

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
PERMIT TO CONSTRUCT

PERMIT NO. 08-805

REFERENCE PERMIT NO. n/a

City of Sundance, Orr Subdivision – Temporary Pressure Sustaining Pump

This permit hereby authorizes the applicant:

City of Sundance  
P.O. Box 542  
Sundance, WY 82729

to construct, install or modify the Orr Subdivision – Temporary Pressure Sustaining Pump, according to the procedures and conditions of the application number **08-805**. The facility is located north of the City of Sundance, in the County of Crook, further located in the SE ¼, NW ¼, Section 6, Township 51 North, Range 62 West. All construction, installation, or modification allowed by this permit shall be completed within one year of issuance.

The issuance of this permit confirms that the Department of Environmental Quality (DEQ) has evaluated the application submitted by the permittee and determined that it meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the engineer's design are the responsibility of the permittee, owner, and/or operator. Granting this permit does not imply that the Wyoming DEQ guarantees or ensures that the permitted facility meets applicable operational requirements. Compliance with applicable standards remains the responsibility of the permittee.

Nothing in this permit constitutes an endorsement by the DEQ of the construction or the design of the facility described herein. This permit verifies only that the submitted application meets the design and construction standards imposed by the DEQ statutes, rules and regulations. The DEQ assumes no liability for, and does not in any way guarantee or warrant the performance or operation of the permitted facility. The permittee, owner and/or operator are solely responsible for any liability arising from the construction or operation of the permitted facility. By issuing this permit, the state does not waive its sovereign immunity.

The permittee shall allow authorized representatives from the DEQ, Water Quality Division, to enter and inspect any property, premise or place on or at which the facility is located or is being constructed or installed for the purpose of investigating actual or potential sources of water pollution, and for determining compliance or non-compliance with any rules, regulations, standards, permits or orders.

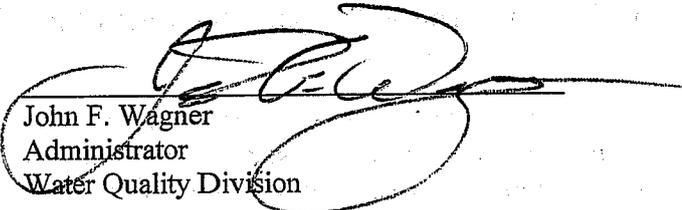
Nothing in this permit shall be construed to preclude the institution of any legal action or other proceeding to enforce any applicable provision of law or rules and regulations. It is the duty of the permittee, owner and/or operator to comply with all applicable federal, state and local laws or regulations in the exercise of its activities authorized by this permit. The issuance of this permit does not convey any property rights in either real or personal property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

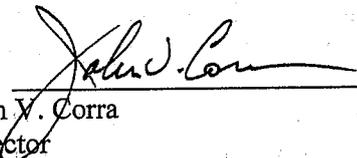
The permittee shall construct and shall operate the permitted facility in accordance with the statements, representations, procedures, terms and conditions of the permit application, supporting documents and permit. This permit does not relieve the permittee from any duty to obtain any other permit or authorization that may be required by any provision of federal, state or local laws.

In carrying out its activities authorized by this permit, the permittee, owner and/or operator shall comply with all of the following permit conditions:

- 1 of 4 The applicant will provide immediate oral or written notice to the Northeast District, Water Quality Division, 152 North Durbin, Suite 100, Casper, WY, 82601, Phone 307-473-3465, FAX 307-473-3458, in accordance with the provisions of Section 11, Chapter 3, Wyoming Water Quality Rules and Regulations of any changes or modifications which are not consistent with the terms and conditions of this permit.
- 2 of 4 Within sixty days of completion of construction of the authorized facility, the applicant will submit to the Northeast District, Water Quality Division, 152 North Durbin, Suite 100, Casper, WY, 82601 a certification of completion signed by the Engineer of Record or the owner. A form titled "Certificate of Completion" has been provided.
- a. Date that construction of the facility was completed; and
  - b. Date that the facility was placed in operation; and
  - c. Certification the facility was constructed in accordance with the terms and conditions of the permit; or
  - d. Certification the facility was completed with changes or modifications. Submittal of as-constructed plans and specifications for the system as it was constructed, certified by an engineer if appropriate is required. All modifications or deviations from the authorized plans must be highlighted.
- 3 of 4 The Temporary Pressure Sustaining Pump for the Orr Subdivision will be allowed to be in place until such time as the new replacement storage tank for the Cole Tank can be constructed and put into service. A separate Permit to Construct will be required.
- 4 of 4 The review and approval of this permit is based upon the items identified in the attached "Statement of Basis".

AUTHORIZED BY:

  
John F. Wagner  
Administrator  
Water Quality Division

  
John V. Corra  
Director  
Department of Environmental Quality

12/23/08  
Date of Issuance

KLF/rm/8-1027

cc: Kenneth C. Rathbun, P.E., Bearlodge LTD., Inc., P.O. Box 130, Sundance, WY 82729

## STATEMENT OF BASIS

1. Permit Number: **08-805**
2. Application reviewed for compliance with the following applicable regulations :  
Chapter 3 and Chapter 12 of the Wyoming Water Quality Rules and Regulations
3. Does the permit comply with all applicable regulations identified above?  
  
YES
4. Facilities include components not specifically covered or differing from applicable regulations and approval is based upon a deviation in accordance with Section 5.  
  
N/A
5. A review to determine groundwater impacts in accordance with Section 17, Chapter 3 is not required.
6. Documentation of Statement of Basis: The archive file for this permit includes adequate documentation of all sections of this Statement of Basis.

## CERTIFICATION

The issuance of this permit is based upon a review of the application package submitted in accordance with the requirements of Chapter 3, Section 6, Wyoming Water Quality Rules and Regulations. This review was performed by Karen L. Farley, P.E., and completed on December 19, 2008. Permit issuance is recommended based upon statements, representations, and procedures presented in the permit application and supporting documents, permit conditions, and the items identified in this "Statement of Basis."

**From:** Farley, Karen  
**Sent:** Friday, December 19, 2008 4:30 PM  
**To:** Barnes, Barb; Martinez, Rebecca  
**Cc:** Harmon, Lou; Pagorek, Suzanne  
**Subject:** permit for sigs  
**Attachments:** 08-805 Orr Subdivision Temporary Pressure Sustaining Pump Permit.doc

EA 12-19-08

Here is a permit for signatures. It was received 12/4/08, reviewed 12/12/08 (email), UR2 12/12/08, and I verbally gave them an approval on 12/15/08.

Lou, this is the tank that was sitting on the hill with potentially imminent slope failure. The Orr Subdivision (6 lots) is the only subdivision that would be affected from a pressure standpoint if the tank were taken off line (working pressures below 35 psi). The pressure pump is being installed as a temporary fix while a new tank can be designed, permitted, and constructed.

I'll be back in Monday morning for a short time to clean things up before "hopefully" being on vacation. As you know, I'll be in town so the temptation to come to work might crop up once or twice 😊

Thanks,

Karen L. Farley, P.E.  
NE District Engineer  
152 North Durbin, Ste. 100  
Casper, WY 82601  
307-473-3478

Dane

12-22-08  
Rm

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
"AS-BUILT" PERMIT TO CONSTRUCT

PERMIT NO. 08-806

Double Tanks POD, Pit 24-26-4775

This permit hereby authorizes the applicant:

Lance Oil and Gas Company Inc.  
Attn.: Mr. Shane Gasvoda  
1400 East Lincoln  
Sheridan, WY 82801

to have installed two (2) compliance monitoring wells according to the procedures and conditions of the application number 08-806. The facility is proximal to a coalbed methane produced water impoundment located in Township 47N, Range 75W, Section 26 in the county of Campbell, in the State of Wyoming. All construction, installation, or modification allowed by this permit has been completed.

The issuance of this permit confirms that the Wyoming Department of Environmental Quality (DEQ) has evaluated the application submitted by the permittee and determined that it meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the engineer's design are the responsibility of the permittee, owner, and operator.

Nothing in this permit constitutes an endorsement by DEQ of the construction or the design of the facility described herein. This permit verifies only that the submitted application meets the design and construction standards imposed by Wyoming statutes, rules and regulations. The DEQ assumes no liability for, and does not in any way guarantee or warrant the performance or operation of the permitted facility. The permittee, owner and operator are solely responsible for any liability arising from the construction or operation of the permitted facility. By issuing this permit, the State of Wyoming does not waive its sovereign immunity.

The permittee shall allow authorized representatives from DEQ to enter and inspect any property, premise or place on or at which the facility is located or is being constructed or installed for the purpose of investigating actual or potential sources of water pollution, and for determining compliance or non-compliance with any rules, regulations, standards, permits or orders.

Nothing in this permit shall be construed to preclude the institution of any legal action or other proceeding to enforce any applicable provision of law or rules and regulations. It is the duty of the permittee, owner and operator to comply with all applicable federal, state and local laws or regulations in the exercise of its activities authorized by this permit.

The issuance of this permit does not convey any property rights in either real or personal property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

The permittee shall operate the permitted facility in accordance with the statements, representations, procedures, terms and conditions of the permit application, supporting documents and permit. This permit does not relieve the permittee from any duty to obtain any other permit or authorization that may be required by any provision of federal, state or local laws.

In carrying out its activities authorized by this permit, the permittee, owner and operator shall comply with all of the following permit conditions:

- 1 of 4 The applicant will provide immediate oral or written notice to the Wyoming Department of Environmental Quality/Water Quality Division, Groundwater Section, 1866 South Sheridan Avenue, Sheridan, WY 82801, 307-673-9337, fax 307-672-2213, in accordance with the provisions of Section 11, Chapter 3, Wyoming Water Quality Rules and Regulations of any changes or modifications which are not consistent with the terms and conditions of this permit.
- 2 of 4 The applicant will provide immediate oral or written notice to the Wyoming Department of Environmental Quality/Water Quality Division, Groundwater Section, 1866 South Sheridan Avenue, Sheridan, WY 82801, 307-673-9337, fax 307-672-2213 when discharge to each impoundment covered under this permit commences.
- 3 of 4 **Monitoring Requirements:**  
 Unless otherwise specified, monitoring and reporting of the groundwater beneath the impoundment shall be performed on a quarterly basis until further notice and shall include the following information:
  - Measurement of static water level in both monitoring wells: MW24-26 and MW24-26C2;
  - Sampling and analysis of groundwater at down-gradient well: MW24-26;
  - The parameters listed in the tables below are required for groundwater compliance monitoring beneath the listed impoundment:

<b>Pit 24-26-4775</b>		
<b>Parameter</b>	<b>MW24-26 Background Value (mg/L) (9/30/2008)</b>	<b>Class III Water Quality Standards (mg/L)</b>
Arsenic	ND	0.2
Selenium	ND	0.05
Sulfate	1040	3000
TDS	1720	5000
pH	8.2	6.5 – 8.5 (s.u)

- Reporting results of quarterly monitoring and sampling to the department by January 15<sup>th</sup>, April 15<sup>th</sup>, July 15<sup>th</sup>, and October 15<sup>th</sup> of each year. The first set of data will be due by January 15<sup>th</sup>, 2009;
- If the initial discharge into the impoundment has not occurred by the quarterly report date, a groundwater compliance sample is not required for that quarterly period. The operator shall notify the DEQ that discharge has not occurred;
- If a groundwater monitoring event reveals a pH measurement of 6.5 or less, the DEQ may require sampling and analysis of groundwater for the following additional parameters: aluminum, boron, cadmium, chromium, copper, lead and zinc.

- The analytical results for each sampling event, along with impoundment and monitor well location information must be submitted in the Excel spread sheet "Compliance Monitoring Data Reporting", which can be found on the WDEQ website at the following address: (<http://deq.state.wy.us/wqd/groundwater/pollution.asp>). These data shall be submitted electronically on the due dates established above to the following department address: DEQ-CBMGroundwater@WYO.GOV. In addition, the accompanying analytical laboratory reports and field documentation must also be submitted either electronically (pdf format) or hard copy via mail to the WDEQ, Sheridan office at the address listed above.

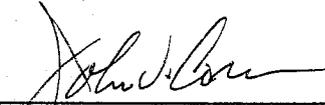
4 of 4 Any exceedence of the water quality standards listed above will be considered a violation of this permit. If an exceedence of groundwater standards occurs as a result of the operation of the impoundment, the WDEQ may require a more frequent monitoring schedule, further investigation of the groundwater impacts, remediation of the groundwater impacts, and cessation of discharge into the impoundment.

AUTHORIZED BY:



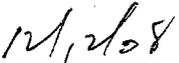
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John F. Wagner  
Administrator  
Water Quality Division



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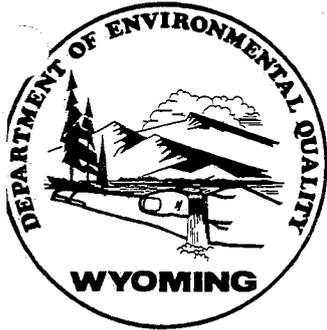
John V. Corra  
Director  
Department of Environmental Quality



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Date of Issuance

CBD/rm/8-0992



**GROUNDWATER PROGRAM**  
**REVIEW COMMENTS:**  
**PLANS/SPECIFICATIONS/PROPOSALS/REPORTS**

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
1866 South Sheridan Avenue  
Sheridan, WY 82801  
Phone: 307-672-6457

**PERMIT TYPE:** CBM: Groundwater Compliance Monitoring Program

**WATER QUALITY DIVISION REFERENCE (PERMIT) NUMBER:** 08-806

**SITE (POD) NAME:** Double Tanks POD

**APPLICANT:** Lance Oil and Gas Company Inc.,  
an Anadarko Company  
Attn: Mr. Shane Gasvoda  
1400 East Lincoln  
Gillette, WY 82716

**CONSULTANT:** WWC Engineering  
Attn: Ben Schiffer  
1849 Terra Ave.  
Sheridan, Wyoming 82801

**LOCATION:** Drainage: Unnamed tributary to Beaver Creek,  
tributary to Powder River  
County: Campbell  
Township 47 North; Range 75 West

**WYPDES No:** Discharge Permit: NA

**DATE ON REPORT:** December 2, 2008

**REVIEWING OFFICIAL:** Carrie Donnell, North District Geological Project  
Analyst

**DATE OF THIS REVIEW:** December 10, 2008

**ACTION:** Compliance Monitoring Plan authorized for Pit 24-26-4775 pursuant to  
conditions on permit # 08-806.

**COMMENTS: GROUNDWATER SECTION**

**1.0 SITE SUMMARY:**

**1.1 Site Description.**

Watershed Name: Unnamed tributary to Beaver Creek, tributary to Powder River

Groundwater Classification:

Class 1 (domestic) \_\_\_\_\_  
Class 2 (agricultural) \_\_\_\_\_  
Class 3 (livestock) 1 \_\_\_\_\_

Basis for Classification: Laboratory analysis of groundwater indicates ambient water quality meets Water Quality Rules and Regulations Chapter 8 Class III standards and exceeds both Class I and Class II standards for Sulfate and/or Total Dissolved Solids (TDS) (Table 1- Chapter 8).

**Table 1. Basis for Groundwater Classification by impoundment name covered under Permit 08-806**

Impoundment Name	Groundwater Investigation Well	Sulfate (mg/l)	TDS
Pit 24-26-4775	MW 24-26	1040	
	MW 24-26C2	1200	2040

**Description of Hydrogeology:**

First groundwater occurs in silty sandstone at approximately 4616 ft above mean sea level (AMSL) in monitoring well MW24-26, and in sandstone/sandy siltstone at approximately 4650 ft AMSL in MW24-26C2. Groundwater was not encountered in a third groundwater investigation hole, MW24-26C1. The two water-bearing zones appear to be discontinuous and are not in hydraulic communication with one another. The water-bearing zones underlying the cited reservoir exhibit confined conditions. Because the water-bearing zones appear to be discontinuous, monitoring well MW24-26 is considered sufficient for monitoring groundwater quality.

**Table 2. Name of Impoundment covered under Permit 08-806**

Impoundment Name	Capacity (acre/ft)	Qtr	Qtr	Section	Town.	Range	Down gradient Monitoring Well
Pit 24-26-4775	46.0	SES	W	26	47	75	MW 24-26

No other domestic, agricultural or livestock wells are noted in the immediate area that will be impacted. No seeps or springs are noted in the immediate area.

## 2.0 MONITORING AND REPORTING REQUIREMENTS

Groundwater monitoring at the impoundments shall be performed on a quarterly basis until further notice and shall include the following information:

- Measurement of static water level in both wells: MW24-26 and MW24-26C2;
- Sampling and analysis of groundwater at down-gradient well: MW24-26;
- Reporting results of quarterly monitoring and sampling to the department by January 15<sup>th</sup>, April 15<sup>th</sup>, July 15<sup>th</sup>, and October 15<sup>th</sup> of each year. The first set of data will be due by January 15<sup>th</sup>, 2009 (please reference permit for reporting requirements).
- The parameters listed in the tables below are required for groundwater compliance monitoring beneath the listed impoundment:

**Pit 24-26-4775**

<b>Parameter</b>	<b>MW24-26 Background Value (mg/L) (9/30/2008)</b>	<b>Class III Water Quality Standards (mg/L)</b>
Arsenic	ND	0.2
Selenium	ND	0.05
Sulfate	1040	3000
TDS	1720	5000
pH	8.2	6.5 – 8.5 (s.u)

If groundwater monitoring reveals a pH measurement of 6.5 or less, the WDEQ may require sampling and analysis of groundwater for the following additional parameters: aluminum, boron, cadmium, chromium, copper, lead and zinc.

The analytical results for each sampling event, along with impoundment and monitor well location information must be submitted in the Excel spread sheet "Compliance Monitoring Data Reporting", which can be found on the WDEQ website at the following address: (<http://deq.state.wy.us/wqd/groundwater/pollution.asp>). These data shall be submitted electronically on the due dates established above to the following department address: [DEQ-CBMGroundwater@wyo.gov](mailto:DEQ-CBMGroundwater@wyo.gov). In addition, the accompanying analytical laboratory reports must also be submitted either electronically (pdf format) or hard copy via mail to the WDEQ, Sheridan office at the address listed above.

**END OF REVIEW**

**CBD/rm/8-0992**

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
AS-BUILT  
PERMIT TO CONSTRUCT

Permit No. 08-807  
SPECIAL CONDITIONS

This permit hereby authorizes the applicant:

Canyon Improvement and Service District  
Bill Lunney, Chairman  
P.O. Box 111  
Newcastle, WY 82701

to have constructed, installed or modified Canyon Well #1, according to the procedures and conditions of the application number 08-807. The facility is located in the NW ¼ of the SE ¼ of the NW ¼ of Section 14, Township 48 North, Range 61 West, in the county of Weston, approximately 3 miles from the City of Newcastle, Wyoming.

The issuance of this permit confirms that the Department of Environmental Quality (DEQ) has evaluated the application submitted by the permittee and determined that it meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the engineer's design are the responsibility of the permittee, owner, and/or operator. Granting this permit does not imply that the Wyoming DEQ guarantees or ensures that the permitted facility meets applicable operational requirements. Compliance with applicable standards remains the responsibility of the permittee.

Nothing in this permit constitutes an endorsement by the DEQ of the construction or the design of the facility described herein. This permit verifies only that the submitted application meets the design and construction standards imposed by the DEQ statutes, rules and regulations. The DEQ assumes no liability for, and does not in any way guarantee or warrant the performance or operation of the permitted facility. The permittee, owner and/or operator are solely responsible for any liability arising from the construction or operation of the permitted facility. By issuing this permit, the state does not waive its sovereign immunity.

The permittee shall allow authorized representatives from the DEQ, Water Quality Division, to enter and inspect any property, premise or place on or at which the facility is located or is being constructed or installed for the purpose of investigating actual or potential sources of water pollution, and for determining compliance or non-compliance with any rules, regulations, standards, permits or orders.

