

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 84-551  
SEE CONDITIONS ON BACK OF PERMIT

Sweetwater Uranium Project  
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

Minerals Exploration Company

P.O. Box 1500

Rawlins, WY 82301

to construct, install, or modify a monitoring well network facility according to the procedures and conditions of the application No. 84-551. The facility is located in Sections 14 and 15, T24N, R93W in the County of Sweetwater, in the State of Wyoming.

This permit shall be effective for a period of five (5) years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

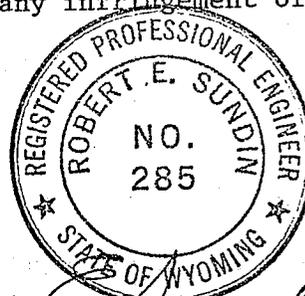
The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

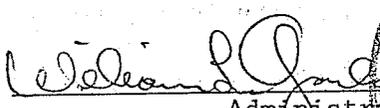
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, Herschler Building, 122 W. 25th, Cheyenne, Wyoming 82002; telephone, 777-7781.

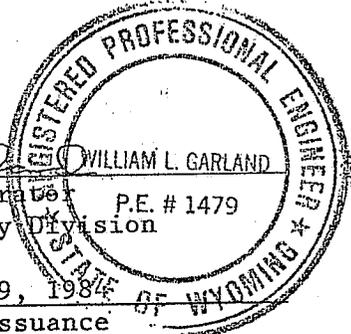
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to any applicable State law or regulation.

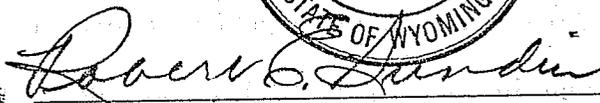
The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:



  
WILLIAM L. GARLAND  
Administrative P.E. # 1479  
Water Quality Division  
November 9, 1984  
Date of Issuance

A circular seal for a Registered Professional Engineer. The outer ring contains the text "REGISTERED PROFESSIONAL ENGINEER" at the top and "STATE OF WYOMING" at the bottom, separated by two stars. The inner circle contains the name "WILLIAM L. GARLAND" and the number "P.E. # 1479".

  
Director  
Dept. of Environmental Quality

This permit does not supercede the requirements for obtaining any permit from local agencies.

Condition to Permit to Construct #84-551

1. Additional monitor wells may be constructed as needed. All wells should be completed in compliance with Chapter XI of the Wyoming Department of Environmental Quality, Water Quality Division.
2. Completion information and locations for additional wells should be included in the quarterly reports on Minerals Exploration's excursion assessment program.



THE STATE OF WYOMING

ED HERSCHLER  
GOVERNOR

*Department of Environmental Quality*  
*Water Quality Division*

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

November 27, 1984

Christopher Z. Hill  
Minerals Exploration Company  
Sweetwater Uranium Project  
P.O. Box 1500  
Rawlins, WY 82002

RE: Monitor Well Network, Permit to Construct, DEQ/WQD Ref. No. 84-551

Dear Mr. Hill:

Thank you for your prompt attention to my request for a permit application. Enclosed you will find a signed permit to construct for the monitor well network associated with your excursion assessment program. This permit authorizes the construction of the monitor wells necessary to assess aquifer characteristics and contaminant migration from the tailings impoundment.

Please note that completion information for additional monitor wells should be included in the quarterly excursion assessment reports.

Sincerely,

*Kate Laudon*

Kate Laudon  
Engineering Evaluator

KL/nc  
Enclosures

MEMORANDUM

TO: File, Minerals Exploration, Sweetwater Uranium Project  
FROM: Kate Laudon, Engineering Evaluator *KGL*  
DATE: November 26, 1984  
SUBJECT: Monitor Well Network Permit to Construct, DEQ/WQD Ref. No. 84-551

Minerals Exploration Company has submitted an application for a permit to construct a monitor well network in conjunction with the excursion assessment program at the Sweetwater Uranium Project. Well completion information and well locations are included in the First Quarterly Report on the excursion assessment program which was received in this office October 5, 1984. The permit authorizes the monitor wells that have already been constructed, and any additional monitor wells that may be needed to assess the excursion that has occurred from the tailings pond.

cc: Jack Bedessem  
Land Quality



THE STATE OF WYOMING

ED HERSCHLER  
GOVERNOR

*Department of Environmental Quality*  
*Water Quality Division*

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

March 19, 1985

Mr. Martin S. Johnson  
Standard Oil Company  
P.O. Box 3385  
Tulsa, OK 74102

RE: Amoco Oil Company Hydrocarbon and Groundwater Monitor Network - Former Laramie Refinery Site, DEQ/WQD Ref. No. 84-552

Dear Mr. Johnson:

Your submittal for the observation wells at the former Laramie refinery site (DEQ/WQD Ref. No. 84-552) has been reviewed and are hereby accepted for the record with the following condition:

These wells were installed for the purpose of defining and monitoring groundwater contamination by hydrocarbons. Depending upon interpretation of the monitoring data by the Water Quality Division, the facility may require further definition of the extent of contamination and continued monitoring. Any additional wells or monitoring requirements would be determined at a joint meeting between the applicant and the Water Quality Division.

Since the wells have already been installed, a "permit to construct" cannot be issued. However, this letter of approval serves essentially the same purpose.

If you have any questions, please contact me.

Sincerely,

A handwritten signature in cursive script, appearing to read "William L. Garland".

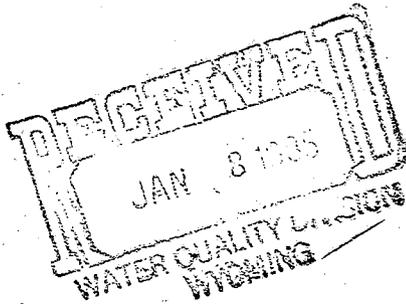
William L. Garland  
Administrator

WLG/PP/nc



January 2, 1985

Mr. Anthony J. Mancini  
Water Quality Division  
Wyoming Department of Environmental Quality  
Herschler Building  
Cheyenne, Wyoming 82002



Amoco Oil Company

200 East Randolph Drive  
P.O. Box 6110A  
Chicago, Illinois 60680

84-552

CERTIFIED MAIL P16 2199265-RETURN RECEIPT REQ.D

Dear Sir:

Former Amoco Refinery Sites in Greybull and Laramie

At the suggestion of Ms. Kathryn Sewell, we are writing to advise you of our plans for submission of drilling logs and analyses of groundwater water samples from wells at the former Amoco refinery sites in Greybull and Laramie.

Our Groundwater Management Section from Tulsa supervised the installation of monitoring wells at the two sites in October and November 1984. This group also handled the sampling of the wells on December 10 and 11, 1984. Field tests were run for pH and specific conductance. Dissolved hydrocarbon contents are being determined in the Groundwater Management laboratory in Tulsa, and the balance of the tests are being run at the Standard Oil Company (Indiana) research laboratories in Naperville, Illinois.

The Groundwater Management Section will prepare an initial report containing drilling logs, construction details of the wells, results of field tests for pH and specific conductance, and results of tests for dissolved hydrocarbons. We hope to have this report in your hands by February 1, 1985.

Additional analytical data will be made available to you as soon as tests are completed, probably about mid-February 1985. We suggest that a few weeks after you have received all of this information, that we meet to discuss the significance of the data and to reach agreement on future monitoring activity.

We would appreciate your advising us whether or not this plan and schedule are agreeable with you.

Yours truly,

John G. Huddle  
Director, Environmental Control and Planning  
Mail Code 1203

EJS/JGH/dk

Elizabeth Evans, USEPA Region VIII  
Kathryn Sewell, WDEQ

9-17



THE STATE OF WYOMING

ED HERSCHLER  
GOVERNOR

*Department of Environmental Quality*  
*Water Quality Division*

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

September 16, 1985

Mr. Tony Gogel  
Standard Oil Co.  
P.O. Box 3385  
Tulsa, OK 74102

RE: DEQ/WQD Ref. No. 84-552

Dear Mr. Gogel:

On September 13, 1985, Mr. Howard Burke called to inform us that Mildred Burris, the owner of the property at the northern end of the refinery, and Robert Broadway, a tenant, were concerned above the activities on-site. He also informed us that he has the power-of-attorney for the Burris property which includes the northern portion of the former refinery. The Burris property consists of 13 acres east of the pond. I informed Mr. Burke that only sampling and not drilling was occurring. Mr. Burke was very interested in testing both the well water and the pond water in order to determine if contamination had spread onto the Burris property. In addition, he indicated that drilling more monitor wells on this property could probably be worked out if necessary and that he would be available to meet with those responsible for drilling activities.

The pond is spring-fed according to Mr. Burke with a water level that is consistently above the level of the river. Although attempts were made at one time to pump out the pond, it was not possible to lower the level more than two inches. By his own observations, the static water level in the Burris well is the same as the water level in the pond.

Since there is a domestic water supply situated downgradient of portions of the aquifer affected by the site, it is important that a determination be made of the quality of that water and the potential for harm to the users of that supply. During the recent sampling activities, EPA was considering the possibility of expanding the sampling program to include the Burris well. If the sampling did not occur or did not include analyses for the priority pollutants, it is recommended that a sampling event be planned as soon as possible to determine the presence of any harmful constituents. Upon receipt of the latest round of groundwater sampling and static water level information, recommendations for further site activity should be forwarded to Department of Environmental Quality, Water Quality Division. In the meanwhile, it is recommended that Amoco provide an alternate source of water to the residents.

Mr. Tony Gogel  
September 16, 1985  
Page 2

Robert Broadway can be reached at (307) 766-5635 to arrange sampling.

Please contact Mr. Howard Burke at P.O. Box 1346, Saratoga, WY 82331, phone number (307) 326-5295.

Sincerely,



Phil Pucel  
Groundwater Engineering Evaluator

PP/nc

cc: Howard Burke, P.O. Box 1346, Saratoga, WY 82331  
Sharon Bernardo, EPA, Denver  
A. J. Mancini, DEQ/WQD  
Katie Sewell, DEQ/SWM



THE STATE OF WYOMING

ED HERSCHLER  
GOVERNOR

*Department of Environmental Quality  
Water Quality Division*

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

MEMORANDUM

TO: File  
FROM: Phil Pucel *Phil*  
DATE: September 10, 1985  
SUBJECT: Amoco Oil Company Refinery, Laramie, DEQ/WQD Ref. No. 84-552

I contacted Keith Thompson of Western Water and Steve Yarborough of Ecology and Environment (EPA-FIT Contractor) regarding sampling this Thursday and Friday, September 12 and 13, 1985. With Thompson, I discussed the following:

1. The availability of off-site wells.
2. Spatial variations in contaminant levels.
3. The sampling of floating oil.
4. The measurement of SWL's.

With Yarborough, I discussed the following:

1. The possibility of sampling wells 9 and 10 which are 2 of the most heavily-contaminated wells.
2. The incorrect river flow direction on the map included in the sampling plan.
3. The need to analyze for Mn and As.
4. Advantageous areas for sediment samples.
5. Groundwater flow direction.

Some changes in the sampling plan may be made in the field based upon the suggestions contained in the following list of notes compiled for the discussion with Steve Yarborough.

cc: A. J. Mancini  
K. Sewell, SWM  
Tom Williams

Notes Compiled for Discussion with Steve Yarborough

Review of sampling plan by Ecology and Environment for Laramie refinery.

Well 12s - lack of contamination is probably due to flushing.

Wells 9 and 10 - The gradient is N/NW so samples from these wells may provide more information on the distribution of the contamination. Will Western Water sample all the wells on-site?

Surface water and sediment sample designations are incorrect relative to "upstream-downstream".

Suggest collection of sediments in backwater areas.

Will static water level measurements be made? At least, conductivity and SWL should be taken at all wells.

Be sure Mn and As are analyzed.

Note high Fl levels along the river, high TDS along east side.

Are there any other background wells which could be sampled to help understand the spatial variability in concentrations as noted in my April 5, 1985 memo to file? Any Chugwater wells?

Samples of floating oil in wells should be collected separately.

PP/nc

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 84-553R  
SEE CONDITION ON BACK

Carmen's Lunch and Locker Room  
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

Burlington Northern Railroad  
P.O. Box 17150  
Denver, CO 80217

to construct, install, or modify a small wastewater facility according to the procedures and conditions of the application No. 84-553R. The facility is located in Section 6, T26N, R65W in the County of Platte, in the State of Wyoming. This permit shall be effective for a period of two (2) years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

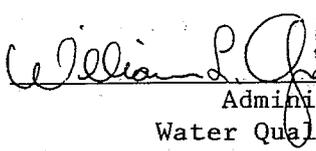
The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

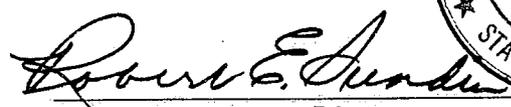
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, Herschler Building, 122 W. 25th, Cheyenne, Wyoming 82002; telephone, 777-7781.

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

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:

  
WILLIAM L. GARLAND  
P.E. # 1479  
Administrator  
Water Quality Division  
STATE OF WYOMING  
REGISTERED PROFESSIONAL ENGINEER

  
ROBERT E. SUNDIN  
NO. 285  
DIRECTOR  
STATE OF WYOMING  
REGISTERED PROFESSIONAL ENGINEER  
Dept. of Environmental Quality

December 11, 1984  
Date of Issuance

This permit does not supercede the requirements for obtaining any permit from local agencies.

Condition to Permit to Construct

The permittee shall notify the Platte County Sanitarian, Harold Anderson of the estimated day construction will commence and the estimated day of completion of this project. Inspection of the installed system is required prior to backfilling. Mr. Anderson can be contacted at P.O. Box 1192, County Courthouse, Torrington, Wyoming 82240 or by phone at (307) 532-5002

cc: Mark A. Bryant  
Hydro-Search, Inc.  
777 S. Wadsworth Blvd., Bldg. 4, Suite 130  
Denver, CO 80226

11-28-89

Review of Plans and Specifications

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
1111 East Lincolnway  
Cheyenne, Wyoming 82002

PROJECT: Carmen's Lunch and Locker Room, Platte Co.

ARCHITECT OR ENGINEER: Mark A. Bryant, P.E., Hydro-Search, Inc.  
777 S. Wadsworth Blvd., Bldg. 4, Suite 130, Denver, CO 80226

APPLICANT: Chester A. Culley, Burlington Northern Railroad  
P.O. Box 17150, Denver, CO 80217

WATER QUALITY DIVISION REFERENCE NUMBER: 84-553

REVIEWING ENGINEER: Theodore D. Coyer, P.E.

*Theodore D. Coyer*

DATE OF REVIEW: November 26, 1984

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

1. Do you have enough room on this site for a replacement area? The location of the replacement area must be shown.
2. The ends of the absorption system pipes must be capped.



*Department of Environmental Quality*  
*Water Quality Division*

2161 COFFEEN AVENUE,  
SUITE 301

SHERIDAN, WYOMING 82801

TELEPHONE 307-672-6457

January 7, 1985

Mr. Steve Mueller  
Wyodak Resources Development Corp.  
Rural Route 81, Box G90  
Gillette, Wyoming 82716-9714

RE: Wyodak South Pit Settling Pond  
No. 1, Permit Application No.  
84-554 (Ref. No. 77-158R)

Dear Steve:

I have reviewed your submittal of as-built plans for the Wyodak South Pit Settling Pond No. 1. The modifications that have been made to plans originally approved under Permit No. 77-158R are acceptable and are hereby approved.

I prefer to treat your submittal simply as as-built plans for a facility that was approved by a previous Permit to Construct. The as-builts meet our approval. No new Permit to Construct is necessary. I will withdraw the recently assigned Permit No. 84-554. I realize this is contrary to your request but it simplifies our paperwork and is the way we typically handle such modifications.

Please call me if you have questions.

Sincerely,

A handwritten signature in cursive script that reads "Rich Ruyle".

Rich Ruyle  
District Supervisor

RR:ls

xc: Norma Coulson



THE STATE OF WYOMING

ED HERSCHLER  
GOVERNOR

*Department of Environmental Quality*  
*Water Quality Division*

84-555  
RJR

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

May 30, 1985

Moose Land and Cattle Co.  
c/o Herb McCulla  
American Bank  
123 West First  
Casper, WY 82601

Teton Shadows  
ATTN: Scott Shepherd  
Box 3383  
Jackson, WY 83001

Gentlemen:

The Department of Environmental Quality, Water Quality Division is in receipt of your letter dated May 24, 1985. The proposal for two 6" steel casing piezometers evenly spaced between the irrigation ditch and the leach field is acceptable, providing that they adequately monitor the mounding effects of the irrigation ditch on the leach field. If this is not accomplished, the Department of Environmental Quality, Water Quality Division, may require additional piezometers. In regard to placement of a 65 foot steel culvert to divert the irrigation flow, the Department of Environmental Quality, Water Quality Division, does not regulate this.

In the application for a permit modification for additional leach field, the Moose Land and Cattle Company requested that the monitor well and piezometers be permitted separately. Enclosed is an application for a Permit to Construct, Install, or Modify Public Water Supplies and Wastewater Facilities in Wyoming. Please complete this form for the monitor well and piezometers and return it to the Department of Environmental Quality, Water Quality Division, so that you can meet the June 30, 1985 deadline imposed by the leach field permit modification 84-555RRR. Ensure that construction specifications for the monitor well and piezometers are included. The specific locations of these wells and methods of installation should also be included.

Sincerely,

Matthew M. Langenfeld  
Groundwater Compliance Specialist

MML/nc

Enclosures

cc: A. J. Mancini, DEQ/WQD, Cheyenne  
Steve Gerber, DEQ/WQD, Lander  
Jake Strohman, DEQ/WQD, Cheyenne



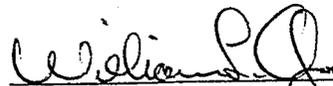
ing working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

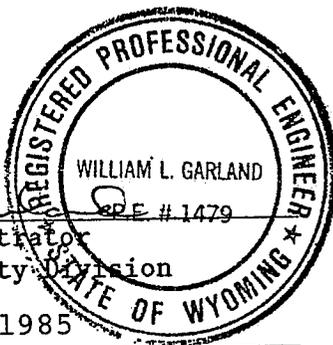
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 210 Lincoln, Lander, Wyoming 82520; telephone, 332-3144.

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

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

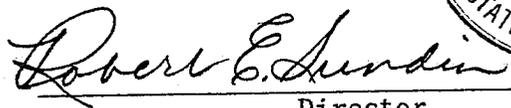
AUTHORIZED BY:

  
Administrator  
Water Quality Division  
STATE OF WYOMING



May 6, 1985

Date of Issuance

  
Director  
Dept. of Environmental Quality



This permit does not supercede the requirements for obtaining any permit from local agencies.

\* CONDITIONS ON PERMIT \*

1. Initially, the application for this permit to construct contained an agreement by the applicant to install several piezometers, in addition to the other hereby authorized improvements. As accepted by Mr. Scott Shepherd, partner, Moose Land & Cattle Co.; and the DEQ/WQD the permitting of and construction of the piezometers will now be carried out under a separate permit application. A deadline of June 30, 1985 is hereby established for complete permit authorization and construction of acceptable piezometers. Should an extension be needed the DEQ/WQD Lander office should be contacted with acceptable justification ready.

2. Construction of the replacement leach field must be completed before the present maximum of 56 condominium units is exceeded. After construction of the herein authorized leachfield the maximum number of condominium units will be 60. The applicant is further required to contact the Teton County Planning office and arrange for their inspection of the improvements before backfilling is begun on the leach field.

copy: Teton Shadows Homeowners Assoc., Attn: Jim Schlinger, Box 2150,  
Jackson, WY  
Teton Shadows, Attn: Scott Shepherd, Box 3393, Jackson, WY  
Joe Chalfant, Teton County Planner  
Matt Langenfeld, DEQ/WQD, Cheyenne

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER QUALITY DIVISION  
210 LINCOLN  
LANDER, WYOMING 82520  
PHONE: (307) 332-3144

PROJECT: Teton Shadows Leachfield Modification

ENGINEER: Nelson Engineering  
Box 1599  
Jackson, WY 83001  
Attention: Paul Selsky

OWNER: Moose Land & Cattle Co. Teton Shadows  
c/o Herb McCulla Box 3393  
American Bank Jackson, WY 83001  
123 West First Attention: Scott Shepherd  
Casper, WY 82601

WATER QUALITY DIVISION REFERENCE NUMBER: #84-555R<sup>R</sup>

REVIEWING ENGINEER: Matt Langenfeld, Ed Baruth *Ed*

DATE OF REVIEW: January 16, 1985

ACTION: Not authorized.

COMMENTS: As discussed with Mr. Scott Shepherd and Mr. Paul Selsky, the piezometer placement (etc.) referenced in the attached Department of Environmental Quality Interoffice Memorandum has been agreed to in principle. Please consider this submittal as our review of your January 7, 1985 permit application.

EB:dcn

Attachment

cc: Matt Langenfeld, DEQ/WQD Cheyenne  
File  
Joe Chalfant, Teton County Sanitarian  
Teton Shadows Homeowners Association

*C*

MEMORANDUM

TO: Ed Baruth, Northwest District Engineer

FROM: Matthew M. Langenfeld, Groundwater Compliance Specialist *MML*

DATE: January 11, 1984

SUBJECT: Review of Permit Modification Application 84-555RR for Teton Shadows  
Subdivision, Teton County

A proposal for the construction and completion of a monitor well at Teton Shadows was proposed in the permit application. Further construction and completion information is necessary. What does the sealing material consist of and what type of material does Nelson Engineering plan to backfill with? Does Nelson plan to use 4 inch PVC casing?

