reads: “Solid waste does not include: Exploration and production wastes, as defined in 34-60-103 (4.5), C.R.S., *except as such wastes may be deposited at a commercial waste facility.*”

Exploration and production wastes, as defined by 34-60-103 (4.5), C.R.S., means wastes that are generated during the drilling of and production from oil and gas wells....”

Thus, exploration and production wastes deposited at commercial facilities, as defined in COGCC Rule 908, are solid waste and therefore regulated by SHWC under 6 CCR 1007-2.

SHWC’s regulations are much more protective than those of COGCC in the areas of ground water monitoring, waste stream monitoring, leak detection, liner requirements and specifications, and other substantive areas. See 6 CCR 1007-2, Part 1 §9.

### **Policy Proposals:**

#### Slurry Injection

Underground slurry injection should be the favored method of disposal for exploration and production waste disposal in Colorado, where compatible with the geological characteristics.

Today, underground slurry injection is the most common disposal method for exploration and production waste and is the favored choice in California.

#### SHWC Jurisdiction

SHWC should be the sole regulatory agency for centralized E&P waste facilities, and its current regulations should serve as the base model for amendment.

A ten-acre evaporative facility that accepts waste from only one operator, for example, poses the same threat to leak and risks to ground water as a facility that accepts waste from third parties. The same protection and monitoring standards should apply to both facilities.

#### Facility Classification

All centralized evaporative waste facilities should be considered Class I waste facilities as treated in 6 CCR 1007-2, Part 1 §9.2, and comply with all Class I facility requirements, including liner requirements found in 6 CCR 1007-2, Part 1 §9.3.1, and monitoring requirements found in 6 CCR 1007-2, Part 1 §9.8.

#### RCRA Exemptions

Colorado should adopt a more stringent standard for exploration and production waste, by eliminating the hazardous waste exemptions provided by RCRA, 42 U.S.C. §§ 6901-6934, 40 CFR § 260, and treating it with hazardous wastes regulations.

California has chosen to adopt a much narrower waste exemption than the exemption approved at the federal level. However, the exemption applies in California if the waste displays the toxicity characteristic for hazardous waste based solely on the Toxicity Characteristic Leaching Procedure (TCLP). The exemption does not apply if toxicity is determined based on criteria other than the TCLP, or the waste meets any of the other three characteristics of hazardous waste — ignitability, corrosivity, and reactivity.

In consequence, E&P wastes that exhibit a hazardous characteristic or contain a hazardous waste may be regulated as hazardous wastes. <http://web.evs.anl.gov/pwmis/intropw/index.cfm>

## **Recommended Standards for Rule Amendments – Lessons from other States:**

### **Site Selection**

#### Disposal Location

- No person, including any transporter, may dispose of oil field waste on or below the surface of the ground, or in any pit, pond, lake, depression, draw, streambed, or arroyo, or in any watercourse; in any other place or in any manner which will constitute a hazard to any fresh water supplies; or in any permitted pit or registered or permitted surface waste management facility without the permission of the owner or operator of the pit or facility. *New Mexico Energy, Minerals, and Natural Resources Department, Oil Conservation Division, New Mexico Register, Rule [19.15.2.52 NMAC - Rp, 19.15.9.710 NMAC, 2/14/07].*

#### Site Setback

- In addition to any other requirement or restriction imposed under the Wyoming Environmental Quality Act, no person shall locate, construct or operate any commercial oil field waste disposal facility within one (1) mile of any: Occupied dwelling house without the written consent of the owner of the dwelling; *Wyoming Title 35-Public Health and Safety, Chapter 11-Environmental Quality, Article 3-Water Quality.*
- The owner or operator shall not pollute streams, underground water, or unreasonably damage or occupy the surface of the leased premises or other lands. At no time will the fluid contents of any pit be discharged or allowed to escape to the surface without prior approval through issuance of an NPDES permit by DEQ and other required authorization. At no time will drilling fluids be discharged into live waters or into any drainages that lead to live waters of the state. *Wyoming Oil and Gas Conservation Commission, Chapter 4 Section 1. Pollution and Surface Damage (Forms 14A and 14B).*

## Construction

### Fencing and Netting

- Ensure that pits be fenced, screened, or netted to prevent access by livestock, wildlife, and migratory birds if free oil is likely to be discharged to the pits. *Nebraska Oil and Gas Code, Chapter 3, Rule 022.12A.*

### Liner and Leak Detection Requirements

- Facilities should be required to employ double synthetic pit liners with leak detection systems. The liners should meet the following requirements:
  - The artificial materials used in lining pits shall be impervious and resistant to weather, sunlight, hydrocarbons, aqueous acids, alkalis, salt, fungi, or other substances that might be contained in the produced water.
  - If rigid materials are used, leak proof expansion joints shall be provided, or the material shall be of sufficient thickness and strength to withstand, expansion, contraction and settling movements in the underlying earth, without cracking.
  - If flexible materials are used, they shall be of sufficient thickness and strength to be resistant to tears and punctures.
  - Commercial disposal pits shall be lined with a minimum liner thickness of 40 mils or as approved by the Division.
  - Lined pits constructed in relatively impermeable soils shall have an underlying gravel filled sump and lateral system or suitable leak detection system.
  - Lined pits constructed in relatively permeable soils shall have a secondary liner underlying the leak detection system that is graded so as to direct leaks to the observation sump.
  - Test borings shall be taken in sufficient quantity and to an adequate depth to satisfactorily define subsurface conditions and assure that the liner will be placed on a firm stable base and to determine the appropriate leak detection system.

*Utah Administrative Code Rule R649-9. Waste Management and Disposal.*

### Additional Groundwater Monitoring Requirements

- In addition to current Class I impoundment groundwater monitoring requirements, the following requirements should apply:
  - Each operator of a disposal facility, excluding disposal wells, shall report to the Division on a quarterly basis. This report shall include the volume and type of wastes received at the facility during the quarter and results of the leak detection system inspections.
  - The occurrence of water in a leak detection system during operation of a pit constitutes liner failure and requires immediate action.
  - The Division has the option of allowing the operator a short period of time to take corrective action.
  - Further utilization of the pit will be allowed only after liner repairs and an inspection by the Division.

*Utah Administrative Code Rule R649-9. Waste Management and Disposal.*

### Additional Waste Testing Requirements

- In addition to current Class I impoundment waste testing requirements, the following requirements should apply:
  - (i) Standard Water Analysis - Form 17
  - (ii) Toxicity Characteristic Leaching Procedures (TCLP), EPA Method 1311; July 1992.
  - (iii) Oil and Grease or Total Petroleum Hydrocarbon (TPH), EPA Method 418.1; 1978.
  - (iv) Total Petroleum Hydrocarbon, Condensate and High Gravity Crude, EPA, Method 8015, Gasoline and Diesel Range; July 1992.
  - (v) United States Department of Agriculture, Sodium Absorption Ratio (SAR), Exchangeable Sodium Percentage (ESP); 1984.
  - (vi) Wyoming Oil and Gas Commission Leachate Test Procedure; April 27, 1999. (gg) Soil borings and soil testing must be performed by an independent engineering or geotechnical soil testing company or laboratory according to sound engineering practice in accordance with established industry standards. The logs of all borings, together with associated laboratory testing to classify soils and to measure soil strength, permeability, and other related parameters shall be submitted to the Supervisor.