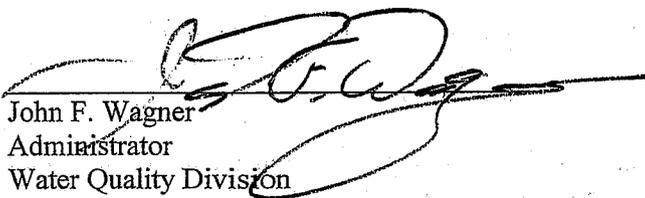
Nothing in this permit shall be construed to preclude the institution of any legal action or other proceeding to enforce any applicable provision of law or rules and regulations. It is the duty of the permittee, owner and/or operator to comply with all applicable federal, state and local laws or regulations in the exercise of its activities authorized by this permit. The issuance of this permit does not convey any property rights in either real or personal property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

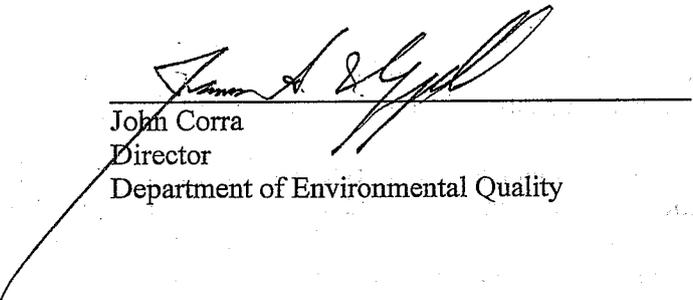
The permittee has constructed and shall operate the permitted facility in accordance with the statements, representations, procedures, terms and conditions of the permit application, supporting documents and permit. This permit does not relieve the permittee from any duty to obtain any other permit or authorization that may be required by any provision of federal, state or local laws.

In carrying out its activities authorized by this permit, the permittee, owner and/or operator shall comply with all of the following permit conditions:

1 of 1      The applicant will provide immediate oral or written notice to the Northeast District, Water Quality Division, 152 North Durbin, Suite 100, Casper, WY 82601, phone 307-473-3478, Fax 307-473-3458, in accordance with the provisions of Section 11, Chapter 3, Wyoming Water Quality Rules and Regulations of any changes or modifications which are not consistent with the terms and conditions of this permit.

AUTHORIZED BY:

  
John F. Wagner  
Administrator  
Water Quality Division

  
John Corra  
Director  
Department of Environmental Quality

2-5-09  
Date of Issuance

KLF/rm/9-0085

Cc: David Meyers, P.E., Stetson Engineering, Inc., P.O. Box 457, Gillette, WY 82717

## STATEMENT OF BASIS

1. Permit Number: 08-807
2. Application reviewed for compliance with the following applicable regulations :  
Chapter 3, Chapter 11 & Chapter 12 of the Wyoming Water Quality Rules and Regulations
3. Does the permit comply with all applicable regulations identified above?  
NO  
The permit approval is based upon a deviation from applicable regulations in accordance with Section 5 of Chapter 11.
4. Facilities include components not specifically covered or differing from applicable regulations and approval is based upon a deviation in accordance with Section 5.
  - a. The permit includes approval to deviate from the following regulatory requirements:  
Chapter 11, Section 65 (b) requires "...an oversized hole, at least four inches greater in diameter than the production casing, drilled." A 12 ¼ inch bore hole with a 9 5/8 inch O.D. steel casing was constructed. This provided an oversized hole of 2 5/8 inches greater in diameter than the casing.
  - b. Briefly state the basis for the deviation  
The variance was granted by Dennis Lamb, P.G., of the WDEQ/WQD, prior to drilling the well. The well was drilled in late 2004. A cement bond log was required upon completion and results included in the final design report (November 2005).
5. A review to determine groundwater impacts in accordance with Section 17, Chapter 3 is not required.
6. Facilities include components not specifically covered or differing from applicable regulations and approval is based upon a deviation in accordance with Section 5.  
N/A
7. A review to determine groundwater impacts in accordance with Section 17, Chapter 3 was not required.
8. Documentation of Statement of Basis: The archive file for this permit includes adequate documentation of all sections of this Statement of Basis.

## CERTIFICATION

The issuance of this as-built permit is based upon a review of the application package and as-built information submitted. This review was performed by Karen L. Farley and completed on February 3, 2009. Permit issuance is recommended based upon statements, representations, and procedures presented in the permit application and supporting documents, permit conditions, and the items identified in this "Statement of Basis."

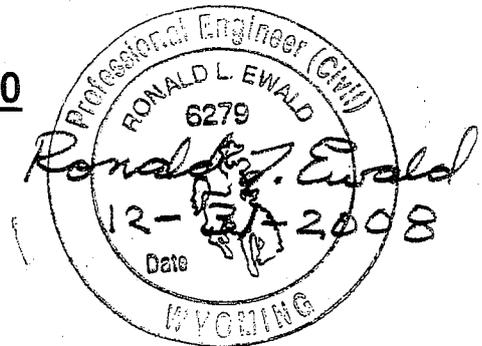
REVIEW OF PLANS AND SPECIFICATIONS  
WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION

Herschler Bldg., 4 West  
Cheyenne, Wyoming 82002

PROJECT: Riddle/Meyer (Lot 36 Lakeshore Tracts), Residential Septic System  
LOCATION: N½ NW¼, Section 14, T29N, R68W, **Platte County**  
ENGINEER: None  
APPLICANT: Sarah Anne Riddle  
2954 E Pennsylvania Ave.  
Casper, Wyoming 82609  
Ph: (307) 234-7593

**WATER QUALITY DIVISION REFERENCE #: 08-810**

REVIEWING ENGINEER: Ronald L. Ewald  
Phone: (307) 777-6183  
DATE OF REVIEW: December 31, 2008



**ACTION:** **NOT AUTHORIZED FOR CONSTRUCTION.** In accordance with Section 14 (a), Chapter III, Wyoming Water Quality Rules and Regulations, the application is denied because it is incomplete or does not meet applicable minimum design and construction standards. Please address the comments outlined below and submit the requested information in order that the application process may be completed in accordance with Section 9. If the applicant fails to provide the requested information within six months the incomplete application shall be returned.

**COMMENTS, INADEQUACIES, AND QUESTIONS:**

1. Verify Model of Infiltrator™ Chamber to be Used - there is confusion in the application package as to what model of Infiltrator chamber may be planned to be installed. On "Page 5" of the worksheets the dimensions of the unit are identified as, Width = 22", Height = 12", and length = 4'5". These are the exact dimensions of

the Quick4-EQ36 model, which has an equivalent area of only 18.5 square feet(sf), and not 26.5sf which was used in the calculations and is the value for the Quick4-Standard model. However, on the "Two Trench Chambered Leachfield" detail sheet the dimensions of the unit are listed as, Width = 34", Height = 12", and Length = 53", which are the correct dimensions for the Quick4-Standard model chamber unit.

If the EQ36 version is indeed the model that you have on hand or available, then the minimum area calculations are wrong, and when recalculated using the 18.5sf per unit the result is that 24 EQ36 units would be required instead of the 17 Standard units.

Therefore, when responding to this review, you must verify and confirm which of these two units you will actually be using. If it is then the two trenches will have to be extend if there is room to extend them another 12 feet without getting to close to the property lines. If this occurs a different trench layout will have to be used.

2. Site Slope - the application package indicates that the slope on this lot is 20%. The downhill direction of this slope over the property needs to be indicated on the site plan by placing small arrows ( → ) pointing downhill spread out over the lot. If there are flat areas or areas with less than 20% slope, this needs to be indicated also. An example of how to do this is included with this review.

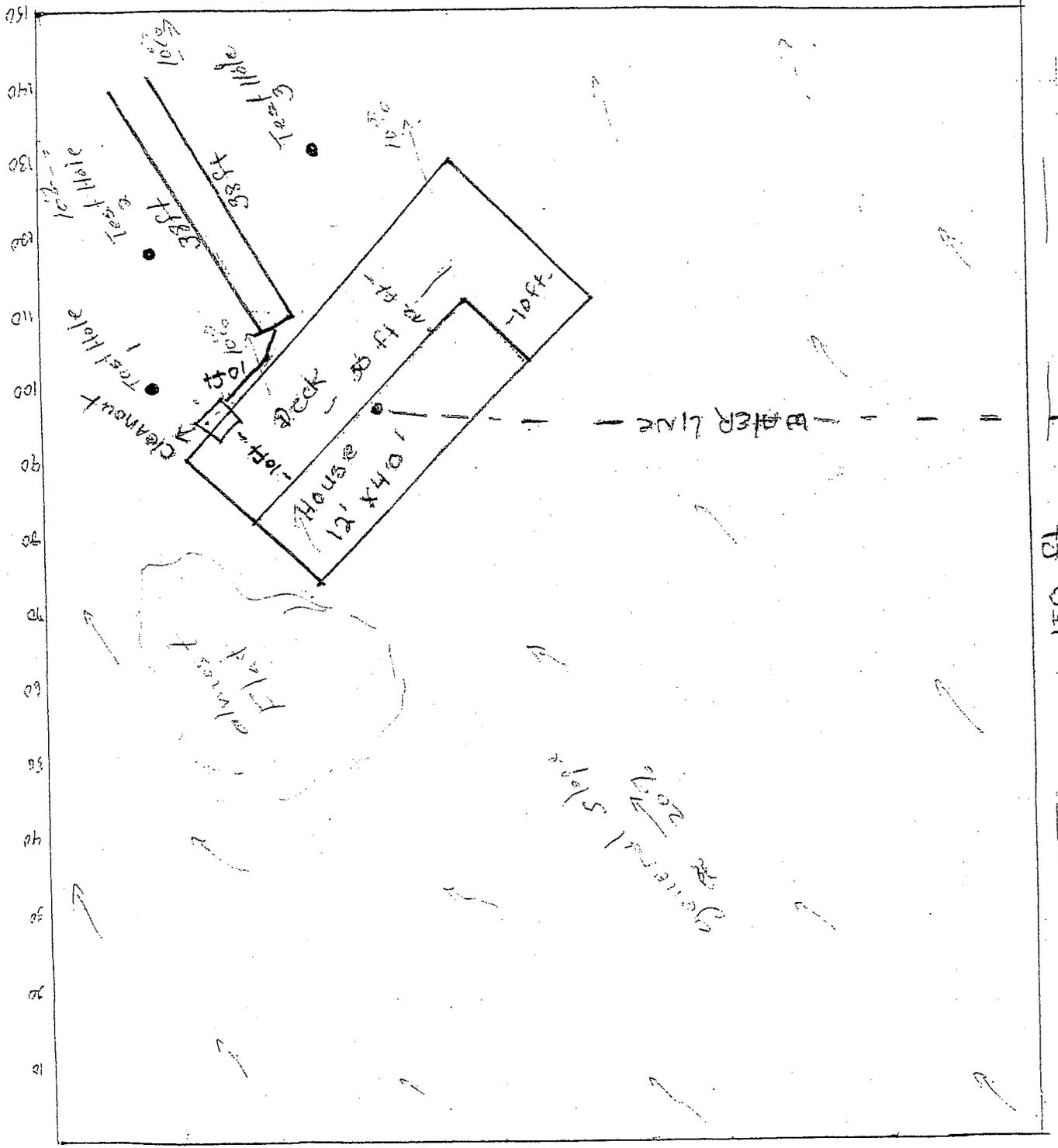
RLE/rm/8-1045

cc: Paul & Karen Meyer, 1812 Custer Ave., Casper, Wyoming 82604

Enclosures: Example Site Plan showing slopes  
"Clean" Site Plan to work from  
Extra blank worksheets as may be needed  
Chamber System – Equivalent Area Table

Slope  
10%  
10%  
10%

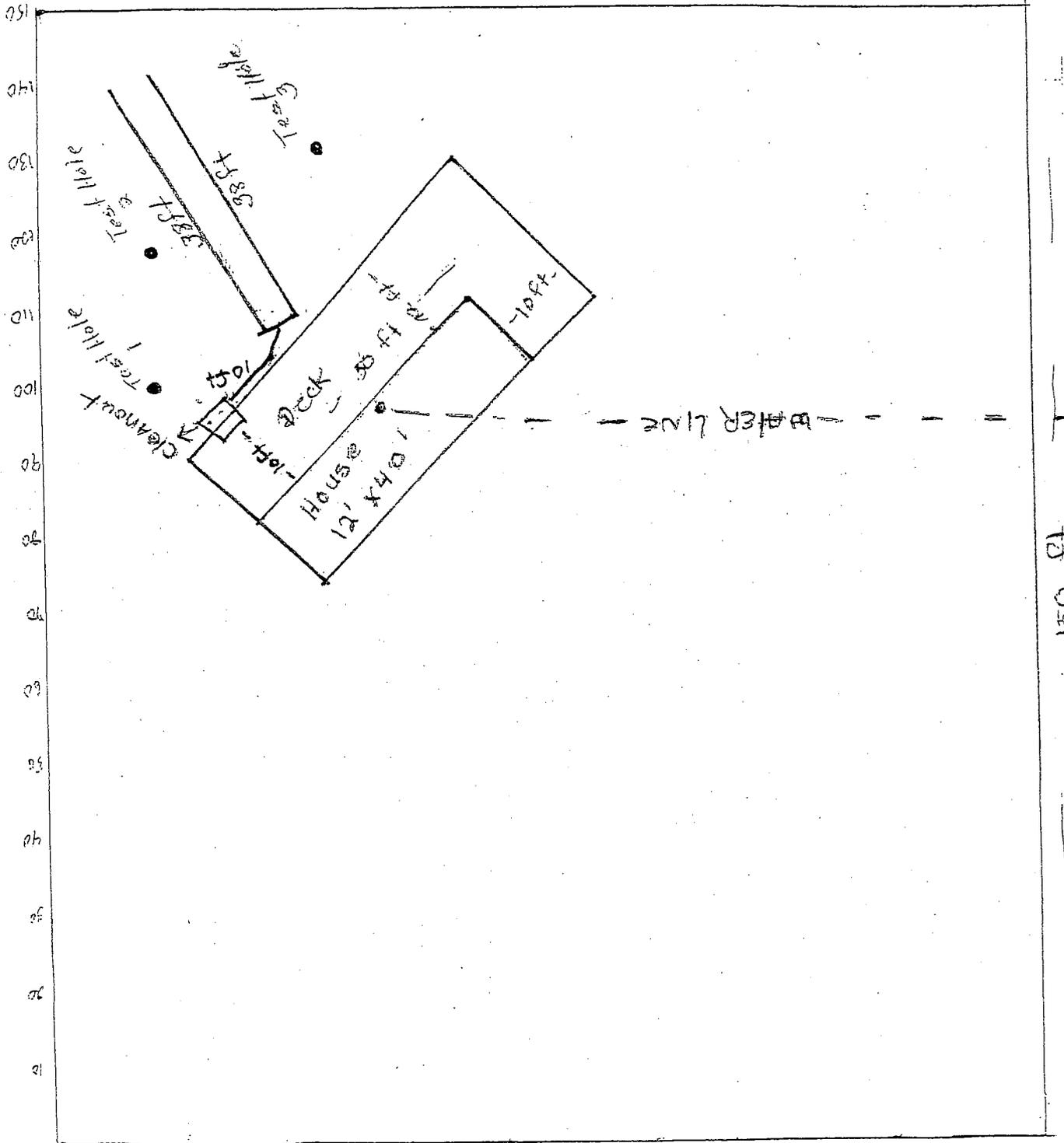
# EXAMPLE SITE PLAN (with slopes)



- 1) Need to know the direction of the slope  
↳ especially in the area of the leachfield.
- 2) Also, approximate distance and direction that the shoreline is from the property is helpful.

# SITE PLAN

5



150 ft

130 ft

N

4. Trench Design for Chamber Leachfield Systems: (Distinct trenches with at least 3 feet of undisturbed soil between trenches)

a. Minimum infiltrative surface area required = \_\_\_\_\_ sf from D.3.

b. Choose your make and model of leachfield Chamber:

Manufacturer \_\_\_\_\_, Model \_\_\_\_\_

Width \_\_\_\_\_ inches, Height \_\_\_\_\_ inches, Length \_\_\_\_\_ feet & inches

c. Equivalent area per unit = \_\_\_\_\_ (See *Chamber Systems Attachment*)

d. Minimum number of units required is:

(Minimum area [E.4.a.] / Equivalent unit area [E.4.c.]) =  
( \_\_\_\_\_ / \_\_\_\_\_ ) = \_\_\_\_\_ units [round up]

e. Number of units to be used = \_\_\_\_\_ (same or more than E.4.d.)

f. Trench layout - \_\_\_\_\_ Depending on the number of units to be used, choose one of the following:

\_\_\_\_\_ 1 single trench see *Single Trench Chambered Leachfield detail sheet*

\_\_\_\_\_ 2 trenches see *Two Trench Chambered Leachfield detail sheet*

\_\_\_\_\_ 4 trenches see *Four Trench Chambered Leachfield detail sheet*

\_\_\_\_\_ Multiple trenches see *Multiple Trench Chambered Leachfield detail sheet*  
(requires "D" Box)

5. Bed Design for Chamber Leachfield Systems: (one continuous excavation - no distinct trenches)

a. Minimum infiltrative surface area required = \_\_\_\_\_ sf from D.3.

b. Choose your make and model of leachfield Chamber:

Manufacturer \_\_\_\_\_, Model \_\_\_\_\_

Width \_\_\_\_\_ inches, Height \_\_\_\_\_ inches, Length \_\_\_\_\_ feet & inches

c. Equivalent bed area per unit = \_\_\_\_\_ (See *Chamber Systems Attachment*)

d. Minimum number of units required is:

(Minimum area [E.5.a.] / Equivalent unit area [E.5.c.]) =  
( \_\_\_\_\_ / \_\_\_\_\_ ) = \_\_\_\_\_ units [round up]

e. Number of units to be used = \_\_\_\_\_ (same or more than E.5.d.)

f. Bed layout: Complete *Bed Type Chambered Leachfield detail sheet*

4. Trench Design for Chamber Leachfield Systems: (Distinct trenches with at least 3 feet of undisturbed soil between trenches)

a. Minimum infiltrative surface area required = 437 ✓ sf from D.3.

b. Choose your make and model of leachfield Chamber:

Manufacturer Infiltrator Systems, Model Quick 4 Standard <sup>EQ36</sup>

Width 22 inches, Height 12 inches, Length 4'5" feet & inches

c. Equivalent area per unit = 26.5 (E.5) (See Chamber Systems Attachment)

d. Minimum number of units required is:

(Minimum area [E.4.a.] / Equivalent unit area [E.4.c.]) =  $\frac{437}{26.5} = 17.24$  units [round up]

e. Number of units to be used = 17 <sup>24</sup> (same or more than E.4.d.)

f. Trench layout - Depending on the number of units to be used, choose one of the following:

- 1 single trench see *Single Trench Chambered Leachfield detail sheet*
- 2 trenches <sup>2 @ 9 units ea ≈ 36' + 2 end caps ≈ 38-39 ft ✓</sup> see *Two Trench Chambered Leachfield detail sheet*
- 4 trenches <sup>2 @ 12 units ea ≈ 48' + 2 end caps ≈ 50-51 ft ✓</sup> see *Four Trench Chambered Leachfield detail sheet*
- Multiple trenches (requires "D" Box) see *Multiple Trench Chambered Leachfield detail sheet*

5. Bed Design for Chamber Leachfield Systems: (one continuous excavation - no distinct trenches)

a. Minimum infiltrative surface area required = \_\_\_\_\_ sf from D.3.

b. Choose your make and model of leachfield Chamber:

Manufacturer \_\_\_\_\_, Model \_\_\_\_\_

Width \_\_\_\_\_ inches, Height \_\_\_\_\_ inches, Length \_\_\_\_\_ feet & inches

c. Equivalent bed area per unit = \_\_\_\_\_ (See Chamber Systems Attachment)

d. Minimum number of units required is:

(Minimum area [E.5.a.] / Equivalent unit area [E.5.c.]) = \_\_\_\_\_ units [round up]

e. Number of units to be used = \_\_\_\_\_ (same or more than E.5.d.)

f. Bed layout: Complete *Bed Type Chambered Leachfield detail sheet*

# Two Trench Chambered Leachfield

This worksheet is for a trench type leachfield using chamber units. Where boxes appear please supply the dimensions of your leachfield.