The perforations or slots should be located 5 feet above the highest expected groundwater level and 5 feet below the lowest expected groundwater level. The bottom casing should be capped to prevent soils from entering the inside of the casing. A gravel pack to a distance of 1-2 feet above the highest perforation is recommended. The well should also be developed until fines are no longer present.

To observe the mounding effects of the irrigation ditch on the absorption system, Teton Shadows has agreed to install piezometers. Construction and completion specifications for the 7 piezometers to be placed evenly between the absorption system and the irrigation ditch are necessary. The location and spacing of these monitoring devices also needs to be proposed to the DEQ/WQD. These piezometers are considered monitor wells and need to be permitted either as a part of the modification or separately.

Because the piezometers will be in place until spring when the irrigation ditch is in use 1-1/2 inch or 2 inch casing should be used. A flight auger can be used to drill the hole and the capped, slotted casing placed in the hole while the auger is still in place. The saw cuts or perforations should be located 2-3 feet below the lowest expected groundwater level and 2-3 feet above the highest expected groundwater level. At least the upper 5 feet of the monitoring device should be sealed with an appropriate seal bentonite, cement or both. A cement basket could be used to stop cuttings from falling on the perforations. If Nelson Engineering wishes to use cement baskets we can provide them with an address in which to obtain them. All of the piezometers should be perforated and completed to the same depths and intervals so that a differential head is not created. The piezometers should be capped and protected as monitor wells are.

The DEQ/WQD should be adequately notified before these monitor devices are constructed and completed.

cc: Tony Mancini

Returned to  
Lander  
1-14-85

WATER QUALITY DIVISION  
GROUNDWATER SECTION  
PERMIT APPLICATION REVIEW

APPLICATION NUMBER 84-555RR

DATE SUBMITTED FOR REVIEW January 9, 1985

NAME AND LOCATION OF FACILITY TETONS Shadows Subdivision  
Teton County

I have reviewed the plans and specifications with regard to all aspects of groundwater quality and find the following:

- No comment. The submittal is consistent with current groundwater protection procedures and requirements.
- Comments attached.

SIGNED Matthew M. Langerfeld  
TITLE Groundwater Compliance Specialist  
DATE January 11, 1984

ACCEPTED FOR RECORD 1/14/85  
(Date)

ajm  
Groundwater Control Supervisor

MEMORANDUM

TO: Ed Baruth, Northwest District Engineer

FROM: Matthew M. Langenfeld, Groundwater Compliance Specialist *MML*

DATE: January 11, 1984

SUBJECT: Review of Permit Modification Application 84-555RR for Teton Shadows  
Subdivision, Teton County

A proposal for the construction and completion of a monitor well at Teton Shadows was proposed in the permit application. Further construction and completion information is necessary. What does the sealing material consist of and what type of material does Nelson Engineering plan to backfill with? Does Nelson plan to use 4 inch PVC casing?

The perforations or slots should be located 5 feet above the highest expected groundwater level and 5 feet below the lowest expected groundwater level. The bottom casing should be capped to prevent soils from entering the inside of the casing. A gravel pack to a distance of 1-2 feet above the highest perforation is recommended. The well should also be developed until fines are no longer present.

To observe the mounding effects of the irrigation ditch on the absorption system, Teton Shadows has agreed to install piezometers. Construction and completion specifications for the 7 piezometers to be placed evenly between the absorption system and the irrigation ditch are necessary. The location and spacing of these monitoring devices also needs to be proposed to the DEQ/WQD. These piezometers are considered monitor wells and need to be permitted either as a part of the modification or separately.

Because the piezometers will be in place until spring when the irrigation ditch is in use 1-1/2 inch or 2 inch casing should be used. A flight auger can be used to drill the hole and the capped, slotted casing placed in the hole while the auger is still in place. The saw cuts or perforations should be located 2-3 feet below the lowest expected groundwater level and 2-3 feet above the highest expected groundwater level. At least the upper 5 feet of the monitoring device should be sealed with an appropriate seal bentonite, cement or both. A cement basket could be used to stop cuttings from falling on the perforations. If Nelson Engineering wishes to use cement baskets we can provide them with an address in which to obtain them. All of the piezometers should be perforated and completed to the same depths and intervals so that a differential head is not created. The piezometers should be capped and protected as monitor wells are.

The DEQ/WQD should be adequately notified before these monitor devices are constructed and completed.

cc: Tony Mancini

REVIEW OF PLANS AND SPECIFICATIONS  
WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER QUALITY DIVISION  
210 LINCOLN  
LANDER, WYOMING 82520  
PHONE: (307) 332-3144

PROJECT: Teton Shadows Leachfield Modification

ENGINEER: Paul Selsky  
Nelson Engineering  
P. O. Box 1599  
Jackson, WY 83001

OWNER: Scott Shepard  
Teton Shadows  
Box 3393  
Jackson, WY 83001

WATER QUALITY DIVISION REFERENCE NUMBER: #84-555R

REVIEWING ENGINEER: Jake Strohmman; Matt Langenfeld; Ed Baruth *Ed*

DATE OF REVIEW: December 18, 1984

ACTION: **Not authorized.**

COMMENTS: The attached memorandum comprises our review of your second submittal from Nelson Engineering dated November 27, 1984.

I have attached a description of mounding effects due to on-site sewage disposal. This booklet was used in developing our Part D of the Chapter XI Rules and Regulations. This should help you determine the effect on your building foundation, to see if a 10' setback is adequate. (The 10' distance is for systems between 2,000 and 10,000 gpd in our Chapter XI.)

Further, it is requested that you agree, in writing, to the above and attached particulars to help you get your permit quickly.

EB:dcn

Enclosure

*C*

Water Quality Division  
Groundwater Section  
Permit Application Review

Application Number 84-555R

Date Submitted For Review 12/5/84

Name and Location of Facility Teton Shadows  
T 42W R 116W SEC 27  
Teton County

I have reviewed the plans and specifications with regard to all aspects of groundwater quality and find the following:

- No Comment. The submittal is consistent with current groundwater protection procedures and requirements.
- Comments attached.

Signed Matt Langenfeld

Title Groundwater Compliance Specialist

Date 12-14-84

Approved \_\_\_\_\_

(Date)

\_\_\_\_\_  
Groundwater Control Supervisor

(Signed)

Groundwater Control Supervisor

Matt



THE STATE OF WYOMING

ED HERSCHLER  
GOVERNOR

*Department of Environmental Quality*  
*Water Quality Division*

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

M E M O R A N D U M

TO: Ed Baruth, Northwest District Engineer

FROM: Matt Langenfeld, Groundwater Compliance Specialist *MML*  
Jake Strohman, Engineering Control Supervisor

DATE: December 14, 1984

SUBJECT: Groundwater Review of the Teton Shadows  
Permit Modification, Permit #84-555R

A modification to the leachfields at Teton Shadows, Teton County has been proposed. The proposal is to move a portion of leachfield B so that a fourplex can be built in its place.

To determine if the leachfield adversely effects groundwater, we feel that groundwater monitoring is necessary. A proposal for 1-2 monitor wells located on the downgradient side of the leachfields is required. This proposal should include the location of the monitor wells, construction and completion specifications. Refer to Chapter XI, Section G of Wyoming's Water Quality Rules and Regulations for proper completion of monitor wells. The monitoring program will have to be accepted by the Groundwater Section of the Department of Environmental Quality before a permit will be issued.

Plans for the isolation of the leachfield after removal of a section of the field are required. A study of the mounding effects of the irrigation ditch on the leachfield, depth to high groundwater and direction of groundwater flow are necessary.

The following permit condition shall be made a part of the permit:

As soon as the permittee can obtain a monitor well easement and in any event no later than July 1, 1986, the permittee shall install a monitor well (to be located as described in the permit application) and shall begin monitoring as required by this permit (see Attachment A). Prior to installing the said monitor well, the permittee must make reasonable efforts to obtain an easement to install and operate said monitor well from the owners of the property where the monitor well is to be located. To this end, the permittee must provide quarterly reports to the Water Quality Department beginning April 1, 1985, setting forth what progress the permittee has made in obtaining said easement. Failure by the permittee to comply with the provisions of this paragraph will be considered a violation of this permit by the permittee.

ATTACHMENT A

To establish background groundwater quality we strive for quarterly sampling over a period of a year. At a minimum the background groundwater data should be collected twice per well separated by at least one month. Once the background groundwater quality is established, quarterly samples should be collected from each well. Proper well excavation, sampling, preservation and analytical techniques should be followed. Refer to Chapter VIII, Section 7 of Wyoming's Water Quality Rules and Regulations. Based on the results we may require additional parameters for operational monitoring, control limits for operational monitoring will be set after review of the initial water quality data. The water samples should be analyzed for the following list of parameters:

Background Groundwater Quality

Static Water Level	Chromium
Total Dissolved Solids	Copper
Sulfate	Iron
Chloride	Lead
Flouride	Manganese
Nitrate Nitrogen	Mercury
Ammonia Nitrogen	Selenium
pH	Silver
Arsenic	Zinc
Barium	Oil and Grease
Cadmium	Phenols

Operation Groundwater Quality

Static Water Level	Nitrate Nitrogen
Total Dissolved Solids	Ammonia Nitrogen
Chloride	pH

As an additional condition to issuance of the permit, you need to monitor well UW15642 quarterly as requested by Bill Ewen in his letter dated January 6, 1983. Parameters to be monitored include: chloride, nitrate-nitrogen, and fecal coliform.

cc: A. J. Mancini, DEQ  
Kate Laudon, DEQ

TELEPHONE REVIEW

TO: #84-555 File  
Nelson Engineering: Attention - Paul Selsky  
Tony Mancini

FROM: Ed Baruth

DATE: November 19, 1984

SUBJECT: Teton Shadows - Modification of Leach Field B

As discussed by telecom, the application is incomplete. Specific problems include:

1. It appears that you will be replacing approximately 11% of leach field B. This equals the equivalent of 3.3 condo units, by your previous submittal. Using the estimated flow of 370 gpd/condo unit, this equals a flow of 1,221 gpd. With the measured percolation rate of 27 min/inch, a replacement area of 2,907 SF of leach bed is needed ( $.42 \text{ gallons/SF/day; } 1,221/.42=2,907$ ).

2. As Paul Selsky and I discussed, now that we have cleaned up the as-built violation, DEQ wishes to review the groundwater impact on the application. The DEQ groundwater staff is now reviewing this application, while Paul Selsky of Nelson Engineering is gathering available geologic and hydraulic information.

EB:dcn

c

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER QUALITY DIVISION  
210 LINCOLN  
LANDER, WYOMING 82520  
PHONE: (307) 332-3144

PROJECT: Jackson Hole Racquet Club Temporary Wastewater Facility

ENGINEER: Jorgenson Engineering  
P. O. Box 1142  
Jackson, WY 83001

OWNER: Jackson Hole Racquet Club  
Star Route Box 362A  
Jackson, WY 83001

WATER QUALITY DIVISION REFERENCE NUMBER: #84-556R

REVIEWING ENGINEER: Kate Laudon, Matt Langenfeld, Ed Baruth *Ed*

DATE OF REVIEW: January 16, 1985

ACTION: **Not authorized.**

COMMENTS: Find attached a Department of Environmental Quality Interoffice Memorandum which describes the outstanding items for your consideration, before this Department will authorize a permit to construct.

EB:dcn

Attachment

cc: Kate Laudon, DEQ/WQD Cheyenne  
Matt Langenfeld, DEQ/WQD Cheyenne  
Joe Chalfant, Teton County Sanitarian

*C*

MEMORANDUM

TO: Ed Baruth, Northwest District Engineer

FROM: Matthew M. Langenfeld, Groundwater Compliance Specialist *MML*  
Kate Laudon, Groundwater Engineering Evaluator *KGL*

DATE: January 8, 1985

SUBJECT: Groundwater Review of Permit Application 84-556R, Aspen II Absorption Field

An absorption field for wastewater effluent disposal has been proposed to be constructed in Teton County, Section 14/15, T41N, R117W. This absorption field is to be a temporary on-site system handling 9000 gal/day of raw sewage, until the full treatment plant and absorption field can be constructed.

To determine if the absorption field adversely effects groundwater, 1 upgradient monitor well and 2 downgradient monitor wells should be constructed. These monitor wells may be permitted in conjunction with the absorption field or they may be permitted separately prior to the construction of the absorption field.

Jorgensen Engineering has been conducting background groundwater testing using domestic wells in the area. One set of data from these wells has been received by the DEQ/WQD. The background groundwater quality must also be established for the monitor wells associated with the absorption field site.

To establish background groundwater quality, we strive for quarterly sampling over a period of one year. At a minimum the background groundwater data should be collected twice per well separated by at least one month. The two sampling events shall produce consistent analytical results or additional sampling will be required.

Proper well evacuation, sampling preservation and analytical procedure should be followed. Refer to Chapter VIII, Section 7, of Wyoming Water Quality Rules and Regulations. The water samples should be analyzed for the following list of parameters:

Background Groundwater Quality for Wells #2-5  
Effluent #1 and Future Monitor Wells

Arsenic	Chlorides
Barium	Copper
Calcium	Oil and Grease
Fluoride	Iron
Lead	Manganese
Nitrate-Nitrogen	Ammonia-Nitrogen
Selenium	Phenols
Silver	Total Dissolved Solids
Aluminum	Sulfates
Chemical Oxygen Demand	Zinc
pH	Static Water Level

Pesticide Background Groundwater Quality for Effluent #1

Endrin

Lindane

Methoxychlor

Toxaphene

2, 4-D

2, 4, 5-TP (Silvex)

Once the background water quality is established, quarterly samples should be collected from each well. Based on the background water quality and the nature of the effluent, we will establish a list of operational monitoring parameters.

84-556 R

SEND WHITE & PINK COPIES INTACT. WHITE COPY WILL BE RETURNED WITH REPLY.

REPLY-MEMO RM-87

TO Robert Ablonde  
Gorginson Engineering  
P.O. Box 1142  
Jackson, Wyo. 83001

FROM Kate Laudon  
WBEO / WQD  
Herschler Building  
Cheyenne Wyo. 82002

SUBJECT

DATE

1-16-85

MESSAGE:

Ed Baruth asked me to forward our review comments concerning the Aspen II Absorption Field Directly to you. If you have any questions please call Matt or me.

ORIGINATOR-DO NOT WRITE BELOW THIS LINE

REPLY TO →

SIGNED

Kate Laudon

REPLY

DATE

SIGNED

SEND PARTS 1 AND 3 INTACT-PART 1 WILL BE RETURNED WITH REPLY

RM-87

RETURN TO ORIGINATOR

Plans returned  
1/10/85

WATER QUALITY DIVISION  
GROUNDWATER SECTION  
PERMIT APPLICATION REVIEW

APPLICATION NUMBER 84-556R

DATE SUBMITTED FOR REVIEW 12-4-84 additional info received 12/14

NAME AND LOCATION OF FACILITY Aspens II Leachfield  
Sec. 14 & 15 T41N R17W  
Teton County

I have reviewed the plans and specifications with regard to all aspects of groundwater quality and find the following:

- No comment. The submittal is consistent with current groundwater protection procedures and requirements.
- Comments attached.

SIGNED Kate Laudon

TITLE Engineer Evaluator

DATE ~~12~~ 1-3-85

ACCEPTED FOR RECORD 1/2/85  
(Date)

AJM  
Groundwater Control Supervisor

MEMORANDUM

TO: Ed Baruth, Northwest District Engineer

FROM: Matthew M. Langenfeld, Groundwater Compliance Specialist *MML*  
Kate Laudon, Groundwater Engineering Evaluator *KGL*

DATE: January 8, 1985

SUBJECT: Groundwater Review of Permit Application 84-556R, Aspen II Absorption Field

An absorption field for wastewater effluent disposal has been proposed to be constructed in Teton County, Section 14/15, T41N, R117W. This absorption field is to be a temporary on-site system handling 9000 gal/day of raw sewage, until the full treatment plant and absorption field can be constructed.

To determine if the absorption field adversely effects groundwater, 1 upgradient monitor well and 2 downgradient monitor wells should be constructed. These monitor wells may be permitted in conjunction with the absorption field or they may be permitted separately prior to the construction of the absorption field.

Jorgensen Engineering has been conducting background groundwater testing using domestic wells in the area. One set of data from these wells has been received by the DEQ/WQD. The background groundwater quality must also be established for the monitor wells associated with the absorption field site.

To establish background groundwater quality, we strive for quarterly sampling over a period of one year. At a minimum the background groundwater data should be collected twice per well separated by at least one month. The two sampling events shall produce consistent analytical results or additional sampling will be required.

Proper well evacuation, sampling preservation and analytical procedure should be followed. Refer to Chapter VIII, Section 7, of Wyoming Water Quality Rules and Regulations. The water samples should be analyzed for the following list of parameters:

Background Groundwater Quality for Wells #2-5  
Effluent #1 and Future Monitor Wells

Arsenic	Chlorides
Barium	Copper
Calcium	Oil and Grease
Fluoride	Iron
Lead	Manganese
Nitrate-Nitrogen	Ammonia-Nitrogen
Selenium	Phenols
Silver	Total Dissolved Solids
Aluminum	Sulfates
Chemical Oxygen Demand	Zinc
pH	Static Water Level

Pesticide Background Groundwater Quality for Effluent #1

Endrin	Toxaphene
Lindane	2, 4-D
Methoxychlor	2, 4, 5-TP (Silvex)

Once the background water quality is established, quarterly samples should be collected from each well. Based on the background water quality and the nature of the effluent, we will establish a list of operational monitoring parameters.

MEMORANDUM

TO: #84-556R File  
Bob Ablondi, Jorgensen Engineering  
Jake Strohman, DEQ/WQD Cheyenne

FROM: Ed Baruth *Ed*

DATE: December 3, 1984

SUBJECT: Telephone Review

1. This is to verify that per Jake Strohman's advice, the proposed temporary septic tank/elevated leach field will need to be designed using our Chapter XI Rules and Regulations. The applicant has indicated he would be willing to accept a condition on the permit limiting use of the leach field to 2-3 years time, if more liberal design standards could be allowed. However, Chapter XI is considered binding.
2. The DEQ groundwater section review is now underway. You will be advised of their comments as soon as possible.

EB:dcn



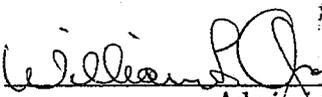
ing working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

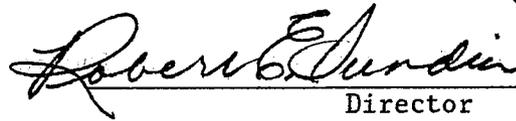
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 210 Lincoln, Lander, Wyoming 82520; telephone, 332-3144.

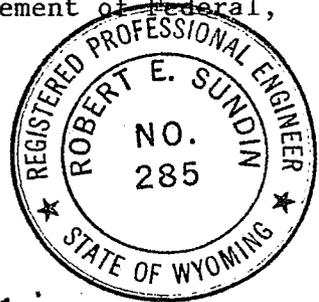
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to any applicable State law or regulation.

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:

  
WILLIAM L. GARLAND  
P.E. # 1479  
Administrator  
Water Quality Division  
STATE OF WYOMING

  
ROBERT E. SUNDIN  
Director  
Dept. of Environmental Quality



December 11, 1984  
Date of Issuance

This permit does not supercede the requirements for obtaining any permit from local agencies.

\* CONDITION ON PERMIT \*

1. Before backfilling around the authorized improvements, the applicant is required to contact the Fremont County Planning Office, Mr. Ray Price, and arrange for his inspection of the improvements.
2. Your property is located within the City of Riverton's planning area for possible future service by the Riverton wastewater collection system. The permit is issued with the condition that the permitted septic tank/leach field be abandoned and connection be made to the Riverton collection system when service is made available to your property.

EB:dcn

MEMORANDUM

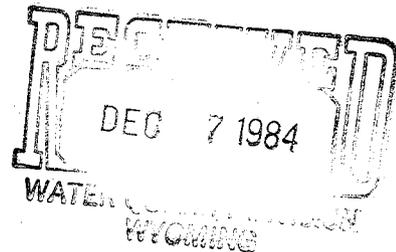
TO: #84-557R File  
FROM: Ed Baruth *Ed*  
DATE: December 3, 1984  
SUBJECT: Telephone Review

I discussed the North Park Transportation application for permit to construct a septic tank.

We agreed on a 0.20 gpd/SF design rate to load the tight soils.

A condition will be added to the permit to construct requiring a replacement "alternate technology" disposal facility should the leach field fail.

