Certification Page
Regular and Emergency Rules

Revised September 2016

☐ **Emergency Rules** *(After completing all of Sections 1 through 3, proceed to Section 5 below)* ■ **Regular Rules**

1. General Information

a. Agency/Board Name Department of Environmental Quality - Land Quality Division		
b. Agency/Board Address 200 W. 17th Street, Suite 10	c. City Cheyenne	d. Zip Code 82002
e. Name of Agency Liaison Craig Hults	f. Agency Liaison Telephone Number (307) 777-7066	
g. Agency Liaison Email Address craig.hults@wyo.gov	h. Adoption Date September 25, 2018	
i. Program Land Quality Division - Noncoal		

2. Legislative Enactment

For purposes of this Section 2, "new" only applies to regular rules promulgated in response to a Wyoming legislative enactment not previously addressed in whole or in part by prior rulemaking and does not include rules adopted in response to a federal mandate.

a. Are these rules new as per the above description and the definition of "new" in Chapter 1 of the Rules on Rules?

■ **No.** ☐ **Yes.** Please provide the Enrolled Act Numbers and Years Enacted:

3. Rule Type and Information

a. Provide the Chapter Number, Title, and Proposed Action for Each Chapter.
(Please use the Additional Rule Information form for more than 10 chapters and attach it to this certification)

Chapter Number:	Chapter Name:	
11	In Situ Mining	☐ New ■ Amended ☐ Repealed
		☐ New ☐ Amended ☐ Repealed
		☐ New ☐ Amended ☐ Repealed
		☐ New ☐ Amended ☐ Repealed
		☐ New ☐ Amended ☐ Repealed
		☐ New ☐ Amended ☐ Repealed
		☐ New ☐ Amended ☐ Repealed
		☐ New ☐ Amended ☐ Repealed
		☐ New ☐ Amended ☐ Repealed
		☐ New ☐ Amended ☐ Repealed

3. State Government Notice of Intended Rulemaking

a. Date on which the Proposed Rule Packet (consisting of the Notice of Intent as per W.S. 16-3-103(a), Statement of Principal Reasons, strike and underscore format and a clean copy of each chapter of rules were: October 5, 2018

- approved as to form by the **Registrar of Rules**; and
- provided to the **Legislative Service Office** and **Attorney General:**

4. Public Notice of Intended Rulemaking

a. Notice was mailed 45 days in advance to all persons who made a timely request for advance notice. ☐ **No.** ■ **Yes.** ☐ **N/A**

b. A public hearing was held on the proposed rules. ☐ **No.** ■ **Yes. Please complete the boxes below.**

Date:	Time:	City:	Location:
September 25, 2018	9:00 a.m.	Lander, WY	WY Game & Fish Conference Room, 280 Buena Vista Dr.

c. If applicable, describe the **emergency** which requires promulgation of these rules without providing notice or an opportunity for a public hearing:

5. Final Filing of Rules

a. Date on which the Certification Page with original signatures and final rules were sent to the **Attorney General's Office for the Governor's signature**: October 5, 2018

b. Date on which final rules were approved as to form by the **Secretary of State** and sent to the Legislative Service Office: October 5, 2018

c. ■ The Statement of Reasons is attached to this certification.

6. Agency/Board Certification

The undersigned certifies that the foregoing information is correct.

Signature of Authorized Individual	Alan Edwards
Printed Name of Signatory	Alan Edwards
Signatory Title	Deputy Director, Department of Environmental Quality
Date of Signature	October 5, 2018

7. Governor's Certification

I have reviewed these rules and determined that they:

1. Are within the scope of the statutory authority delegated to the adopting agency;
2. Appear to be within the scope of the legislative purpose of the statutory authority; and, if emergency rules,
3. Are necessary and that I concur in the finding that they are an emergency.

Therefore, I approve the same.

Governor's Signature	
Date of Signature	

BEFORE THE

ENVIRONMENTAL QUALITY COUNCIL

STATE OF WYOMING

September 25, 2018

IN THE MATTER OF THE PROPOSED REVISION OF THE LAND QUALITY DIVISION RULES RELATED TO THE REGULATION OF NON COAL MINING	**)**	**STATEMENT OF PRINCIPAL REASONS (SOPR) FOR ADOPTON** **DOCKET #: 18-4101**

Non Coal Rules and Regulations, Chapter 11

In Situ Mining

Table of Contents

Introduction to Rule Package

Chapter 11, In Situ Mining

Chapter 11, In Situ Mining, of the Land Quality Division's (LQD), Noncoal Rules and Regulations was last revised on November 20, 2013. That revision was intended to reflect the practices at the time and to clarify or amend the rules to remain as effective as Federal regulations. The proposed changes presented in the 2013 package were also intended to address an Environmental Protection Agency (EPA) concern regarding aquifer exemption boundaries and provide greater consistency with the Federal regulations where possible. The proposed rules in this package are intended to make the rules more clear and to increase their effectiveness.

The LQD has been meeting with the Uranium Workgroup on a monthly basis to work through issues with the current chapter. The proposed changes are intended to make the chapter more user friendly for both industry and LQD by being clearer about the intent of the rules. LQD has also been working internally to ensure that Noncoal Chapter 11 is consistent with Coal Chapter 18, which also covers In Situ mining. The organization of the two chapters have been modified to be consistent with each other while maintaining industry specific requirements. This was done in order to make LQD more efficient in administering both coal and noncoal insitu programs.

Summary of Proposed Amendments

The organization of Chapter 11 was changed so that it will closely match coal Chapter 18, In Situ Mining, and therefore increase the effectiveness of LQD administering both coal and noncoal in situ mining programs. The structure of coal Chapter 18 was set up so that it would follow the format set out in coal Chapter 2, Permit Application Requirements. Associated references throughout Chapter 11 have been revised to reflect this change. Table 1 shows the reorganization of Chapter 11.

References to rules or statutes have been modified to remove the date, per the Secretary of State's Rules on Rules. Also, per the Secretary of State's Rules on Rules, when a definition in statute is referenced, only the reference is included, any language repeating the definition has been removed. Also, the term groundwaters has been changed to groundwater throughout the chapter.

Section 1, Definitions:

The numbering convention used in section 1 has been revised to match the fomat use din other LQD chapters. This section was also revised to remove definitions for terms that were no longer used throughout the chapter, and to add other definitions for terms that were used throughout the chapter but had no definition. The following defintions were added for that reason: abandonded well, affected land or affected area, annular space, best practicable technology, confining zone, flow rate, fluid, formation, formation fluid, monitor well, monitor well ring, production zone, public water supply, receiving strata, sealing, target restoration values, the Division, topsoil, waters of the state, well and well stimulation.

Many of the definitions already contained in this section were modified slightly to add clarity. The term "background" was changed to "baseline" because the way the term is used in the chapter refers to the state of water quality prior to mining, whereas background can mean the state of the water quality outside of the affected area before, during and after mining. The term "research and development testing license" has been changed to "research and development license" to reflect the language used in statute (W.S. § 35-11-431). Minor changes were made based on EPA's review of the regulations. Changes were made to correct references.

Section 2, General Requirements:

Section 2 was slightly modified to add language emphasizing that an area permit does not allow for the construction on non-bonded infrastructure. Minor changes were made based on EPA's review of the regulations. Changes were made to correct references.

Section 3, Application Content Requirements - Adjudication:

The current section 3, Application Content Requirements - Adjudication and Baseline Information, has been split into two separate sections to more closely match the format of Coal Chapter 18. This proposed section 3 has been modified from the original to remove references to baseline information. Other minor changes to the language have been made.

Section 4, Application Content Requirements - Baseline Information:

The current section 3, Application Content Requirements - Adjudication and Baseline Information, has been split into two separate sections to more closely match the format of Coal Chapter 18. The

proposed section 4 is the latter half of the current section 3 and minor modifications to the language have been made.

Section 5, Application Content Requirements - Mine Operations Plan:
This section has been slightly modified to help clarify the language and intent of the chapter. Changes were made to correct references.

Section 6, Application Content Requirements - Reclamation Plan:
This section has been slightly modified to help clarify the language and intent of the chapter. Language has been added to require 1 year of quarterly monitoring data to demonstarate groundwater stability during the evaluation of restoration. This requirement came from Guideline 4 and LQD wanted to make this a requirement in Chapter 11. Changes were made to correct references.

Section 7 , Research and Development License Application:
There are no unique revisions to this section.

Section 8, Well Construction Requirements:
A reference to WQD Chapter 8 has been removed for reasons described in the section. Language discussing the distance between wells and buildings or powerlines has been removed as it is a State Engineer's Office requirement and not administered by LQD. Also, metal screws have been exluded from acceptable means to join PVC casing because of associated corrosion from that method.
Part of the current section 11, Prohibitions, was moved to this section. The language discussing the requirements for an operator prior to injection in a new injection well have been modified. Minor changes were made based on EPA's review of the regulations. Changes were made to correct references.

Section 9, Mechanical Intergrity Testing (MIT) of Class III Injection, Production, and Monitoring Wells:
The title and contents of this section have been modified to include production and monitoring wells. These additions were made to be clear that all wells need to be tested for mechanical integrity. Production wells have now been included in the 5 year MIT schedule requirement. The term "conditions", which is a remnant of EPA language, has been changed to "requirements" which is more accurate. LQD has requirements in a permit, and only uses conditions under certain circumstances.

Section 10, Requirements for Plugging of Drill Holes and Repari, Conversion, and Plugging of Wells:
The statement that a well is considered abandoned after two years of non-use has been removed. A detailed explanation for the removal has been included within the section. Minor changes were made based on EPA's review of the regulations. Changes were made to correct references.

Section 11, Aquifer Classification and Exemption:

Some language was removed from this section in order to be more concise and reference CFR language rather than repeat it. Minor changes were made based on EPA's review of the regulations. Changes were made to correct references.

Section 12, Permit Research and Development License Requirements:
Pieces of the current section 11, Prohibitions, have been moved into this section.

Section 13, Duration of Permits and Research and Deveopment Testing Licenses:
There are no unique revisions to this section.

Section 14, Revisions to Class III Well Portions of an In Situ Mine Permit:
A provision has been added that in the case an existing permit is in violation of a new law, that the permit can be reopened to bring it into compliance with that law. Minor changes were made based on EPA's review of the regulations. Changes were made to correct references.

Section 15, Reporting Requirements:
Changes were made to correct references.
Section 16, Monitoring Requirements:
Changes were made to correct references.
Section 17, Maintenance and Retention of Records:
There are no unique revisions to this section.

Section 18, Noncompliance:
This section has been removed from the original section 12, Noncompliance and Excursions, and placed in its own section. This was done to avoid the misconception that an excursion is necessariy a sign of noncompliance. Language has also been added that requires an operator to include procedures for mitigating or controlling an excursion in the report submitted to the Administrator when an issue of noncompliance is discovered. Changes wre made to correct references.

Section 19, Excusrions:
This section has been removed from the original section 12, Noncompliance and Excursions, and placed in its own section. This was done to avoid the misconception that an excursion is necessariy a sign of noncompliance. In this section language has been revised to be more technically accurate and a list of parameters to be tested in the case of an excursion has been replaced with language that will allow for more site specific parameters to be chosen. Changes were made to correct references.

Section 20, Corrective Actions and Compliance Schedule:
The only unique revision to this sections is the addition on language to clarify the intent of the rules.

Section 21, Public Notice, Public Hearing, Comment, and Decision Requirements:
Changes were made to correct referencs.
Section 22, Confidential Records:
There are no unique revisions to this section.

Section 23, Revocation:
Minor changes were made based on EPA's review of the regulations.

****

The authority to amend these rules is provided by Wyoming Statute (W.S.) §§ 35-11-112(a)(i), 35-11-114(b), 35-11-402(a), 35-11-427, 35-11-428, 35-11-429 and 35-11-430.

Proposed Section	**Proposed Section Title [*Current Title (only if changed)*]**	**Current Section**
1	Definitions	1
2	General Requirements	2
3	Application Content Requirements - Adjudication [*Application Content Requirements - Adjudication and Baseline Information*]	3
4	Application Content Requirements - Baseline Information [*Application Content Requirements - Adjudication and Baseline Information*]	3
5	Application Content Requirements - Mine (Operations) Plan	4
6	Application Content Requirements - Reclamation Plan	5
7	Research and Development License Application [Research and Development Testing License Application]	17
8	Well Construction Requirements [*Well Construction Requirements*] & [*Prohibitions*]	6 & 11
9	Mechanical Integrity Testing (MIT) of Class III Injection, Production and Monitor Wells [*Mechanical Integrity Testing (MIT) of Class III Injection Wells*]	7
10	Requirements for Plugging of Drill Holes and Repair, Conversion, and Plugging of Wells	8
11	Aquifer Classification and Exemption	10
12	Permit Research and Development License Requirements [Permit Research and Development Testing License Conditions]	9 & 11
13	Duration of Permits and Research and Development Licenses [Duration of Permits and Research and Development Testing Licenses]	18
14	Revisions to Class III Well Portions of an In Situ Mine Permit or Research and Development License [Revisions to Class III Well Portions of an In Situ Mine Permit or Research and Development Testing License]	19
15	Reporting Requirements	15
16	Monitoring Requirements	14
17	Maintenance and Retention of Records	16
18	Noncompliance [*Noncompliance and Excursions*]	12
19	Excursions [*Noncompliance and Excursions*]	12

Table 1. Reorganization of Chapter 11 Sections.

CHAPTER 11

In Situ mining

Section 1. **Definitions.**

(a) "Abandoned well" means a well whose use has been permanently discontinued or which is in a state of disrepair such that it cannot be used for its intended purpose or for observation purposes.

(b) "Affected Land or Affected Area" means as defined in Wyoming Statute (W.S.) § 35-11-103(e)(xvi).

Woming Statute was spelled out in its first occurrence in the chapter to be consistent with the styles used in other DEQ chapters.

(c) "Annular space" means the space between the well casing and the borehole or the space between two or more strings of well casing.

These, and other definitions, were added because the terms were used throughout Chapter 11 and defining those terms adds clarity to the chapter. This will not be repeated for the other new definitions, as the reason for them being added is the same.

(d) ~~(a)~~"Area Permit" means that, for the purposes of this Chapter, the Administrator may issue a permit on an area basis, rather than for each well individually, provided that the permit is for ~~injection~~ UIC Class III wells:

The word "injection" was replaced with "UIC Class III" because injection wells at these facilities are UIC Class III wells.

(i) Described and identified by location in permit application(s) if the wells are existing wells, except that the Administrator may accept a single description of wells with substantially the same characteristics;

(ii) Within the same well field, facility site, reservoir, project, or similar unit in the same state;

(iii) Operated by a single owner or operator; and

(iv) That are not used to inject hazardous waste.~~; and~~

~~(v) Other than Class VI wells.~~

The language above was removed because the definition specifically states in (d) that it applies only to Class III wells, so "other than Class VI wells" is not

necessary.

(e) ~~(b)~~ "Baseline" ~~"Background"~~ means the constituents or parameters and the concentrations or measurements which describe water quality and water quality variability prior to the injection of recovery fluid.

The word "background" was changed to "baseline" because the way the term is being used in the chapter refers to the state of water quality prior to mining, whereas background can mean the state of the water quality outside of the affected area before, during and after mining.

(f) "Best Practicable Technology" means as defined in W.S. § 35-11-103(f)(i).

This definition was modified to reference the statute to be consistent with the format of the rest of the chapter.

(g) ~~(c)~~ "Catastrophic collapse" means the sudden and utter failure of overlying strata caused by removal of underlying materials. This can occur in salt solution mining and other processes that remove reservoir material to recover product.

The extra language was added to provide an example of the type of extraction that would potentially produce catastrophic collapse and to separate ISL from extractive solution mining.

(h) ~~(d)~~ "Class III well" means a well used for in situ mining for the injection of recovery fluid for the purpose of extracting minerals, or products, including a well used in:

(i) Mining of sulfur by the Frasch process;

(ii) In situ mining of uranium or other metals; this category includes only in situ production from ore bodies which have not been conventionally mined. Wells used for solution mining (such as ~~stopes~~ stope leaching) of conventional mines are classified as Class V wells;

"Stopes" was changed to "stope" because that industry uses the term stope leaching, not stopes leaching.

(iii) In situ mining of salts, trona, or potash. With the exception that wells, used in reclamation activities, to inject into previously mined areas of underground trona mines will be classified as Class V wells rather than Class III wells (and therefore not regulated under this Chapter), regardless of whether such wells are used for secondary recovery of trona;

(iv) Fossil fuel recovery, including oil shale and tar sands; or

(v) Experimental technologies, such as pilot scale in situ mining wells in previously unmined areas.

(i) ~~(e)~~ "Compliance schedule" means a schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (for example, actions, operations, or milestone events) leading to compliance with the applicable statutes and regulations.

~~(f) "Conventional mine" means an open pit or underground excavation for the production of minerals.~~

The definition of conventional mine was removed because the term is not used in this chapter.

(j) "Confining zone" means a geological formation, group of formations, or part of a formation that is capable of significantly limiting fluid movement above or below an injection zone.

(k) "Contaminant" means any unwanted or unauthorized physical, chemical, biological, or radiological substance or matter in water.

40 CFR 144.3 defines Contaminant. In review of the Non Coal Chapter 11 EPA indicated this is a stringency concern, and recommended including the definition.

(l) ~~(g)~~ "Excursion" means as defined in W.S. § 35-11-103(f)(ii) ~~(2003~~).

When referencing statutes or rules the date has been removed pursiuant to the Secretary of State's Rules on Rules.

(m) ~~(h)~~ "Exempted aquifer" means an aquifer or its portion that meets the criteria in the definition of "Underground Source of Water" but which has been exempted according to the procedures of Section ~~10~~11 of this Chapter.

Section numbers have been updated to reflect the restructuring of Chapter 11. This explanation will not be included for each of these changes.

(n) ~~(i)~~"Fact sheet" means that for every in situ class III ~~uranium~~ draft permit a fact sheet must be created that briefly sets forth the principal facts and the significant factual, legal, methodological and policy questions considered in preparing the draft permit. The Administrator shall send this fact sheet to the applicant and, on request to any other person. The fact sheet shall include, when applicable:

The word "uranium" has been removed because this chapter is meant to address all noncoal in situ mining.

(i) A brief description of the type of facility or activity which is the subject of the draft permit;

(ii) The type and quantity of wastes, fluids, or pollutants which are proposed

to be or are being treated, stored, disposed of, injected, emitted, or discharged;

(iii) Reasons why any requested variances or alternatives to required standards do or do not appear justified;

(iv) A description of the procedures for reaching a final decision on the draft permit including:

(A) The beginning and ending dates of the comment period and the address where comments will be received;

(B) Procedures for requesting a hearing and the nature of that hearing; and

(C) Any other procedures by which the public may participate in the final decision.

(v) Name and telephone number of a person to contact for additional information.

(o) "Flow rate" means the volume per time unit given to the flow of gases or other fluid substance which emerges from an orifice, pump, turbine or passes along a conduit or channel.

(p) "Fluid" means material or substance which flows or moves whether in a semisolid, liquid, sludge, gas, or any other form or state.

(q) "Formation" means a body of rock characterized by a degree of lithologic homogeneity which is prevailingly, but not necessarily, tabular and is mappable on the earth's surface or traceable in the subsurface.

(r) "Formation fluid" means "fluid" present in a "formation" under natural conditions as opposed to introduced fluids.

(s) ~~(j)~~ "Groundwater restoration" means as defined in W.S. § 35-11-103(f)(iii) ~~(2003)~~.

(t) ~~(k)~~ "Injection well" means a well or conduit through which recovery fluid is introduced into the subsurface. If a well is used for both injection and recovery, it is considered an injection well for the purposes of this Chapter until the operator has adequately demonstrated to the Administrator that the well has been converted to a use~~(s),~~ other than injection, per the requirements of Section ~~8~~10 of this Chapter.

(u) ~~(l)~~ "In situ mining" means as defined in W.S. § 35-11-103(f)(iv) ~~(2003)~~.

(v) ~~(m)~~ "License area" means, with respect to an In Situ Research and Development

~~Testing~~ License, an area described in the license application within which all affected land and water is contained.

The term Research and Development Testing License has been changed to Research and Development License throughout the chapter because that is how it is referred to in statute.

(w) ~~(n)~~ "Mechanical integrity" means, ~~for~~ an injection well, a production well, or monitor well where there is no significant leak in the casing, tubing or packer, and there is no significant fluid movement into an unauthorized zone through vertical channels adjacent to the injection or recovery well bore.

Mechanical Integrity applies not only to injection wells but also to production wells and monitor wells, which is why the additional language was added.

(x) "Mechanical Integrity Testing" (MIT) means ~~T~~the testing used to determine that a well has mechanical integrity as~~determination that there are no significant leaks or fluid movement is based on the results of the mechanical integrity testing~~ required in Section ~~7~~ 9 of this Chapter. A schedule and methods for Mechanical Integrity Testing shall be approved by the Administrator and included in the permit or Research and Development License application (per Section 5(a)(xvi) of this Chapter) and shall constitute requirements of the permit.

For clarity purposes a new definition "Mechanical Integrity Testing" was created by removing language from Mechnical integrity and adding additional language.

(y) ~~(o)~~ "Mining permit or permit" means ~~a Mining Permit,~~ as defined in W.S. § 35-11-103(e)(xi) ~~(2003)~~.

The definition in statute is actually for "mining permit" not "permit.

(z) "Monitor well" means a well constructed or utilized to measure static water levels or to obtain liquid, solid, or gaseous analytical samples or other physical data that would be used for controlling the operations or to indicate potential circumstances that could affect the environment.

(aa) "Monitor well ring" means the series of monitor wells surrounding a wellfield used to assess possible chemical and physical changes in groundwater due to ISR development.

(ab) ~~(s)~~ "Production well or Recovery well" means a well ~~or conduit~~ through which a recovery fluid~~,~~ or soluble mineral~~, or product~~ is produced or recovered from the subsurface. If a well is used for both injection and recovery, it is considered an injection well for the purposes of this chapter until the operator adequately ~~demonstrated~~ demonstrates to the ~~Administrator~~ Department that the well has been converted to use~~(s), other than injection, per the requirements of Section 8 of this Chapter~~ as a Production or Recovery Well.

This definition was modified in several ways to be more useful. The term "production well" is used interchangeably with "recovery well" throughout the

document. The word "conduit" added nothing to the definition, it was just another way of saying well. The language "or product" was removed because it was confusing, nothing would be recovered other than fluid and mineral. The term "soluble" was added because the mineral would have to be soluble to be extracted using this method. "Or recovery" was added because it is a more accurate way of describing the extraction of the fluids and minerals. The Section 8 reference was removed and replaced with "as a Production or Recovery Well" to be concise.

(ac) "Production zone" means as defined in W.S. § 35-11-103(f)(v).

The numbering convention has been changed to match that used in other LQD rules.

(ad) "Public water supply" means as defined in W.S. § 35-11-103(c)(viii).

(ae) "Receiving strata" means the geologic units within which the production zones are contained.

~~(u) "Stratum (plural strata)" means a single sedimentary bed or layer, regardless of thickness, that consists of generally the same kind of rock material.~~

This definition was deleted because throughout the chapter the term "receiving strata" is predominately used. the definition for receiving strata was added above (see (dd)). Also, industry uses the term "formation" more than strata. A definition for formation has also been added (see (p)).

(af) ~~(r)~~ "Recovery fluid" means any material which flows or moves, whether semi-solid, liquid, sludge, gas or other form or state, used to dissolve, leach, gasify or extract a mineral. This may also include restoration fluid. ~~as defined in W.S. § 35-11-103(f)(v) (2003).~~

40 CFR 144.3 defines injection well. In EPA's review of Non Coal Chapter 11 the EPA had strigency concerns in how the State's definition of injection well talked only about recovery fluid. The definition of recovery fluid covers the fluids used to extract a mineral. EPA concern is that it did not include restoration fluid. This was a common concern throughout the regulations. To address EPA concerns the WDEQ suggest making the above change.

(ag) ~~(t)~~ "Research and Development ~~Testing~~ License" means the permitting vehicle issued by the Administrator, per W.S. § 35-11-431 et seq. ~~(2003)~~, approving research and development testing as defined in W.S. § 35-11-103(f)(viii) ~~(2003)~~.

The term "research and development testing license" has been changed to "research and development license" to reflect the language used in statute (W.S. § 35-11-431). This change has been made throughout the chapter. An explanation for this change will not be repeated later in the document.

(ah) "Sealing" means the operation whereby a cement slurry or other approved material is pumped into a drilled hole and/or forced into a well's annulus between the borehole and the casing. "Sealant materials" are materials that are stable, have very low to no permeability and possesses minimum shrinking properties such that they are optimal sealing materials for well plugging and drill hole abandonment.

(ai) "Target Restoration Values" means the numerical groundwater protection standards, developed on a parameter-by-parameter basis for water quality constituents, used to assess the success of groundwater restoration within the production zone.

(aj) "The Division" means the Land Quality Division of the Wyoming Department of Environmental Quality.

(ak) "Topsoil" means as defined in W.S. § 35-11-103(e)(xiv).

(al) ~~(v)~~ "Underground Injection Control" (UIC) means the Underground Injection Control program under Part C of the Safe Drinking Water Act (42 USC 300h *et seq.* (2005)), including an "approved State program."

Underground injection control was spelled out to be consistent with the style of other definitions. The above reference has been corrected.

(am) ~~(w)~~ "Underground Source of Water" (USW) means:

(i) Those aquifers or portions thereof which have a total dissolved solids content of less than 10,000 milligrams per liter (mg/l) and which contain a sufficient quantity of water to supply a public water supply as defined in W.S. § 35-11-103(c)(viii) ~~(2003)~~;

(ii) Those that can classified as a "known source of supply" pursuant to Chapter 8, Section 4(c), Quality Standards for Wyoming Groundwaters, Water Quality Division Rules and Regulations ~~(as amended April 27, 2005)~~.

(an) ~~(x)~~ "Upper Control Limit" (UCL) means a value greater than the maximum value of a chemical or physical parameter that can be attributed to natural fluctuations and analytical variability. UCL parameters and amounts are determined from the baseline sampling and agreed upon by the Administrator and the operator prior to initiation of mining. UCLs are used to determine when there is movement of recovery fluid out of authorized areas or unapproved changes to a chemical or physical parameter. ~~For certain parameters, such as pH, a UCL may be defined as an acceptable range of values.~~

This list of parameters in this definition has been removed as it is incomplete, and is available in Reference Document 4.

~~(y) "Uses for which the water was suitable" means those uses of the premining groundwater which are or could have reasonably been developed considering established water~~

~~quality standards and the premining groundwater quality conditions. Such uses shall include, but are not limited to, municipal and domestic drinking water, industrial, agricultural and wildlife uses.~~

The definition has been removed because the word "suitable" is subject to interpretation which made it difficult to enforce.

(ao) "Waters of the State" means as defined in W.S. § 35-11-103(c)(vi).

(ap) "Well" means a bored, drilled, or driven shaft whose depth is greater than the largest surface dimension; or, a dug hole whose depth is greater than the largest surface dimension; or, an improved sinkhole, or a subsurface fluid distribution system, as codified in the UIC regulations at 40 CFR 144.3.

(aq) ~~(z)~~ "Well field area" means the surface area overlying the injection and recovery zones. This area may be all or a portion of the entire area proposed for the injection and production of recovery fluid throughout the life of the mine.

(ar) "Well Stimulation" means a well mediation performed on an ISR well to increase production by improving the flow of injection fluids from the injection wells into the production well bore.

Section 2. General Requirements.

It is the operator's responsibility for the submission of an application to obtain a permit in accordance with these regulations. All applications for mining permits and amendments must be submitted in a format satisfactory to the Administrator. The applicant shall provide information that is complete, current, presented clearly and concisely, and supported by appropriate references to technical and other written material. The Administrator may require the applicant to supplement the application with information beyond that specifically required by these rules if the Administrator believes that additional information is necessary to make an informed decision.

This language was added at the request of the Uranium Workgroup to keep Chapter 11 consistent with Guideline 4, In Situ Mining Noncoal.

40 CFR 144.31(b) indicates it is the operators duty to obtain a permit. In review of Non Coal Chapter 11 EPA expressed a stringency concern comparing Chapter 11 with 40 CFR 144.31. The changes above address those concerns.

(a) In addition to the requirements of this Chapter, Chapter 7, Noncoal Rules and Regulations, shall apply to in situ mining or Research and Development ~~Testing~~ License operations.

(b) Applicable sections of Chapters 8 and 27 of the Water Quality Division Rules and Regulations ~~(as amended April 27, 2005)~~, regarding groundwater use classification, quality

standards, and testing procedures, and, outside the aquifer exemption boundary, applicable Maximum Contaminant Levels from the U.S. Environmental Protection Agency Rules (40 CFR 141 as amended ~~July 1~~ May22, 2001), shall also apply to in situ mining or Research and Development ~~Testing~~ License operations.

Chapter 27, Underground Injection Control Program, was added as it is an appropriate reference for this section. The above reference has been corrected.

(c) No in situ mining shall commence or be conducted unless a valid permit or Research and Development ~~Testing~~ License has been issued to the operator from the Department. Applications for a permit or Research and Development ~~Testing~~ License shall be filed with the Administrator. The applicant shall file two copies of the application to the Administrator in a format required by the Administrator.

(d) The Administrator shall review the permit or Research and Development ~~Testing~~ License application and determine its suitability for publication in accordance with W.S. § 35-11-406 ~~(2003)~~. A permit or Research and Development ~~Testing~~ License shall be issued by the Director upon the recommendation of the Administrator. In meeting the requirements of 35-11-406(a)(ix) the map should extend a minimum of one mile beyond the permit boundary.

40 CFR 144.31(e)(7) requires that applicants for a permit provide a topographic map one mile beyond the property boundaries including all the items listed therein. In review of Non Coal Chapter 11 EPA expressed concerns that the State's regulations did not specify a distance. The above language was added to resolve EPA concerns.

(e) Area permits shall specify the area within which underground injections are authorized and the requirements for construction, monitoring, reporting, operation and abandonment for all wells authorized. The area permit may authorize the permittee to construct and operate, convert, or plug and abandon wells within the area permit provided the permittee notifies the Administrator at such times as the permit requires, the additional well meets the requirements under the definition of "area permit" and this section and the cumulative effects of drilling and operation of additional injection wells are considered by the Administrator during evaluation of the permit application and are acceptable to the Administrator. The area permit does not allow for the construction of non-bonded infrastructure.

This language was added as emphasis that infrastructure cannot be constructed without being properly bonded.

(f) The operator shall allow the Administrator, or an authorized representative of the Division, to enter and inspect any property as provided by W.S. §§ 35-11-109(a)(iv), (v) and (vi) ~~(2003)~~.

(g) All applications shall be signed by a responsible corporate officer. All reports required by permits (including Annual Reports, Quarterly Monitoring Reports, and reports related to excursion monitoring and control) or other information required by the Administrator which pertain to Class III injection wells shall be signed by a responsible corporate officer or

duly authorized representative. Any responsible corporate officer or duly authorized representative signing a document under this Section shall make the following certification:

> I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations.

(i) "Responsible corporate officer" means:

(A) A president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs policy or decision-making functions for the corporation, or

(B) The manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures, or

(C) In the case of a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

(D) For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

(I) The chief executive officer of the agency, or

(II) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

(ii) "Duly authorized representative" means a person who is authorized to sign a document to be submitted to the Land Quality Division as part of the official record regarding an in situ mining permit or Research and Development ~~Testing~~ License. A person shall qualify for this title only if:

(A) The authorization is made in writing by a responsible corporate officer;

(B) The authorization specifies either an individual or a position

having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and

(C) The written authorization is submitted to the Director.

(iii) If the responsible corporate officer or duly authorized representative is no longer correctly listed with the Administrator, a new name must be submitted, with required written authorization as required by Sections 2(g)(ii)(A) and (C) of this Chapter, to the Administrator prior to or with any reports, information, or applications to be signed by that individual.

Section 3. **Application Content Requirements - Adjudication ~~and Baseline Information~~.**

The original section 3, adjudication and baseline information, has been split into two different sections to more closely match coal Chapter 18, which was structured to match coal Chapter 2.

(a) All applications for a permit ~~shall~~ must include, at a minimum, the information and materials related to adjudication ~~and baseline information~~ required in: W.S. § 35-11-428; Chapter 1 and Chapter 2, Sections 1 and 2(a)(i)(A) and (J) of these rules and regulations; and:

(i) A description of the activities conducted by the applicant for which permits are required under: the Resource Conservation and Recovery Act (RCRA), the ~~Underground Injection Control~~ UIC program of the Safe Drinking Water Act; the National Pollution Discharge Elimination System (NPDES) program of the Clean Water Act; and the Prevention of Significant Deterioration program of the Clean Air Act.

(ii) A listing of all permits or construction approvals received or applied for in association with the in situ permit area under the following programs:

(A) Hazardous Waste Management program under RCRA;

(B) UIC program under the Safe Drinking Water Act (as it pertains to wells other than Class III wells);

(C) Aquifer exemption from the EPA;

(D) ~~(C)~~ NPDES program under the Clean Water Act (CWA);

(E) ~~(D)~~ Prevention of Significant Deterioration (PSD) program under the Clean Air Act (CAA);

(F) ~~(E)~~ Nonattainment program under the CAA;

(G) ~~(F)~~ National Emission Standards for Hazardous Pollutants preconstruction approval under the CAA;

(H) ~~(G)~~ Dredge and fill permits under Section 404 of the CWA;

(I) ~~(H)~~ U.S. Nuclear Regulatory Commission, or Wyoming Uranium Recovery Program, Source Material License; or

(J) ~~(I)~~ Other relevant environmental permits, including State permits.

The aquifer exemption for the EPA was added as it will be needed before a permit can be issued by LQD. The reference to the Wyoming Uranium Recovery Program was added in anticipation of Wyoming becoming an Agreement State and the NRC relinquishing authority to the State.

Section 4. ~~Section 3(a)(iii) (a)(xv)~~ **Application Content Requirements - Baseline Information.**

The original section 3, adjudication and baseline information, has been split into two different sections.

(a) All applications for a permit must include, at a minimum, the information and materials related to baseline information required in: W.S. § 35-11-428; Chapter 1 and Chapter 2, Sections 2(a)(i)(A) through (J) of these rules and regulations; and:

The above was split off from the introductory section to the original section 3.

(i) ~~(iii)~~ A soil survey which maps and describes the general distribution of the soils within the permit area. A detailed soil survey and associated laboratory analysis may be required for soils on the affected lands.

(ii) ~~(iv)~~ A description of the nature and depth of the topsoil that will be removed from proposed affected land prior to disturbance by mining activities.

(iii) ~~(v)~~ A survey of vegetative cover and species diversity on the proposed affected land determined by scientifically acceptable sampling procedures. Vegetation productivity sampling may be required, at the Administrator's discretion, depending on the nature of the communities to be disturbed. However, if existing data from other sources, such as National Resources Conservation Service publications or adjacent permit areas, can be provided and demonstrated to be applicable to the communities in question, the collection of production data may be waived.

(iv) ~~(vi)~~ A list of the indigenous vertebrate species by common and scientific names observed within the proposed permit area. Surface waters supporting fish that may be affected by the operation shall be sampled for benthic invertebrates and periphyton. As required

in Chapter 2, Section 1(f), the applicant shall consult with the Wyoming Game and Fish Department and the U.S. Fish and Wildlife Service prior to submission of a permit application to determine permitting requirements.

(v) ~~(vii)~~ A description of climatic conditions of the site in accordance with the requirements of Chapter 2, Section 2(a)(i)(C) and (D).

(vi) ~~(viii)~~ A description of the geology, including:

(A) Discussion, supported by maps, cross-sections and geologist's, driller's, and geophysical logs, which identifies: formations and aquifers; geologic features that could influence aquifer properties; and the areal and stratigraphic position of the production zone in relation to other geologic features within the proposed permit or Research and Development ~~Testing~~ License area; and

(B) A generalized map and cross-sections illustrating the regional geologic setting.

(vii) ~~(ix)~~ A geochemical, lithological, and mineralogical description of the receiving strata and any aquifers that may be affected by the injection of recovery fluid.

(viii) ~~(x)~~ For surface waters within the permit area and on adjacent lands:

(A) The names, descriptions, and a map of all such waters; and

(B) A list and map of all adjudicated and permitted surface water rights.

(ix) ~~(xi)~~ For groundwater~~s~~ within the permit area and on adjacent lands:

Groundwaters has been changed to groundwater throughout the document.

(A) The names (or numbers), descriptions, and a map of all wells installed for water supply or monitoring and all wells which penetrate the production zone. The description shall include: names of present owners, well completion data, producing interval(s), and variations in water level to the extent such information is available in the public records and from a reasonable inspection of the property.

(B) A list and map of all adjudicated and permitted groundwater rights.

(x) ~~(xii)~~ A list and map of all abandoned wells and drill holes, giving location, depth, producing interval(s), type of use, condition of casing, plugging procedures and date of completion for each well or drill hole within the permit area and on adjacent lands to the extent such information is available in public records and from a reasonable inspection of the property.

(xi) ~~(xiii)~~ A groundwater potentiometric surface contour map for each aquifer

that may be affected by the mining process, including overlying and underlying aquifers in which monitoring wells are installed.

(xii) ~~(xiv)~~ Aquifer characteristics for the water saturated portions of the receiving strata and aquifers which may be affected by the mining process, which may include, but is not limited to, aquifer thickness, velocity and direction of groundwater movement, storage coefficients or specific yields, transmissivity or hydraulic conductivity and the direction(s) of preferred flow under hydraulic stress in the saturated zones of the receiving strata. The extent of hydraulic connection between the receiving strata and overlying and underlying aquifers, and the hydraulic characteristics of any influencing boundaries in or near the proposed well field area(s) shall be determined and described. Information needed to meet the requirements of Section 8(d) of this Chapter shall also be provided.

(xiii) ~~(xv)~~ Tabulated water quality analyses for samples collected from all groundwater~~s~~ which may be affected by the proposed operation. Sampling to characterize the pre-mining groundwater quality and its variability shall be conducted in accordance with established Department guidelines. All baseline groundwater quantity and quality information must be provided in an electronic format prescribed by and/or acceptable to the Administrator.

This language was added to be consistent with Guideline 4 and to more accurately reflect how the Division is currently collecting this information.

Section 5. ~~Section 4.~~ **Application Content Requirements - Mine (Operations) Plan**

(a) All applications for a mine permit and amendments must include, at a minimum, the information and materials related to mine plans required in: W.S. §§ 35-11-428 and 429 ~~(2003)~~; Chapter 1, Chapter 2, Section 1, and Chapter 3, Section 2 (excepting Subsections (b)(ii) and (iii), (c)(iv), and (h) and, with respect to subsection (k)(i), as modified in Section ~~5~~6(a)(iv) of this Chapter); and

The language was modified to clarify that this section also applies to applications for an amendment.

(i) Contour (topographic) map(s) which accurately locate and identify the permit area and show the location of any public highways, dwellings, utilities and easements within the permit area and adjacent lands in relation to all proposed affected lands and proposed activities associated with the operation including, but not limited to: plant site, chemical storage areas, wellfield areas, roads, temporary and permanent drainage diversions, impoundments, stockpiles for topsoil, ore product and waste, and all processing facilities. The map(s) shall also clearly illustrate the location of monitoring wells required by Section ~~14~~16 of this Chapter.

(ii) Discussion and illustration of the proposed mining schedule, including:

(A) A list of the proposed wellfields;

(B) A map(s), which shows the proposed sequence for mining of the

wellfields;

(C) A proposed time schedule for mining each wellfield; and

(D) The capacity of the water/waste water treatment systems and correlation of the capacity with the mining and restoration schedules.