Type of Chamber:

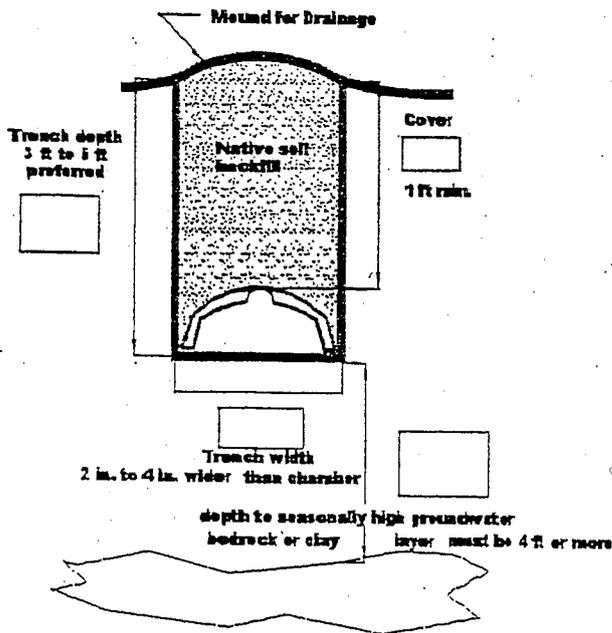
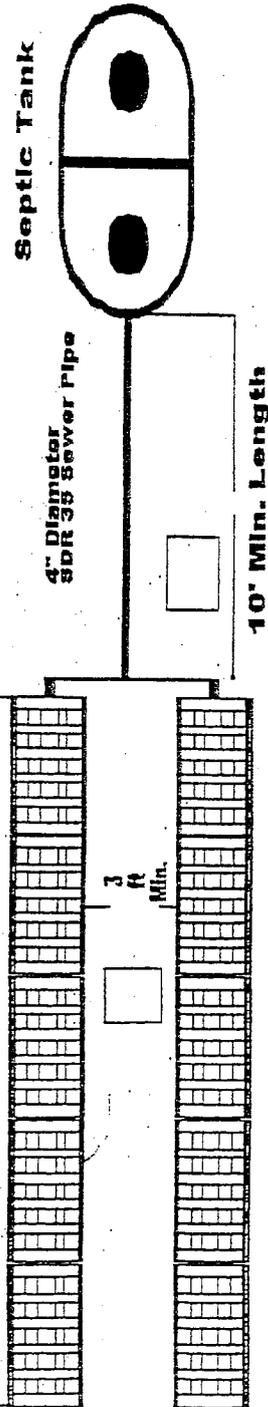
Brand \_\_\_\_\_

Model \_\_\_\_\_

Dimensions: Length \_\_\_\_\_

Width \_\_\_\_\_ Height \_\_\_\_\_

Number of Sections Req'd \_\_\_\_\_  
(From Section E.4)



# Two Trench Chambered Leachfield

This worksheet is for a trench type leachfield using chamber units. Where boxes appear please supply the dimensions of your leachfield.



Type of Chamber:

Brand INFILTRATOR

Model Quick 4 Standard

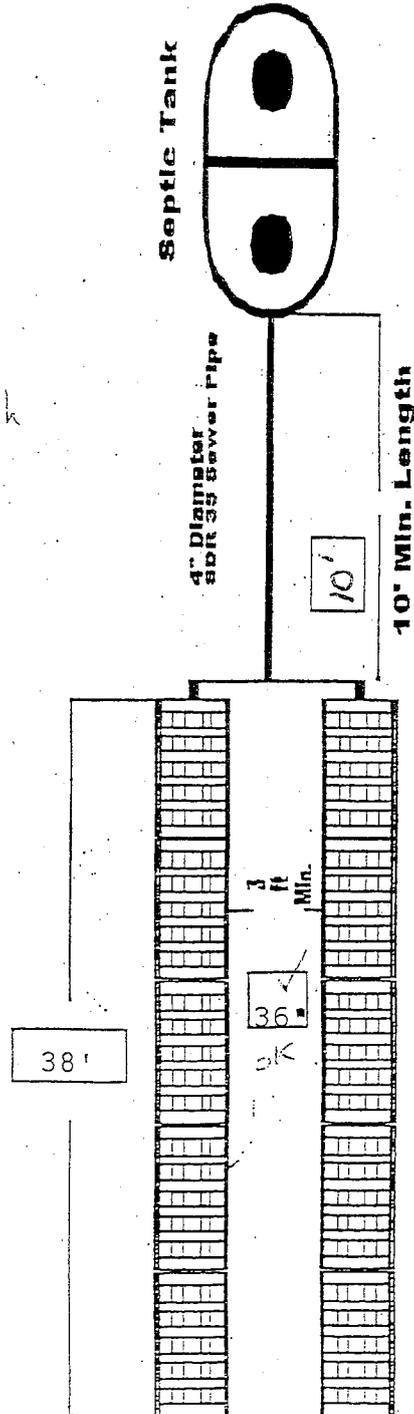
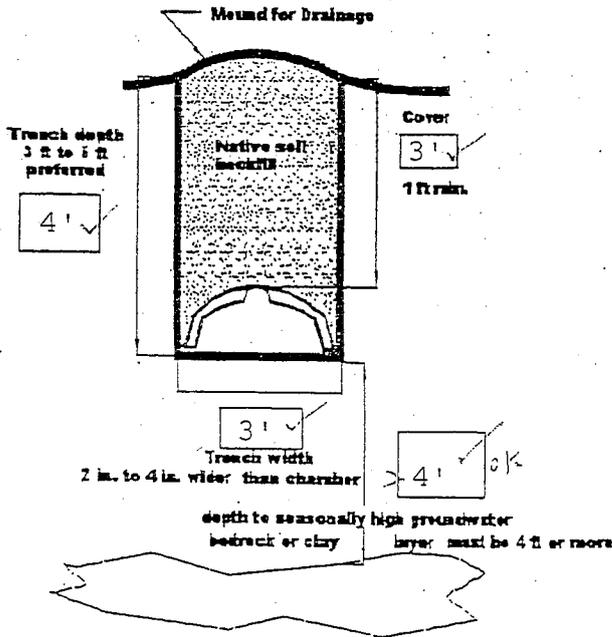
Dimensions: Length 53' ✓

Width 34" ✓ Height 12" ✓

*Standard width*

Number of Sections Req'd 17

(From Section E.4)



# Four Trench Chambered Leachfield

## Four Equal Length Trenches

This worksheet is for a trench type Leachfield using chamber units. Where boxes appear please supply the dimensions of your leachfield.

Type of Chamber: \_\_\_\_\_

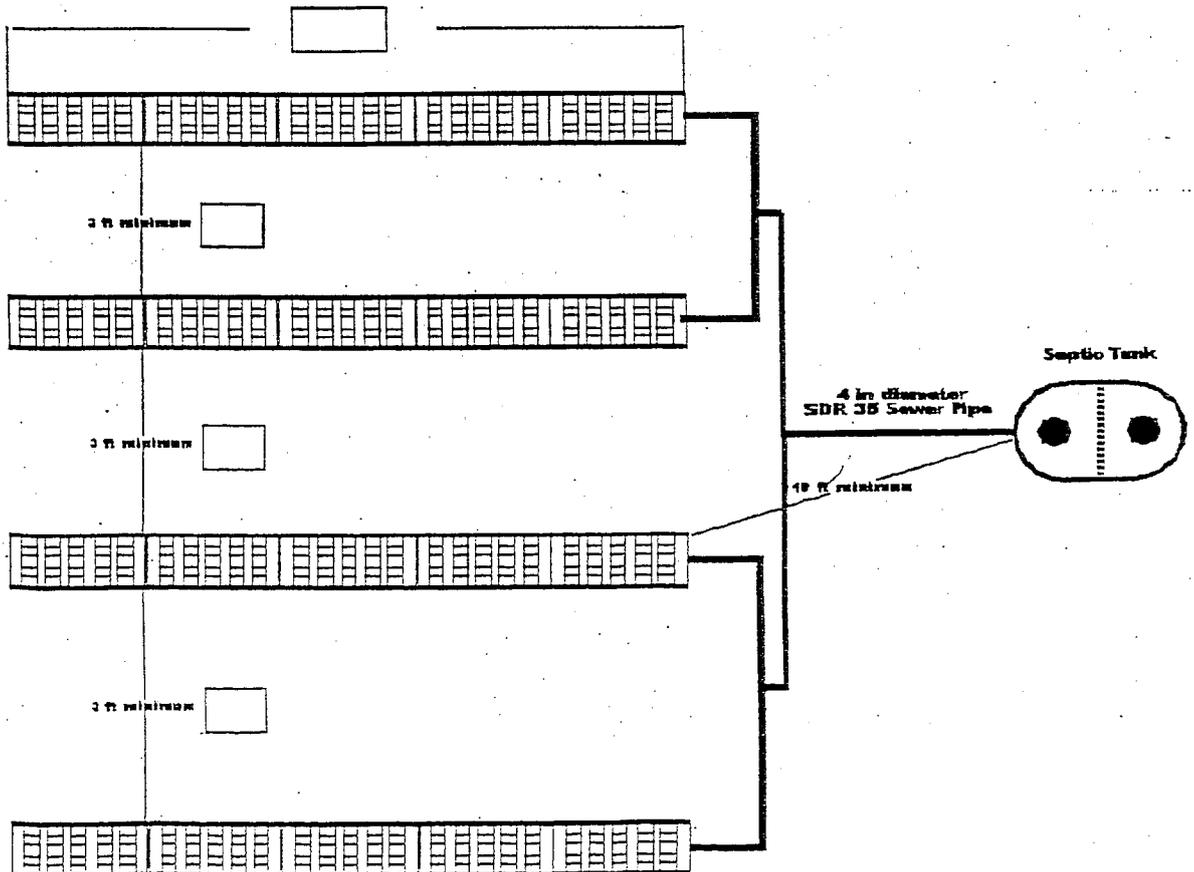
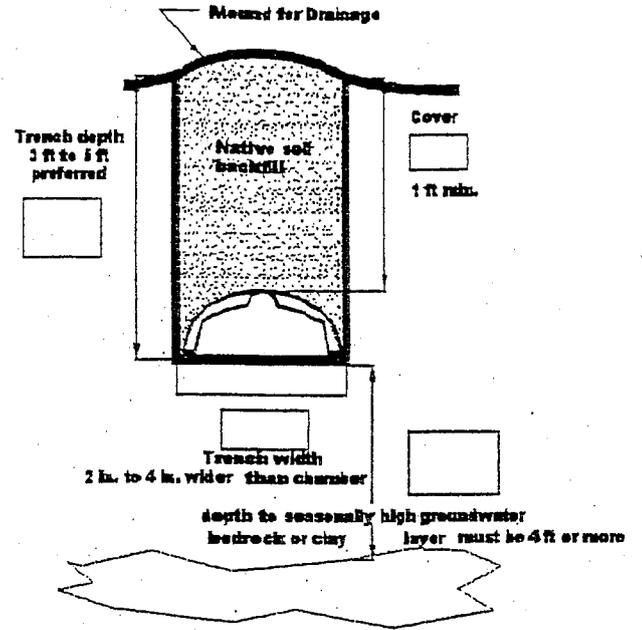
Brand \_\_\_\_\_

Model \_\_\_\_\_

Dimensions: Length \_\_\_\_\_

Width \_\_\_\_\_ Height \_\_\_\_\_

Number of Sections Req'd \_\_\_\_\_  
(From Section E.4)



# Four Trench Chambered Leachfield Four Equal Length Trenches

This worksheet is for a trench type Leachfield using chamber units. Where



boxes appear please supply the dimensions of your leachfield.

Type of Chamber: \_\_\_\_\_

Brand \_\_\_\_\_

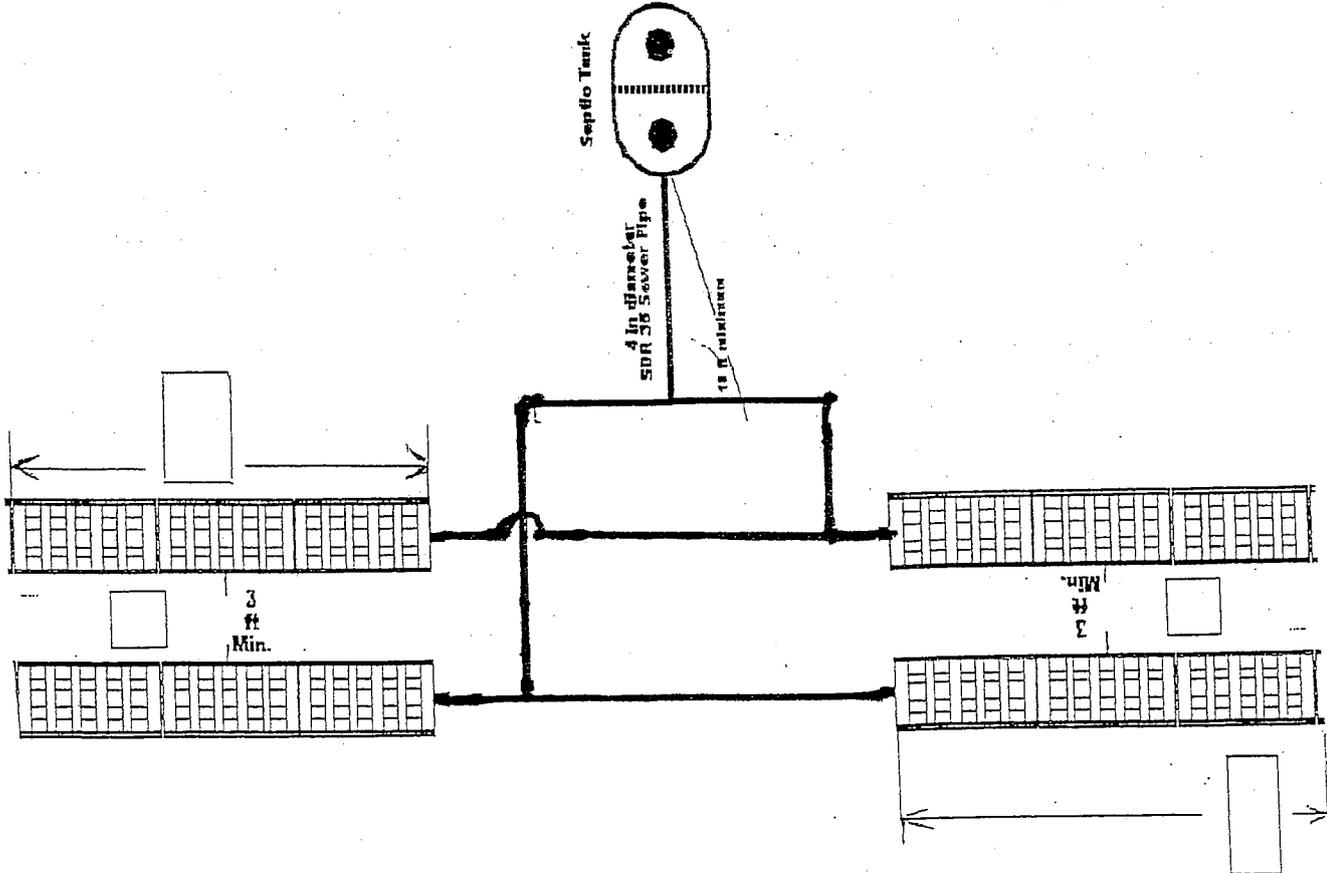
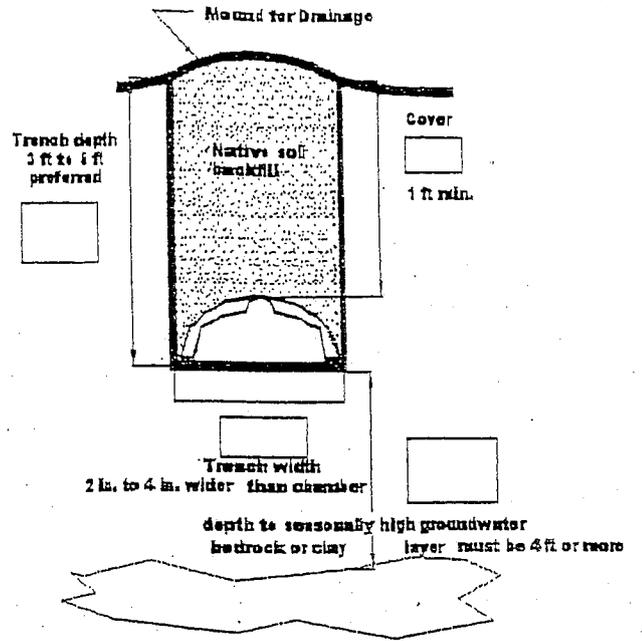
Model \_\_\_\_\_

Dimensions: Length \_\_\_\_\_

Width \_\_\_\_\_ Height \_\_\_\_\_

Number of Sections Req'd \_\_\_\_\_

(From Section E.4)



# CHAMBER SYSTEMS

Last Updated: 03-12-2008, by RLE

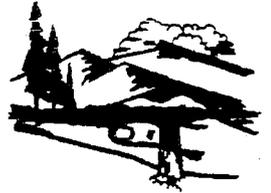
## Equivalent Areas

As allowed by DEQ Water Quality Division Policy # 13.41.2, dated November 21, 1994, gravelless leachfield chambers get double infiltrative surface area credit for the bottom area of the chamber. This is allowed because research indicates that chambers provide an optimum infiltrative surface by eliminating the 50% stone masking associated with conventional systems utilizing stone in the leach field. Since these types of chambers are manufactured units with fixed dimensions, an equivalent infiltrative surface area can be pre-calculated for any make and model of chamber. In a trench configuration, the equivalent area is equal to 2 \* (width + effective side wall height) \* unit length. In a bed configuration the side wall is not counted, so the equivalent area is equal to 2 \* width \* unit length. The following table shows the equivalent areas of several types and models of these units for both bed and trench applications:

<u>Make and Model</u>	<u>Nominal Dimensions</u> (length*width*height)	<u>EQUIVALENT AREA: in a</u>	
		<u>Bed Layout</u>	<u>Trench Layout</u>
<b><u>INFILTRATOR</u> brand:</b>			
Original/Standard Unit	6.25ft * 34in * 12in	35.4 sf	40.0 sf / unit
High Capacity Chamber	6.25ft * 34in * 16in	35.4 sf	45.0 sf
Equalizer 24 (EQ24)	8.42ft * 15in * 11in	21.0 sf	30.0 sf
Equalizer 36 (EQ36)	8.42ft * 22in * 13.5in	30.0 sf	42.0 sf
Standard Sidewinder	6.25ft * 34in * 12in	35.4 sf	40.0 sf
High Capacity Sidewinder	6.25ft * 34in * 16in	35.4 sf	45.0 sf
Quick4 Standard	4.42ft * 34in * 12in	22.5 sf	26.5 sf / unit
Quick4 High Capacity	4.42ft * 34in * 16in	22.5 sf	30.3 sf
	<b>Quick4 Standard End Cap Pairs (inlet &amp; back end):</b>	<b>7.0 square feet / pair</b>	
Quick4 "EQ24"	4.42ft * 16in * 11in	10.6 sf	14.6 sf
Quick4 "EQ36"	4.42ft * 22in * 12in	14.6 sf	18.5 sf
<b><u>HANCOR EnviroChamber</u> brand:</b>			
Standard Unit	6.25ft * 34in * 12in	35.4 sf	42.0 sf / unit
High Capacity Unit	6.25ft * 34in * 17.5in	35.4 sf	48.0 sf
Pro Standard Unit	6.33ft * 34in * 11in	35.8 sf	42.0 sf
Pro High Capacity	6.33ft * 34in * 14in	35.8 sf	45.0 sf
Pro 15" Narrow Chamber	7.25ft * 15in * 12in	18.0 sf	26.0 sf
Pro 22" Narrow Chamber	7.25ft * 22in * 12in	26.5 sf	35.0 sf
Pro ARC Standard Unit	5.0 ft * 34.5in * 13in	28.7 sf	34.7 sf
<b><u>BIODIFFUSER</u> brand:</b>			
Standard Unit (11" tall)	6.33ft * 34in * 11in	35.8 sf	42.0 sf / unit
14" Tall High Capacity Unit	6.33ft * 34in * 14in	35.8 sf	45.0 sf
16" Tall High Capacity Unit	6.33ft * 34in * 16in	35.8 sf	47.5 sf
Bio 2 Chamber	7.25ft * 15in * 12in	18.0 sf	26.0 sf
Bio 3 Chamber	7.25ft * 22in * 12in	26.5 sf	35.0 sf
ARC 24 Unit	5.58ft * 22.5in * 12in	18.7 sf	23.9 sf
ARC 36	5.25ft * 34.5in * 13in	28.7 sf	34.7 sf
ARC 36HC	5.25ft * 34.5in * 16in	28.7 sf	37.7 sf



# Department of Environmental Quality



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Dave Freudenthal, Governor

John Corra, Director

## NOTIFICATION OF COVERAGE

March 4, 2009

Sarah Anne Riddle  
2954 E. Pennsylvania Ave.  
Casper, Wyoming 82609

RE: Riddle/Meyer (Lot 36 Lakeshore Tracts), Residential Septic System,

Application No. **08-810**  
Platte County

Location: N½ NW¼, Section 14, T29N, R68W,

Dear Ms. Riddle:

The above application for coverage under General Permit to Construct, Install, Modify or Operate a Small Wastewater Facility for a **mobile home** in accordance with Chapter 3, Section 9 of the Wyoming Water Quality Rules and Regulations has been reviewed and is hereby approved. You are authorized to construct, install or modify the small wastewater system in accordance with Chapter 11, Part D of the Water Quality Division Rules and Regulations, the general permit, the condition listed below, and the materials submitted in your application package. Your attention is directed to the mandatory reporting requirements outlined in Part V, Section O of the general permit. Additionally, the following project specific condition also applies:

Septic Tank Clean-Out Riser Requirement - Either a 6 inch diameter clean-out riser or the manway from **each compartment of the septic tank** must be extended to the ground surface.