EB:dcn



BC

1-18-95

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 84-558R

CITY OF POWELL  
~~ROAD 10 INTERCEPTOR SEWER~~  
 (Name of Facility)

This permit hereby authorizes the applicant (name and address):

~~City of Powell~~  
~~P. O. Box 1008~~  
~~Powell, WY 82435~~

to construct, install, or modify a sanitary sewer interceptor on Road 10

\_\_\_\_\_ facility according to the procedures and conditions of the  
 application No. 84-558R. The facility is located in \_\_\_\_\_

Section 16, T55N, R99W  
 \_\_\_\_\_ in the County of Park,

in the State of Wyoming. This permit shall be effective for a period of two (2) years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and dur-

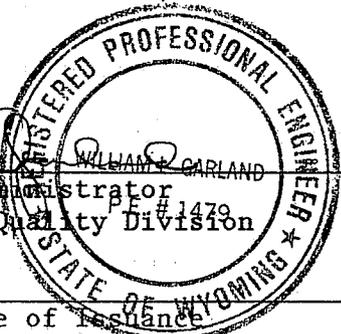
ing working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

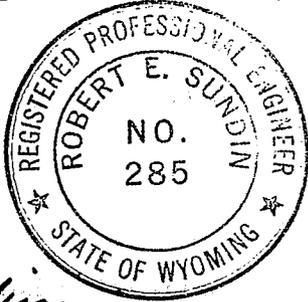
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 210 Lincoln, Lander, Wyoming 82520; telephone, 332-3144.

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

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:

A circular seal for a Registered Professional Engineer in the State of Wyoming. The outer ring contains the text "REGISTERED PROFESSIONAL ENGINEER" at the top and "STATE OF WYOMING" at the bottom, separated by two stars. The center of the seal contains the name "WILLIAM GARLAND" and "P.E. # 1479".  
*William Garland*  
\_\_\_\_\_  
Administrator  
Water Quality Division  
January 9, 1985  
\_\_\_\_\_  
Date of Issuance

A circular seal for a Registered Professional Engineer in the State of Wyoming. The outer ring contains the text "REGISTERED PROFESSIONAL ENGINEER" at the top and "STATE OF WYOMING" at the bottom, separated by two stars. The center of the seal contains the name "ROBERT E. SUNDIN" and "NO. 285".  
*Robert E. Sundin*  
\_\_\_\_\_  
Director  
Dept. of Environmental Quality

This permit does not supercede the requirements for obtaining any permit from local agencies.

EB:dcn

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER QUALITY DIVISION  
210 LINCOLN  
LANDER, WYOMING 82520  
PHONE: (307) 332-3144

PROJECT: City of Powell - Road 10 Interceptor Sewer

ENGINEER: Engineering Associates  
P. O. Box 1900  
Cody, WY 82414

OWNER: City of Powell  
P. O. Box 1008  
Powell, WY 82435

WATER QUALITY DIVISION REFERENCE NUMBER: #84-558

REVIEWING ENGINEER: Ed Baruth, P.E. *Ed*

DATE OF REVIEW: December 5, 1984

ACTION: Not authorized.

COMMENTS:

1. Please provide an estimate of the flow anticipated to be carried by this interceptor and verify proper interceptor sizing.
2. Has the intergovernmental agreement between Park County and Powell been finalized to properly include properties affected by this expansion project?
3. At the intersection of Lane 9 and Road 10, Station 25+04, please detail the water line crossing. Is this the only water line that will be within 10 horizontal and 1½ vertical feet from the interceptor?

EB:dcn

cc: Mike Hackett, DEQ/WQD Cheyenne  
Larry Robinson, DEQ/WQD Cheyenne

*C*

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 84-559R  
 Ref. 82-32RR  
 C 560228-94

Marbleton Sewage Treatment Facility  
 (Name of Facility)

This permit hereby authorizes the applicant (name and address):

Town of Marbleton  
P. O. Box 611  
Big Piney, WY 83113

to construct, install, or modify a the location of three secondary sewage treatment ponds

facility according to the procedures and conditions of the application No. 84-559R. The facility is located in

Sec. 29, T30N, R11W

in the County of Sublette,

in the State of Wyoming. This permit shall be effective for a period of two (2) years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and dur-

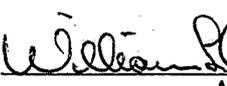
ing working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 210 Lincoln, Lander, Wyoming 82520; telephone, 332-3144.

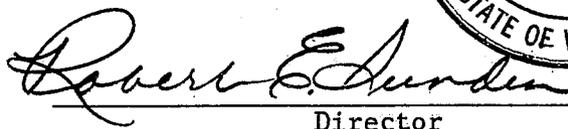
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to any applicable State law or regulation.

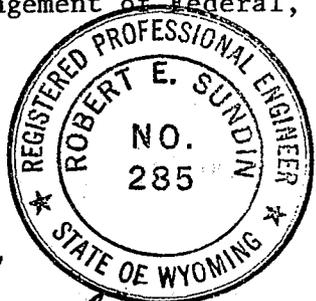
The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:

  
WILLIAM GARLAND  
Administrator 479  
Water Quality Division  
February 1985  
Date of Issuance



  
Director  
Dept. of Environmental Quality



This permit does not supercede the requirements for obtaining any permit from local agencies.

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER QUALITY DIVISION  
210 LINCOLN  
LANDER, WYOMING 82520  
PHONE: (307) 332-3144

PROJECT: Marbleton Sewage Treatment Facility - Ponds No. 3, 4, and 5  
Modification

ENGINEER: Robert Overfield  
Engineering Associates  
P. O. Box 1900  
Cody, WY 82414

OWNER: Town of Marbleton  
P. O. Box 611  
Big Piney, WY 83113

WATER QUALITY DIVISION REFERENCE NUMBER: #84-559

REVIEWING EVALUATOR: Jack Bedessem *JB*

DATE OF REVIEW: January 10, 1985

ACTION: **Not authorized.**

COMMENTS: An initial review of your plans and specifications has been completed. The following items need to be addressed and/or resolved:

1. Address erosion protection of the effluent outfall, channel and confluence. Erosion control provisions should be noted and detailed in the plans and specifications.
2. Water Quality Rules and Regulations (Chapter XI, Section 18) require that following construction, but prior to start up, a testing program shall be conducted to demonstrate the effectiveness of the soil liner. Results of the testing program shall be submitted to this office. Address the method for complying with this requirement.
3. "Permit to Construct" No. 84-32RR was issued with conditions. These conditions shall also be affiliated with the application. A summary of the conditions and remaining requirements is as follows:
  - (a) Consistent background groundwater quality data still needs to be obtained from this project location.
  - (b) The modified or revised plans should include the locations of the required monitoring wells. "As built" plan, profile and detail drawings of the monitoring wells have been submitted to the Department of Environmental Quality/Water Quality Division. Any changes from the original details should be included with this modification.

*ABC*

Review of Plans and Specifications  
Marbleton Sewager Treatment Facility -  
Ponds 3, 4, and 5 Modification #84-559  
January 10, 1985  
Page Two

(c) As per Kate Laudon's letter, a detailed groundwater monitoring program for operation needs to be developed and submitted. Contact Kate Laudon (307-777-7781).

(d) Interior embankments need to be protected from erosion.

4. According to your December 7, 1984 letter and attachments, existing soils in the bottom of Pond No. 2 were too wet and soft to compact. Address compaction and need for recompaction of all ponds next construction season. Also address alternatives, if soils in the bottom of Pond No. 2 cannot be compacted to meet specifications.

Please submit the required information and revised drawings to this office, in triplicate. If you have any questions, please feel free to contact me.

JB:dcn

cc: Jim Murphy, DEQ/WQD Cheyenne  
Kate Laudon, DEQ/WQD Cheyenne

1-9-85



THE STATE OF WYOMING

ED HERSCHLER  
GOVERNOR

*Department of Environmental Quality  
Water Quality Division*

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

January 8, 1985

Mr. Rob Overfield  
Engineering Associates  
P.O. Box 1900  
Cody, WY 82414

RE: Marbleton Groundwater Sampling, DEQ/WQD Permit #84-559

Dear Rob:

This letter is being written as a follow-up to our telephone conversation of January 5, 1985. I have reviewed the second set of groundwater quality data collected from wells 7 south and 12 south at the Marbleton Wastewater Treatment Facility.

Concentrations of parameters from well 12 south appear to be consistent for both sampling events. Concentrations of chloride, sulfate, and TDS from well 7 south however are quite inconsistent. This may be due to construction activity that has occurred in the vicinity of well 7 south.

Since both wells were completed prior to the relocation of the irrigation ditch, an additional background sample should be collected from each well before operation of the facility commences. The samples should be collected this spring while the irrigation ditch is being utilized. The samples should be analyzed for the operating parameters listed in my August 31, 1984 letter. Before well 7 south is sampled again, it should be inspected for any damage that may have occurred during construction of the irrigation ditch.

Please notify this office two weeks before you intend to sample again so that we may split samples with you.

Sincerely,

Kate Laudon  
Groundwater Engineering Evaluator

KL/nc

cc: Tom Williams  
Jack Bedessem  
Jim Murphy

Water Quality Division  
Groundwater Section  
Permit Application Review

Returned to  
Lander  
12-4-84

Application Number 84-559

Date Submitted For Review 11-28-84

Name and Location of Facility Marbleton Wastewater  
Treatment Facility  
Sec 29, T30N, R111W Sublette Cty.

I have reviewed the plans and specifications with regard to all aspects of ground-water quality and find the following:

- No Comment. The submittal is consistent with current ground-water protection procedures and requirements.
- Comments attached.

Signed Kate Lander

Title Engineer Evaluator

Date 12-3-84

Approved 12/3/84  
(Date)

qjm  
(Signed)  
Groundwater Control Supervisor

MEMORANDUM

TO: Jack Bedessem, Southwest District Supervisor

FROM: Kate Laudon, Engineering Evaluator *KGL*

DATE: December 3, 1984

SUBJECT: Groundwater Review, Marbleton Wastewater Treatment Plant, DEQ/WQD Ref. No. 84-559

Background groundwater quality has not yet been established for this site. In a letter dated August 31, 1984, I requested that a second set of water quality data be submitted before construction commences. Engineering Associates have not submitted that data yet. Background water quality should be established before this permit is issued.

The new plans do not show the location of the monitor wells. Now that the ponds have been relocated, I believe the irrigation ditch runs between the ponds and the monitor wells. Water seeping from the ditch may impact the monitor wells. Jim Murphy says that the ditch is lined with the same compacted clay that the ponds are, so that seepage out should be minimal.

cc: Jim Murphy



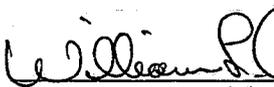
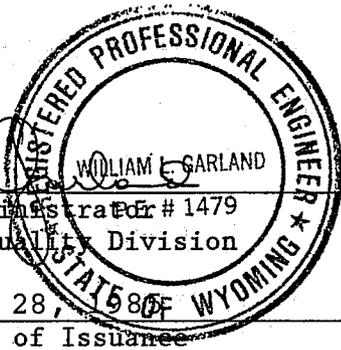
ing working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

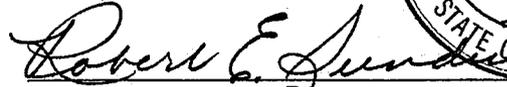
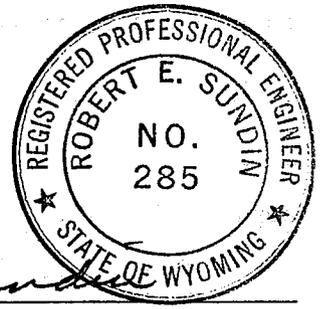
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 210 Lincoln, Lander, Wyoming 82520; telephone, 332-3144.

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

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:

  
  
WILLIAM E. GARLAND  
Administrative # 1479  
Water Quality Division  
March 28, 1980  
Date of Issuance

  
  
Director  
Dept. of Environmental Quality

This permit does not supercede the requirements for obtaining any permit from local agencies.

PERMIT TO CONSTRUCT

4-19-85

New

Permit No. 84-561R

Renewal

Modified

Exxon LaBarge Project Shute Creek Plant  
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

Exxon Company, USA

P.O. Box 1600

Midland, TX 79702

to construct, install, or modify a tail gas unit quench water pond which  
discharges to Shute Creek

facility according to the procedures and conditions of the  
application No. 84-561R. The facility is located in

Sec. 14, T22N, R112W

in the County of Lincoln,

in the State of Wyoming. This permit shall be effective for a period of two (2)  
years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and dur-

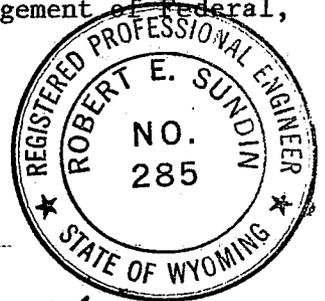
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AUTHORIZED BY:



*William L. Garland*  
WILLIAM L. GARLAND  
Administrator 479  
Water Quality Division  
MARCH 28 1984  
Date of Issuance

A circular seal for a Registered Professional Engineer. The outer ring contains the text "REGISTERED PROFESSIONAL ENGINEER" at the top and "STATE OF WYOMING" at the bottom, separated by two stars. The inner circle contains the name "WILLIAM L. GARLAND".

*Robert E. Sundin*  
Director  
Dept. of Environmental Quality

This permit does not supercede the requirements for obtaining any permit from local agencies.

4-19-85

PERMIT TO CONSTRUCT

New  
 Renewal  
 Modified

Permit No. 84-562R

Exxon LaBarge Project Shute Creek Plant  
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

Exxon Company, USA  
P.O. Box 1600  
Midland, TX 79702

to construct, install, or modify a two cell evaporation pond (36 mil  
hypalon liner) which will receive wash down water, process water and  
sewage lagoon effluent facility according to the procedures and conditions of the  
application No. 84-562R. The facility is located in \_\_\_\_\_  
Sec. 14, T22N, R112W

\_\_\_\_\_ in the County of Lincoln,  
in the State of Wyoming. This permit shall be effective for a period of two (2)  
years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and dur-

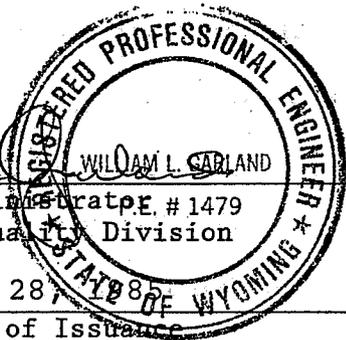
ing working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 210 Lincoln, Lander, Wyoming 82520; telephone, 332-3144.

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AUTHORIZED BY:

A circular seal for a Registered Professional Engineer in the State of Wyoming. The outer ring contains the text "REGISTERED PROFESSIONAL ENGINEER" at the top and "STATE OF WYOMING" at the bottom, separated by two stars. The inner circle contains the name "WILLIAM L. GARLAND" and the number "1479".  
*William L. Garland*  
\_\_\_\_\_  
Administrator, # 1479  
Water Quality Division  
March 28, 1985  
\_\_\_\_\_  
Date of Issuance

A circular seal for a Registered Professional Engineer in the State of Wyoming. The outer ring contains the text "REGISTERED PROFESSIONAL ENGINEER" at the top and "STATE OF WYOMING" at the bottom, separated by two stars. The inner circle contains the name "ROBERT E. SUNDIN" and the number "285".  
*Robert E. Sundin*  
\_\_\_\_\_  
Director  
Dept. of Environmental Quality

This permit does not supercede the requirements for obtaining any permit from local agencies.

4-10-85

PERMIT TO CONSTRUCT

New

Permit No. 84-563R

Renewal

Modified

Exxon LaBarge Project Shute Creek Plant  
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

Exxon Company, USA

P.O. Box 1600

Midland, TX 79702

to construct, install, or modify a sewage collection system and treatment lagoon with a 36 mil hypalon liner

facility according to the procedures and conditions of the application No. 84-563R. The facility is located in

Sec. 14, T22N, R112W

in the County of Lincoln,

in the State of Wyoming. This permit shall be effective for a period of two (2) years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and dur-

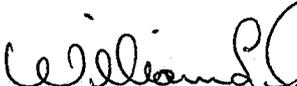
ing working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

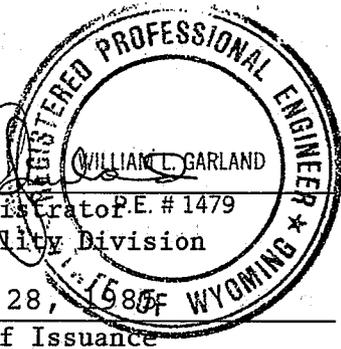
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AUTHORIZED BY:

  
WILLIAM L. GARLAND  
Administrator P.E. # 1479  
Water Quality Division  
March 28, 1985  
Date of Issuance



  
Director  
Dept. of Environmental Quality



This permit does not supercede the requirements for obtaining any permit from local agencies.



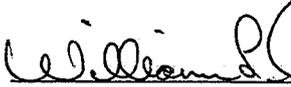
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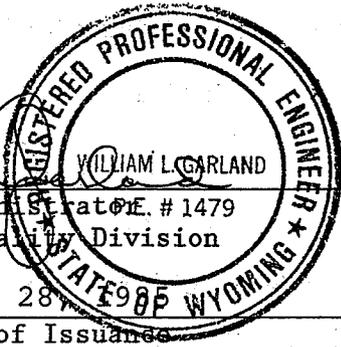
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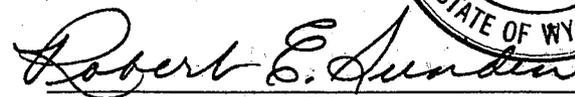
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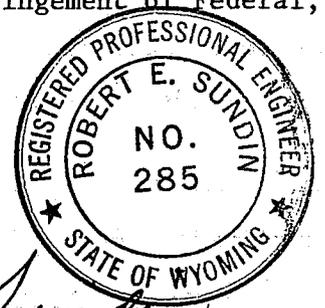
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AUTHORIZED BY:

  
WILLIAM L. GARLAND  
Administrator # 1479  
Water Quality Division  
March 28, 1985  
Date of Issuance



  
Director  
Dept. of Environmental Quality



This permit does not supercede the requirements for obtaining any permit from local agencies.

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER QUALITY DIVISION  
210 LINCOLN  
LANDER, WYOMING 82520  
PHONE: (307)332-3144

PROJECT: Exxon LaBarge Project - Sulfur Runoff Evaporation Pond,  
Sewage System and Treatment Lagoon, Evaporation Pond,  
TGU Quench Water Pond, Firewater Pond

ENGINEER: E. R. Andrews Attention: Steve Dennis  
Stearns Catalytic Corp.  
P. O. Box 5888  
Denver, CO 80217

OWNER: Exxon Company, U.S.A. Attention: T. J. Tibbitts  
P. O. Box 1600  
Midland, TX 79702

WATER QUALITY DIVISION REFERENCE NUMBER: Sulfur Runoff Evaporation Pond #84-560  
Sewage System & Treatment Lagoon #84-561  
Evaporation Pond #84-562  
TGU Quench Water Pond #84-563  
Firewater Pond #84-564

REVIEWING EVALUATOR: Jack Bedessem *JB*

DATE OF REVIEW: January 14, 1985

ACTION: NOT AUTHORIZED

COMMENTS: An initial review of your plans and specifications has been completed. The information submitted appeared to be very complete; however, a few items still need to be addressed and/or resolved:

1. The three sets of construction specifications need to be signed by a registered Wyoming Professional Engineer.
2. Address the compatability of the synthetic liner (hypalon) material with the wastewater climate, soils, etc. (Sulfur Runoff Evaporation Pond, Sewage Treatment Lagoon, Evaporation Pond).
3. Leak Detection Systems - Evaporation Pond, Sulfur Runoff Evaporation Pond, Sewage Treatment Lagoon. Estimate the amount of time it would take for a leak to be detected if it were to occur at the point furtherest from the collection sump.
  - (a) Address the effectiveness of the leak detection systems.

*ABC*

Review of Plans and Specifications  
Exxon LaBarge Projects  
January 14, 1985  
Page Two.

(b) If liquid is ever detected in one of the leak detection systems, this department shall be notified immediately.

4. Provide a typical water quality analyses of the water to be contained in the quench water pond and firewater pond.

5. It is proposed that the quench water pond and firewater pond not be lined. Address and specify acceptable seepage rates and the possible affect on ground-water.

6. Provide a typical water quality analyses of composite water to be contained in the evaporation pond.

7. The specifications shall include the requirement--Written certification that the earthwork was completed and liners were installed in accordance with the specifications shall be provided to this office by a Wyoming Professional Engineer, independent soils firm and/or liner manufacturer.

8. It appears that the Sanitary Sewer Specification 2.1.1e does not comply with the separation distances required by Water Quality Rules and Regulations, Chapter XI, Section 9(f)(ii).

9. Details, design information and specifications are needed for the sewage lift station. Refer to Water Quality Rules and Regulations, Chapter XI, Section 10.

Submit the required information to this office, in triplicate. If you have any questions, please feel free to contact me.

JB:dcn

cc: Kate Laudon, DEQ/WQD Cheyenne

Norma, Please  
return plans to  
Lander

WATER QUALITY DIVISION  
GROUNDWATER SECTION  
PERMIT APPLICATION REVIEW

Jone  
1-16-85  
xc

APPLICATION NUMBER 84-560, 561, 562, 563, 564

DATE SUBMITTED FOR REVIEW 11-29-84

NAME AND LOCATION OF FACILITY Exxon La Barge Project  
Sec 14 T22N R112W  
Lincoln County

I have reviewed the plans and specifications with regard to all aspects of groundwater quality and find the following:

- No comment. The submittal is consistent with current groundwater protection procedures and requirements.
- Comments attached.