*Wyoming Oil and Gas Conservation Commission, Chapter 4 Section 1. Pollution and Surface Damage  
(Forms 14A and 14B, Part ff, Testing)*

**Attachment #3**

Current Draft New Mexico Pit Rule.

**SITING REQUIREMENTS APPLICABLE TO THE CONSTRUCTION OF PITS**

**A.**

- (1) A person shall not locate a temporary pit or below-grade tank:
- (a) where ground water is less than 50 feet below the bottom of the pit;
  - (b) within 300 feet of a continuously flowing watercourse, or 200 feet of any other watercourse, lakebed, sinkhole or playa lake (measured from the ordinary high-water mark), unless the appropriate division district office approves an alternative distance for good cause;
  - (c) within 300 feet from a permanent residence, school, hospital, institution or church in existence at the time of initial application;
  - (d) within 500 horizontal feet of a private, domestic fresh water well or spring less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application;
  - (e) within incorporated municipal boundaries or within a defined municipal fresh water

well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended, unless the municipality specifically approves;

(f) within 500 feet of a wetland;

(g) within the area overlying a subsurface mine, unless the operator demonstrates good cause for the siting and the appropriate division district office specifically approves it;

(h) within an unstable area, unless the operator demonstrates that engineering measures have been incorporated into the design to ensure that the pit's or tank's integrity will not be compromised; or

(i) within a 100-year floodplain.

(2) A person shall not locate permanent pits:

(a) where ground water is less than 50 feet below the bottom of the pit;

(b) within 300 feet of a continuously flowing watercourse, or 200 feet of any other watercourse, lakebed, sinkhole or playa lake, (measured from the ordinary high-water mark), unless the environmental bureau in the division's Santa Fe office approves an alternative distance, for good cause;

(c) within 1000 feet from a permanent residence, school, hospital, institution or church in existence at the time of initial application;

(d) within 500 horizontal feet of a private, domestic fresh water well or spring less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application;

(e) within incorporated municipal or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended, unless the municipality specifically approves;

(f) within 500 feet of a wetland;

(g) within the area overlying a subsurface mine, unless the operator demonstrates good cause for the siting and the division's environmental bureau specifically approves it;

(h) within an unstable area, unless the operator demonstrates that engineering measures have

been incorporated into the design to ensure that the pit's integrity will not be compromised; or

(i) within a 100-year floodplain.

(3) A person shall not locate excavated material:

(a) within 300 feet of a continuously flowing watercourse, or 200 feet of any other watercourse, lakebed, sinkhole or playa lake, (measured from the ordinary high-water mark), unless the division approves an alternative distance, for good cause;

(b) within 500 feet of a wetland; or

(c) within a 100-year floodplain.

B. Emergency pits are exempt from the siting criteria

#### **CONSTRUCTION AND DESIGN SPECIFICATIONS:**

A. General specifications. An operator shall design, construct and operate pits, closed-loop systems, below-grade tanks and sumps to contain liquids and solids that will prevent contamination of fresh water and protect public health and the environment.

B. Fencing.

(1) The operator shall fence or enclose pits and below-grade tanks in a manner that will prevent unauthorized access and maintain fences in good repair. Fences are not required if there is an adequate perimeter fence surrounding the well site or facility, and including the pit or tank. During drilling operations, the operator is not required to fence the edge of the pit adjacent to the drilling rig.

(2) The operator shall fence or enclose a pit and below-grade tank within 1000 feet of a permanent residence, school, hospital, institution or church with a chain link security fence, at least six feet in height with at least two strands of barbed wire at the top. The operator shall ensure that all gates in the fence are closed and locked when responsible personnel are not on-site. During drilling operations, the operator is not required to fence the edge of the pit adjacent to the drilling rig.

(3) The operator shall fence all other pits and below-grade tanks to exclude wildlife and livestock, with at least four strands of barbed wire in the interval between one foot and five feet above ground level. The appropriate division district office may grant exceptions to this requirement if the operator shows good cause. The division

may impose additional fencing requirements for protection of wildlife in particular areas.

**C. Netting.** The operator shall ensure that all permanent pits and any permanent open top tanks are screened, netted or otherwise rendered non-hazardous to wildlife, including migratory birds. Where netting is not feasible, the operator shall routinely inspect for and report discovery of dead migratory birds or other wildlife to the appropriate wildlife agency and to the appropriate division district office in order to facilitate assessment and implementation of measures to prevent incidents from reoccurring.

**D. Temporary pits.** The operator shall construct temporary pits in accordance with the following requirements.

(1) Each drilling or workover pit shall be designed to assure the confinement of oil, gas or water to prevent uncontrolled releases.

(2) All temporary pits shall have a properly constructed foundation consisting of a firm, unyielding base, smooth and free of rocks, debris, sharp edges or irregularities to prevent the liner's rupture or tear and shall be constructed so that the slopes are no steeper than two horizontal feet to one vertical foot (2H:1V). The appropriate division district office may approve exceptions to the slope requirement if the operator shows good cause.

(3) All temporary pits shall be constructed with a geomembrane liner. The geomembrane liner shall consist of 20-mil string reinforced LLDPE or equivalent liner material approved by the environmental bureau in the division's Santa Fe office. Geomembrane liners shall be composed of an impervious, synthetic material that is resistant to petroleum hydrocarbons, salts and acidic and alkaline solutions. Liner materials shall be resistant to ultraviolet light, or the operator shall make provisions to protect the material from sunlight. Liner compatibility shall comply with EPA SW-846 method 9090A.

(4) The operator shall minimize liner seams and orient them up and down, not across a slope. The operator shall use factory seams where possible. The operator shall overlap liners four to six inches before seaming, and orient seams parallel to the line of maximum slope, *i.e.*, oriented along, not across, the slope. The operator shall minimize the number of field seams in corners and irregularly shaped areas. Qualified personnel shall perform field seaming.

(5) Construction shall avoid excessive stress-strain on the liner.

(6) Geotextile is required under the liner where needed to reduce localized stress-strain or protuberances that may otherwise compromise the liner's integrity.

(7) The edges of all liners shall be anchored in the bottom of a compacted earth-filled trench. The anchor trench shall be at least 18 inches deep.

(8) The operator shall ensure that the liner is protected from any fluid force or mechanical damage at any point of discharge into or suction from the lined pit.

(9) Pits shall be constructed to prevent run-on of surface water. A berm, ditch or other diversion shall surround all temporary pits to prevent run-on of surface water. During drilling operations, the edge of the pit adjacent to the drilling rig is not required to have run-on protection if the pit is being used to collect liquids escaping from the rig.

(10) The size of a pit shall not exceed 10 acre-feet, including freeboard.

(11) Pits used to vent or flare gas during drilling or workover operations that are designed to allow liquids to drain to a separate pit do not require a liner.

**E.** Permanent pits. The operator shall construct permanent pits in accordance with the following requirements.

(1) Each permanent pit shall have a properly constructed foundation consisting of a firm, unyielding base, smooth and free of rocks, debris, sharp edges or irregularities, to prevent the liner's rupture or tear; and shall be constructed so that the inside grade of the levee is no steeper than two horizontal feet to one vertical foot (2H:1V). Levees shall have an outside grade no steeper than three horizontal feet to one vertical foot (3H:1V). The levees' tops shall be wide enough to install an anchor trench and provide adequate room for inspection and maintenance.