The approval granted under this Notification Of Coverage and the General Permit shall expire on March 4, 2009. Please reference Application Number 08-810 in any future correspondence.

RLE 2011

If you have any questions, please contact me at (307) 777-6183.

Sincerely,

Ronald L. Ewald  
Consulting Engineer  
Southeast District, Water Quality Division

RLE/rm/9-0169

Enclosures: GENERAL PERMIT - Small Wastewater Facility  
Certificate of Completion

cc: IPS, Cheyenne  
Paul L. and Karen A. Meyer, 1812 Custer Ave., Casper, Wyoming 82604  
Platte County Planner, Marlin Johnson, P.O. Box 728, Wheatland, Wyoming 82201

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ADMIN/OUTREACH (307) 777-7937 FAX 777-3610	ABANDONED MINES (307) 777-6145 FAX 777-6462	AIR QUALITY (307) 777-7391 FAX 777-5616	INDUSTRIAL SITING (307) 777-7369 FAX 777-5973	LAND QUALITY (307) 777-7756 FAX 777-5864	SOLID & HAZ. WASTE (307) 777-7752 FAX 777-5973	WATER QUALITY (307) 777-7781 FAX 777-5973
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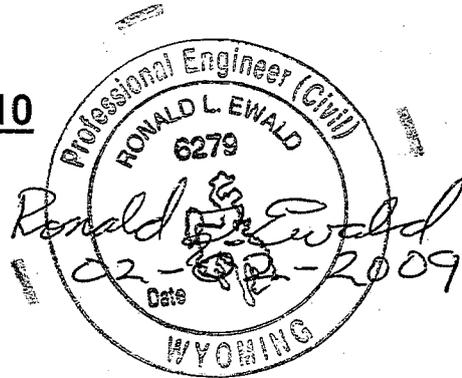
REVIEW OF PLANS AND SPECIFICATIONS  
WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION

Herschler Bldg., 4 West  
Cheyenne, Wyoming 82002

PROJECT: Riddle/Meyer (Lot 36 Lakeshore Tracts), Residential Septic System  
LOCATION: N½ NW¼, Section 14, T29N, R68W, **Platte County**  
ENGINEER: None  
APPLICANT: Sarah Anne Riddle  
2954 E Pennsylvania Ave.  
Casper, Wyoming 82609  
Ph: (307) 234-7593

**WATER QUALITY DIVISION REFERENCE #: 08-810**

REVIEWING ENGINEER: Ronald L. Ewald  
Phone: (307) 777-6183  
DATE OF REVIEW: February 2, 2009



**ACTION:** **NOT AUTHORIZED FOR CONSTRUCTION.** In accordance with Section 14 (a), Chapter III, Wyoming Water Quality Rules and Regulations, the application is denied because it is incomplete or does not meet applicable minimum design and construction standards. Please address the comments outlined below and submit the requested information in order that the application process may be completed in accordance with Section 9. If the applicant fails to provide the requested information within six months the incomplete application shall be returned.

**COMMENTS, INADEQUACIES, AND QUESTIONS:**

1. Leachfield Site Surface Slopes and Leachfield Trench Depths - the response to the first review comments indicates that the surface slope in the area where it is planned to locate the leachfield trenches is about 20% downhill running in the same direction as the trenches. This will not work because at 20% slope over a length of

38 feet the surface elevation will drop about 7 feet. Since the bottoms of the leachfield trenches are required to be level, this means the uphill end of the trenches could be as much as 10 or 11 feet deep, which is not good.

The leachfield trenches need to be laid out so that they run across the slope at a constant elevation. This can be easily done with the Quick4 units since they can be assembled with an angle in-between the individual units for the very purpose of following the elevation contours of a hill. Also, the two trenches can easily be installed at two different elevations so that both trenches will be approximately the same depth below the immediate ground surface. See example sketches included.

Lastly, an area for the replacement leachfield should be provided for uphill from the original trench locations so as to ensure that it will be in an area not already partially saturated by the leachate from the original trenches.

Please redo the location and orientation of the leachfield trenches to address these concerns and resubmit the revised site plan.

RLE/rm/9-0080

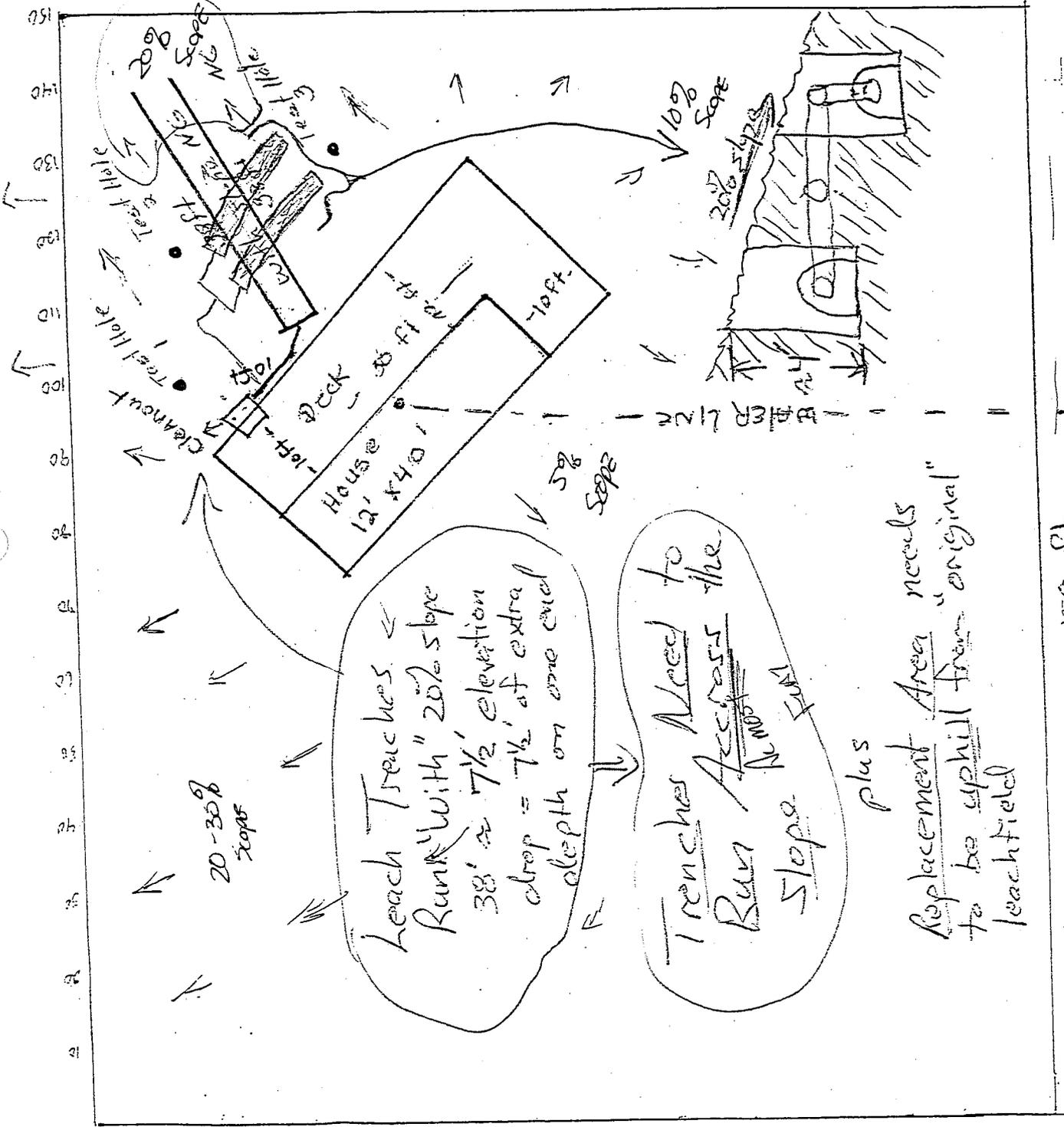
Enclosures: Example Sketches

"Clean" Site Plan behind house on the Southeast side

cc: Paul & Karen Meyer, 1812 Custer Ave., Casper, Wyoming 82604

# SITE PLAN No Good

TO TAKE THE APPROXIMATE



at 80

N

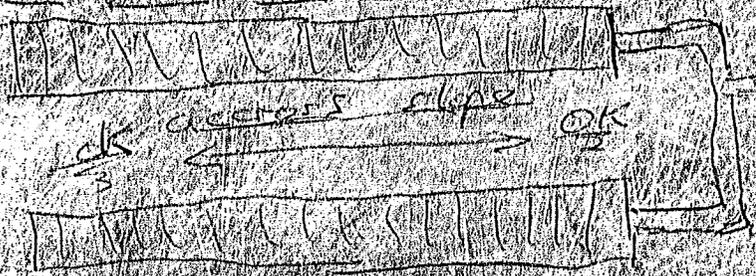
site for house

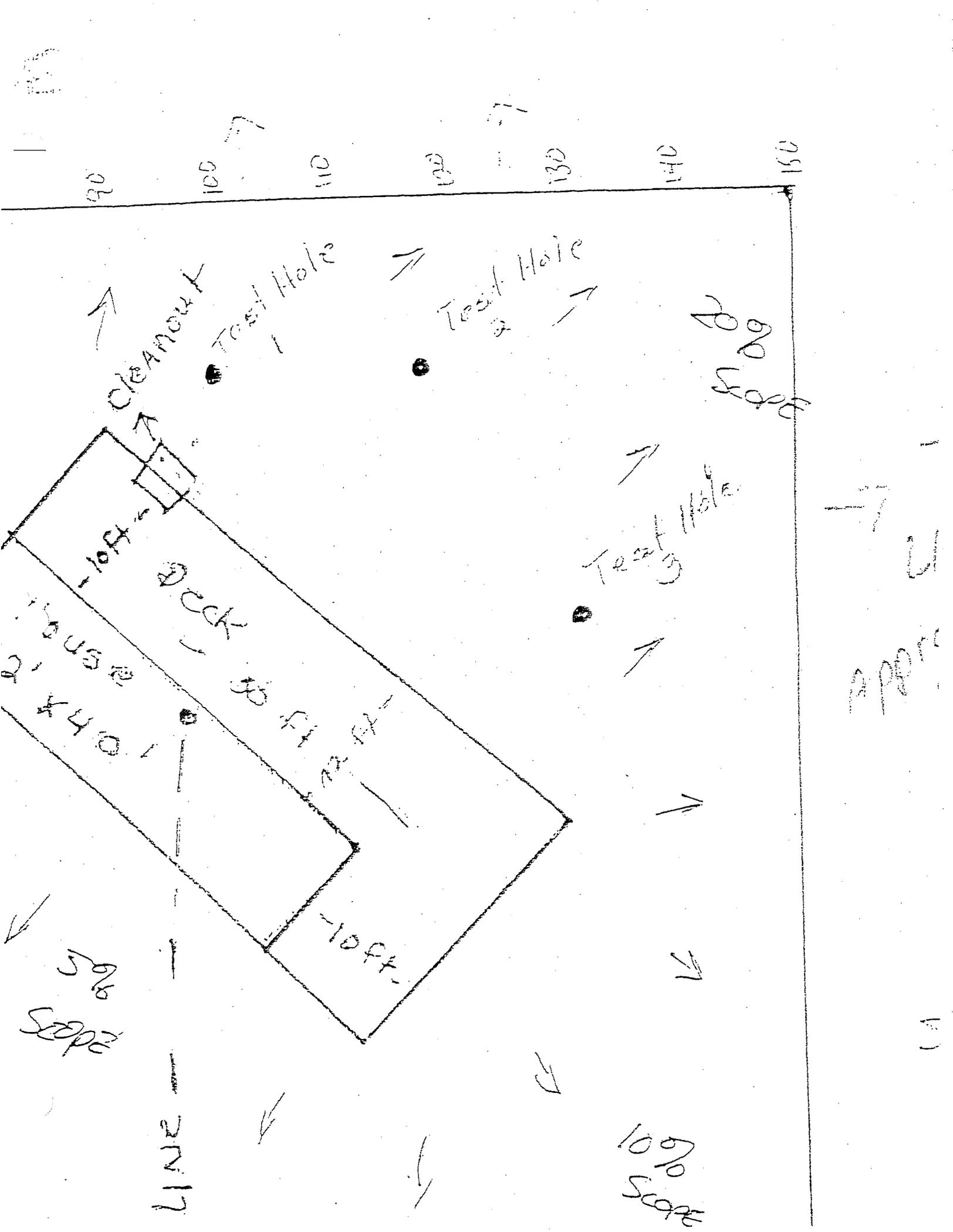
site for septic system

septic tank

Preferal this is the East side of the house

with slope No Grass







# Department of Environmental Quality



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Dave Freudenthal, Governor

John Corra, Director

## NOTIFICATION OF COVERAGE

January 7, 2009

Mr. Herman Noe  
Cheyenne Board of Public Utilities  
P.O. Box 1469  
Cheyenne WY 82003

RE: Carey Avenue Extension,  
Application No. **08-811**, Laramie County

Dear Mr. Noe:

The above application for coverage under General Permit to Construct, Install, Modify or Operate Extensions to or Modifications of Existing Public Water Supply Distribution Systems and or Existing Sewage Collection Systems described as installing 12 inch C-900 PVC water main between 15<sup>th</sup> Street and Lincolnway. This project also includes installing a new manhole at Sta. 13+90.78. A fire hydrant is being replaced on the northwest corner of 15<sup>th</sup> Street and Carey Avenue. Finally, there will be 45 feet of sanitary sewer that will be relined as well as 312 feet of new 12 PVC sanitary sewer installed between 15<sup>th</sup> Street and Lincolnway, SW ¼ Section 31, T14N, R66W; Laramie County, in accordance with Chapter 3, Section 9 of the Wyoming Water Quality Rules and Regulations has been reviewed and is hereby approved. You are authorized to construct, install or modify the water distribution system in accordance with Chapter 12, Section 14 of the Water Quality Division Rules and Regulations, the sewage collection system in accordance with Chapter 11, Section 9 of the Water Quality Division Rules and Regulations, and both systems in accordance with the general permit and the materials submitted in your application package. All construction, installation, or modification allowed by this notification of coverage shall be completed by January 7, 2011.

Your attention is directed to the mandatory reporting requirements outlined in Part V, Section O of the general permit. Please reference Application No. **08-811** in any future correspondence.

If you have any questions, please contact me at 307-777-7088.

Sincerely,

Richard R. Cripe PE  
Southeast District Engineer  
Water Quality Division

RRC/rm/9-0015

cc: IPS, Cheyenne  
Darci Hendon, Ayres Assoc., 214 W. Lincolnway, Suite 22, Cheyenne, WY 82001

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ADMIN/OUTREACH (307) 777-7937 FAX 777-3610	ABANDONED MINES (307) 777-6145 FAX 777-6462	AIR QUALITY (307) 777-7391 FAX 777-5616	INDUSTRIAL SITING (307) 777-7369 FAX 777-5973	LAND QUALITY (307) 777-7756 FAX 777-5864	SOLID & HAZ. WASTE (307) 777-7752 FAX 777-5973	WATER QUALITY (307) 777-7781 FAX 777-5973
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## NOTIFICATION OF COVERAGE

December 16, 2008

Sherri Robbins  
Petro-Canada Resources  
999 18<sup>th</sup> Street, Suite 600  
Denver, CO 80202-1940

RE: Mitchell Draw RO Pilot Project  
Permit No. 08-814

Dear Ms. Robbins:

The above application for coverage under General Permit to Construct, Install, Modify or Operate a Pilot Project in accordance with Section 5, Chapter 11, of the Wyoming Water Quality Rules and Regulations has been reviewed and is hereby approved. You are authorized to construct, install, or modify the facility in accordance with general permit and the materials submitted in your application package. Your attention is directed to the mandatory reporting requirements outlined in Part V, Section O, of the general permit.

The following items need to be submitted to WDEQ/WQD CBM Group:

- a. Date that the construction of the treatment facility will begin;
- b. A complete set of construction drawings was not provided to DEQ/WQD as of the 16<sup>th</sup> of December 2008 so the DEQ/WQD reserves the right to require changes/modifications after reviewing the final construction/piping drawings. The drawings must be submitted at least two weeks prior to starting connecting/piping of the various treatment components. Any changes, modifications, or deviations from the construction drawings submitted by Petro-Canada for this permit will require a notification to DEQ from the onsite construction engineer and DEQ's approval prior to the changes etc. being made.

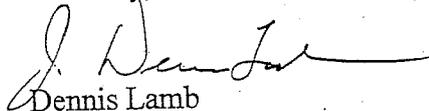
Certification the construction of the treatment facility was done in accordance with the terms and conditions of the permit; or

Certification the construction of the treatment facility was completed with changes or modifications.

- c. A monthly report including on-site and lab analytical data relating to the facility's performance for meeting the discharge requirements (influent and effluent pH and barium), treatment/discharge volumes, any problems with the system and what has been done to correct them, or a notification that the plant has not been operating;
- d. Immediate notification to of any violations, exceedences, upsets, releases or other incidents relating to the facility and its operation.

Please notify WDEQ at least one week prior to start-up or initial processing of CBM water. If you have any questions, please contact Dennis Lamb or Kim Medina at 152 North Durbin, Casper, WY, 82601, (307) 473-3465. Thank you.

Sincerely,



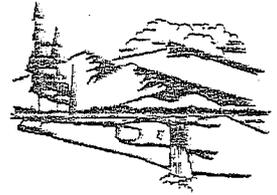
Dennis Lamb  
CBM/Oil & Gas  
DEQ/WQD

Enclosures: Certificate of Completion

cc: WDEQ File  
IPS Cheyenne  
Shawn Higley, PE WWC Engineering/1275 Maple Street, Suite F/Helena, MT 59601



# Department of Environmental Quality



To protect, conserve and enhance the quality of Wyoming's environment for the benefit of current and future generations.