SIGNED Kate Landon  
TITLE Engineer Evaluator  
DATE 1-15-85

ACCEPTED FOR RECORD 1/15/85 ajm  
(Date) Groundwater Control Supervisor

PERMIT TO CONSTRUCT

New

Permit No. 84-565R

Renewal

\* CONDITION ON PERMIT \*

Modified

FARSON-EDEN FIRE PROTECTION DISTRICT - GREY WATER PIT  
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

Farson-Eden Fire Protection District

P. O. Box 69

Farson, WY 82932

to construct, install, or modify a grit and grease trap with subsurface disposal  
pit for gray water

\_\_\_\_\_ facility according to the procedures and conditions of the

application No. 84-565R. The facility is located in \_\_\_\_\_

Section 27, T25N, R106W

\_\_\_\_\_ in the County of Sweetwater,

in the State of Wyoming. This permit shall be effective for a period of two (2)  
years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and dur-

ing working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

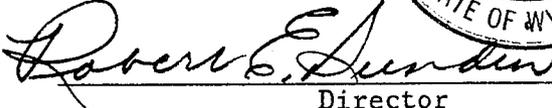
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 210 Lincoln, Lander, Wyoming 82520; telephone, 332-3144.

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

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:

  
WILKIAM L. GARLAND  
Administrato P.E. # 1479  
Water Quality Division  
STATE OF WYOMING  
January 17, 1985  
Date of Issuance

  
ROBERT E. SUNDIN  
NO. 285  
REGISTERED PROFESSIONAL ENGINEER  
STATE OF WYOMING  
Director  
Dept. of Environmental Quality

This permit does not supercede the requirements for obtaining any permit from local agencies.

\* CONDITION ON PERMIT \*

This Permit is issued with the requirement that the permittee notify the Sweetwater County Sanitarian of the day construction is scheduled to commence and the estimated completion date of the project. Final inspection of the installed system is required prior to backfilling.

The Sweetwater County Sanitarian is Al Emden. Al may be contacted at 205 East Railroad Avenue, Green River, Wyoming 82935 or by calling 875-2115.

JH:dcn

MEMORANDUM

TO: Plans #84-565  
FROM: Jeff Hermansky *JH*  
DATE: December 4, 1984  
SUBJECT: Phone Review

On December 4, 1984 I conducted a phone review of the Farson-Eden Fire Protection District gray water disposal pit. I spoke with Harry Moore of Johnson - Fermelia & Crank, Inc.

I made the following comments and asked the following questions:

1. How was the flow of 128 gpd determined?
2. What is the make-up of the gray water to be disposed of?
3. What kind of tank precedes the disposal pit?
4. I asked how the leach pit would be protected from traffic and parking.
5. I told Harry that the pit is too small for 128 gpd. It must be  $278 \text{ ft}^2$  for a soil with a 20 min/in perc. rate.

Harry said the pit is to dispose of the wastewater from the floor drain in the truck bay. He said a grease/grit trap will precede the pit. The flow from the floor drain was an estimate. It is only the snow and ice melt from equipment and water from whenever the floor is washed down.

JH:dcn

AC



ing working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 210 Lincoln, Lander, Wyoming 82520; telephone, 332-3144.

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AUTHORIZED BY:

  
WILLIAM L. GARLAND  
Administrator # 1479  
Water Quality Division  
REGISTERED PROFESSIONAL ENGINEER  
STATE OF WYOMING

January 17, 1985  
Date of Issuance

  
ROBERT E. SUNDIN  
NO. 285  
REGISTERED PROFESSIONAL ENGINEER  
STATE OF WYOMING

Director  
Dept. of Environmental Quality

This permit does not supercede the requirements for obtaining any permit from local agencies.

\* CONDITION ON PERMIT \*

This Permit is issued with the requirement that the permittee notify the Sweetwater County Sanitarian of the day construction is scheduled to commence and the estimated completion date of the project. Final inspection of the installed system is required prior to backfilling.

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JH:dcn

MEMORANDUM

TO: Plans #84-566

FROM: Jeff Hermansky *JH*

DATE: December 4, 1984

On December 4, 1984 I conducted a phone review of the Farson-Eden Fire Protection District fire station septic tank/leach field. I spoke with Harry Moore of Johnson-Fermelia & Crank, Inc.

I told Harry that it must be shown how parking and traffic is to be kept off the proposed leach field area.

JH:dcn

C

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 84-567

\* NOTES TO PERMIT \*

MARATHON OIL CO.  
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

Marathon Oil Co.  
 Box 2690  
 Cody, WY 82414

to construct, install, or modify a boiler and amine unit rinse water from gas plant for one time road application

facility according to the procedures and conditions of the application No. 84-567. The facility is located in

Section 32, T51N, R100W

in the County of Park,

in the State of Wyoming. This permit shall be effective for a period of 1/2 (one-half) years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and dur-

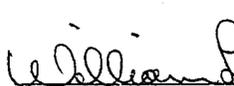
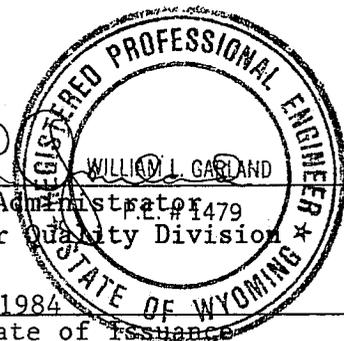
ing working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

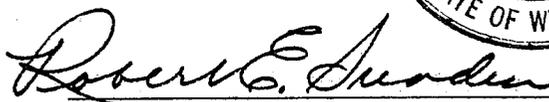
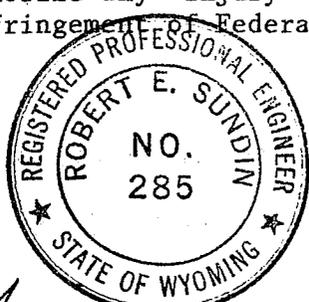
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 210 Lincoln, Lander, Wyoming 82520; telephone, 332-3144.

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

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:

  
  
WILLIAM L. GARLAND  
Administrator #1479  
Water Quality Division  
STATE OF WYOMING

  
  
Director  
Dept. of Environmental Quality

November 28, 1984  
Date of Issuance

This permit does not supercede the requirements for obtaining any permit from local agencies.

\* NOTES TO PERMIT \*

1. This permit authorizes you to dispose of 5,040 gallons of rinse water from the boiler and amine units at Section 32, T.51N., R.100W. on two miles of road.
2. It is suggested that your hauler keep a copy of this permit in his truck during the application. This may help prevent any misunderstandings of the activity, should unnotified parties observe the operation.

EB:dcn

cc: E. J. Fanning, DEQ/WQD Cheyenne



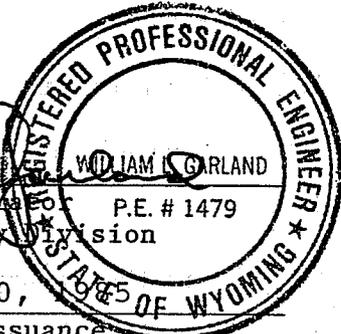
ing working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 210 Lincoln, Lander, Wyoming 82520; telephone, 332-3144.

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

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:

  
William S. Garland  
Administrator  
Water Quality Division  
August 30,  
Date of Issuance

Richard Wood  
Director  
Dept. of Environmental Quality

This permit does not supercede the requirements for obtaining any permit from local agencies.

\* CONDITIONS ON PERMIT \*

1. No hazardous wastes as defined by the U.S. EPA or State of Wyoming shall be placed on this facility. Before any wastes, other than oilfield produced water, may be disposed of in this facility, authorization must be obtained from DEQ/WQD.
2. Operator records or log must be kept on each load brought to the facility including the hauler's name, source of load, oilfield operator, wastewater composition, and volume of wastewater. These records shall be retained for inspection by DEQ/WQD personnel as needed.
3. The monitoring wells shall be monitored on a monthly basis. If fluid is found in the monitoring system it shall be reported immediately and then have the fluids analyzed for TDS and Cl. The results of all groundwater monitoring and analysis shall be submitted to: Tony Mancini, DEQ/WQD, Herschler Building, 122 W. 25th Street, Cheyenne, Wyoming, 82002 within 30 days following each sampling event.
4. If fluids are detected in the monitoring wells, disposing of fluids into the facility must stop immediately. Before the facility can be used again it must be determined that the fluid in the monitoring wells is not from the pond. If the fluid is found to be wastewater, use of the facility shall be discontinued until the DEQ/WQD is satisfied that a threat to groundwater does not exist. All investigative or mitigative measures must be accepted by DEQ/WQD.

4. The DEQ/WQD shall be contacted prior to the reclamation of this facility. The method of reclamation must be accepted by this department.



THE STATE OF WYOMING

ED HERSCHLER  
GOVERNOR

*Department of Environmental Quality*  
*Water Quality Division*

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

MEMORANDUM

TO: Steve Gerber  
FROM: Phil Pucel *Phil*  
DATE: October 16, 1985  
SUBJECT: 84-568R, Oilfield Disposal Services Pit, Washakie Co.

On October 16, 1985, Dale Cammack telephoned me to inquire about the appropriate depth of the monitor wells which will replace the monitor seepage pit specified in the original permit.

Referring to drillhole logs (DH-1, -2, -6) in the May 24, 1985 report by Western Water, it appears that a badly fractured zone is located at a depth of about 40 feet. The three additional monitor wells should intercept this fractured zone. A three foot sump should be constructed beneath the perforated casing which intercepts the fractured zone. It is also recommended that the perforated interval and gravel pack extend to within 5 or 6 feet of the surface; hydrated bentonite should be used to form a seal above the gravel pack; and the surface seal above the bentonite should consist of neat cement. The surface pad should be constructed in a manner that prevents contamination from the surface from entering the well.

An application for a modification to the permit is required for this change in the monitor network.

PP/nc

cc: Dale Cammack  
Box 668  
Worland, WY 82401

WATER QUALITY DIVISION  
GROUNDWATER SECTION  
PERMIT APPLICATION REVIEW

APPLICATION NUMBER 84-568 R R R

DATE SUBMITTED FOR REVIEW 8-19

NAME AND LOCATION OF FACILITY Oilfield Disposal Service  
Washakie Co.

Oilfield Waste Pond

I have reviewed the plans and specifications with regard to all aspects of groundwater quality and find the following:

- ( ) No comment. The submittal is consistent with current groundwater protection procedures and requirements.
- (X) Comments attached.

SIGNED Phil Pucel

TITLE Eng

DATE 8-20

ACCEPTED FOR RECORD 8-21-85  
(Date)

[Signature]  
Groundwater Control Supervisor



THE STATE OF WYOMING

ED HERSCHLER  
GOVERNOR

*Department of Environmental Quality*  
*Water Quality Division*

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

MEMORANDUM

TO: Jake Strohman  
FROM: Phil Pucel *Phil*  
DATE: August 20, 1985  
SUBJECT: Oilfield Disposal Service Pit #1, DEQ/WQD Ref. No. 84-568RRR, S17 & 18, T47N, R89W, Washakie Co.

A letter from Dale Cammack dated August 15, 1985, was received by WQD on August 19, 1985. The letter summarizes agreements reached during a meeting on August 13, 1985. Revised plans for the pond were also attached.

In the second paragraph, it states: "lab permeability test values indicate that 7.2 inches of the bentonite would be hydraulically equivalent to the standard of 36 inches of soil having a permeability of E-7 cm/sec. Accordingly, a liner 8 to 10 inches thick will be even less permeable than the standard, and thereby hydraulically suitable." As I pointed out during previous reviews and during the August 13, 1985 meeting, lab permeabilities are normally several orders of magnitude greater than field permeabilities. In addition, there are no ASTM methods for testing bentonite alone, i.e., without being mixed into a fine-grained soil.

The disposal of drilling fluids will not be permitted if the wastes contain hazardous, toxic, or other constituents which may alter the properties of the liner.

PP/nc



ED HERSCHLER  
GOVERNOR

*Department of Environmental Quality*  
*Water Quality Division*

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

MEMORANDUM

TO: File on Oilfield Disposal Service, #84-568, Washakie Co.  
FROM: Phil Pucel *Phil*  
DATE: August 16, 1985  
SUBJECT: Meeting of August 13, 1985

Participants:

Bob Sundin  
Bill Garland  
Jake Strohman  
Phil Pucel

Stan Abell  
Larry King  
Dale Cammack  
Steve Gerloch

Introduction

The meeting was requested by the applicant in an effort to expedite the permitting process which has been delayed due to several unresolved issues. The chief item of discussion was the adequacy of a pure bentonite liner.

Discussion

ODSI proposed this pond to receive oilfield wastes which are probably being disposed of indiscriminately. While the site geology appears to offer very good conditions for a disposal site, the adequacy of the proposed liner is not verified by accepted engineering standards and tests. The proposed liner design is based on lab permeability tests which are not standardized according to ASTM codes. Furthermore, lab permeabilities are usually one to two orders of magnitude lower than field permeabilities. Pure bentonite liners are not designed nor are they recommended by various engineering firms which were contacted for advice.

In addition, there is no standard methodology for the construction of a bentonite liner. It cannot be compacted to a specified density at some moisture content. It can be handled in only a dry condition. In spite of the fact that the liner design cannot be verified for adequacy and is subject to severe erosional problems, ODSI proposed to reduce the floor thickness from 12 inches down to 8-10 inches; the sidewalls from 36 inches down to 8-10 inches.

The inadequacy of the liner design is countered by a contingency plan and a monitor network. The contingency plan calls for an estimation of seepage rates, a determination if the rate is excessive, and a possible discontinuation of the use of

the pond. The monitor network will consist of two wells and a 20 foot trench. Due to the limited nature of the monitor network and the potential for vertical migration, a confident determination of seepage rates is impossible. Since criteria for pond shutdown have not yet been specified in any concrete terms, regulation of this facility will be difficult if not totally unenforceable.

#### Miscellaneous

- WQD agreed to allow phased construction of the liner.
- Rag oil shimmers will be used to collect any oil.
- Commitments for testing the in-place bentonite will include an inspection to determine that it is free of rock and debris. WQD also requested that barrel tests be performed on the liner. Thickness requirements were essentially waived.
- ODSI proposed to dump non-toxic drilling fluids whereas only produced water was originally proposed. Analyses of each load were requested to determine all constituents. ODSI was warned of the potential for receiving hazardous wastes and the subsequent regulation by the EPA.
- When the inlet pipe freezes in the winter, how will the fluids be delivered to the pond?
- Halliburton is operating an unpermitted neutralization pit in Worland.
- Quasar/Texaco is operating a bentonite-lined pit between Manderson and Basin Seven miles down Elk Creek Road.
- A well, supposedly permitted to accept produced water, accepted drilling fluids which resulted in reduced well permeabilities. The operator is Ed Wattlington of Disposal Services Inc. The well is 15 miles southeast of Worland.
- Revised drawings will be submitted prior to permit issuance.
- Pond dimensions were altered to provide increased capacity.

cc: Jake Strohman  
Steve Gerber

WATER QUALITY DIVISION  
• GROUNDWATER SECTION  
PERMIT APPLICATION REVIEW

APPLICATION NUMBER 84-568 RR

DATE SUBMITTED FOR REVIEW 7-19-85

NAME AND LOCATION OF FACILITY Oilfield Disposal Service

Washakie Co

I have reviewed the plans and specifications with regard to all aspects of groundwater quality and find the following:

- ( ) No comment. The submittal is consistent with current groundwater protection procedures and requirements.
- (X) Comments attached.

SIGNED Phil Paarl

TITLE Eng

DATE 7-19-85

ACCEPTED FOR RECORD \_\_\_\_\_  
(Date)

John Strohman  
Groundwater Control Supervisor

MEMORANDUM

TO: Steve Gerber

FROM: Phil Pucel *Phil*

DATE: July 19, 1985

SUBJECT: 84-568RR, Oilfield Disposal Service, Inc., Response to WDEQ/WQD Comments of July 3, 1985 Concerning Produced Oilfield Water Disposal Pit Application

During our phone conversation today, we discussed the adequacy of the supplemental information pertaining to the bentonite liner and monitoring requirements. The submittal referenced the Dobie Creek pond as a prototype bentonite-lined pond. The Dobie Creek pond had been permitted by the BLM in 1981 and is purportedly operating in a satisfactory manner. Verification of the adequacy and condition of the Dobie Creek pond will influence WQD's decision on permitting the proposed pond.

In the case of pond leakage, the direction of unsaturated flow is uncertain. Governing factors are the dip of the bedrock, the orientation of fractures and joints, and the direction of major transmissivity. Since groundwater is believed to be 350 feet deep and the site is underlain by shale and bentonitic strata, a minimal monitoring system is appropriate. Monitoring will consist of inspection of seeps and differences in vegetation growth; and inspection of a trench constructed below the dam. The trench should be constructed several feet beneath the pond bottom and the gravel blanket drain should extend from the trench bottom to a point above the pond bottom. The top 2 to 4 feet of the trench material should consist of low permeability materials and a cap should drain any precipitation away from the trench. A perforated pipe in the bottom of the trench will be connected to a riser pipe. The riser pipe will be inspected monthly for the first year. If fluid is found in the monitoring system, it will be analyzed for TDS and Cl. Remedial action will be necessary after leakage is confirmed.

The monitoring program may be augmented by WQD upon recognition of potential leakage problems. After the first year of operation, the adequacy of the liner will be re-evaluated and the monitoring program may be modified accordingly. The presence of seeps or fluids in the trench will be reported immediately to WQD. Subsequent analyses will also be reported.

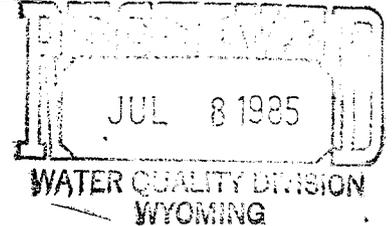
Yearly report to the WQD will contain records of each monthly inspection, analytical results, remedial actions, disposal volumes, incidents of trespass, and disposal of fluids other than produced water.

PP/nc

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER QUALITY DIVISION  
210 LINCOLN  
LANDER, WYOMING 82520  
PHONE: (307) 332-3144



PROJECT: Oilfield Disposal Service Pit #1

ENGINEER: Stan Abell  
c/o Grosch Construction  
1000 Howell  
Worland, WY 82401

OWNER: Larry L. King  
P.O. Box 668  
Worland, WY 82401

WATER QUALITY DIVISION REFERENCE NUMBER: 84-568R

REVIEWING ENGINEER: Phil Pucel, Steven P. Gerber *SPH*

DATE OF REVIEW: July 3, 1985

ACTION: Not authorized.

COMMENTS:

A review of the above referenced project has been completed. The following items must be addressed and/or resolved before a permit can be issued:

1. In our last review you were asked to address our concern of vegetation growth in the pond bottom since the bottom of the pond is not flat and less than 2 feet of water is expected. Again our concern is that the vegetation will damage the liner.

2. Plans and specifications controlling the construction of this disposal pond is required. The plans must show control points for the dikes, fencing details to insure security, and other miscellaneous construction details. The specifications must cover construction technique, compaction requirements, quality control testing during construction and testing of completed liner. Both the plans and specifications must show the name, Wyoming registration number, and seal or signature of the engineer.

3. Clarify what is to be wasted into this disposal pond. An analysis of the typical fluids to be wasted and their compatibility with the liner is required. Once these fluids have been identified the pond will be restricted for all other fluids. Operator records will be required on each load brought to the facility including the hauler's name, source of the load, oilfield operator, and composition and volume of the drilling fluids and other wastes.

*AC*

Review of Plans & Specs.

Ref. No. 84-568

Page Two

4. Detail security provisions to be included to prevent unauthorized dumping.

5. If seepage occurs then a contingency plan must be implemented. Submit this plan. This plan should include the course of action to be taken in emptying the pond, correcting problems and recovering lost wastes.

6. A one-foot bentonite layer can be expected to provide some delay in the deep percolation of the wastewater, but once saturation occurs, its usefulness as a containment device will become minimal. The only means to definitively determine leakage characteristics is in-situ monitoring. The laboratory permeability estimates contained in the latest submittal are expected to be much lower than field permeabilities. If the field permeability tests are shown to be inadequate the bentonite layer will have to be increased in thickness.

7. The permeability of the soil is expected to increase with time, depending upon the types and concentrations of waste, the quality control exercised upon installation of the liner, and dessication of the liner. It is anticipated that this facility will eventually seep and impact the underlying aquifer. Submit a leak detection monitoring system to be approved by our groundwater section. This may be done through monitoring wells or collection trench.

8. A three-foot bentonite side wall is proposed so that dessication is avoided. The feasibility of this design should be documented. Our experience has shown that soil liners tend to produce cracks through the entire liner as the water level fluctuates causing a saturation-drying cycle. The bottom of the pond will be especially susceptible since the pond bottom is sloped and the liner is only 12 inches thick. A schedule for regular checking and maintenance should be developed. If the liner fails corrective measures will be required.

9. A two stage construction phase on the liner will not be allowed. The entire pond must be lined prior to putting it into service.

Submit the requested information in triplicate. If you have any questions do not hesitate to contact me.

SG/jw

copy: Phil Pucel

Plans (3)

File (2)

Water Quality Division  
Groundwater Section  
Permit Application Review

Application Number 84-568 R

Date Submitted For Review 6-17-85

Name and Location of Facility Oilfield Disposal Service Pit #1  
Sec 17 & 18... T.47N. R. 89W  
Washakie Co

I have reviewed the plans and specifications with regard to all aspects of ground-water quality and find the following:

- No Comment. The submittal is consistent with current ground-water protection procedures and requirements.
- Comments attached.