(2) Each pit shall contain, at a minimum, a primary (upper) liner and a secondary (lower) liner with a leak detection system appropriate to the site's conditions. The edges of all liners shall be anchored in the bottom of a compacted earth-filled trench. The anchor trench shall be at least 18 inches deep.

(3) Liners shall consist of 30-mil flexible PVC or 60-mil HDPE liner, or an equivalent liner material approved by the division's environmental bureau. Geomembrane liners shall have a hydraulic conductivity no greater than  $1 \times 10^{-9}$  cm/sec. Geomembrane liners shall be

composed of an impervious, synthetic material that is resistant to petroleum hydrocarbons, salts and acidic and alkaline solutions. Liner materials shall be resistant to ultraviolet light, or the operator shall make provisions to protect the material from sunlight. Liner compatibility shall comply with EPA SW-846 method 9090A.

(4) The division may approve other liner media if the operator demonstrates to the division's satisfaction that the alternative liner protects fresh water, public health, safety and the environment as effectively as the specified media.

(5) The operator shall minimize liner seams and orient them up and down, not across a slope. The operator shall use factory seams where possible. The operator shall ensure field seams in geosynthetic material are thermally seamed (hot wedge) with a double track weld to create an air pocket for non-destructive air channel testing. A stabilized air pressure of 35 psi, plus or minus one percent, shall be maintained for at least five minutes. The operator shall overlap liners four to six inches before seaming, and orient seams parallel to the line of maximum slope, *i.e.*, oriented along, not across, the slope. The operator shall minimize the number of field seams in corners and irregularly shaped areas. There shall be no horizontal seams within five feet of the slope's toe. Qualified personnel shall perform field seaming.

(6) At a point of discharge into or suction from the lined pit, the liner shall be protected from excessive hydrostatic force or mechanical damage, and external discharge lines shall not penetrate the liner.

(7) Primary liners shall be constructed of a geomembrane.

(8) A secondary liner may be a synthetic liner or an alternative liner approved by the division. Secondary liners constructed with compacted soil materials, *i.e.*, natural or processed clay and other soils, shall be at least three feet thick, placed in six-inch lifts and compacted to 95 percent of the material's standard proctor density, or equivalent. Compacted soil lifts used in a liner shall undergo permeability testing in conformity with ASTM standards and methods approved by the division before and after construction. Compacted soil materials shall have a hydraulic conductivity of no greater than  $1 \times 10^{-8}$  cm/sec. The operator shall submit results of pre-construction testing to the division for approval prior to construction.

(9) The operator shall place a leak detection system between the lower and upper geomembrane liners

that consists of two feet of compacted soil with a saturated hydraulic conductivity of  $1 \times 10^{-5}$  cm/sec or greater to facilitate drainage. The leak detection system shall consist of a properly designed drainage and collection and removal system placed above the lower geomembrane liner in depressions and sloped to facilitate the earliest possible leak detection. Piping used shall be designed to withstand chemical attack from oil field waste or leachate; structural loading from stresses and disturbances from overlying oil field waste, cover materials, equipment operation or expansion or contraction; and to facilitate clean-out maintenance. The material placed between the pipes and laterals shall be sufficiently permeable to allow the transport of fluids to the drainage pipe. The slope of the interior sub-grade and of drainage lines and laterals shall be at least a two percent grade, *i.e.*, two feet vertical drop per 100 horizontal feet. The piping collection system shall be comprised of solid and perforated pipe having a minimum diameter of four inches and a minimum wall thickness of schedule 80. The operator shall seal a solid sidewall riser pipe to convey collected fluids to a collection, observation and disposal system located outside the perimeter of the pit. The operator may install alternative methods that the division approves.

(10) The operator shall notify the division at least 72 hours prior to the primary liner's installation so that a division representative may inspect the leak detection system before it is covered.

(11) The operator shall construct pits in a manner that prevents overtopping due to wave action or rainfall and maintain a three foot freeboard at all times.

(12) The size of a pit shall not exceed 10 acre-feet, including freeboard.

(13) Pits shall be maintained to prevent run-on of surface water. All pits shall be surrounded by a berm, ditch or other diversion to prevent run-on of surface water.

**F. Closed-loop systems.**

(1) Closed-loop systems shall be designed to assure the confinement of oil, gas or water to prevent uncontrolled releases.

(2) An operator of closed-loop systems that include pits shall comply, with respect to such pits, with the requirements for temporary pits specified in 19.15.17 NMAC.

(3) An operator of closed-loop systems with drying pads shall construct the drying pads so as to include the following:

(a) appropriate liners that prevent the contamination of fresh water and protect public health and the environment;

(b) sumps to facilitate the collection of liquids derived from drill cuttings; and

(c) berms that prevent run-on of surface water.

[19.15.17.11 NMAC - Rp, 19.15.2.50 NMAC, / /07]

**OPERATIONAL REQUIREMENTS:**

(4) If a lined pit develops a leak, or if any penetration of the liner occurs below the surface of the liquid, then the operator shall remove all liquid above the damage or leak line from the pit within 48 hours and repair the damage or replace the liner.

(5) The operator shall install a level measuring device in all lined pits containing fluids to monitor the level of the fluid surface, so that unanticipated loss of fluids may be recognized.

(6) The injection or withdrawal of liquids from a lined pit shall be accomplished through a header, diverter or other hardware that prevents damage to the liner by erosion, fluid jets or impact from installation and removal of hoses or pipes.

(7) Pits, below-grade tanks and sumps shall be operated and maintained to prevent run-on of surface water.

(8) The operator shall install and maintain an oil absorbent boom or other device to contain and remove oil from the surface of any pit.

**B.** Temporary pits. An operator shall maintain and operate all temporary pits in accordance with the following additional requirements.

(1) Only fluids used or generated during the drilling or workover process may be discharged into a temporary pit. The operator shall maintain pits free of miscellaneous solid waste or debris. Hydrocarbon-based drilling fluids shall be contained in tanks made of steel or other division-approved material. Immediately after cessation of drilling or workover operations, the operator shall remove any visible or measurable layer of oil from the surface of a drilling or workover pit.

(2) The operator shall maintain at least two feet of freeboard for temporary pits.

(3) The operator shall inspect all temporary pits containing drilling fluids at least daily while the drilling or workover rig is on-site. Thereafter, the operator shall inspect such pits weekly so long as liquids remain in the pit. The operator shall maintain a log of such inspections, and shall make the log available for division review upon request. The operator shall file a copy of the log with the division when the pit is closed.

(4) The operator shall remove all free liquids from drilling pits within 30 days from the date that the drilling rig is released. The appropriate division district office may grant an extension of up to three months for good cause.

(5) The operator shall remove all free liquids from workover pits within 15 days from the date that the workover rig is released. The appropriate division district office may grant an extension of up to three months for good cause.

C. Permanent pits. An operator shall maintain and operate all permanent pits in accordance with the following additional requirements.

(1) The operator shall maintain at least three feet of freeboard for permanent pits.

(2) No oil or floating hydrocarbon shall be present in any permanent pit.

[19.15.17.12 NMAC - Rp, 19.15.2.50 NMAC, / /07]

**CLOSURE REQUIREMENTS:**

A. Time requirements for closure. An operator shall close all pits, closed-loop systems within the time periods provided in 19.15.17.13 NMAC, or by an earlier date that the division requires because of imminent danger to fresh water, public health or the environment.