(iii) The procedure(s) used to protect the topsoil and subsoil, as required in Chapter 3, Section 2(c)(i) through (iii), from excessive compaction, degradation, and wind and water erosion where stockpiling of topsoil and subsoil is necessary. The Administrator may authorize topsoil to remain on areas where minor disturbance will occur associated with construction and installation activities including but not limited to light-use roads, signs, wellfields, utility lines, fences, monitoring stations, and drilling provided that the minor disturbance will not destroy the protective vegetative cover, increase erosion, nor adversely affect the soil resource.

(iv) A description of and dimensions for all proposed impoundments~~.~~, as defined by the State Engineer's Office (SEO). A leak detection plan ~~is~~ may be required for impoundments that are not regulated by the NRC. For impoundments holding toxic or acid forming material, contingency plans to control unanticipated leakage shall be provided.

The language regarding the SEO was added for clarification, it is not a change in the current process.

(v) A description of all temporary and permanent surface water diversions in accordance with the requirements of Chapter 3, Sections 2(e) and (f).

(vi) The composition of all known and anticipated wastes and procedures for their disposal.

(vii) Procedures for ensuring that all acid-forming, or toxic, or other materials constituting a fire or health and safety hazard encountered during or created by the mining process are promptly treated, confined, or disposed of in a manner designed to prevent pollution of surface water or groundwater, degradation of soils, or vegetation, or threat to human or animal health and safety.

(viii) A description of the mitigating measures developed from the consultations with the Wyoming Game and Fish Department and the U.S. Fish and Wildlife Service as required per Chapter 2, Section 1(f).

(ix) A description of the location within the permit area where underground injection is authorized.

(x) A description of the proposed method of operation, including:

(A) Injection rate, with the average and maximum daily rate and the

volume of fluid to be injected;

(B) Injection pressures, with average and maximum injection pressures, as required by Section ~~11~~8 of this Chapter;

(C) Proposed stimulation program;

(D) Type of injection/recovery fluid to be used;

The language was revised to be more accurate.

(E) Proposed injection procedure; and

(F) Expected changes in pressure, native groundwater displacement and direction of movement of injection fluid.

(xi) The following information concerning the production zone shall be determined or calculated and submitted for new Class III wells or projects:

(A) Where the production zone is in a receiving strata which is naturally water-bearing:

(I) Fluid pressure;

(II) Fracture pressure; and

(III) Physical and chemical characteristics of the receiving strata fluids.

(B) Where the receiving strata is not a water-bearing formation, the fracture pressure in the production zone.

(xii) The procedure(s) to assure that the installation of recovery, injection, and monitor wells will not result in hydraulic communication between the production zone and overlying or underlying stratigraphic horizons.

(xiii) The procedures utilized to verify that the injection and recovery wells are in communication with monitor wells completed in the receiving strata and employed for the purpose of detecting excursions.

(xiv) Descriptions of:

(A) The completion details for all monitor wells; and

(B) A detailed description of the typical proposed well completion for monitoring, injection and recovery wells, as required by Section ~~6~~8 of this Chapter.

Monitoring wells were included, as this information is important as well.

(xv) Details of a monitoring program and reporting schedule as required by Sections ~~14~~16 and 15 of this Chapter, respectively.

(xvi) A schedule for and description of the procedures to demonstrate and maintain mechanical integrity of all monitoring, recovery, and Class III injection wells as required by Section ~~7~~9 of this Chapter. Monitor wells need only be tested upon completion.

This language was added for clarification purposes. Currently monitoring and recovery wells are required to be tested for mechanical integrity.

(xvii) A corrective action plan, for ~~such~~ any wells which are improperly sealed, completed, or abandoned, consisting of such steps or modifications as are necessary to prevent movement of fluid into unauthorized zones as required by Section ~~13~~20 of this Chapter.

(xviii) A description of chemical reactions that may occur during mining as a result of recovery fluid injection.

(xix) A subsidence analysis, using established geotechnical principles, which estimates, based upon the proposed mining operation, the effect of subsidence upon the land surface and overlying groundwater aquifers. Subsidence shall be planned and controlled to the extent that the values and uses of the surface land resources and the groundwater aquifers will not be degraded.

(xx) A description of measures employed to prevent an excursion, and contingency and corrective action plans to be implemented in the event of an excursion, in accordance with Sections ~~12~~19 and ~~13~~20 of this Chapter.

(xxi) An assessment of impacts that may reasonably be expected as a result of the mining operation to water resources and water rights inside the permit area and on adjacent lands, and the steps that will be taken to mitigate these impacts.

(xxii) A maintenance plan to ensure:

(A) Wells are sufficiently covered to protect against entrance of undesirable material into the well;

(B) The wells are marked and can be clearly seen; ~~and~~

(C) The area surrounding each well is kept clear of brush or debris; ~~and~~

(D) Monitoring equipment is appropriately serviced and maintained so the monitoring requirements in Section ~~14~~16(a)(i) of this Chapter can be met~~.~~; and

(E) Spill Response and Reporting plan.

This was added so that there is a requirement to track and report spills, which is important when it comes to reclamation and ensuring that lands impacted by spills meet reclamation standars before financial assurance is released.

Section 6. ~~Section 5.~~ **Application Content Requirements - Reclamation Plan.**

(a) All applications for a permit shall include, at a minimum, the information and materials related to reclamation required in: W.S. §§ 35-11-428 and 429 ~~(2003)~~; Chapter 1, Chapter 2, Section 1, and Chapter 3, Section 2 (excepting Subsections (b)(ii) and (iii), (c)(iv), and (h) and with respect to subsection (k)(i), as modified in Section ~~5~~6(a)(iv) of this Chapter); and

(i) Discussion and illustration of the proposed groundwater restoration schedule, including:

(A) A list of the proposed wellfields;

(B) A map(s) which shows the proposed sequence for restoration of the wellfields;

(C) A proposed time schedule for each wellfield;

(D) The capacity of the water/waste water treatment systems and correlation of the capacity with the mining and restoration schedules.

(ii) The information necessary to demonstrate that the operation will achieve the standard of returning all affected groundwater to the pre-mining class of use or better using Best Practicable Technology, in accordance with the following provisions:

(A) In deciding whether a demonstration has been made by the operator that Best Practicable Technology has been applied, the Administrator shall, at a minimum, take the following factors into consideration:

(I) The pre-mining background baseline water quality;

(II) The character and degree of injury or interference with the health and well-being of the people, animals, wildlife, aquatic like and plant life affected:

(III) The social and economic value of the source of pollution;

(IV) The social and economic value of the impacted aquifer;

(V) The priority of location in the area involved;

(VI) The technical practicability and economic reasonableness of reducing or eliminating the source of pollution;

(VII) The effect upon the environment; and

(VIII) The potential impacts to other waters of the state.

(B) The evaluation of restoration of the groundwater within the production zone shall be based on the ~~average quality over the production zone. For groundwater affected outside the production zone, the~~ target restoration ~~shall be evaluated separately for each well~~ values;

The language was simplified to be clearer and allow for flexibility in case of changes to EPA rules.

(C) The evaluation of groundwater restoration success is conducted on a parameter by parameter basis; and

The language was added to be clearer about the intent of the rule.

(D) Regardless of the restored groundwater quality in the production zone, the adjacent aquifers and other waters within the same aquifers must be fully protected to their class of use and, outside the aquifer exemption boundary, to applicable Maximum Contaminant Levels from the U.S. Environmental Protection Agency Rules (40 CFR 141 as amended ~~July 1~~ May 22, 2001). If the restored groundwater in the production zone poses a threat to groundwater outside the production zone, then flow and/or fate and transport models shall be used to assist in determining what action, including monitoring sufficient to verify the model, needs to be taken. A monitoring program sufficient to verify the model may be required.

The above reference has been corrected.

(E) If the operator demonstrates the application of Best Practicable Technology to the satisfaction of the Administrator, but is unable to achieve the pre-mining class of use, then the operator can:

(I) Request that the Director recommend the Environmental Quality Council modify the water quality criteria used for ground water restoration, in accordance with W.S. 35-11-429(a)(iii) ~~(2003~~);

The above reference has been corrected.

(II) Provided the operator can demonstrate the requirements of Section ~~5~~6(a)(ii)(D) will be met.

(F) A minimum of 1 year of quarterly monitoring data for a full suite of parameters, except those shown to be unaffected by the mining and restoration process, must be provided to demonstrate groundwater stability during the evaluation of restoration.

This is a current requirement in Guideline 4 Section VII(B)(7)(b). LQD wanted to

place this in the rules, rather than it just being housed in guidance. The portion "for a full suite of parameters, except those shown to be unaffected by the mining and restoration process" was added so that industry will not have to test for unnecessary and inappropriate parameters.

(iii) A plan for well repair, plugging, and conversion as required by Section ~~8~~10 of this Chapter.

(iv) A proposed time schedule for achieving reclamation, including commitments that reclamation of mining-related surface disturbances in any mining area shall be completed within two years following approval of groundwater restoration in that area and that reclamation of all mining-related surface disturbances shall be completed within two years following approval of final groundwater restoration within the permit area.

(v) A contour map showing the approximate post-reclamation surface contours for affected lands and the immediate surrounding areas if the operation will substantially alter the pre-mining contours.

(vi) Procedures for reestablishing any surface drainage that may be disrupted by the mining operation.

(vii) Procedures for the reclamation of any temporary diversion ditches or impoundments.

(viii) Procedures for permanently disposing of any toxic or acid-forming materials.

(ix) Procedures for removing and disposing of structures used in conjunction with the mining operation.

(x) Procedures for mitigating or controlling the effects of subsidence.

(xi) Procedures for ground surface preparation, depth of topsoil replacement, erosion control and water conservation practices.

(xii) Procedures for revegetation to return the affected lands to the proposed post-mining land use and procedures for evaluation of revegetation success in accordance with Chapter 3, Section 2(d).

(xiii) The estimated costs for reclamation as computed in accordance with established engineering principles, including, but not limited to:

(A) Cost of removing and disposing of structures;

(B) Cost of ~~topsoiling~~ topsoil restoration and reseeding all affected lands;

(C) Cost of facilities, materials, and chemicals used for groundwater restoration;

(D) Cost of capping, plugging, and sealing of all wells; and

(E) Costs for personnel working on reclamation-related activities.

Section 7. ~~Section 17.~~ **Research and Development ~~Testing~~ License Application.**

(a) In addition to the information required by this Section, an application for a Research and Development ~~Testing~~ License shall contain all information required by W.S. § 35-11-431 ~~(2003)~~ and Sections ~~8~~6 through 12 and 15 through 20 ~~16~~ of this Chapter and shall:

(i) Demonstrate that the operation is designed to:

(A) Evaluate mineability or workability of a mineral deposit using in situ mining techniques;

(B) Affect the land surface, surface waters and groundwater of the State to the minimum extent necessary; and

(C) Provide pre-mining, operational and post-mining data, information and experience that will be used for developing reclamation techniques for in situ mining.

(ii) Contain a general description of the land, geology and groundwater hydrology for the proposed Research and Development ~~Testing~~ License area including:

(A) The land use, vegetation, and topsoil characteristics of the affected lands;

(B) Location and name of surface waters and adjudicated water rights inside and within one-half mile of the Research and Development ~~Testing~~ License area;

(C) Locations and present owners of all wells inside and within one-half mile of the Research and Development ~~Testing~~ License area to include information concerning plugging and well completion and producing interval(s) to the extent such information is available in the public record or by a reasonable inspection of the property; and

(D) Groundwater quality data and potentiometric surface elevations for aquifers that may be affected by the proposed operation.

Section 8. ~~(Sections 6 & 11)~~ **Well Construction Requirements.**

(a) Methods for well construction shall:

(i) Be approved by the Administrator and included in the permit or Research and Development ~~Testing~~ License application (per Section ~~4~~5(a)(xiv) of this Chapter);

(ii) Constitute a condition of the permit;

(iii) Construction requirements listed in Sections ~~6~~8(a) through ~~6~~8(f) of this Chapter are applicable to all wells installed for activities related to in situ mining, including pre-mining aquifer groundwater sampling and pumping tests. Additional requirements for Class III injection wells are included in Section ~~6~~8(g). Additional requirements for monitoring wells are included in Section ~~6~~8(h); and

This language was added to clarify that the activities included pre-mining aquifer groundwater sampling and pumping tests.

(iv) The Administrator may grant a deviation from the requirements, except those in Section ~~6~~8(g), provided the operator can supply documentation of reliability, mechanical integrity, design and construction to protect groundwater~~s~~ of the state ~~in accordance with the water quality standards contained in Chapter 8, Wyoming Water Quality Rules and Regulations~~.

The reference to Chapter 8 has been removed as the requirements that industry is held to by LQD for this matter is already listed in this chapter.

(b) In selecting well locations, protecting wells, and maintaining well covers, the following requirements apply:

(i) The top of the casing shall end above grade. Where possible, the top of the casing shall end above any known high-water conditions of flooding from runoff or ponded water, and the immediate area around the collar of the well shall slope away from the well to direct surface runoff away from the well. Installation of wells in the channels and flood plains of perennial drainages is prohibited. If a well must be located in an ephemeral or intermittent drainage:

(A) The well shall not be located in the streambed (i.e., the channel) of the drainage;

(B) During well construction and use, steps shall be taken to minimize the potential for damage to the channel, such as from erosion and sedimentation, and to protect the well from damage due to erosion and to prevent surface water runoff from entering the well;

(ii) The well opening shall be closed with a cover to prevent the introduction of undesirable material into the well.

~~(iii) Where a well is to be constructed near buildings or powerlines, the well shall be located at a distance from the buildings and powerlines to provide access for repairs, maintenance, sampling, and similar work. At a minimum, a well must clear any projection from any building by three feet and clear any powerline by ten feet.~~

This was deleted because it is the responsibility of the State Engineer's Office and is not administered by LQD.

(c) Annular seals shall be installed to: protect the casing against corrosion; assure structural integrity of the casing; stabilize the upper formations; protect against contamination or pollution of the well from the surface; and prevent migration of ground water from one aquifer or water-bearing strata to another in accordance with the following requirements:

(i) The drill hole shall be of sufficient diameter for adequate sealing and, at any given depth, at least three inches greater in nominal diameter than the diameter of the outer casing at that depth~~.~~;

(ii) Before placing the annular seal, all loose drill cuttings, rock chips, or other obstructions shall be removed from the annular space by circulating the borehole with water or drilling mud slurry~~.~~;

(iii) The annular sealing material shall be placed from the bottom to the top of the well casing. The displacement fluid used to force the final sealing material through the casing shall remain shut-in, to prevent back flow, until the sealing material is set. If settling occurs during setting of the sealing material, additional material must be placed into the annular space, to bring the level of the sealing material to the ground surface. If, during cementing, the cement does not return to the surface and settling during curing of the cement is more than forty feet, then a tremie pipe must be used to complete the cement to the surface to ensure that bridging does not occur~~.~~; and

(iv) Annular seals shall be created using one of the approved sealant materials outlined in Chapter 8, Section 2(d), of the Division's Noncoal Rules and Regulations.

The above reference has been corrected.

(d) The casing shall be of sufficient strength and diameter to: prevent casing collapse during installation; convey liquid at a specified injection/recovery rate and pressure; and allow for sampling. Casing materials may include steel or polyvinyl chloride (PVC), which meet the relevant standards of ASTM International (formerly American Society for Testing and Materials).

(e) Casing shall be placed with sufficient care to avoid damage to casing sections and joints. All joints in the casing above the perforations or screens shall be watertight. The uppermost perforations or top of the screen shall be below the bottom of the annular seal. Casing shall be equipped with centralizers placed at a maximum spacing of one per forty feet to ensure even thickness of annular seal and gravel pack.

(i) Steel casing may be joined by either threading or coupling.

(ii) PVC casing may be glued or ~~may be~~ mechanically joined~~,~~ (no metal screws), depending on the type of material and its fabrication. Compatibility between injection fluids, formation fluids, process by-products, recovery fluids and the glue shall be demonstrated.

This change in the rule provides clarity that screws are not an acceptable mechanism for joining casing. Once the screws penetrate the inside of the casing, they are prone to corrosion and leakage. There are numerous examples in industry where the use of screws caused a pronounced rise in MIT failures due to corrosion of the screws.

(f) Well development shall be done by methods which will not cause damage to the well or cause adverse subsurface conditions that may destroy barriers to the vertical movement of water between water-bearing strata;

(g) For Class III injection wells, the following construction requirements are in addition to the requirements listed in (a) through (f) of this Section:

(i) Appropriate logs and other tests shall be conducted during the drilling and construction of new Class III wells. A descriptive report prepared by a knowledgeable log analyst interpreting the results of such logs and tests shall be compiled and maintained by the operator and made available to the Division for inspection. The logs and tests appropriate to each type of Class III well shall be determined based on the intended function, depth, construction and other characteristics of the well, availability of similar data in the area of the drilling site and the need for additional information that may arise from time to time as the construction of the well progresses. Deviation checks shall be conducted on all holes where pilot holes and reaming are used, unless the hole will be cased and sealed by circulating the sealing material to the surface. Where deviation checks are necessary, they shall be conducted at sufficiently frequent intervals to assure that vertical avenues for fluid migration are not created during drilling.

(ii) All Class III wells shall be constructed to prevent the migration of fluids to unauthorized zones. The casing and annular sealing material used in the construction of each newly drilled well shall be designed for the life expectancy of the well. In determining and specifying casing and annular sealing requirements, the following factors shall be considered:

(A) Depth to the production zone;

(B) Injection pressure, external pressure, internal pressure, axial loading, or other factors as determined by the Administrator;

(C) Drill hole diameter;

(D) Size and grade of all casing strings (wall thickness, diameter, nominal weight, length, joint specification, and construction material);

(E) Corrosiveness of injected fluids, formation fluids, process by-products, and recovery fluids;

(F) Lithology of receiving strata and confining zones; and

(G) Type and grade of sealing material.

(h) The following monitoring well construction requirements are in addition to the requirements listed in (a) through (f) of this Section:

(i) There injection into a receiving strata which contains water with less than 10,000 milligrams per liter (mg/l) Total Dissolved Solids (TDS), monitoring wells shall be completed into the production zone and any unauthorized zone or water-bearing strata which could be adversely affected by the mining operation. These wells shall be located in such a fashion as to detect any excursion of injection fluids, formation fluids, process by-products, or recovery fluids. If the operation may be affected by subsidence or catastrophic collapse, the monitoring wells shall be located so that they will not be physically affected.

(ii) Where injection is into a receiving strata which contains water with greater than 10,000 mg/l TDS, no monitoring wells are necessary in the production zone.

(iii) Where the injection wells penetrate an Underground Source of Water (USW) in an area subject to subsidence or catastrophic collapse, an adequate number of monitoring wells shall be completed into the USW to detect any movement of injection fluids, formation fluids, process by-products, or recovery fluids into the USW. The monitoring wells shall be located outside the physical influence of the subsidence or catastrophic collapse.

(iv) In determining the number, location, and construction of the monitoring wells and frequency of monitoring, the following criteria shall be considered:

(A) The uses for which the groundwater in the receiving strata is suitable under pre-mining conditions, ~~as determined from Chapter 8, Water Quality Division Rules and Regulations (as amended April 27, 2005),~~ in any aquifer affected or potentially affected by the injection operation;

This language was removed as it was not necessary. The reference to Chapter 8 of WQD rules is not helpful to industry or to LQD.

(B) The proximity of the injection operation to points of withdrawal;

(C) The local geology and hydrology;

(D) The operating pressures and whether a negative pressure gradient is being maintained;

(E) The chemical nature and volume of the injection fluids, formation fluids, process by-products, and recovery fluids; and

"Chemical" was added to clarify to what is being referred.

(F) The injection well density.

(i) ~~Section 11(a)~~ No Class III well construction may commence until a permit or Research and Development ~~Testing~~ License has been issued which includes well construction information in accordance with the requirements of Section ~~6~~8 of this Chapter. Construction of wells needed to obtain the information required in Sections 3 and 4 of this Chapter may be:

(i) Allowed with approval of the Administrator; but

(ii) May not be used for injection until after permit issuance and only if those wells were constructed in accordance with the requirements of Section 8~~6~~(g).

(j) ~~Section 11(b)~~ The operator may not commence injection in a new injection well until construction is complete and the operator has demonstrated mechanical integrity. The operator shall submit notice of completion of construction and demonstrated mechanical integrity in the quarterly monitoring reports. Except for all new wells authorized by an area permit under Subsection 2(e) of this chapter, the operator may not commence injection in a new injection well until ~~construction is complete, and~~:

The proposed additional language is being kept as it add clarity, but the proposed deletion of existing language has been removed due to comments received from the EPA. EPA indicated by deleting this section the State's regulations were less stringent than 40 CFR 144.51(m).

(i) The operator has submitted notice of completion of construction to the Administrator: and

(ii) With respect to inspection and review:

(A) The Administrator has inspected or otherwise reviewed the new injection well and finds the well is in compliance with the permit or Research and Development Testing License; or

(B) The operator has not received notice from the Administrator of the intent to inspect or otherwise review the new injection wells within 13 days of the date of the notice in paragraph (b)(i) of this subjection, in which case prior inspection or review is waived and the operator may commence injection. If notice is given, the Administrator shall include in the notice a reasonable time period in which he or she shall inspect the well.

The proposed deletion of existing language has been removed due to comments

received from the EPA. EPA indicated by deleting this section the State's regulations were less stringent than 40 CFR 144.51(m).

Section 9. ~~Section 7.~~ **Mechanical Integrity Testing (MIT) of Class III Injection, Production, and Monitor Wells.**

(a) A schedule and methods for Mechanical Integrity Testing shall be approved by the Administrator and included in the permit or Research and Development ~~Testing~~ License application (per Section ~~4~~5(a)(xvi) of this Chapter) and shall constitute ~~conditions~~ requirements of the permit. The schedule and methods shall meet the following requirements:

The term condition has been changed to requirement throughout the document where appropriate. Regulations under EPA's UIC program (40 CFR 144.52(a)(5) require that monitoring and reporting requirements, including MIT results, are to be considered permit "conditions". LQD uses the term "permit conditions" as an enforcement tool for special actions (for example installing additional monitor wells or completing additional wetland studies, that must be completed by a certain date (typically within 3 or 4 months of the permit approval date). Monitoring and reporting are usually considered requirements and must be included in the application package. Therefore, for these proposed revisions in this chapter, "permit conditions", as specified in 40 CFR 144.52(a)(5), are referred to as permit requirements.

(i) The operator of a Class III or Production well shall establish mechanical integrity as defined in Section 1 of this Chapter for each well prior to commencing injection.

MITs need to be done on all ISL wells. Production wells were included because they need to be tested similarly to Class III wells. Monitoring wells were not included here because they are only tested after construction.

(ii) For demonstrating mechanical integrity as defined in Section 1 of this Chapter:

(A) One of the following methods must be used to evaluate the absence of significant leaks in the casing, tubing or packer:

(I) Following an initial pressure test, monitoring of the tubing-casing annulus pressure with sufficient frequency to be representative, as determined by the Administrator, while maintaining an annulus pressure different from atmospheric pressure measured at the surface; or

(II) Pressure test with liquid or gas.

(B) One of the following methods must be used to determine the absence of significant fluid movement into any unauthorized zone or water-bearing strata through vertical channels adjacent to the injection bore:

(I) The results of a temperature or noise log (e.g., cement bond log); or

(II) Where the nature of the casing precludes the use of the logging techniques prescribed above, sealing records demonstrating the presence of adequate sealing material to prevent such migration shall be provided; or

(III) Where the Administrator elects to rely on sealing records to demonstrate the absence of significant fluid movement, the monitoring program prescribed by Section ~~14~~16 of this Chapter shall be designed to verify the absence of significant fluid movement.

(C) The Administrator may allow the operator to use a test to demonstrate mechanical integrity other than those listed in subsection (A) above, if the alternate testing method is approved by the EPA. To obtain approval, the Administrator with concurrence of the Director shall submit a written request to the EPA, which shall set forth the proposed test and all technical data supporting its use.

(iii) Maintenance of the mechanical integrity of each Class III and Production well~~, which has not been plugged or converted as required by Section 810 of this Chapter,~~ shall be demonstrated at least once every five years, or on a schedule approved ~~determined~~ by the Administrator.

The language was changed to include production wells in the 5-year schedule for MITs. Language was included that allows LQD the flexibility to allow alternate schedules to be approved on a case-by-case basis. The language "which has not been plugged or converted as required by Section 10 of this Chapter" was removed as it was not necessary.

(iv) Before resuming operation of ~~injection into~~ any ~~Class III~~ well that has been damaged by surface or subsurface activity or that has undergone an activity that may jeopardize the mechanical integrity of the well, such as the use of downhole cutting and under reaming tools, the operator must demonstrate the mechanical integrity of that well, or with the approval of the administrator, demonstrate the ability to prevent the movement of fluid into unauthorized zones or onto the surface.

The language was changed to include production wells. Language was added at the end to allow for deviations from this requirement on a case-by-case basis if the operator can show that they will not be contaminating other aquifers or spilling onto the surface.

(v) If the Administrator determines that a ~~Class III~~ well lacks mechanical integrity, he or she shall give written notice of this determination to the operator of the well. Unless the Administrator requires immediate cessation, the operator shall cease injection into, or production from the well within 48 hours of receipt of the Administrator's determination. The

Administrator may allow plugging of the well or require the operator to perform such additional construction, operation, monitoring, reporting, and corrective action as is necessary to prevent the movement of fluid into unauthorized zones or onto the surface caused by the lack of mechanical integrity. The operator may resume injection or production upon written notification from the Administrator that the operator has demonstrated mechanical integrity.

The language was changed to include production wells.

(vi) Results of MIT testing shall be reported quarterly in an electronic format acceptable to the Administrator in accordance with the requirements in Section 15 of this Chapter.

This language was added to be consistent with Guideline 4 and to more accurately reflect how the Division is currently collecting this information.

Section 10. ~~Section 8.~~ **Requirements for Plugging of Drill Holes and Repair, Conversion, and Plugging of Wells.**

(a) A plan for drill holes and well repair, plugging, and conversion shall be approved by the Administrator and included in the permit or Research and Development License application, as required by Section ~~5~~6(a)(iii) of this Chapter, and shall constitute a condition of the permit.

(b) All drill holes shall be plugged in accordance with Noncoal Rules and Regulations, Chapter 8 and W.S. § 35-11-404 ~~(2003)~~.

(c) If a well lacks mechanical integrity, repair or plugging of the well is required to prevent the movement of fluid into unauthorized zones or onto the surface caused by the lack of mechanical integrity. Repair or plugging of the well must be completed within 120 days of the testing which indicates the well lacks mechanical integrity. If the well is repaired rather than plugged, retesting of the well, in accordance with the requirements of Section ~~7~~9 of this Chapter must be completed within 120 days after the repair is completed. The operator may resume use of the well ~~injection~~ upon written notification from the Administrator that the operator has demonstrated mechanical integrity.

The language was changed to include production wells.
The above reference has been corrected.

(d) The operator shall notify the Administrator as required by the permit or Research and Development ~~Testing~~ License, before plugging a well or wells within an area permit or converting a well to uses other than those defined in Section 1(~~c~~d) of this Chapter.

(e) All abandoned wells shall be plugged or converted, in accordance with the Plugging/Conversion Plan in the permit or Research and Development ~~Testing~~ License, in order to assure that groundwater is protected and preserved for future use and to eliminate any potential physical hazard. A well is considered "abandoned" when it has not been used for a

period of two years, unless the operator submits to the Administrator and receives approval for a non-significant revision (Section 19(c)(vi) of this Chapter) demonstrating their intention to use the well again and the actions and procedures they will take to ensure that mechanical integrity of the well are maintained (Section 7(a)(i) of this Chapter) and the well will not endanger any unauthorized zone or water-bearing strata in accordance with the requirements of this Chapter.

The above language is in the current Chapter 11 and had been proposed to be deleted. However, EPA's review of Non Coal Chapter 11 indicated that the deletion of this provision creates a stringency concern with 40 CFR 144.52(a)(6). To satisfy the EPA comment the WDEQ is suggesting to reject the proposed change.

(f) A well shall be plugged to meet the requirements below, using an approved sealant material as outlined in Chapter 8, Section 2(d), to assure that plugging of the well will not allow the movement of fluids into or between unauthorized zones or water-bearing strata:

(i) The well shall be plugged using a method which prevents fluid communication and adverse changes in water quality or quantity. Sealant materials shall be emplaced in a manner that provides a water tight seal utilizing one of the approved methods detailed in Chapter 8, Section 2(e) – (g) and shall meet the following requirements:

(A) If specific sections of the casing are to be plugged with cement:

(I) The type and number of plugs to be used;

(II) The placement of each plug including the elevation of the top and the bottom;

(III) The method of placement of the plugs, in accordance with Section ~~8(f)(i)(B)~~10(f);

The above reference has been corrected.

(IV) That the well to be plugged shall be in a state of static equilibrium with the mud weight equalized top to bottom, either by circulating the mud in the well at least once or by a comparable method prescribed by the Administrator, prior to the placement of the cement plug(s); and

(V) That the placement of the cement plugs shall be accomplished by one of the following:

(1.) The Balance method;

(2.) The Dump Bailer method;

(3.) The Two-Plug method; or

(4.) An alternative method approved by the Administrator, which:

a. Includes placement of plugging materials in the interval or intervals to be sealed by methods that prevent free fall, dilution and/or separation of aggregates from sealing materials; and

b. Provides a comparable level of reliable protection to the methods identified in Section ~~8(f)(iii)(A) (C)~~10(f)(i).

The above reference has been corrected.

(B) When the underground pressure head producing flow (i.e. gassy or artesian) is such that a counter-pressure must be applied to force a sealing material into the annular space, this counter-pressure shall be maintained for the length of time required for the plugging mixture to set or fully hydrate;

(C) The top of the plugging mixture of any plugged and abandoned well shall be backfilled to the surface with dry non-slurry materials or ~~capped~~ topped with a concrete cap set at least 2 feet below the ground surface and then backfilled to the surface with native earthen materials to ensure the safety of people, livestock, wildlife, and machinery in the area.

(g) In the case of an ~~in situ~~ ISR operation which underlies or is in an aquifer which has been exempted under Section ~~10~~11 of this Chapter, the Plugging/Conversion Plan in the permit or Research and Development ~~Testing~~ License shall also demonstrate adequate protection of underground sources of Water (USWs). The Administrator shall prescribe aquifer cleanup and monitoring where he deems it necessary and feasible to assure adequate protection of USWs.

(h) To ensure the locations of the abandoned wells are adequately identified:

(i) The boundaries of each wellfield and the location of the monitor well ring around each wellfield shall be recorded as a deed notice with the appropriate county;

(ii) The top of the plugging mixture in each abandoned monitor well in the monitor well ring around each wellfield shall clearly show on a steel plate placed atop the sealing mixture, the permit number, well identification number, and date of plugging. All marking devices shall be installed at a minimum depth of two feet below the land surface.

(j) Plugging and conversion activities shall be reported in accordance with the requirements in Section 15 of this Chapter.

Section 11. ~~Section 10.~~ **Aquifer Classification and Exemption.**

(a) Injections from Class III wells shall be restricted to those production zones that:

(i) Have been classified by the Wyoming Department of Environmental Quality as Class V aquifers under Chapter 8 of the Water Quality Division Rules and Regulations ~~(as amended April 27, 2005)~~; and

(ii) Have concentrations of Total Dissolved Solids:

(A) Less than 10,000 milligrams per liter; meet the definition of an "Underground Source of ~~Drinking~~ Water " as defined in Section 1 of this Chapter; and have been approved as an exempted aquifer by the U.S. Environmental Protection Agency pursuant to Section 11~~10~~(b) of this Chapter; or

The word drinking was removed to be consistent with the definition in Section 1 of this chapter.

(B) Greater than 10,000 milligrams per liter; and

(iii) Are located in a geologic and hydrologic setting in which movement of fluid, containing any contaminant, into unauthorized zones can be prevented.

(b) An aquifer, or a portion thereof, which meets the criteria for an Underground Source of Water as defined in Section 1 of this Chapter may be designated as an "exempted aquifer":

(i) If it meets the following criteria:

(A) It does not currently serve as a source of ~~drinking~~ water for ~~Class I, II, III, Special (A) or Class IVA~~ uses as described in Chapter 8 of the Water Quality Rules and Regulations ~~(as amended April 27, 2005);~~ and

The word drinking was removed to be consistent with the definition in Section 1 of this chapter. The specific classes were removed to make the language clear and concise.

(B) It cannot now and will not in the future serve as a source of drinking water as defined by the EPA by meeting standards listed in 40 CFR 146.4(b) (as amended December 10, 2010); ~~because:~~

~~(I) It is mineral, hydrocarbon or geothermal energy producing, or can be demonstrated by a permit or Research and Development Testing License applicant or operator to contain minerals or hydrocarbons that, considering their quantity and location, are expected to be commercially producible; or~~

~~(II) It is situated at a depth or location which makes recovery of water for Class I, II, III, Special (A) or Class IVA as described in Chapter 8 of Water Quality Division Rules and Regulations (as amended April 27, 2005) economically or technologically impractical; or~~

~~(III) It is so contaminated that it would be economically or technologically impractical to render that water fit for human consumption; or~~

~~(IV) It is located over a Class III well mining area subject to subsidence or catastrophic collapse; or~~

~~(V) The total dissolved solids content of the groundwater is less than 10,000 mg/l and it is not reasonably expected to supply a public water supply as defined by W.S. § 35-11-103(c)(viii) (2003); and~~

The above language was changed to reference the EPA language it was repeating in (I) through (IV). The language in (V) is redundant with Section 1(al)(i).

(ii) As demonstrated by information in the permit or Research and Development ~~Testing~~ License application, including:

(A) A map and ~~general~~ description identifying and describing in geographic and/or geometric terms (such as vertical and lateral limits and gradient) all aquifers or parts thereof which the applicant proposes to exempt;

In 40 CFR 144.7(b)(1) the federal regulations requires a clear and definite description of the aquifer proposed to be designated as an exempted aquifer. The above state regulation indicated a general description which the EPA believed created a stringency concern. The above change resolves the EPA concern.

(B) Information to document that the exemption area is commercially producible as demonstrated by:

(I) The permit boundary;

(II) A description and calculations that support the proposed distance beyond the monitor well ring boundary required to mine and to restore groundwater;

(III) General information on the mineralogy and geochemistry of the receiving strata; and

(IV) The type of mining technology used to extract the mineral; and

(C) Analysis of the amenability of the receiving strata to the proposed mining method; and a timetable of planned development of the receiving strata.

(c) A request for an aquifer exemption shall be presented by the WQD Administrator to the EPA as a state program revision pursuant to ~~Code of Federal Regulations, Title 40, Part 145, Section 32 (~~40 CFR ~~§~~ 145.32 (as amended ~~July 1, 2001~~ December 10, 2010).

This was added to make it clear the it is the WQD Administrator who submits the exemption to the EPA. The format of the CFR reference was changed to be consistent with the rest of the chapter. The above reference has been corrected.

Section 12. ~~Section 9.~~ **Permit and Research and Development ~~Testing~~ License ~~Conditions~~ Requirements.**

(a) The following ~~conditions~~ requirements shall apply to permits and Research and Development ~~Testing~~ Licenses. Each ~~condition~~ requirement shall be incorporated into the permit or Research and Development ~~Testing~~ License either expressly or by reference. If incorporated by reference, a specific citation to these regulations must be given in the permit or Research and Development ~~Testing~~ License.

(i) The operator has a duty to comply with all terms and ~~conditions~~ requirements of the approved permit or Research and Development ~~Testing~~ License.

(A) Any permit or Research and Development ~~Testing~~ License noncompliance is grounds for enforcement action and any Research and Development ~~Testing~~ License noncompliance is grounds for denial of a Research and Development ~~Testing~~ License renewal application.

(B) The filing of a request by the operator for a permit or Research and Development ~~Testing~~ License revision per Chapter 7 or Section ~~19~~14 of this Chapter does not waive any permit or Research and Development ~~Testing~~ License condition.

(ii) It shall not be a defense for an operator in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the ~~conditions~~ requirements of this permit or Research and Development ~~Testing~~ License.

(iii) The operator has a duty to take all reasonable steps to minimize, mitigate, or correct any adverse impact on the environment resulting from noncompliance with this permit or Research and Development ~~Testing~~ License.

(iv) The operator shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the operator to achieve compliance with the terms and ~~conditions~~ requirements of the permit or Research and Development ~~Testing~~ License. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the terms and ~~conditions~~ requirements of the permit or Research and Development ~~Testing~~ License.

(v) The permit or Research and Development ~~Testing~~ License does not convey any property rights of any sort or any exclusive privilege.

(vi) The operator has a duty to provide to the Administrator, within a time specified, any information which the Administrator may request to determine whether cause exists for revising or revoking the permit or Research and Development ~~Testing~~ License, or to determine compliance with this permit or Research and Development ~~Testing~~ License. The operator shall also furnish to the Administrator, upon request, copies of records to be kept as required by the permit or Research and Development ~~Testing~~ License.

(vii) In compliance with all the provisions of Chapter 7 and Section ~~19~~14 of this Chapter:

(A) The operator shall give notice to the Administrator as soon as possible of any planned physical alterations or additions to the permitted or licensed facility; and

(B) When the operator becomes aware of failure to submit any relevant facts in a permit or Research and Development ~~Testing~~ License application, or submitted incorrect information in a permit or Research and Development ~~Testing~~ License application or in any report to the Administrator, the operator shall promptly submit such facts or information to the Administrator.

(viii) Prior to requesting bond reduction for abandonment of a Class III well or wells within a wellfield area or for conversion of a Class III well to another use, the operator shall provide documentation and receive approval from the Administrator regarding the plugging of the well or wells within a wellfield area or conversion of the well.

(ix) The following shall also constitute ~~conditions~~ requirements of the permit:

(A) Plans for corrective action, including injection pressure limitation, as specified in Section ~~13~~20(a) of this Chapter;

(B) Monitoring requirements as specified in Section ~~14~~16 of this Chapter;

(C) Schedule and methods to establish and maintain Mechanical Integrity as specified in Section ~~7~~9 of this Chapter: and

(D) A plan for well repairs, plugging, and conversion as specified in Section ~~8~~10 of this Chapter.

(x) ~~Section 11(c)~~ The approved permit or Research and Development ~~Testing~~ License shall include maximum injection volumes and/or pressures necessary to assure: fractures are not initiated in the confining zone; injected fluids do not migrate into any unauthorized zone; and formation fluids are not displaced into any unauthorized zone. Operating requirements shall, at a minimum, specify that:

(A) ~~Section 11(c)(i)~~ Except during well stimulation, injection pressure at the wellhead shall be calculated to assure that the pressure in the production zone during injection does not initiate new fractures or propagate existing fractures. In no case, shall injection pressure initiate fractures in the confining zone, if confinement is present, or cause the migration of injection or formation fluids into an unauthorized zone;

(B) ~~Section 11(c)(ii)~~ Injection between the outermost casing protecting unauthorized zones and the well bore is prohibited.

(xi) ~~Section 11(d)~~ No operator shall construct, operate, maintain, convert, plug, abandon, or conduct any other injection or mining-related activity in a manner that allows the movement of fluid containing any contaminant into zones or intervals other than those zones authorized in the approved permit or Research and Development ~~Testing~~ License. The operator shall have the burden of showing that the requirements of this paragraph are met.

Section 13. ~~Section 18.~~ **Duration of Permits and Research and Development ~~Testing~~ Licenses.**

(a) Permits shall be issued:

(i) For a period coinciding with the estimated schedules for termination of all mining and reclamation activities in conformance with the approved mining plan (Section 5(a)(ii)) and reclamation plan (Section 6(a)(i)) as provided in W.S. §§ 35-11-405(a) and (b) ~~(2003)~~; and

(ii) With the option for revising the mining and reclamation schedules, as provided in W.S. §§ 35-11-411(a)(iii) and 429(a)(iv) ~~(2003)~~.