Signed Phil Pucel

Title Eng

Date 6-26-85

Approved 7-1-85  
(Date)

[Signature]  
(Signed)  
Groundwater Control Supervisor

MEMORANDUM

TO: Steve Gerber

FROM: Phil Pucel *Phil*

DATE: June 27, 1985

SUBJECT: Oilfield Disposal Service Pit #1, DEQ/WQD Ref. No. 84-568, S17 & 18, T47N, R89W, Washakie Co.

INTRODUCTION

Pursuant to your request, this review was performed on supplemental information received on June 17, 1985, as well as on the incomplete permit application material received with the first submittal.

DISCUSSION

1. The original application stated that oilfield wastes would be disposed of at the site. The review of Dec 7, 1984 noted that no analyses were submitted for the various polymers used in drilling and known for their toxicity and their incompatibility with liners. This item of concern becomes even more poignant in light of the fact that the latest submittal asserts that only produced water will be disposed of. It is recommended that the operator's objectives be clarified and that there is a clear understanding of the restrictions imposed by the various types of waste. As stated in the initial review, operator records should be kept on each load brought to the facility including the hauler's name, the source of the load, the oilfield operator, the composition and volume of the drilling fluids and other wastes. This record should be submitted to WQD periodically.

The wastes being accepted at this site may qualify it for regulation under the Resource Conservation and Recovery Act. The operator should be advised of his responsibility under this Federal program.

2. A one-foot bentonite layer can be expected to provide some delay in the deep percolation of the wastewater, but once saturation occurs, its usefulness as a containment device will become minimal. The only means to definitively determine leakage characteristics is in-situ monitoring. The laboratory permeability estimates contained in the latest submittal are expected to be much lower (one or two orders of magnitude lower) than field permeabilities. In addition, compatibility and permeability testing was not performed using an array of oilfield wastes. Field permeabilities can be determined only in-situ and are expected to increase with time, depending upon the types and concentrations of waste, the quality control exercised upon installation of the liner, and dessication of the liner. It is anticipated that this facility will impact the underlying aquifer, estimated by Western Water to be 350 feet deep, on a scale of time which is longer than the expected life of the facility. The extent of the joints and fractures in the underlying Mowry shale are unknown so a confident estimate of the time to recharge cannot be made.
3. A quality control program for the installation of the liner needs to be presented.

4. A security program must be established.
5. An explanation is needed on how monitoring will be done through the spill containment pond.
6. If seepage occurs, then a contingency plan must be implemented. This plan should include the course of action to be taken in emptying the pond, correcting problems, and recovering lost wastes.
7. A three-foot bentonite side wall is proposed so that dessication is avoided. The feasibility of this design should be documented.
8. In the Western Water report, 'WQD' should be inserted in place of 'LQD'.

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER QUALITY DIVISION  
210 LINCOLN  
LANDER, WYOMING 82520  
PHONE: (307) 332-3144

PROJECT: Oilfield Disposal Service Pit #1, *Washakie*

ENGINEER: Stan Abell  
c/o Grosch Construction  
1000 Howell  
Worland, WY 82401

OWNER: Larry LaKing  
P. O. Box 668  
Worland, WY 82401

WATER QUALITY DIVISION REFERENCE NUMBER: #84-568

REVIEWING ENGINEER: Phil Pucel; Ed Baruth *Ed*

DATE OF REVIEW: December 17, 1984

ACTION: **Not authorized.**

COMMENTS: Find attached a tabulation of comments by Phil Pucel of our groundwater staff in Cheyenne. In addition to those comments, the following concerns need to be addressed:

1. Any pipes protruding through a dike or embankment shall have adequate seepage controls.
2. The two cell pond system should have a provision to drain either of the cells for maintenance purposes.
3. A manhole or cleanout needs to be installed in the influent pipe.
4. A working water level is a must. If less than two (2) feet of water is expected in these rather large ponds, an emergent vegetation problem could occur. Please address this concern, as your pond seal could be damaged. Further, the pond bottom needs to be level for uniformity of the seal and to prevent possible vegetation from emerging. Freeboard needs to be at least three feet.
5. Please note the attached requirements from our Chapter XI Rules and Regulations on soils used in construction of pond bottoms and dike cores. You need to provide a construction specification for your proposed dirt work including degree of compaction. Further, specified inner slopes of dikes include 1 vertical/2 horizontal if rip-rapped, or 1:3 to 1:4 if not. Outer slopes may be 1:2. Dike protection may or may not be required as you develop your lining proposal.
6. On soil or bentonite lined ponds, a method of maintaining the seal at or above optimum moisture conditions is required. The moisture source used should be the proposed liquid wastes.

EB:dcn

cc: Phil Pucel, DEQ/WQD Cheyenne

*ABC*

Returned to  
Lander  
12-12-84

Water Quality Division  
Groundwater Section  
Permit Application Review

Application Number 84-568

Date Submitted For Review 11-30-84

Name and Location of Facility Oilfield Disposal Service

Pit # 1  
Sec 17+18 T. 47N R 89W  
Washakie Co

I have reviewed the plans and specifications with regard to all aspects of ground-water quality and find the following:

- No Comment. The submittal is consistent with current ground-water protection procedures and requirements.
- Comments attached.

Signed Phil Puel

Title \_\_\_\_\_

Date 12-5-84

Approved 12/5/84  
(Date)

[Signature]  
(Signed)  
Groundwater Control Supervisor

MEMORANDUM

TO: Ed Baruth

THROUGH: A.J. Mancini

FROM: Phil Pucel *phil*

DATE: December 7, 1984

SUBJECT: 84-568, Oilfield Disposal Service, Pit #1, S17 & 18, T47N, R89W, Wash-  
akie Co.

Introduction

This application for a permit to construct was received on November 28, 1984 at DEQ/WQD. The application, submitted by Larry L. King, is for a commercial evaporative, total containment pond which will receive oilfield wastes. The proposed pit, measuring 200 feet by 600 feet by 10 feet, will be constructed in a mined-out bentonite pit by diking. The groundwater section received this application on November 30 and the following comments are submitted to facilitate further evaluation.

Information Provided in the Application

1. The applicant submitted a list of responses titled "Requirements for Waste Drilling Fluids Disposal Facility". These responses directly correlate to an "Outline of Procedures and Guidelines for Authorization of Waste Drilling Fluids Disposal Facility", August, 1983, DEQ/WQD. Any of these responses requiring comments are addressed below:

B.(1)(a) The chemical analyses of typical drilling fluids to be disposed of in the pit consist of several submittals from Northwest Analytical Laboratory. Four of the reports denote LK Trucking as the hauler, two reports come from Mobil Oil, and one is from Snyder Oil Co. (designated as 'SOIL'). The parameters tested comprise a very limited list, ranging from just pH and soluble salts to results including Cl, SO<sub>4</sub>, Oil & Grease, As, Hg, and Pb. No analyses are submitted for the various polymers used in drilling and known for their incompatibility with liners and their varying degrees of toxicity. The attachment lists various compounds (which are normally found in oilfield waste fluids) and toxicity information. The composition of each waste load will need to be documented prior to disposal. Subsequent monitoring parameters will reflect the list of disposal wastes.

B.(2)(a)(1) Soil Survey

The soil survey is submitted as Exhibit I(2a). It appears that "36\*: Kyle" is submitted as the soil type. However, it is not clear how this soil survey correlates with the elevation of the pit bottom which is proposed to become the primary material for containing the wastes. The submittal lacks information on the soil profile across the site as well as a soil profile of the existing and proposed embankments. The uniformity of the soil, the mineralogy, permeability, and the waste/liner compatibility are all parameters normally investigated to ensure that the pit will perform according to the permit conditions.

B.(2)(a)(2) Percolation

Exhibit I(3) is offered as documentation that the soil is impermeable at TH1, 2, 3, 4. Exhibit I(3) consists of a plan view of Disposal Pit Cell No. 1, showing the final contours of the pit, dike locations, test hole locations, and a pit volume table. It is unclear how the determination was made that the soil is impermeable. Data on the depth of the testholes and any subsequent mineralogical work or permeability testing should be submitted.

B.(2)(a)(3) Geological Map

This submittal indicates that the site is underlain by the Upper Cretaceous Frontier formation, consisting of a gray to black marine shale and many lenticular sandstones; thin bentonite and tuff beds. The submittal lacks information on stratigraphy, site-specific geology, soil types and variability, existing wells, logs of nearby oil wells, site-specific hydrology, and fracture patterns.

B.(2)(c)(1) Waters

No information has been submitted pertaining to documentation of the absence or presence of groundwater. Since the Frontier formation is characterized by sandstone lenses, site-specific information on perched aquifers is required. Boreholes should extend through any material which has enough permeability to transmit water and should then terminate in an impermeable horizon or a horizon which exhibits permeability orders of magnitude less than the overlying permeable zone. This information should also be used to determine stratigraphy, dip, and strike. Of particular importance is the determination of sandstone stringers which may delineate a preferred flow path and a determination of the permeability of dike and embankment material which may exhibit sufficient permeability to allow seepage out of the impoundment. Subsequent selection of monitoring points would be based on this site-specific geological information.

On December 31, 1984, you revealed that an active bentonite mine existed 400 yards from the proposed disposal facility and that no water had been encountered to a depth 200 feet below the elevation of the bottom of the proposed disposal facility. This information should be submitted with proper documentation. In addition, a survey of the mine may be useful in defining the regional stratigraphy. However, the distance of the mine from the proposed facility would not allow any conclusions to be made about site hydrology without site-specific information.

B.(3)(c) Engineering Design Information: Sealing the Pit or Pits

As explained above, information is required on the variability of permeabilities across the site and the existence of sandstone lenses. "Impermeable" is a qualitative term. A uniform shale with a high percentage of bentonite is expected to exhibit low permeabilities to water, but the waste is expected to enhance permeability. Without testing the permeability to the waste, an adequate evaluation of the suitability of the in-place materials to contain the wastes is not possible.

4. Hydrological Information

a. Identification of Aquifers.

The documentation should be provided to support the answer "Not Applicable".

5. Operation Information

Due to the severe costs involved in characterizing wastes, reclaiming, and closing hazardous waste sites, the following measures are recommended for the protection of the operator:

- a. A locked iron gate should be installed across the access road, and a sufficiently strong fence should be constructed along other places where the potential exists for unauthorized entry.
- b. Operator records should be kept on each load brought to the facility including the hauler's name, the source of the load, the oilfield operator and the composition and volume of the drilling fluids.

5.(b) Groundwater monitoring.

- 1) An explanation is needed on how monitoring will be done through the spill containment pond.
- 2) The paucity of site information does not allow the design of a monitoring program at this time. Submittal of the information requested herein in sufficient detail is necessary prior to design of the monitoring program.

Authorization

In Chapter III of the WQD Rules & Regulations, Section 15 states: "All other applications for a permit to construct a treatment works, disposal systems or other facility capable of causing or contributing to pollution shall contain the following:

- a. Documentation that the facility poses no threat of discharge to groundwater. If an applicant proposes a facility of this nature and can provide the documentation, a subsurface investigation is not required. The documentation shall consist of data which demonstrates that:
  - (1) facility construction will not allow a discharge to groundwater by direct or indirect discharge, percolation or filtration;
  - (2) the quality of wastewater will not cause any violation of groundwater standards; or
  - (3) existing soils or geology will not allow a discharge to groundwater.
- b. If the documentation required above cannot be provided, a subsurface study shall be provided as part of the application to demonstrate the groundwater standards contained in applicable Wyoming Water Quality Rules and Regulations are adhered to." The listing of requirements is found on pages 12, 13, and 14.

The options available for such a disposal facility are found on page 86, Chapter XI:

(f) Liners

- (i) Seepage limits. The seepage through the pond bottom and side walls shall not cause a violation of the groundwater standards as described in Chapter VIII of the WDEQ/WQD Rules & Regulations. Liners shall be required if the wastewater characteristics or site conditions will not insure the protection of the groundwater for which it is classified.

If the applicant cannot document that the facility poses no threat to groundwater and elects not to perform a subsurface study in accordance with Chapter III, Section 15(a) and (b), then the groundwater shall be protected from contamination by the wastewater with a liner equivalent to three feet of soil having a permeability of  $10E-7$  cm/sec or less. When an applicant performs a subsurface study, the requirement for the liner shall be determined based on the results of the study and the groundwater protection required. In no instance shall the maximum seepage rate exceed 1/8 inch per day in the primary pond(s).

Other Considerations

Is this site subject to reclamation according to Land Quality Division Regulations?

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 84-569

Allendale Blvd. Water Booster Station  
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

Casper Board of Public Utilities  
200 North David Street  
Casper, WY 82601

to construct, install, or modify a public water distribution booster station facility according to the procedures and conditions of the application No. 84-569. The facility is located in Section 22, T33N, R79W in the County of Natrona, in the State of Wyoming. This permit shall be effective for a period of two (2) years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

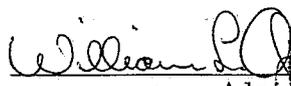
The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

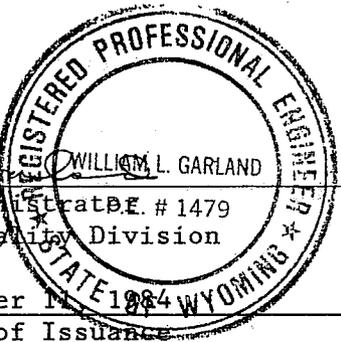
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, Herschler Building, 122 W. 25th, Cheyenne, Wyoming 82002; telephone, 777-7781.

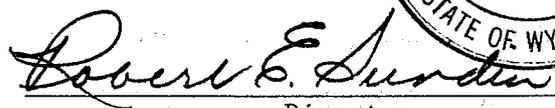
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to any applicable State law or regulation.

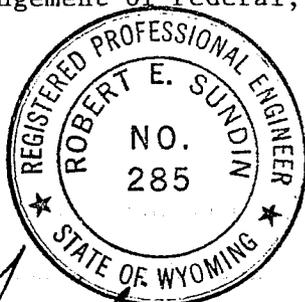
The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:

  
WILLIAM L. GARLAND  
Administrative # 1479  
Water Quality Division  
December 1, 1984  
Date of Issuance



  
Director  
Dept. of Environmental Quality



This permit does not supercede the requirements for obtaining any permit from local agencies.

cc: David W. Hill  
Casper Board of Public Utilities  
200 North David Street  
Casper, WY 82601

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 84-570  
SEE CONDITIONS ATTACHED TO THIS PERMIT

Sinclair Refinery  
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

Leon R. Corpuz, Jr.  
Manager, Environmental Affairs

Sinclair Oil Corp.

P.O. Box 277

Sinclair, WY 82337

to construct, install, or modify a groundwater monitoring system in the vicinity of the Sinclair Oil Corporation hazardous waste management landfill according to the procedures and conditions of the application No. 84-570. The facility is located in Section 16, T21N, R86W in the County of Carbon, in the State of Wyoming. This permit shall be effective for a period of five (5) years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

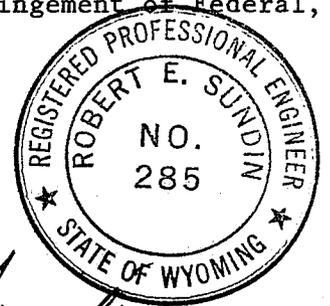
The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

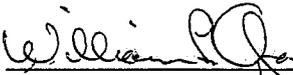
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, Herschler Building, 122 W. 25th, Cheyenne, Wyoming 82002; telephone, 777-7781.

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

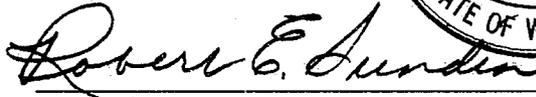
The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:



  
\_\_\_\_\_  
Adminisator  
Water Quality Division  
December 1, 1984  
Date of Issuance

A circular professional seal for William J. Garland, a Registered Professional Engineer in the State of Wyoming. The seal contains the text "REGISTERED PROFESSIONAL ENGINEER" around the top edge, "WILLIAM J. GARLAND" in the center, and "STATE OF WYOMING" around the bottom edge with two stars on either side.

  
\_\_\_\_\_  
Director  
Dept. of Environmental Quality

This permit does not supercede the requirements for obtaining any permit from local agencies.

## Conditions to Permit to Construct #84-570

Permit requirements are established as outlined in the "Application for Permit to Construct a Monitoring Well System at the Sinclair Oil Corporation Sinclair Refinery Hazardous Waste Management Landfill" dated November 20, 1984, #84-570, with the following modifications.

### Monitoring Well Installation

PVC casing, as a low-cost alternative, may be suitable for initial monitoring, but replacement with a casing consisting of a material compatible with organic wastes will be necessary when the casing deteriorates or when organic contamination is indicated.

### Reporting

Analytical results should be submitted in an annual report with a discussion and presentation of any trends, anomalies, or positive indications of groundwater quality changes. Data management procedures should be cumulative, and comprehensive, using concentration versus time plots and iso-concentration maps where appropriate. When the data base is sufficiently large, statistical analysis should be initiated.

### Monitoring Program Modifications

Modifications may occur based on indications of groundwater quality degradation. These modifications could consist of changes in the sampling parameter list, frequency of sampling, and reporting procedures.

### Sealing the Annular Space

According to the typical well construction drawing, the shallow depth of the monitor wells does not permit compliance with the 20 foot minimum depth of seal, as stipulated in Chapter XI, Section 65(a), Wyoming Department of Environmental Quality, Water Quality Division Rules and Regulations.

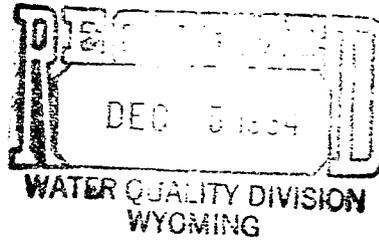
For only those wells which are too shallow to accommodate the 20 foot surface seal, a variance is granted by this permit. Appropriate surface seals are still required with dimensions dictated by field conditions.

### Logs and Well Completion Details

Well logs and well completion details will be submitted to the Water Quality Division as they become available.

### Plugging and Abandonment

When wells are no longer serviceable, plugging and abandonment will be executed according to Water Quality Division Rules and Regulations.



84-570

APPLICATION FOR  
PERMIT TO CONSTRUCT A  
MONITORING WELL SYSTEM AT  
THE SINCLAIR OIL CORPORATION  
SINCLAIR REFINERY  
HAZARDOUS WASTE MANAGEMENT LANDFILL

November 20, 1984

Submitted to:

Wyoming Department of Environmental Quality  
Water Quality Division  
Herschler Building  
Cheyenne, Wyoming 82002

Submitted by:

Sinclair Oil Corporation  
P.O. Box 277  
Sinclair, Wyoming 82334

Prepared by:

Western Water Consultants, Inc.  
611 Skyline Road  
Laramie, Wyoming 82070

Western Water Consultants, Inc.  
2 North Main - Suite 405  
Sheridan, Wyoming 82801

## Introduction

This report accompanies the application for a permit to construct a ground-water monitoring system at the Sinclair Oil Corporation's hazardous waste management landfill at the Sinclair refinery. The report includes the information required in Chapter XI of the Wyoming Department of Environmental Quality (WDEQ) Rules and Regulations (WDEQ, 1984) regarding the design and construction of monitoring wells. Discussed in this report are:

- Proposed well locations,
- Drilling and logging procedures,
- Well construction and development, and
- Ground-water monitoring.

Sinclair Oil Corporation operates a hazardous waste management landfill in Section 16, T.21 N., R.86 W., Carbon County, Wyoming immediately north of its refinery. It is planned that a ground-water monitoring system be installed at the landfill in accordance with Title 40 of the Code of Federal Regulations, Part 265, Subpart F. Construction of the monitoring wells will be as set forth in this report, and will be in compliance with WDEQ Rules and Regulations, Chapter XI.

## Geology

The geology and hydrogeology of the Sinclair refinery have been described in two reports by Western Water Consultants, Inc. (WWC, 1984a; WWC, 1984b). The hazardous waste management landfill is underlain by

the Steel and Niobrara formations, a 400 to 500 foot thick sequence of shales. The shale bedrock has been weathered to a depth of about 10 to 50 feet, depending on location. The land surface comprises weathered shale and, locally, alluvial or colluvial material. The reader is referred to the above-referenced reports by WWC for a detailed description of the geology and hydrogeology.

### Monitoring Well Installation

It is anticipated that seven wells will be installed in the vicinity of the hazardous waste management landfill, at the locations shown on Figure 1. The wells will be drilled using the hollow-stem auger method to a depth sufficient to penetrate the entire section of weathered Steele/Niobrara shale present at the landfill. During drilling of each borehole, a lithologic log will be kept that describes in detail the sediments encountered and any pertinent hydrogeologic information.