(1) Existing unlined, permitted or registered permanent pits shall be closed within two years of \_\_\_\_\_[the effective date of 19.15.17 NMAC], unless the division grants an exception pursuant to 19.15.17.15 NMAC.

(2) Existing lined or unlined, permanent pits not permitted or registered shall be closed within 60 days after \_\_\_\_\_, 200\_ [effective date], unless the division grants an exception pursuant to 19.15.17.15 NMAC.

(3) Existing unlined, temporary pits shall be closed within three months of \_\_\_\_\_, 200\_ [effective date], unless the division grants an exception pursuant to 19.15.17.15 NMAC.

(4) Existing below-grade tanks that are not equipped with secondary containment and leak detection shall be closed by \_\_\_\_\_, 201\_ [five years after effective date], unless the division grants an exception pursuant to 19.15.17.15 NMAC.

(5) All other permitted permanent pits shall be closed in accordance with a division-approved closure plan within 60 days of cessation of operations of the pit.

(6) All other permitted temporary pits shall be closed within six months from the date the rig is released. The appropriate division district office may grant an extension not to exceed three months if the operator shows good cause.

(7) Closed-loop systems permitted under 19.15.17 NMAC or in operation on \_\_\_\_\_, 200\_, shall be closed within six months from the date the rig is released. The appropriate division district office may grant an extension not to exceed six months for good cause.

**B. Closure methods for temporary pits.** The operator of a temporary pit shall remove all liquids from the pit prior to implementing a closure method and dispose of the liquids in a division-approved facility or recycle or reuse the liquids in a manner the appropriate division district office approves. The operator shall close the pit by one of the following methods.

(1) Waste excavation and removal.

(a) The operator shall close the pit by excavating all contents and synthetic pit liners, if applicable, and transferring those materials to a division-approved facility.

(b) The operator shall test the soils beneath the pit to determine whether a release has occurred. The operator shall collect, at a minimum, a five point, composite sample and analyze for BTEX, TPH and chlorides to demonstrate that the benzene concentration, as determined by EPA SW-846 method 8021B or 8260B, does not exceed 0.2 mg/kg; total BTEX concentration, as determined by EPA SW-846 method 8021B or 8260B, does not exceed 50 mg/kg; the TPH concentration does not exceed 100 mg/kg; and the chlorides concentration does not exceed 250 mg/kg, or the background concentration, whichever is greater. The operator shall notify the division of its results on form C-141, and the division may require additional delineation.

(c) If the operator or the division determines that a release has occurred, then the

operator shall comply with 19.15.3.116 NMAC and 19.15.1.19 NMAC, as appropriate.

(d) The operator shall backfill the excavation with compacted, non-waste containing, earthen material; construct a division-approved soil cover; and re-vegetate the site. The division-approved soil cover and re-vegetation requirements shall comply with Subsections F and G of Section 13 of 19.15.17 NMAC.

(2) Other methods. If the division grants an exception to Paragraph (1) of Subsection B of 19.15.17.13 NMAC approving another closure method for a specific pit, as provided in Subsection B of 19.15.17.15 NMAC, then the operator may close that pit by the method the division has approved.

C. Closure method for permanent pits.

(1) The operator shall removal all liquids and BS&W from the pit prior to implementing a closure method and shall dispose of the liquids and BS&W in a division-approved facility.

(2) The operator shall remove the pit liner system, if applicable, and dispose of it in a division-approved facility. If there is any on-site equipment associated with pit, the operator shall remove the equipment, unless the equipment is required for some other purpose.

(3) The operator shall test the soils beneath the pit to determine whether a release has occurred. The operator shall collect, at a minimum, a five point, composite sample and analyze for BTEX, TPH and chlorides to demonstrate that the benzene concentration, as determined by EPA SW-846 method 8021B or 8260B, does not exceed 0.2 mg/kg; total BTEX, as determined by EPA SW-846 method 8021B or 8260B, does not exceed 50 mg/kg; the TPH concentration does not exceed 100 mg/kg; and that the chlorides concentration does not exceed 250 mg/kg, or the background concentration, whichever is greater. The operator shall notify the division of its results on form C-141, and the division may require additional delineation.

(4) If the operator or the division determines that a release has occurred, then the operator shall comply with 19.15.3.116 NMAC and 19.15.1.19 NMAC, as appropriate.

(5) The operator shall backfill the excavation with compacted, non-waste containing, earthen material; construct a division-approved soil cover; and re-vegetate the site. The division-approved soil cover and re-vegetation requirements shall comply with Subsections F and G of Section 13 of 19.15.17 NMAC.

**D.** Closure methods for closed-loop systems. The operator of a closed-loop system shall close the system by one of the following methods.

**(1)** Waste removal.

**(a)** The operator shall transfer the waste and the drying pad liner to a division-approved facility.

**(b)** The operator shall substantially restore and re-vegetate the surface of the impacted area.

**(2) Other methods.** If the division grants an exception to Paragraph (1) of Subsection D of 19.15.17.13 NMAC approving another closure method for a specific closed-loop system, as provided in Subsection B of 19.15.17.15 NMAC, then the operator may close that system by the method the division has approved.

**F.** Soil cover design specifications.

**(1)** The soil cover shall consist of a minimum of four feet of compacted, non-waste containing, earthen material, including the background thickness of topsoil or at least one foot of suitable material to establish vegetation for the site.

**(2)** The soil cover shall be constructed to the site's existing grade and shall prevent ponding of water and erosion of the cover material.

**G.** Re-vegetation requirements:

**(1)** Upon completion of closure, the operator shall substantially restore the impacted surface area to the condition that existed prior to oil and gas operations, by placement of the soil cover and re-vegetation of the site, and shall maintain the cover established by re-vegetation, which shall not include noxious weeds, through two successive growing seasons.

**(2)** The operator may propose an alternative to the re-vegetation requirement if the operator demonstrates that the proposed alternative shall effectively prevent erosion, and protect fresh water, human health and the environment. The proposed alternative shall be agreed upon by the surface owner. The operator shall submit the proposed alternative, with evidence that the surface owner agrees to the alternative, to the appropriate division district office for approval.

**H.** Closure notice.

**(1)** The operator shall notify the appropriate division district office verbally or by other means at least 72 hours, but not more than one week, prior to any

closure operation. The notice shall include the operator's name and the location to be closed by unit letter, section, township and range. If the closure is associated with a particular well, then the notice shall also include the well's name, number and API number.

(2) The operator shall notify the surface owner by certified mail that a temporary pit or a below-grade tank is to be closed. Evidence of mailing of the notice is sufficient to demonstrate compliance with this requirement.

(3) An operator of permanent pits shall notify the division's environmental bureau at least 60 days prior to cessation of operations and provide a proposed schedule for closure. If there is not a closure plan on file with the division applicable to the pit, the operator shall provide a closure plan with this notice. Upon receipt of such notice and proposed schedule, the division shall review the current closure plan for adequacy and inspect the site.

I. Closure report. Within 60 days of closure completion, the operator shall submit a closure report on form C-144, with necessary attachments to document all closure activities, including sampling results, information required by 19.15.17 NMAC, a plot plan and details on back-filling, capping and covering, where applicable. In the closure report, the operator shall certify that all information in the report and attachments is correct and that the operator has complied with all applicable closure requirements.