Dave Freudenthal, Governor

John Corra, Director

January 14, 2009

Tim French, Chair  
Park County Commission  
1002 Sheridan Ave.  
Cody, WY 82414

RE: Buchanan Park Phase V Subdivision, Park Coutny, WDEQ Application #08-815

Dear Mr. French:

The Wyoming Department of Environmental Quality (WDEQ) has completed the review of the above referenced subdivision pursuant to W.S. 18-5-306. This letter constitutes our conclusions regarding the feasibility of the proposed water and sewage systems pursuant to the W.S. 18-5-306 (c). The State Engineer's Office (SEO) letter has not been received by our office yet.

## Summary of Proposed Subdivision

The project is located in E½E½ of Tract 51, §9, T.52 N., R.101 W. (6th P.M. Resurvey) southeast of the town of Cody. The proposal lists 8 total lots on a 160 acre tract. The lots will range in size from 5 to 27 acres. Individual onsite septic systems are proposed for all eight lots. Phase IV of the Buchanan Park Subdivision proposes to connect to an existing public water supply, the Northwest Rural water system.

## Findings As To The Safety And Adequacy Of The Proposed Sewage System

The consultant has demonstrated through field investigations and modeling that conventional septic systems and leachfields should be suitable for lots 1 through 5 and for lot 8. Shallow groundwater was located on lots 6 and 7 at respectively 7 and 10-foot depths. DEQ concurs with the consultant's assessment an engineered septic system (e.g., mounded-type system) may be necessary on Lot 6 to achieve a minimum four-foot vertical separation between the bottom of the leachfield and the seasonal high ground water level. This language, underlined portion, should be added to the final plat.

The two-year time of travel model indicates that the following separation distances should be maintained between leachfields and property lines: 240 feet for lot 8, 620 feet on lots 1 through 5, and 1,200 feet for lots 6 and 7. DEQ views this more as a recommendation rather than a mandate. DEQ concurs with the consultant's assessment that the plat should note the building

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ABANDONED MINES  
(307) 332-5085  
FAX 332-7726

AIR QUALITY  
(307) 332-6755  
FAX 332-7726

LAND QUALITY  
(307) 332-3047  
FAX 332-7726

SOLID & HAZARDOUS WASTE  
(307) 332-6924  
FAX 332-7726

WATER QUALITY  
(307) 332-3144  
FAX 332-7726



envelope on lot 7 should be located in the southeast portion of the lot due to presence of a thick, permeable gravel layer in the northern portion of the lot and to maintain appropriate separation distance from surface water bodies.

Since Park County has been delegated by the department to issue small wastewater system permits, it is the county's responsibility to ensure, prior to issuing the permits, that all permit requirements and design standards will be met. If an engineered septic system facility is used, WDEQ must be involved in the small wastewater permit approval process by reviewing the design and providing comments to the Park County small wastewater system administrator.

### **Findings As To The Safety And Adequacy Of The Proposed Water System**

The proposed subdivision has been reviewed by the Northwest Rural Water District with the conclusion that they have adequate capacity to serve the subdivision.

### **Other Items – Potential Wetlands**

Potential wetlands were identified by the consultant on Lots 6, 7 and 8. These wetlands may or may not be listed by the U.S. Fish and Wildlife Service on the National Wetlands Inventory maps. According to the consultant, an onsite survey conducted by the consultant revealed the following (on page 24 §4): "wetland vegetation and boggy areas were noted within all riparian areas on these lots". Please be advised, the referenced areas include portions of lots 6, 7 & 8. Consequently, it is recommended that the following notation be included on the plat: "The presence of wetlands and other surface waters have been identified within the external boundaries of the Buchanan Park Phase IV Subdivision, specifically lots 6, 7 & 8. The property owner or prospective buyer should contact the U.S. Army Corps of Engineers, Wyoming Regulatory Office in Cheyenne in order to determine the status of specific lots and whether a permit under §404 of the Clean Water Act would be required to develop the property. It may also be necessary to obtain services from a professional qualified to make determinations regarding the presence or absence of wetland before a permit decision could be rendered."

### **Conclusion(s):**

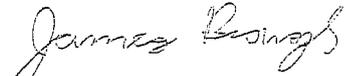
WDEQ has no "adverse" recommendations on this proposed subdivision.

### **Disclaimer**

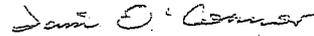
Nothing in WDEQ's recommendations or comments regarding the subdivider's proposal shall be construed to relieve the subdivider of their obligation to obtain any permits or additional approval from any local state or federal agencies/entities as required by law, rules and regulations, or ordinance. Nothing in these recommendations commits the WDEQ or the delegated county to the issuance of required permits for construction, operation, or modification of water supply and/or wastewater systems. It is the duty of the subdivider/developer to comply with all applicable federal, state and local requirements.

Please feel free to contact either Jim O'Connor at 307-335-6942 or James Brough at 307-335-6961 if you have any questions.

Sincerely,



James Brough, P.E.  
Northwest District Engineer  
Water Quality Division

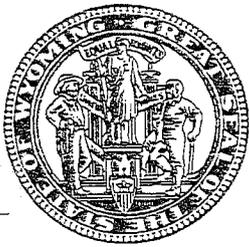


Jim O'Connor, P.G.  
Geological Project Analyst  
Water Quality Division

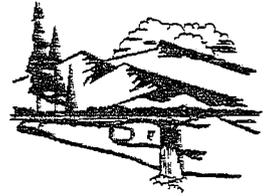
cc: Jeff Kruger, 37 Musser Rd, Cody, WY 82414  
Robert Overfield, P.E., Engineering Associates, P.O. Box 1900, Cody, WY 82414  
Gene Smith, Park County Planner, 1002 Sheridan Ave., Cody, WY 82414  
Mike Ebsen, State Engineer's Office, Herschler Building, 4-E, Cheyenne, WY 82002  
DEQ Subdivision File; w/ enclosure

*IPS*

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# Department of Environmental Quality



To protect, conserve and enhance the quality of Wyoming's environment for the benefit of current and future generations.

Dave Freudenthal, Governor

John Corra, Director

January 13, 2009

Michael Bischoff, Managing Member  
UcLLP  
1375 Cedar Ridge Rd.  
Lehi, UT 84043

RE: Moncur Springs Subdivision, Big Horn County, DEQ/WQD Application #08-817

Dear Mr. Bischoff:

The proposed subdivision is located in portions of §'s 26, 27 & 34 all in T.56 N., R.93 W. (6th P.M. Resurvey) east of the town of Lovell. The proposal lists 25 total lots on a 267 acre tract. The lots will be subdivided in the following manner: 24 residential lots ranging in size from 1.5 to 3.0 acres in size on a 65 acre portion with a single lot approximately 202 acres size reserved for a common area.

Department of Environmental Quality/ Water Quality Division (DEQ/WQD) has reviewed the application and has adverse recommendations for the proposed subdivision. Below are review comments developed by the DEQ with respect to the content and adequacy of the subdivision application materials submitted to DEQ pursuant to Wyoming Statute (W.S.) § 18-5-306 and Chapter 23, Water Quality Rules and Regulations.

## REVIEW COMMENTS:

1. Appendix B contains the percolation test results. This page should display important information such as: 1. date the tests were performed, 2. the hole depths, and 3. duration of presoaking. Attached are the instructions for the percolation test procedures. When the test data is not presented clearly or the tests are not performed as outlined the reviewers have less confidence in the results. Basically, DEQ believes that at least half of the percolation tests were not run long enough and that a consistent time interval should have been followed for the tests.
2. No documentation as to the soil types was included as required by Chapter 23 §7(d)(ii)(B)(I). The consultant identified soils (refer to test hole #2 on Lot 2) with percolation rates in the range of 240 minutes per inch. We pose the following questions: Has this soil type been identified on other lots? What is the extent of these soils on Lot 2? What type of septic system is proposed to mitigate these tight soils? DEQ doesn't



concur with the recommendation that the tight soils be removed and replaced with a sand material with a faster percolating rate. DEQ views this recommendation as constructing an evapotranspiration bed. The requirements for constructing an evapotranspiration bed are much more involved than what is indicated in the consultant's recommendation.

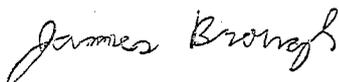
3. WDEQ assumes that the test pit logs were conducted in September 2008 to correspond with the observance of the flow rates from the springs. DEQ believes that the log results from test hole #2 (i.e., reddish brown sand clay) indicate that the seasonal high groundwater level can be much higher than what was observed in the field. DEQ requires that the bottom of leachfields must be at least four vertical feet above the seasonal high groundwater level or impervious layer. DEQ believes that close proximity of the impervious formation and consequently seasonal high groundwater levels are both potential problems for this proposed development.
4. The nitrate level at the down-gradient boundary as calculated by the Chapter 23 Appendix B model is projected to be 9.2 and 9.9 mg/L depending upon the parameters employed in the model. Please be advised, these levels are close to the 10.0 mg/L limit. DEQ noted that an aquifer thickness of 20 feet was used in the model. The test hole logs do not support the aquifer thickness used in the model and consequently the projected nitrate level at the down-gradient boundary would be slightly higher.
5. As stipulated by Chapter 23 §8(a)(iv) all surface and groundwater rights to be used or affected must be listed. Appropriately, the first map in Appendix F lists the surface water rights existing under SEO Permit No 12980. However, no documentation as to the status of the 4 springs was included. Such documentation would include an SEO UW-5 permit and certificate of appropriation with statement of completion for each spring.
6. Per Chapter 23 §8(c)(i), data as to the dependability of the water supply shall be included. Please be advised, in this regard the report cites flow data from the years 1915, 2008 and observations made in September 2008 as the basis for corroborating dependability. However, no data from these citations was included. According to the Division 3 SEO staff in Riverton, historic data can be employed to substantiate dependability. All documentation pertaining to this requirement should be submitted.
7. As stipulated by Chapter 23 §8(c)(i), there appears to be some evidence that the source of the springs is surface water. The consultant noted the close hydraulic connection with surface irrigation water. We agree that irrigation water is the primary source of recharge to these springs. We recommend that a source water protection plan be implemented. To that end, a more detailed explanation of the source of recharge for the springs should be included. Also, the attached screening assessment (Preliminary GWUDI Screening Assessment) must be completed and submitted by the consultant. Please be aware that for public water system sources that are identified as influenced by surface water, that treatment required by EPA is much more complex than simple chlorination.

Wyoming Statute 18-5-306(c)(iii) requires that WDEQ file its recommendations to the county commission within sixty (60) days of receiving the application. Thus, WDEQ recommendations

remain adverse unless the above listed review comments are satisfactorily addressed and reviewed before February 12, 2009.

Please feel free to contact either Jim O'Connor at 307-335-6942 or James Brough at 307-335-6961 if you have any questions.

Sincerely,



James Brough, P.E.  
Northwest District Engineer  
Water Quality Division



Jim O'Connor, P.G.  
Geological Project Analyst  
Water Quality Division

xc: Thomas Pilch, P.E., Pilch Engineering, 41 East Burkitt St., Sheridan, WY 82801  
Big Horn County Board of Commissioners, P.O. Box 31, Basin, WY 82410  
Jim Waller, Big Horn County, P.O. Box 29, Basin, WY 82410

*JPS*  
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# PERCOLATION TEST PROCEDURE

## INSTRUCTIONS

General Information - Complete the general information areas of sections 1., 2., and 3. at the top of the data sheet.

Location of Percolation Test Holes - The percolation(perc) test holes shall be spaced uniformly over the proposed soil absorption (leach field) site. A minimum of three(3) test holes are required. More than 3 can be used if desired.

Test Hole Preparation - Test holes that are 4 to 12 inches in diameter shall be dug or bored to the proposed depth of the leach field (typical depths are 30 to 42 inches). The side walls shall be vertical and a natural soil surface (one which is not smeared from digging) shall be exposed by scraping the sides and bottom of the test hole with a sharp pointed instrument. Any loose material shall be removed from the test hole and several inches of coarse sand or gravel placed in the bottom of the test hole in order to prevent scouring and sealing before the water is poured in.

Presoaking - **PRESOAKING IS ABSOLUTELY REQUIRED** in order to get valid percolation test results. The purpose of presoaking is to have the water conditions in the soil reach a stable condition similar to that which exists during continual wastewater application in a leach field. The minimum time of presoaking varies with soil type and soil conditions, but must be sufficiently long so that the water seeps away at a steady rate. The following presoaking instructions are usually sufficient to establish the proper soil moisture conditions.

- a. Sandy or loose soils - Fill the test hole to within several inches of the top and allow it to seep away. Fill the hole a 2<sup>nd</sup> and 3<sup>rd</sup> time and let the water seep away. If the water continues to all seep away in ten(10) minutes or less, this indicates that the soil is excessively permeable and the site is unsuitable for a standard subsurface disposal system. In this case, the special requirements of Chapter 11, Section 36(d) shall be followed. If water remains after 10 minutes, then further presoaking is necessary before taking any measurements. Refer to the next section for further presoaking instructions.
- b. Other suitable soils - If the soil is suitable for a standard subsurface leach field, then the test holes should be presoaked for at least 4 hours. Maintain at least 12 inches of water in the test holes for at least 4 hours, then allow the soil to swell for 12 hours (overnight is good) before starting the actual perc test measurements.

Perc Rate Measurements - Start the test by filling each test hole with approximately 12 to 18 inches of water. Let the soil rehydrate for about 15 minutes and then refill to 12 to 18 inches deep. Next, decide on a time interval for your test. Time intervals of 10 or 15 minutes are typical. Once decided, the **time interval must remain constant** throughout the test so that it can be determined when the water level drop rate has stabilized. Measure the initial water level (from a fixed reference point such as a flat board across the top of the hole) in each hole and record on the "Start" line in the test data table. To continue, record the actual water level in each hole at the end of each successive time interval. After each water level measurement, calculate the water level drop from the previous measurement and record in the test data table. Continue the test until the water level drop rate (right half of each column) has stabilized; ie. - 3 consecutive equal drop rates within 1/8 inch of each other. Please note that some test holes may take longer than others to stabilize. The test should be continued at each test hole until each drop rate stabilizes. Also please note, a minimum of 6 inches of water should be maintained in the test hole. If the level drops below 6 inches, some additional water should be added between time intervals. Before you use the test data sheet, **make several extra blank copies before you start** in case the tests take more than 10 intervals to stabilize or if you intend to use more than 3 test holes.

Perc Rate Calculation - After the water level drop rates have stabilized in all of the test holes, transfer the last water level drop measurement to the final drop row in the data table. To calculate the perc rate for each test hole, divide the time interval by the final drop. This is the perc rate in minutes per inch(mpi). Depending on how many test holes were used, determine the design percolation rate using either 3a or 3b at the bottom of the percolation test results data sheet.

An Example Test Data Sheet is provided on the back of these instructions to demonstrate how to record the data.

## PERCOLATION TEST RESULTS

1. Performed by: Mike Plumber Test Date(s): 6-23 & 6-24, 99  
 Credentials or Status of Tester: Contractor / installer  
 ( Owner, contractor, installer, engineer, geologist, sanitarian, soil scientist, or other )
2. The **time interval (ti)** between water level measurements was: 10 minutes.
3. **TEST DATA:** The test holes were **PRESOAKED** for:      hours, or  overnight

Test Hole # is:     1         2         3      
 Hole depth (inches) =     34     "     38     "     37     "

Interval Number	Elapsed Time	Water Level / Drop	Water Level / Drop	Water Level / Drop
Start =	<u>    0    </u> min	<u>    17    </u> "		
1	<u>    10    </u>	<u>    18 1/4    </u>	<u>    1 1/4    </u> ←	Water level drop between intervals
2	<u>    20    </u>	<u>    19 1/4    </u>	<u>    1    </u> ←	
3	<u>    30    </u>	<u>    20    </u>	<u>    3/4    </u> ←	The actual water level below the top of the test hole
4	<u>    40    </u>	<u>    20 5/8    </u>	<u>    5/8    </u> ←	
5	<u>    50    </u>	<u>    15    </u>	<u>    Refill    </u> ←	Refill hole if needed and Re-measure actual water level
6	<u>    60    </u>	<u>    15 1/2    </u>	<u>    1/2    </u> ←	
7	<u>    70    </u>	<u>    15 7/8    </u>	<u>    3/8    </u> ←	Continue test until 3 consecutive "drops" are the same to within 1/8 inch total variation
8	<u>    80    </u>	<u>    16 3/8    </u>	<u>    1/2    </u> ←	

Final Drop  
 (NOT Total) =     1/2    "

Perc rate(mpi) is:  
 [ ti / Final Drop ] =  $10 / \frac{1}{2} =$      20.0     mpi

- a. If 6 or more holes were tested, the average perc rate was:     NA     mpi, or
- b. If 3 to 5 holes were tested, the slowest perc rate (largest number) was:     20.0     mpi

# Region 8 SDWA Direct Implementation Policy

Policy #: SWTR 4

Date: 10/08/2002

Subject: Determination of Ground Water Under the Direct Influence of Surface Water

Rule(s): Surface Water Treatment Rules (SWTR, IESWTR, LTIESWTR)

Citation: 40 CFR 141.2, and 40 CFR Subparts H, P, and T

Applies to: All public water systems using a water source(s) which is nominally considered groundwater (wells, springs, infiltration galleries) rather than being readily identifiable as a surface water. (Surface water is defined as water which is open to the atmosphere and subject to surface runoff, and typically encompasses rivers, creeks, lakes, ponds, reservoirs, etc.)

Policy: This policy provides the criteria by which EPA Region 8 determines whether individual water sources are groundwater under the direct influence of surface water (GWUDI), and thus subject to the Surface Water Treatment Rules.

GWUDI is defined in 40 CFR 141.2 as "...any water beneath the surface of the ground with significant occurrence of insects or other macroorganisms, algae, or large-diameter pathogens such as *Giardia lamblia* or *Cryptosporidium*, or significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH which closely correlate to climatological or surface water conditions. Direct influence must be determined for individual sources in accordance with criteria established by the State. The State determination of direct influence may be based on site-specific measurements of water quality and/or documentation of well construction characteristics and geology with field evaluation."

This policy will be implemented as discussed below, and any final positive determination that a source is GWUDI will be enforceable for regulatory purposes. The positive determination may be reversed in the future if a source is physically reconstructed such that it represents a newly-protected source of water (e.g. rebuilding of a spring box); at that time the source will be re-evaluated as for a new source. A negative determination that a source is NOT GWUDI is effective until the time that the source is re-assessed, such as during a sanitary survey. At the time of re-assessment, the survey may indicate that (1) the potential for surface water influence remains, or that (2) hydrogeological, climatological, or other conditions

have changed since the previous negative determination (e.g. regrading of areas has occurred such that surface runoff now is directed toward the source, or a new permanent body of surface water (such as a pond) is now nearby, etc.), or that (3) the physical condition of the source collector has degraded since the last determination (e.g. now missing a sanitary seal). Therefore, re-assessment of the source may be needed to evaluate it against the criteria for determination of GWUDI.

## Implementation:

The evaluation for GWUDI involves a number of steps, as follows:

### A. Preliminary GWUDI Screening Assessment

1. The first step is a preliminary GWUDI screening assessment made during a site visit to the water source(s). This assessment should be made during every sanitary survey, as well as during technical assistance or other site visits where a new source is identified or brought on line, or where there may be some concern about the nature of the existing raw water source(s) (e.g. after identification of coliform-positive samples at a PWS).

The EPA Region VIII screening assessment form is attached as Figure 1 to this policy document. This form may be revised in the future by the Region 8 program if field experience indicates that the various factors, or risk index points for the factors, are no longer appropriate. Revisions should occur no more than annually.