When the total depth of the borehole has been reached, as determined by the absence of any weathered shale in the drill cuttings, 4-inch I.D. schedule 40 PVC casing will be installed. Factory-slotted casing will be set from the total depth to about 5 feet below the surface; blank casing of the same type will extend from five feet below the surface to slightly above the surface. Centralizers will be installed near the bottom of the slotted casing and, above that, at intervals not to exceed 25 feet. A gravel or sand pack of either ¼-inch pea gravel or 8-12 sieve sand will be emplaced in the annulus opposite the slotted casing, and a surface seal of concrete grout will be emplaced in the annulus from the top of the gravel or sand pack to the surface. A

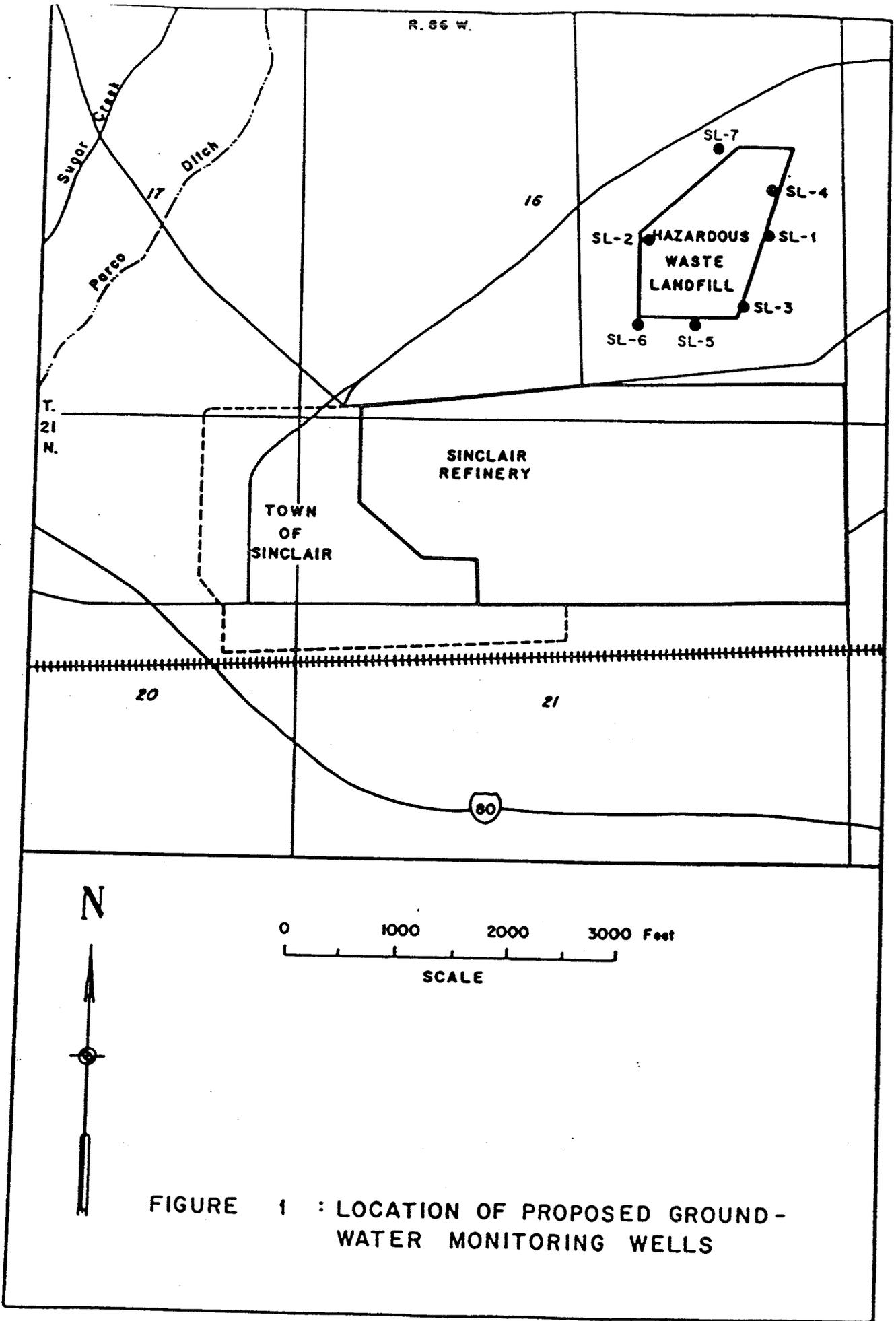


FIGURE 1 : LOCATION OF PROPOSED GROUND-WATER MONITORING WELLS

protective shelter fabricated from 6-inch steel pipe, with a locking lid, will be set into the cement at each well. Typical well construction is depicted on Figure 2.

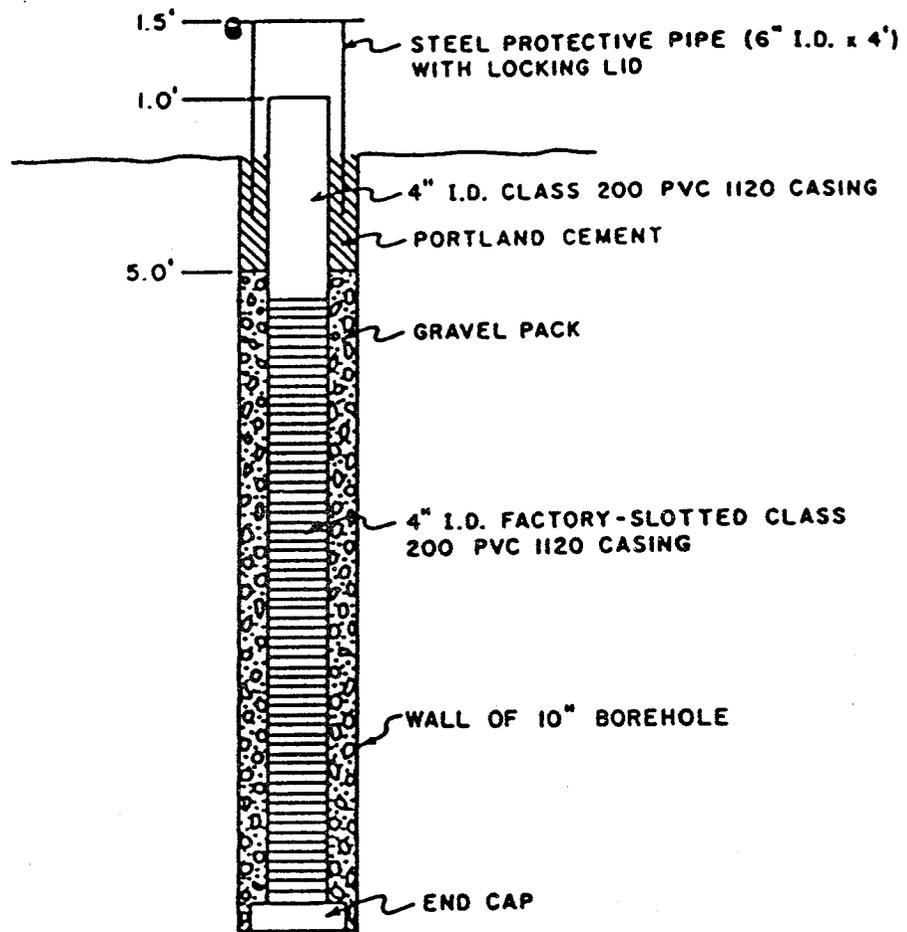
Wells that encounter water will be developed by bailing or pumping until the produced water is relatively free of sediment. The drilling rig will be steam-cleaned prior to the start of drilling and after the drilling and development of each well to prevent possible cross-contamination between wells.

### Ground-Water Sampling Procedures

#### Sampling Methods

The seven monitoring wells to be installed at the locations previously described will be monitored to detect the occurrence of ground water. Should ground water be encountered, the wells will be monitored for water levels, and four or more wells will be monitored for water quality. Water level measurement will be conducted prior to evacuating water from the well for sampling. It is anticipated that water levels will be measured using an electric sounding device such as an Actat Model 300 Well Probe.

A minimum of three well volumes will be evacuated from each well prior to collecting samples. Specific conductance, temperature, and pH measurements of evacuated water will be monitored to indicate if evacuating three well volumes will produce a representative water sample from the aquifer or water-bearing zone. Ground water will be evacuated from each well using a 3-inch diameter PVC bailer. All PVC bailers will be



NOTE: CASING JOINTS AND END CAP JOINT FASTENED WITH  
STAINLESS STEEL SCREWS (NO CEMENT USED)

FIGURE 2 : TYPICAL MONITOR WELL CONSTRUCTION

thoroughly washed in hot water and rinsed with distilled water after each use.

A stainless steel bailer will be used to collect water samples. The bailer will be cleaned after sample collection at each well. Cleaning procedures for the stainless bailer consist of immersing the bailer in acetone, rinsing with hot water, and finally rinsing with distilled water.

The constituents to be monitored in ground-water samples collected from the wells to be installed at the perimeter of the facility are listed in Table 1. The list of parameters to be monitored is pursuant to 40 CFR 265.92 and has been discussed with and approved by WDEQ. The ground-water contamination indicators (pH, specific conductance, total organic carbon, and total organic halogen) will be measured in quadruplicate in each water sample. The pH and specific conductance measurements will be conducted in the field.

Monitoring wells at the Sinclair Refinery hazardous waste management landfill will be installed in December 1984. It is anticipated that the monitoring program at the Sinclair Refinery will also begin in December 1984. All wells will be monitored quarterly thereafter for the first year for the constituents listed in Table 1. Unless one or more of the indicators of ground-water contamination shows a significant increase (or pH decrease) over background at a detection well, all wells will be monitored to detect any contamination on a semi-annual basis after the first year of monitoring. Contamination indicators will be monitored in quadruplicate in each sample. Parameters establishing ground-water quality will be monitored on an annual basis.

Table 1. Constituents to be Monitored in Ground-Water Samples Collected at the Sinclair Refinery During the Monitoring Phase.

Ground-Water Contamination Indicators

pH  
Specific Conductance  
Total Organic Carbon  
Total Organic Halogen

Parameters Establishing Ground-Water Quality

Chloride  
Iron  
Manganese  
Phenols  
Sodium  
Sulfate

EPA Interim Primary Drinking Water Constituents

Arsenic	Endrin
Barium	Lindane
Cadmium	Methoxychlor
Chromium	Toxaphene
Fluoride	2,4-D
Lead	2,4,5-TP Silvex
Mercury	Radium
Nitrate (as N)	Gross Alpha
Selenium	Gross Beta
Silver	Coliform Bacteria

## Reporting

Following installation of the ground-water monitoring wells, a report will be submitted to WDEQ. The report will contain a map showing the locations of the wells, detailed lithologic logs of the boreholes, well completion information, and any other pertinent hydrogeologic observations noted during well installation. After water quality sampling has been conducted and the analytical results have been received, the results of the analyses will be forwarded to WDEQ.

## References

- Western Water Consultants, Inc. 1984a. Geologic and Hydrogeologic Analysis, Sinclair Refinery: Report submitted to Sinclair Oil Corporation, dated June 4, 1984, 80 pp.
- Western Water Consultants, Inc. 1984b. Sinclair Oil Corporation Sinclair Refinery Sampling and Analysis Plan: Report submitted to U.S. Environmental Protection Agency, dated July 6, 1984, 108 pp.
- Wyoming Department of Environmental Quality. 1984. Water Quality Rules and Regulations, Chapter XI, Quality Standards for Wyoming Ground Waters.

6-19



THE STATE OF WYOMING

ED HERSCHLER  
GOVERNOR

*Department of Environmental Quality*  
*Water Quality Division*

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

June 17, 1985

Leon R. Corpuz Jr.  
Manager, Environmental Affairs  
Sinclair Oil Company  
P.O. Box 277  
Sinclair, WY 82337

RE: Permit to Construct #84-571

Dear Mr. Corpuz:

Enclosed please find the corrected permit to construct for the hydrocarbon recovery well system. The permit previously sent you should be destroyed as it has been brought to our attention that your name was misspelled. We hope this has not caused you any inconvenience.

Sincerely,

Phil Pucel  
Groundwater Engineering Evaluator

PP/nc  
Enclosures

PERMIT TO CONSTRUCT

New (CORRECTED)

Renewal

Modified

Permit No. 84-571

SEE CONDITIONS ATTACHED TO THIS PERMIT

Sinclair Refinery Hydrocarbon Recovery Evaluation System  
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

Leon R. Corpuz Jr.

Manager, Environmental Affairs

Sinclair Oil Company

P.O. Box 277

Sinclair, WY 82337

to construct, install, or modify a hydrocarbon recovery well system facility according to the procedures and conditions of the application No. 84-571. The facility is located in Sections 16 & 21, T21N, R86W in the County of Carbon, in the State of Wyoming. This permit shall be effective for a period of five (5) years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

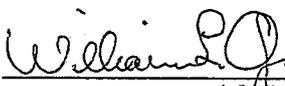
The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

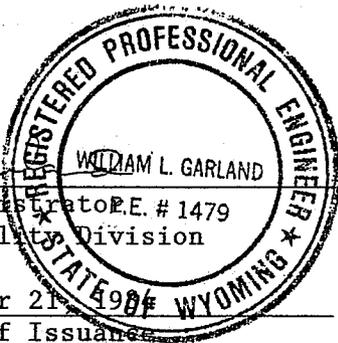
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, Herschler Building, 122 W. 25th, Cheyenne, Wyoming 82002; telephone, 777-7781.

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

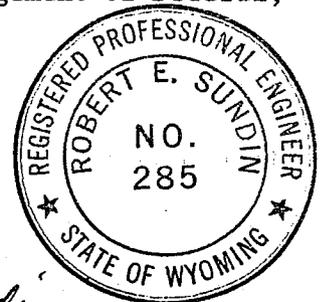
The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:

  
WILLIAM L. GARLAND  
Administrator, E. # 1479  
Water Quality Division  
December 21, 1988  
Date of Issuance



  
Director  
Dept. of Environmental Quality



This permit does not supercede the requirements for obtaining any permit from local agencies.

cc: Paul A. Rechard  
Western Water Consultants  
P.O. Box 4128  
Laramie, WY 82071

A. J. Mancini, DEQ/WQD

Phil Pucel, DEQ/WQD

CONDITIONS TO PERMIT TO CONSTRUCT #84-571

1. The applicant is authorized to construct and install additional hydrocarbon recovery and monitoring wells associated with the Sinclair Refinery Hydrocarbon Recovery System. As built plans and specifications shall be provided to the Groundwater Section, Water Quality Division, Herschler Bldg. - 4th West, Cheyenne, WY 82002, within 20 days of the installation completion date.
2. Quarterly monitoring/progress reports shall be submitted to the Groundwater Section, Water Quality Division, beginning with first quarter 1985. These reports shall include groundwater quality sample analyses which completely characterize hydrocarbon/groundwater quality. Sample indicator parameters shall include: static water levels, pH, TDS, oil and grease, TOC, chlorides, sulfates, phenol, lead, total chromium, vanadium, cadmium, arsenic, barium, zinc and sodium. If organic substances are found, the initial set of sampling must include a complete organic analysis (GC/MS). Results of these quarterly monitoring samples shall be forwarded to the Groundwater Section, Water Quality Division, within 20 days following the end of each quarterly monitoring period.
3. A water quality trend analysis of all data, to include updated iso-concentration maps of any detected hydrocarbons and indicator analytical parameters (condition 2 above) which show significant impact to water quality shall be submitted annually beginning in October 1985, to the Groundwater Section, Water Quality Division.
4. Depending upon interpretation of the quarterly monitoring data by the Water Quality Division, the applicant may be required to extend the hydrocarbon investigation study and recovery/monitoring system beyond the existing limits of this authorized system.

1-3-85

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 84-571  
SEE CONDITIONS ATTACHED TO THIS PERMIT

Sinclair Refinery Hydrocarbon Recovery Evaluation System  
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

Leon R. Corpus Jr.

Manager, Environmental Affairs

Sinclair Oil Company

P.O. Box 277

Sinclair, WY 82337

to construct, install, or modify a hydrocarbon recovery well system facility according to the procedures and conditions of the application No. 84-571. The facility is located in Sections 16 & 21, T21N, R86W in the County of Carbon, in the State of Wyoming. This permit shall be effective for a period of five (5) years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

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Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

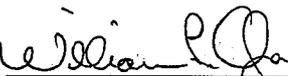
The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

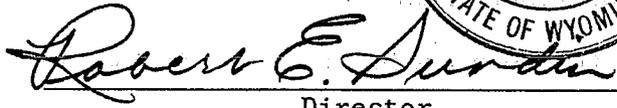
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, Herschler Building, 122 W. 25th, Cheyenne, Wyoming 82002; telephone, 777-7781.

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

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:

  
\_\_\_\_\_  
WILLIAM L. GARLAND  
Administrator, P.E. # 1479  
Water Quality Division  
REGISTERED PROFESSIONAL ENGINEER  
STATE OF WYOMING

  
\_\_\_\_\_  
ROBERT E. SUNDIN  
NO. 285  
REGISTERED PROFESSIONAL ENGINEER  
STATE OF WYOMING  
Director  
Dept. of Environmental Quality

This permit does not supercede the requirements for obtaining any permit from local agencies.

cc: Paul A. Rechar  
Western Water Consultants  
P.O. Box 4128  
Laramie, WY 82071

A. J. Mancini, DEQ/WQD

Phil Pucel, DEQ/WQD

December 21, 1984  
Date of Issuance

CONDITIONS TO PERMIT TO CONSTRUCT #84-571

1. The applicant is authorized to construct and install additional hydrocarbon recovery and monitoring wells associated with the Sinclair Refinery Hydrocarbon Recovery System. As built plans and specifications shall be provided to the Groundwater Section, Water Quality Division, Herschler Bldg. - 4th West, Cheyenne, WY 82002, within 20 days of the installation completion date.
2. Quarterly monitoring/progress reports shall be submitted to the Groundwater Section, Water Quality Division, beginning with first quarter 1985. These reports shall include groundwater quality sample analyses which completely characterize hydrocarbon/groundwater quality. Sample indicator parameters shall include: static water levels, pH, TDS, oil and grease, TOC, chlorides, sulfates, phenol, lead, total chromium, vanadium, cadmium, arsenic, barium, zinc and sodium. If organic substances are found, the initial set of sampling must include a complete organic analysis (GC/MS). Results of these quarterly monitoring samples shall be forwarded to the Groundwater Section, Water Quality Division, within 20 days following the end of each quarterly monitoring period.
3. A water quality trend analysis of all data, to include updated iso-concentration maps of any detected hydrocarbons and indicator analytical parameters (condition 2 above) which show significant impact to water quality shall be submitted annually beginning in October 1985, to the Groundwater Section, Water Quality Division.
4. Depending upon interpretation of the quarterly monitoring data by the Water Quality Division, the applicant may be required to extend the hydrocarbon investigation study and recovery/monitoring system beyond the existing limits of this authorized system.



THE STATE OF WYOMING

ED HERSCHLER  
GOVERNOR

*Department of Environmental Quality*  
*Water Quality Division*

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002  
June 17, 1985

TELEPHONE 307 777-7781

Leon R. Corpuz, Jr.  
Manager, Environmental Affairs  
Sinclair Oil Company  
P. O. Box 277  
Sinclair, Wyoming 82337

Subject: Sinclair Refinery Hydrocarbon Recovery Evaluation System,  
Permit No. 84-571  
Preliminary Oil Recovery Evaluation, May 13, 1985

Dear Mr. Corpuz:

The referenced report contains information which requires clarification. First, the three phases as outlined in the Permit to Construct a Hydrocarbon Evaluation System at the Sinclair Oil Corporation, Sinclair Refinery are:

1. Phase I, establishment of a monitoring program to determine the presence of hydrocarbons beneath the refinery.
2. Phase II, a pump test to determine hydrogeologic parameters critical to hydrocarbon recovery.
3. Phase III, construction and operation of a pilot-scale recovery system to demonstrate the feasibility of hydrocarbon recovery.

The description of completed work in the May 13, 1985 submittal does not correlate with the three phases listed above. Specifically, the preliminary submittal says:

1. Phase one of the hydrocarbon recovery evaluation included a reconnaissance study of the area south of the refinery that was previously investigated by the Wyoming Highway Department.
2. The second phase of the study was the drilling program, implemented to define areas that contain hydrocarbon in the subsurface.
3. Phase three was designed, through pump-testing of the phase two wells, to quantify the hydraulic properties of the colluvium beneath the refinery.

Apparently, the preliminary report incorporates a shift in the phases listed in the permit. This reporting error may be corrected in the forthcoming submittal on the progress of the pilot-scale recovery system.

Leon R. Corpus, Jr.  
June 17, 1985  
Page 2

A technical question is brought up by the review of the completion details. It appears that the screened intervals of several of the new wells are below the water table. This construction is inappropriate for the purpose of the wells.

On a different matter, a review of the material submitted for the Permit to Construct has revealed that a portion of Chapter IV is missing. The submittal of a complete copy would be appreciated.

Your attention to the matters listed above is appreciated and the Water Quality Division is available to help in resolving any problems.

Sincerely,



Phil Pucel  
Engineering Evaluator

PP/jw

cc: LeRoy C. Feusner  
cc: Thomas R. Williams  
cc: Jake Strohman

WATER QUALITY DIVISION  
GROUNDWATER SECTION  
PERMIT APPLICATION REVIEW

APPLICATION NUMBER 84-573 and 85-76

DATE SUBMITTED FOR REVIEW 2/24/05

NAME AND LOCATION OF FACILITY MARTINDALE TIERNEY SZ#  
EXPANSION OF EVAPORATION PIT  
SWEETWATER COUNTY, WYOMING

I have reviewed the plans and specifications with regard to all aspects of groundwater quality and find the following:

- No comment. The submittal is consistent with current groundwater protection procedures and requirements.
- Comments attached.