(b) The Administrator shall review the permit at least once every five years to determine whether it should: remain unchanged; be revised in accordance with the requirements of Section ~~19~~14 of this Chapter; or revoked in accordance with the requirements of Section ~~20~~23 of this Chapter.

(c) As specified in W.S. § 35-11-431(a) ~~(2003)~~, a Research and Development ~~Testing~~ License is issued for up to one year and may be renewed annually.

Section 14. ~~Section 19.~~ **Revisions to Class III Well Portions of an In Situ Mine Permit or Research and Development ~~Testing~~ License.**

(a) A permit, license to mine, or Research and Development License may be revised as a significant or non-significant revision as specified in Sections ~~19~~14(b) and ~~19~~14(c), respectively, to address one or more of the following considerations, subject to the limitations of Sections ~~19~~14(d) and ~~19~~14(e).

(i) A revision may be necessary to address:

(A) A permit condition per Section ~~9~~12 of this Chapter;

(B) An excursion or other aspect of noncompliance per Sections ~~12~~ 18 and 19 of this Chapter and W.S. 35-11-429(a)(ii) ~~(2003)~~; or

(C) A corrective action or compliance schedule per Section ~~13~~20 of this Chapter;

(D) A concern noted during the five-year review per Section ~~18~~13 of this Chapter; or

(E) An objection by the Administrator to a part of the Annual Report per W.S. § 35-11-411(b) ~~(2003)~~;

(F) A change that could jeopardize reclamation or protection of any waters of the state per W.S. 35-11-429(a)(iv) ~~(2003)~~;

(ii) Any interested person, including the operator may request a revision provided the request is in writing and contains facts or reasons supporting the request. If the Administrator decides that a request for a permit or license revision is not justified, he or she shall send the requester a brief written response giving the reason(s) for the decision. Denials of requests for revisions are not subject to public notice and comment;

(iii) If the Administrator requires the operator to revise any Class III Well portions of a permit or Research and Development License, he or she shall prepare a letter to the operator specifying the needed changes and additional information.

(b) The occurrence of any of the following with regards to the Class III Well portion of a permit or Research and Development ~~Testing~~ License shall result in the operator being required to revise the permit or Research and Development ~~Testing~~ License. These revisions shall be treated as significant revisions and require public notice as specified in Chapter 7 of these regulations and Section 21 of this Chapter. In addition, the fact sheet will be updated for these revisions:

(i) Any material or substantial alterations or additions to the facility which occurred after issuance of the permit or license, which justify the application of permit or license conditions that are different or absent in the existing permit or license, including:

(A) Any increase in the amount of land related to installation or operation of additional Class III wells, from that which was approved in the original in situ mining permit or Research and Development ~~Testing~~ License. Such a revision shall include (if not already presented in the permit or Research and Development ~~Testing~~ License) the information required in W.S. § 35-11-428 ~~(2003)~~ and the requirements of Sections ~~4~~5 through ~~19~~20 this Chapter. However, if the increase in the amount of land is for purposes unrelated to installation or operation of Class III wells, then the provisions of Section 2(b)(ii) of Chapter 7 apply.

(i) The UIC standards or regulations on which the permit or license was based have been changed by promulgation of new or amended standards or regulations or by judicial decision after the permit or license was issued;

(iii) The Administrator determines good cause exists for modification of a compliance schedule, such as an act of God, strike, flood, or materials shortage or other events over which the permittee has little or no control and for which there is no reasonably available remedy.

(iv) Cause exists for revocation, as described in Section ~~20~~23 of this Chapter, but the Administrator determines that revision is appropriate;

(v) A determination is made that the activity endangers human health or the environment and can only be regulated to acceptable levels by a permit revision.

(c) A non-significant revision to any Class III Well portion of a permit or Research and Development ~~Testing~~ License shall meet the requirements of Chapter 7 of these regulations, except that a non-significant revision, with operator consent, shall be for the following reasons only:

40 CFR 144.41 requires the consent of the permittee if the Director is to modify a permit. In EPA's review of Non Coal Chapter 11 the EPA was concern that the Director had the ability to modify a permit without operator consent. The above change resolves EPA's concern.

(i) To correct typographical errors;

(ii) To require more frequent monitoring or reporting by the operator;

(iii) To change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing schedule of compliance and does not interfere with attainment of the final compliance date requirement;

(iv) To allow for a change in ownership or operational control of a facility where the Administrator determines that no other change in the permit or Research and Development ~~Testing~~ License is necessary provided that a written agreement is submitted in a format and on forms required by the Administrator containing a specific date for transfer of permit or Research and Development ~~Testing~~ License responsibility, coverage, and liability between the current operator and new operator;

(v) To change quantities or types of fluids injected which are within the capacity of the facility as permitted or licensed and would not interfere with the operation of the facility or its ability to meet conditions described in the permit or Research and Development ~~Testing~~ License and would not change its classification;

(vi) To change well construction requirements approved by the Administrator pursuant to Section 8 of this Chapter, provided that any such alteration shall comply with the requirements of Section ~~6~~8; or

(vii) To amend a well plugging/conversion plan which has been updated under Section ~~8~~10 of this Chapter;

(viii) To submit a wellfield data package that conforms to the specifics of the permit document.

(d) Suitability of the Class III well location will not be considered at the time of permit revision unless new information or standards indicate that a threat to human health or the environment exists which was unknown at the time of permit issuance.

(e) Only those conditions to be revised shall be reopened when a revision is necessary. All other aspects of the existing permit shall remain in effect for the duration of the unrevised permit. In the case that a portion of the permit is in violation of law, that portion of the permit shall be opened for review.

This was added to ensure that permits are not in violation of new laws passed.

(f) Reviews and decisions on a permit revision application shall be conducted according to the provisions in Chapter 7.

Section 15. **Reporting Requirements.**

(a) All chemical analyses submitted to the Administrator in accordance with a valid permit or Research and Development License shall include:

(i) A description of, or reference for, the procedures and methods used for sample collection, preservation, and quality control;

(ii) The name, address, and telephone number of the laboratory performing the analyses, and the laboratory identification number; and

(iii) Signatures as required by Section 2(g) of this Chapter.

(b) Quarterly monitoring reports shall include, at a minimum:

(i) The results of monitoring required per Sections 16~~17~~(a)(ii) and (iii) of this Chapter.

The above reference has been corrected.

(ii) The results of all mechanical integrity testing conducted during that quarter, including the following information identified by Class III, Production, or Monitor well;

(A) Date of mechanical integrity testing;

(B) Identification of the method by which mechanical integrity was established;

(C) Verification of whether the mechanical integrity was or was not established in a well, including:

(I) Identification of a well which failed to have mechanical integrity established and consequently required repair; and

(II) A description of the method of plugging or repair.

(iii) The status of corrective action on defective wells, required per Section ~~13~~20 of this Chapter.

(iv) The results of well repair and plugging required per Section ~~8~~10 of this Chapter, including:

(A) A statement that:

(I) Wells were plugged in accordance with the approved permit or Research and Development ~~Testing~~ License; or

(II) Documentation that prior approval was obtained from the Administrator where plugging procedures differed from the procedures approved in the permit or Research and Development ~~Testing~~ License. This documentation shall be included in the report, and contain a description of the procedures used specifying the differences between the permit or Research and Development License approved method and the alternate method; and

(B) To assure that the well is filled and there has been no bridging of the sealing material, the operator should provide LQD with documentation that the volume of material placed in the well at least equals the volume of the empty hole.

(c) Annual reports shall include, at a minimum:

(i) All information required by W.S. § 35-11-411; and

(ii) A map(s) showing the location of all wells installed in conjunction with the mining activity and showing all areas where:

(A) Groundwater restoration has been achieved, is actively taking place and is expected to commence during the next year;

(B) Mining is expected to commence during the next year;

(iii) The total quantity of recovery fluid injected and the total quantity of recovery fluid extracted during the reporting period for each well-field area including a description of how these quantities were determined;

(iv) Monitoring program results pursuant to Section 5~~4~~(a)(xvii) and Section ~~14~~16 of this Chapter, which have not been previously reported; and

(v) An updated potentiometric surface map(s) for all aquifer(s) that are or may be affected by the mining operation may be requested at the Administrator's discretion.

(vi) Supporting data sufficient to demonstrate groundwater restoration in accordance with Section ~~5~~6(a)(xiii) of this Chapter.

(d) During excursions, results from excursion-related monitoring shall be reported in accordance with the requirements of Section ~~12~~19 of this Chapter.

(e) Well abandonment reports shall be made to the Land Quality Division and the State Engineer's Office:

(i) Within sixty days after the abandonment of any well which has artesian or gassy flow at the surface. The report, set forth in affidavit form, should contain the location of the well to the depth of the well, estimated rate of flow, and the facts of the plugging technique.

(ii) Within twelve months after the abandonment of any well. The report should include the location of the well to the nearest 40-acre legal subdivision (quarter, quarter, section), survey locations utilizing decimal Latitude and Longitude coordinates, the depth the well, and the facts of the plugging technique.

Section 16. ~~Section 14.~~ **Monitoring Requirements.**

(a) A detailed monitoring program shall be approved by the Administrator and included in the permit or Research and Development License application, as required by Section ~~4~~5(a)(xv) of this Chapter, and shall constitute a ~~condition~~ requirement of the permit. The program shall describe the procedures for monitoring the quantity and quality of waters that may be affected by the operation before mining through reclamation and shall, at a minimum, specify:

(i) Requirements for:

(A) The proper use, maintenance, and installation, when appropriate, of monitoring equipment or methods (including biological monitoring methods when appropriate);

(B) The intervals and frequency of monitoring, sufficient to yield data which are representative of the monitored activity, including continuous monitoring when appropriate;

(C) Tests and methods used to generate monitoring data.

(ii) Monitoring of:

(A) The nature of the injected fluids with sufficient frequency, and at least monthly, to yield representative data on the characteristics of the fluid. Whenever the injection fluid is modified to the extent that the previous analysis is incorrect or incomplete, a new analysis shall be provided to the Administrator;

(B) The injection pressure and either flow rate or volume at least weekly or metering and daily recording of injected and produced fluid volumes as appropriate; and

(C) Class III injection wells may be monitored for the parameters required by subsections (A) and (B) on a field or project basis rather than an individual well basis by manifold monitoring. Manifold monitoring may be used in cases of facilities consisting of more than one injection well operating with a common manifold. Separate monitoring systems for each well are not required provided the operator demonstrates that manifold monitoring of injection pressure is comparable to individual well monitoring.

(iii) Requirements for:

(A) Semi-monthly monitoring of the fluid level in the production zone, where appropriate;

(B) Semi-monthly monitoring of the water levels and parameters chosen to measure the water quality in monitoring wells;

(C) Quarterly monitoring of the water levels and parameters chosen to detect any movement of injected fluids, process by-products, or formation fluids in the monitoring wells where the injection wells penetrate an Underground Source of Water in an area subject to subsidence or catastrophic collapse (Section ~~6~~8(~~g~~h)(iii) of this Chapter); and

The above reference has been corrected.

(D) Periodic monitoring of pressure changes or other physical parameters if such monitoring provides for more rapid detection of excursions.

(iv) A description of procedures and schedules used to:

(A) Detect and confirm excursions; and

(B) Monitor excursions and excursion control efforts.

(v) Samples and measurements taken for the purpose of monitoring shall be representative of the permitted activity.

Section 17. ~~Section16.~~ **Maintenance and Retention of Records.**

(a) The operator shall maintain records at the mine site in accordance with W.S. § 35-11-430(b) ~~(2003)~~, including, for any laboratory analyses that an operator is allowed to retain on site for inspection rather than submit to the Administrator:

(i) A description of, or reference for, the procedures and methods used for sample collection, preservation, and quality control;

(ii) The name, address, and telephone number of the laboratory performing the analyses, and the laboratory identification number; and

(b) The operator shall:

(i) Retain records of all monitoring information, including the following:

(A) Records of all data used to complete permit and license applications and any supplemental information submitted under Sections 3, 4, ~~and~~ 5 and 6 of this Chapter;

(B) Calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by the permit or Research and Development ~~Testing~~ License, and records of all data used to complete the application for the permit or Research and Development ~~Testing~~ License;

(C) The nature and composition of all injected fluids; and

(D) Information requested by the Administrator for inclusion in the Annual Report as required by W.S. § 35-11-411 ~~(2003)~~.

(ii) Retain the records listed in subsections 17~~16~~(b)(i)(A) through 17~~16~~(b)(i)(D) at the mine site until termination of the permit or Research and Development ~~Testing~~ License, unless otherwise authorized by the Administrator. However, the record retention schedule cannot be less than three years after the date of the sample, measurement, report, or application. The Administrator may require the operator to deliver the records to the Administrator at the conclusion of the retention period.

Section 18. ~~Section 12.~~ **Noncompliance ~~and Excursions~~.**

Section 12, Noncompliance and Excursions, was separated into two sections to avoid the misconception that an excursion is always an indication of noncompliance.

(a) The operator shall:

(i) Verbally report to the Administrator any noncompliance which may endanger public health or the environment, within 24 hours of the time the operator becomes aware of the occurrence, including:

(A) Any monitoring or other information which indicates that any contaminant may cause endangerment to an Underground Source of Water (USW) or unauthorized zone; and

(B) Any noncompliance with a permit or Research and Development ~~Testing~~ License or malfunction of the injection system which may cause fluid migration into, or between USWs or unauthorized zones.

(ii) Provide a written report to the Administrator within five days of the operator becoming aware of the noncompliance occurrence. The Administrator of the Land Quality Division will forward one copy to the Administrator of the Water Quality Division. The written report shall describe:

(A) The noncompliance and its cause;

(B) The period of noncompliance, including exact dates and times;

(C) If the noncompliance has not been corrected, the anticipated time it is expected to continue; ~~and~~

(D) Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance~~.~~ ; and

(E) The procedures for mitigating or controlling the excursion.

This language helps define, on a site specific basis, what mitigation measures work. It also helps to establish enforceable actions for future excursion attenuation.

(iii) Report all instances of noncompliance, not reported under Sections ~~12~~18(a)(i) and (ii), at the time monitoring reports are submitted. The reports shall contain the information listed in Sections ~~12~~18(a)(i) and (ii), as applicable.

The above reference has been corrected.

Section 19. ~~Section 12.~~ **~~Noncompliance and~~ Excursions**

Section 12, Noncompliance and Excursions, was separated into two sections to avoid the misconception that an excursion is always an indication of noncompliance.

(a) ~~(b)~~ "Confirmation" of an excursion means that an excursion detected in a regularly scheduled sampling event is subsequently detected in a second or third sampling event conducted in accordance with the following requirements:

(i) The second sampling event shall be conducted within 24 hours of the receipt of the results from the first sampling event in which the excursion was initially detected. If the results from the first and second sampling event both indicate an excursion has occurred, then the excursion will be considered confirmed for the purpose of meeting the reporting requirements of W.S. § 35-11-429(a) ~~(2003~~).

(ii) If the results from the first and second sampling events provide conflicting information about whether or not an excursion has occurred, then a third sampling event must be conducted within 24 hours of the receipt of the results from the second sampling event. However, if the results of the confirmatory sampling are not complete within 30 days of the initial sampling event which indicated an excursion might be present, then the excursion will be considered confirmed for the purpose of meeting the reporting requirements of W.S. § 35-11-429(a~~) (2003~~).

(b) ~~(c)~~ The operator shall:

(i) Verbally report any confirmed excursion to the Administrator within 24 hours of confirmation of the excursion and;

(ii) Submit a written report to the Administrator within five days of the confirmation of the excursion detailing the procedures for mitigating or controlling the excursion. The Administrator of the Land Quality Division will forward one copy to the Administrator of the Water Quality Division.

(c) ~~(d)~~ An excursion is controlled when it can be demonstrated through water quality and groundwater gradient or if applicable, pressure measurements, that recovery fluid in unauthorized areas is declining.

(i) If an excursion is not controlled within 30 days following confirmation of the excursion, a sample must be collected from each of the affected monitoring wells and analyzed ~~for the following parameters: Ammonia; Antimony; Arsenic; Barium; Beryllium; Bicarbonate; Boron; Cadmium; Calcium; Carbonate; Chloride; Chromium; Conductivity; Copper; Fluoride; Gross Alpha; Gross Beta; Iron; Lead; Magnesium; Manganese; Mercury; Molybdenum; Nitrate; Nitrate + Nitrite; pH; Potassium; Selenium; Sodium; Sulfate; Radium-226 and 228; Thallium; Total Dissolved Solids; Uranium; Vanadium; and Zinc, unless the Administrator determines a specific parameter is not likely to occur as a result of the in situ operation~~. The parameters to be analyzed shall be site specific and based on baseline data.

This list of parameters was removed as it isn't comprehensive and contains items that aren't always applicable. The list of contaminates will be based on baseline water quality data.

(ii) If an excursion is not controlled within 60 days following confirmation of the excursion, the Administrator may, after consultation with the Director, terminate the mining operation and revoke the permit or Research and Development ~~Testing~~ License or modify the

mining operation and require modification of the permit or Research and Development ~~Testing~~ License. Modifying the operation may include: sampling of additional wells for the parameters ~~listed~~ in Section ~~12(d~~19(c)(i); installation of additional monitor wells; termination of injection in the portion of the well field in which the excursion originated; or a combination of approaches to assure control within the necessary time frames.

The word "listed" has been deleted due of the removal of information in (i) above.

(iii) If the excursion is controlled, but the fluid which moved out of the production zone during the excursion has not been recovered within 60 days following confirmation of the excursion (i.e., the monitor well is still "on excursion"), the operator will submit, within 90 days following confirmation of the excursion, a plan and compliance schedule, acceptable to the Department, for bringing the well (or wells) off excursion. The plan and compliance schedule can be submitted as part of the monthly excursion report required in Section ~~12(e~~19(d) of this Chapter. The compliance schedule shall meet the requirements of Section ~~13~~20(b) of this Chapter.

(d) ~~(e)~~ In addition to the excursion notifications and control plan required above, a monthly report on the status of an excursion shall be submitted to the Administrator beginning the first month the excursion is confirmed and continuing until that excursion is over. The monthly report shall be a requirement of the compliance schedule and shall include, at a minimum:

(i) Concentrations of UCL parameters and groundwater elevations in all monitoring wells on excursion and, as necessary, surrounding wells;

(ii) Such information deemed necessary by the Administrator to show that the excursion is being controlled and that the bond amount for groundwater restoration remains sufficient;

(iii) Information on steps taken to control the excursion.

Section 20. ~~Section 13.~~ **Corrective Actions and Compliance Schedules**.

(a) Corrective actions are:

(i) Needed when a well is improperly sealed, completed, or abandoned, in which case:

(A) Operators shall provide the well information, as required in Sections 4~~3~~(a)(xi) and (xii) of this Chapter, and the corrective action plan as required in Section ~~4~~5(a)(xvii) of this Chapter. Where the Administrator's review of the plan indicates that the operator's plan is inadequate (based on the factors presented below), the Director shall require the operator to revise the plan, prescribe a plan for corrective action as a term and condition of the permit, or deny the application.

The above reference has been corrected.

(B) In determining the adequacy of corrective action proposed by the operator and in determining the additional steps needed to prevent fluid movement into an unauthorized zone, the following criteria and factors shall be considered by the Administrator:

(I) Nature and volume of injected fluid;

(II) Chemical ~~N~~nature and volume of native groundwater;

Chemical was added to clarify the intent of the rule.

III) Compatibility of injected fluid and native groundwater;

(IV) Potentially affected population;

(V) Geology;

(VI) Hydrology;

(VII) Proposed method of operation as required by Section 5(a)(x) of this Chapter or history of the injection operation if the corrective action is needed in response to amending new wells into an existing operation;

(VIII) Completion and plugging records;

(IX) Plugging procedures in effect at the time the well was abandoned; and

(X) Hydraulic connections with unauthorized zones.

(ii) Needed if any water quality monitoring of an Underground Source of Water or unauthorized zone indicates the movement of any contaminant into an Underground Source of Water or unauthorized zone, except as specifically authorized in the approved permit or Research and Development ~~Testing~~ License, in which case, the Administrator shall prescribe such additional requirements for construction, corrective action, operation, monitoring, or reporting (including closure of the injection well and limitation of injection pressure) as are necessary to prevent such movement. These additional requirements shall be imposed by requiring the operator to revise the permit or Research and Development ~~Testing~~ License, the permit or Research and Development ~~Testing~~ License may be revoked, or appropriate enforcement action may be taken if the permit or Research and Development ~~Testing~~ License has been violated.

(iii) The status of corrective action on defective wells shall be reported in accordance with the requirements of Section 15 of this Chapter.

(b) When appropriate, a permit or license may include, or be revised to include, a compliance schedule leading to compliance with the applicable statutes and regulations. The schedule shall be applicable whether the operator is continuing or ceasing regulated activities.

(i) Any compliance schedule shall require compliance as soon as possible, and in no case later than 3 years after the date the schedule is put into effect. In addition:

(A) The schedule shall set forth interim requirements, the dates for their achievement, and a projected date of compliance with all the requirements;

(B) The time between interim dates shall not exceed 1 year; and

(C) The schedule shall specify dates for the submission of progress reports, no later than 30 days following each interim date and the final date of compliance.

Section 21. **Public Notice, Public Hearing, Comment, and Decision Requirements.**

(a) In addition to the requirements of W.S. §§ 35-11-406(g), (j), and (k) ~~(2003)~~ and Chapter 7, public notice for actions related to in situ permits or Research and Development ~~Testing~~ Licenses, except permit or license revocation, shall be given by the following methods. Public notice for permit or license revocation shall be given by the methods in Section 21~~(d)~~ of this Chapter.

The above reference has been corrected.

(i) All public notices issued under this Section shall contain the following:

(A) Name and address of the office processing the permit action for which notice is being given;

(B) Name and address of the operator and, if different, of the facility or activity regulated by the permit;

(C) A brief description of the business conducted at the facility or activity;

(D) Name, address and telephone number of a person from whom interested persons may obtain further information;

(E) A brief description of the comment procedures, including a statement of procedures to request a hearing or, if a hearing has already been scheduled, the time and place of that hearing, and other procedures by which the public may participate in the final permit decision; and

(F) Any additional information considered necessary or proper.

(ii) The Administrator shall mail a copy of the notice to the following persons (any person otherwise entitled to receive notice under this paragraph may waive his or her rights to receive notice for any classes or categories of permits):

(A) Any other agency (including EPA when the draft permit is prepared by the State) which the Administrator knows has issued or is required to issue a permit for the same facility or activity under the following programs: Resource Conservation and Recovery Act (RCRA); UIC; Prevention of Significant Deterioration (or other permit requirement under the Clean Air Act); National Pollution Discharge Elimination System (including sludge management permits); and Section 404 of the Clean Water Act.

(B) Federal and State agencies with jurisdiction over fish, shellfish, and wildlife resources, the Advisory Council on Historic Preservation, State Historic Preservation Officers, including any affected Indian Tribes, and the Wyoming Oil and Gas Commission.

(C) Persons on a mailing list developed by including:

(I) Those who request in writing to be on the list;

(II) Soliciting persons for "area lists" from participants in past permit proceedings in that area; and

(III) Persons notified of the opportunity to be put on the mailing list through periodic publication in the public press. The Administrator may update the mailing list from time to time by requesting written indication of continued interest from those listed. The Administrator may delete from the list the name of any person who fails to respond to such a request.

(D) Any unit of local government having jurisdiction over the area where the facility is proposed to be located.

(E) Each State agency having any authority under State law with respect to the construction or operation of such facility.

(iii) In addition to mailing a copy of the public notice, the Administrator shall mail or electronically transfer a copy of the fact sheet, permit application or draft permit to the following persons:

(A) The applicant;

(B) Any other agency (including EPA when the draft permit is prepared by the State) which the Administrator knows has issued or is required to issue a permit for the same facility or activity under the following programs: Resource Conservation and Recovery Act (RCRA); UIC; Prevention of Significant Deterioration (or other permit

requirement under the Clean Air Act); National Pollution Discharge Elimination System (including sludge management permits); and Section 404 of the Clean Water Act; and

(C) Federal and State agencies with jurisdiction over fish, shellfish, and wildlife resources, the Advisory Council on Historic Preservation, State Historic Preservation Officers, including any affected Indian Tribes.

(iv) To supplement the required methods of public notice listed above, public notice can also be given by any other method reasonably calculated to give actual notice of the action in question to the persons potentially affected by it, including press releases or any other forum or medium to elicit public participation.

(b) Objections may be filed in accordance with W.S. § 35-11-406(k) ~~(2003)~~, which objections shall list one or more reasons for denying a permit or Research and Development ~~Testing~~ License revision application as set out in W.S. § 35-11-406(m) ~~(2003)~~. If such written objections are filed, a public hearing shall be held in accordance with W.S. § 35-11-406(k) ~~(2003)~~ and the requirements of this Chapter. In addition to the hearing notice requirements described in W.S. § 35-11-406(k) ~~(2003)~~, the public notice of a hearing shall contain the following information:

(i) Reference to the date of previous public notices relating to the permit;

(ii) Date, time, and place of the hearing;

(iii) A brief description of the nature and purpose of the hearing, including the applicable rules and procedures.

(c) A decision on the application will be made by the Director:

(i) Within 30 days after completion of the notice period if no hearing is requested; or

(ii) If a hearing is requested:

(A) The Environmental Quality Council shall issue findings of fact and make a decision on the application within 60 days after the final hearing; and

(B) The Director will make a decision on the application within fifteen days from receipt of any findings of fact and decision of the Council.

(iii) In addition to the requirements of W.S. § 35-11-406(p) ~~(2003)~~, at the time that any permit or Research and Development ~~Testing~~ License is issued, the Director shall issue a response to objections. This response shall:

(A) Specify which provisions, if any, of the proposed permit have been changed in the final approved permit, and the reasons for the change;

(B) Briefly describe and respond to all significant objections on the permit application raised during the public comment period, or during any hearing; and

(A) Be sent to the applicant and objectors, along with a copy of the Director's decision, and be available to the public.

(iv) The Administrator will publish a summary of the decision in a newspaper of general circulation in the general area of the proposed operation.

(d) For permit or license revocation, all the provisions of this Chapter shall apply, except that the Director shall cause notice of the revocation to be published.

Section 22. **Confidential Records.**

(a) Information submitted to satisfy the requirements of this Chapter may be held confidential pursuant to W.S. § 35-11-1101 ~~(2003)~~.

Section 23. ~~Section 20.~~ **Revocation.**

(a) A permit, license to mine, or Research and Development ~~Testing~~ License may be revoked by the Administrator to address one or more of the following ~~considerations.~~:

(i) Revocation may be necessary to address:

(A) An excursion or other aspect of noncompliance per Sections ~~12~~18 and 19 of this Chapter; or

(B) One of the items listed in Section ~~20~~23(b).

(ii) Any interested person, including the operator, may request revocation provided the request is in writing and contains facts or reasons supporting the request. If the Administrator decides that a request for revocation is not justified, he or she shall send the requester and operator a brief written response giving the reason(s) for the decision. Denials of requests for revocations are not subject to public notice and comment;

40 CFR 124.10(a)(2) provides that no public notice is required when a request for permit modification, revocation, and reissuance, or termination is denied. However written notice of the denial shall be given to the requester and the permittee. In reviewing Non Coal Chapter 11 EPA was concern that State regulation only required the notice to be provided to the requester. EPA felt this was a stringency concern. WDEQ proposed change resolves the EPA concern.

(iii) If the Administrator revokes any Class III Well portions of a permit or Research and Development ~~Testing~~ License, he or she shall prepare a letter to the operator specifying the needed changes and additional information.

(b) The Director or Administrator may revoke a permit, License to Mine, or Research and Development ~~Testing~~ License:

(i) If an excursion cannot be controlled or mitigated per W.S. § 35-11-429(a) ~~(2003)~~;

(ii) For failure to comply with permit terms and conditions per W.S. §§ 35-11-412(b) and (c) ~~(2003)~~;

(iii) For the operator's failure in the application or during the issuance process to disclose fully all relevant facts or for misrepresenting any relevant facts at any time, as provided in W.S. §§ 35-11-409(a) and 412(a) ~~(2003)~~; and

(iv) Per the provisions of W.S. §§ 35-11-109(a)(xiii) and 110(b) ~~(2003~~);

(c) A revocation requires public notice as specified in Section 3 of Chapter 7 of these regulations and Section 21 of this Chapter.

CONCLUSION

The Environmental Quality Council, in accordance with the authority granted to it by W.S. § 35-11-112 As Amended, and having complied with the provision of the Wyoming Administrative Procedures Act, find as follows:

1. These rules provide for the regulation of noncoal mining and reclamation operations in accordance with the requirements of W.S. § 35-11-101 through W.S. § 35-11-1803, As Amended (Wyoming Environmental Quality Act).

2. The Department of Environmental Quality, Land Quality Division, Noncoal Rules and Regulations are necessary and appropriate to preserve and exercise the primary responsibilities and rights of the State of Wyoming; to retain for the State the control over its air, land, and water resources and secure cooperation between agencies of the State and Federal Government in carrying out the policy and purposes of the Environmental Quality Act.

3. These Land Quality Division Noncoal Rules and Regulations are reasonable and necessary for the effectuation of the Wyoming Environmental Quality Act, W.S. § 35-11-101 through W.S. § 35-11-1803, As Amended.

4. These Land Quality Division Noncoal Rules and Regulations are necessary and appropriate to protect the public health, safety, welfare, and environment of the State of Wyoming.

Dated this _____ day of _____, 2018.

_____

Hearing Examiner, Environmental Quality Council

During review of the Non Coal Chapter 11 Regulations by the Environmental Protection Agency (EPA) the following portions of the Code of Federal Register were identified as being deficient or needing references to document how the State meets the Requirements. Based on the comments made by EPA minor changes were made to the regulations.

1) 40 CFR 124.5(d)(1)

> **(1) If the Director, tentatively decides to terminate. A permit under § 144.40 (UIC) of this chapter, he or she shall issue a notice of intent to terminate. A notice of intent to terminate is a type of draft permit which follows the same procedures as any draft permit prepared under §124.6 of this chapter.**

Non Coal Chapter 11 Section 23 Revocation (c)

> (c) A revocation requires public notice as specified in Section 3 of Chapter 7 of these regulations and Section 21 of this Chapter.

35-11-112(a)(iv)

> (iv) The environmental council shall "Conduct hearings in any case contesting the grant, denial, suspension, revocation, or renewal of any permit, license. Certification, or variance authorized or required by this act.

Comment is considered resolved. In the event of a denial it would follow the same public process as an approval.

2) 40 CFR124(6)(b)

> **(b) If the Director tentatively decides to deny the permit application, he or she shall issue a notice of intent to deny. A notice of intent to deny the permit application is a type of draft permit which follows the same procedures as any draft permit prepared under this section. See § 124.6€. If the Director's final decision (§124.15) is that the tentative decision to deny the permit application was incorrect, he or she shall withdraw the notice of intent to deny and proceed to prepare a draft permit under paragraph (d) of this section.**

Chapter 11 section 23 Revocation (c)

> (c) a draft decision will be issued as a public notice and will receive public comment.

Once public comment is collected DEQ will make a final decision. If comments reverse decision public notice would be required again. If revocation occurs it than can be challenged to the EQC.

Comment is considered resolved. In the event of a denial it would follow the same public process as an approval.

3) 40 CFR 124.10(a)(2)

> **(2) No public notice is required when a request for permit modification, revocation and reissuance, or termination is denied under §124.5. Written notice of that denial shall be given to the requester and to the permittee.**

EPA comment 1 No public notice is required when a request for permit modification, revocation, and reissuance, or termination is denied under § 124.5(b). Written notice of that denial shall be given to the requester and to the permitee.

EPA comment No requirement to send notice to permittee.

Chapter 11 Section 23 Revocation (a)

(ii) Any interested person, including the operator, may request revocation provided the request is in writing and contains facts or reasons supporting the request. If the Administrator decides that a request for revocation is not justified, he or she shall send the requester and operator a brief written response giving the reason(s) for the decision. Denials of requests for revocation are not subject to public notice and comment;

(iii) If the Administrator revokes any Class III well portions of a permit or Research and Development License, he or she shall prepare a letter to the operator specifying the needed changes and additional information.

Chapter 11 Section 23 Revocation (c)

(c) A revocation requires public notice as specified in Section 3 of Chapter 7 of these regulations and Section 21 of this Chapter.

40 CFR 124.10(a)(2) is satisfied by Non Coal Chapter 11 Section 23 (a)(ii) and (a)(iii). WDEQ will add and operator as shown above and the concern should be resolved. The comment is considered resolved.

4) 40 CFR 124(b)(2) Public notice of a public hearing shall be given at least 30 days before the hearing. (Public notice of the hearing may be given at the same time as public notice of the draft permit and the two notices may be combined.

To satisfy the concerns of 40 CFR 124(b)(2) the WDEQ could schedule and advertise a hearing at the time the draft decision is published for public notice. If no objections occurred during the public comment period the hearing would be canceled. Otherwise this would require a statute change.

5) 40 CFR 124.10(c)(2)(i)

(i) For major permits, NPDEA and 404 general permits, and permits that include sewage sludge land application plans under 40 CFR 501.15(a)(2)(ix), publication of a notice in a daily or weekly newspaper within the area affected by the facility or activity; and for EPA-issued NPDES general permits, in the Federal Register.

W.S. § 35-11-406(j)

(j) The applicant shall cause notice of the application to be published in a newspaper of general circulation in the locality of the proposed mining site once a week for four (4) consecutive weeks commencing within fifteen (15) days after being notified by the administrator.

The cited reference meets the requirements of 40 CFR 124.10(c)(2)(i). The comment is considered resolved.

6) 40 CFR 124.12(c)

(c) Any person may submit oral or written statements and data concerning the draft permit. Reasonable limits may be set upon the time allowed for oral statements, and the submission of statements in writing may be required. The public comment period under 124.10 shall automatically be extended to the close of any public hearing under this section. The hearing officer may also extend the comment period by so stating at the hearing.

The WDEQ accepts written comment up until the end of public comment. If an objection is placed and a hearing is scheduled the public comment period is not automatically extended. The public may be granted the opportunity to express concerns at the hearing, however circumstances may limit the amount of public comments that are presented at hearings. To truly meet the intent of this article the WDEQ would have to look at possible statute changes.

7) 40CFR 144.3 "aquifer"

Aquifer- means a geological "formation" group of formations, or part of a formation that is capable of yielding a significant amount of water to a well or spring

Non Coal Chapter 1 Section 2(g)

"Aquifer" is a zone, stratum or group of strata that stores and transmits water in sufficient quantities for a specific use.

The referenced citation meets the requirements of EPA. The comment is considered resolved.

8) 40 CFR 144.3 "contaminant"

Contaminant means any physical, chemical, biological, or radiological substance or matter in water.

The following definition will be added to Non Coal Chapter 11 to satisfy the deficiency identified by EPA.

9) 40 CFR 144.3 "Injection Well"

Injection well means a well into which fluids are being injected

Injection zone- means a geological "formation" group of formations, or part of a formation receiving fluids through a well.

Chapter 11 Section 1(af)

The definition of recovery fluid was modified to the following

> (af) "Recovery Fluid" means any material which flows or moves, whether semi-solid, liquid, sludge, gas or other form or state, used to dissolve, leach, gasify, or extract mineral. This may also include restoration fluid

The addition to the definition of recovery fluid such that restoration fluid is also contemplated resolves EPA concerns. The WDEQ considers the comment resolved.

10) 40 CFR 144.7 (a)

> **(a) The Director may identify (by narrative description, illustrations, maps, or other means) and shall protect as underground sources of drinking water, all aquifers and parts of aquifers which meet the definition of ‘‘underground source of drinking water’’ in § 144.3, except to the extent there is an applicable aquifer exemption under paragraph (b) of this section or an expansion to the areal extent of an existing Class II enhanced oil recovery or enhanced gas recovery aquifer exemption for the exclusive purpose of Class VI injection for geologic sequestration under paragraph (d) of this section. Other than EPA approved aquifer exemption expansions that meet the criteria set forth in § 146.4(d) of this chapter, new aquifer exemptions shall not be issued for Class VI injection wells. Even if an aquifer has not been specifically identified by the Director, it is an underground source of drinking water if it meets the definition in § 144.**

Water Quality Regulations Chapter 8 Section 3 Underground Water Protected

(c) Protection shall be afforded all underground water bodies (including water in the vadose zone). Water being used for a purpose identified in W.S. 35-11-102 and 103(c)(i) shall be protected for its intended use and uses for which it is suitable. Water not being put to use shall be protected for all uses for which it is suitable.

35-11-103(c)(i)

> (i) "Pollution" means contamination or other alteration of physical, chemical or biological properties of any waters of the state, including change in temperature, taste, color, turbidity, or odor of waters or any discharge of any acid or toxic material, chemical or chemical compound, whether it be liquid, gaseous, solid, radioactive, or other substance, including wastes, into any waters of the state which creates s a nuisance or renders any water harmful, detrimental or injurious to public health, safety or welfare, to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses, or to livestock, wildlife or aquatic life, or which degrades the water for its intended use, or adversely affects the environment. This term does not mean water, gas, or other material which is injected into a well to facilitate production of oil, or gas, or water, derived in association with oil or gas production and disposal of in a well, if the well-

used either to facilitate production or for disposal purposes is approved by authority of the state, and if the state determines that such injection or disposal well will not result in the degradation of ground surface or water resources.

The above citation meets the requirement of 40 CFR 144.7(a). The comment is considered resolved.

12) 144.7(b)(1)

(1) The Director may identify (by narrative description, illustrations, maps, or other means) and describe in geographic and/or geometric terms (such as vertical and lateral limits and gradient) which are clear and definite, all aquifers or parts thereof which the Director proposes to designate as exempted aquifers using the criteria in 146.4 of this chapter.

Non Coal Chapter 11 Section 11 (b)(ii)(A)

(A) A map and ~~general~~ description identifying and describing in geographic and/or geometric terms (such as vertical and lateral limits and gradient) all aquifers or parts thereof which the applicant proposes to exempt.

The WDEQ proposes the above change to Chapter 11 Section 11(b)(ii)(A). The change meets the requirements of EPA comments and this item is considered resolved.

13) 40 CFR 144.7(b)(2)

(2) No designation of an exempted aquifer submitted as part of a UIC program shall be final until approved by the Administrator as part of a UIC program. No designation of an expansion to the areal extent of a Class II enhanced oil recovery or enhanced gas recovery aquifer exemption for the exclusive purpose of Class VI injection for geologic sequestration shall be final until approved by the Administrator as a revision to the applicable Federal UIC program under part 147 or as a substantial revision of an approved State UIC program in accordance with § 145.32 of this chapter.

The WYDEQ currently requires all Aquifer Exemptions to be done through a program revision. If we decide to exempt under 40 CFR 146.4(c) the regulations will need to be revised to accommodate. The comment is considered resolved.

14) 40 CFR 144.12(a)

(a) No owner or operator shall construct, operate, maintain, convert, plug, abandon, or conduct any other injection activity in a manner that allows the movement of fluid containing any contaminant into underground sources of drinking water, if the presence of that contaminant may cause a violation of any primary drinking water regulation under 40 CFR part 142 or may otherwise adversely affect the health of persons. The applicant for a permit shall have the burden of showing that the requirements of this paragraph are met.

Non Coal Chapter 11 Section 12(a)(xi)

> (xi) No operator shall construct, operate, maintain, convert, plug, abandon, or conduct any other injection or mining activity in a manner that allows the movement of fluid containing contaminant into zones or intervals other than those zones authorized in the approved permit or Research and Development License. The operator shall have the burden of showing that the requirements of this paragraph are met.