2. A separate assessment form should be completed for each individual water source (well, spring, infiltration gallery). When sources are re-visited during subsequent sanitary surveys, the sources should be re-scored as part of the survey process (except for sources previously determined to be GWUDI and currently filtering and disinfecting the water to SWTR requirements). The GWUDI scores for each source should be indicated on the front page of the sanitary survey report, and the assessment forms kept with a copy of the survey report in the facility file.
3. After the completion of the sanitary survey, if the water system has any groundwater sources scoring 40 points or more on the screening assessment, the survey and assessment should be routed to the SWTR manager. These groundwater sources are considered higher risk for surface water influence. Typically, the SWTR manager will prepare a letter to the PWS, notifying them of the concerns that their source(s) may be GWUDI. The sanitary survey transmittal letter should also indicate those concerns, and state that another letter about the GWUDI determination process is forthcoming.
4. A sample letter to a PWS describing the nature of the preliminary assessment screening findings is in Figure 2. In some cases, physical improvements to the source (e.g. putting a watertight sanitary seal on the well casing cap, making a springbox watertight) may be sufficient to remove the GWUDI concerns. The

PWS can be notified in the letter that we strongly recommend these system improvements, and we will offer to revisit the site and "rescore" the source. If the rescore is below 40, a negative GWUDI determination can be made. For those source(s) where the GWUDI concerns are significant such that physical improvements cannot alleviate the GWUDI concerns (i.e. it could not rescore below 40), or for those sources where the PWS refuses to make the system improvements, as discussed in the sample letter EPA Region 8 will initiate the second step of the GWUDI determination process. Note that other options for the PWS are also outlined in the letter (e.g. abandon the source, find an alternative source of safe drinking water, etc.).

## B. Site-Specific Water Quality/Field Evaluation for GWUDI Determination

The second step of the GWUDI determination involves evaluation of those items critical to the definition of ground water under the direct influence of surface water: (1) significant occurrence of insects or other macroorganisms, algae, or large-diameter pathogens such as *Giardia lamblia* or *Cryptosporidium*, or (2) significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH which closely correlate to climatological or surface water conditions. A GWUDI determination can be made for a raw water source meeting either of these conditions; both are not necessary.

1. The first option, involving monitoring the quality of the raw source water and comparing it to that of a nearby body of surface water (if available) and to climatological conditions, is not as frequently used in Region 8 as the second option (below). For a PWS with a body of surface water nearby, the system would collect and document the following data at the raw water intake, and in the nearby surface water: daily measurements of temperature, turbidity, pH and conductivity, and also the climatological conditions for at least a year. For a PWS without a surface water body nearby, the daily raw water data from the intake would be compared to the climatological data and evaluated for significant and relatively rapid shifts in the raw water quality. The protocol for conducting the water quality monitoring will be developed on a case-by-case basis, for the specific site. The Region should examine the sets of data taken over a year's period, to look for those significant and relatively rapid shifts in the raw water characteristics, and whether they correlate to similar changes in the surface water or climatological conditions. This option may be coupled with a hydrogeological assessment of the source, and possibly collection of MPA samples (see discussion below). The key criteria, however, will be the occurrence of significant and relatively rapid shifts in raw water quality.
2. The second option, of looking for surface water bio-indicators or their surrogates, is generally preferred. This option makes use of the process known as "Microscopic Particulate Analysis" or MPA. The MPA collection and analysis procedures endorsed by EPA Region 8 follow those outlined in the October, 1992

EPA Document "Consensus Method for Determining Groundwaters Under the Direct Influence of Surface Water Using Microscopic Particulate Analysis (MPA)" (EPA 910/9-92-029). The procedures used during MPA attempt to quantitatively equate the significant occurrence of primary and secondary surface water indicator organisms to a relative risk factor for a particular raw water supply. Primary bio-indicators include *Giardia*, coccidia, diatoms, non-diatomaceous algae, insects/larvae, rotifers, and plant debris. EPA Region VIII policy has been to assist the PWS during sample collection, but require the PWS to pay for the laboratory analysis costs.

3. MPA sample collection procedures involve collecting at least 500 gallons of the source water over a cartridge filter. The samples should be collected during critical periods over a 12 - 18 month timeframe; at least one sample collected following a heavy rain fall or snow melt or irrigation season (i.e. saturated ground conditions) and one sample collected during the late summer or following an extended period of little or no rainfall (dry season). At least two samples are needed; if these are inconclusive, a third sample will be required.
4. The letter to the PWS describing the MPA requirements (see Figure 2) should include a "due date" allowing sufficient time (12 - 18 months) to take the MPAs during these seasons. The collected samples are then sent to a laboratory experienced in conducting MPA analyses; a partial list of such reference labs is attached to this document as Figure 3. These are known and credible aquatic biological laboratories specializing in the analysis of waterborne parasites and particulate; this list does not imply any endorsement from EPA.
5. The relative risk factors obtained from the MPA analyses, along with the site-specific hydrogeology and other information, are used to make the final GWUDI determination. Figure 4 contains the EPA Region 8 protocol for MPA interpretation. In general, if any MPA result shows high risk ( $\geq 20$ ), or if the first two MPA results show very low risk ( $\leq 9$ ), and the MPAs were taken during critical periods, a definite determination may be made regarding GWUDI. Occasionally a third MPA is needed to make a final determination. If the third MPA results are inconclusive, EPA Region 8 will use other information available to make a final GWUDI determination.
6. It is important to note that, for negative GWUDI determinations, EPA Region 8 will indicate that the groundwater source will retain its groundwater status, and at this time not be subject to the SWTR. However, as discussed earlier in this policy document, the source will be re-evaluated during subsequent sanitary surveys, or during times when conditions may change (e.g. after positive TCR sample results). In Region 8, this means that additional MPAs may be required for these higher risk sources (which score  $\geq 40$  on the preliminary assessment) at least once every 5 years, if not sooner. A sample letter indicating negative GWUDI determination is shown in Figure 5.

7. For positive GWUDI determinations, EPA Region 8 will indicate that, if the PWS wishes to continue using this source, filtration and disinfection must be installed within 18 months of the notification, or filtration avoidance criteria must be met. If EPA believes that continuous disinfection is necessary to protect public health prior to the 18 month deadline, pursuant to 40 CFR 141.72 we may require interim disinfection. The PWS is given the opportunity to request a public hearing on this filtration decision, and as always, has the opportunity to abandon the source and find an alternative source of safe drinking water. A sample letter indicating a positive GWUDI determination is shown in Figure 6.
8. The positive GWUDI determination should be entered into the SDWIS database (the facility inventory data should reflect a source change from GW to GU), and, if applicable, the facility should also be notified that its sampling schedule under the Total Coliform Rule will change to monthly monitoring (for non-community systems that were previously on quarterly monitoring).

Reviewed by: Wyoming and Tribal PWSS Direct Implementation Teams, R&M/DBP Rule Manager,  
8MO, 8ECEI,

Figure 1 -Preliminary GWUDI Screening Assessment

Environmental Protection Agency, Region VIII  
 999 18th St. Suite 300 (8P-W-MS)  
 Denver, Colorado 80202-2466

ASSESSMENT OF Ground Water Under The Direct Influence Of  
 Surface Water (GWUDISW)  
 (GWUDISW is subject to the Surface Water Treatment Rule)

Public Water System Name: \_\_\_\_\_ PWS# \_\_\_\_\_

Well/Spring/Infiltration Gallery Name: \_\_\_\_\_ County: \_\_\_\_\_

State Engineer's Office Ground Water Permit #: \_\_\_\_\_

Department of Environmental Quality Construction Permit #: \_\_\_\_\_

Date of Assessment: \_\_\_\_\_ Analyst: \_\_\_\_\_

Index Points                      Score

A. TYPE OF SUBSURFACE WATER SOURCE (Circle One)

- Well, equal to or greater than 50 ft. deep (\*)..... 0
- Well, less than 50 ft. deep. (\*)..... 5
- Spring..... 10
- Infiltration Gallery, more than 2 ft deep..... 10
- Infiltration Gallery, at or < 2 ft deep ..... 25

(\*) depth to first screen or perforation for groundwater entry

B. HISTORICAL MICROBIOLOGICAL CONTAMINATION (Circle )

- History or suspected outbreak of Giardia  
 or other pathogenic organisms associated with  
 surface water with current system configuration. .... 50
- Record of total coliform acute MCL violations  
 over last 3 years..... 30
- Record of total coliform monthly MCL violations  
 over last 3 years
  - One Month..... 5
  - Two Months..... 10
  - Three Months..... 20
- Regulatory agency verifies complaints about  
 turbidity or suspected waterborne disease..... 10

C. HYDROBIOLOGICAL FEATURES (Circle)

Distance between a surface water source and the groundwater collector  
(vertical well, spring box or infiltration gallery)

Over 200 ft.....	0
100 - 200 ft.....	5
Less than 100 ft.....	10

Well, spring, or infiltration gallery located on floodplain  
at approximate altitude of stream..... 20

Surface runoff drains toward well, spring, or infiltration gallery..... 15

Source aquifer that is alluvial material, cavernous, or  
fractured. .... 15

D. STRUCTURAL FEATURES (Circle)

WELLS (includes wells collecting water from infiltration galleries)

Uncased well ..... 40

Casing not properly sealed (such as no concrete slab extending  
2 - 4 feet around and sloping away from casing, or seal is  
loose or missing bolts holding it in place, or annular space  
around casing is not grouted to 20 foot depth) ..... 15

No watertight sanitary seal on well casing cap ..... 15

SPRING COLLECTION BOX (includes collection vaults collecting water  
from infiltration galleries)

Deep-rooted vegetation (e.g. trees, shrubs) around springbox,  
providing conduit for surface water into spring water..... 15

Springbox is not watertight, with watertight  
overlapping lid or cover ..... 15

Overflows or drains open to atmosphere or allow entrance  
of animals (unscreened) ..... 15

Marshy (standing water) around spring collection area ..... 30

TOTAL SCORE (\*)

(\*) total score of  $\geq 40$  indicates further assessment is needed

COMMENTS:

STATE OF WYOMING  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
UNDERGROUND INJECTION CONTROL PERMIT ISSUED UNDER  
WYOMING WATER QUALITY RULES AND REGULATIONS  
CHAPTER 16

CLASS V INJECTION WELL

( ) New  
(X) Modified (Renewal)

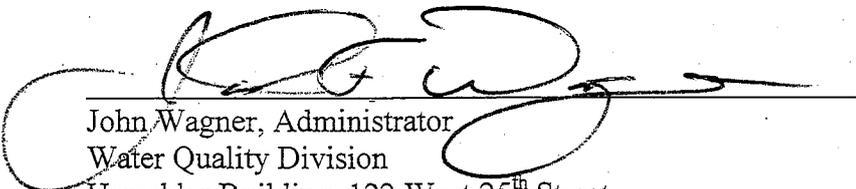
Permit Number **08-819**  
Previous Permits 5E3-98-1  
Facility Number WYS-007-007

In compliance with the Wyoming Environmental Quality act (W.S. 35-11-101 through 1104, specifically 301(a)(i) through 301 (a)(iv), Laws 1973, Ch. 250, Section 1) and Wyoming Water Quality Rules and Regulations, Chapter 16.

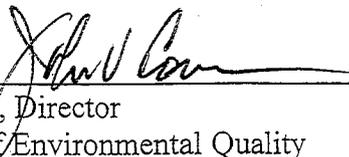
Applicant: Wyoming Department of Transportation  
Attn: Larry J. Lijewski, Facility Coordinator  
900 Bryan Stock Trail  
Casper, WY 82601  
(307) 473-3214

Wyoming Department of Transportation, hereafter referred to as the permittee, is authorized to operate the replacement septic system in the NE $\frac{1}{4}$  of the SW $\frac{1}{4}$  of the SE $\frac{1}{4}$  of Section 34, Township 28 North, Range 89 West, of the 6<sup>th</sup> Principal Meridian, Carbon County, according to the procedures and conditions of application 08-819 and requirements and other conditions of this permit.

This permit shall become effective on date of issuance.

  
\_\_\_\_\_  
John Wagner, Administrator  
Water Quality Division  
Herschler Building, 122 West 25<sup>th</sup> Street  
Cheyenne, WY 82002  
(307)-777-7781

8/18/09  
Date

  
\_\_\_\_\_  
John V. Corra, Director  
Department of Environmental Quality  
Herschler Building, 122 West 25<sup>th</sup> Street  
Cheyenne, WY 82002

8/19/09  
Date

ADN/rm/9-0726

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S.	Severability .....	9

## A. Discharge Zone

This injection facility (sanitary leach field system) is authorized to inject 1,400 gallons/day average, and 3,150 gallons/day maximum from a WYDOT housing facility with 7 mobile homes into the quaternary alluvial aquifer which is at least 25 feet below ground surface.

## B. Well and Area of Review

The injection well authorized by this permit is located as follows:

NE¼ of the SW¼ of the SE¼ of Section 34, Township 28 North, Range 89 West, 6<sup>th</sup> Principal Meridian

The Area of Review is defined as a circular area of 360 acres with the injection facility located near its center.

The Area of Review is based upon the following assumptions:

**Table 1 (Area of Review Inputs)**

Description	Inputs	Units
Permit Duration	10	Years
Porosity	30	Percent
Maximum Injection Rate	3,150	GPD
Thickness of Receiver	20	Feet
Area of Review	360	Acres
Hydraulic Conductivity	30	Feet/Day

## C. Groundwater Classification

The groundwater in the unconfined alluvial aquifer is classified as Class III according to Wyoming Water Quality Rules and Regulations, Chapter 8. This classification is made because the groundwater in this formation has a total dissolved solids (TDS) concentration greater than 500 mg/L and a sulfate (SO<sub>4</sub>) concentration greater than 200 mg/L. Ground water of Class III shall not be degraded to make it unusable as a source of water for livestock.

## D. Authorized Operations

The permittee is authorized to continue injecting 1,400 gallons/day average, and 3,150 gallons/day maximum, of wastewater into the existing injection well system. The wastewater is described as secondary treated domestic sewage.

If additional sewage flows are added beyond those identified in the permit application, the leach field and/or treatment system may need to be enlarged in which case the permittee must submit a revised application and receive a new permit prior to modification of the leach field or treatment system.

## **E. Hazardous Waste**

This permit does not allow for the injection of any hazardous waste as defined in 40 CFR 261.3 and in Wyoming Solid Waste Management Rules and Regulations, Chapter 2. Injection of any substance defined as a hazardous waste, whether hazardous by listing or by characteristic is a violation of this permit.

## **F. Proper Operation and Maintenance**

The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit. The permittee shall operate and maintain all facilities and systems of treatment and control which are installed or used by the permittee to achieve compliance with the conditions of the permit. Proper operation and maintenance includes: effective performance, adequate funding, operator staffing and training, and 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 conditions of this permit. The injection wells covered by this permit shall meet all construction requirements outlined in Wyoming Water Quality Rules and Regulations, Chapter 11 and Chapter 16.

The permittee is required to operate in accordance with statements, representations and procedures presented in the complete permit application and supporting documents as accepted and approved by the Administrator. Any modifications which will result in a violation of permit conditions shall be reported by submission of a new or amended permit application and shall not be implemented until a new or modified permit has been issued. Injection into a well may not begin until construction is complete and the permit is approved.

## **G. Entry and Inspection**

The permittee shall allow the Administrator (upon presentation of credentials and during normal working hours) to enter the premises where a regulated facility is located, or where records are kept under the conditions of this permit and inspect and photograph the discharge and related facilities, review and copy reports and records required by this permit, collect fluid samples for analysis, measure and record water levels, and perform any other function authorized by law or regulation.

## **H. Environmental Monitoring Program for Groundwaters of the State**

General Requirements:

1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
2. The permittee shall retain records of all monitoring information including all calibration and maintenance records, copies of the reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three (3) years from the date of the sample measurement, report, or application. This period may be extended by request of the Administrator at any time.

3. The permittee shall use electronic data deliverable (EDD) reporting when required by the Administrator.
4. Records of monitoring information shall include:
  - a. The date, exact place, and time of sampling or measurements;
  - b. The initials or name(s) of the individual(s) who performed the sampling or measurements;
  - c. The date(s) analyses were performed;
  - d. The time(s) analyses were initiated;
  - e. The initials or name(s) of the individual(s) who performed the analyses;
  - f. References and written procedures for the analytical techniques or methods used;
  - g. The results of such analyses, including the bench sheets, instrument readouts, computer disks or tapes, etc., used to determine these results.
5. Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.
6. The permittee shall retain all records concerning the nature and composition of injected fluids until five (5) years after completion of any specified plugging and abandonment procedures. The administrator may require the owner/operator to deliver the records to the administrator at the conclusion of the retention period.
7. The permittee shall report any noncompliance which may endanger health or the environment within 24 hours from the time the operator becomes aware of the circumstances. The report should include:
  - a. Any monitoring or other information which indicates that any contaminant may cause an endangerment to a usable groundwater of the state;
  - b. Any noncompliance with a permit condition or malfunction of the discharge (injection) system which may cause fluid migration into or between usable ground waters of the state;
  - c. A written submission shall be provided within 5 days of the time the operator becomes aware of the circumstances. This written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected; the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
8. The permittee shall report all instances of noncompliance not reported otherwise, at the time monitoring reports are submitted.
9. The monitoring reports shall be submitted on forms provided by the Department. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 45 days following each schedule date.

#### **I. Requirements for Monitoring the Discharge**

The groundwater in the receiving formation shall be sampled and the following parameters analyzed according to the schedule identified in **Table 2**. The following parameters shall be analyzed semi-annually by the listed methods and reported annually:

**Table 2 (Semi-Annual Groundwater Sampling Schedule)**

WELL NAME OR NUMBER	SAMPLING SCHEDULE	PARAMETER ANALYZED	ANALYTICAL METHOD	PERMIT LIMIT or UCL
MW-1 MW-2 MW-3	Once prior to the end of each semi-annual period	Ammonia as N	SM 4500 NH <sub>3</sub> H	0.50 mg/L
		Chloride	SM 4500 CL B	250 mg/L
		Nitrate	SM 4500 NO <sub>3</sub> E	10 mg/L
		Total Volume Injected	Flow meters	3,150 gpd
		Top of casing elevation (ft)	Casing elevation must be surveyed	Not applicable
		Depth to static water (ft)	Steel tape with chalk or electronic tape	Not applicable

\*All applicable chemical concentrations in this permit are expressed as total (not dissolved) in mg/l unless otherwise noted.

All annual reports are to be reported within forty-five (45) days of the last day of the year. Sampling periods are identified as follows: 01/01-06/30, 07/01-12/31.

The above upper control limit (UCL) cannot be exceeded in any sample. Exceedance of this value is a violation of this permit and shall require notification under Section K of this permit. Failure to perform and report analyses in accordance with the prescribed schedule and method is also a violation of this permit.

**J. Test Procedures**

All samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. All samples taken shall include a trip blank of distilled water for each sampling date and a duplicate sample at least once per year. All required analyses shall be conducted in compliance with Wyoming Water Quality Rules and Regulations, Chapter 8, Section 7.

**K. Records and Reports**

The permittee shall furnish to the Administrator within a specified time any information which the Administrator may request relating to the operation of the facility, including copies of records required to be kept by this permit. The permittee shall retain copies of all records and reports required by this permit for a period of three (3) years following permanent well abandonment. After that time, those records shall be delivered to the Administrator for disposal or archive at his discretion. Confirmed noncompliance resulting in the migration of injected fluid into any zone outside the permitted receiver shall be reported to the Administrator within twenty-four (24) hours, and a written submission (via certified mail) shall be provided within five (5) days of the time the permittee becomes aware of the excursion. The written submission shall contain: a description of the noncompliance; the period of noncompliance, including exact dates and times, and if the noncompliance has not been controlled, the anticipated time it is

expected to continue; and a list of the steps taken or planned to reduce, eliminate, and prevent the recurrence of the noncompliance. Confirmed noncompliance not already reported under this section shall be reported at the time monitoring reports are submitted. The reports shall contain the same information as required by the paragraph above. The permittee shall notify the Administrator thirty (30) days in advance of any planned alteration, conversion, or abandonment of the well covered by this permit.

#### **L. Permit Actions**

This permit is authorized for a period of ten (10) years. If the permittee wishes to continue injection after the expiration date of this permit he shall apply to the Administrator and obtain a new permit. The application should be submitted at least 180 days before the expiration date of this permit. Under this permit, the Department may consider injection after the expiration date a violation of the permit.