#### **Attachment #4**

### **ORDINANCE NO. 449**

An ordinance of the City of Lovington, New Mexico, amending and adding to Section 8.30.290 Proximity of Pipelines to Water Well and Requirements for Other Construction, of Chapter 8.30, Oil and Gas Wells and Pipelines, of the Lovington Municipal Code, and enacting new provisions of Chapter 8.30 Oil and Gas Wells and Pipelines, of the Municipal Code of the City of Lovington, New Mexico.

WHEREAS, the City of Lovington owns property outside its municipal boundary which contains water facilities for the City's municipal water supply; and,

WHEREAS, the territory occupied by the water facilities may be crossed from time to time by pipelines carrying hydrocarbons and other liquids related to oil and gas exploration and production, and other construction related to oil and gas activity may occur from time to time; and,

WHEREAS, the City is empowered under N.M.S.A 1978, §3-27-3 to enact ordinances to protect its water facilities from pollution.

NOW, THEREFORE, BE IT ORDAINED BY THE GOVERNING BODY OF THE CITY OF LOVINGTON, NEW MEXICO, that:

An addition to Section 8.30.290 Proximity of Pipelines to Water Well and Requirements for other Construction, Chapter 8.30, Oil and Gas Wells and Pipelines, of the Lovington Municipal Code of the City of Lovington, New Mexico, to add language to the existing ordinance in the following form, is hereby enacted:

**Amendment And Addition to § 8.30.290**

It shall be unlawful for any person to construct any pipeline not in compliance with this section 8.30.290. It shall be a separate offense for each day that a pipeline constructed in violation of this ordinance remains out of compliance, and upon conviction thereof, the offender shall be subject to a maximum fine of \$500.00 for each violation.

NOW, THEREFORE, BE IT ORDAINED BY THE GOVERNING BODY OF THE CITY OF LOVINGTON, NEW MEXICO, that:

New Provisions of Chapter 8.30, Oil and Gas Wells and Pipelines, of the Lovington Municipal Code of the City of Lovington, New Mexico, being Section 8.30.300 through 8.30.520, in the following form, are hereby enacted:

**8.30.300. Permit Required**

It shall be unlawful for any person to commence any drilling operation, any re-entry or workover, or any other construction, operation, or activity within the confines of the water facilities field without first having been issued a permit from the City Commission pursuant to the applicable provisions of Chapter 8.30 of the Lovington Municipal Code. Provided, however, no permits shall be required for routine daily operations, or maintenance activities, which do not disturb the surface of the field. Any operations commenced without issuance of a permit shall be considered an offense punishable by a maximum fine of \$500.00 per day for each day that such operation exists without first having obtained the required permit.

(A) The application for a permit required under this section shall be filed with the City Engineer.

(B) The application for a permit shall include full information including the following:

(2) The date of the application

- (3) The name of the applicant
- (4) The address of the applicant
- (5) The type of activity for which the permit is sought
- (6) The site of the proposed activity, including the following information:
  - (ii) Name of lease holder
  - (iii) Location where proposed activity is to be performed described by quarter, quarter, section, township and range
- (6) The name of the person who will act as liaison between the permittee and the City Engineer
- (7) Any special or specified hazards associated with the activity for which the permit is sought
- (C) In the event an emergency arises during the time that the city offices are closed, which emergency requires immediate action, the operator may begin the necessary activity without a permit, provided, however, on the next day that the city offices are open, the operator advises the City Engineer of the emergency and submits a permit request at that time pursuant to this section.

**8.30.310. Maintenance of Facilities**

All facilities constructed within the confines of the water facilities field, including without limitation, pipelines, tank batteries, pumping stations, compressor, drilling operations, well heads and other operations, shall be maintained using a prudent operator standard consistent with reasonable business practices within the oil and gas industry.

**8.30.320. Reporting of Spills and Leaks**

Pursuant to the provisions of Section 8.30.330, any person operating a facility shall report any and all leaks or spills occurring within the confines of the water facilities field to the City Engineer immediately upon discovery, but in any event, such leak or spill shall be reported not more than fifteen (15) days from the occurrence.

Any such leak or spill shall be remediated in a manner acceptable to the City Engineer. Any such leak or spill shall be remediated as soon as is reasonably practicable, but in no event

shall remediation operations be commenced later than thirty (30) days from the date the occurrence is first discovered and reported. The City Engineer may, upon showing of good cause, grant an extension to the thirty (30) day requirement referenced in this section.

It shall be unlawful for any person to fail to report a leak or spill under this Chapter. It shall be unlawful to fail to take action to remediate any spill or leak as required by this Section 8.30.320. If remediation operations are not commenced within thirty (30) days from the date such spill or leak is first discovered and reported, it shall be a separate offense for each day after said thirty (30) days until the remediation operation is commenced, and upon conviction thereof, the offender shall be subject to a maximum fine of \$500.00 per day for each day after said thirty (30) days until the remediation operation is commenced. Provided, however, if the City Engineer has granted an extension, no offense will occur until the expiration of any such extension.

Any operator, or employee, servant, agent or representative of an operator, who has knowledge of a spill or leak, and fails to report same to the City Engineer within the times specified herein shall be guilty of a misdemeanor and subject to a fine of \$500.00 or ninety (90) days in jail or both.

### **8.30.330. Reporting Requirements**

An accident report is required for each leak or spill in a facility subject to this chapter in which there is a release of liquid resulting in any of the following:

- (c) Explosion or fire not intentionally set by the operator
- (b) Release of Five (5) gallons or more of liquid, except that no report is required for a release of less than five (5) barrels resulting from a maintenance activity if the release is:
  - (3) Not otherwise reportable under this Chapter;
  - (4) Confined to company property or right of way; and
  - (5) Cleaned up promptly.
- (c) Death of any person.
- (d) Personal injury necessitating hospitalization;
- (e) Estimated property damage, including cost of clean-up and recovery, value of lost product, and damage to the property of operator or others, or both, exceeding \$5,000.

An operator shall provide all of the following minimum information, to the extent known, when reporting any leak or spill.

- (b) The name of the individual reporting the leak or spill.
- (c) The name of the operator who has sustained the leak or spill.
- (d) The date and time of the spill or leak
- (e) The date and time the leak or spill was discovered.
- (f) The date and time cleanup or remediation was commenced.
- (g) The location of the leak or spill, including all of the following information:
  - (iii) facility, well name or lease name
  - (iv) quarter quarter quarter section
  - (v) Section number, township and range
- (g) Identification of the material leaked or spilled, including any applicable MSDS information
- (h) The volume of the leak or spill
- (i) The volume of the leak or spill which was recovered including records from the operator who recovered the spilled or leaked material
- (j) The remediation or cleanup measures taken
- (k) The cause of the leak or spill
- (l) The distance from the leak or spill to the nearest city water well

**8.30.340. Leakage Surveys**

Each operator must conduct a leakage survey of any facility within the confines of the water facilities field using practices and equipment consistent with a prudent operator standard at intervals not exceeding fifteen (15) months, but at least once each calendar year. The results

of each such survey shall be filed with the City Engineer within thirty (30) days of the completion of the survey.

It shall be unlawful to fail to provide an annual survey report to the City Engineer within thirty (30) days from the date the survey was performed, or should have been performed, and each day of failure thereafter shall be considered a separate offense, and upon conviction thereof the offender shall be subject to a maximum fine of \$500.00 per day that the report remains unfiled.