The WDEQ believes the cited reference meets the intent of 40 CFR 144.12(a). The comment is considered resolved until EPA directs the WDEQ otherwise.

15) 40 CFR144.12 (b)

> **(b) For Class I, II, III, and VI wells, if any water quality monitoring of an underground source of drinking water indicates the movement of any contaminant into the underground source of drinking water, except as authorized under part 146, the Director shall prescribe such additional requirements for construction, corrective action, operation, monitoring, or reporting (including closure of the injection well) as are necessary to prevent such movement. In the case of wells authorized by permit, these additional requirements shall be imposed by modifying the permit in accordance with §144.39, or the permit may be terminated under § 144.40 if cause exists, or appropriate enforcement action may be taken if the permit has been violated. In the case of well authorized by rule, see §§ 144.21 through 144.24. For EPA administered programs, such enforcement action shall be taken in accordance with appropriate sections of the SDWA.**

35-11-103(f)(ii)

Excursion means any unwanted and unauthorized movement of recovery fluid out of the production zone as a result of in situ mining activities

Chapter 11 Section 19 Section 19 (c)(ii)

(ii) If an excursion is not controlled within 60 days following confirmation of the excursion, the Administrator may, after consultation with the Director, terminate the mining operation and revoke the permit or Research and Development License or modify the mining operation and require modification of the permit or Research and Development License. Modifying the operation may include: sampling of additional wells for the parameters listed in 19(c)(i); installation of additional monitor wells; termination of injection in the portion of the well field in which the excursion originated; or a combination of approaches to assure control within the necessary time frames.

35-11-429

Every permit shall (ii) Authorize the administrator to terminate or modify the mining operations if an excursion cannot be controlled or mitigated within the constraints specified in the permit.

The WDEQ believes the citations provided above meet the requirements of 40 CFR 144.12(b). This comment is considered resolved unless directed otherwise by the EPA.

16) 40 CFR 144.17 Records

The Director or the Administrator may require, by written notice on a selective well-by-well basis, an owner or operator of an injection well to establish and maintain records, make reports, conduct monitoring, and provide other information as is deemed necessary to determine whether the owner or operator has acted or is acting in compliance with Part C of the SDWA or its implementing regulations.

35-11-406

(a) Applications for a mining permit shall be made in writing to the administrator and shall contain:

(xv) such other information as the administrator deems necessary or as good faith compliance with the provisions of this act require.

Chapter 11 Section 2. General Requirements.

All applications for mining permits and amendments must be submitted in a format satisfactory to the Administrator. The applicant shall provide information that is complete, current, presented clearly and concisely, and supported by appropriate references to technical and other written material. The Administrator may require the applicant to supplement the application with information beyond that specifically required by these rules if the Administrator believes that additional information is necessary to make an informed decision.

35-11-430

The operator shall maintain records at the mine site of all information resulting from monitoring activities required in the permit.

Maintain records

Chapter 11 Section 17 (b)(i)(D)

(b) The Operator shall

(i) retain records of all monitoring information including the following

(D) information requested by the Administrator for inclusion in the Annual Report as required by W.S. 35-11-411

Make Reports- Required annual report as dictated by Administrator

The References listed above meet the requirements of 40 CFR 144.17. The WDEQ considers this comment resolved unless directed otherwise by EPA.

17) 40 CFR 144.31(b)

> **(b) Who applies? When a facility or activity is owned by one person but is operated by another person, it is the operator's duty to obtain a permit.**

Proposed change to Chapter 11 Section 2 General Requirements

> It is the operator's responsibility to make application for and obtain a permit in accordance with these regulations. All applications for mining permits and amendments must be submitted in a format satisfactory to the Administrator. The applicant shall provide information that is complete, current, presented clearly and concisely, and supported by appropriate references to technical and other written material. The Administrator may require the applicant to supplement the application with information beyond that specifically required by these rules if the Administrator believes that additional information is necessary to make an informed decision.

The change showed above meets the requirement of 40 CFR 144.31(b). This comment is considered resolved.

18) 40 CFR 144.31(c)

> **(c) Time to apply. Any person who performs or proposes an underground injection for which a permit is or will be required shall submit an application to the Director in accordance with the UIC program as follows.**

See previous response. The comment is considered resolved.

19) 40 CFR 144.31(c)(2)

> **(2) For new injection wells, except new wells in projects under § 144.21(d) or authorized by an existing area permit under § 144.33(c) a reasonable time before construction to begin.**

Non Coal Chapter 11 Section 11 Aquifer Classification and Exemption (b)(ii)(C)

> (C) Analysis of the amenability of the receiving strata to the proposed mining methods; and a timetable of planned development of the receiving strata.

Additionally we require a timetable for each wellfield in Chpt 11 Section 6 (a)(i)(C)

35-11-411 Annual Report

> (a)(iii) A revised schedule or timetable of operations and reclamation and an estimate of the number of acres to be affected during the next one year period.

The references listed above meet the requirements of 40 CFR.31(c)(2) and the comment is considered resolved.

20) 40 CFFR 144.31(d)

> **(d) Completeness. The Director shall not issue a permit before receiving a complete application for a permit except for emergency permits. An application for a permit is complete when the Director receives an application form and supplemental information which are completed to his or her satisfaction. The completeness of any application for a permit shall be judged independently of the status of any other permit application or permit for the same facility or activity.**

The WDEQ has no language that states a permit shall be judged independently of the status of any other permit application or permit for the same facility or activity. The WDEQ believes this is more stringent than the EPA. If the EPA demonstrates that a stringency concern is involved please indicate to the WDEQ the concern.

21) 40 CFR 144.31(e)

> **(e) Information Requirements. All applicants for Class I, II, III, and V permits shall provide the following information to the Director using the application form provided by the Director. Applicants for Class VI permits shall follow criteria provided in §146.82**
>
> > **(3) Up to four SIC codes which best reflect the principle products or service provided by the facility**

The WDEQ requires permits to describes in great detail the principle products and services provided by the facility. Is there a requirement by States to provide EPA SIC codes? If not what purpose would the SIC code provide the state. The SIC code would be 1094 for most of the Class III wells in the State. The SIC code 1094 is for vanadium, radium, or uranium ores. This is a very general description and the specificity in the permit is much more detailed. If by not including the SIC code creates a stringency concern please indicate the basis for such concern.

> > **(4) The operators name, address, telephone number, ownership status, and status as Federal, State, private, public, or other entity.**

35-11-406(a) contains all the information that is asked for in this requirement with the exception of a telephone number. Operators are the applicants. If not requiring a phone number in the regulations is a stringency concern please indicate the basis for such concern.

> > **(7) A topographic map (or other map if a topographic map is unavailable) extending one mile beyond the property boundaries of the source depicting the facility and each of its intake and discharge structures; each of its hazardous waste treatment, storage, or disposal facilities; each well where fluids from the facility are injected underground; and those wells, springs, and other surface water bodies, and drinking water wells listed in public records or otherwise know to the applicant within a quarter mile of the facility property boundary.**

The requirements to have a distance on the topographic map is can be rectified by the following change. The change displayed below will resolve EPAs concern, and therefore the comment is considered resolved.

Chapter 11 Non Coal Section 2

(d) The Administrator shall review the permit or Research and Development ~~Testing~~ License application and determine its suitability for publication in accordance with W.S. § 35-11-406 ~~(2003)~~. A permit or Research and Development ~~Testing~~ License shall be issued by the Director upon the recommendation of the Administrator. In meeting the requirements of 35-11-406(a)(iii)(ix) the map should extend a mile beyond the permit boundary.

22) 40 CFR 144.31(e)(10)

> **(10) A plugging and abandonment plan that meets the requirements of § 146.10 of this chapter and is acceptable to the Director.**

WDEQ outlines acceptable plugging and abandonment procedures in Chapter8 of Water Quality Regulations. These procedures were approved by the Director when the rules were implemented. If the operator deviates from the listed procedures the operator applies for a deviance at which WDEQ will evaluate the merits of the request and make a decision. WDEQ believes this comment is resolved, however if a stringency concern exists please indicate the basis of such concern.

23) 40 CFR 144.35(a)

> **(a) Except for Class II and III wells, compliance with a permit during it term constitutes compliance, for purposes of enforcement, with Part C of the SDWA. However, a permit may be modified, revoked, and reissued, or terminated during its term for case set forth in 144.39 and 144.40.**

Need more explanation it clearly excludes Class III however 35-11-405 and 35-11-409 meet requirements.

24) 40 CFR 144.38(a)

> **Transfer by modification. Except as provided in paragraph (b) of this section a permit may be transferred by the permitee to a new owner or operator only if the permit has been modified or revoked and reissued under § 144.39(b)(2)), or a minor modification made (under § 144.41(d)), to identify the new permittee and incorporate such other requirements as may be necessary under the Safe Drinking Water Act.**

WDEQ does not allow automatic transfers. In regards to modifications to the permit Non Coal

Chapter 11 Section 14(c)(iv)

(c) A non-significant revision to any Class III well portion of a permit or Research and Development License shall meet the requirements of Chapter 7 of these regulations, except that a non-significant revision shall be for the following reasons:

(iv) To allow for a change in ownership or operational control of a facility where the Administrator determines that no other change in the permit or Research and Development License is necessary provided that a written agreement is submitted in a format and on forms required by the Administrator containing a specific date fro transfer of permit or Research and Development License responsibility, coverage, and liability between the current and new operator.

Non Coal Chapter 7 Section 1(a)

(a) A mine permit or Research and Development Testing License may be revised in accordance with this Chapter and upon approval by the Administrator, if the operator submits a request to the Division.

WDEQ believes the referenced material above meet the requirement of the comment. If the EPA believes there is a stringency issue please indicate the basis of such claim.

25) 40 CFR 144.39(a)(2)

(a) *Information.* The Director has received information. Permits other than for Class II and III wells may be modified during their terms for this cause only if the information was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and would have justified the application of different permit conditions at the time of issuance. For UIC area permits (§ 144.33), this cause shall include any information indicating that cumulative effects on the environment are unacceptable

Will get back?

35-11-409(a)

(a) The director shall revoke a mining permit if at any time he determines that the permit holder intentionally misstated or failed to provide any fact that would have resulted in the denial of a mining permit and which good faith compliance wih the policies, purposes, and provisions of this act would have required him to provide.

Chapter 11 Section 14(b)

(b)The occurrence of any of the following with regards to the Class III Well portion of a permit or Research and Development Testing License shall result in the operator being required to revise the permit or Research and Development Testing License. These revisions shall be treated as significant revisions and require public notice as specified in Chapter 7 of these regulations and Section 21 of this Chapter. In addition, the fact sheet will be updated for these revisions:

(i) Any material or substantial alterations or additions to the facility which occurred after issuance of the permit or license, which justify the application of permit or license conditions that are different or absent in the existing permit or license, including:

WDEQ believes the above references resolve EPA concerns. If the EPA continues to have a stringency concern, please indicate the basis of such concern. This comment is considered resolved.

26) 40 CFR 144.40(a)(3)

(3) A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination;

Non Coal Chapter 11 Section 14 b(v)

(b) The occurrence of any of the following with regards to the Class III Well portion of a permit or Research and Development License shall result in the operator being required to revise the permit or Research and Development License. These revisions shall be treated as significant revisions and require public notice as specified in Chapter 7 of these regulations and Section 21 of this Chapter. In addition, the fact sheet will be updated for these revisions:

(v)A determination is made that the activity endangers human health or the environment and can only be regulated to acceptable levels by a permit revision

35-11-412 License Revocation or Suspension

(a) The director shall revoke an operator's license
  (i) If at any time he becomes aware of the existence of any fact, reason, or condition that would have caused him to deny an application for a mining permit whether or not such condition existed at the time of application.
  (ii) If he determines that the operator intentionally misstated or failed to provide any fact that would have resulted in the denial of a license and which good faith compliance with the policies, purposes and provisions of this act would have required him to provide.

(b) The director may suspend the license if he determines the operator is in substantial violation of the terms of the license or of the provisions of this act. The suspension shall be lifted when the violation have been corrected to the director's satisfaction. No suspension shall be unreasonably prolonged.

WDEQ believes the above referenced citations meet the intent of 40 CFR 144.40(a)(3). The comment is considered resolved. If EPA continues to have a stringency concern, please indicate the basis of such concern.

27) 40 CFR 144.41

> **Upon the consent of the permitee the Director may modify a permit to make the correction or allowance for changes in the permitted activity listed in this section, without following the procedures of Part 124, Any permit modification not processed as a minor modification under this section must be made for cause and with part 124 draft permit and public notice as required in 144.29 Minor modification may only**

Non Coal Chapter 11 Section 14(c)

> (c) A non-significant revision to any Class III well portion of a permit or Research and Development License shall meet the requirements of Chapter 7 of these regulations, except that a non-significant revisions with operator consent shall be for the following reasons only:

The following change listed above should resolve EPA concerns. The comment is considered resolved. If EPA continues to have stringency concerns please indicate the basis of such concern.

28) 40 CFR 144.51(f)

> **(f) Permit actions. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.**

35-11-405 Permit defined; no mining operation without valid permit; when validity terminated:

> (a) A mining permit is the certification that the trust of land described may be mined by an operator licensed to do so in conformance with an approved mining and reclamation plan. No mining operation may be commenced or conducted on land for which there is not in effect a valid mining permit to which the operator possesses the rights.

35-11-415 Duties of Operators

> (a) Every operator to whom any permit or license is issued shall comply with all requirements of this act, the rules and regulations promulgated hereunder, and reclamation plans and other terms and conditions of any permit or license.
> (b) The operator; pursuant to an approved surface mining permit and mining plan and reclamation plan, or any approved revision thereto shall
>
> > (ii) Conduct all surface mining and reclamation activities within the permit area in conformity with the approved plan.

WYDEQ requires that as shown above have a permit and regardless of permit also comply with the Environmental Quality Act, regulations, mining plans, and reclamation plans. Regardless if a

modification is occurring to a permit they are obligated to fulfill the commitments. WYDEQ considers this comment resolved. If EPA has stringency concerns please indicate the basis of such concern.

29) 40 CFR 144.51(i)(2)

> **2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit.**

35-11-109(a)(vi)

> (vi) Designate authorized officers, employees or representatives of the department to enter and inspect any property, premise or place, except private residences, on or at which an air, water or land pollution source is located or is being constructed or installed, or any premises in which any records required to be maintained by a surface coal mining permittee are located. Persons so designated may inspect and copy any records during normal office hours, and inspect any monitoring ……

The above reference provides DEQ the ability to have access and copy records as required by 40 CFR 144.51(i)(2). The terms reasonable and normal office hours comparable and are not a stringency issue. WYDEQ considers the comment resolved. If EPA continues to have stringency concerns please indicate the basis for such concern.

30) 40 CFR 144.51 (i)(4)

> **4) Sample or monitor at reasonable times for the purposes of assuring permit compliance or as otherwise authorized by the SDWA, any substances or parameters at any location.**

35-11-109)(vi)

(a) In addition to any other powers and duties imposed by law, the director of the department shall:

> (iv) Designate authorized officers, employees or representatives of the department to enter and inspect any property, premise, or place, except private residence, on or at which an air, water, or land pollution source is located or is being constructed or installed, or any premises in which any records required to be maintained by a surface coal mining permittee are located. Persons so designated may inspect and copy any records during normal office hours, and inspect any monitoring equipment or method of operation required to be maintained pursuant to this act at any reasonable time upon presentation of appropriate credentials, and without delay, for the purpose of investigating actual or potential sources of air, water, or land pollution and for determining compliance or noncompliance with this act, and any rule, regulations, standards, permits, or orders promulgated hereunder. For surface coal mining operations, right of entry to or inspection of any operation, right of entry to or inspection of any operation, premises, records, or equipment shall not require advance notice. The owner, occupant or operator

> shall receive a duplicate copy of all reports made as a result of such inspections within thirty (30) days. The department shall reimburse any operator for the reasonable costs incurred in producing copies of the records requested by the department under this section.

The above referenced citation meets the requirements of 40 CFR 144.51 (i)(4). The comment is considered resolved. If EPA continues to have stringency concerns please indicate the basis of such concern.

31) 40 CFR 144.51(j)(3)(i)

> **(i) The date, exact place, and time of sampling.**

35-11-430(b) has all the required information that 40 CFR 144.51(j)(3)(i). The WYDEQ realizes that to EPA it may seem confusing to have standards in statute and in regulation. The WYDEQ has successfully managed the two location as it has regulated a number of different licensee/permittees. This is not a stringency issue and unless otherwise noted by EPA the concern is considered resolved.

32) 40 CFR 144.51(k)

> **(k) Signatory Requirement. All applications, reports, or information submitted to the Administrator shall be signed and certified.**

Non Coal Chapter 11 Section 2(g)

> (g) All applications shall be signed by a responsible corporate officer All reports required by permits (including Annual Reports, Quarterly Monitoring Reports, and reports related to excursion monitoring and control) or other information required by the Adminstrator which pertain to ClassIII injection wells shall be signed by a responsible corporate officer or duly authorized representative. Any responsible corporate officer or duly authorized representative signing a document under this Section shall make the following certification:
>
> > I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations

The above reference meets the requirements 40CFR 144.51(k). If the EPA continues to have stringency concerns please indicate the basis of such concern.

33) 40 CFR 144.51(l)(2)

(2)Anticipated noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements

Non Coal Chapter 11 Section 18 Noncompliance

(a) The operator shall

(i) Verbally report to the Administrator any noncompliance which may endanger public health or environment, within 24 hours of the time the operator becomes aware of the occurrence.

(ii) Provide written report to the Administrator within five days of the operator becoming aware of the noncompliance occurrence. The Administrator of the Land Quality Division will forward one copy to the Administrator of the Water Quality Division.

It could be interpreted that if the operator is aware of future noncompliance they would be obligated to report such instances to the WDEQ. This comment is considered resolved. If the EPA has stringency concerns, please indicate the basis of such concern.

34) 40 CFR 144.51(m)

(m) Requirement prior to commencing injection. Except for new wells authorized by an area permit under 133.33(c), a new injection well may not commence injection until construction is complete; and

1) the permittee has submitted notice of completion of construction to the Director; and

2)

(i) The Director has inspected or otherwise reviewed the new injection well and finds it is in compliance with the conditions of the permit; and

(ii) The permitee has not received notice from the Director of his or her intent to inspect or otherwise review the new injection well within 13 days of the date of the notice in paragraph (m)(1) of this section, in which case prior inspection or review is waived and the permittee may commence injection. The Director shall include in his notice a reasonable time period in which he shall inspect the well.

Non coal Chapter 11 Section 8

(j) Section 11(b) Except for all new wells authorized by an area permit under Subjection 2(e) of this chapter, The operator may not commence injection in a new injection well until construction is complete and: the operator has demonstrated mechanical integrity. The

operator shall submit notice of completion of construction and demonstrated mechanical integrity in the quarterly monitoring reports.

(i) The operator has submitted notice of completion of construction to the Administrator: and

(ii) With respect to inspection and review:

(A) The Administrator has inspected or otherwise reviewed the new injection well and finds the well is in compliance with the permit or Research and Development Testing License; or

(B) The operator has not received notice from the Administrator of the intent to inspect or otherwise review the new injection wells within 13 days of the date of the notice in paragraph (b)(i) of this subjection, in which case prior inspection or review is waived and the operator may commence injection. If notice is given, the Administrator shall include in the notice a reasonable time period in which he or she shall inspect the well.

WDEQ will reject the proposed change such that it mirrors the federal language.

35) 40 CFR 144.52(a)(1)

(1) Construction requirements as set forth in part 146. Existing wells shall achieve compliance with such requirements according to a compliance schedule established as a permit condition. The owner or operator of a proposed new injection well shall submit plans for testing, drilling, and construction as part of the permit application. Except as authorized by an area permit, no construction may commence until a permit has been issued containing construction requirements (144.11). New wells shall be in compliance with these requirements prior to commencing injection operations. Changes in construction plans during construction may be approved by the Administrator as a minor modification (144.41). No such changes may be physically incorporated into construction of the well prior to approval of the modification by the Director.

Non Coal Chapter 11 Section 8(i)

(i) No Class III well construction may commence until a permit or Research and Development License has been issued which includes well construction information in accordance with the requirements of Section 8 of this Chapter.

Non Coal Chapter 11 Section 2 (c)

(c) No in situ mining shall commence or be conducted unless a valid permit or Research and Development ~~Testing~~ License has been issued to the operator from the Department. Applications for a permit or Research and Development ~~Testing~~ License shall be filed with the Administrator. The applicant shall file two copies of the application to the Administrator in a format required by the Administrator.

Non Coal Chapter 11 Section 8 (j)

(j) The operator may not commence injection in a new injection well until construction is complete and the operator has demonstrated mechanical integrity. The operator shall

submit notice of completion of construction and demonstrated mechanical integrity in the quarterly monitoring reports

Non Coal Chapter 11 Section 8 (a)

(a) Methods for well construction shall:

(i) Be approved by the Administrator and included in the permit or Research and Development License application

(ii) Constitute a condition of the permit

(iv) The Administrator may grant a deviation from the requirements, except those in Section 8 (g) provided the operator can supply documentation of reliability, mechanical integrity, design and construction to protect groundwaters of the state.

The EPA identified concerns in regards to no construction occurring before a permit is issued and new wells shall be in compliance with these requirements prior to commencing operations. The above references clearly indicate that no construction can occur until a permit is issued. Additionally all injection wells must meet MIT requirements and construction requirements. For wells not under an area permit the requirements in 40 CFR 144.51(m) apply. Based on these citations the comment is considered resolved. If EPA still has stringency concerns, please indicate the basis for such concerns.

36) 40 CFR 144.52(a)(6)

(6) After cessation of operations of two years the owner or operator shall plug and abandon the well in accordance with the plan unless he:

(i) Provides notice to the Regional Administrator.

(ii) Describes actions or procedures, satisfactory to the Regional Administrator that the owner or operator will take to ensure that the well will not endanger USDWs during the period of temporary abandonment. These actions and procedures shall include compliance with the technical requirements applicable to active injection wells unless waived by the Regional Administrator.

Non Coal Chapter 11 Section 10(e)

The WDEQ proposes to reject the proposed change such that the language mirrors 40 CFR 144.52(a)(6). The comment is considered resolved. If EPA continues to have stringency concerns, please indicate the basis of such concern.

37) 40 CFR 144.52 (a)(7)(i)(C)

(C) The transferor of a permit has received notice from the Director that the owner or operator receiving transfer of the permit, the permitee, has demonstrated financial responsibility for the well.

35-11-408

A permit holder desiring to transfer his permit shall apply to the administrator. The potential transferee shall file with the administrator a statement of qualifications to hold a permit as though he were the original applicant for the permit and shall further agree to be bound by all of the terms and conditions of the original permit. The administrator shall

recommend approval or denial of the transfer to the director. No transfer of a permit will be allowed if the current permit holder is in violation of this act, unless the transferee agrees to bring the permit into compliance with the provision of this act.

The administrator approves or denies a transfer. One of the criteria that must be met is that the transferee agrees to be bound by all of the terms and conditions of the original permit. This includes the financial assurances to cover the cost estimate liability. The administrator does not approve a transfer until the bonding analysis ensures the financial assurance mechanisms are in place. The above citation meets the requirements of 40 CFR 144.52 (a)(7)(i)(C). The comment is considered resolved. If EPA continues to have stringency concerns, please indicate the basis for such concern.

38) 40 CFR 144.52(a)(9)

(9) Additional conditions The Director shall impose on a case by case basis such additional conditions as are necessary to prevent the migration of fluids into underground sources of drinking water.

Non Coal Chapter 11 Section 2

All applications for mining permits and amendments must be submitted in a format satisfactory to the Administrator. The applicant shall provide information that is complete, current, presented clearly and concisely, and supported by appropriate references to technical and other written material. The Administrator may require the applicant to supplement the application with information beyond that specifically required by these rules if the Administrator believes that additional information is necessary to make an informed decision.

Water Quality Regulations Chapter 8 Section 3 Underground Water Protected

(c) Protection shall be afforded all underground water bodies (including water in the vadose zone). Water being used for a purpose identified in W.S. 35-11-102 and 103(c)(i) shall be protected for its intended use and uses for which it is suitable. Water not being put to use shall be protected for all uses for which it is suitable

35-11 429

(iv) Prohibit any significant change in mining technique, method of operation, recovery fluid used, mining and reclamation plans or other activities that would jeopardize reclamation or protection of any waters of the state unless a permit revision has been approved by the director pursuant to this act;

While WDEQ believes the citations above meet the requirements of 40 CFR 144.52(a)(9) it recognizes EPA may still have concerns with the above item. This will have to be an item we discuss and possibly correct at the next available opportunity.

39) 40 CFR 144.52(b)(1)

(1) In addition to conditions required in all permits the Director shall establish conditions in permits as required on a case-by-case basis to provide for and assure compliance with applicable requirements of the SDWA and parts 144, 145, 146, 124

Non Coal Chapter 11 Section 2

All applications for mining permits and amendments must be submitted in a format satisfactory to the Administrator. The applicant shall provide information that is complete, current, presented clearly and concisely, and supported by appropriate references to technical and other written material. The Administrator may require the applicant to supplement the application with information beyond that specifically required by these rules if the Administrator believes that additional information is necessary to make an informed decision.

Water Quality Regulations Chapter 8 Section 3 Underground Water Protected

(c) Protection shall be afforded all underground water bodies (including water in the vadose zone). Water being used for a purpose identified in W.S. 35-11-102 and 103(c)(i) shall be protected for its intended use and uses for which it is suitable. Water not being put to use shall be protected for all uses for which it is suitable

35-11 429

(iv) Prohibit any significant change in mining technique, method of operation, recovery fluid used, mining and reclamation plans or other activities that would jeopardize reclamation or protection of any waters of the state unless a permit revision has been approved by the director pursuant to this act;

While WDEQ believes the citations above meet the requirements of 40 CFR 144.52(b)(1) it recognizes EPA may still have concerns with the above item. This will have to be an item we discuss and possibly correct at the next available opportunity.

40) 40 CFR 144.55 (b)(2)

New injection wells. No owner or operator of a new injection well may begin injection until all required corrective actions has been taken.

Non Coal Chapter 11, Section 8(j)

(j)The operator may not commence injection in a new injection well until construction is complete and the operator has demonstrated mechanical integrity. The operator shall submit notice of completion of construction and demonstrated mechanical integrity in the quarterly monitoring reports.

Non Coal Chapter 11 Section 11 (b)(i)(A)

(b) An aquifer, or a portion thereof, which meets the criteria for an Underground Source of Water as defined in Section 1 of this Chapter may be designated as an "exempted aquifer":

(i) If it meets the following criteria:

(A) it does not currently serve as a source of water for uses described in Chapter 8 of Water Quality Rules and Regulations.

According to the following section, the operator has to demonstrate mechanical integrity prior to injecting, and if the MIT fails and requires corrective action, then it has not demonstrated mechanical integrity. Additionally as part of the corrective action groundwater that serves as a source of water cannot be exempted. Those wells have to be plugged and abandoned prior to issuance of a permit and aquifer exemption. With this WDEQ believes they meet the requirements of 40 CFR 144.55 (b)(2). If EPA continues to have stringency concerns, please indicate the basis for such concern.

41) 40 CFR 146.4(b) It cannot now and will not in the future serve as a source of drinking water because:

WDEQ appreciates the concern but when referencing federal regulation the requirements for the State are that we reference the date. This comment is considered resolved.

42) 40 CFR 146.6(b)(2) In the case of an application for an area permit under 122.39 a fixed width of not less than one fourth mile for the circumscribing area may be used. In determining the fixed radius, the following factors shall be taken into consideration. Chemistry of injected and formation fluids; hydrogeology, population and ground water use and dependence; and historical practices in the area

Adjacent lands defined in 35-11-103(e)(vii), "means all lands within ½ mile of the proposed permit area", also known as "adjacent areas"

Non Coal Chapter 11 Section 4(ix)

(ix) For groundwater within the permit area and on adjacent lands

(A) The names (or numbers) description, and a map of all wells or water supply or monitoring and all wells which penetrate the production zone.

WDEQ has a fixed review groundwater uses under adjacent lands out to ½ mile. WDEQ does not understand where the need to extend beyond ½ mile exists. If EPA has a concern with stringency please indicate a scenario where ½ mile area of review was not sufficient.

43) 40 CFR 146.8

In conducting and evaluating the tests enumerated in this section or others to be allowed by the Director, the owner or operator and the Director shall apply methods and standards generally accepted in the industry. When the owner or operator reports the results of mechanical integrity tests to the Director, he shall include a description of the test(s) and the method(s) used. In making his/her evaluation, the Director shall review monitoring and other test data submitted since the previous evaluation

Chapter 11 Section 9(a) A schedule and methods for Mechanical Integrity Testing shall be approved by the Administrator and included in the permit or Research and Development License application (per Section 5(a)(xvi) of this Chapter) and shall constitute requirements of the permit. The schedule and methods shall meet the following requirements:

Guideline 4, Reference Document 8 (G)(3)
3. The results of the MIT shall be reported quarterly to the LQD. Reference Document 1, General Information, Attachment V contains a link to a spreadsheet for reporting the details of test. The required information includes:
a. Well identification
b. Date of the MIT
c. Method of testing and testing details such as the following
i. Packer depth
ii. Initial pressure
iii. Final pressure
iv. Pressure loss
d. Casing type
e. Depth of casing
f. Results of test
g. Next test date
1. The report shall also include
a. Description of the method of plugging or repair of wells that failed the MIT
b. Result of the repair of plugging
c. Statement that the wells were plugged in accordance with the permit or prior approval was granted by the administrator for a different method.

WDEQ considers this comment resolved. If EPA continues to have stringency concerns, please indicate the basis for such concern.

44) 40 CFR 146.8(f)

The Director may require additional or alternative tests if the results presented by the owner or operator under § 146.8(e) are not satisfactory to the Director to demonstrate that there is no movement of fluid into or between USDWs resulting from the injection activity.

Chapter 11, Section 9(a)(v) If the Administrator determines that a well lacks mechanical integrity, he or she shall give written notice of this determination to the operator of the well. Unless the Administrator requires immediate cessation, the operator shall cease injection into, or production from the well within 48 hours of receipt of the Administrator's determination. The Administrator may allow plugging of the well or require the operator to perform such additional construction, operation, monitoring, reporting, and corrective action as is necessary to prevent the movement of fluid into unauthorized zones or onto the surface caused by the lack of mechanical integrity. The operator may resume injection or production upon written notification from the Administrator that the operator has demonstrated mechanical integrity.

WDEQ believes we meet the requirements of 40 CFR 146.8(f). The comment is considered resolved. If EPA continues to have stringency concerns, please indicate the basis for such concern.

45) 40 CFR 146.34(a)(2)

A map showing the injection well or project area for which a permit is sought and the applicable area of review. Within the area of review, the map must show the number or name and location of all existing producing wells, injection wells, abandoned wells, dry holes, public water systems and water wells. The map may also show surface bodies of waters, mines (surface and subsurface), quarries and other pertinent surface features including residences and roads, and faults if known or suspected. Only information of public record and pertinent information known to the applicant is required to be included on this map.

35-11-406(a)(ix)

(ix) a map based upon public records showing the boundaries of the land to be affected, its surrounding immediate drainage area, the location and names, where known, of all roads, railroads, public or private, rights of way and easements, utility lines, lakes, streams, creeks, springs, and other surface water courses, oil wells, gas wells, water wells, and the probable limits of underground mines and surface mines, whether active or inactive, on or immediately adjacent to the land to be affected.

The above reference resolves the concern of EPA. Quarries are considered surface mines in the State. The above comment is considered resolved.

46) 40 CFR 146.34(a)(3)

A tabulation of data reasonably available from public records or otherwise known to the applicant on wells within the area of review included on the map required under paragraph (a)(2) of this section which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of plugging and completion, and any additional information the Director may require. In cases where the information would be repetitive and the wells are of similar age, type, and construction the Director may elect to only require data on a representative number of wells.

Chapter 11, Section 4(a)(ix-x)

(ix) For groundwater within the permit area and on adjacent lands:

(A) The names (or numbers), descriptions, and a map of all wells installed for water supply or monitoring and all wells which penetrate the production zone. The description shall include: names of present owners, well completion data, producing interval(s), and variations in water level to the extent such information is available in the public records and from a reasonable inspection of the property.

(B) A list and map of all adjudicated and permitted groundwater rights.

(x) A list and map of all abandoned wells and drill holes, giving location, depth, producing interval(s), type of use, condition of casing, plugging procedures and date of completion for each well or drill hole within the permit area and on adjacent lands to the extent such information is available in public records and from a reasonable inspection of the property.

The above references meet the intent of 40 CFR 146.34(a)(3). The comment is considered resolved. If EPA continues to have stringency concerns please indicate the basis for such concern.

47) 40 CFR 146.34(a)(4)

Maps and cross sections indicating the vertical limits of all underground sources of drinking water within the area of review, their position relative to the injection formation, and the direction of water movement, where known, in every underground source of drinking water which may be affected by the proposed injection:

Chapter 11, Section 4(a)(xii)

(xii) Aquifer characteristics for the water saturated portions of the receiving strata and aquifers which may be affected by the mining process, which may include, but is not limited to, aquifer thickness, velocity and direction of groundwater movement, storage coefficients or specific yields, transmissivity or hydraulic conductivity and the direction(s) of preferred flow under hydraulic stress in the saturated zones of the receiving strata. The extent of hydraulic connection between the receiving strata and overlying and underlying aquifers, and the hydraulic characteristics of any influencing boundaries in or near the proposed well field area(s) shall be determined and described. Information needed to meet the requirements of Section 8(d) of this Chapter shall also be provided.

Non Coal Chapter 11 Section 4(ix)

(ix) For groundwater within the permit area and on adjacent lands

(A) The names (or numbers) description, and a map of all wells or water supply or monitoring and all wells which penetrate the production zone.

The above references meet the requirements of 146.34(a)(4). Please indicate more thoroughly the stringency concerns with the above comment.

48) 40 CFR 146.34(a)(7)

Qualitative analysis and ranges in concentrations of all constituents of injected fluids. The applicant may request Federal confidentiality as specified in 40 CFR part 2. If the information is proprietary an applicant may, in lieu of the ranges in concentrations, choose to submit maximum concentrations which shall not be exceeded. In such a case the applicant shall retain records of the undisclosed concentrations and provide them upon request to the Director as part of any enforcement investigation.

Chapter 11, Section 16 (a)(ii)(A): (A) The nature of the injected fluids with sufficient frequency, and at least monthly, to yield representative data on the

characteristics of the fluid. Whenever the injection fluid is modified to the extent that the previous analysis is incorrect or incomplete, a new analysis shall be provided to the Administrator;

Guideline 4 Section VI(D)(2-3) (This is part of the mine operation plan that must be submitted with the application):

2. Recovery fluid(s) or lixiviant Describe the lixiviant proposed to be used including its chemical makeup and concentration.

3. Description of mining processes.

a. Provide a description of chemical reactions that may occur during mining as a result of recovery fluid injection. If the process is to be held confidential as a trade secret, provide a statement to that effect in accordance with W.S. § 35-11-1101(a) and request that these pages be removed from the permit and be retained in the confidential files.

b. Major chemical reactions or physical processes anticipated at each step in the process should be described. This section should identify the composition and average and maximum volume of fluid to be injected during operation. Special processes and reactions, such as those involved in ion exchange, reverse osmosis, or high pressure water injection should also be identified in this section. The anticipated volume and composition of waste waters or materials generated by the mining operation should be described.

49) 40 CFR 146.34(a)(11)

Schematic or other appropriate drawings of the surface and subsurface construction details of the well

Non Coal Chapter 11 Section 5(a)(xiv)

(xiv) A detailed description of the typical proposed well completion for monitoring, injection and recovery wells, as required by Section 8 of this Chapter.

Non Coal Guideline 4 Reference document 8 Well Construction Methods

Introduction The applicant shall describe the different steps and procedures used to install and complete wells. Often this step and procedures used for injection and production wells are the same and can be combined. Different procedures for monitor wells shall be explained. The topics to be addressed include but are not limited to the following:

B Well Construction Methods

Describe the steps and methods used to construct the wells. This would include the use of pilot holes, type of drill rig used, and use of drilling mud or other drilling fluids. Typical well completion schematics are also required within the permit application.

The above references meet the intent of 146.34(a)(11). The comment is considered resolved. If EPA continues to have stringency concerns, please indicate the basis of such concerns.

50) 146.34(a)(14) Contingency plan to cope with all shut-ins or well failures so as to prevent the migration of contaminating fluids into underground sources of drinking water.

Non Coal Chapter 11 Section 5(a)(xx)

(xx) A description of measures employed to prevent an excursion, and contingency and corrective action plans to be implemented in the event of an excursion, in accordance with Section 19 and 20 of this Chapter.

Non Coal Chapter 11 Section 1 (k)

(k) Excursion means any unwanted and unauthorized movement of recovery out of the production zone as a result of mining activities.

EPA expressed concerns that an excursion does not cover restoration fluids. WDEQ altered the definition of recovery fluid such that restoration fluid is considered. With the change the comment is considered resolved. If EPA continues to have stringency concerns please indicate the basis of such concerns.

51) 40 CFR 146.34(a)(15)

A certificate that the applicant has assured, through a performance bond, or other appropriate means, the resources necessary to close, plug, or abandon, the well as required by 40 CFR 144.52(a)(7)

Non Coal Chapter 11 Section 6 Application Content Requirements

(a) All applications for a permit shall include, at a minimum, the information and materials related to reclamation required in: W.S. §§ 35-11-428 and 429 ~~(2003)~~; Chapter 1, Chapter 2, Section 1, and Chapter 3, Section 2 (excepting Subsections (b)(ii) and (iii), (c)(iv), and (h) and with respect to subsection (k)(i), as modified in Section ~~5~~6(a)(iv) of this Chapter); and

(iii) A plan for well repair, plugging, and conversion as required by Section 10 of this Chapter.

Chapter 11 Section 2(e) …… The area permit does not allow for the construction of non-bonded infrastructure.

35-11-417(c) and 35-11-411(a)(iii) and (d)

Guideline 4 Reference Document 1 -Attachment IX: In Situ Annual Report Format, Section V. Reclamation Performance Bond Estimate

WDEQ financial assurance for abandonment of wells is a major portion of the financial assurances held for these companies. Regulations speak of maintaining cost estimates for all reclamation costs which abandonment of wells are included. WDEQ regulations meet the intent of 40 CFR 146.34(a)(15). If EPA has specific stringency concerns please indicate the basis to such claim.

52) 40 CFR 146.34(b)(6)

The status of corrective actions on defective wells in the area of review.

Chapter 11 Section 5. Application content requirements- Mine (operations) Plan:

Section 5(a)(xvii) A corrective action plan, for any wells which are improperly sealed, completed, or abandoned, consisting of such steps or modifications as are necessary to prevent movement of fluid into unauthorized zones as required by Section 20 of this Chapter.

Chapter 11 Section 8(j) Except for all new wells authorized by an area permit under Subjection 2(e) of this chapter, the operator may not commence injection in a new injection well until construction is complete and:

(i) The operator has submitted notice of completion of construction to the Administrator: and

(ii) With respect to inspection and review:

(A) The Administrator has inspected or otherwise reviewed the new injection well and finds the well is in compliance with the permit or Research and Development Testing License; or

(B) The operator has not received notice from the Administrator of the intent to inspect or otherwise review the new injection wells within 13 days of the date of the notice in paragraph (b)(i) of this subjection, in which case prior inspection or review is waived and the operator may commence injection. If notice is given, the Administrator shall include in the notice a reasonable time period in which he or she shall inspect the well.