It shall not be a defense for the permittee in an enforcement action that it would be necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. The filing of a request by the permittee, or at the instigation of the Administrator, for permit modification, revocation, termination, or notification of planned changes or anticipated noncompliance shall not stay any condition of this permit.

After notice and opportunity for a hearing, a permit may be modified, suspended or revoked in whole or part during its term for cause which includes, but is not limited to any of the following:

1. Violation of this permit; or
2. Obtaining a permit by misrepresentation of facts in the application.

This permit will be reviewed at least once every five (5) years, and may be reviewed more frequently. A permit may be modified at any time as may be required, including for conformity with changes in regulations or standards which occur after the permit was issued. A permit may be modified in whole or part in order to apply more or less stringent standards; or prohibitions for toxic or other substances present in the permittees discharge as may be ordered by the Environmental Quality Council.

#### **M. Abandonment**

General Requirements:

1. The permittee shall notify the administrator at least thirty (30) days prior to abandonment of the facility.
2. An abandonment report, detailing the compliance with abandonment procedures outlined in the original application for coverage under this permit, or describing any deviations from the original plan, shall be submitted as soon as practicable after abandonment. The abandonment shall include reclamation of the well site.
3. Injection wells covered by this permit shall be abandoned in accordance with Wyoming Water Quality Rules and Regulations, Chapter 16, Section 12.

## N. Duties of the Permittee

The permittee shall give advance notice to the Administrator as soon as possible of any planned physical alteration or additions, other than authorized operation and maintenance, to the permitted facility and receive authorization prior to implementing the proposed alteration or addition. The permittee shall furnish the Administrator within a reasonable time any information which the Administrator may request to determine whether cause exists for modifying, revoking, or reissuing, or terminating this permit, or to determine compliance with this permit; and to furnish to the Administrator upon request, copies of records required to be kept by this permit. Any modification which may result in a violation of a permit condition shall be reported to the Administrator, and any modification that will result in a violation of any permit conditions shall be reported to the Administrator through the submission of a new or amended permit application. The permittee shall report all instances where he becomes aware that he failed to submit any relevant facts in the permit application, or where he submitted incorrect information in a permit application or in any report to the Administrator, and shall promptly submit such facts or information.

If any cultural materials are discovered during construction, work in the area should halt immediately. The Administrator and the Wyoming State Historic Preservation Office shall be contacted (777-7697) and the materials shall be evaluated by an archaeologist or historian meeting the Secretary of the Interior's Professional Qualification Standards (48 FR 22716, Sept. 1983).

## O. Signatories Requirement

All reports filed in conjunction with this permit shall contain 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 knowing violations."

All reports required by this permit and other requested information shall be signed as follows:

For a corporation – by a principal executive officer of at least the level of vice-president;

For a partnership or sole proprietorship – by a general partner or the proprietor, respectively;

For a municipality, state, federal, or other public agency – by either a principal executive officer or ranking elected official; or

By a duly authorized representative for any of the above. A person is a duly authorized representative only if:

1. The authorization is made in writing by one of the prescribed principals;

2. The authorization specifies either an individual or position having responsibility for the overall operation of the regulated facility or activity; and
3. The written authorization is submitted to the Administrator.

If an authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization must be submitted to the Administrator prior to or together with any reports or information, to be signed by the new authorized representative.

#### **P. Noncompliance**

The permittee shall comply with all conditions of the permit. Any permit noncompliance constitutes a violation of Wyoming Water Quality Rules and Regulations, Chapter 16 and is grounds for enforcement action, permit termination, revocation, or modification. Conformed noncompliance resulting in an excursion shall be reported to the Administrator orally within twenty-four (24) hours, and a written submission shall be provided within five (5) days of the time the permittee becomes aware of the excursion. The written report shall contain the sections specified in Section K of this permit. Any permit noncompliance constitutes a violation of this permit.

The filing of any 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.

#### **Q. Permit Transfer**

Any transfer of this permit shall be accomplished by the submission of the proper forms for permit transfer to the Administrator. Transfer of this permit must first be approved by the Administrator and the Director. No transfer shall be approved unless the proposed permittee agrees to bring any and all noncompliance issues into compliance with this permit. The permittee is alone responsible for the operation of the facility covered by this permit. Sale of the facility and subsequent operation of this facility by another is a violation of this permit unless a transfer of this permit has first been accomplished.

#### **R. Property Rights**

This permit does not convey any property rights of any sort or any exclusive privilege. This permit does not authorize injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.

#### **S. Severability**

Nothing in this permit shall be construed to preclude the institution of any legal action or to relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation.

STATEMENT OF BASIS FOR A UIC PERMIT

I. General information.

- A. UIC Permit Number: **08-819**
- B. Facilities Covered: Muddy Gap Employee Housing Site Septic System Replacement
- C. Class of Facility: Class V (Wyoming Water Quality Rules and Regulations, Chapter 16)

II. Application reviewed for compliance with the following regulations. (Indicate yes or no for each section)

- |               |     |               |     |
|---------------|-----|---------------|-----|
| A. Chapter 8  | Yes | D. Chapter 12 | No  |
| B. Chapter 9  | No  | E. Chapter 13 | No  |
| C. Chapter 11 | Yes | F. Chapter 16 | Yes |

III. Basis for issuing permit (Indicate yes or no for each section).

- A. Review of application package indicates proposed facility will be in compliance with applicable regulations identified in Section II.

Yes

- B. Permit based on deviation from applicable regulations in accordance with approved policy statement.

No

IV. Facilities not specifically covered by regulations. (Indicate the section number of the regulations and briefly summarize the regulation).

Not Applicable

V. Application requires review to determine groundwater impacts in accordance with Wyoming Water Quality Rules and Regulations, Chapter 3, Section 17. Note that sediment ponds, public water supplies, sewerage systems, and small wastewater systems are exempt from the requirements of Section 17. (Indicate either applicable or not applicable. If not applicable delete all of section VI from the Statement of Basis).

Applicable. A groundwater review has been conducted to insure that no groundwater will be impacted by this system.

VI. Documentation of Statement of Basis.

- A. The archives file for this permit will include adequate documentation of all sections of this Statement of Basis.

VII. Applicant and Public Participation

- A. The applicant has been provided with a draft permit prior to the permit being issued.

- B. A Public Notice has been issued with a public notice period starting July 7, 2009 and ending on August 6, 2009 (30 day notice as required by Wyoming Water Quality Rules and Regulations, Chapter 16). This notice was published in the Casper Star Tribune on or before the start of the public comment period.

#### CERTIFICATION

The issuance of this permit is based upon a review of the application package submitted in accordance with the requirements of Wyoming Water Quality Rules and Regulations, Chapter 16, Section 6. This review was performed by Adrienne D. Nunn, Engineering Consultant, and completed on June 22, 2009. Permit issuance is recommended based upon statements, representations, and procedures presented in the permit application and supporting documents, permit conditions, and the items identified in this "Statement of Basis".

ADN/rm/9-0726



# Department of Environmental Quality



To protect, conserve and enhance the quality of Wyoming's environment for the benefit of current and future generations.

Dave Freudenthal, Governor

John Corra, Director

August 20, 2009

Wyoming Department of Transportation  
Attn: Larry Lijewski  
900 Bryan Stock Trail  
Casper, WY 82601

RE: Muddy Gap Employee Housing  
Draft Permit **08-819**, Class V Septic System  
Carbon County, Wyoming

Dear Mr. Lijewski:

Attached please find one copy of the Class V permit for the above referenced facility. This permit requires sampling on a semi-annual basis and reporting on an annual basis within 45 days of the end of each calendar year.

The permit application, draft permit, final permit, public notice, and report forms are available for review on the GEM website <https://gem.trihydro.com>. The corresponding report forms can be filled out using our on-line webform (Monitor Reports Link), or one may have the lab submit them using EQUIS Electronic Data Deliverable (EDD).

The underground injection control program was promulgated to prevent serious problems caused by direct discharges to the groundwater. Those problems included groundwater pollution leading to contamination in domestic water wells and serious health affects caused by exposures to toxic substances and water borne pathogens. Your cooperation with our program is sincerely appreciated.

If you have any questions please do not hesitate to contact me at (307) 777-6428, [anunn@wyo.gov](mailto:anunn@wyo.gov) or at the address listed below.

Sincerely,  
  
Adrienne Nunn, EIT  
Engineering Consultant  
Water Quality Division

ADN/rm/9-0726

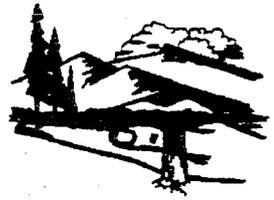
Enclosures: Permit

cc: WWC Engineering, Jack Fritz PE, 1849 Terra Ave, Sheridan, WY 82801  
Kevin Frederick, WDEQ





# Department of Environmental Quality



To protect, conserve and enhance the quality of Wyoming's environment for the benefit of current and future generations.

Dave Freudenthal, Governor

John Corra, Director

April 9, 2009

Wyoming Department of Transportation  
Attn: Larry Lijewski, Facility Coordinator  
900 Bryan Stock Trail  
Casper, WY 82801

RE: UIC 08-819, Leach field  
Class V injection well application, Carbon County

Dear Mr. Lijewski:

Attached are comments developed by the Wyoming Department of Environmental Quality (WDEQ) with respect to the content and adequacy of the Wyoming Water Quality Rules and Regulations, Chapter 16, Class V permit application.

The WDEQ received this application on December 3, 2008 and has until February 3, 2009 to make an initial determination of completeness (60 days). Re-submittal of information by an applicant on an incomplete application will begin a new 60 day review process. Pursuant to Chapter 16, Section 6(h), during any 60 day review period where an application is determined complete, a draft permit for issuance or denial shall be prepared and a public notice provided pursuant to Chapter 16, Section 13.

Please feel free to contact me at (307) 777-6428 should you have any questions related to these comments or the application and review process.

Sincerely,

Adrienne Nunn  
Engineering Consultant  
Water Quality Division

AN/bb/9-0292

Attachments: WDEQ Comments

cc: Jack W. Fritz P.E., WWC Engineering, 1849 Terra Ave., Sheridan, WY 82801  
Pete Vogel, WDEQ  
Ron Ewald, WDEQ



**UNDERGROUND INJECTION CONTROL PROGRAM  
REVIEW COMMENTS:  
PLANS/SPECIFICATIONS/PROPOSALS/REPORTS**

**WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION**

Herschler Bldg., 4 West  
Cheyenne, Wyoming 82002  
307-777-7781

**PROJECT:** Muddy Gap Employee Housing Site

**LOCATION:** Muddy Gap, Wyoming

**APPLICANT:** Wyoming Department of Transportation  
900 Bryan Stock Trail  
Casper, WY 82601

**OWNER:** Wyoming Department of Transportation  
900 Bryan Stock Trail  
Casper, WY 82601

**CONSULTANTS:**

**GEOLOGIST:** None

**ENGINEER:** WWC Engineering  
Jack Fritz  
1849 Terra Avenue  
Sheridan, WY 82801

**TITLE:** *"Muddy Gap Employee Housing Site design Report for Septic System Replacement, Carbon County"*

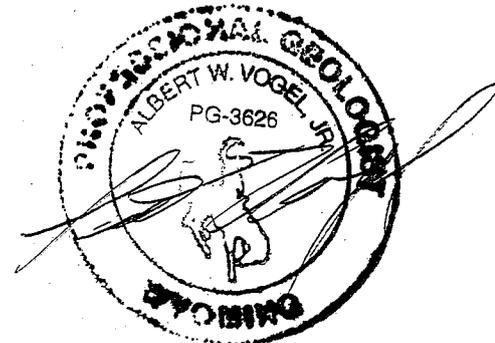
PLANS     SPECS     PROPOSAL     REPORT

**DATE ON PROPOSAL/PLANS/REPORT:** December 1, 2008

**DATE RECEIVED BY WDEQ:** December 3, 2008

**WDEQ REVIEWER:** Pete Vogel, P.G.  
UIC Geological Project Analyst

**INITIAL REVIEW DATE:** April 8, 2009



DATE OF THIS REVIEW: April 8, 2009

ACTION: Application Incomplete; See Attached Comments

I. WDEQ Hydrogeological Comments:

Specific Comments - Additional Information Required (Pete Vogel: 307-777-8580)

1. Instruction 5. for application submittals requires "...background water quality data to facilitate the classification of any *groundwaters* which may be affected by the proposed discharge. This must include information necessary for the division to classify the receiver and any secondarily affected aquifers under Chapter 8, Wyoming Water Quality Rules and Regulations."

This information is not provided.

2. The monitoring well requirement is specified in the engineering review.

ENGINEERING REVIEW OF UIC PLANS AND SPECIFICATIONS  
WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION

Herschler Bldg., 4 West  
Cheyenne, Wyoming 82002

FOR: John Passehl

PROJECT: Muddy Gap Employee Housing Site UIC Septic System Engineering Review – 5E3  
Sewage Disposal System Permit Renewal/Replacement

LOCATION: T28N, R89W, Section 34, SE ¼, SW¼, NE¼ **Carbon County**

ENGINEER: Jack W. Fritz P.E. #10092  
WWC Engineering.  
1849 Terra Ave.  
Sheridan, WY 82801

APPLICANT: Wyoming Department of Transportation  
Attn. L. J. Lijewski, Facility Coordinator  
900 Bryan StockTrail  
Casper, Wyoming 82601

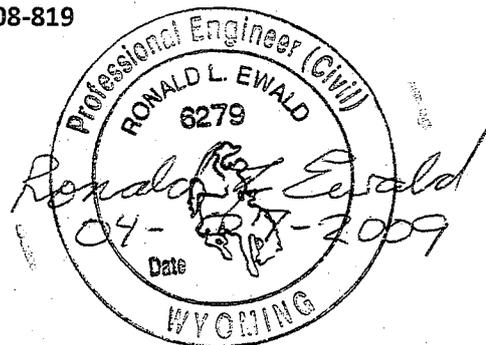
WATER QUALITY DIVISION REFERENCE NUMBER: UIC 08-819

REVIEWING ENGINEER: Adrienne D. Nunn, E.I.T. *AN*  
Phone: (307)-777-6428

APPROVING ENGINEER: Ronald L. Ewald P.E.  
Phone: (307) 777-6183

DATE OF REVIEW: April 7, 2009

ENGINEER'S REVIEW SUMMARY RECOMMENDATION: NOT APPROVABLE



**ENGINEERING REVIEW COMMENTS:**

1. Technical Engineering Review Extent: The septic system under review is a replacement of a permitted septic system built in 1979. The new septic system is designed for a peak flow of 3,150 gallons per day (gpd) with an average design flow of 1,400 gpd. The existing pipe network from the modular home just past the manhole will be kept. The engineering review begins at the new piping and extends through two 5000 gallon septic tanks in series, a dosing tank, and a new leach field.

2. Percolation Tests: The percolation value of 8 min/in used for sizing the leach field is questionable. In Appendix C of the design report, the last three values of each percolation test were averaged. Only the **last value** (after the water level drop rate has stabilized) of the test should be used for design. The reason the last value should be used is because it is typically the slowest. When the last value is used from each percolation test, an average value of at least 9 min/in is calculated as opposed to 8 min/in. This changes the loading rate from 0.68 to 0.65 gpd/ft<sup>2</sup> and increasing the required leach field area by about 5%. However, an average percolation value of 9 min/in can only be obtained if the percolation rate results from MC-7 are thrown out. The cause of the poor percolation rate cannot be confirmed by the textural classification alone. Therefore it is recommended that additional percolation tests on the south east side of the proposed and replacement leach field areas are done to either prove or disprove that the percolation value of 125 min/in is an anomaly. Either way, the two new percolation test results should be included in the average perc rate calculations.

For test hole number MC-2 the percolation rate of the soil becomes faster from beginning (5.95 min/in) to the end (4.17 min/in). Please provide an explanation for this behavior since the opposite trend is expected.

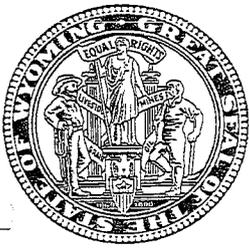
Section 6.1 describes installing backhoe test pits then placing percolation test holes in the center of each pit. Please provide a cross-section of the backhoe test pits and percolation holes so that the exact depth of the percolation tests relative to the ground surface is clear.

3. Septic Tanks: Two partitioned, 5,000 gallon septic tanks are proposed to run in series. Chapter 11, Part D, section 39(a)(iii)(B) requires that the first compartment (or tank in this case) must contain at least 50% of the total settling volume. Removal of the partition in the first septic tank would satisfy this requirement.

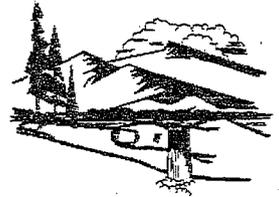
Just as a note to the engineer, on page 8 of the design report, the scum storage depth needs to be 20% of the liquid depth, not the total tank depth. This can be found in Ch. 11, part D, Section 39, (a) (iii) (C).

4. Dosing Tank: The dosing tank is to be equipped with audible and visible alarms to sound at "high water" and "low water". Physically, where are the alarms located so that someone will see and/or hear them? Will the alarm be visible/audible in an office or will someone be responsible for watching the septic system?
5. Monitoring System: There is no proposed monitoring system. The new permit is an individual permit and requires three monitoring wells. Two monitoring wells have to be placed down gradient of the system and one monitoring well has to be placed up gradient of the system. A drinking water well may be used as the up gradient monitoring well.

**Recommendation to John Passehl:** The application is not approvable since the system does not meet the minimum requirements.



# Department of Environmental Quality



Dave Freudenthal, Governor

To protect, conserve and enhance the quality of Wyoming's environment for the benefit of current and future generations.

John Corra, Director

## NOTIFICATION OF COVERAGE

January 5, 2009

Paul Von Stein, Project Manager  
Safeway, Denver Division  
6900 South Yosemite  
Centennial, CO 80112

RE: WDEQ Permit No. 08-820, Lander Safeway Store #2761

Dear Mr. Stein:

This project involves the construction of a Safeway store at the intersection of West Main St & Washakie St in Lander. Sewer and Water components include the extension of an existing 8" water main with a 6" service line, and construction of 273 lf of 8" sewer line which intersects an existing 12" sanitary sewer line. The sewer system has three two 4" service connections, on connection includes a grease interceptor.

The above application for coverage under General Permit has been reviewed in accordance with Chapter 3, Section 7; and Chapter 11, Section 9 of the Wyoming Water Quality Rules and Regulations and is hereby approved.

You are authorized to construct, the facility in accordance with the general permit and the materials submitted in your application package. Your attention is directed to the mandatory reporting requirements outlined in Part V, Section O of the general permit. If you have any questions, please contact either myself or the NW District Engineer: James Brough at 307-332-3144.