SIGNED Thomas R. Williams  
TITLE GROUNDWATER COMPLIANCE SPECIALIST  
DATE 3/26/05

ACCEPTED FOR RECORD 3/24/05 QAM  
(Date) Groundwater Control Supervisor

*Reviewed by Tom Williams  
under supervision of M...  
WY PE # 1203*

Department of Environmental Quality  
Water Quality Division

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

MEMORANDUM

TO: Steven P. Gerber, Water Quality Engineering Evaluator

THROUGH: <sup>AM</sup> A. J. Mancini, Groundwater Control Supervisor

FROM: Thomas R. Williams, Groundwater Compliance Specialist TRW

DATE: March 25, 1985

SUBJECT: Comments on permit to construct application numbers 84-573 and 85-76 for the Tierney Evaporation Facility in Sweetwater County, Wyoming

Tony Mancini and I have reviewed permit to construct application numbers 84-573 and 85-76 for the Tierney Evaporation Facility in Sweetwater County, Wyoming. It is out understanding that the 3 1/2 acre evaporation pond applied for in permit application number 85-76 has already been constructed. Therefore, we can only address our comments to the expanded ten acre evaporation pond site applied for in permit application number 84-573.

All of the exploratory boreholes drilled at the ten acre site encountered silty clay with numerous calcite and gypsum crystals and small nodules. Immediately below this silty clay interval is an intensely weathered mud/claystone that in turn overlies an unweathered claystone.

The configuration of the evaporation pond system at the ten acre site has not been specified in the permit application. After discussing this application with Steven Gerber and Jack Bedessem of the Water Resources Division, Lander District Office, it was learned that the expanded ten acre site will include an I-shaped four cell evaporation pond system that will lie north and west of the already constructed 3 1/2 acre evaporation pond. The applicant proposes to install a natural soil liner in the four cell pond system.

Our experience with evaporation ponds lined with natural soils is that they will leak. The silty clay contains both calcite and gypsum that can go into solution and alter the natural permeability of the soil liner. Also, although the weathered claystone has a permeability of  $3.9 \times 10^{-8}$  cm/sec in laboratory tests, similar sites constructed using a weathered fine-grained material such as this claystone have seeped. Perhaps this is due to the heterogeneous nature of the lining material.

Our concern is not that groundwater resources will be impacted. Information provided in the application indicates that usable groundwater is approximately 150 feet below the surface at this site. However, leakage from the pond could become perched immediately above the unweathered claystone and saturate the intensely

weathered claystone. Sandstone lenses such as those encountered in boring number seven could transmit this perched pond water away from the site to surface as a seep.

To ensure that potential pond leakage can be monitored, we recommend that a leak detection system be installed. This system should be capable of determining which of the four cells is leaking. This can be accomplished in a number of ways, two of which are:

1. Providing a leak detector beneath the liner of each of the four cells;
2. Installing monitoring wells at close enough intervals to detect any pond leakage. If any leakage is ever detected, additional wells will need to be installed to determine the source of the leakage.

Plans and specifications of the leak detection system should be submitted to the Water Quality Division for review.

REVIEW OF PLANS AND SPECIFICATIONS  
WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER QUALITY DIVISION  
210 LINCOLN  
LANDER, WYOMING 82520  
PHONE: (307) 332-3144

PROJECT: Marathon Section 24 Evaporation Pond

ENGINEER: Jesse E. O'Neal  
Marathon Oil Company  
P. O. Box 2659  
Casper, WY 82602

OWNER: Marathon Oil Company Attention: Jim Short  
P. O. Box 2659  
Casper, WY 82602

WATER QUALITY DIVISION REFERENCE NUMBER: #84-573

REVIEWING EVALUATOR: Jack Bedessen, <sup>JB</sup> Kate Laudon

DATE OF REVIEW: January 17, 1985

ACTION: Not authorized.

COMMENTS: An initial review of your plans to construct a produced water evaporation pond has been completed. The following items need to be addressed and/or resolved.

1. The plans and specifications must be signed by a registered Wyoming Professional Engineer.
2. Construction and material specifications for all phases of this project need to be submitted (i.e. clearing, earth work, embankments, lifts, compaction, liner, testing, etc.). This department does not consider the recommendations outlined in the soils report to be construction specifications. Refer to Water Quality Rules and Regulations Chapter XI, Section 30.
3. A water quality analyses of the produced water needs to be submitted with this application.
4. Address the function and operation of the heated stock tanks. If the tanks are to be used as oil separators, address and detail the discharge to the pit.
5. If the applicant cannot document that the facility poses no threat to groundwater and elects not to perform a subsurface study in accordance with Chapter III Section 15(a)(b), then the groundwater shall be protected from contamination with a liner equivalent to three feet of material having a permeability of  $10^{-7}$  cm/sec. or less.
6. The construction specifications shall include the requirement: Written certification that the soil liner was constructed in accordance with the specifications shall be provided by a Wyoming Professional Engineer or an independent soils laboratory and submitted to this office prior to operation of the facility.

ABC

7. The Dames and Moore Soils Report indicates that samples of onsite soils were recompact and tested for permeability. Results of the permeability tests ranged from  $1.0 \times 10^{-4}$  to  $3.0 \times 10^{-8}$  cm/sec. Address whether sufficient select onsite material is available to construct a liner which will satisfy the above requirement.
8. Information as to the location and quality of the shallowest most groundwater is needed. The soils report indicated that no groundwater was encountered to a depth of approximately 14 feet.
9. Information about all water wells within a 1 mile radius of the disposal site is needed (i.e. depth, static water level, use, location, etc.).
10. Address erosion protection (wave action) of the inner dikes and point of discharge. The plans should include location(s) and details.
11. The location and development of the monitoring wells or leak detection system should be determined based on the subsurface investigation. The site specific information provided to this office appears insufficient to make such a determination.
  - (a) The soils investigation indicated fracture in the clay. These fractures suggest that seepage from the pond would be controlled by the fractured flow gradient or secondary permeability. The monitoring wells should be located based on this flow gradient and depths dependant on the geology encountered.
  - (b) A topographic map of the area should be included with this application.
  - (c) The monitoring wells shall be detailed and completed in accordance with Water Quality Rules and Regulations Chapter XI, Part G. Particularly, sealing of annular space.
12. A program to monitor the wells needs to be developed and submitted. Include monitoring frequency, sampling procedures, parameters, notification, etc. Contact Kate Laudon (307-777-7781) for assistance in developing this program.
13. Grading around the site should be done in a manner such that surface runoff is diverted away from the pit(s).
14. On December 3, 1984, this department gave verbal permission to begin construction on a (synthetically lined) temporary evaporation pond, (No. 84-590). Once this permanent disposal pond has been authorized and completed, the temporary facility is to be dewatered, reclaimed and/or reconstructed to comply with Water Quality Rules and Regulations.

The site detail indicates that this 3.5 acre temporary pond was constructed in the Southeast corner of the proposed 9.5 acre permanent pond. Address the plan for abandoning the temporary pond and constructing the permanent facility. Will this disposal facility consist of more than one cell?

Submit the required information and revised drawings to this office, in triplicate. If you have any questions, please feel free to contact me.

JB:dcn

Returned  
1-22-85

WATER QUALITY DIVISION  
GROUNDWATER SECTION  
PERMIT APPLICATION REVIEW

APPLICATION NUMBER 84-573

DATE SUBMITTED FOR REVIEW 12-17-84

NAME AND LOCATION OF FACILITY Marathon Section 24  
Evaporation Ponds  
Sec 24 T 19 N R 94 W  
Sweetwater County

I have reviewed the plans and specifications with regard to all aspects of groundwater quality and find the following:

- No comment. The submittal is consistent with current groundwater protection procedures and requirements.
- Comments attached.

SIGNED Kate Lauden  
TITLE Engineer Evaluator  
DATE 1-18-85

ACCEPTED FOR RECORD 1/18/85  
(Date)

ajm  
Groundwater Control Supervisor

MEMORANDUM

TO: Jack Bedessem, Southwest District Supervisor

FROM: Kate Laudon, Engineering Evaluator *KJL*

DATE: January 21, 1985

SUBJECT: Groundwater Review, Marathon Oil Company, Section 24 Evaporative Pond, Section 24, T19N, R94W, Sweetwater County, DEQ/WQD Ref. No. 84-573

Marathon Oil Company has applied to construct a 9.5 acre evaporative pond to be used to dispose of the water produced from 35 gas wells in the Wamsutter Arch area.

The plans show 4 monitor wells located on the 4 corners of the pond completed to a depth of 20 feet. Soil logs of 4 test pits completed to depths of 11 to 14 feet show that the site is underlain by a sandy silty clay. Blocky structure noted in the soils report suggests that seepage from the pond will be controlled by fracture flow, or secondary permeability. Since no groundwater was encountered, monitor wells should be located so that they will detect such seepage. The depth of the monitor wells should be determined based on the geology encountered.

All wells should be constructed according to the design standards specified in Chapter XI, Section G, of the Water Quality Division Rules and Regulations. Specifically, a surface seal should be placed to prevent runoff from entering the well.

A monitoring plan should also be provided with the application including a schedule, list of parameters, and a summary of sampling and analytical techniques which will be used.



THE STATE OF WYOMING

ED HERSCHLER  
GOVERNOR

*Department of Environmental Quality*  
*Water Quality Division*

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

May 16, 1986

Cities Service Oil & Gas Corp.  
1600 Broadway, Suite 900  
Denver, CO 80202

To whom it may concern:

Your statewide permit numbers 84-574 and 84-575R, for small wastewater facilities, contains a condition requiring the notification of the appropriate county or state agency prior to the installation or abandonment of facilities authorized by these permits.

A review of state and county records indicates that very few of these facilities are being reported. It is important that these facilities be reported on a regular basis. County governments have agreed to the use of statewide permits on the condition that they be properly notified. If the statewide permitting system is not responsive to the needs of the counties, the state will not be able to issue statewide permits and it will be necessary to obtain permits for such facilities with the individual counties.

In order to address this problem you are requested to do the following:

1. Provide this office a list and location of all facilities constructed under your statewide permits.
2. Indicate the present status of each facility, i.e., operational or abandoned.
3. Indicate whether or not you wish to maintain the statewide permit in an active status.
4. Provide the required notification to both the appropriate county and state agency for all future facilities.

Sincerely yours,

A handwritten signature in cursive script that reads "Lawrence Robinson".

Lawrence Robinson  
Engineering Supervisor

LR/nc

1/15/85

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 84-574  
SEE CONDITIONS ON BACK  
OF PERMIT AND ATTACHMENT

Cities Services Holding Tanks  
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

Cities Services Oil and Gas Corporation  
1600 Broadway, Suite 900  
Denver, CO 80202

to construct, install, or modify holding tanks and chemical toilets for drilling sites according to the procedures and conditions of the application No. 84-574. The facility is located STATEWIDE, in the State of Wyoming. This permit shall be effective for a period of two (2) years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

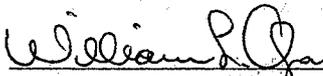
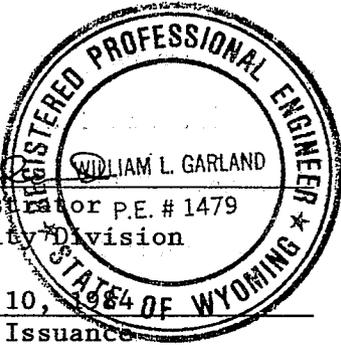
The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

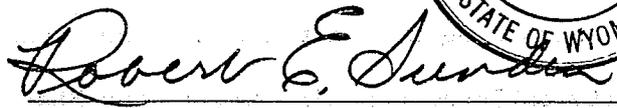
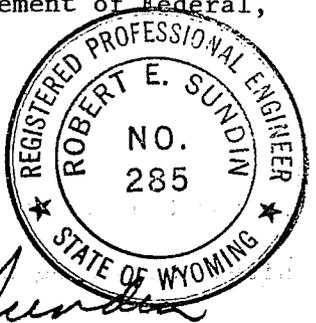
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 210 Lincoln, Lander, Wyoming 82520; telephone, 332-3144.

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

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:

  
\_\_\_\_\_  
WILLIAM L. GARLAND  
Administrator P.E. # 1479  
Water Quality Division  
  
December 10, 1984  
Date of Issuance

  
\_\_\_\_\_  
ROBERT E. SUNDIN  
Director  
Dept. of Environmental Quality  


This permit does not supercede the requirements for obtaining any permit from local agencies.

Conditions to Permit to Construct #84-574

This permit is issued with the following conditions:

1. The permittee shall notify the appropriate county or state agency prior to the installation of any facility authorized by this permit. The appropriate agency for each county is indicated in the attached list. Notification shall be by phone with a follow-up written notice. Upon abandoning the site, the facility will be removed, disposed of, or left in place in a condition rendering the site safe for the public. Any waste from the facility shall be disposed of only in areas and in a manner approved by the appropriate agency. Upon request, the permittee shall allow authorized representatives of the local agency or the State to have access to the authorized facility for the purpose of conducting an inspection to determine compliance with the provisions of this permit.
2. This permit is for temporary use at drilling locations, temporary being defined as one year or less.

AGENCIES RESPONSIBLE FOR SMALL WASTEWATER PERMITS

1. Albany County  
Albany County Planning Office  
405 Grand Avenue  
Laramie, WY 82070  
Phone: (307) 721-5188
2. Big Horn County  
Big Horn County Engineer  
P.O. Box 31  
County Courthouse  
Basin, WY 82410  
Phone: (307) 568-2358
3. Campbell County  
Campbell County Engineer  
500 South Gillette Avenue  
Gillette, WY 82716  
Phone: (307) 682-1970
4. Carbon County  
District Supervisor  
Water Quality Division  
Department of Environmental Quality  
Herschler Bldg. - 4th West  
Cheyenne, WY 82002  
Phone: (307) 777-7781
5. Converse County  
Converse County Sanitarian  
County Health Department  
127 North 5th Street  
Douglas, WY 82633  
Phone: (307) 358-2536
6. Crook County  
District Supervisor  
Water Quality Division  
Department of Environmental Quality  
2161 Coffeen Avenue  
Sheridan, WY 82801  
Phone: (307) 672-6457
7. Fremont County  
Fremont County Planner  
Room 200, County Courthouse  
Lander, WY 82520  
Phone: (307) 332-5371
8. Goshen County  
Goshen County Sanitarian  
P.O. Box 1192  
County Courthouse  
Torrington, WY 82240  
Phone: (307) 532-5002
9. Hot Springs County  
Hot Springs County Planner  
County Courthouse  
Thermopolis, WY 82443  
Phone: (307) 864-2732
10. Johnson County  
Johnson County Sanitarian  
County Courthouse  
Buffalo, WY 82834  
Phone: (307) 684-7555
11. Laramie County  
Laramie County Environmental Health  
1700 Snyder Avenue  
Cheyenne, WY 82001  
Phone: (307) 638-8545
12. Lincoln County  
Office of Planning and Development  
P.O. Box 414  
Afton, WY 83110  
Phone: (307) 886-3825
13. Natrona County  
Environmental Health Division  
Natrona County Health Department  
1200 East 3rd  
Casper, WY 82601-2990  
Phone: (307) 235-9316
14. Niobrara County  
District Supervisor  
Water Quality Division  
Department of Environmental Quality  
2161 Coffeen Avenue  
Sheridan, WY 82801  
Phone: (307) 672-6457

15. Park County  
Park County Planning Coordinator  
P.O. Box 160  
Cody, WY 82414  
Phone: (307) 587-2208
16. Platte County  
Platte County Sanitarian  
P.O. Box 1192  
County Courthouse  
Torrington, WY 82240  
Phone: (307) 532-5002
17. Sheridan County  
Sheridan County Engineer  
P.O. Box 612  
Sheridan, WY 82801  
Phone: (307) 672-3426
18. Sublette County  
Sublette County Planner  
P.O. Box 506  
Pinedale, WY 82941  
Phone: (307) 367-4375
19. Sweetwater County  
Sweetwater County Sanitarian  
205 East Railroad Ave.  
Green River, WY 82935  
Phone: (307) 875-2611 Ext. 278
20. Teton County  
Teton County Sanitarian  
P.O. Box 1727  
Jackson, WY 83001  
Phone: (307) 733-3959
21. Uinta County  
Uinta County Sanitarian  
P.O. Box 895  
Evanston, WY 82930  
Phone: (307) 789-1780
22. Washakie County  
Washakie County Planner  
P.O. Box 1253  
Worland, WY 82401  
Phone: (307) 347-2741
23. Weston County  
District Supervisor  
Water Quality Division  
Department of Environmental Quality  
2161 Coffeen Avenue  
Sheridan, WY 82801  
Phone: (307) 672-6457

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER QUALITY DIVISION  
210 LINCOLN  
LANDER, WYOMING 82520  
PHONE: (307) 332-3144

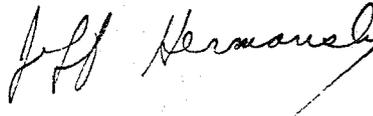
PROJECT: Cities Services Subsurface Disposal System

ENGINEER: Dale Peterson  
Rocky Mountain Engineering and Surveying, Inc.  
P. O. Box 805  
Evanston, WY 82930

OWNER: Cities Services Oil and Gas Corporation  
1600 Broadway, Suite 900  
Denver, CO 80202

WATER QUALITY DIVISION REFERENCE NUMBER: #84-575

REVIEWING EVALUATOR: Jeff Hermansky



DATE OF REVIEW: December 11, 1984

ACTION: **Not authorized.**

COMMENTS: The following questions and comments need to be addressed before a Permit to Construct can be issued:

1. The loading rates shown for percolation rate ranges listed appears to take an average loading rate for each percolation rate range. The loading rate for each percolation range should be the loading rate for the slowest percolation rate covered in the range.
2. Since it will be up to the owner and his crews to determine the percolation rate at each site, I would suggest that a copy of the Department of Environmental Quality percolation testing procedures be included with the plans and application.
3. There are a few items in the leach bed cross section that need to be clarified:
  - a) The minimum depth from the ground surface to the bottom of the bed must be at least 2'-0".
  - b) The bottom of the leach bed must be at least 4'-0" above the highest known groundwater, creviced bedrock, or impermeable barrier.
  - c) The detail shows a barrier between the backfill and the leach gravel. There is no note specifying what this barrier is.
  - d) The minimum depth of leach gravel (rock) is 12". There must be at least 6" under and 2" over the pipes.

AC

4. The detail of the leach bed piping shows that all the perforated pipe to be "laid on the same slope and elevation." These pipes should be laid flat and at the same elevation. Note 4 should also be changed.
5. I would suggest removing the distribution box from the leach bed details. It really isn't necessary for leach beds.
6. Note 7 must be changed. This permit can't be used if the percolation rate is less than 1 minute per inch. In such a case, the owner must apply for an individual permit.
7. Please include a note that the leach beds must be protected from traffic, parking and storage.
8. Include a description of the wastewater collection piping. Address type of pipe and minimum slope.
9. The septic tanks must have risers to the surface to facilitate pumping.
10. Although a concrete pad under concrete septic tanks is an excellent base, you may also wish to include compacted sand or gravel as an option.

Please feel free to contact either Jack Bedessem or me if you have any questions.

JH:dcn

PERMIT TO CONSTRUCT

New  
 Renewal  
 Modified

Permit No. 84-575R  
 SEE CONDITION ON BACK OF PERMIT

Cities Services Drill Site  
Wastewater Treatment Facilities  
 (Name of Facility)

This permit hereby authorizes the applicant (name and address):

Cities Services Oil & Gas Corporation

1600 Broadway, Suite 900

Denver, CO 80202

to construct, install, or modify a septic tank - disposal field facility according to the procedures and conditions of the application No. 84-575R. The facility is located STATEWIDE, in the State of Wyoming. This permit shall be effective for a period of two (2) years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

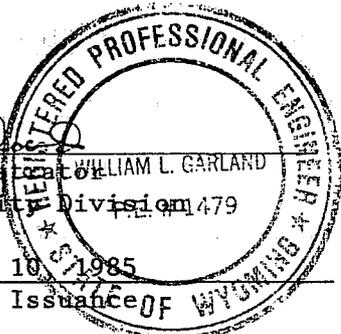
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 210 Lincoln, Lander, Wyoming 82520; telephone, 332-3144.

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

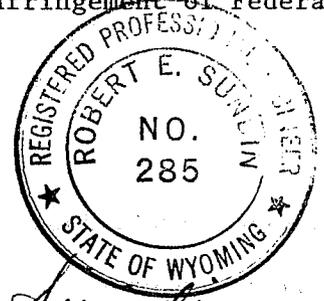
The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:

*William L. Garland*  
\_\_\_\_\_  
Administrator WILLIAM L. GARLAND  
Water Quality Division 479  
January 10, 1985  
Date of Issuance



*Robert E. Sundin*  
\_\_\_\_\_  
Director  
Dept. of Environmental Quality



This permit does not supercede the requirements for obtaining any permit from local agencies.

CONDITION TO PERMIT TO CONSTRUCT #84-575R

The permittee shall notify the appropriate county or state agency prior to the installation, removal or abandonment of any facility authorized by this permit. The appropriate agency for each county is indicated in the attached list. Notification shall be by phone with a follow-up using the notification form authorized as part of this permit. Upon abandoning the site, the facility will be removed, disposed of, or left in place in a condition rendering the site safe for the public. Any waste from the facility shall be disposed of only in areas and in a manner approved by the appropriate agency. Upon request, the permittee shall allow authorized representatives of the local agency or the State to have access to the authorized facility for the purpose of conducting an inspection to determine compliance with the provisions of this permit.