The above references meet the intent of 40 CFR 146.34(b)(6). If EPA has continues to have stringency concerns please indicate the basis of such concern.

CHAPTER 11

In Situ Mining

Section 1. **Definitions.**

(a) "Abandoned well" means a well whose use has been permanently discontinued or which is in a state of disrepair such that it cannot be used for its intended purpose or for observation purposes.

(b) "Affected Land or Affected Area" means as defined in Wyoming Statute (W.S.) § 35-11-103(e)(xvi).

(c) "Annular space" means the space between the well casing and the borehole or the space between two or more strings of well casing.

(d) ~~(a)~~"Area Permit" means that, for the purposes of this Chapter, the Administrator may issue a permit on an area basis, rather than for each well individually, provided that the permit is for ~~injection~~ UIC Class III wells:

(i) Described and identified by location in permit application(s) if the wells are existing wells, except that the Administrator may accept a single description of wells with substantially the same characteristics;

(ii) Within the same well field, facility site, reservoir, project, or similar unit in the same state;

(iii) Operated by a single owner or operator; and

(iv) That are not used to inject hazardous waste.~~; and~~

~~(v) Other than Class VI wells.~~

(e) ~~(b)~~ "Baseline" ~~"Background"~~ means the constituents or parameters and the concentrations or measurements which describe water quality and water quality variability prior to the injection of recovery fluid.

(f) "Best Practicable Technology" means as defined in W.S. § 35-11-103(f)(i).

(g) ~~(c)~~ "Catastrophic collapse" means the sudden and utter failure of overlying strata caused by removal of underlying materials. This can occur in salt solution mining and other processes that remove reservoir material to recover product.

(h) ~~(d)~~ "Class III well" means a well used for in situ mining for the injection of recovery fluid for the purpose of extracting minerals, or products, including a well used in:

(i) Mining of sulfur by the Frasch process;

(ii) In situ mining of uranium or other metals; this category includes only in situ production from ore bodies which have not been conventionally mined. Wells used for solution mining (such as ~~stopes~~ stope leaching) of conventional mines are classified as Class V wells;

(iii) In situ mining of salts, trona, or potash. With the exception that wells, used in reclamation activities, to inject into previously mined areas of underground trona mines will be classified as Class V wells rather than Class III wells (and therefore not regulated under this Chapter), regardless of whether such wells are used for secondary recovery of trona;

(iv) Fossil fuel recovery, including oil shale and tar sands; or

(v) Experimental technologies, such as pilot scale in situ mining wells in previously unmined areas.

(i) ~~(e)~~ "Compliance schedule" means a schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (for example, actions, operations, or milestone events) leading to compliance with the applicable statutes and regulations.

~~(f) "Conventional mine" means an open pit or underground excavation for the production of minerals.~~

(j) "Confining zone" means a geological formation, group of formations, or part of a formation that is capable of significantly limiting fluid movement above or below an injection zone.

(k) "Contaminant" means any unwanted or unauthorized physical, chemical, biological, or radiological substance or matter in water.

(l) ~~(g)~~ "Excursion" means as defined in W.S. § 35-11-103(f)(ii) ~~(2003~~).

(m) ~~(h)~~ "Exempted aquifer" means an aquifer or its portion that meets the criteria in the definition of "Underground Source of Water" but which has been exempted according to the procedures of Section ~~10~~11 of this Chapter.

(n) ~~(i)~~"Fact sheet" means that for every in situ class III ~~uranium~~ draft permit a fact sheet must be created that briefly sets forth the principal facts and the significant factual, legal, methodological and policy questions considered in preparing the draft permit. The Administrator shall send this fact sheet to the applicant and, on request to any other person. The fact sheet shall include, when applicable:

(i) A brief description of the type of facility or activity which is the subject of the draft permit;

(ii) The type and quantity of wastes, fluids, or pollutants which are proposed to be or are being treated, stored, disposed of, injected, emitted, or discharged;

(iii) Reasons why any requested variances or alternatives to required standards do or do not appear justified;

(iv) A description of the procedures for reaching a final decision on the draft permit including:

(A) The beginning and ending dates of the comment period and the address where comments will be received;

(B) Procedures for requesting a hearing and the nature of that hearing; and

(C) Any other procedures by which the public may participate in the final decision.

(v) Name and telephone number of a person to contact for additional information.

(o) "Flow rate" means the volume per time unit given to the flow of gases or other fluid substance which emerges from an orifice, pump, turbine or passes along a conduit or channel.

(p) "Fluid" means material or substance which flows or moves whether in a semisolid, liquid, sludge, gas, or any other form or state.

(q) "Formation" means a body of rock characterized by a degree of lithologic homogeneity which is prevailingly, but not necessarily, tabular and is mappable on the earth's surface or traceable in the subsurface.

(r) "Formation fluid" means "fluid" present in a "formation" under natural conditions as opposed to introduced fluids.

(s) ~~(j)~~ "Groundwater restoration" means as defined in W.S. § 35-11-103(f)(iii) ~~(2003)~~.

(t) ~~(k)~~ "Injection well" means a well or conduit through which recovery fluid is introduced into the subsurface. If a well is used for both injection and recovery, it is considered an injection well for the purposes of this Chapter until the operator has adequately demonstrated to the Administrator that the well has been converted to a use~~(s),~~ other than injection, per the requirements of Section ~~8~~10 of this Chapter.

(u) ~~(l)~~ "In situ mining" means as defined in W.S. § 35-11-103(f)(iv) ~~(2003)~~.

(v) ~~(m)~~ "License area" means, with respect to an In Situ Research and Development ~~Testing~~ License, an area described in the license application within which all affected land and water is contained.

(w) ~~(n)~~ "Mechanical integrity" means, ~~for~~ an injection well, a production well, or monitor well where there is no significant leak in the casing, tubing or packer, and there is no significant fluid movement into an unauthorized zone through vertical channels adjacent to the injection or recovery well bore.

(x) "Mechanical Integrity Testing" (MIT) means ~~T~~the testing used to determine that a well has mechanical integrity as ~~determination that there are no significant leaks or fluid movement is based on the results of the mechanical integrity testing~~ required in Section ~~7~~ 9 of this Chapter. A schedule and methods for Mechanical Integrity Testing shall be approved by the Administrator and included in the permit or Research and Development License application (per Section 5(a)(xvi) of this Chapter) and shall constitute requirements of the permit.

(y) ~~(o)~~ "Mining permit or permit" means ~~a Mining Permit,~~ as defined in W.S. § 35-11-103(e)(xi) ~~(2003)~~.

(z) "Monitor well" means a well constructed or utilized to measure static water levels or to obtain liquid, solid, or gaseous analytical samples or other physical data that would be used for controlling the operations or to indicate potential circumstances that could affect the environment.

(aa) "Monitor well ring" means the series of monitor wells surrounding a wellfield used to assess possible chemical and physical changes in groundwater due to ISR development.

(ab) ~~(s)~~ "Production well or Recovery well" means a well ~~or conduit~~ through which a recovery fluid~~,~~ or soluble mineral~~, or product~~ is produced or recovered from the subsurface. If a well is used for both injection and recovery, it is considered an injection well for the purposes of this chapter until the operator adequately ~~demonstrated~~ demonstrates to the ~~Administrator~~ Department that the well has been converted to use~~(s), other than injection, per the requirements of Section 8 of this Chapter~~ as a Production or Recovery Well.

(ac) "Production zone" means as defined in W.S. § 35-11-103(f)(v).

(ad) "Public water supply" means as defined in W.S. § 35-11-103(c)(viii).

(ae) "Receiving strata" means the geologic units within which the production zones are contained.

~~(u) "Stratum (plural strata)" means a single sedimentary bed or layer, regardless of thickness, that consists of generally the same kind of rock material.~~

(af) ~~(s)~~ "Recovery fluid" means any material which flows or moves, whether semi-solid, liquid, sludge, gas or other form or state, used to dissolve, leach, gasify or extract a

mineral. This may also include restoration fluid. ~~as defined in W.S. § 35-11-103(f)(vii) (2003)~~.

(ag) ~~(t)~~ "Research and Development ~~Testing~~ License" means the permitting vehicle issued by the Administrator, per W.S. § 35-11-431 et seq. ~~(2003)~~, approving research and development testing as defined in W.S. § 35-11-103(f)(viii) ~~(2003)~~.

(ah) "Sealing" means the operation whereby a cement slurry or other approved material is pumped into a drilled hole and/or forced into a well's annulus between the borehole and the casing. "Sealant materials" are materials that are stable, have very low to no permeability and possesses minimum shrinking properties such that they are optimal sealing materials for well plugging and drill hole abandonment.

(ai) "Target Restoration Values" means the numerical groundwater protection standards, developed on a parameter-by-parameter basis for water quality constituents, used to assess the success of groundwater restoration within the production zone.

(aj) "The Division" means the Land Quality Division of the Wyoming Department of Environmental Quality.

(ak) "Topsoil" means as defined in W.S. § 35-11-103(e)(xiv).

(al) ~~(v)~~ "Underground Injection Control" (UIC) means the Underground Injection Control program under Part C of the Safe Drinking Water Act (42 USC 300h *et seq.* (2005~~3~~)), including an "approved State program."

(am) ~~(w)~~ "Underground Source of Water" (USW) means:

(i) Those aquifers or portions thereof which have a total dissolved solids content of less than 10,000 milligrams per liter (mg/l) and which contain a sufficient quantity of water to supply a public water supply as defined in W.S. § 35-11-103(c)(viii) ~~(2003)~~;

(ii) Those that can classified as a "known source of supply" pursuant to Chapter 8, Section 4(c), Quality Standards for Wyoming Groundwaters, Water Quality Division Rules and Regulations ~~(as amended April 27, 2005)~~.

(an) ~~(x)~~ "Upper Control Limit" (UCL) means a value greater than the maximum value of a chemical or physical parameter that can be attributed to natural fluctuations and analytical variability. UCL parameters and amounts are determined from the baseline sampling and agreed upon by the Administrator and the operator prior to initiation of mining. UCLs are used to determine when there is movement of recovery fluid out of authorized areas or unapproved changes to a chemical or physical parameter. ~~For certain parameters, such as pH, a UCL may be defined as an acceptable range of values.~~

~~(y) "Uses for which the water was suitable" means those uses of the premining groundwater which are or could have reasonably been developed considering established water~~

~~quality standards and the premining groundwater quality conditions. Such uses shall include, but are not limited to, municipal and domestic drinking water, industrial, agricultural and wildlife uses.~~

(ao) "Waters of the State" means as defined in W.S. § 35-11-103(c)(vi).

(ap) "Well" means a bored, drilled, or driven shaft whose depth is greater than the largest surface dimension; or, a dug hole whose depth is greater than the largest surface dimension; or, an improved sinkhole, or a subsurface fluid distribution system, as codified in the UIC regulations at 40 CFR 144.3.

(aq) ~~(z)~~ "Well field area" means the surface area overlying the injection and recovery zones. This area may be all or a portion of the entire area proposed for the injection and production of recovery fluid throughout the life of the mine.

(ar) "Well Stimulation" means a well mediation performed on an ISR well to increase production by improving the flow of injection fluids from the injection wells into the production well bore.

Section 2. General Requirements.

It is the operator's responsibility for the submission of an application to obtain a permit in accordance with these regulations. All applications for mining permits and amendments must be submitted in a format satisfactory to the Administrator. The applicant shall provide information that is complete, current, presented clearly and concisely, and supported by appropriate references to technical and other written material. The Administrator may require the applicant to supplement the application with information beyond that specifically required by these rules if the Administrator believes that additional information is necessary to make an informed decision.

(a) In addition to the requirements of this Chapter, Chapter 7, Noncoal Rules and Regulations, shall apply to in situ mining or Research and Development ~~Testing~~ License operations.

(b) Applicable sections of Chapters 8 and 27 of the Water Quality Division Rules and Regulations ~~(as amended April 27, 2005)~~, regarding groundwater use classification, quality standards, and testing procedures, and, outside the aquifer exemption boundary, applicable Maximum Contaminant Levels from the U.S. Environmental Protection Agency Rules (40 CFR 141 as amended ~~July 1~~ May 22, 2001), shall also apply to in situ mining or Research and Development ~~Testing~~ License operations.

(c) No in situ mining shall commence or be conducted unless a valid permit or Research and Development ~~Testing~~ License has been issued to the operator from the Department. Applications for a permit or Research and Development ~~Testing~~ License shall be filed with the Administrator. The applicant shall file two copies of the application to the Administrator in a format required by the Administrator.

(d) The Administrator shall review the permit or Research and Development ~~Testing~~ License application and determine its suitability for publication in accordance with W.S. § 35-11-406 ~~(2003)~~. A permit or Research and Development ~~Testing~~ License shall be issued by the Director upon the recommendation of the Administrator. In meeting the requirements of W.S. 35-11-406(a)(ix) the map should extend a minimum of one mile beyond the permit boundary.

(e) Area permits shall specify the area within which underground injections are authorized and the requirements for construction, monitoring, reporting, operation and abandonment for all wells authorized. The area permit may authorize the permittee to construct and operate, convert, or plug and abandon wells within the area permit provided the permittee notifies the Administrator at such times as the permit requires, the additional well meets the requirements under the definition of "area permit" and this section and the cumulative effects of drilling and operation of additional injection wells are considered by the Administrator during evaluation of the permit application and are acceptable to the Administrator. The area permit does not allow for the construction of non-bonded infrastructure.

(f) The operator shall allow the Administrator, or an authorized representative of the Division, to enter and inspect any property as provided by W.S. §§ 35-11-109(a)(iv), (v) and (vi) ~~(2003)~~.

(g) All applications shall be signed by a responsible corporate officer. All reports required by permits (including Annual Reports, Quarterly Monitoring Reports, and reports related to excursion monitoring and control) or other information required by the Administrator which pertain to Class III injection wells shall be signed by a responsible corporate officer or duly authorized representative. Any responsible corporate officer or duly authorized representative signing a document under this Section shall make the following certification:

> I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations.

(i) "Responsible corporate officer" means:

(A) A president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs policy or decision-making functions for the corporation, or

(B) The manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign

documents has been assigned or delegated to the manager in accordance with corporate procedures, or

(C) In the case of a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

(D) For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

(I) The chief executive officer of the agency, or

(II) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

(ii) "Duly authorized representative" means a person who is authorized to sign a document to be submitted to the Land Quality Division as part of the official record regarding an in situ mining permit or Research and Development ~~Testing~~ License. A person shall qualify for this title only if:

(A) The authorization is made in writing by a responsible corporate officer;

(B) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and

(C) The written authorization is submitted to the Director.

(iii) If the responsible corporate officer or duly authorized representative is no longer correctly listed with the Administrator, a new name must be submitted, with required written authorization as required by Sections 2(g)(ii)(A) and (C) of this Chapter, to the Administrator prior to or with any reports, information, or applications to be signed by that individual.

Section 3. **Application Content Requirements - Adjudication ~~and Baseline Information~~.**

(a) All applications for a permit ~~shall~~ must include, at a minimum, the information and materials related to adjudication ~~and baseline information~~ required in: W.S. § 35-11-428; Chapter 1 and Chapter 2, Sections 1 and 2(a)(i)(A) and (J) of these rules and regulations; and:

(i) A description of the activities conducted by the applicant for which

permits are required under: the Resource Conservation and Recovery Act (RCRA), the ~~Underground Injection Control~~ UIC program of the Safe Drinking Water Act; the National Pollution Discharge Elimination System (NPDES) program of the Clean Water Act; and the Prevention of Significant Deterioration program of the Clean Air Act.

(ii) A listing of all permits or construction approvals received or applied for in association with the in situ permit area under the following programs:

(A) Hazardous Waste Management program under RCRA;

(B) UIC program under the Safe Drinking Water Act (as it pertains to wells other than Class III wells);

(C) Aquifer exemption from the EPA;

(D) ~~(C)~~ NPDES program under the Clean Water Act (CWA);

(E) ~~(D)~~ Prevention of Significant Deterioration (PSD) program under the Clean Air Act (CAA);

(F) ~~(E)~~ Nonattainment program under the CAA;

(G) ~~(F)~~ National Emission Standards for Hazardous Pollutants preconstruction approval under the CAA;

(H) ~~(G)~~ Dredge and fill permits under Section 404 of the CWA;

(I) ~~(H)~~ U.S. Nuclear Regulatory Commission, or Wyoming Uranium Recovery Program, Source Material License; or

(J) ~~(I)~~ Other relevant environmental permits, including State permits.

Section 4. ~~Section 3(a)(iii)-(a)(xv)~~ **Application Content Requirements - Baseline Information.**

(a) All applications for a permit must include, at a minimum, the information and materials related to baseline information required in: W.S. § 35-11-428; Chapter 1 and Chapter 2, Sections 2(a)(i)(A) through (J) of these rules and regulations; and:

(i) ~~(iii)~~ A soil survey which maps and describes the general distribution of the soils within the permit area. A detailed soil survey and associated laboratory analysis may be required for soils on the affected lands.

(ii) ~~(iv)~~ A description of the nature and depth of the topsoil that will be removed from proposed affected land prior to disturbance by mining activities.

(iii) ~~(v)~~ A survey of vegetative cover and species diversity on the proposed affected land determined by scientifically acceptable sampling procedures. Vegetation productivity sampling may be required, at the Administrator's discretion, depending on the nature of the communities to be disturbed. However, if existing data from other sources, such as National Resources Conservation Service publications or adjacent permit areas, can be provided and demonstrated to be applicable to the communities in question, the collection of production data may be waived.

(iv) ~~(vi)~~ A list of the indigenous vertebrate species by common and scientific names observed within the proposed permit area. Surface waters supporting fish that may be affected by the operation shall be sampled for benthic invertebrates and periphyton. As required in Chapter 2, Section 1(f), the applicant shall consult with the Wyoming Game and Fish Department and the U.S. Fish and Wildlife Service prior to submission of a permit application to determine permitting requirements.

(v) ~~(vii)~~ A description of climatic conditions of the site in accordance with the requirements of Chapter 2, Section 2(a)(i)(C) and (D).

(vi) ~~(viii)~~ A description of the geology, including:

(A) Discussion, supported by maps, cross-sections and geologist's, driller's, and geophysical logs, which identifies: formations and aquifers; geologic features that could influence aquifer properties; and the areal and stratigraphic position of the production zone in relation to other geologic features within the proposed permit or Research and Development ~~Testing~~ License area; and

(B) A generalized map and cross-sections illustrating the regional geologic setting.

(vii) ~~(ix)~~ A geochemical, lithological, and mineralogical description of the receiving strata and any aquifers that may be affected by the injection of recovery fluid.

(viii) ~~(x)~~ For surface waters within the permit area and on adjacent lands:

(A) The names, descriptions, and a map of all such waters; and

(B) A list and map of all adjudicated and permitted surface water rights.

(ix) ~~(xi)~~ For groundwater~~s~~ within the permit area and on adjacent lands:

(A) The names (or numbers), descriptions, and a map of all wells installed for water supply or monitoring and all wells which penetrate the production zone. The description shall include: names of present owners, well completion data, producing interval(s), and variations in water level to the extent such information is available in the public records and from a reasonable inspection of the property.

(B) A list and map of all adjudicated and permitted groundwater rights.

(x) ~~(xii)~~ A list and map of all abandoned wells and drill holes, giving location, depth, producing interval(s), type of use, condition of casing, plugging procedures and date of completion for each well or drill hole within the permit area and on adjacent lands to the extent such information is available in public records and from a reasonable inspection of the property.

(xi) ~~(xiii)~~ A groundwater potentiometric surface contour map for each aquifer that may be affected by the mining process, including overlying and underlying aquifers in which monitoring wells are installed.

(xii) ~~(xiv)~~ Aquifer characteristics for the water saturated portions of the receiving strata and aquifers which may be affected by the mining process, which may include, but is not limited to, aquifer thickness, velocity and direction of groundwater movement, storage coefficients or specific yields, transmissivity or hydraulic conductivity and the direction(s) of preferred flow under hydraulic stress in the saturated zones of the receiving strata. The extent of hydraulic connection between the receiving strata and overlying and underlying aquifers, and the hydraulic characteristics of any influencing boundaries in or near the proposed well field area(s) shall be determined and described. Information needed to meet the requirements of Section 8(d) of this Chapter shall also be provided.

(xiii) ~~(xv)~~ Tabulated water quality analyses for samples collected from all groundwater~~s~~ which may be affected by the proposed operation. Sampling to characterize the pre-mining groundwater quality and its variability shall be conducted in accordance with established Department guidelines. All baseline groundwater quantity and quality information must be provided in an electronic format prescribed by and/or acceptable to the Administrator.

Section 5. ~~Section 4.~~ **Application Content Requirements - Mine (Operations) Plan**

(a) All applications for a mine permit and amendments must include, at a minimum, the information and materials related to mine plans required in: W.S. §§ 35-11-428 and 429 ~~(2003)~~; Chapter 1, Chapter 2, Section 1, and Chapter 3, Section 2 (excepting Subsections (b)(ii) and (iii), (c)(iv), and (h) and, with respect to subsection (k)(i), as modified in Section ~~5~~6(a)(iv) of this Chapter); and

(i) Contour (topographic) map(s) which accurately locate and identify the permit area and show the location of any public highways, dwellings, utilities and easements within the permit area and adjacent lands in relation to all proposed affected lands and proposed activities associated with the operation including, but not limited to: plant site, chemical storage areas, wellfield areas, roads, temporary and permanent drainage diversions, impoundments, stockpiles for topsoil, ore product and waste, and all processing facilities. The map(s) shall also clearly illustrate the location of monitoring wells required by Section ~~14~~16 of this Chapter.

(ii) Discussion and illustration of the proposed mining schedule, including:

(A) A list of the proposed wellfields;

(B) A map(s), which shows the proposed sequence for mining of the wellfields;

(C) A proposed time schedule for mining each wellfield; and

(D) The capacity of the water/waste water treatment systems and correlation of the capacity with the mining and restoration schedules.

(iii) The procedure(s) used to protect the topsoil and subsoil, as required in Chapter 3, Section 2(c)(i) through (iii), from excessive compaction, degradation, and wind and water erosion where stockpiling of topsoil and subsoil is necessary. The Administrator may authorize topsoil to remain on areas where minor disturbance will occur associated with construction and installation activities including but not limited to light-use roads, signs, wellfields, utility lines, fences, monitoring stations, and drilling provided that the minor disturbance will not destroy the protective vegetative cover, increase erosion, nor adversely affect the soil resource.

(iv) A description of and dimensions for all proposed impoundments~~.~~, as defined by the State Engineer's Office (SEO). A leak detection plan ~~is~~ may be required for impoundments that are not regulated by the NRC. For impoundments holding toxic or acid forming material, contingency plans to control unanticipated leakage shall be provided.

(v) A description of all temporary and permanent surface water diversions in accordance with the requirements of Chapter 3, Section 2(e) and (f).

(vi) The composition of all known and anticipated wastes and procedures for their disposal.

(vii) Procedures for ensuring that all acid-forming, or toxic, or other materials constituting a fire or health and safety hazard encountered during or created by the mining process are promptly treated, confined, or disposed of in a manner designed to prevent pollution of surface water or groundwater, degradation of soils, or vegetation, or threat to human or animal health and safety.

(viii) A description of the mitigating measures developed from the consultations with the Wyoming Game and Fish Department and the U.S. Fish and Wildlife Service as required per Chapter 2, Section 1(f).

(ix) A description of the location within the permit area where underground injection is authorized.

(x) A description of the proposed method of operation, including:

(A) Injection rate, with the average and maximum daily rate and the

volume of fluid to be injected;

(B) Injection pressures, with average and maximum injection pressures, as required by Section ~~11~~8 of this Chapter;

(C) Proposed stimulation program;

(D) Type of injection/recovery fluid to be used;

(E) Proposed injection procedure; and

(F) Expected changes in pressure, native groundwater displacement and direction of movement of injection fluid.

(xi) The following information concerning the production zone shall be determined or calculated and submitted for new Class III wells or projects:

(A) Where the production zone is in a receiving strata which is naturally water-bearing:

(I) Fluid pressure;

(II) Fracture pressure; and

(III) Physical and chemical characteristics of the receiving strata fluids.

(B) Where the receiving strata is not a water-bearing formation, the fracture pressure in the production zone.

(xii) The procedure(s) to assure that the installation of recovery, injection, and monitor wells will not result in hydraulic communication between the production zone and overlying or underlying stratigraphic horizons.

(xiii) The procedures utilized to verify that the injection and recovery wells are in communication with monitor wells completed in the receiving strata and employed for the purpose of detecting excursions.

(xiv) Descriptions of:

(A) The completion details for all monitor wells; and

(B) A detailed description of the typical proposed well completion for monitoring, injection and recovery wells, as required by Section ~~6~~8 of this Chapter.

(xv) Details of a monitoring program and reporting schedule as required by

Sections ~~14~~16 and 15 of this Chapter, respectively.

(xvi) A schedule for and description of the procedures to demonstrate and maintain mechanical integrity of all monitoring, recovery, and Class III injection wells as required by Section ~~7~~9 of this Chapter. Monitor wells need only be tested upon completion.

(xvii) A corrective action plan, for ~~such~~ any wells which are improperly sealed, completed, or abandoned, consisting of such steps or modifications as are necessary to prevent movement of fluid into unauthorized zones as required by Section ~~13~~20 of this Chapter.

(xviii) A description of chemical reactions that may occur during mining as a result of recovery fluid injection.

(xix) A subsidence analysis, using established geotechnical principles, which estimates, based upon the proposed mining operation, the effect of subsidence upon the land surface and overlying groundwater aquifers. Subsidence shall be planned and controlled to the extent that the values and uses of the surface land resources and the groundwater aquifers will not be degraded.

(xx) A description of measures employed to prevent an excursion, and contingency and corrective action plans to be implemented in the event of an excursion, in accordance with Sections ~~12~~19 and ~~13~~20 of this Chapter.

(xxi) An assessment of impacts that may reasonably be expected as a result of the mining operation to water resources and water rights inside the permit area and on adjacent lands, and the steps that will be taken to mitigate these impacts.

(xxii) A maintenance plan to ensure:

(A) Wells are sufficiently covered to protect against entrance of undesirable material into the well;

(B) The wells are marked and can be clearly seen; ~~and~~

(C) The area surrounding each well is kept clear of brush or debris; ~~and~~

(D) Monitoring equipment is appropriately serviced and maintained so the monitoring requirements in Section ~~14~~16(a)(i) of this Chapter can be met~~.~~; and

(E) Spill Response and Reporting plan.

Section 6. ~~Section 5.~~ **Application Content Requirements - Reclamation Plan.**

(a) All applications for a permit shall include, at a minimum, the information and materials related to reclamation required in: W.S. §§ 35-11-428 and 429 ~~(2003)~~; Chapter 1, Chapter 2, Section 1, and Chapter 3, Section 2 (excepting Subsections (b)(ii) and (iii), (c)(iv), and (h) and with respect to subsection (k)(i), as modified in Section ~~5~~6(a)(iv) of this Chapter);

and

(i) Discussion and illustration of the proposed groundwater restoration schedule, including:

(A) A list of the proposed wellfields;

(B) A map(s) which shows the proposed sequence for restoration of the wellfields;

(C) A proposed time schedule for each wellfield;

(D) The capacity of the water/waste water treatment systems and correlation of the capacity with the mining and restoration schedules.

(ii) The information necessary to demonstrate that the operation will achieve the standard of returning all affected groundwater to the pre-mining class of use or better using Best Practicable Technology, in accordance with the following provisions:

(A) In deciding whether a demonstration has been made by the operator that Best Practicable Technology has been applied, the Administrator shall, at a minimum, take the following factors into consideration:

(I) The pre-mining background baseline water quality;

(II) The character and degree of injury or interference with the health and well-being of the people, animals, wildlife, aquatic like and plant life affected:

(III) The social and economic value of the source of pollution;

(IV) The social and economic value of the impacted aquifer;

(V) The priority of location in the area involved;

(VI) The technical practicability and economic reasonableness of reducing or eliminating the source of pollution;

(VII) The effect upon the environment; and

(VIII) The potential impacts to other waters of the state.

(B) The evaluation of restoration of the groundwater within the production zone shall be based on the ~~average quality over the production zone. For groundwater affected outside the production zone, the~~ target restoration ~~shall be evaluated separately for each well~~ values;

(C) The evaluation of groundwater restoration success is conducted on

a parameter by parameter basis; and

(D) Regardless of the restored groundwater quality in the production zone, the adjacent aquifers and other waters within the same aquifers must be fully protected to their class of use and, outside the aquifer exemption boundary, to applicable Maximum Contaminant Levels from the U.S. Environmental Protection Agency Rules (40 CFR 141 as amended ~~July 1~~ May 22, 2001). If the restored groundwater in the production zone poses a threat to groundwater outside the production zone, then flow and/or fate and transport models shall be used to assist in determining what action, including monitoring sufficient to verify the model, needs to be taken. A monitoring program sufficient to verify the model may be required.

(E) If the operator demonstrates the application of Best Practicable Technology to the satisfaction of the Administrator, but is unable to achieve the pre-mining class of use, then the operator can:

(I) Request that the Director recommend the Environmental Quality Council modify the water quality criteria used for ground water restoration, in accordance with W.S. 35-11-429(a)(iii) ~~(2003~~);

(II) Provided the operator can demonstrate the requirements of Section ~~5~~6(a)(ii)(D) will be met.

(F) A minimum of 1 year of quarterly monitoring data for a full suite of parameters, except those shown to be unaffected by the mining and restoration process, must be provided to demonstrate groundwater stability during the evaluation of restoration.

(iii) A plan for well repair, plugging, and conversion as required by Section ~~8~~10 of this Chapter.

(iv) A proposed time schedule for achieving reclamation, including commitments that reclamation of mining-related surface disturbances in any mining area shall be completed within two years following approval of groundwater restoration in that area and that reclamation of all mining-related surface disturbances shall be completed within two years following approval of final groundwater restoration within the permit area.

(v) A contour map showing the approximate post-reclamation surface contours for affected lands and the immediate surrounding areas if the operation will substantially alter the pre-mining contours.

(vi) Procedures for reestablishing any surface drainage that may be disrupted by the mining operation.

(vii) Procedures for the reclamation of any temporary diversion ditches or impoundments.

(viii) Procedures for permanently disposing of any toxic or acid-forming

materials.

(ix) Procedures for removing and disposing of structures used in conjunction with the mining operation.

(x) Procedures for mitigating or controlling the effects of subsidence.

(xi) Procedures for ground surface preparation, depth of topsoil replacement, erosion control and water conservation practices.

(xii) Procedures for revegetation to return the affected lands to the proposed post-mining land use and procedures for evaluation of revegetation success in accordance with Chapter 3, Section 2(d).

(xiii) The estimated costs for reclamation as computed in accordance with established engineering principles, including, but not limited to:

(A) Cost of removing and disposing of structures;

(B) Cost of ~~topsoiling~~ topsoil restoration and reseeding all affected lands;

(C) Cost of facilities, materials, and chemicals used for groundwater restoration;

(D) Cost of capping, plugging, and sealing of all wells; and

(E) Costs for personnel working on reclamation-related activities.

Section 7. ~~Section 17.~~ **Research and Development ~~Testing~~ License Application.**

(a) In addition to the information required by this Section, an application for a Research and Development ~~Testing~~ License shall contain all information required by W.S. § 35-11-431 ~~(2003)~~ and Sections 8~~6~~ through 12 and 15 through 20 ~~16~~ of this Chapter and shall:

(i) Demonstrate that the operation is designed to:

(A) Evaluate mineability or workability of a mineral deposit using in situ mining techniques;

(B) Affect the land surface, surface waters and groundwater of the State to the minimum extent necessary; and

(C) Provide pre-mining, operational and post-mining data, information and experience that will be used for developing reclamation techniques for in situ mining.

(ii) Contain a general description of the land, geology and groundwater hydrology for the proposed Research and Development ~~Testing~~ License area including:

(A) The land use, vegetation, and topsoil characteristics of the affected lands;

(B) Location and name of surface waters and adjudicated water rights inside and within one-half mile of the Research and Development ~~Testing~~ License area;

(C) Locations and present owners of all wells inside and within one-half mile of the Research and Development ~~Testing~~ License area to include information concerning plugging and well completion and producing interval(s) to the extent such information is available in the public record or by a reasonable inspection of the property; and

(D) Groundwater quality data and potentiometric surface elevations for aquifers that may be affected by the proposed operation.

Section 8. ~~(Sections 6 & 11)~~ **Well Construction Requirements.**

(a) Methods for well construction shall:

(i) Be approved by the Administrator and included in the permit or Research and Development ~~Testing~~ License application (per Section ~~4~~5(a)(xiv) of this Chapter);

(ii) Constitute a condition of the permit;

(iii) Construction requirements listed in Sections ~~6~~8(a) through ~~6~~8(f) of this Chapter are applicable to all wells installed for activities related to in situ mining, including pre-mining aquifer groundwater sampling and pumping tests. Additional requirements for Class III injection wells are included in Section ~~6~~8(g). Additional requirements for monitoring wells are included in Section ~~6~~8(h); and

(iv) The Administrator may grant a deviation from the requirements, except those in Section ~~6~~8(g), provided the operator can supply documentation of reliability, mechanical integrity, design and construction to protect groundwater~~s~~ of the state ~~in accordance with the water quality standards contained in Chapter 8, Wyoming Water Quality Rules and Regulations~~.

(b) In selecting well locations, protecting wells, and maintaining well covers, the following requirements apply:

(i) The top of the casing shall end above grade. Where possible, the top of the casing shall end above any known high-water conditions of flooding from runoff or ponded water, and the immediate area around the collar of the well shall slope away from the well to direct surface runoff away from the well. Installation of wells in the channels and flood plains of perennial drainages is prohibited. If a well must be located in an ephemeral or intermittent

drainage:

(A) The well shall not be located in the streambed (i.e., the channel) of the drainage;

(B) During well construction and use, steps shall be taken to minimize the potential for damage to the channel, such as from erosion and sedimentation, and to protect the well from damage due to erosion and to prevent surface water runoff from entering the well;

(ii) The well opening shall be closed with a cover to prevent the introduction of undesirable material into the well.

~~(iii) Where a well is to be constructed near buildings or powerlines, the well shall be located at a distance from the buildings and powerlines to provide access for repairs, maintenance, sampling, and similar work. At a minimum, a well must clear any projection from any building by three feet and clear any powerline by ten feet.~~

(c) Annular seals shall be installed to: protect the casing against corrosion; assure structural integrity of the casing; stabilize the upper formations; protect against contamination or pollution of the well from the surface; and prevent migration of ground water from one aquifer or water-bearing strata to another in accordance with the following requirements:

(i) The drill hole shall be of sufficient diameter for adequate sealing and, at any given depth, at least three inches greater in nominal diameter than the diameter of the outer casing at that depth~~.~~;

(ii) Before placing the annular seal, all loose drill cuttings, rock chips, or other obstructions shall be removed from the annular space by circulating the borehole with water or drilling mud slurry~~.~~;

(iii) The annular sealing material shall be placed from the bottom to the top of the well casing. The displacement fluid used to force the final sealing material through the casing shall remain shut-in, to prevent back flow, until the sealing material is set. If settling occurs during setting of the sealing material, additional material must be placed into the annular space, to bring the level of the sealing material to the ground surface. If, during cementing, the cement does not return to the surface and settling during curing of the cement is more than forty feet, then a tremie pipe must be used to complete the cement to the surface to ensure that bridging does not occur~~.~~; and

(iv) Annular seals shall be created using one of the approved sealant materials outlined in Chapter 8, Section 2~~6~~(d), of the Division's Noncoal Rules and Regulations.

(d) The casing shall be of sufficient strength and diameter to: prevent casing collapse during installation; convey liquid at a specified injection/recovery rate and pressure; and allow for sampling. Casing materials may include steel or polyvinyl chloride (PVC), which meet the

relevant standards of ASTM International (formerly American Society for Testing and Materials).

(e) Casing shall be placed with sufficient care to avoid damage to casing sections and joints. All joints in the casing above the perforations or screens shall be watertight. The uppermost perforations or top of the screen shall be below the bottom of the annular seal. Casing shall be equipped with centralizers placed at a maximum spacing of one per forty feet to ensure even thickness of annular seal and gravel pack.

(i) Steel casing may be joined by either threading or coupling.

(ii) PVC casing may be glued or ~~may be~~ mechanically joined~~,~~ (no metal screws), depending on the type of material and its fabrication. Compatibility between injection fluids, formation fluids, process by-products, recovery fluids and the glue shall be demonstrated.

(f) Well development shall be done by methods which will not cause damage to the well or cause adverse subsurface conditions that may destroy barriers to the vertical movement of water between water-bearing strata;

(g) For Class III injection wells, the following construction requirements are in addition to the requirements listed in (a) through (f) of this Section:

(i) Appropriate logs and other tests shall be conducted during the drilling and construction of new Class III wells. A descriptive report prepared by a knowledgeable log analyst interpreting the results of such logs and tests shall be compiled and maintained by the operator and made available to the Division for inspection. The logs and tests appropriate to each type of Class III well shall be determined based on the intended function, depth, construction and other characteristics of the well, availability of similar data in the area of the drilling site and the need for additional information that may arise from time to time as the construction of the well progresses. Deviation checks shall be conducted on all holes where pilot holes and reaming are used, unless the hole will be cased and sealed by circulating the sealing material to the surface. Where deviation checks are necessary, they shall be conducted at sufficiently frequent intervals to assure that vertical avenues for fluid migration are not created during drilling.

(ii) All Class III wells shall be constructed to prevent the migration of fluids to unauthorized zones. The casing and annular sealing material used in the construction of each newly drilled well shall be designed for the life expectancy of the well. In determining and specifying casing and annular sealing requirements, the following factors shall be considered:

(A) Depth to the production zone;

(B) Injection pressure, external pressure, internal pressure, axial loading, or other factors as determined by the Administrator;

(C) Drill hole diameter;

(D) Size and grade of all casing strings (wall thickness, diameter, nominal weight, length, joint specification, and construction material);

(E) Corrosiveness of injected fluids, formation fluids, process by-products, and recovery fluids;

(F) Lithology of receiving strata and confining zones; and

(G) Type and grade of sealing material.

(h) The following monitoring well construction requirements are in addition to the requirements listed in (a) through (f) of this Section:

(i) There injection into a receiving strata which contains water with less than 10,000 milligrams per liter (mg/l) Total Dissolved Solids (TDS), monitoring wells shall be completed into the production zone and any unauthorized zone or water-bearing strata which could be adversely affected by the mining operation. These wells shall be located in such a fashion as to detect any excursion of injection fluids, formation fluids, process by-products, or recovery fluids. If the operation may be affected by subsidence or catastrophic collapse, the monitoring wells shall be located so that they will not be physically affected.

(ii) Where injection is into a receiving strata which contains water with greater than 10,000 mg/l TDS, no monitoring wells are necessary in the production zone.

(iii) Where the injection wells penetrate an Underground Source of Water (USW) in an area subject to subsidence or catastrophic collapse, an adequate number of monitoring wells shall be completed into the USW to detect any movement of injection fluids, formation fluids, process by-products, or recovery fluids into the USW. The monitoring wells shall be located outside the physical influence of the subsidence or catastrophic collapse.

(iv) In determining the number, location, and construction of the monitoring wells and frequency of monitoring, the following criteria shall be considered:

(A) The uses for which the groundwater in the receiving strata is suitable under pre-mining conditions, ~~as determined from Chapter 8, Water Quality Division Rules and Regulations (as amended April 27, 2005),~~ in any aquifer affected or potentially affected by the injection operation;

(B) The proximity of the injection operation to points of withdrawal;

(C) The local geology and hydrology;

(D) The operating pressures and whether a negative pressure gradient is being maintained;

(E) The chemical nature and volume of the injection fluids, formation fluids, process by-products, and recovery fluids; and

(F) The injection well density.