### **8.30.350. Definitions**

The following definitions shall apply to any activity within the confines of the water facilities field.

- (a) Brine means all nonpotable water resulting, obtained, or produced from the exploration, drilling, or production of oil or gas, or both.
- (b) Central production facility means production equipment which has been consolidated at a central location that provides for the commingling of oil or gas production, or both, from 2 or more prorated wells or production units.
- (c) City Engineer means that individual designated by ordinance, statute or the City Commission as the City Engineer together with any individual authorized to act on behalf of the City Engineer.
- (d) Drilling operations means all of the physical and mechanical aspects of constructing a well for the exploration or production of oil or gas, or both, for injection of fluids associated with the production of oil or gas, or both, or the storage of natural hydrocarbons or liquified petroleum gas derived from oil or gas, and includes all of the following:
  - (i) moving drilling equipment onto the drill site.
  - (ii) penetration of the ground by the drill bit and drilling of the well bore.
  - (iii) casing and sealing of the well bore.
  - (iv) constructions of well sites and access roads.

(v) workovers and recompletions.

(e) Facility means any operation conducted within the confines of the water facilities field, including without limitation, pipelines, drilling operations, re-entry or workovers, tanks, holding facilities, treatment facilities, pumping and compressor stations, and any other facility used in the exploration for and production of oil and gas.

(f) Operation of oil and gas well means the process of producing oil or gas, or both, or the storage of natural hydrocarbons or liquified petroleum gas, including all of the following:

(i) production, pumping, and flowing.

(ii) processing.

(iii) gathering.

(iv) compressing.

(v) treating.

(vi) transporting.

(vii) conditioning.

(viii) brine removal and disposal.

(ix) separating.

(x) storing.

(xi) injecting.

(xii) testing.

(xiii) reporting.

(xiv) maintenance and use of surface facilities.

(xv) secondary recovery.

- (g) Operations means any activity conducted within the confines of the water facilities field and includes “drilling operations” and “operation of oil and gas wells”.
- (h) Operator means any person who conducts operations.
- (i) Permit means a permit issued to an operator by the City Commission for operations within the Water Facilities Field.
- (j) Person means any individual, firm, joint venture, partnership, corporation, association, cooperative association, a joint stock association, and including any trustee, receiver, assignee, or personal representative thereof.
- (k) Pipe means any pipe or tubing used in the movement or transportation of gases, petroleum products, brine water and any other substance, and includes pipe-type holders.
- (l) Pipeline means all parts of those physical facilities through which substances move in the water facilities field, including pipe, valves, and other appurtenances attached to pipe, compressor units, metering stations, regulator stations, delivery stations, holders, and fabricated assemblies.
- (m) Surface facility means a facility used in the injection of fluids or in the production, processing, or treatment of oil or gas, or both, including any of the following:
- (x) pumping equipment.
  - (xi) fluid disposal equipment.
  - (xii) facility piping.
  - (xiii) load outs.
  - (xiv) separators.
  - (xv) storage tanks.
  - (xvi) treatment equipment.
  - (xvii) compressors.

(n) Waste, in addition to its ordinary meaning, includes all of the following.

(i) the definition of waste promulgated by the New Mexico Oil Conservation Division as found at 19 NMAC 15.A (83) as amended from time to time.

(ii) damage to underground fresh or mineral waters, natural brines, or other mineral deposits from operations for the discovery, development, and production and handling of oil and gas.

(iii) the unnecessary damage to or destruction of the surface, soils, animal, property, or other environmental values from or by oil and gas operations.

(iv) the unnecessary endangerment of public health, safety, or welfare from or by oil and gas operations.

(o) Water Facilities Field means the area described in Section 8.30.290 of this chapter, together with any other real property which may be designated as such by the City Commission from time to time.

**8.30.360. Material Safety Data Sheets.**

Any operator conducting operations within the confines of the water facilities field shall file with the City Engineer Material Safety Data Sheets (MSDS) for any and all substances used, produced, transported and otherwise present in operations conducted in the Water Facilities Field.

**8.30.370. Disposal Wells.**

From and after the effective date of this ordinance, no person shall drill a disposal well, or convert an existing well into a disposal well, add any additional hookups to existing disposal wells, or construct any disposal facility within the confines of the Water Facilities Field.

**8.30.380. Preventing Waste.**

Every person who conducts operations within the confines of the Water Facilities Field shall use every reasonable precaution to prevent waste.

**8.30.390. Drilling Mud Pits.**

Any person who conducts operations in the Water Facilities Field shall use a closed system. All cuttings and fluids will be removed from the site and properly disposed of.

**8.30.400. Well Records, Service Company Records.**

(A) A person who drills, deepens, changes well status, or completes a well after the effective date of this ordinance, shall keep and preserve at the well, during drilling, deepening, changes in well status, or completion operations, accurate records recording all geologic strata penetrated, casing and cement used, and other information as may be requested by the City Engineer in connection with the drilling of the well.

(B) When requested by the City Engineer, an operator of a well shall file a copy of service company records, including records of all the following:

(xiv) mudding, cementing, and squeeze operations.

(xv) acidizing.

(xvi) perforating.

(xvii) fracturing.

(xviii) shooting.

(xix) temperature surveys.

(xx) bond logs.

(xxi) caliper surveys.

(xxii) wireline borehole and strata evaluation logs.

The City Engineer may request the records directly from the service company.

(C) An operator of a well shall make all such records and information available to the City Engineer at all times. An operator shall protect the records from damage or destruction due to a preventable cause. All well data provided to the City Engineer, as required by these rules shall be held confidential commencing with the receipt of a written request from the operator, and shall remain confidential to the extent allowed by law for ninety (90) days after drilling completion. Information on

volumes, concentrations, and times of releases, spills, or leaks of gas, brine, crude oil, oil or gas field waste, or products and chemicals used in association with oil and gas exploration, production, disposal, or development is not subject to confidentiality.

**8.30.410. Oil Brine, or Associated Oil or Gas Field Waste; Storage.**

An operator shall not retain oil, brine, or associated oil or gas field waste in earthen reservoirs or open receptacles.

**8.30.420. Well Sites and Surface Facilities.**

A person shall use every reasonable precaution to stop and prevent waste. All wells, surface facilities, gathering lines, and flow lines shall be constructed and operated so that the materials contained in the facilities do not cause waste. An oil and gas operation shall not be commenced or continued at a location where it is likely that a substance may escape in a quantity sufficient to pollute the air, soil, surface waters, or ground waters, or to cause unnecessary endangerment of public health, safety, or welfare until the operator has complied with the methods and means to prevent pollution or eliminate the unnecessary endangerment of public health, safety, or welfare as specified by the City Engineer.

**8.30.430. Prevention of Pollution, Contamination, or Danger.**

The storage, transportation, or disposal of brine, crude oil, or oil or gas field waste that results in, or that the City Engineer determines may result in, pollution is prohibited. All operators shall ensure that wastes and brine are stored, transported and disposed of in a manner acceptable to the City Engineer and consistent with all applicable state and federal laws and regulations.