Sincerely,

Tod Polson, P.E.  
Environmental Engineer  
Water Quality Division

xc: Tom McMillen, MMcEngineering, Inc., 2260 Xanadu Way, Suite 240, Aurora, CO 80014  
IPS

encl: General Permits For a Public Water Supply System and an Existing Sewage Collection System

Lander Field Office • 510 Meadowview Drive • Lander, WY 82520 • <http://deq.state.wy.us>

ABANDONED MINES  
(307) 332-5085  
FAX 332-7726

AIR QUALITY  
(307) 332-6755  
FAX 332-7726

LAND QUALITY  
(307) 332-3047  
FAX 332-7726

SOLID & HAZARDOUS WASTE  
(307) 332-6924  
FAX 332-7726

WATER QUALITY  
(307) 332-3144  
FAX 332-3183





The State  
of Wyoming



## Department of Environmental Quality

Dave Freudenthal, Governor

John Corra, Director

152 N. Durbin Street • Suite 100 • Casper, Wyoming 82601

### NOTIFICATION OF COVERAGE

April 17, 2009

✓ Dave Kinsky  
City of Sheridan  
P.O. Box 848  
Sheridan, WY 82801

RE: Transfer of Ownership, O'Dell Court Water and Sewer Main, Reference Permit #03-445  
Permit #08-821, *Sheridan city*

Dear Mr. Kinsky:

The above Transfer of Ownership for coverage under General Permit to Construct, Install, Modify or Operate Extensions to or Modification of Existing Public Water Supply Distribution Systems in accordance with Chapter 3 and Chapter 12 of the Wyoming Water Quality Rules and Regulations and for coverage under General Permit to Construct, Install, Modify or Operate Extensions to or Modification of Existing Sewage Collection Systems in accordance with Chapter 3 and Chapter 11 of the Wyoming Water Quality Rules and Regulations has been reviewed and is hereby approved. You are authorized to construct, install or modify the facility(ies) in accordance with the general permits and the materials submitted in your application package. **Your attention is directed to the mandatory reporting requirements outlined in Part V, Section O. of the general permits.**

**Further, please be aware that a Certificate of Completion (COC) has not been received in this office. If the project has been completed, please submit this form as soon as possible. A separate COC has been attached for your use.**

If you have any questions, please contact me at 307-473-3478.

Sincerely,

*Karen L. Farley*

Karen L. Farley, P.E.  
WDEQ/WQD Northeast District Supervisor

Enclosures: Permit materials

cc: Chris Knodel, Utilities Project Manager, P.O. Box 848, Sheridan, WY 82801  
Shawn O'Dell, 1448 O'Dell Court, Sheridan, WY 82801  
WDEQ File, IPS (Cheyenne)





# Department of Environmental Quality



To protect, conserve and enhance the quality of Wyoming's environment for the benefit of current and future generations.

Dave Freudenthal, Governor

John Corra, Director

## NOTIFICATION OF COVERAGE

February 13, 2009

John Eddins  
State Highway Commission  
5300 Bishop Blvd  
Cheyenne, WY 82009-3340

RE: Wyoming Department of Transportation Pinedale Patrol and Driver Services Addition -  
Permit Number 08-825R, SW1/4, Section 32, T34N, R109W, Sublette County

Dear Mr. Eddins:

The above application for coverage under General Permits to Construct a sewer main modification consisting of 30 feet of a 4-inch SDR-35 PVC service connection and water main additions consisting of 250 feet 6-inch C-900 PVC and private hydrant, 280 feet 4-inch water main extension and 116 feet of 2-inch copper service line to replace a well service to serve the WDOT addition in Pinedale accordance with Chapter 3, Section 7, Chapter 11, Section 8 and Chapter 12 Section 14 of the Wyoming Water Quality Rules and Regulations has been reviewed and is hereby approved. You are authorized to construct the facilities in accordance with the general permits and the materials submitted in your application package. Your attention is directed to the mandatory reporting requirements outlined in Part V, Section O of the general permits.

If you have any questions, please contact me at 307-332-3144.

Sincerely,

Perry Roberson  
Consulting Engineer  
Water Quality Division

Mark Baron P.E.  
Southwest District Engineer  
Water Quality Division

xc: IPS, Cheyenne  
Randy J. Hansen, JFC Engineers and Surveyors, 1515 9<sup>th</sup> St. Suite A, Rock Springs, WY  
82901

encl: General Permit for a Sewage Collection System  
General Permit for a Water Distribution System

Lander Field Office • 510 Meadowview Drive • Lander, WY 82520 • <http://deq.state.wy.us>

ABANDONED MINES  
(307) 332-5085  
FAX 332-7726

AIR QUALITY  
(307) 332-6755  
FAX 332-7726

LAND QUALITY  
(307) 332-3047  
FAX 332-7726

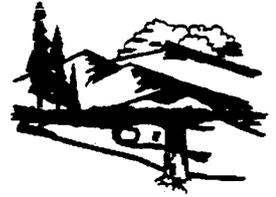
SOLID & HAZARDOUS WASTE  
(307) 332-6924  
FAX 332-7726

WATER QUALITY  
(307) 332-3144  
FAX 332-7726





# Department of Environmental Quality



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Dave Freudenthal, Governor

John Corra, Director

## NOTIFICATION OF COVERAGE

January 28, 2009

Denis Peterson, Public Works Director  
Town of Lusk  
201 East 3<sup>rd</sup> Street  
Lusk, WY 82225

RE: Lusk South Commercial Subdivision - Water & Sanitary Sewer Improvements,  
Application No. **08-826**, Niobrara County

Dear Mr. Peterson:

The above application for coverage under General Permit to Construct, Install, Modify or Operate Extensions to or Modifications of Existing Public Water Supply Distribution Systems and of Existing Sewage Collection Systems described as installation of approximately 3504 feet of 6 inch PVC water line and installation of approximately 2670 feet of 8 inch PVC sanitary sewer line with 11 manholes, NW ¼ Section 17, T32N R63W; Niobrara County, in accordance with Chapter 3, Section 9 of the Wyoming Water Quality Rules and Regulations has been reviewed and is hereby approved. You are authorized to construct, install or modify the water distribution system in accordance with Chapter 12, Section 14 of the Water Quality Division Rules and Regulations, the sewage collection system in accordance with Chapter 11, Section 9 of the Water Quality Division Rules and Regulations, and both systems in accordance with the general permit and the materials submitted in your application package. All construction, installation, or modification allowed by this notification of coverage shall be completed by January 28, 2011.

Your attention is directed to the mandatory reporting requirements outlined in Part V, Section O of the general permit. Please reference Application No. **08-826** in any future correspondence.

If you have any questions, please contact me at 307-777-7075.

Sincerely,

Richard R. Cripe PE  
Southeast District Engineer  
Water Quality Division

RRC/rm/9-0064

cc: IPS, Cheyenne  
John Baker, Baker & Assoc., 120 East 16<sup>th</sup> Street, Suite A, Scottsbluff, NE 69361

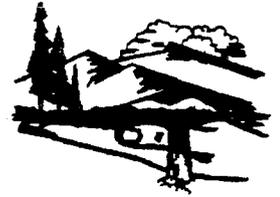
Herschler Building • 122 West 25th Street • Cheyenne, WY 82002 • <http://deq.state.wy.us>

ADMIN/OUTREACH (307) 777-7937 FAX 777-3610	ABANDONED MINES (307) 777-6145 FAX 777-6462	AIR QUALITY (307) 777-7391 FAX 777-5616	INDUSTRIAL SITING (307) 777-7369 FAX 777-5973	LAND QUALITY (307) 777-7756 FAX 777-5864	SOLID & HAZ. WASTE (307) 777-7752 FAX 777-5973	WATER QUALITY (307) 777-7781 FAX 777-5973
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# Department of Environmental Quality



To protect, conserve and enhance the quality of Wyoming's environment for the benefit of current and future generations.

Dave Freudenthal, Governor

John Corra, Director

## NOTIFICATION OF COVERAGE

January 28, 2009

Thomas Brauer, City Engineer  
City of Douglas  
P.O. Box 1030  
Douglas, WY 82633

RE: City of Douglas- 2009 Misc. Water and Sewer Replacement Project,  
Application No. **08-827**, Converse County

Dear Mr. Brauer:

The above application for coverage under General Permit to Construct, Install, Modify or Operate Extensions to or Modifications of Existing Public Water Supply Distribution Systems and of Existing Sewage Collection Systems described a replacement of existing water mains with new 8 inch diameter PVC water mains and replacement of existing sanitary sewer with new 8 inch diameter PVC sanitary sewer mains, SW ¼ Section 8, SE ¼ Section 9, and NE ¼ Section 16, T32N R71W; Converse County, in accordance with Chapter 3, Section 9 of the Wyoming Water Quality Rules and Regulations has been reviewed and is hereby approved. You are authorized to construct, install or modify the water distribution system in accordance with Chapter 12, Section 14 of the Water Quality Division Rules and Regulations, the sewage collection system in accordance with Chapter 11, Section 9 of the Water Quality Division Rules and Regulations, and both systems in accordance with the general permit and the materials submitted in your application package. All construction, installation, or modification allowed by this notification of coverage shall be completed by January 27, 2011.

Your attention is directed to the mandatory reporting requirements outlined in Part V, Section O of the general permit. Please reference Application No. **08-827** in any future correspondence.

If you have any questions, please contact me at 307-777-7075.

Sincerely,

Richard R. Cripe PE  
Southeast District Engineer  
Water Quality Division

RRC/rm/9-0062

cc: IPS, Cheyenne  
Nicholas Larsen, C.E.P.I., 6080 Enterprise Drive, Casper, WY 82609



WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
"AS-BUILT" PERMIT TO CONSTRUCT

PERMIT NO. 08-829

Fence Creek POD, Creswell #3 Reservoir

This permit hereby authorizes the applicant:

Pinnacle Gas Resources Inc.  
Attn: Mr. Terry Webster  
1 E. Alger Street, Suite 206  
Sheridan, WY 82801

to have installed three (3) compliance monitoring wells according to the procedures and conditions of the application number 08-829. The facility is proximal to a coalbed methane produced water impoundment located in Township 58N, Range 76W, Section 34 in the county of Campbell, in the State of Wyoming. All construction, installation, or modification allowed by this permit has been completed.

The issuance of this permit confirms that the Wyoming Department of Environmental Quality (DEQ) has evaluated the application submitted by the permittee and determined that it meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the engineer's design are the responsibility of the permittee, owner, and operator.

Nothing in this permit constitutes an endorsement by DEQ of the construction or the design of the facility described herein. This permit verifies only that the submitted application meets the design and construction standards imposed by Wyoming statutes, rules and regulations. The DEQ assumes no liability for, and does not in any way guarantee or warrant the performance or operation of the permitted facility. The permittee, owner and operator are solely responsible for any liability arising from the construction or operation of the permitted facility. By issuing this permit, the State of Wyoming does not waive its sovereign immunity.

The permittee shall allow authorized representatives from DEQ to enter and inspect any property, premise or place on or at which the facility is located or is being constructed or installed for the purpose of investigating actual or potential sources of water pollution, and for determining compliance or non-compliance with any rules, regulations, standards, permits or orders.

Nothing in this permit shall be construed to preclude the institution of any legal action or other proceeding to enforce any applicable provision of law or rules and regulations. It is the duty of the permittee, owner and operator to comply with all applicable federal, state and local laws or regulations in the exercise of its activities authorized by this permit.

The issuance of this permit does not convey any property rights in either real or personal property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

The permittee shall operate the permitted facility in accordance with the statements, representations, procedures, terms and conditions of the permit application, supporting documents and permit. This

permit does not relieve the permittee from any duty to obtain any other permit or authorization that may be required by any provision of federal, state or local laws.

In carrying out its activities authorized by this permit, the permittee, owner and operator shall comply with all of the following permit conditions:

- 1 of 4 The applicant will provide immediate oral or written notice to the Wyoming Department of Environmental Quality/Water Quality Division, Groundwater Section, 1866 South Sheridan Avenue, Sheridan, WY 82801, 307-673-9337, fax 307-672-2213, in accordance with the provisions of Section 11, Chapter 3, Wyoming Water Quality Rules and Regulations of any changes or modifications which are not consistent with the terms and conditions of this permit.
- 2 of 4 The applicant will provide immediate oral or written notice to the Wyoming Department of Environmental Quality/Water Quality Division, Groundwater Section, 1866 South Sheridan Avenue, Sheridan, WY 82801, 307-673-9337, fax 307-672-2213 when discharge to each impoundment covered under this permit commences.
- 3 of 4 **Monitoring Requirements:**  
 Unless otherwise specified, monitoring and reporting of the groundwater beneath the impoundment shall be performed on a quarterly basis until further notice and shall include the following information:
  - Measurement of static water level in all monitoring wells: Creswell #3 MW-1, Creswell #3 MW-2, Creswell #3 MW-3;
  - Sampling and analysis of groundwater at down-gradient well: Creswell #3 MW-1;
  - The parameters listed in the table below are required for groundwater compliance monitoring beneath the listed impoundment:

**Creswell #3 Reservoir**

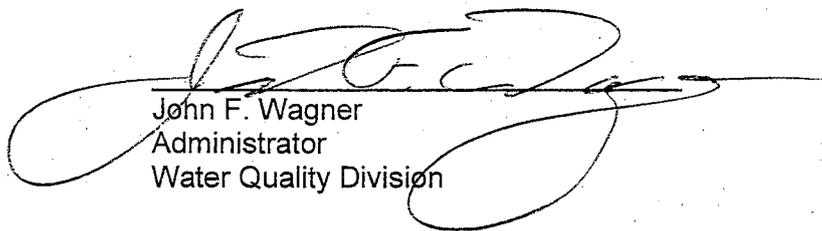
<b>Parameter</b>	<b>Creswell #3 MW-1 Background Value (mg/L) (05/08/2008)</b>	<b>Class III Water Quality Standards (mg/L)</b>
Arsenic	ND	0.2
Selenium	ND	0.05
Sulfate	40	3000
Total Dissolved Solids (TDS)	1360	5000
pH	9.0	6.5 – 8.5 (s.u)

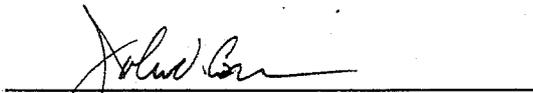
- Reporting results of quarterly monitoring and sampling to the department by January 15<sup>th</sup>, April 15<sup>th</sup>, July 15<sup>th</sup>, and October 15<sup>th</sup> of each year. The first set of data will be due by April 15<sup>th</sup>, 2009;
- If the initial discharge into the impoundment has not occurred by the quarterly report date, a groundwater compliance sample is not required for that quarterly period. The operator shall notify the DEQ that discharge has not occurred;
- If a groundwater monitoring event reveals a pH measurement of 6.5 or less, the DEQ may require sampling and analysis of groundwater for the following additional parameters: aluminum, boron, cadmium, chromium, copper, lead and zinc.

- The analytical results for each sampling event, along with impoundment and monitor well location information must be submitted in the Excel spread sheet "Compliance Monitoring Data Reporting", which can be found on the WDEQ website at the following address: (<http://deq.state.wy.us/wqd/groundwater/pollution.asp>). These data shall be submitted electronically on the due dates established above to the following department address: DEQ-CBMGroundwater@WYO.GOV. In addition, the accompanying analytical laboratory reports and field documentation must also be submitted either electronically (pdf format) or hard copy via mail to the WDEQ, Sheridan office at the address listed above.

4 of 4 Any exceedence of the water quality standards listed above will be considered a violation of this permit. If an exceedence of groundwater standards occurs as a result of the operation of the impoundment, the WDEQ may require a more frequent monitoring schedule, further investigation of the groundwater impacts, remediation of the groundwater impacts, and cessation of discharge into the impoundment.

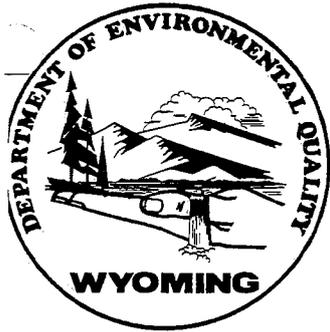
AUTHORIZED BY:

  
John F. Wagner  
Administrator  
Water Quality Division

  
John V. Corra  
Director  
Department of Environmental Quality

4/17/09  
Date of Issuance

CBD/rm/9-0037



**GROUNDWATER PROGRAM**  
**REVIEW COMMENTS:**  
**PLANS/SPECIFICATIONS/PROPOSALS/REPORTS**

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
1866 South Sheridan Avenue  
Sheridan, WY 82801  
Phone: 307-672-6457

**PERMIT TYPE:** CBM: Groundwater Compliance Monitoring Program

**WATER QUALITY DIVISION REFERENCE (PERMIT) NUMBER:** 08-829

**SITE (POD) NAME:** Fence Creek POD, Creswell #3 Reservoir

**APPLICANT:** Pinnacle Gas Resources Inc.  
Attn.: Mr. Terry Webster  
1 E. Alger Street, Suite 206  
Sheridan, WY 82801

**CONSULTANT:** Hydrometrics, Inc.  
Attn.: Heidi Kaiser  
5602 Hesper Road  
Billings, MT 59106

**LOCATION:** Drainage: Fence Creek, tributary to Powder River  
County: Campbell  
Township 58 North; Range 76 West

**WYPDES No:** Discharge Permit: WY0056332

**DATE ON REPORT:** December 12, 2008

**REVIEWING OFFICIAL:** Carrie Donnell, North District Geological Project Analyst

**DATE OF THIS REVIEW:** January 15, 2008

**ACTION:** Compliance Monitoring Plan authorized for Creswell #3 Reservoir pursuant to conditions on permit # 08-829.

**COMMENTS: GROUNDWATER SECTION**

**1.0 SITE SUMMARY:**

**1.1 Site Description.**

Watershed Name: Fence Creek, tributary to Powder River

Groundwater Classification:

Class 1 (domestic) \_\_\_\_\_  
Class 2 (agricultural) \_\_\_\_\_  
Class 3 (livestock) 1

Basis for Classification: Laboratory analysis of groundwater indicates ambient water quality meets Water Quality Rules and Regulations Chapter 8 Class III standards and exceeds both Class I and Class II standards for sulfate and sodium adsorption ratio (SAR) (Table 1- Chapter 8).

**Table 1. Basis for Ground Water Classification by impoundment Name covered under Permit 08-829**

Impoundment Name	Groundwater Investigation Well	Sulfate	SAR
Creswell #3	Creswell #3 MW-2	220	27.1

**Description of Hydrogeology:**

First groundwater occurrence in three gradient wells at the cited location is in silty claystone. The water-bearing zone underlying the cited reservoir exhibits confined conditions. Monitor well Creswell #3 MW-01 is determined to be appropriately located to monitor groundwater quality.

**Table 2. Names of Impoundments covered under Permit 08-829**

Impoundment Name	Capacity (acre/ft)	Qtr	Qtr	Section	Town.	Range	Down gradient Monitoring Well
Creswell #3	5.56	S	W	34	58N	76W	Creswell #3 MW-1

No other domestic, agricultural or livestock wells are noted in the immediate area that will be impacted. No seeps or springs are noted in the immediate area.

## 2.0 MONITORING AND REPORTING REQUIREMENTS

Groundwater monitoring at the impoundments shall be performed on a quarterly basis until further notice and shall include the following information:

- Measurement of static water level in all wells: Creswell #3 MW-1, Creswell #3 MW-2, Creswell #3 MW-3;
- Sampling and analysis of groundwater at down-gradient well: Creswell #3 MW-1;
- Reporting results of quarterly monitoring and sampling to the department by January 15<sup>th</sup>, April 15<sup>th</sup>, July 15<sup>th</sup>, and October 15<sup>th</sup> of each year. The first set of data will be due by April 15, 2009;
- The parameters listed in the tables below are required for groundwater compliance monitoring beneath the listed impoundment:

**Creswell #3 Reservoir**

<b>Parameter</b>	<b>Creswell #3 MW-1 Background Value (mg/L) (05/08/2008)</b>	<b>Class III Water Quality Standards (mg/L)</b>
Arsenic	ND	0.2
Selenium	ND	0.05
Sulfate	40	3000
Total Dissolved Solids (TDS)	1360	5000
pH	9.0	6.5 – 8.5 (s.u)

If groundwater monitoring reveals a pH measurement of 6.5 or less, the WDEQ may require sampling and analysis of groundwater for the following additional parameters: aluminum, boron, cadmium, chromium, copper, lead and zinc.

The analytical results for each sampling event, along with impoundment and monitor well location information must be submitted in the Excel spread sheet "Compliance Monitoring Data Reporting", which can be found on the WDEQ website at the following address: (<http://deq.state.wy.us/wqd/groundwater/pollution.asp>). These data shall be submitted electronically on the due dates established above to the following department address: [DEQ-CBMGroundwater@wyo.gov](mailto:DEQ-CBMGroundwater@wyo.gov). In addition, the accompanying analytical laboratory reports must also be submitted either electronically (pdf format) or hard copy via mail to the WDEQ, Sheridan office at the address listed above.

**END OF REVIEW**

**CBD/rm/9-0037**