(i) ~~Section 11(a)~~ No Class III well construction may commence until a permit or Research and Development ~~Testing~~ License has been issued which includes well construction information in accordance with the requirements of Section ~~6~~8 of this Chapter. Construction of wells needed to obtain the information required in Sections 3 and 4 of this Chapter may be:

(i) Allowed with approval of the Administrator; but

(ii) May not be used for injection until after permit issuance and only if those wells were constructed in accordance with the requirements of Section 8~~6~~(g).

(j) ~~Section 11(b) Except for all new wells authorized by an area permit under Subjection 2(e) of this chapter,~~ T~~t~~he operator may not commence injection in a new injection well until construction is complete and~~:~~ the operator has demonstrated mechanical integrity. The operator shall submit notice of completion of construction and demonstrated mechanical integrity in the quarterly monitoring reports.

(i) The operator has submitted notice of completion of construction to the Administrator: and

(ii) With respect to inspection and review:

(A) The Administrator has inspected or otherwise reviewed the new injection well and finds the well is in compliance with the permit or Research and Development Testing License; or

(B) The operator has not received notice from the Administrator of the intent to inspect or otherwise review the new injection wells within 13 days of the date of the notice in paragraph (b)(i) of this subjection, in which case prior inspection or review is waived and the operator may commence injection. If notice is given, the Administrator shall include in the notice a reasonable time period in which he or she shall inspect the well.

Section 9. ~~Section 7.~~ **Mechanical Integrity Testing (MIT) of Class III Injection, Production, and Monitor Wells.**

(a) A schedule and methods for Mechanical Integrity Testing shall be approved by the Administrator and included in the permit or Research and Development ~~Testing~~ License application (per Section ~~4~~5(a)(xvi) of this Chapter) and shall constitute ~~conditions~~ requirements of the permit. The schedule and methods shall meet the following requirements:

(i) The operator of a Class III or Production well shall establish mechanical integrity as defined in Section 1 of this Chapter for each well prior to commencing injection.

(ii) For demonstrating mechanical integrity as defined in Section 1 of this Chapter:

(A) One of the following methods must be used to evaluate the absence of significant leaks in the casing, tubing or packer:

(I) Following an initial pressure test, monitoring of the tubing-casing annulus pressure with sufficient frequency to be representative, as determined by the Administrator, while maintaining an annulus pressure different from atmospheric pressure measured at the surface; or

(II) Pressure test with liquid or gas.

(B) One of the following methods must be used to determine the absence of significant fluid movement into any unauthorized zone or water-bearing strata through vertical channels adjacent to the injection bore:

(I) The results of a temperature or noise log (e.g., cement bond log); or

(II) Where the nature of the casing precludes the use of the logging techniques prescribed above, sealing records demonstrating the presence of adequate sealing material to prevent such migration shall be provided; or

(III) Where the Administrator elects to rely on sealing records to demonstrate the absence of significant fluid movement, the monitoring program prescribed by Section ~~14~~16 of this Chapter shall be designed to verify the absence of significant fluid movement.

(C) The Administrator may allow the operator to use a test to demonstrate mechanical integrity other than those listed in subsection (A) above, if the alternate testing method is approved by the EPA. To obtain approval, the Administrator with concurrence of the Director shall submit a written request to the EPA, which shall set forth the proposed test and all technical data supporting its use.

(iii) Maintenance of the mechanical integrity of each Class III and Production well~~, which has not been plugged or converted as required by Section 8~~10 ~~of this Chapter,~~ shall be demonstrated at least once every five years, or on a schedule approved ~~determined~~ by the Administrator.

(iv) Before resuming operation of ~~injection into~~ any ~~Class III~~ well that has been damaged by surface or subsurface activity or that has undergone an activity that may jeopardize the mechanical integrity of the well, such as the use of downhole cutting and under reaming tools, the operator must demonstrate the mechanical integrity of that well, or with the

approval of the administrator, demonstrate the ability to prevent the movement of fluid into unauthorized zones or onto the surface.

(v) If the Administrator determines that a ~~Class III~~ well lacks mechanical integrity, he or she shall give written notice of this determination to the operator of the well. Unless the Administrator requires immediate cessation, the operator shall cease injection into, or production from the well within 48 hours of receipt of the Administrator's determination. The Administrator may allow plugging of the well or require the operator to perform such additional construction, operation, monitoring, reporting, and corrective action as is necessary to prevent the movement of fluid into unauthorized zones or onto the surface caused by the lack of mechanical integrity. The operator may resume injection or production upon written notification from the Administrator that the operator has demonstrated mechanical integrity.

(vi) Results of MIT testing shall be reported quarterly in an electronic format acceptable to the Administrator in accordance with the requirements in Section 15 of this Chapter.

Section 10. ~~Section 8.~~ **Requirements for Plugging of Drill Holes and Repair, Conversion, and Plugging of Wells.**

(a) A plan for drill holes and well repair, plugging, and conversion shall be approved by the Administrator and included in the permit or Research and Development License application, as required by Section ~~5~~6(a)(iii) of this Chapter, and shall constitute a condition of the permit.

(b) All drill holes shall be plugged in accordance with Noncoal Rules and Regulations, Chapter 8 and W.S. § 35-11-404 ~~(2003)~~.

(c) If a well lacks mechanical integrity, repair or plugging of the well is required to prevent the movement of fluid into unauthorized zones or onto the surface caused by the lack of mechanical integrity. Repair or plugging of the well must be completed within 120 days of the testing which indicates the well lacks mechanical integrity. If the well is repaired rather than plugged, retesting of the well, in accordance with the requirements of Section ~~7~~9(a)(ii) of this Chapter must be completed within 120 days after the repair is completed. The operator may resume use of the well ~~injection~~ upon written notification from the Administrator that the operator has demonstrated mechanical integrity.

(d) The operator shall notify the Administrator as required by the permit or Research and Development ~~Testing~~ License, before plugging a well or wells within an area permit or converting a well to uses other than those defined in Section 1(~~c~~d) of this Chapter.

(e) All abandoned wells shall be plugged or converted, in accordance with the Plugging/Conversion Plan in the permit or Research and Development ~~Testing~~ License, in order to assure that groundwater is protected and preserved for future use and to eliminate any potential physical hazard. A well is considered "abandoned" when it has not been used for a period of two years, unless the operator submits to the Administrator and receives approval for a

non-significant revision (Section 19(c)(vi) of this Chapter) demonstrating their intention to use the well again and the actions and procedures they will take to ensure that mechanical integrity of the well are maintained (Section 7(a)(i) of this Chapter) and the well will not endanger any unauthorized zone or water-bearing strata in accordance with the requirements of this Chapter.

(f) A well shall be plugged to meet the requirements below, using an approved sealant material as outlined in Chapter 8, Section 2(d), to assure that plugging of the well will not allow the movement of fluids into or between unauthorized zones or water-bearing strata:

(i) The well shall be plugged using a method which prevents fluid communication and adverse changes in water quality or quantity. Sealant materials shall be emplaced in a manner that provides a water tight seal utilizing one of the approved methods detailed in Chapter 8, Section 2(e) – (g) and shall meet the following requirements:

(A) If specific sections of the casing are to be plugged with cement:

(I) The type and number of plugs to be used;

(II) The placement of each plug including the elevation of the top and the bottom;

(III) The method of placement of the plugs, in accordance with Section 10(f) ~~8(f)(i)(B)~~;

(IV) That the well to be plugged shall be in a state of static equilibrium with the mud weight equalized top to bottom, either by circulating the mud in the well at least once or by a comparable method prescribed by the Administrator, prior to the placement of the cement plug(s); and

(V) That the placement of the cement plugs shall be accomplished by one of the following:

(1.) The Balance method;

(2.) The Dump Bailer method;

(3.) The Two-Plug method; or

(4.) An alternative method approved by the Administrator, which:

a. Includes placement of plugging materials in the interval or intervals to be sealed by methods that prevent free fall, dilution and/or separation of aggregates from sealing materials; and

b. Provides a comparable level of reliable protection to the methods identified in Section 10(f)(i) ~~8(f)(iii)(A) (C)~~.

(B) When the underground pressure head producing flow (i.e. gassy or artesian) is such that a counter-pressure must be applied to force a sealing material into the annular space, this counter-pressure shall be maintained for the length of time required for the plugging mixture to set or fully hydrate;

(C) The top of the plugging mixture of any plugged and abandoned well shall be backfilled to the surface with dry non-slurry materials or ~~capped~~ topped with a concrete cap set at least 2 feet below the ground surface and then backfilled to the surface with native earthen materials to ensure the safety of people, livestock, wildlife, and machinery in the area.

(g) In the case of an ~~in situ~~ ISR operation which underlies or is in an aquifer which has been exempted under Section ~~10~~11 of this Chapter, the Plugging/Conversion Plan in the permit or Research and Development ~~Testing~~ License shall also demonstrate adequate protection of underground sources of Water (USWs). The Administrator shall prescribe aquifer cleanup and monitoring where he deems it necessary and feasible to assure adequate protection of USWs.

(h) To ensure the locations of the abandoned wells are adequately identified:

(i) The boundaries of each wellfield and the location of the monitor well ring around each wellfield shall be recorded as a deed notice with the appropriate county;

(ii) The top of the plugging mixture in each abandoned monitor well in the monitor well ring around each wellfield shall clearly show on a steel plate placed atop the sealing mixture, the permit number, well identification number, and date of plugging. All marking devices shall be installed at a minimum depth of two feet below the land surface.

(j) Plugging and conversion activities shall be reported in accordance with the requirements in Section 15 of this Chapter.

Section 11. ~~Section 10.~~ **Aquifer Classification and Exemption.**

(a) Injections from Class III wells shall be restricted to those production zones that:

(i) Have been classified by the Wyoming Department of Environmental Quality as Class V aquifers under Chapter 8 of the Water Quality Division Rules and Regulations ~~(as amended April 27, 2005)~~; and

(ii) Have concentrations of Total Dissolved Solids:

(A) Less than 10,000 milligrams per liter; meet the definition of an "Underground Source of ~~Drinking~~ Water " as defined in Section 1 of this Chapter; and have been

approved as an exempted aquifer by the U.S. Environmental Protection Agency pursuant to Section 11~~10~~(b) of this Chapter; or

(B) Greater than 10,000 milligrams per liter; and

(iii) Are located in a geologic and hydrologic setting in which movement of fluid, containing any contaminant, into unauthorized zones can be prevented.

(b) An aquifer, or a portion thereof, which meets the criteria for an Underground Source of Water as defined in Section 1 of this Chapter may be designated as an "exempted aquifer":

(i) If it meets the following criteria:

(A) It does not currently serve as a source of ~~drinking~~ water for ~~Class I, II, III, Special (A) or Class IVA~~ uses as described in Chapter 8 of the Water Quality Rules and Regulations ~~(as amended April 27, 2005);~~ and

(B) It cannot now and will not in the future serve as a source of drinking water as defined by the EPA by meeting standards listed in 40 CFR 146.4(b) (as amended December 10, 2010); ~~because:~~

~~(I) It is mineral, hydrocarbon or geothermal energy producing, or can be demonstrated by a permit or Research and Development Testing License applicant or operator to contain minerals or hydrocarbons that, considering their quantity and location, are expected to be commercially producible; or~~

~~(II) It is situated at a depth or location which makes recovery of water for Class I, II, III, Special (A) or Class IVA as described in Chapter 8 of Water Quality Division Rules and Regulations (as amended April 27, 2005) economically or technologically impractical; or~~

~~(III) It is so contaminated that it would be economically or technologically impractical to render that water fit for human consumption; or~~

~~(IV) It is located over a Class III well mining area subject to subsidence or catastrophic collapse; or~~

~~(V) The total dissolved solids content of the groundwater is less than 10,000 mg/l and it is not reasonably expected to supply a public water supply as defined by W.S. § 35-11-103(c)(viii) (2003); and~~

(ii) As demonstrated by information in the permit or Research and Development ~~Testing~~ License application, including:

(A) A map and ~~general~~ description identifying and describing in geographic and/or geometric terms (such as vertical and lateral limits and gradient) all aquifers or parts thereof which the applicant proposes to exempt;

(B) Information to document that the exemption area is commercially producible as demonstrated by:

(I) The permit boundary;

(II) A description and calculations that support the proposed distance beyond the monitor well ring boundary required to mine and to restore groundwater;

(III) General information on the mineralogy and geochemistry of the receiving strata; and

(IV) The type of mining technology used to extract the mineral; and

(C) Analysis of the amenability of the receiving strata to the proposed mining method; and a timetable of planned development of the receiving strata.

(c) A request for an aquifer exemption shall be presented by the WQD Administrator to the EPA as a state program revision pursuant to ~~Code of Federal Regulations, Title 40, Part 145, Section 32 (~~40 CFR §~~ 145.32 (~~as amended December 10, 2010 ~~July 1, 2001~~).

Section 12. ~~Section 9.~~ **Permit and Research and Development ~~Testing~~ License ~~Conditions~~ Requirements.**

(a) The following ~~conditions~~ requirements shall apply to permits and Research and Development ~~Testing~~ Licenses. Each ~~condition~~ requirement shall be incorporated into the permit or Research and Development ~~Testing~~ License either expressly or by reference. If incorporated by reference, a specific citation to these regulations must be given in the permit or Research and Development ~~Testing~~ License.

(i) The operator has a duty to comply with all terms and ~~conditions~~ requirements of the approved permit or Research and Development ~~Testing~~ License.

(A) Any permit or Research and Development ~~Testing~~ License noncompliance is grounds for enforcement action and any Research and Development ~~Testing~~ License noncompliance is grounds for denial of a Research and Development ~~Testing~~ License renewal application.

(B) The filing of a request by the operator for a permit or Research and Development ~~Testing~~ License revision per Chapter 7 or Section ~~19~~14 of this Chapter does not waive any permit or Research and Development ~~Testing~~ License condition.

(ii) It shall not be a defense for an operator in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the ~~conditions~~ requirements of this permit or Research and Development ~~Testing~~ License.

(iii) The operator has a duty to take all reasonable steps to minimize, mitigate, or correct any adverse impact on the environment resulting from noncompliance with this permit or Research and Development ~~Testing~~ License.

(iv) The operator shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the operator to achieve compliance with the terms and ~~conditions~~ requirements of the permit or Research and Development ~~Testing~~ License. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the terms and ~~conditions~~ requirements of the permit or Research and Development ~~Testing~~ License.

(v) The permit or Research and Development ~~Testing~~ License does not convey any property rights of any sort or any exclusive privilege.

(vi) The operator has a duty to provide to the Administrator, within a time specified, any information which the Administrator may request to determine whether cause exists for revising or revoking the permit or Research and Development ~~Testing~~ License, or to determine compliance with this permit or Research and Development ~~Testing~~ License. The operator shall also furnish to the Administrator, upon request, copies of records to be kept as required by the permit or Research and Development ~~Testing~~ License.

(vii) In compliance with all the provisions of Chapter 7 and Section ~~19~~14 of this Chapter:

(A) The operator shall give notice to the Administrator as soon as possible of any planned physical alterations or additions to the permitted or licensed facility; and

(B) When the operator becomes aware of failure to submit any relevant facts in a permit or Research and Development ~~Testing~~ License application, or submitted incorrect information in a permit or Research and Development ~~Testing~~ License application or in any report to the Administrator, the operator shall promptly submit such facts or information to the Administrator.

(viii) Prior to requesting bond reduction for abandonment of a Class III well or wells within a wellfield area or for conversion of a Class III well to another use, the operator shall provide documentation and receive approval from the Administrator regarding the plugging of the well or wells within a wellfield area or conversion of the well.

(ix) The following shall also constitute ~~conditions~~ requirements of the permit:

(A) Plans for corrective action, including injection pressure limitation, as specified in Section ~~13~~20(a) of this Chapter;

(B) Monitoring requirements as specified in Section ~~14~~16 of this Chapter;

(C) Schedule and methods to establish and maintain Mechanical Integrity as specified in Section ~~7~~9 of this Chapter: and

(D) A plan for well repairs, plugging, and conversion as specified in Section ~~8~~10 of this Chapter.

(x) ~~Section 11(c)~~ The approved permit or Research and Development ~~Testing~~ License shall include maximum injection volumes and/or pressures necessary to assure: fractures are not initiated in the confining zone; injected fluids do not migrate into any unauthorized zone; and formation fluids are not displaced into any unauthorized zone. Operating requirements shall, at a minimum, specify that:

(A) ~~Section 11(c)(i)~~ Except during well stimulation, injection pressure at the wellhead shall be calculated to assure that the pressure in the production zone during injection does not initiate new fractures or propagate existing fractures. In no case, shall injection pressure initiate fractures in the confining zone, if confinement is present, or cause the migration of injection or formation fluids into an unauthorized zone;

(B) ~~Section 11(c)(ii)~~ Injection between the outermost casing protecting unauthorized zones and the well bore is prohibited.

(xi) ~~Section 11(d)~~ No operator shall construct, operate, maintain, convert, plug, abandon, or conduct any other injection or mining-related activity in a manner that allows the movement of fluid containing any contaminant into zones or intervals other than those zones authorized in the approved permit or Research and Development ~~Testing~~ License. The operator shall have the burden of showing that the requirements of this paragraph are met.

Section 13. ~~Section 18.~~ **Duration of Permits and Research and Development ~~Testing~~ Licenses.**

(a) Permits shall be issued:

(i) For a period coinciding with the estimated schedules for termination of all mining and reclamation activities in conformance with the approved mining plan (Section 5(a)(ii)) and reclamation plan (Section 6(a)(i)) as provided in W.S. §§ 35-11-405(a) and (b) ~~(2003)~~; and

(ii) With the option for revising the mining and reclamation schedules, as provided in W.S. §§ 35-11-411(a)(iii) and 429(a)(iv) ~~(2003)~~.

(b) The Administrator shall review the permit at least once every five years to determine whether it should: remain unchanged; be revised in accordance with the requirements of Section ~~19~~14 of this Chapter; or revoked in accordance with the requirements of Section ~~20~~23 of this Chapter.

(c) As specified in W.S. § 35-11-431(a) ~~(2003)~~, a Research and Development ~~Testing~~ License is issued for up to one year and may be renewed annually.

Section 14. ~~Section 19.~~ **Revisions to Class III Well Portions of an In Situ Mine Permit or Research and Development ~~Testing~~ License.**

(a) A permit, license to mine, or Research and Development License may be revised as a significant or non-significant revision as specified in Sections ~~19~~14(b) and ~~19~~14(c), respectively, to address one or more of the following considerations, subject to the limitations of Sections ~~19~~14(d) and ~~19~~14(e).

(i) A revision may be necessary to address:

(A) A permit condition per Section ~~9~~12 of this Chapter;

(B) An excursion or other aspect of noncompliance per Sections ~~12~~ 18 and 19 of this Chapter and W.S. 35-11-429(a)(ii) ~~(2003)~~; or

(C) A corrective action or compliance schedule per Section ~~13~~20 of this Chapter;

(D) A concern noted during the five-year review per Section ~~18~~13 of this Chapter; or

(E) An objection by the Administrator to a part of the Annual Report per W.S. § 35-11-411(b) ~~(2003)~~;

(F) A change that could jeopardize reclamation or protection of any waters of the state per W.S. 35-11-429(a)(iv) ~~(2003)~~;

(ii) Any interested person, including the operator may request a revision provided the request is in writing and contains facts or reasons supporting the request. If the Administrator decides that a request for a permit or license revision is not justified, he or she shall send the requester a brief written response giving the reason(s) for the decision. Denials of requests for revisions are not subject to public notice and comment;

(iii) If the Administrator requires the operator to revise any Class III Well portions of a permit or Research and Development License, he or she shall prepare a letter to the

operator specifying the needed changes and additional information.

(b) The occurrence of any of the following with regards to the Class III Well portion of a permit or Research and Development ~~Testing~~ License shall result in the operator being required to revise the permit or Research and Development ~~Testing~~ License. These revisions shall be treated as significant revisions and require public notice as specified in Chapter 7 of these regulations and Section 21 of this Chapter. In addition, the fact sheet will be updated for these revisions:

(i) Any material or substantial alterations or additions to the facility which occurred after issuance of the permit or license, which justify the application of permit or license conditions that are different or absent in the existing permit or license, including:

(A) Any increase in the amount of land related to installation or operation of additional Class III wells, from that which was approved in the original in situ mining permit or Research and Development ~~Testing~~ License. Such a revision shall include (if not already presented in the permit or Research and Development ~~Testing~~ License) the information required in W.S. § 35-11-428 ~~(2003)~~ and the requirements of Sections ~~4~~5 through ~~19~~20 this Chapter. However, if the increase in the amount of land is for purposes unrelated to installation or operation of Class III wells, then the provisions of Section 2(b)(ii) of Chapter 7 apply.

(i) The UIC standards or regulations on which the permit or license was based have been changed by promulgation of new or amended standards or regulations or by judicial decision after the permit or license was issued;

(iii) The Administrator determines good cause exists for modification of a compliance schedule, such as an act of God, strike, flood, or materials shortage or other events over which the permittee has little or no control and for which there is no reasonably available remedy.

(iv) Cause exists for revocation, as described in Section ~~20~~23 of this Chapter, but the Administrator determines that revision is appropriate;

(v) A determination is made that the activity endangers human health or the environment and can only be regulated to acceptable levels by a permit revision.

(c) A non-significant revision to any Class III Well portion of a permit or Research and Development ~~Testing~~ License shall meet the requirements of Chapter 7 of these regulations, except that a non-significant revision, with operator consent, shall be for the following reasons only:

(i) To correct typographical errors;

(ii) To require more frequent monitoring or reporting by the operator;

(iii) To change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing schedule of compliance and does not interfere with attainment of the final compliance date requirement;

(iv) To allow for a change in ownership or operational control of a facility where the Administrator determines that no other change in the permit or Research and Development ~~Testing~~ License is necessary provided that a written agreement is submitted in a format and on forms required by the Administrator containing a specific date for transfer of permit or Research and Development ~~Testing~~ License responsibility, coverage, and liability between the current operator and new operator;

(v) To change quantities or types of fluids injected which are within the capacity of the facility as permitted or licensed and would not interfere with the operation of the facility or its ability to meet conditions described in the permit or Research and Development ~~Testing~~ License and would not change its classification;

(vi) To change well construction requirements approved by the Administrator pursuant to Section 8 of this Chapter, provided that any such alteration shall comply with the requirements of Section ~~6~~8; or

(vii) To amend a well plugging/conversion plan which has been updated under Section ~~8~~10 of this Chapter;

(viii) To submit a wellfield data package that conforms to the specifics of the permit document.

(d) Suitability of the Class III well location will not be considered at the time of permit revision unless new information or standards indicate that a threat to human health or the environment exists which was unknown at the time of permit issuance.

(e) Only those conditions to be revised shall be reopened when a revision is necessary. All other aspects of the existing permit shall remain in effect for the duration of the unrevised permit. In the case that a portion of the permit is in violation of law, that portion of the permit shall be opened for review.

(f) Reviews and decisions on a permit revision application shall be conducted according to the provisions in Chapter 7.

Section 15. **Reporting Requirements.**

(a) All chemical analyses submitted to the Administrator in accordance with a valid permit or Research and Development License shall include:

(i) A description of, or reference for, the procedures and methods used for sample collection, preservation, and quality control;

(ii) The name, address, and telephone number of the laboratory performing the analyses, and the laboratory identification number; and

(iii) Signatures as required by Section 2(g) of this Chapter.

(b) Quarterly monitoring reports shall include, at a minimum:

(i) The results of monitoring required per Sections 16~~17~~(a)(ii) and (iii) of this Chapter.

(ii) The results of all mechanical integrity testing conducted during that quarter, including the following information identified by Class III, Production, or Monitor well;

(A) Date of mechanical integrity testing;

(B) Identification of the method by which mechanical integrity was established;

(C) Verification of whether the mechanical integrity was or was not established in a well, including:

(I) Identification of a well which failed to have mechanical integrity established and consequently required repair; and

(II) A description of the method of plugging or repair.

(iii) The status of corrective action on defective wells, required per Section ~~13~~20 of this Chapter.

(iv) The results of well repair and plugging required per Section ~~8~~10 of this Chapter, including:

(A) A statement that:

(I) Wells were plugged in accordance with the approved permit or Research and Development ~~Testing~~ License; or

(II) Documentation that prior approval was obtained from the Administrator where plugging procedures differed from the procedures approved in the permit or Research and Development ~~Testing~~ License. This documentation shall be included in the report, and contain a description of the procedures used specifying the differences between the permit or Research and Development License approved method and the alternate method; and

(B) To assure that the well is filled and there has been no bridging of the sealing material, the operator should provide LQD with documentation that the volume of material placed in the well at least equals the volume of the empty hole.

(c) Annual reports shall include, at a minimum:

(i) All information required by W.S. § 35-11-411; and

(ii) A map(s) showing the location of all wells installed in conjunction with the mining activity and showing all areas where:

(A) Groundwater restoration has been achieved, is actively taking place and is expected to commence during the next year;

(B) Mining is expected to commence during the next year;

(iii) The total quantity of recovery fluid injected and the total quantity of recovery fluid extracted during the reporting period for each well-field area including a description of how these quantities were determined;

(iv) Monitoring program results pursuant to Section 5~~4~~(a)(xvii) and Section ~~14~~16 of this Chapter, which have not been previously reported; and

(v) An updated potentiometric surface map(s) for all aquifer(s) that are or may be affected by the mining operation may be requested at the Administrator's discretion.

(vi) Supporting data sufficient to demonstrate groundwater restoration in accordance with Section ~~5~~6(a)(xiii) of this Chapter.

(d) During excursions, results from excursion-related monitoring shall be reported in accordance with the requirements of Section ~~12~~19 of this Chapter.

(e) Well abandonment reports shall be made to the Land Quality Division and the State Engineer's Office:

(i) Within sixty days after the abandonment of any well which has artesian or gassy flow at the surface. The report, set forth in affidavit form, should contain the location of the well to the depth of the well, estimated rate of flow, and the facts of the plugging technique.

(ii) Within twelve months after the abandonment of any well. The report should include the location of the well to the nearest 40-acre legal subdivision (quarter, quarter, section), survey locations utilizing decimal Latitude and Longitude coordinates, the depth the well, and the facts of the plugging technique.

Section 16. ~~Section 14.~~ **Monitoring Requirements.**

(a) A detailed monitoring program shall be approved by the Administrator and included in the permit or Research and Development License application, as required by Section 4~~5~~(a)(xv) of this Chapter, and shall constitute a ~~condition~~ requirement of the permit. The

program shall describe the procedures for monitoring the quantity and quality of waters that may be affected by the operation before mining through reclamation and shall, at a minimum, specify:

(i) Requirements for:

(A) The proper use, maintenance, and installation, when appropriate, of monitoring equipment or methods (including biological monitoring methods when appropriate);

(B) The intervals and frequency of monitoring, sufficient to yield data which are representative of the monitored activity, including continuous monitoring when appropriate;

(C) Tests and methods used to generate monitoring data.

(ii) Monitoring of:

(A) The nature of the injected fluids with sufficient frequency, and at least monthly, to yield representative data on the characteristics of the fluid. Whenever the injection fluid is modified to the extent that the previous analysis is incorrect or incomplete, a new analysis shall be provided to the Administrator;

(B) The injection pressure and either flow rate or volume at least weekly or metering and daily recording of injected and produced fluid volumes as appropriate; and

(C) Class III injection wells may be monitored for the parameters required by subsections (A) and (B) on a field or project basis rather than an individual well basis by manifold monitoring. Manifold monitoring may be used in cases of facilities consisting of more than one injection well operating with a common manifold. Separate monitoring systems for each well are not required provided the operator demonstrates that manifold monitoring of injection pressure is comparable to individual well monitoring.

(iii) Requirements for:

(A) Semi-monthly monitoring of the fluid level in the production zone, where appropriate;

(B) Semi-monthly monitoring of the water levels and parameters chosen to measure the water quality in monitoring wells;

(C) Quarterly monitoring of the water levels and parameters chosen to detect any movement of injected fluids, process by-products, or formation fluids in the monitoring wells where the injection wells penetrate an Underground Source of Water in an area subject to subsidence or catastrophic collapse (Section ~~6~~8(~~g~~h)(iii) of this Chapter); and

(D) Periodic monitoring of pressure changes or other physical parameters if such monitoring provides for more rapid detection of excursions.

(iv) A description of procedures and schedules used to:

(A) Detect and confirm excursions; and

(B) Monitor excursions and excursion control efforts.

(v) Samples and measurements taken for the purpose of monitoring shall be representative of the permitted activity.

Section 17. ~~Section16.~~ **Maintenance and Retention of Records.**

(a) The operator shall maintain records at the mine site in accordance with W.S. § 35-11-430(b) ~~(2003)~~, including, for any laboratory analyses that an operator is allowed to retain on site for inspection rather than submit to the Administrator:

(i) A description of, or reference for, the procedures and methods used for sample collection, preservation, and quality control;

(ii) The name, address, and telephone number of the laboratory performing the analyses, and the laboratory identification number; and

(b) The operator shall:

(i) Retain records of all monitoring information, including the following:

(A) Records of all data used to complete permit and license applications and any supplemental information submitted under Sections 3, 4~~,~~ ~~and~~ 5 and 6 of this Chapter;

(B) Calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by the permit or Research and Development ~~Testing~~ License, and records of all data used to complete the application for the permit or Research and Development ~~Testing~~ License;

(C) The nature and composition of all injected fluids; and

(D) Information requested by the Administrator for inclusion in the Annual Report as required by W.S. § 35-11-411 ~~(2003)~~.

(ii) Retain the records listed in subsections 17~~16~~(b)(i)(A) through 17~~16~~(b)(i)(D) at the mine site until termination of the permit or Research and Development ~~Testing~~ License, unless otherwise authorized by the Administrator. However, the record retention schedule cannot be less than three years after the date of the sample, measurement,

report, or application. The Administrator may require the operator to deliver the records to the Administrator at the conclusion of the retention period.

Section 18. ~~Section 12.~~ **Noncompliance ~~and Excursions~~.**

(a) The operator shall:

(i) Verbally report to the Administrator any noncompliance which may endanger public health or the environment, within 24 hours of the time the operator becomes aware of the occurrence, including:

(A) Any monitoring or other information which indicates that any contaminant may cause endangerment to an Underground Source of Water (USW) or unauthorized zone; and

(B) Any noncompliance with a permit or Research and Development ~~Testing~~ License or malfunction of the injection system which may cause fluid migration into, or between USWs or unauthorized zones.

(ii) Provide a written report to the Administrator within five days of the operator becoming aware of the noncompliance occurrence. The Administrator of the Land Quality Division will forward one copy to the Administrator of the Water Quality Division. The written report shall describe:

(A) The noncompliance and its cause;

(B) The period of noncompliance, including exact dates and times;

(C) If the noncompliance has not been corrected, the anticipated time it is expected to continue; ~~and~~

(D) Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance~~.~~ ; and

(E) The procedures for mitigating or controlling the excursion.

(iii) Report all instances of noncompliance, not reported under Sections ~~12~~18(a)(i) and (iii), at the time monitoring reports are submitted. The reports shall contain the information listed in Sections ~~12~~18(a)(i) and (ii), as applicable.

Section 19. ~~Section 12.~~ **~~Noncompliance and~~ Excursions**

(a) ~~(b)~~ "Confirmation" of an excursion means that an excursion detected in a regularly scheduled sampling event is subsequently detected in a second or third sampling event conducted in accordance with the following requirements:

(i) The second sampling event shall be conducted within 24 hours of the receipt of the results from the first sampling event in which the excursion was initially detected. If the results from the first and second sampling event both indicate an excursion has occurred, then the excursion will be considered confirmed for the purpose of meeting the reporting requirements of W.S. § 35-11-429(a) ~~(2003~~).

(ii) If the results from the first and second sampling events provide conflicting information about whether or not an excursion has occurred, then a third sampling event must be conducted within 24 hours of the receipt of the results from the second sampling event. However, if the results of the confirmatory sampling are not complete within 30 days of the initial sampling event which indicated an excursion might be present, then the excursion will be considered confirmed for the purpose of meeting the reporting requirements of W.S. § 35-11-429(a~~) (2003~~).

(b) ~~(c)~~ The operator shall:

(i) Verbally report any confirmed excursion to the Administrator within 24 hours of confirmation of the excursion and;

(ii) Submit a written report to the Administrator within five days of the confirmation of the excursion detailing the procedures for mitigating or controlling the excursion. The Administrator of the Land Quality Division will forward one copy to the Administrator of the Water Quality Division.

(c) ~~(d)~~ An excursion is controlled when it can be demonstrated through water quality and groundwater gradient or if applicable, pressure measurements, that recovery fluid in unauthorized areas is declining.

(i) If an excursion is not controlled within 30 days following confirmation of the excursion, a sample must be collected from each of the affected monitoring wells and analyzed ~~for the following parameters: Ammonia; Antimony; Arsenic; Barium; Beryllium; Bicarbonate; Boron; Cadmium; Calcium; Carbonate; Chloride; Chromium; Conductivity; Copper; Fluoride; Gross Alpha; Gross Beta; Iron; Lead; Magnesium; Manganese; Mercury; Molybdenum; Nitrate; Nitrate + Nitrite; pH; Potassium; Selenium; Sodium; Sulfate; Radium-226 and 228; Thallium; Total Dissolved Solids; Uranium; Vanadium; and Zinc, unless the Administrator determines a specific parameter is not likely to occur as a result of the in situ operation~~. The parameters to be analyzed shall be site specific and based on baseline data.

(ii) If an excursion is not controlled within 60 days following confirmation of the excursion, the Administrator may, after consultation with the Director, terminate the mining operation and revoke the permit or Research and Development ~~Testing~~ License or modify the mining operation and require modification of the permit or Research and Development ~~Testing~~ License. Modifying the operation may include: sampling of additional wells for the parameters ~~listed~~ in Section ~~12(d~~19(c)(i); installation of additional monitor wells; termination of injection in the portion of the well field in which the excursion originated; or a combination of approaches to assure control within the necessary time frames.

(iii) If the excursion is controlled, but the fluid which moved out of the production zone during the excursion has not been recovered within 60 days following confirmation of the excursion (i.e., the monitor well is still "on excursion"), the operator will submit, within 90 days following confirmation of the excursion, a plan and compliance schedule, acceptable to the Department, for bringing the well (or wells) off excursion. The plan and compliance schedule can be submitted as part of the monthly excursion report required in Section ~~12(e~~19(d) of this Chapter. The compliance schedule shall meet the requirements of Section ~~13~~20(b) of this Chapter.

(d) ~~(e)~~ In addition to the excursion notifications and control plan required above, a monthly report on the status of an excursion shall be submitted to the Administrator beginning the first month the excursion is confirmed and continuing until that excursion is over. The monthly report shall be a requirement of the compliance schedule and shall include, at a minimum:

(i) Concentrations of UCL parameters and groundwater elevations in all monitoring wells on excursion and, as necessary, surrounding wells;

(ii) Such information deemed necessary by the Administrator to show that the excursion is being controlled and that the bond amount for groundwater restoration remains sufficient;

(iii) Information on steps taken to control the excursion.

Section 20. ~~Section 13.~~ **Corrective Actions and Compliance Schedules**.

(a) Corrective actions are:

(i) Needed when a well is improperly sealed, completed, or abandoned, in which case:

(A) Operators shall provide the well information, as required in Sections 4~~3~~(a)(xi) and (xii) of this Chapter, and the corrective action plan as required in Section ~~4~~5(a)(xvii) of this Chapter. Where the Administrator's review of the plan indicates that the operator's plan is inadequate (based on the factors presented below), the Director shall require the operator to revise the plan, prescribe a plan for corrective action as a term and condition of the permit, or deny the application.

(B) In determining the adequacy of corrective action proposed by the operator and in determining the additional steps needed to prevent fluid movement into an unauthorized zone, the following criteria and factors shall be considered by the Administrator:

(I) Nature and volume of injected fluid;

(II) Chemical ~~N~~nature and volume of native groundwater;

(III) Compatibility of injected fluid and native groundwater;

(IV) Potentially affected population;

(V) Geology;

(VI) Hydrology;

(VII) Proposed method of operation as required by Section 5(a)(x) of this Chapter or history of the injection operation if the corrective action is needed in response to amending new wells into an existing operation;

(VIII) Completion and plugging records;

(IX) Plugging procedures in effect at the time the well was abandoned; and

(X) Hydraulic connections with unauthorized zones.

(ii) Needed if any water quality monitoring of an Underground Source of Water or unauthorized zone indicates the movement of any contaminant into an Underground Source of Water or unauthorized zone, except as specifically authorized in the approved permit or Research and Development ~~Testing~~ License, in which case, the Administrator shall prescribe such additional requirements for construction, corrective action, operation, monitoring, or reporting (including closure of the injection well and limitation of injection pressure) as are necessary to prevent such movement. These additional requirements shall be imposed by requiring the operator to revise the permit or Research and Development ~~Testing~~ License, the permit or Research and Development ~~Testing~~ License may be revoked, or appropriate enforcement action may be taken if the permit or Research and Development ~~Testing~~ License has been violated.

(iii) The status of corrective action on defective wells shall be reported in accordance with the requirements of Section 15 of this Chapter.

(b) When appropriate, a permit or license may include, or be revised to include, a compliance schedule leading to compliance with the applicable statutes and regulations. The schedule shall be applicable whether the operator is continuing or ceasing regulated activities.

(i) Any compliance schedule shall require compliance as soon as possible, and in no case later than 3 years after the date the schedule is put into effect. In addition:

(A) The schedule shall set forth interim requirements, the dates for their achievement, and a projected date of compliance with all the requirements;

(B) The time between interim dates shall not exceed 1 year; and

(C) The schedule shall specify dates for the submission of progress reports, no later than 30 days following each interim date and the final date of compliance.

Section 21. **Public Notice, Public Hearing, Comment, and Decision Requirements.**

(a) In addition to the requirements of W.S. §§ 35-11-406(g), (j), and (k) ~~(2003)~~ and Chapter 7, public notice for actions related to in situ permits or Research and Development ~~Testing~~ Licenses, except permit or license revocation, shall be given by the following methods. Public notice for permit or license revocation shall be given by the methods in Section 21~~(d)~~ of this Chapter.

(i) All public notices issued under this Section shall contain the following:

(A) Name and address of the office processing the permit action for which notice is being given;

(B) Name and address of the operator and, if different, of the facility or activity regulated by the permit;

(C) A brief description of the business conducted at the facility or activity;

(D) Name, address and telephone number of a person from whom interested persons may obtain further information;

(E) A brief description of the comment procedures, including a statement of procedures to request a hearing or, if a hearing has already been scheduled, the time and place of that hearing, and other procedures by which the public may participate in the final permit decision; and

(F) Any additional information considered necessary or proper.

(ii) The Administrator shall mail a copy of the notice to the following persons (any person otherwise entitled to receive notice under this paragraph may waive his or her rights to receive notice for any classes or categories of permits):

(A) Any other agency (including EPA when the draft permit is prepared by the State) which the Administrator knows has issued or is required to issue a permit for the same facility or activity under the following programs: Resource Conservation and Recovery Act (RCRA); UIC; Prevention of Significant Deterioration (or other permit requirement under the Clean Air Act); National Pollution Discharge Elimination System (including sludge management permits); and Section 404 of the Clean Water Act.

(B) Federal and State agencies with jurisdiction over fish, shellfish, and wildlife resources, the Advisory Council on Historic Preservation, State Historic

Preservation Officers, including any affected Indian Tribes, and the Wyoming Oil and Gas Commission.