**8.30.440. Monitoring of Injection and Disposal Wells.**

(A) The operator of a brine disposal well shall, on a weekly basis, monitor and record the injection pressure, injection rate, and cumulative volume of fluids injected. The operator shall report this data monthly to the City Engineer unless the City Engineer informs the operators in writing that said reports may be submitted on a less frequent basis. The data shall be submitted in a form approved by the City Engineer.

(B) Operators of brine disposal injection wells shall file an annual monitoring report summarizing the data of the monitoring required in subsection (A) of this section, on or before March 1 of the year for the previous calendar year.

(C) The operator of a secondary recovery injection well shall, on a monthly basis, monitor and record the injection pressure, injection rate, and cumulative volume of the fluid injected. An operator of a secondary recovery injection well may conduct the monitoring and recording, required by this section, on a field or project basis by manifold monitoring, rather than on an individual well basis, if more than one (1) secondary recovery injection well operates with a single manifold, and if the operator demonstrates that manifold monitoring is comparable to individual well monitoring. The operator shall report the data annually to the City Engineer in a form approved by the City Engineer, on or before March 1 of each year for the previous calendar year.

(D) The operators of an injection well shall not operate an injection well unless the annual report is filed by March 1 for the previous year, and injection may not continue after failure to file on March 1 until the required report is submitted and written approval for resumed injection is received from the City Engineer.

(E) All injection well records shall be retained by the operator for a period of three (3) years.

(F) An operator of an injection well shall verbally notify the City Engineer, of any pressure test failure, significant pressure changes, or other evidence of a leak in an injection well, within 24 hours of the test failure, pressure change or evidence of a leak. If there is evidence that an injection well is not, or may not be, directing the injected fluid into the permitted injection strata, the operator shall immediately cease injection.

(G) An operator shall submit written notice of the pressure test failure or other evidence of a leak to the City Engineer, within five (5) days of the occurrence. If injection has ceased pursuant to subsection (F) above, an operator shall not resume injection until the operator has tested or repaired the well, or both.

(H) Nothing contained in this Section 8.30.440 shall be construed to permit the drilling of a brine disposal well, or conversion of an existing well into a brine disposal well, after the effective date of this ordinance.

(I) Failure to file any of the reports required by this Section 8.30.440 shall be an offense. Operation of a well contrary to the terms of this Section 8.30.440 shall be an offense. For each day that a well is operated in violation of any of the terms of this Section 8.30.440 it shall be a separate offense punishable by a maximum fine of \$500.00 per day.

**8.30.450. Well Sites and Surface Facilities; Flammable and Combustible Material.**

An operator of a well or other facility shall insure that the area around the well and surface facilities is kept clear of flammable and combustible material stored within a radius of 75 feet, or as approved by the City Engineer, using the well or dike wall as the point of measurement. The City Engineer, if conditions warrant, may also require construction of a fire line around the outer edge of the cleared area. An operator shall ensure that the disposal of material resulting from the clearing operations is consistent with all applicable state and federal laws and regulations.

**8.30.460. Secondary Containment Requirements and Construction Standards.**

(A) All wellheads and pump jacks installed after the effective date of this ordinance and surface facilities constructed after the effective date of this ordinance, shall provide for secondary containment pursuant to the requirements of this section. The City Engineer may require surface facilities for hydrocarbon, gas, brine injection, or brine handling constructed before the effective date of this ordinance to be upgraded to meet the requirements of this section if the facility is substantially reconstructed.

(B) An operator shall submit secondary containment plans to the City Engineer for approval before construction of the facility. The secondary containment plans shall consist of a plot plan of the proposed facility and cross sections showing construction details of the sidewalls and floor or floors of all secondary containment areas, including the proposed overall dimensions of the facility. The City Engineer shall approve or disapprove the secondary containment plans within 30 days of receipt of the plans.

(C) An operator shall comply with all of the following minimum construction standards to meet the secondary containment requirements of this rule:

(1) An operator shall be required to prepare a hydrogeological investigation of the facility area to establish local background groundwater quality. The hydrogeological investigation shall include all of the following:

(i) Water quality sampling pursuant to the parameters established in the New Mexico Water Quality Control Act.

(ii) A determination of the direction of groundwater flow and depth to the groundwater in the uppermost aquifer.

(iii) A chemical analysis showing the concentrations of benzene, ethyl benzene, toluene, and xylene.

(iv) A geologic description of earth materials, both horizontally and vertically, in the immediate vicinity of the proposed facility.

(2) Each facility shall be required to have 1 of the following monitoring systems to detect leakage from hydrocarbon or brine storage secondary containment areas:

(i) A minimum of 1 groundwater monitoring well downgradient which is in close proximity to all hydrocarbon or brine storage secondary containment areas.

(ii) Tertiary containment underlying the secondary containment, which shall be constructed and sealed in a manner to capture any hydrocarbons or brine that may leak or seep through the secondary containment. A layer of permeable material and a monitoring tube shall be placed between the secondary and tertiary containment to allow monitoring to determine the presence of any leakage or seepage through the secondary containment.

(3) A vessel that contains hydrocarbons or brine, or both, shall be elevated and placed on impervious pads or constructed so that any leakage can be easily detected. A vessel that is to be used on-site for 30 days or less shall, at a minimum, be placed on leak-resistant material.

(4) A hydrocarbon and brine storage vessel, including oil heating and treating equipment, shall be located in a secondary containment area and the containment volume shall be in

compliance with the following minimum requirements, as applicable.

(i) Containment areas shall be constructed to contain 150% of the largest storage vessel.

(ii) Precipitation shall be taken into consideration in the design of the secondary containment area.

(5) The sidewalls and floor of the secondary containment and spill containment areas shall be constructed and sealed in a manner to prevent the seepage of hydrocarbons or brine, or both into the surrounding soils, surface waters, or groundwater.

(6) A hydrocarbon and brine storage vessel shall not be erected, enclosed, or maintained closer than 200 feet from any drilling producing well.

(7) Oil heating or treating equipment shall not be erected, enclosed, or maintained closer than 75 feet from any drilling or producing well or oil storage tank or tank battery.

(8) Dikes shall be maintained and the enclosure kept free of all of the following:

(i) Oil.

(ii) Emulsions.

(iii) Tank bottoms.

(iv) Brine.

(v) Water.

(vi) Vegetation.

(vii) Debris.

(viii) Any flammable or combustible material.

(9) The hydrocarbon and brine truck loading and unloading areas located outside of hydrocarbon or brine storage secondary containment areas shall have a spill containment capacity equal to double the volume of the hoses used to connect the truck to the

tanks, but not less than a capacity of 5 barrels. The spill containment shall be constructed and sealed in a manner that prevents the seepage of hydrocarbons or brine, or both, into the surrounding soils, surface waters, or groundwater.

(10) Brine disposal well truck unloading areas and commercial brine truck loading and unloading areas located outside of hydrocarbon or brine storage secondary containment areas shall be constructed and sealed in a manner that prevents the seepage of hydrocarbons or brine, or both, into the surrounding soils, surface waters, or groundwater. In addition, a ramp shall be constructed to contain the unloading vehicle, its hoses, and connections within the ramp area. The ramp area shall contain a sump and be connected to a secondary containment area so that any spillage drains into the sump and into the secondary containment area. The spill containment ramp and sump shall have a combined capacity of not less than 20 barrels.

(11) Sumps shall be constructed of materials impervious to hydrocarbons and brines and resistant to damage and deterioration during use. Sumps shall be connected to the ramp area and the secondary containment area in a manner that prevents leakage.

(12) Surface facilities for hydrocarbon and brine handling shall be constructed to meet all of the following minimum requirements:

(i) All transfer and injection pumps shall have leak containment.

(ii) All brine and hydrocarbon flow lines to a facility are considered part of that facility and are subject to the following requirements:

(a) All flow lines shall be pressure tested pursuant to the provisions of paragraph (iii) (a), (b), (c), (e), and (g) of this subdivision.

(b) An operator may elect to not perform the pressure testing of the flow lines, except flow lines that transport brine only, if the operator performs visual inspection of the entire flow line corridor every 3 months, and reports the results of the inspections to the City Engineer annually by January 31 of each year for the previous calendar year.

(iii) All buried facility piping for the transport of liquids shall be pressure-tested pursuant to the following provision, as applicable:

(a) Piping made of noncorrodible or corrosion-protected material shall be pressure-tested every 3 years.

(b) All piping other than piping specified in subparagraph (a) of this paragraph shall be pressure-tested every 12 months.

(c) If buried piping is excavated for repair or relocation, then the disturbed portion shall be pressure-tested immediately pursuant to subparagraphs (d) and (e) of his paragraph.

(d) The pressure test shall be 100% of the normal oil and gas separator operating pressure. The pressure shall be stabilized at 90% of test pressure, at a minimum, and shall hold for a period of 15 minutes.

(e) An operator shall provide certification to the City Engineer, within 30 days of a pressure test, that a pressure test was conducted and the facility piping passed the pressure test. If a facility's piping does not pass the pressure test, the City Engineer shall be notified by the operator within 48 hours after the test. If the pressure test indicated that the facility's piping leaked, then the piping shall be repaired and tested before putting the piping back in service. After the repair of the piping, the operator shall report the repair to the City Engineer and provide certification that the piping has been retested and is not leaking.

(f) Single-phase gas lines are not subject to the pressure test requirements if the lines are protected by a liquid phase trap.

(g) The City Engineer may approve or require other pressure testing or leak detection methods in place of the pressure testing required in this paragraph.

(iv) At production or injection well facilities, all piping shall be routed above the ground and kept within the secondary containment area where practical. Piping that cannot be routed above the ground shall have its location marked

with posts or with other location-identifying markers approved by the City Engineer so that the buried piping can be easily located.

(v) Brine injection wells shall have a working check valve on the flow line at or near the wellhead to avoid backflow.

(vi) All hydrocarbon and brine loading and unloading facility transfer lines that are not in use shall be secured to prevent spillage. A shutoff valve shall be installed at the truck connect point and at the storage vessels. At connect points, impermeable drip containment vessels shall be used and shall be an adequate size to contain all spillage and precipitation to avoid overflow.

(13) Wellheads, flare pits, vents, and flare stacks shall have secondary containment and spill containment areas constructed in a manner to prevent the seepage of hydrocarbons or brine, or both, into the surrounding soils, surface waters, or groundwater. Secondary containment at the wellhead shall be constructed in a manner to capture any leakage of liquid that may occur. In addition, if the wellhead is provided with a pump jack or is converted to a pump jack equipped with a gasoline or diesel-powered engine, then the engine shall also have secondary containment that is sufficient to prevent the seepage of any machine oils or fuels into the surrounding soils, surface waters, or groundwater.

(D) Upon completion of the construction of the facility, but before its use, an operator shall certify, to the City Engineer, that the secondary containment area was constructed according to the approved plan. An operator shall ensure that an approved spill or loss response and remedial action plan is also on file with the City Engineer before a facility is used.

(E) Before any significant modification of the secondary containment area occurs, an operator of a well shall notify the City Engineer and receive approval before making the modification. The City Engineer shall approve or deny the request within 10 days of receipt of the request.

(F) An operator of a well shall perform inspections at the facility at a frequency that is sufficient to ensure that the throughput of fluids in the system does not exceed the primary and secondary containment capacity between inspections. The operator shall perform at least 1 inspection per week.

(G) The City Engineer shall require the installation of an automatic facility shutdown system if the facility has a throughput

of liquids in a 24-hour period that exceeds the containment volume of secondary containment area. The automatic shutdown system shall be designed to prevent liquids from overflowing the secondary containment area. A facility shall be exempt from the requirement of an automatic shutdown system if the facility has staff present 24 hours per day and is equipped with alarm systems on the tank or the tanks of the tank battery.

(H) The monitoring system required by 8.30.460. (C) (2) shall be kept in a functional condition so that water samples can be collected and water level measurements can be taken every 6 months. The water samples shall be tested for specific conductance as an indicator of dissolved solids, concentrations of chloride, and chemical analysis pursuant to subsection (C) (1) (iii) of this section, except the chemical analysis provided by subsection (C) (1) (iii) of this section shall not be required at monitoring systems at surface facilities where liquid hydrocarbons are not handled. The results of the sample analysis shall be provided to the City Engineer as soon as the results are available. If the samples taken by the operator show substantial increases above background water quality, then the operator shall, at a minimum, increase monitoring. If the samples confirm that hydrocarbons are present at levels above background, then the operator shall immediately take remedial action in the form of containment and removal.

(I) An operator shall provide a right of entry to the facility for monitoring at all times to the City Engineer.

(J) Failure to comply with any of the provisions of this Section 8.30.460 shall be an offense. For each day that a facility is operated in violation of this Section 8.30.460, it shall be a separate offense punishable by a maximum fine of \$500.00 per day.

**8.30.470. Restoration of Well Site; Filling and Leveling of Cellars, Pits, and Excavations;**

An operator of a well shall fill and level the cellar and all pits and excavations, remove or eliminate debris, minimize erosion, and restore the well site as nearly as practicable to the original land contour or to a condition approved by the City Engineer as soon as practical after the completion of plugging to the surface, but not more than 6 months after the completion of plugging to the surface.

**8.30.480. Safety Measures.**

If hazards to life or property, or both, exist, then an operator of a well shall post safety signs in conspicuous places around the well or surface facility. The City Engineer may require the installation of fences, gates, or other safety measures.

**8.30.490. Use of Pits to Collect Waste Oil and Tank Bottoms Prohibited; Conveying, Storing, or Disposing of Waste Oil and Tank Bottoms.**

An operator of a well shall not use earthen pits to collect waste oil and tank bottoms. An operator shall not convey, store, or dispose of waste oil and tank bottoms in a manner that causes waste.

**8.30.500. Cleanup and Disposal of Losses.**

An operator shall clean up and dispose of, in a manner consistent with this chapter and all applicable state and federal laws and regulations, losses of oil, gas or brine from wells, flow lines, and associated surface facilities.

**8.30.510. Enforcement.**

The City shall have the right to enforce the provisions of Chapter 8.30 through both its civil or criminal jurisdiction in both the Municipal Court of the City of Lovington or the District Courts of the State of New Mexico. In the event of a violation of this Chapter 8.30, the appropriate authorities of the City, in addition to other available remedies, may institute injunction, mandamus or other appropriate action or proceeding to prevent, enjoin or remedy such violation. A separate offense shall be deemed committed for each day during or on which a violation of this Chapter 8.30 occurs or continues to occur.

**8.30.520. Severability.**

If any part or application of this Chapter 8.30 is held invalid, the remainder or its application to other situations or persons shall not be affected.