(C) Persons on a mailing list developed by including:

(I) Those who request in writing to be on the list;

(II) Soliciting persons for "area lists" from participants in past permit proceedings in that area; and

(III) Persons notified of the opportunity to be put on the mailing list through periodic publication in the public press. The Administrator may update the mailing list from time to time by requesting written indication of continued interest from those listed. The Administrator may delete from the list the name of any person who fails to respond to such a request.

(D) Any unit of local government having jurisdiction over the area where the facility is proposed to be located.

(E) Each State agency having any authority under State law with respect to the construction or operation of such facility.

(iii) In addition to mailing a copy of the public notice, the Administrator shall mail or electronically transfer a copy of the fact sheet, permit application or draft permit to the following persons:

(A) The applicant;

(B) Any other agency (including EPA when the draft permit is prepared by the State) which the Administrator knows has issued or is required to issue a permit for the same facility or activity under the following programs: Resource Conservation and Recovery Act (RCRA); UIC; Prevention of Significant Deterioration (or other permit requirement under the Clean Air Act); National Pollution Discharge Elimination System (including sludge management permits); and Section 404 of the Clean Water Act; and

(C) Federal and State agencies with jurisdiction over fish, shellfish, and wildlife resources, the Advisory Council on Historic Preservation, State Historic Preservation Officers, including any affected Indian Tribes.

(iv) To supplement the required methods of public notice listed above, public notice can also be given by any other method reasonably calculated to give actual notice of the action in question to the persons potentially affected by it, including press releases or any other forum or medium to elicit public participation.

(b) Objections may be filed in accordance with W.S. § 35-11-406(k) ~~(2003)~~, which objections shall list one or more reasons for denying a permit or Research and Development

~~Testing~~ License revision application as set out in W.S. § 35-11-406(m) ~~(2003)~~. If such written objections are filed, a public hearing shall be held in accordance with W.S. § 35-11-406(k) ~~(2003)~~ and the requirements of this Chapter. In addition to the hearing notice requirements described in W.S. § 35-11-406(k) ~~(2003)~~, the public notice of a hearing shall contain the following information:

(i) Reference to the date of previous public notices relating to the permit;

(ii) Date, time, and place of the hearing;

(iii) A brief description of the nature and purpose of the hearing, including the applicable rules and procedures.

(c) A decision on the application will be made by the Director:

(i) Within 30 days after completion of the notice period if no hearing is requested; or

(ii) If a hearing is requested:

(A) The Environmental Quality Council shall issue findings of fact and make a decision on the application within 60 days after the final hearing; and

(B) The Director will make a decision on the application within fifteen days from receipt of any findings of fact and decision of the Council.

(iii) In addition to the requirements of W.S. § 35-11-406(p) ~~(2003)~~, at the time that any permit or Research and Development ~~Testing~~ License is issued, the Director shall issue a response to objections. This response shall:

(A) Specify which provisions, if any, of the proposed permit have been changed in the final approved permit, and the reasons for the change;

(B) Briefly describe and respond to all significant objections on the permit application raised during the public comment period, or during any hearing; and

(C) Be sent to the applicant and objectors, along with a copy of the Director's decision, and be available to the public.

(iv) The Administrator will publish a summary of the decision in a newspaper of general circulation in the general area of the proposed operation.

(d) For permit or license revocation, all the provisions of this Chapter shall apply, except that the Director shall cause notice of the revocation to be published.

Section 22. **Confidential Records.**

(a) Information submitted to satisfy the requirements of this Chapter may be held confidential pursuant to W.S. § 35-11-1101 ~~(2003)~~.

Section 23. ~~Section 20.~~ **Revocation.**

(a) A permit, license to mine, or Research and Development ~~Testing~~ License may be revoked by the Administrator to address one or more of the following ~~considerations.~~:

(i) Revocation may be necessary to address:

(A) An excursion or other aspect of noncompliance per Sections ~~12~~18 and 19 of this Chapter; or

(B) One of the items listed in Section ~~20~~23(b).

(ii) Any interested person, including the operator, may request revocation provided the request is in writing and contains facts or reasons supporting the request. If the Administrator decides that a request for revocation is not justified, he or she shall send the requester and operator a brief written response giving the reason(s) for the decision. Denials of requests for revocations are not subject to public notice and comment;

(iii) If the Administrator revokes any Class III Well portions of a permit or Research and Development ~~Testing~~ License, he or she shall prepare a letter to the operator specifying the needed changes and additional information.

(b) The Director or Administrator may revoke a permit, License to Mine, or Research and Development ~~Testing~~ License:

(i) If an excursion cannot be controlled or mitigated per W.S. § 35-11-429(a) ~~(2003)~~;

(ii) For failure to comply with permit terms and conditions per W.S. §§ 35-11-412(b) and (c) ~~(2003)~~;

(iii) For the operator's failure in the application or during the issuance process to disclose fully all relevant facts or for misrepresenting any relevant facts at any time, as provided in W.S. §§ 35-11-409(a) and 412(a) ~~(2003)~~; and

(iv) Per the provisions of W.S. §§ 35-11-109(a)(xiii) and 110(b) ~~(2003~~);

(c) A revocation requires public notice as specified in Section 3 of Chapter 7 of these regulations and Section 21 of this Chapter.

CHAPTER 11

In Situ Mining

Section 1. **Definitions.**

(a) "Abandoned well" means a well whose use has been permanently discontinued or which is in a state of disrepair such that it cannot be used for its intended purpose or for observation purposes.

(b) "Affected Land or Affected Area" means as defined in Wyoming Statute (W.S.) § 35-11-103(e)(xvi).

(c) "Annular space" means the space between the well casing and the borehole or the space between two or more strings of well casing.

(d) "Area Permit" means that, for the purposes of this Chapter, the Administrator may issue a permit on an area basis, rather than for each well individually, provided that the permit is for UIC Class III wells:

(i) Described and identified by location in permit application(s) if the wells are existing wells, except that the Administrator may accept a single description of wells with substantially the same characteristics;

(ii) Within the same well field, facility site, reservoir, project, or similar unit in the same state;

(iii) Operated by a single owner or operator; and

(iv) That are not used to inject hazardous waste.

(e) "Baseline" means the constituents or parameters and the concentrations or measurements which describe water quality and water quality variability prior to the injection of recovery fluid.

(f) "Best Practicable Technology" means as defined in W.S. § 35-11-103(f)(i).

(g) "Catastrophic collapse" means the sudden and utter failure of overlying strata caused by removal of underlying materials. This can occur in salt solution mining and other processes that remove reservoir material to recover product.

(h) "Class III well" means a well used for in situ mining for the injection of recovery fluid for the purpose of extracting minerals, or products, including a well used in:

(i) Mining of sulfur by the Frasch process;

(ii) In situ mining of uranium or other metals; this category includes only in situ production from ore bodies which have not been conventionally mined. Wells used for solution mining (such as stope leaching) of conventional mines are classified as Class V wells;

(iii) In situ mining of salts, trona, or potash. With the exception that wells, used in reclamation activities, to inject into previously mined areas of underground trona mines will be classified as Class V wells rather than Class III wells (and therefore not regulated under this Chapter), regardless of whether such wells are used for secondary recovery of trona;

(iv) Fossil fuel recovery, including oil shale and tar sands; or

(v) Experimental technologies, such as pilot scale in situ mining wells in previously unmined areas.

(i) “Compliance schedule” means a schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (for example, actions, operations, or milestone events) leading to compliance with the applicable statutes and regulations.

(j) “Confining zone” means a geological formation, group of formations, or part of a formation that is capable of significantly limiting fluid movement above or below an injection zone.

(k) “Contaminant” means any unwanted or unauthorized physical, chemical, biological, or radiological substance or matter in water.

(l) “Excursion” means as defined in W.S. § 35-11-103(f)(ii).

(m) “Exempted aquifer” means an aquifer or its portion that meets the criteria in the definition of "Underground Source of Water" but which has been exempted according to the procedures of Section 11 of this Chapter.

(n) “Fact sheet” means that for every in situ class III draft permit a fact sheet must be created that briefly sets forth the principal facts and the significant factual, legal, methodological and policy questions considered in preparing the draft permit. The Administrator shall send this fact sheet to the applicant and, on request to any other person. The fact sheet shall include, when applicable:

(i) A brief description of the type of facility or activity which is the subject of the draft permit;

(ii) The type and quantity of wastes, fluids, or pollutants which are proposed to be or are being treated, stored, disposed of, injected, emitted, or discharged;

(iii) Reasons why any requested variances or alternatives to required standards do or do not appear justified;

(iv) A description of the procedures for reaching a final decision on the draft permit including:

(A) The beginning and ending dates of the comment period and the address where comments will be received;

(B) Procedures for requesting a hearing and the nature of that hearing; and

(C) Any other procedures by which the public may participate in the final decision.

(v) Name and telephone number of a person to contact for additional information.

(o) “Flow rate” means the volume per time unit given to the flow of gases or other fluid substance which emerges from an orifice, pump, turbine or passes along a conduit or channel.

(p) “Fluid” means material or substance which flows or moves whether in a semisolid, liquid, sludge, gas, or any other form or state.

(q) “Formation” means a body of rock characterized by a degree of lithologic homogeneity which is prevailingly, but not necessarily, tabular and is mappable on the earth's surface or traceable in the subsurface.

(r) “Formation fluid” means "fluid” present in a "formation” under natural conditions as opposed to introduced fluids.

(s) “Groundwater restoration” means as defined in W.S. § 35-11-103(f)(iii).

(t) “Injection well” means a well or conduit through which recovery fluid is introduced into the subsurface. If a well is used for both injection and recovery, it is considered an injection well for the purposes of this Chapter until the operator has adequately demonstrated to the Administrator that the well has been converted to a use other than injection, per the requirements of Section 10 of this Chapter.

(u) “In situ mining” means as defined in W.S. § 35-11-103(f)(iv).

(v) “License area” means, with respect to an In Situ Research and Development-License, an area described in the license application within which all affected land and water is contained.

(w) “Mechanical integrity” means, an injection well, a production well, or monitor well where there is no significant leak in the casing, tubing or packer, and there is no significant fluid movement into an unauthorized zone through vertical channels adjacent to the injection or

recovery well bore.

(x) "Mechanical Integrity Testing" (MIT) means the testing used to determine that a well has mechanical integrity as required in Section 9 of this Chapter. A schedule and methods for Mechanical Integrity Testing shall be approved by the Administrator and included in the permit or Research and Development License application (per Section 5(a)(xvi) of this Chapter) and shall constitute requirements of the permit.

(y) "Mining permit or permit" means as defined in W.S. § 35-11-103(e)(xi).

(z) "Monitor well" means a well constructed or utilized to measure static water levels or to obtain liquid, solid, or gaseous analytical samples or other physical data that would be used for controlling the operations or to indicate potential circumstances that could affect the environment.

(aa) "Monitor well ring" means the series of monitor wells surrounding a wellfield used to assess possible chemical and physical changes in groundwater due to ISR development.

(ab) "Production well or Recovery well" means a well through which a recovery fluid or soluble mineral is produced or recovered from the subsurface. If a well is used for both injection and recovery, it is considered an injection well for the purposes of this chapter until the operator adequately demonstrates to the Department that the well has been converted to use as a Production or Recovery Well.

(ac) "Production zone" means as defined in W.S. § 35-11-103(f)(v).

(ad) "Public water supply" means as defined in W.S. § 35-11-103(c)(viii).

(ae) "Receiving strata" means the geologic units within which the production zones are contained.

(af) "Recovery fluid" means any material which flows or moves, whether semi-solid, liquid, sludge, gas or other form or state, used to dissolve, leach, gasify or extract a mineral. This may also include restoration fluid.

(ag) "Research and Development License" means the permitting vehicle issued by the Administrator, per W.S. § 35-11-431 et seq., approving research and development testing as defined in W.S. § 35-11-103(f)(viii).

(ah) "Sealing" means the operation whereby a cement slurry or other approved material is pumped into a drilled hole and/or forced into a well's annulus between the borehole and the casing. "Sealant materials" are materials that are stable, have very low to no permeability and possesses minimum shrinking properties such that they are optimal sealing materials for well plugging and drill hole abandonment.

(ai) "Target Restoration Values" means the numerical groundwater protection

standards, developed on a parameter-by-parameter basis for water quality constituents, used to assess the success of groundwater restoration within the production zone.

(aj) “The Division” means the Land Quality Division of the Wyoming Department of Environmental Quality.

(ak) “Topsoil” means as defined in W.S. § 35-11-103(e)(xiv).

(al) “Underground Injection Control” (UIC) means the Underground Injection Control program under Part C of the Safe Drinking Water Act (42 USC 300h *et seq.* (2005)), including an "approved State program."

(am) “Underground Source of Water” (USW) means:

(i) Those aquifers or portions thereof which have a total dissolved solids content of less than 10,000 milligrams per liter (mg/l) and which contain a sufficient quantity of water to supply a public water supply as defined in W.S. § 35-11-103(c)(viii);

(ii) Those that can classified as a "known source of supply" pursuant to Chapter 8, Section 4(c), Quality Standards for Wyoming Groundwaters, Water Quality Division Rules and Regulations.

(an) “Upper Control Limit” (UCL) means a value greater than the maximum value of a chemical or physical parameter that can be attributed to natural fluctuations and analytical variability. UCL parameters and amounts are determined from the baseline sampling and agreed upon by the Administrator and the operator prior to initiation of mining. UCLs are used to determine when there is movement of recovery fluid out of authorized areas or unapproved changes to a chemical or physical parameter.

(ao) “Waters of the State” means as defined in W.S. § 35-11-103(c)(vi).

(ap) “Well” means a bored, drilled, or driven shaft whose depth is greater than the largest surface dimension; or, a dug hole whose depth is greater than the largest surface dimension; or, an improved sinkhole, or a subsurface fluid distribution system, as codified in the UIC regulations at 40 CFR 144.3.

(aq) “Well field area” means the surface area overlying the injection and recovery zones. This area may be all or a portion of the entire area proposed for the injection and production of recovery fluid throughout the life of the mine.

(ar) “Well Stimulation” means a well mediation performed on an ISR well to increase production by improving the flow of injection fluids from the injection wells into the production well bore.

Section 2. General Requirements.

It is the operator's responsibility for the submission of an application to obtain a permit in accordance with these regulations. All applications for mining permits and amendments must be submitted in a format satisfactory to the Administrator. The applicant shall provide information that is complete, current, presented clearly and concisely, and supported by appropriate references to technical and other written material. The Administrator may require the applicant to supplement the application with information beyond that specifically required by these rules if the Administrator believes that additional information is necessary to make an informed decision.

(a) In addition to the requirements of this Chapter, Chapter 7, Noncoal Rules and Regulations, shall apply to in situ mining or Research and Development License operations.

(b) Applicable sections of Chapters 8 and 27 of the Water Quality Division Rules and Regulations, regarding groundwater use classification, quality standards, and testing procedures, and, outside the aquifer exemption boundary, applicable Maximum Contaminant Levels from the U.S. Environmental Protection Agency Rules (40 CFR 141 as amended May 22, 2001), shall also apply to in situ mining or Research and Development License operations.

(c) No in situ mining shall commence or be conducted unless a valid permit or Research and Development License has been issued to the operator from the Department. Applications for a permit or Research and Development License shall be filed with the Administrator. The applicant shall file two copies of the application to the Administrator in a format required by the Administrator.

(d) The Administrator shall review the permit or Research and Development License application and determine its suitability for publication in accordance with W.S. § 35-11-406. A permit or Research and Development License shall be issued by the Director upon the recommendation of the Administrator. In meeting the requirements of W.S. 35-11-406(a)(ix) the map should extend a minimum of one mile beyond the permit boundary.

(e) Area permits shall specify the area within which underground injections are authorized and the requirements for construction, monitoring, reporting, operation and abandonment for all wells authorized. The area permit may authorize the permittee to construct and operate, convert, or plug and abandon wells within the area permit provided the permittee notifies the Administrator at such times as the permit requires, the additional well meets the requirements under the definition of "area permit" and this section and the cumulative effects of drilling and operation of additional injection wells are considered by the Administrator during evaluation of the permit application and are acceptable to the Administrator. The area permit does not allow for the construction of non-bonded infrastructure.

(f) The operator shall allow the Administrator, or an authorized representative of the Division, to enter and inspect any property as provided by W.S. §§ 35-11-109(a)(iv), (v) and (vi).

(g) All applications shall be signed by a responsible corporate officer. All reports required by permits (including Annual Reports, Quarterly Monitoring Reports, and reports related to excursion monitoring and control) or other information required by the Administrator

which pertain to Class III injection wells shall be signed by a responsible corporate officer or duly authorized representative. Any responsible corporate officer or duly authorized representative signing a document under this Section shall make the following certification:

> I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations.

(i) "Responsible corporate officer" means:

(A) A president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs policy or decision-making functions for the corporation, or

(B) The manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures, or

(C) In the case of a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

(D) For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

(I) The chief executive officer of the agency, or

(II) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

(ii) "Duly authorized representative" means a person who is authorized to sign a document to be submitted to the Land Quality Division as part of the official record regarding an in situ mining permit or Research and Development License. A person shall qualify for this title only if:

(A) The authorization is made in writing by a responsible corporate officer;

(B) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and

(C) The written authorization is submitted to the Director.

(iii) If the responsible corporate officer or duly authorized representative is no longer correctly listed with the Administrator, a new name must be submitted, with required written authorization as required by Sections 2(g)(ii)(A) and (C) of this Chapter, to the Administrator prior to or with any reports, information, or applications to be signed by that individual.

Section 3. **Application Content Requirements - Adjudication.**

(a) All applications for a permit must include, at a minimum, the information and materials related to adjudication required in: W.S. § 35-11-428; Chapter 1 and Chapter 2, Sections 1 and 2(a)(i)(A) and (J) of these rules and regulations; and:

(i) A description of the activities conducted by the applicant for which permits are required under: the Resource Conservation and Recovery Act (RCRA), the UIC program of the Safe Drinking Water Act; the National Pollution Discharge Elimination System (NPDES) program of the Clean Water Act; and the Prevention of Significant Deterioration program of the Clean Air Act.

(ii) A listing of all permits or construction approvals received or applied for in association with the in situ permit area under the following programs:

(A) Hazardous Waste Management program under RCRA;

(B) UIC program under the Safe Drinking Water Act (as it pertains to wells other than Class III wells);

(C) Aquifer exemption from the EPA;

(D) NPDES program under the Clean Water Act (CWA);

(E) Prevention of Significant Deterioration (PSD) program under the Clean Air Act (CAA);

(F) Nonattainment program under the CAA;

(G) National Emission Standards for Hazardous Pollutants preconstruction approval under the CAA;

(H) Dredge and fill permits under Section 404 of the CWA;

(I) U.S. Nuclear Regulatory Commission, or Wyoming Uranium Recovery Program, Source Material License; or

(J) Other relevant environmental permits, including State permits.

Section 4. **Application Content Requirements - Baseline Information.**

(a) All applications for a permit must include, at a minimum, the information and materials related to baseline information required in: W.S. § 35-11-428; Chapter 1 and Chapter 2, Sections 2(a)(i)(A) through (J) of these rules and regulations; and:

(i) A soil survey which maps and describes the general distribution of the soils within the permit area. A detailed soil survey and associated laboratory analysis may be required for soils on the affected lands.

(ii) A description of the nature and depth of the topsoil that will be removed from proposed affected land prior to disturbance by mining activities.

(iii) A survey of vegetative cover and species diversity on the proposed affected land determined by scientifically acceptable sampling procedures. Vegetation productivity sampling may be required, at the Administrator's discretion, depending on the nature of the communities to be disturbed. However, if existing data from other sources, such as National Resources Conservation Service publications or adjacent permit areas, can be provided and demonstrated to be applicable to the communities in question, the collection of production data may be waived.

(iv) A list of the indigenous vertebrate species by common and scientific names observed within the proposed permit area. Surface waters supporting fish that may be affected by the operation shall be sampled for benthic invertebrates and periphyton. As required in Chapter 2, Section 1(f), the applicant shall consult with the Wyoming Game and Fish Department and the U.S. Fish and Wildlife Service prior to submission of a permit application to determine permitting requirements.

(v) A description of climatic conditions of the site in accordance with the requirements of Chapter 2, Section 2(a)(i)(C) and (D).

(vi) A description of the geology, including:

(A) Discussion, supported by maps, cross-sections and geologist’s, driller’s, and geophysical logs, which identifies: formations and aquifers; geologic features that could influence aquifer properties; and the areal and stratigraphic position of the production zone in relation to other geologic features within the proposed permit or Research and Development-License area; and

(B) A generalized map and cross-sections illustrating the regional geologic setting.

(vii) A geochemical, lithological, and mineralogical description of the receiving strata and any aquifers that may be affected by the injection of recovery fluid.

(viii) For surface waters within the permit area and on adjacent lands:

(A) The names, descriptions, and a map of all such waters; and

(B) A list and map of all adjudicated and permitted surface water rights.

(ix) For groundwater within the permit area and on adjacent lands:

(A) The names (or numbers), descriptions, and a map of all wells installed for water supply or monitoring and all wells which penetrate the production zone. The description shall include: names of present owners, well completion data, producing interval(s), and variations in water level to the extent such information is available in the public records and from a reasonable inspection of the property.

(B) A list and map of all adjudicated and permitted groundwater rights.

(x) A list and map of all abandoned wells and drill holes, giving location, depth, producing interval(s), type of use, condition of casing, plugging procedures and date of completion for each well or drill hole within the permit area and on adjacent lands to the extent such information is available in public records and from a reasonable inspection of the property.

(xi) A groundwater potentiometric surface contour map for each aquifer that may be affected by the mining process, including overlying and underlying aquifers in which monitoring wells are installed.

(xii) Aquifer characteristics for the water saturated portions of the receiving strata and aquifers which may be affected by the mining process, which may include, but is not limited to, aquifer thickness, velocity and direction of groundwater movement, storage coefficients or specific yields, transmissivity or hydraulic conductivity and the direction(s) of preferred flow under hydraulic stress in the saturated zones of the receiving strata. The extent of hydraulic connection between the receiving strata and overlying and underlying aquifers, and the hydraulic characteristics of any influencing boundaries in or near the proposed well field area(s) shall be determined and described. Information needed to meet the requirements of Section 8(d) of this Chapter shall also be provided.

(xiii) Tabulated water quality analyses for samples collected from all groundwater which may be affected by the proposed operation. Sampling to characterize the pre-mining groundwater quality and its variability shall be conducted in accordance with established Department guidelines. All baseline groundwater quantity and quality information

must be provided in an electronic format prescribed by and/or acceptable to the Administrator.

Section 5. **Application Content Requirements - Mine (Operations) Plan**

(a) All applications for a mine permit and amendments must include, at a minimum, the information and materials related to mine plans required in: W.S. §§ 35-11-428 and 429; Chapter 1, Chapter 2, Section 1, and Chapter 3, Section 2 (excepting Subsections (b)(ii) and (iii), (c)(iv), and (h) and, with respect to subsection (k)(i), as modified in Section 6(a)(iv) of this Chapter); and

(i) Contour (topographic) map(s) which accurately locate and identify the permit area and show the location of any public highways, dwellings, utilities and easements within the permit area and adjacent lands in relation to all proposed affected lands and proposed activities associated with the operation including, but not limited to: plant site, chemical storage areas, wellfield areas, roads, temporary and permanent drainage diversions, impoundments, stockpiles for topsoil, ore product and waste, and all processing facilities. The map(s) shall also clearly illustrate the location of monitoring wells required by Section 16 of this Chapter.

(ii) Discussion and illustration of the proposed mining schedule, including:

(A) A list of the proposed wellfields;

(B) A map(s), which shows the proposed sequence for mining of the wellfields;

(C) A proposed time schedule for mining each wellfield; and

(D) The capacity of the water/waste water treatment systems and correlation of the capacity with the mining and restoration schedules.

(iii) The procedure(s) used to protect the topsoil and subsoil, as required in Chapter 3, Section 2(c)(i) through (iii), from excessive compaction, degradation, and wind and water erosion where stockpiling of topsoil and subsoil is necessary. The Administrator may authorize topsoil to remain on areas where minor disturbance will occur associated with construction and installation activities including but not limited to light-use roads, signs, wellfields, utility lines, fences, monitoring stations, and drilling provided that the minor disturbance will not destroy the protective vegetative cover, increase erosion, nor adversely affect the soil resource.

(iv) A description of and dimensions for all proposed impoundments, as defined by the State Engineer's Office (SEO). A leak detection plan may be required for impoundments that are not regulated by the NRC. For impoundments holding toxic or acid forming material, contingency plans to control unanticipated leakage shall be provided.

(v) A description of all temporary and permanent surface water diversions in accordance with the requirements of Chapter 3, Section 2(e) and (f).

(vi) The composition of all known and anticipated wastes and procedures for their disposal.

(vii) Procedures for ensuring that all acid-forming, or toxic, or other materials constituting a fire or health and safety hazard encountered during or created by the mining process are promptly treated, confined, or disposed of in a manner designed to prevent pollution of surface water or groundwater, degradation of soils, or vegetation, or threat to human or animal health and safety.

(viii) A description of the mitigating measures developed from the consultations with the Wyoming Game and Fish Department and the U.S. Fish and Wildlife Service as required per Chapter 2, Section 1(f).

(ix) A description of the location within the permit area where underground injection is authorized.

(x) A description of the proposed method of operation, including:

(A) Injection rate, with the average and maximum daily rate and the volume of fluid to be injected;

(B) Injection pressures, with average and maximum injection pressures, as required by Section 8 of this Chapter;

(C) Proposed stimulation program;

(D) Type of injection/recovery fluid to be used;

(E) Proposed injection procedure; and

(F) Expected changes in pressure, native groundwater displacement and direction of movement of injection fluid.

(xi) The following information concerning the production zone shall be determined or calculated and submitted for new Class III wells or projects:

(A) Where the production zone is in a receiving strata which is naturally water-bearing:

(I) Fluid pressure;

(II) Fracture pressure; and

(III) Physical and chemical characteristics of the receiving strata fluids.

(B) Where the receiving strata is not a water-bearing formation, the fracture pressure in the production zone.

(xii) The procedure(s) to assure that the installation of recovery, injection, and monitor wells will not result in hydraulic communication between the production zone and overlying or underlying stratigraphic horizons.

(xiii) The procedures utilized to verify that the injection and recovery wells are in communication with monitor wells completed in the receiving strata and employed for the purpose of detecting excursions.

(xiv) Descriptions of:

(A) The completion details for all monitor wells; and

(B) A detailed description of the typical proposed well completion for monitoring, injection and recovery wells, as required by Section 8 of this Chapter.

(xv) Details of a monitoring program and reporting schedule as required by Sections 16 and 15 of this Chapter, respectively.

(xvi) A schedule for and description of the procedures to demonstrate and maintain mechanical integrity of all monitoring, recovery, and Class III injection wells as required by Section 9 of this Chapter. Monitor wells need only be tested upon completion.

(xvii) A corrective action plan, for any wells which are improperly sealed, completed, or abandoned, consisting of such steps or modifications as are necessary to prevent movement of fluid into unauthorized zones as required by Section 20 of this Chapter.

(xviii) A description of chemical reactions that may occur during mining as a result of recovery fluid injection.

(xix) A subsidence analysis, using established geotechnical principles, which estimates, based upon the proposed mining operation, the effect of subsidence upon the land surface and overlying groundwater aquifers. Subsidence shall be planned and controlled to the extent that the values and uses of the surface land resources and the groundwater aquifers will not be degraded.

(xx) A description of measures employed to prevent an excursion, and contingency and corrective action plans to be implemented in the event of an excursion, in accordance with Sections 19 and 20 of this Chapter.

(xxi) An assessment of impacts that may reasonably be expected as a result of the mining operation to water resources and water rights inside the permit area and on adjacent lands, and the steps that will be taken to mitigate these impacts.

(xxii) A maintenance plan to ensure:

(A) Wells are sufficiently covered to protect against entrance of undesirable material into the well;

(B) The wells are marked and can be clearly seen;

(C) The area surrounding each well is kept clear of brush or debris;

(D) Monitoring equipment is appropriately serviced and maintained so the monitoring requirements in Section 16(a)(i) of this Chapter can be met; and

(E) Spill Response and Reporting plan.

Section 6. **Application Content Requirements - Reclamation Plan.**

(a) All applications for a permit shall include, at a minimum, the information and materials related to reclamation required in: W.S. §§ 35-11-428 and 429; Chapter 1, Chapter 2, Section 1, and Chapter 3, Section 2 (excepting Subsections (b)(ii) and (iii), (c)(iv), and (h) and with respect to subsection (k)(i), as modified in Section 6(a)(iv) of this Chapter); and

(i) Discussion and illustration of the proposed groundwater restoration schedule, including:

(A) A list of the proposed wellfields;

(B) A map(s) which shows the proposed sequence for restoration of the wellfields;

(C) A proposed time schedule for each wellfield;

(D) The capacity of the water/waste water treatment systems and correlation of the capacity with the mining and restoration schedules.

(ii) The information necessary to demonstrate that the operation will achieve the standard of returning all affected groundwater to the pre-mining class of use or better using Best Practicable Technology, in accordance with the following provisions:

(A) In deciding whether a demonstration has been made by the operator that Best Practicable Technology has been applied, the Administrator shall, at a minimum, take the following factors into consideration:

(I) The pre-mining background baseline water quality;

(II) The character and degree of injury or interference with the health and well-being of the people, animals, wildlife, aquatic like and plant life affected:

(III) The social and economic value of the source of pollution;

(IV) The social and economic value of the impacted aquifer;

(V) The priority of location in the area involved;

(VI) The technical practicability and economic reasonableness of reducing or eliminating the source of pollution;

(VII) The effect upon the environment; and

(VIII) The potential impacts to other waters of the state.

(B) The evaluation of restoration of the groundwater within the production zone shall be based on the target restoration values;

(C) The evaluation of groundwater restoration success is conducted on a parameter by parameter basis; and

(D) Regardless of the restored groundwater quality in the production zone, the adjacent aquifers and other waters within the same aquifers must be fully protected to their class of use and, outside the aquifer exemption boundary, to applicable Maximum Contaminant Levels from the U.S. Environmental Protection Agency Rules (40 CFR 141 as amended May 22, 2001). If the restored groundwater in the production zone poses a threat to groundwater outside the production zone, then flow and/or fate and transport models shall be used to assist in determining what action, including monitoring sufficient to verify the model, needs to be taken. A monitoring program sufficient to verify the model may be required.

(E) If the operator demonstrates the application of Best Practicable Technology to the satisfaction of the Administrator, but is unable to achieve the pre-mining class of use, then the operator can:

(I) Request that the Director recommend the Environmental Quality Council modify the water quality criteria used for ground water restoration, in accordance with W.S. 35-11-429(a)(iii);

(II) Provided the operator can demonstrate the requirements of Section 6(a)(ii)(D) will be met.

(F) A minimum of 1 year of quarterly monitoring data for a full suite of parameters, except those shown to be unaffected by the mining and restoration process, must be provided to demonstrate groundwater stability during the evaluation of restoration.

(iii) A plan for well repair, plugging, and conversion as required by Section 10 of this Chapter.

(iv) A proposed time schedule for achieving reclamation, including commitments that reclamation of mining-related surface disturbances in any mining area shall be completed within two years following approval of groundwater restoration in that area and that reclamation of all mining-related surface disturbances shall be completed within two years following approval of final groundwater restoration within the permit area.

(v) A contour map showing the approximate post-reclamation surface contours for affected lands and the immediate surrounding areas if the operation will substantially alter the pre-mining contours.

(vi) Procedures for reestablishing any surface drainage that may be disrupted by the mining operation.

(vii) Procedures for the reclamation of any temporary diversion ditches or impoundments.

(viii) Procedures for permanently disposing of any toxic or acid-forming materials.

(ix) Procedures for removing and disposing of structures used in conjunction with the mining operation.

(x) Procedures for mitigating or controlling the effects of subsidence.

(xi) Procedures for ground surface preparation, depth of topsoil replacement, erosion control and water conservation practices.

(xii) Procedures for revegetation to return the affected lands to the proposed post-mining land use and procedures for evaluation of revegetation success in accordance with Chapter 3, Section 2(d).

(xiii) The estimated costs for reclamation as computed in accordance with established engineering principles, including, but not limited to:

(A) Cost of removing and disposing of structures;

(B) Cost of topsoil restoration and reseeding all affected lands;

(C) Cost of facilities, materials, and chemicals used for groundwater restoration;

(D) Cost of capping, plugging, and sealing of all wells; and

(E) Costs for personnel working on reclamation-related activities.

Section 7. **Research and Development License Application.**

(a) In addition to the information required by this Section, an application for a Research and Development License shall contain all information required by W.S. § 35-11-431 and Sections 8 through 12 and 15 through 20 of this Chapter and shall:

(i) Demonstrate that the operation is designed to:

(A) Evaluate mineability or workability of a mineral deposit using in situ mining techniques;

(B) Affect the land surface, surface waters and groundwater of the State to the minimum extent necessary; and

(C) Provide pre-mining, operational and post-mining data, information and experience that will be used for developing reclamation techniques for in situ mining.

(ii) Contain a general description of the land, geology and groundwater hydrology for the proposed Research and Development License area including:

(A) The land use, vegetation, and topsoil characteristics of the affected lands;

(B) Location and name of surface waters and adjudicated water rights inside and within one-half mile of the Research and Development License area;

(C) Locations and present owners of all wells inside and within one-half mile of the Research and Development License area to include information concerning plugging and well completion and producing interval(s) to the extent such information is available in the public record or by a reasonable inspection of the property; and

(D) Groundwater quality data and potentiometric surface elevations for aquifers that may be affected by the proposed operation.

Section 8. **Well Construction Requirements.**

(a) Methods for well construction shall:

(i) Be approved by the Administrator and included in the permit or Research and Development License application (per Section 5(a)(xiv) of this Chapter);

(ii) Constitute a condition of the permit;

(iii) Construction requirements listed in Sections 8(a) through 8(f) of this Chapter are applicable to all wells installed for activities related to in situ mining, including pre-mining aquifer groundwater sampling and pumping tests. Additional requirements for Class III injection wells are included in Section 8(g). Additional requirements for monitoring wells are

included in Section 8(h); and

(iv) The Administrator may grant a deviation from the requirements, except those in Section 8(g), provided the operator can supply documentation of reliability, mechanical integrity, design and construction to protect groundwater of the state.

(b) In selecting well locations, protecting wells, and maintaining well covers, the following requirements apply:

(i) The top of the casing shall end above grade. Where possible, the top of the casing shall end above any known high-water conditions of flooding from runoff or ponded water, and the immediate area around the collar of the well shall slope away from the well to direct surface runoff away from the well. Installation of wells in the channels and flood plains of perennial drainages is prohibited. If a well must be located in an ephemeral or intermittent drainage:

(A) The well shall not be located in the streambed (i.e., the channel) of the drainage;

(B) During well construction and use, steps shall be taken to minimize the potential for damage to the channel, such as from erosion and sedimentation, and to protect the well from damage due to erosion and to prevent surface water runoff from entering the well;

(ii) The well opening shall be closed with a cover to prevent the introduction of undesirable material into the well.

(c) Annular seals shall be installed to: protect the casing against corrosion; assure structural integrity of the casing; stabilize the upper formations; protect against contamination or pollution of the well from the surface; and prevent migration of ground water from one aquifer or water-bearing strata to another in accordance with the following requirements:

(i) The drill hole shall be of sufficient diameter for adequate sealing and, at any given depth, at least three inches greater in nominal diameter than the diameter of the outer casing at that depth;

(ii) Before placing the annular seal, all loose drill cuttings, rock chips, or other obstructions shall be removed from the annular space by circulating the borehole with water or drilling mud slurry;

(iii) The annular sealing material shall be placed from the bottom to the top of the well casing. The displacement fluid used to force the final sealing material through the casing shall remain shut-in, to prevent back flow, until the sealing material is set. If settling occurs during setting of the sealing material, additional material must be placed into the annular space, to bring the level of the sealing material to the ground surface. If, during cementing, the cement does not return to the surface and settling during curing of the cement is more than forty feet, then a tremie pipe must be used to complete the cement to the surface to ensure that

bridging does not occur; and

(iv) Annular seals shall be created using one of the approved sealant materials outlined in Chapter 8, Section 2(d), of the Division's Noncoal Rules and Regulations.

(d) The casing shall be of sufficient strength and diameter to: prevent casing collapse during installation; convey liquid at a specified injection/recovery rate and pressure; and allow for sampling. Casing materials may include steel or polyvinyl chloride (PVC), which meet the relevant standards of ASTM International (formerly American Society for Testing and Materials).

(e) Casing shall be placed with sufficient care to avoid damage to casing sections and joints. All joints in the casing above the perforations or screens shall be watertight. The uppermost perforations or top of the screen shall be below the bottom of the annular seal. Casing shall be equipped with centralizers placed at a maximum spacing of one per forty feet to ensure even thickness of annular seal and gravel pack.

(i) Steel casing may be joined by either threading or coupling.

(ii) PVC casing may be glued or mechanically joined (no metal screws), depending on the type of material and its fabrication. Compatibility between injection fluids, formation fluids, process by-products, recovery fluids and the glue shall be demonstrated.

(f) Well development shall be done by methods which will not cause damage to the well or cause adverse subsurface conditions that may destroy barriers to the vertical movement of water between water-bearing strata;

(g) For Class III injection wells, the following construction requirements are in addition to the requirements listed in (a) through (f) of this Section:

(i) Appropriate logs and other tests shall be conducted during the drilling and construction of new Class III wells. A descriptive report prepared by a knowledgeable log analyst interpreting the results of such logs and tests shall be compiled and maintained by the operator and made available to the Division for inspection. The logs and tests appropriate to each type of Class III well shall be determined based on the intended function, depth, construction and other characteristics of the well, availability of similar data in the area of the drilling site and the need for additional information that may arise from time to time as the construction of the well progresses. Deviation checks shall be conducted on all holes where pilot holes and reaming are used, unless the hole will be cased and sealed by circulating the sealing material to the surface. Where deviation checks are necessary, they shall be conducted at sufficiently frequent intervals to assure that vertical avenues for fluid migration are not created during drilling.

(ii) All Class III wells shall be constructed to prevent the migration of fluids to unauthorized zones. The casing and annular sealing material used in the construction of each newly drilled well shall be designed for the life expectancy of the well. In determining and

specifying casing and annular sealing requirements, the following factors shall be considered:

(A) Depth to the production zone;

(B) Injection pressure, external pressure, internal pressure, axial loading, or other factors as determined by the Administrator;

(C) Drill hole diameter;

(D) Size and grade of all casing strings (wall thickness, diameter, nominal weight, length, joint specification, and construction material);

(E) Corrosiveness of injected fluids, formation fluids, process by-products, and recovery fluids;

(F) Lithology of receiving strata and confining zones; and

(G) Type and grade of sealing material.

(h) The following monitoring well construction requirements are in addition to the requirements listed in (a) through (f) of this Section:

(i) There injection into a receiving strata which contains water with less than 10,000 milligrams per liter (mg/l) Total Dissolved Solids (TDS), monitoring wells shall be completed into the production zone and any unauthorized zone or water-bearing strata which could be adversely affected by the mining operation. These wells shall be located in such a fashion as to detect any excursion of injection fluids, formation fluids, process by-products, or recovery fluids. If the operation may be affected by subsidence or catastrophic collapse, the monitoring wells shall be located so that they will not be physically affected.

(ii) Where injection is into a receiving strata which contains water with greater than 10,000 mg/l TDS, no monitoring wells are necessary in the production zone.

(iii) Where the injection wells penetrate an Underground Source of Water (USW) in an area subject to subsidence or catastrophic collapse, an adequate number of monitoring wells shall be completed into the USW to detect any movement of injection fluids, formation fluids, process by-products, or recovery fluids into the USW. The monitoring wells shall be located outside the physical influence of the subsidence or catastrophic collapse.

(iv) In determining the number, location, and construction of the monitoring wells and frequency of monitoring, the following criteria shall be considered:

(A) The uses for which the groundwater in the receiving strata is suitable under pre-mining conditions, in any aquifer affected or potentially affected by the injection operation;

(B) The proximity of the injection operation to points of withdrawal;

(C) The local geology and hydrology;

(D) The operating pressures and whether a negative pressure gradient is being maintained;

(E) The chemical nature and volume of the injection fluids, formation fluids, process by-products, and recovery fluids; and

(F) The injection well density.

(i) No Class III well construction may commence until a permit or Research and Development License has been issued which includes well construction information in accordance with the requirements of Section 8 of this Chapter. Construction of wells needed to obtain the information required in Sections 3 and 4 of this Chapter may be:

(i) Allowed with approval of the Administrator; but

(ii) May not be used for injection until after permit issuance and only if those wells were constructed in accordance with the requirements of Section 8(g).

(j) The operator may not commence injection in a new injection well until construction is complete and the operator has demonstrated mechanical integrity. The operator shall submit notice of completion of construction and demonstrated mechanical integrity in the quarterly monitoring reports.

(i) The operator has submitted notice of completion of construction to the Administrator: and

(ii) With respect to inspection and review:

(A) The Administrator has inspected or otherwise reviewed the new injection well and finds the well is in compliance with the permit or Research and Development Testing License; or

(B) The operator has not received notice from the Administrator of the intent to inspect or otherwise review the new injection wells within 13 days of the date of the notice in paragraph (b)(i) of this subjection, in which case prior inspection or review is waived and the operator may commence injection. If notice is given, the Administrator shall include in the notice a reasonable time period in which he or she shall inspect the well.

Section 9. **Mechanical Integrity Testing (MIT) of Class III Injection, Production, and Monitor Wells.**

(a) A schedule and methods for Mechanical Integrity Testing shall be approved by

the Administrator and included in the permit or Research and Development License application (per Section 5(a)(xvi) of this Chapter) and shall constitute requirements of the permit. The schedule and methods shall meet the following requirements:

(i) The operator of a Class III or Production well shall establish mechanical integrity as defined in Section 1 of this Chapter for each well prior to commencing injection.

(ii) For demonstrating mechanical integrity as defined in Section 1 of this Chapter:

(A) One of the following methods must be used to evaluate the absence of significant leaks in the casing, tubing or packer:

(I) Following an initial pressure test, monitoring of the tubing-casing annulus pressure with sufficient frequency to be representative, as determined by the Administrator, while maintaining an annulus pressure different from atmospheric pressure measured at the surface; or

(II) Pressure test with liquid or gas.

(B) One of the following methods must be used to determine the absence of significant fluid movement into any unauthorized zone or water-bearing strata through vertical channels adjacent to the injection bore:

(I) The results of a temperature or noise log (e.g., cement bond log); or

(II) Where the nature of the casing precludes the use of the logging techniques prescribed above, sealing records demonstrating the presence of adequate sealing material to prevent such migration shall be provided; or

(III) Where the Administrator elects to rely on sealing records to demonstrate the absence of significant fluid movement, the monitoring program prescribed by Section 16 of this Chapter shall be designed to verify the absence of significant fluid movement.

(C) The Administrator may allow the operator to use a test to demonstrate mechanical integrity other than those listed in subsection (A) above, if the alternate testing method is approved by the EPA. To obtain approval, the Administrator with concurrence of the Director shall submit a written request to the EPA, which shall set forth the proposed test and all technical data supporting its use.

(iii) Maintenance of the mechanical integrity of each Class III and Production well shall be demonstrated at least once every five years, or on a schedule approved by the Administrator.

(iv) Before resuming operation of well that has been damaged by surface or

subsurface activity or that has undergone an activity that may jeopardize the mechanical integrity of the well, such as the use of downhole cutting and under reaming tools, the operator must demonstrate the mechanical integrity of that well, or with the approval of the administrator, demonstrate the ability to prevent the movement of fluid into unauthorized zones or onto the surface.

(v) If the Administrator determines that a well lacks mechanical integrity, he or she shall give written notice of this determination to the operator of the well. Unless the Administrator requires immediate cessation, the operator shall cease injection into, or production from the well within 48 hours of receipt of the Administrator's determination. The Administrator may allow plugging of the well or require the operator to perform such additional construction, operation, monitoring, reporting, and corrective action as is necessary to prevent the movement of fluid into unauthorized zones or onto the surface caused by the lack of mechanical integrity. The operator may resume injection or production upon written notification from the Administrator that the operator has demonstrated mechanical integrity.

(vi) Results of MIT testing shall be reported quarterly in an electronic format acceptable to the Administrator in accordance with the requirements in Section 15 of this Chapter.

Section 10. **Requirements for Plugging of Drill Holes and Repair, Conversion, and Plugging of Wells.**

(a) A plan for drill holes and well repair, plugging, and conversion shall be approved by the Administrator and included in the permit or Research and Development License application, as required by Section 6(a)(iii) of this Chapter, and shall constitute a condition of the permit.

(b) All drill holes shall be plugged in accordance with Noncoal Rules and Regulations, Chapter 8 and W.S. § 35-11-404.

(c) If a well lacks mechanical integrity, repair or plugging of the well is required to prevent the movement of fluid into unauthorized zones or onto the surface caused by the lack of mechanical integrity. Repair or plugging of the well must be completed within 120 days of the testing which indicates the well lacks mechanical integrity. If the well is repaired rather than plugged, retesting of the well, in accordance with the requirements of Section 9 of this Chapter must be completed within 120 days after the repair is completed. The operator may resume use of the well upon written notification from the Administrator that the operator has demonstrated mechanical integrity.

(d) The operator shall notify the Administrator as required by the permit or Research and Development License, before plugging a well or wells within an area permit or converting a well to uses other than those defined in Section 1(d) of this Chapter.

(e) All abandoned wells shall be plugged or converted, in accordance with the Plugging/Conversion Plan in the permit or Research and Development License, in order to assure

that groundwater is protected and preserved for future use and to eliminate any potential physical hazard. A well is considered "abandoned" when it has not been used for a period of two years, unless the operator submits to the Administrator and receives approval for a non-significant revision (Section 19(c)(vi) of this Chapter) demonstrating their intention to use the well again and the actions and procedures they will take to ensure that mechanical integrity of the well are maintained (Section 7(a)(i) of this Chapter) and the well will not endanger any unauthorized zone or water-bearing strata in accordance with the requirements of this Chapter.

(f) A well shall be plugged to meet the requirements below, using an approved sealant material as outlined in Chapter 8, Section 2(d), to assure that plugging of the well will not allow the movement of fluids into or between unauthorized zones or water-bearing strata:

(i) The well shall be plugged using a method which prevents fluid communication and adverse changes in water quality or quantity. Sealant materials shall be emplaced in a manner that provides a water tight seal utilizing one of the approved methods detailed in Chapter 8, Section 2(e) – (g) and shall meet the following requirements:

(A) If specific sections of the casing are to be plugged with cement:

(I) The type and number of plugs to be used;

(II) The placement of each plug including the elevation of the top and the bottom;

(III) The method of placement of the plugs, in accordance with Section 10(f);

(IV) That the well to be plugged shall be in a state of static equilibrium with the mud weight equalized top to bottom, either by circulating the mud in the well at least once or by a comparable method prescribed by the Administrator, prior to the placement of the cement plug(s); and

(V) That the placement of the cement plugs shall be accomplished by one of the following:

(1.) The Balance method;

(2.) The Dump Bailer method;

(3.) The Two-Plug method; or

(4.) An alternative method approved by the Administrator, which:

a. Includes placement of plugging materials in the interval or intervals to be sealed by methods that prevent free fall, dilution and/or separation

of aggregates from sealing materials; and

b. Provides a comparable level of reliable protection to the methods identified in Section 10(f)(i).

(B) When the underground pressure head producing flow (i.e. gassy or artesian) is such that a counter-pressure must be applied to force a sealing material into the annular space, this counter-pressure shall be maintained for the length of time required for the plugging mixture to set or fully hydrate;

(C) The top of the plugging mixture of any plugged and abandoned well shall be backfilled to the surface with dry non-slurry materials or topped with a concrete cap set at least 2 feet below the ground surface and then backfilled to the surface with native earthen materials to ensure the safety of people, livestock, wildlife, and machinery in the area.

(g) In the case of an ISR operation which underlies or is in an aquifer which has been exempted under Section 11 of this Chapter, the Plugging/Conversion Plan in the permit or Research and Development License shall also demonstrate adequate protection of underground sources of Water (USWs). The Administrator shall prescribe aquifer cleanup and monitoring where he deems it necessary and feasible to assure adequate protection of USWs.

(h) To ensure the locations of the abandoned wells are adequately identified:

(i) The boundaries of each wellfield and the location of the monitor well ring around each wellfield shall be recorded as a deed notice with the appropriate county;

(ii) The top of the plugging mixture in each abandoned monitor well in the monitor well ring around each wellfield shall clearly show on a steel plate placed atop the sealing mixture, the permit number, well identification number, and date of plugging. All marking devices shall be installed at a minimum depth of two feet below the land surface.

(j) Plugging and conversion activities shall be reported in accordance with the requirements in Section 15 of this Chapter.

Section 11. **Aquifer Classification and Exemption.**

(a) Injections from Class III wells shall be restricted to those production zones that:

(i) Have been classified by the Wyoming Department of Environmental Quality as Class V aquifers under Chapter 8 of the Water Quality Division Rules and Regulations; and

(ii) Have concentrations of Total Dissolved Solids:

(A) Less than 10,000 milligrams per liter; meet the definition of an "Underground Source of Water " as defined in Section 1 of this Chapter; and have been approved

as an exempted aquifer by the U.S. Environmental Protection Agency pursuant to Section 11(b) of this Chapter; or

(B) Greater than 10,000 milligrams per liter; and

(iii) Are located in a geologic and hydrologic setting in which movement of fluid, containing any contaminant, into unauthorized zones can be prevented.

(b) An aquifer, or a portion thereof, which meets the criteria for an Underground Source of Water as defined in Section 1 of this Chapter may be designated as an "exempted aquifer":

(i) If it meets the following criteria:

(A) It does not currently serve as a source of water for uses as described in Chapter 8 of the Water Quality Rules and Regulations; and

(B) It cannot now and will not in the future serve as a source of drinking water as defined by the EPA by meeting standards listed in 40 CFR 146.4(b) (as amended December 10, 2010);

(ii) As demonstrated by information in the permit or Research and Development License application, including:

(A) A map and description identifying and describing in geographic and/or geometric terms (such as vertical and lateral limits and gradient) all aquifers or parts thereof which the applicant proposes to exempt;

(B) Information to document that the exemption area is commercially producible as demonstrated by:

(I) The permit boundary;

(II) A description and calculations that support the proposed distance beyond the monitor well ring boundary required to mine and to restore groundwater;

(III) General information on the mineralogy and geochemistry of the receiving strata; and

(IV) The type of mining technology used to extract the mineral; and

(C) Analysis of the amenability of the receiving strata to the proposed mining method; and a timetable of planned development of the receiving strata.

(c) A request for an aquifer exemption shall be presented by the WQD Administrator to the EPA as a state program revision pursuant to 40 CFR 145.32 (as amended December 10, 2010).

Section 12. **Permit and Research and Development License Requirements.**

(a) The following requirements shall apply to permits and Research and Development Testing Licenses. Each requirement shall be incorporated into the permit or Research and Development License either expressly or by reference. If incorporated by reference, a specific citation to these regulations must be given in the permit or Research and Development License.

(i) The operator has a duty to comply with all terms and requirements of the approved permit or Research and Development License.

(A) Any permit or Research and Development License noncompliance is grounds for enforcement action and any Research and Development License noncompliance is grounds for denial of a Research and Development License renewal application.

(B) The filing of a request by the operator for a permit or Research and Development License revision per Chapter 7 or Section 14 of this Chapter does not waive any permit or Research and Development License condition.

(ii) It shall not be a defense for an operator in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the requirements of this permit or Research and Development License.

(iii) The operator has a duty to take all reasonable steps to minimize, mitigate, or correct any adverse impact on the environment resulting from noncompliance with this permit or Research and Development License.

(iv) The operator shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the operator to achieve compliance with the terms and requirements of the permit or Research and Development License. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the terms and requirements of the permit or Research and Development License.

(v) The permit or Research and Development License does not convey any property rights of any sort or any exclusive privilege.

(vi) The operator has a duty to provide to the Administrator, within a time specified, any information which the Administrator may request to determine whether cause exists for revising or revoking the permit or Research and Development License, or to determine

compliance with this permit or Research and Development License. The operator shall also furnish to the Administrator, upon request, copies of records to be kept as required by the permit or Research and Development License.

(vii) In compliance with all the provisions of Chapter 7 and Section 14 of this Chapter:

(A) The operator shall give notice to the Administrator as soon as possible of any planned physical alterations or additions to the permitted or licensed facility; and

(B) When the operator becomes aware of failure to submit any relevant facts in a permit or Research and Development License application, or submitted incorrect information in a permit or Research and Development License application or in any report to the Administrator, the operator shall promptly submit such facts or information to the Administrator.

(viii) Prior to requesting bond reduction for abandonment of a Class III well or wells within a wellfield area or for conversion of a Class III well to another use, the operator shall provide documentation and receive approval from the Administrator regarding the plugging of the well or wells within a wellfield area or conversion of the well.

(ix) The following shall also constitute requirements of the permit:

(A) Plans for corrective action, including injection pressure limitation, as specified in Section 20(a) of this Chapter;

(B) Monitoring requirements as specified in Section 16 of this Chapter;

(C) Schedule and methods to establish and maintain Mechanical Integrity as specified in Section 9 of this Chapter: and

(D) A plan for well repairs, plugging, and conversion as specified in Section 10 of this Chapter.

(x) The approved permit or Research and Development License shall include maximum injection volumes and/or pressures necessary to assure: fractures are not initiated in the confining zone; injected fluids do not migrate into any unauthorized zone; and formation fluids are not displaced into any unauthorized zone. Operating requirements shall, at a minimum, specify that:

(A) Except during well stimulation, injection pressure at the wellhead shall be calculated to assure that the pressure in the production zone during injection does not initiate new fractures or propagate existing fractures. In no case, shall injection pressure initiate fractures in the confining zone, if confinement is present, or cause the migration of injection or formation fluids into an unauthorized zone;

(B) Injection between the outermost casing protecting unauthorized

zones and the well bore is prohibited.

(xi) No operator shall construct, operate, maintain, convert, plug, abandon, or conduct any other injection or mining-related activity in a manner that allows the movement of fluid containing any contaminant into zones or intervals other than those zones authorized in the approved permit or Research and Development License. The operator shall have the burden of showing that the requirements of this paragraph are met.

Section 13. **Duration of Permits and Research and Development Licenses.**

(a) Permits shall be issued:

(i) For a period coinciding with the estimated schedules for termination of all mining and reclamation activities in conformance with the approved mining plan (Section 5(a)(ii)) and reclamation plan (Section 6(a)(i)) as provided in W.S. §§ 35-11-405(a) and (b); and

(ii) With the option for revising the mining and reclamation schedules, as provided in W.S. §§ 35-11-411(a)(iii) and 429(a)(iv).

(b) The Administrator shall review the permit at least once every five years to determine whether it should: remain unchanged; be revised in accordance with the requirements of Section 14 of this Chapter; or revoked in accordance with the requirements of Section 23 of this Chapter.

(c) As specified in W.S. § 35-11-431(a), a Research and Development License is issued for up to one year and may be renewed annually.

Section 14. **Revisions to Class III Well Portions of an In Situ Mine Permit or Research and Development License.**

(a) A permit, license to mine, or Research and Development License may be revised as a significant or non-significant revision as specified in Sections 14(b) and 14(c), respectively, to address one or more of the following considerations, subject to the limitations of Sections 14(d) and 14(e).

(i) A revision may be necessary to address:

(A) A permit condition per Section 12 of this Chapter;

(B) An excursion or other aspect of noncompliance per Sections 18 and 19 of this Chapter and W.S. 35-11-429(a)(ii); or

(C) A corrective action or compliance schedule per Section 20 of this Chapter;

(D) A concern noted during the five-year review per Section 13 of this

Chapter; or

(E) An objection by the Administrator to a part of the Annual Report per W.S. § 35-11-411(b);

(F) A change that could jeopardize reclamation or protection of any waters of the state per W.S. 35-11-429(a)(iv);

(ii) Any interested person, including the operator may request a revision provided the request is in writing and contains facts or reasons supporting the request. If the Administrator decides that a request for a permit or license revision is not justified, he or she shall send the requester a brief written response giving the reason(s) for the decision. Denials of requests for revisions are not subject to public notice and comment;

(iii) If the Administrator requires the operator to revise any Class III Well portions of a permit or Research and Development License, he or she shall prepare a letter to the operator specifying the needed changes and additional information.

(b) The occurrence of any of the following with regards to the Class III Well portion of a permit or Research and Development License shall result in the operator being required to revise the permit or Research and Development License. These revisions shall be treated as significant revisions and require public notice as specified in Chapter 7 of these regulations and Section 21 of this Chapter. In addition, the fact sheet will be updated for these revisions:

(i) Any material or substantial alterations or additions to the facility which occurred after issuance of the permit or license, which justify the application of permit or license conditions that are different or absent in the existing permit or license, including:

(A) Any increase in the amount of land related to installation or operation of additional Class III wells, from that which was approved in the original in situ mining permit or Research and Development License. Such a revision shall include (if not already presented in the permit or Research and Development License) the information required in W.S. § 35-11-428 and the requirements of Sections 5 through 20 this Chapter. However, if the increase in the amount of land is for purposes unrelated to installation or operation of Class III wells, then the provisions of Section 2(b)(ii) of Chapter 7 apply.

(ii) The UIC standards or regulations on which the permit or license was based have been changed by promulgation of new or amended standards or regulations or by judicial decision after the permit or license was issued;

(iii) The Administrator determines good cause exists for modification of a compliance schedule, such as an act of God, strike, flood, or materials shortage or other events over which the permittee has little or no control and for which there is no reasonably available remedy.

(iv) Cause exists for revocation, as described in Section 23 of this Chapter, but

the Administrator determines that revision is appropriate;

(v) A determination is made that the activity endangers human health or the environment and can only be regulated to acceptable levels by a permit revision.

(c) A non-significant revision to any Class III Well portion of a permit or Research and Development License shall meet the requirements of Chapter 7 of these regulations, except that a non-significant revision, with operator consent, shall be for the following reasons only:

(i) To correct typographical errors;

(ii) To require more frequent monitoring or reporting by the operator;

(iii) To change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing schedule of compliance and does not interfere with attainment of the final compliance date requirement;

(iv) To allow for a change in ownership or operational control of a facility where the Administrator determines that no other change in the permit or Research and Development License is necessary provided that a written agreement is submitted in a format and on forms required by the Administrator containing a specific date for transfer of permit or Research and Development License responsibility, coverage, and liability between the current operator and new operator;

(v) To change quantities or types of fluids injected which are within the capacity of the facility as permitted or licensed and would not interfere with the operation of the facility or its ability to meet conditions described in the permit or Research and Development License and would not change its classification;

(vi) To change well construction requirements approved by the Administrator pursuant to Section 8 of this Chapter, provided that any such alteration shall comply with the requirements of Section 8; or

(vii) To amend a well plugging/conversion plan which has been updated under Section 10 of this Chapter;

(viii) To submit a wellfield data package that conforms to the specifics of the permit document.

(d) Suitability of the Class III well location will not be considered at the time of permit revision unless new information or standards indicate that a threat to human health or the environment exists which was unknown at the time of permit issuance.

(e) Only those conditions to be revised shall be reopened when a revision is necessary. All other aspects of the existing permit shall remain in effect for the duration of the unrevised permit. In the case that a portion of the permit is in violation of law, that portion of the

permit shall be opened for review.

(f) Reviews and decisions on a permit revision application shall be conducted according to the provisions in Chapter 7.

Section 15. **Reporting Requirements.**

(a) All chemical analyses submitted to the Administrator in accordance with a valid permit or Research and Development License shall include:

(i) A description of, or reference for, the procedures and methods used for sample collection, preservation, and quality control;

(ii) The name, address, and telephone number of the laboratory performing the analyses, and the laboratory identification number; and

(iii) Signatures as required by Section 2(g) of this Chapter.

(b) Quarterly monitoring reports shall include, at a minimum:

(i) The results of monitoring required per Sections 16(a)(ii) and (iii) of this Chapter.

(ii) The results of all mechanical integrity testing conducted during that quarter, including the following information identified by Class III, Production, or Monitor well;

(A) Date of mechanical integrity testing;

(B) Identification of the method by which mechanical integrity was established;

(C) Verification of whether the mechanical integrity was or was not established in a well, including:

(I) Identification of a well which failed to have mechanical integrity established and consequently required repair; and

(II) A description of the method of plugging or repair.

(iii) The status of corrective action on defective wells, required per Section 20 of this Chapter.

(iv) The results of well repair and plugging required per Section 10 of this Chapter, including:

(A) A statement that:

(I) Wells were plugged in accordance with the approved permit or Research and Development License; or

(II) Documentation that prior approval was obtained from the Administrator where plugging procedures differed from the procedures approved in the permit or Research and Development License. This documentation shall be included in the report, and contain a description of the procedures used specifying the differences between the permit or Research and Development License approved method and the alternate method; and

(B) To assure that the well is filled and there has been no bridging of the sealing material, the operator should provide LQD with documentation that the volume of material placed in the well at least equals the volume of the empty hole.

(c) Annual reports shall include, at a minimum:

(i) All information required by W.S. § 35-11-411; and

(ii) A map(s) showing the location of all wells installed in conjunction with the mining activity and showing all areas where:

(A) Groundwater restoration has been achieved, is actively taking place and is expected to commence during the next year;

(B) Mining is expected to commence during the next year;

(iii) The total quantity of recovery fluid injected and the total quantity of recovery fluid extracted during the reporting period for each well-field area including a description of how these quantities were determined;

(iv) Monitoring program results pursuant to Section 5(a)(xvii) and Section 16 of this Chapter, which have not been previously reported; and

(v) An updated potentiometric surface map(s) for all aquifer(s) that are or may be affected by the mining operation may be requested at the Administrator's discretion.

(vi) Supporting data sufficient to demonstrate groundwater restoration in accordance with Section 6(a)(xiii) of this Chapter.

(d) During excursions, results from excursion-related monitoring shall be reported in accordance with the requirements of Section 19 of this Chapter.

(e) Well abandonment reports shall be made to the Land Quality Division and the State Engineer’s Office:

(i) Within sixty days after the abandonment of any well which has artesian or gassy flow at the surface. The report, set forth in affidavit form, should contain the location of

the well to the depth of the well, estimated rate of flow, and the facts of the plugging technique.

(ii) Within twelve months after the abandonment of any well. The report should include the location of the well to the nearest 40-acre legal subdivision (quarter, quarter, section), survey locations utilizing decimal Latitude and Longitude coordinates, the depth the well, and the facts of the plugging technique.

Section 16. **Monitoring Requirements.**

(a) A detailed monitoring program shall be approved by the Administrator and included in the permit or Research and Development License application, as required by Section 5(a)(xv) of this Chapter, and shall constitute a requirement of the permit. The program shall describe the procedures for monitoring the quantity and quality of waters that may be affected by the operation before mining through reclamation and shall, at a minimum, specify:

(i) Requirements for:

(A) The proper use, maintenance, and installation, when appropriate, of monitoring equipment or methods (including biological monitoring methods when appropriate);

(B) The intervals and frequency of monitoring, sufficient to yield data which are representative of the monitored activity, including continuous monitoring when appropriate;

(C) Tests and methods used to generate monitoring data.

(ii) Monitoring of:

(A) The nature of the injected fluids with sufficient frequency, and at least monthly, to yield representative data on the characteristics of the fluid. Whenever the injection fluid is modified to the extent that the previous analysis is incorrect or incomplete, a new analysis shall be provided to the Administrator;

(B) The injection pressure and either flow rate or volume at least weekly or metering and daily recording of injected and produced fluid volumes as appropriate; and

(C) Class III injection wells may be monitored for the parameters required by subsections (A) and (B) on a field or project basis rather than an individual well basis by manifold monitoring. Manifold monitoring may be used in cases of facilities consisting of more than one injection well operating with a common manifold. Separate monitoring systems for each well are not required provided the operator demonstrates that manifold monitoring of injection pressure is comparable to individual well monitoring.

(iii) Requirements for:

(A) Semi-monthly monitoring of the fluid level in the production zone, where appropriate;

(B) Semi-monthly monitoring of the water levels and parameters chosen to measure the water quality in monitoring wells;

(C) Quarterly monitoring of the water levels and parameters chosen to detect any movement of injected fluids, process by-products, or formation fluids in the monitoring wells where the injection wells penetrate an Underground Source of Water in an area subject to subsidence or catastrophic collapse (Section 8(h)(iii) of this Chapter); and

(D) Periodic monitoring of pressure changes or other physical parameters if such monitoring provides for more rapid detection of excursions.

(iv) A description of procedures and schedules used to:

(A) Detect and confirm excursions; and

(B) Monitor excursions and excursion control efforts.

(v) Samples and measurements taken for the purpose of monitoring shall be representative of the permitted activity.

Section 17. **Maintenance and Retention of Records.**

(a) The operator shall maintain records at the mine site in accordance with W.S. § 35-11-430(b), including, for any laboratory analyses that an operator is allowed to retain on site for inspection rather than submit to the Administrator:

(i) A description of, or reference for, the procedures and methods used for sample collection, preservation, and quality control;

(ii) The name, address, and telephone number of the laboratory performing the analyses, and the laboratory identification number; and

(b) The operator shall:

(i) Retain records of all monitoring information, including the following:

(A) Records of all data used to complete permit and license applications and any supplemental information submitted under Sections 3, 4, 5 and 6 of this Chapter;

(B) Calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by the permit or Research and Development License, and records of all data used to complete the

application for the permit or Research and Development License;

(C) The nature and composition of all injected fluids; and

(D) Information requested by the Administrator for inclusion in the Annual Report as required by W.S. § 35-11-411.

(ii) Retain the records listed in subsections 17(b)(i)(A) through 17(b)(i)(D) at the mine site until termination of the permit or Research and Development License, unless otherwise authorized by the Administrator. However, the record retention schedule cannot be less than three years after the date of the sample, measurement, report, or application. The Administrator may require the operator to deliver the records to the Administrator at the conclusion of the retention period.

Section 18. **Noncompliance.**

(a) The operator shall:

(i) Verbally report to the Administrator any noncompliance which may endanger public health or the environment, within 24 hours of the time the operator becomes aware of the occurrence, including:

(A) Any monitoring or other information which indicates that any contaminant may cause endangerment to an Underground Source of Water (USW) or unauthorized zone; and

(B) Any noncompliance with a permit or Research and Development License or malfunction of the injection system which may cause fluid migration into, or between USWs or unauthorized zones.

(ii) Provide a written report to the Administrator within five days of the operator becoming aware of the noncompliance occurrence. The Administrator of the Land Quality Division will forward one copy to the Administrator of the Water Quality Division. The written report shall describe:

(A) The noncompliance and its cause;

(B) The period of noncompliance, including exact dates and times;

(C) If the noncompliance has not been corrected, the anticipated time it is expected to continue;

(D) Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and

(E) The procedures for mitigating or controlling the excursion.

(iii) Report all instances of noncompliance, not reported under Sections 18(a)(i) and (iii), at the time monitoring reports are submitted. The reports shall contain the information listed in Sections 18(a)(i) and (ii), as applicable.

Section 19. **Excursions**

(a) "Confirmation" of an excursion means that an excursion detected in a regularly scheduled sampling event is subsequently detected in a second or third sampling event conducted in accordance with the following requirements:

(i) The second sampling event shall be conducted within 24 hours of the receipt of the results from the first sampling event in which the excursion was initially detected. If the results from the first and second sampling event both indicate an excursion has occurred, then the excursion will be considered confirmed for the purpose of meeting the reporting requirements of W.S. § 35-11-429(a).

(ii) If the results from the first and second sampling events provide conflicting information about whether or not an excursion has occurred, then a third sampling event must be conducted within 24 hours of the receipt of the results from the second sampling event. However, if the results of the confirmatory sampling are not complete within 30 days of the initial sampling event which indicated an excursion might be present, then the excursion will be considered confirmed for the purpose of meeting the reporting requirements of W.S. § 35-11-429(a).

(b) The operator shall:

(i) Verbally report any confirmed excursion to the Administrator within 24 hours of confirmation of the excursion and;

(ii) Submit a written report to the Administrator within five days of the confirmation of the excursion detailing the procedures for mitigating or controlling the excursion. The Administrator of the Land Quality Division will forward one copy to the Administrator of the Water Quality Division.

(c) An excursion is controlled when it can be demonstrated through water quality and groundwater gradient or if applicable, pressure measurements, that recovery fluid in unauthorized areas is declining.

(i) If an excursion is not controlled within 30 days following confirmation of the excursion, a sample must be collected from each of the affected monitoring wells and analyzed. The parameters to be analyzed shall be site specific and based on baseline data.

(ii) If an excursion is not controlled within 60 days following confirmation of the excursion, the Administrator may, after consultation with the Director, terminate the mining operation and revoke the permit or Research and Development License or modify the mining operation and require modification of the permit or Research and Development License.

Modifying the operation may include: sampling of additional wells for the parameters in Section 19(c)(i); installation of additional monitor wells; termination of injection in the portion of the well field in which the excursion originated; or a combination of approaches to assure control within the necessary time frames.

(iii) If the excursion is controlled, but the fluid which moved out of the production zone during the excursion has not been recovered within 60 days following confirmation of the excursion (i.e., the monitor well is still "on excursion"), the operator will submit, within 90 days following confirmation of the excursion, a plan and compliance schedule, acceptable to the Department, for bringing the well (or wells) off excursion. The plan and compliance schedule can be submitted as part of the monthly excursion report required in Section 19(d) of this Chapter. The compliance schedule shall meet the requirements of Section 20(b) of this Chapter.

(d) In addition to the excursion notifications and control plan required above, a monthly report on the status of an excursion shall be submitted to the Administrator beginning the first month the excursion is confirmed and continuing until that excursion is over. The monthly report shall be a requirement of the compliance schedule and shall include, at a minimum:

(i) Concentrations of UCL parameters and groundwater elevations in all monitoring wells on excursion and, as necessary, surrounding wells;

(ii) Such information deemed necessary by the Administrator to show that the excursion is being controlled and that the bond amount for groundwater restoration remains sufficient;

(iii) Information on steps taken to control the excursion.

Section 20. **Corrective Actions and Compliance Schedules**.

(a) Corrective actions are:

(i) Needed when a well is improperly sealed, completed, or abandoned, in which case:

(A) Operators shall provide the well information, as required in Sections 4(a)(xi) and (xii) of this Chapter, and the corrective action plan as required in Section 5(a)(xvii) of this Chapter. Where the Administrator's review of the plan indicates that the operator's plan is inadequate (based on the factors presented below), the Director shall require the operator to revise the plan, prescribe a plan for corrective action as a term and condition of the permit, or deny the application.

(B) In determining the adequacy of corrective action proposed by the operator and in determining the additional steps needed to prevent fluid movement into an unauthorized zone, the following criteria and factors shall be considered by the Administrator:

(I) Nature and volume of injected fluid;

(II) Chemical nature and volume of native groundwater;

(III) Compatibility of injected fluid and native groundwater;

(IV) Potentially affected population;

(V) Geology;

(VI) Hydrology;

(VII) Proposed method of operation as required by Section 5(a)(x) of this Chapter or history of the injection operation if the corrective action is needed in response to amending new wells into an existing operation;

(VIII) Completion and plugging records;

(IX) Plugging procedures in effect at the time the well was abandoned; and

(X) Hydraulic connections with unauthorized zones.

(ii) Needed if any water quality monitoring of an Underground Source of Water or unauthorized zone indicates the movement of any contaminant into an Underground Source of Water or unauthorized zone, except as specifically authorized in the approved permit or Research and Development License, in which case, the Administrator shall prescribe such additional requirements for construction, corrective action, operation, monitoring, or reporting (including closure of the injection well and limitation of injection pressure) as are necessary to prevent such movement. These additional requirements shall be imposed by requiring the operator to revise the permit or Research and Development License, the permit or Research and Development License may be revoked, or appropriate enforcement action may be taken if the permit or Research and Development License has been violated.

(iii) The status of corrective action on defective wells shall be reported in accordance with the requirements of Section 15 of this Chapter.

(b) When appropriate, a permit or license may include, or be revised to include, a compliance schedule leading to compliance with the applicable statutes and regulations. The schedule shall be applicable whether the operator is continuing or ceasing regulated activities.

(i) Any compliance schedule shall require compliance as soon as possible, and in no case later than 3 years after the date the schedule is put into effect. In addition:

(A) The schedule shall set forth interim requirements, the dates for their achievement, and a projected date of compliance with all the requirements;

(B) The time between interim dates shall not exceed 1 year; and

(C) The schedule shall specify dates for the submission of progress reports, no later than 30 days following each interim date and the final date of compliance.

Section 21. **Public Notice, Public Hearing, Comment, and Decision Requirements.**

(a) In addition to the requirements of W.S. §§ 35-11-406(g), (j), and (k) and Chapter 7, public notice for actions related to in situ permits or Research and Development Licenses, except permit or license revocation, shall be given by the following methods. Public notice for permit or license revocation shall be given by the methods in Section 21 of this Chapter.

(i) All public notices issued under this Section shall contain the following:

(A) Name and address of the office processing the permit action for which notice is being given;

(B) Name and address of the operator and, if different, of the facility or activity regulated by the permit;

(C) A brief description of the business conducted at the facility or activity;

(D) Name, address and telephone number of a person from whom interested persons may obtain further information;

(E) A brief description of the comment procedures, including a statement of procedures to request a hearing or, if a hearing has already been scheduled, the time and place of that hearing, and other procedures by which the public may participate in the final permit decision; and

(F) Any additional information considered necessary or proper.

(ii) The Administrator shall mail a copy of the notice to the following persons (any person otherwise entitled to receive notice under this paragraph may waive his or her rights to receive notice for any classes or categories of permits):

(A) Any other agency (including EPA when the draft permit is prepared by the State) which the Administrator knows has issued or is required to issue a permit for the same facility or activity under the following programs: Resource Conservation and Recovery Act (RCRA); UIC; Prevention of Significant Deterioration (or other permit requirement under the Clean Air Act); National Pollution Discharge Elimination System (including sludge management permits); and Section 404 of the Clean Water Act.

(B) Federal and State agencies with jurisdiction over fish, shellfish, and wildlife resources, the Advisory Council on Historic Preservation, State Historic

Preservation Officers, including any affected Indian Tribes, and the Wyoming Oil and Gas Commission.

(C) Persons on a mailing list developed by including:

(I) Those who request in writing to be on the list;

(II) Soliciting persons for "area lists" from participants in past permit proceedings in that area; and

(III) Persons notified of the opportunity to be put on the mailing list through periodic publication in the public press. The Administrator may update the mailing list from time to time by requesting written indication of continued interest from those listed. The Administrator may delete from the list the name of any person who fails to respond to such a request.

(D) Any unit of local government having jurisdiction over the area where the facility is proposed to be located.

(E) Each State agency having any authority under State law with respect to the construction or operation of such facility.

(iii) In addition to mailing a copy of the public notice, the Administrator shall mail or electronically transfer a copy of the fact sheet, permit application or draft permit to the following persons:

(A) The applicant;

(B) Any other agency (including EPA when the draft permit is prepared by the State) which the Administrator knows has issued or is required to issue a permit for the same facility or activity under the following programs: Resource Conservation and Recovery Act (RCRA); UIC; Prevention of Significant Deterioration (or other permit requirement under the Clean Air Act); National Pollution Discharge Elimination System (including sludge management permits); and Section 404 of the Clean Water Act; and

(C) Federal and State agencies with jurisdiction over fish, shellfish, and wildlife resources, the Advisory Council on Historic Preservation, State Historic Preservation Officers, including any affected Indian Tribes.

(iv) To supplement the required methods of public notice listed above, public notice can also be given by any other method reasonably calculated to give actual notice of the action in question to the persons potentially affected by it, including press releases or any other forum or medium to elicit public participation.

(b) Objections may be filed in accordance with W.S. § 35-11-406(k), which objections shall list one or more reasons for denying a permit or Research and Development

License revision application as set out in W.S. § 35-11-406(m). If such written objections are filed, a public hearing shall be held in accordance with W.S. § 35-11-406(k) and the requirements of this Chapter. In addition to the hearing notice requirements described in W.S. § 35-11-406(k), the public notice of a hearing shall contain the following information:

(i) Reference to the date of previous public notices relating to the permit;

(ii) Date, time, and place of the hearing;

(iii) A brief description of the nature and purpose of the hearing, including the applicable rules and procedures.

(c) A decision on the application will be made by the Director:

(i) Within 30 days after completion of the notice period if no hearing is requested; or

(ii) If a hearing is requested:

(A) The Environmental Quality Council shall issue findings of fact and make a decision on the application within 60 days after the final hearing; and

(B) The Director will make a decision on the application within fifteen days from receipt of any findings of fact and decision of the Council.

(iii) In addition to the requirements of W.S. § 35-11-406(p), at the time that any permit or Research and Development License is issued, the Director shall issue a response to objections. This response shall:

(A) Specify which provisions, if any, of the proposed permit have been changed in the final approved permit, and the reasons for the change;

(B) Briefly describe and respond to all significant objections on the permit application raised during the public comment period, or during any hearing; and

(C) Be sent to the applicant and objectors, along with a copy of the Director's decision, and be available to the public.

(iv) The Administrator will publish a summary of the decision in a newspaper of general circulation in the general area of the proposed operation.

(d) For permit or license revocation, all the provisions of this Chapter shall apply, except that the Director shall cause notice of the revocation to be published.

Section 22. **Confidential Records.**

(a) Information submitted to satisfy the requirements of this Chapter may be held confidential pursuant to W.S. § 35-11-1101.

Section 23. **Revocation.**

(a) A permit, license to mine, or Research and Development License may be revoked by the Administrator to address one or more of the following:

(i) Revocation may be necessary to address:

(A) An excursion or other aspect of noncompliance per Sections 18 and 19 of this Chapter; or

(B) One of the items listed in Section 23(b).

(ii) Any interested person, including the operator, may request revocation provided the request is in writing and contains facts or reasons supporting the request. If the Administrator decides that a request for revocation is not justified, he or she shall send the requester and operator a brief written response giving the reason(s) for the decision. Denials of requests for revocations are not subject to public notice and comment;

(iii) If the Administrator revokes any Class III Well portions of a permit or Research and Development License, he or she shall prepare a letter to the operator specifying the needed changes and additional information.

(b) The Director or Administrator may revoke a permit, License to Mine, or Research and Development License:

(i) If an excursion cannot be controlled or mitigated per W.S. § 35-11-429(a);

(ii) For failure to comply with permit terms and conditions per W.S. §§ 35-11-412(b) and (c);

(iii) For the operator's failure in the application or during the issuance process to disclose fully all relevant facts or for misrepresenting any relevant facts at any time, as provided in W.S. §§ 35-11-409(a) and 412(a); and

(iv) Per the provisions of W.S. §§ 35-11-109(a)(xiii) and 110(b);

(c) A revocation requires public notice as specified in Section 3 of Chapter 7 of these regulations and Section 21 of this Chapter.