AGENCIES RESPONSIBLE FOR SMALL WASTEWATER PERMITS

1. Albany County  
Albany County Planning Office  
405 Grand Avenue  
Laramie, WY 82070  
Phone: (307) 721-5188
2. Big Horn County  
Big Horn County Engineer  
P.O. Box 31  
County Courthouse  
Basin, WY 82410  
Phone: (307) 568-2358
3. Campbell County  
Campbell County Engineer  
500 South Gillette Avenue  
Gillette, WY 82716  
Phone: (307) 682-1970
4. Carbon County  
District Supervisor  
Water Quality Division  
Department of Environmental Quality  
Herschler Bldg. - 4th West  
Cheyenne, WY 82002  
Phone: (307) 777-7781
5. Converse County  
Converse County Sanitarian  
County Health Department  
127 North 5th Street  
Douglas, WY 82633  
Phone: (307) 358-2536
6. Crook County  
District Supervisor  
Water Quality Division  
Department of Environmental Quality  
2161 Coffeen Avenue  
Sheridan, WY 82801  
Phone: (307) 672-6457
7. Fremont County  
Fremont County Planner  
Room 200, County Courthouse  
Lander, WY 82520  
Phone: (307) 332-5371
8. Goshen County  
Goshen County Sanitarian  
P.O. Box 1132  
County Courthouse  
Torrington, WY 82240  
Phone: (307) 532-5002
9. Hot Springs County  
Hot Springs County Planner  
County Courthouse  
Thermopolis, WY 82443  
Phone: (307) 864-2732
10. Johnson County  
Johnson County Sanitarian  
County Courthouse  
Buffalo, WY 82834  
Phone: (307) 684-7555
11. Laramie County  
Laramie County Environmental Health  
1700 Snyder Avenue  
Cheyenne, WY 82001  
Phone: (307) 638-8545
12. Lincoln County  
Office of Planning and Development  
P.O. Box 414  
Afton, WY 83110  
Phone: (307) 886-3825
13. Natrona County  
Environmental Health Division  
Natrona County Health Department  
1200 East 3rd  
Casper, WY 82601-2990  
Phone: (307) 235-9316
14. Niobrara County  
District Supervisor  
Water Quality Division  
Department of Environmental Quality  
2161 Coffeen Avenue  
Sheridan, WY 82801  
Phone: (307) 672-6457

15. Park County  
Park County Planning Coordinator  
P.O. Box 160  
Cody, WY 82414  
Phone: (307) 587-2208
16. Platte County  
Platte County Sanitarian  
P.O. Box 55  
Wheatland, WY 82210  
Phone: (307) 322-9571
17. Sheridan County  
Sheridan County Engineer  
P.O. Box 612  
Sheridan, WY 82801  
Phone: (307) 672-3426
18. Sublette County  
Sublette County Planner  
P.O. Box 506  
Pinedale, WY 82941  
Phone: (307) 367-4375
19. Sweetwater County  
Sweetwater County Sanitarian  
205 East Railroad Ave.  
Green River, WY 82935  
Phone: (307) 875-2611 Ext. 278
20. Teton County  
Teton County Sanitarian  
P.O. Box 1727  
Jackson, WY 83001  
Phone: (307) 733-3959
21. Uinta County  
Uinta County Sanitarian  
P.O. Box 895  
Evanston, WY 82930  
Phone: (307) 789-1780
22. Washakie County  
Washakie County Planner  
County Courthouse  
Worland, WY 82401  
Phone: (307) 347-2741
23. Weston County  
District Supervisor  
Water Quality Division  
Department of Environmental Quality  
2161 Coffeen Avenue  
Sheridan, WY 82801  
Phone: (307) 672-6457



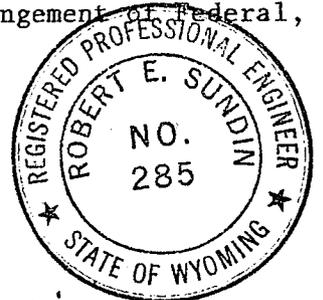
ing working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

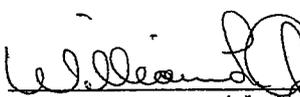
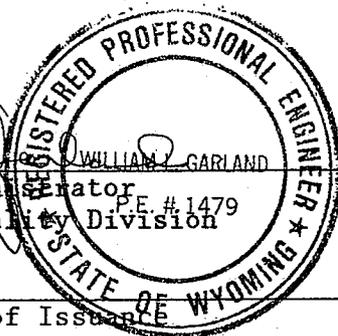
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 210 Lincoln, Lander, Wyoming 82520; telephone, 332-3144.

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

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:



  
WILLIAM J. GARLAND  
Administrator  
Water Quality Division  
P.E. # 1479  


  
Director  
Dept. of Environmental Quality

December 11, 1984  
Date of Issuance

This permit does not supercede the requirements for obtaining any permit from local agencies.

EB:dcn



ing working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 210 Lincoln, Lander, Wyoming 82520; telephone, 332-3144.

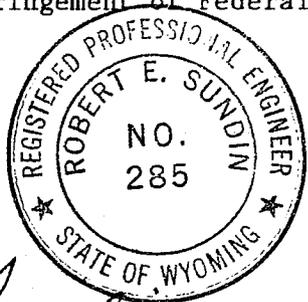
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to any applicable State law or regulation.

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:

  
\_\_\_\_\_  
WILLIAM L. GARLAND  
Administrator 479  
Water Quality Division  
STATE OF WYOMING

January 21, 1985  
\_\_\_\_\_  
Date of Issuance

  
  
\_\_\_\_\_  
Director  
Dept. of Environmental Quality

This permit does not supercede the requirements for obtaining any permit from local agencies.

EB:dcn

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER QUALITY DIVISION  
210 LINCOLN  
LANDER, WYOMING 82520  
PHONE: (307) 332-3144

PROJECT: Brooks Lake Lodge

ENGINEER: Michael R. Collins  
642 E. Nashville  
Tucson, AZ 85747

OWNER: Dr. Kern M. Hoppe  
6053 Nicolett Ave.  
Minneapolis, MN 55419

WATER QUALITY DIVISION REFERENCE NUMBER: #84-577

REVIEWING ENGINEER: Ed Baruth, P.E. *Ed*

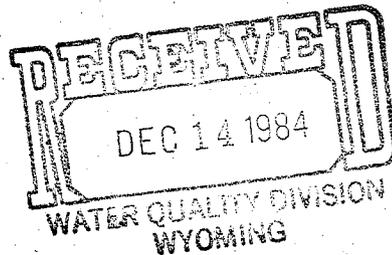
DATE OF REVIEW: December 11, 1984

ACTION: Not authorized.

COMMENTS:

1. Please forward a signed application for a permit to construct this facility.
2. Please make provisions for proper cleaning apparatus to be included with this piece of equipment. Also will a spare parts inventory be included with the installation?

EB:dcn



*Ac*

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 84-578R

\* CONDITIONS ON PERMIT \*

Evanston Wastewater Treatment Facility-Sludge Management Plan  
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

City of Evanston  
1200 Main Street  
Evanston, WY 82930

to construct, install, or modify a municipal sewage sludge land application  
plan and site facilities

facility according to the procedures and conditions of the  
application No. 84-578R. The facility is located in

Sec. 13, T15N, R121W  
in the County of Uinta,

in the State of Wyoming. This permit shall be effective for a period of two (2)  
years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and dur-

ing working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 210 Lincoln, Lander, Wyoming 82520; telephone, 332-3144.

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

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:

  
WILLIAM L. GARLAND  
Administrator P.E. # 1479  
Water Quality Division  
REGISTERED PROFESSIONAL ENGINEER  
STATE OF WYOMING

  
Director  
Dept. of Environmental Quality

September 26, 1985  
Date of Issuance

This permit does not supercede the requirements for obtaining any permit from local agencies.

\* CONDITIONS ON PERMIT \*

1. Adherence to a sludge application rate of 3 dry tons/acre for the first three years of operation, until the actual nitrogen requirement for rangeland plant species can be better estimated. Actual crop nitrogen requirements will be estimated by means of the required soil analyses for nitrate ( $\text{NO}_3$ ) nitrogen residual, collection of soil water by suction lysimeters and plant tissue analysis.
2. Sludge analyses will be initiated at the time of plant start up, according to the standardized schedule. Results are to be submitted monthly for the first year and quarterly thereafter to: E.J. Fanning, DEQ/Water Quality Division, Herschler Building, 122 W. 25th Street, Cheyenne, Wyoming, 82002.
3. Storage of waste sludge for three months or a sufficient period to achieve a sustained temperature of  $20^\circ\text{C}$  ( $68^\circ\text{F}$ ) or greater for 10 days will precede land application.

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER QUALITY DIVISION  
210 LINCOLN  
LANDER, WYOMING 82520  
PHONE: (307) 332-3144

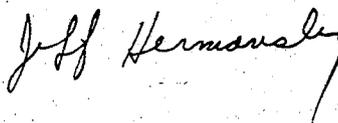
PROJECT: Evanston Wastewater Treatment Plant - Sludge Application Site

ENGINEER: James V. Olson  
Eckhoff, Watson & Preator Engineering  
1798 South West Temple  
Salt Lake City, UT 84115

OWNER: City of Evanston  
1200 Main St.  
Evanston, WY 82930

WATER QUALITY DIVISION REFERENCE NUMBER: #84-578

REVIEWING EVALUATOR: Jeff Hermansky



DATE OF REVIEW: January 18, 1985

ACTION: **Not authorized.**

COMMENTS: The Water Quality Division has reviewed the proposed sludge management plan for the Evanston Wastewater Treatment Plant. I realize that you have discussed the proposed plan with E. J. Fanning, the Division's Soil Specialist, and received conditional approval for the plan.

Prior to actual written authorization, this office feels that there are still a few items that need to be addressed and clarified. Please address the following concerns:

1. I believe that the area designated as "storm run-off retention area/tailwater return" can be more clearly delineated at this time. You need to design for the maximum anticipated runoff and show that the proposed area can contain the flow until the soil conditions are suitable to return the tailwater to the upper end of the disposal site.
2. How do you propose to pump and then distribute any tailwaters that are pumped to the upper end of the site? Please show the proposed pumping and piping system.
3. I believe that permanent diversion ditches should be installed as necessary to insure that the sludge application site does not receive runoff from adjacent lands.
4. The proposed design of the silt/filter fence has left me with a few concerns.
  - (a) The mechanical or long term physical stability of the fence and fabric needs to be addressed (resistance to wind, snow, etc.).
  - (b) The chemical compatibility or integrity of the filter fabric needs to be addressed.

ABC

view of Plans and Specifications

Evanston Wastewater Treatment Plant - Sludge Application Site #84-578

January 18, 1985

Page Two

Have you explored the possibility of surrounding the temporary sludge storage area with a gravel berm that will allow the passage of water while retaining the sludge?

5. Regardless of the barrier that surrounds the sludge storage area, the wastewater that percolates through must be collected and stored or returned to the sludge application area. Please show a drain system.

6. Please describe why you selected the locations shown for the observation wells.

7. Please submit three copies of all plans and specifications. The plans and specifications must be signed by a registered Wyoming Professional Engineer.

Feel free to contact either Jack Bedessem or me if you have any questions.

JH:dcn

xc: E. J. Fanning, DEQ/WQD Cheyenne  
Dan Johnson, DEQ/WQD Cheyenne



THE STATE OF WYOMING

ED HERSCHLER  
GOVERNOR

*Department of Environmental Quality*  
*Water Quality Division*

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

November 2, 1984

James V. Olson  
Eckhoff, Watson and Preator  
1798 South West Temple  
Salt Lake City, Utah 84115

84-578

Re: Evanston Sludge Management Plan

Dear Jim:

Enclosed please find my completed review of the Evanston Sludge Management Plan. It is my intuitive feeling that I am not getting accurate nitrogen analyses from other locations in the state to apply to your situation, so I have made a literature search for best estimates. Based on this, I feel that an application rate of 3 dry tons/acre is a reasonable starting point, with modifications based on sludge and soil analyses, and soil water monitoring.

At this point it appears that site preparation for runoff control is the only action that can be taken until the treatment plant comes on line, at which time sludge analyses can be made.

If you have any questions please give me a call at 777-7074.

Sincerely,

A handwritten signature in cursive script that reads "E.J. Fanning".

E.J. Fanning  
Water Quality Soil Specialist

EJF/jn

cc: Dan Johnson, DEQ/WQD

EVANSTON SLUDGE MANAGEMENT PLAN REVIEW

November 2, 1984

E.J. Fanning, Water Quality Soil Specialist

Best estimates of nitrogen content in aerobically digested sludge:

1. Wyoming Municipal Sludge

Total N = 1,100 ppm  
or 0.1100% (1984 analysis)  
= 0.1628% '82 - '83 data

2. JEQ, 1984 Larry D. King (N. Carolina)

Total N = 41.4 g/kg                      Org N  
 $\frac{41.4}{1000} = \frac{X}{1,000,000}$

= 41,400 mg/Kg  
or 4.14%  
+  $\frac{0.1310\% \text{ in org N}}{4.2710\% \text{ total N}}$

3. EPA Sludge Treatment and Disposal Process Design Manual, September, 1979.

Total N = 2.4 - 6.7%

4. Evaluation of Sludge Management Systems  
CWC under EPA Contract February, 1980

Total N	3 - 6%	60 - 120 lbs/ton
NH <sub>4</sub> -N	1 - 3	20 - 60 lbs/ton
NO <sub>3</sub> -N	0.5 - 1.5	20 - 30 lbs/ton
Total P	1.1 - 5.5	22 - 110 lbs/ton
Total K	0.8 - 1.1	16 - 22 lbs/ton

485 dry tons/year generated for 1st three years.

1. Sewage sludge nitrogen application rate - (based on typical nitrogen analysis, in "Evaluation of Sludge Management Systems", September, 1979, CWC).

For aerobically digested sludges:

a. pounds of available N/ton of solids

1. % organic N (No) = 1.5%

2. % inorganic N (Ni) = (1.0% NH<sub>4</sub>-N) + (0.5% NO<sub>3</sub>-N) = 1.5% Ni

3. pounds of plant available nitrogen (PAN) per ton solids  
= (% Ni x 20) + (% No x 4)  
= (1.5 x 20) + (1.5 x 4)  
= 30 + 6  
= 36 lbs of PAN/ton solids

4. Nitrogen application rate  
dry tons/acre =

$$\frac{\text{Crop N requirement} - \text{residual N}}{\text{lbs available N/ton solids}}$$
$$= \frac{40 \text{ lbs acre} - 20.68 \text{ lbs NO}_3 \text{ res}}{36 \text{ lbs PAN/ton solids}}$$
$$= \frac{19.32 \text{ lbs/ac}}{36 \text{ lbs PAN}}$$
$$= 0.5367 \text{ ton solids/acre}$$

or 0.8456  $\cong$  1 ton solids/acre  
with surface application

or =  $\frac{90 \text{ lbs acre} - 20.68 \text{ lbs NO}_3 \text{ res}}{36 \text{ lbs PAN/ton solids}}$

$$= \frac{69.32 \text{ lbs/acre}}{36 \text{ lbs PAN/ton solids}}$$
$$= 1.92 \cong 2 \text{ tons/acre}$$

or 3 dry tons/acre allowing for ammonia volatilization

$$\frac{485 \text{ tons}}{58.4 \text{ acres}} = 8.3 \text{ tons/acre to handle annual sludge generation}$$

3 tons/acre x 58.4 acres = 175 dry tons or approximately 36% of the annual dry matter generation could be handled on site.

2. Organic N Mineralization

The derivation of Table 3 is unclear. If the total nitrogen content of the sludge is 3%, as assumed above, on a dry weight basis that is equal to 60 lbs total N per ton of solids. If organic N is 1.5% or 30 pounds, then the application of 450 pounds organic N/acre/year implies a total application of 15 dry tons/acre or 22.5 dry tons/acre with a 50% greater organic N application of 675 pounds/acre/year.

The nitrate residual obtained from the soil analysis - an average of 10.33 mg/kg for the surface six inches of soil - should be a more refined measurement of site-specific mineralization (not including ammonium ions on the exchange complex) than the general recommendation (University of Wyoming extension bull. B-738) of 20 pounds per acre released annually for each percentage of organic matter in the soil. Fertilizer recommendations are more refined when based on the nitrate nitrogen residual in the surface 6 inches of soil to approximate the percentage nitrogen deficit for the crop being grown. This figure (NO<sub>3</sub>-N) does not provide the best estimate of total plant-available nitrogen (PAN).

A regression equation describing the relationship between total N and plant-available N (PAN) has been developed by King (JEQ, 13:609-612, 1984) in a North Carolina situation, as follows:

$$\begin{aligned} & \text{g PAN/kg Organic N} \\ & = 42 + 4.4 (\text{g total N/kg sludge}) \end{aligned}$$

If the CWC nitrogen figures used for the application rate are applied to this equation:

$$\begin{aligned} & \text{g PAN/kg Organic N} \\ & = 42 + 4.4 (30 \text{ g total N/kg sludge}) \\ & = 42 \times 132 \\ & = 174 \text{ g PAN/1000 g Organic N} \end{aligned}$$

(It should be noted at this point that the author has established significant correlations only for models developed for specific wastes and soils.)

If the above equation can be assumed to have some validity with respect to the current situation, then 17.4% of the total nitrogen content of the sludge can be considered PAN, or 10.4 pounds PAN/ton of solids (3% or 60 pounds total N per ton of solids). The estimate in Part 1.a.3. of 36 pounds PAN/ton of solids may be too liberal. However, I

consider the application rate of 3 dry tons/acre surface applied to be a reasonable starting point. Successive refinement of the application rate will be based on the soil monitoring requirements detailed in the standardized schedule for municipal sewage sludge land application facilities. Percentage organic matter and available phosphorus will have to be monitored annually, rather than once every five years as stated in the schedule. Nitrate ( $\text{NO}_3^-$ ) nitrogen is listed as an annual analysis.

It is my feeling that surface application of aerobically digested, dried stabilized sludge will entail substantial nitrogen loss especially in this climate, the major benefit being the incorporation of some organic matter into the soil. Soil analyses and soil water monitoring will be the basis for any changes in application rates, assuming sludge metal contents or phosphorus are not the controlling factors.

3. Sludge Metal Loadings, Cadmium Application Rate, and Site Life

All of these calculations are dependent on the submission of representative sludge analyses as per the standardized monitoring schedule. Average metal loadings of Wyoming municipal sludges to date have fallen near or below the low end of EPA national figures. Likewise, the specific site limiting indicator metal has been variable, with copper often being the most significant metal constituent.

Sludge application site lives are routinely running in the hundreds of years, if there is any validity to the sludge metal analyses now available. In this case, based on the cation exchange capacities of the six soil samples, total site metal loadings are only 50% of the maximum possible EPA loadings for agricultural land.

4. Sewage Sludge Stabilization

Sewage sludge will be land applied to an indirect food chain crop, i.e. a native rangeland pasture which may be grazed on an intermittent basis. No direct human consumption crops or unrestricted access situations are involved. Therefore, a singular process to significantly reduce pathogens is applicable. A review of recent literature (WPCFJ 56-8, Novak et.al) indicates that a two order magnitude reduction of indicator organisms (i.e. total coliform and fecal streptococci) is considered a significant reduction.

An oxidation ditch operated with a 24 hour hydraulic retention time at 20-30 day solids retention time is considered to produce a biologically stable waste sludge without an additional stabilization process. Review of the above cited literature however, indicates that a 38% volatile solids reduction may not be achievable at higher sludge ages and therefore may not be the best indicator of sludge stability. In addition, pathogen reduction as reflected in indicator organism reduction is not strongly correlated with sludge age. It is suggested that a Specific Oxygen Uptake Rate (SOUR) at or below 2 mg O<sub>2</sub>/gm VSS hr is a better indicator of sludge stability than is volatile solids reduction. Temperatures of 20°C or greater are more important for pathogen reduction than for odor control as indicated by the SOUR.

Because of the poor correlation between sludge age and pathogen reduction, it would seem prudent to require a storage step for either liquid or dewatered sludge from an oxidation ditch process.

5. Site Management Plan .....

In addition to some site leveling at natural drainage points, I would suggest a management goal, such as improvement of the site forage production capacity for grazing, perhaps on a lease basis. A good first step might be to spray the sagebrush stand, killing it off but leaving the plant standing for snow entrapment. This should encourage increased vigor and nitrogen uptake in the forage grasses and forbs due to improved surface soil water availability.

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 84-579RR

Nalco Chemical Co.  
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

Nalco Chemical Co.

2901 Butterfield Road

Oak Brook, IL 60521

to construct, install, or modify a commercial/industrial wastewater collection and pumping facility facility according to the procedures and conditions of the application No. 84-579RR. The facility is located in Section 1, T33N, R79W in the County of Natrona, in the State of Wyoming. This permit shall be effective for a period of two (2) years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

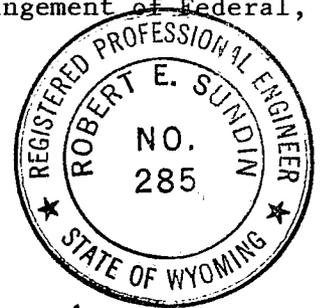
The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

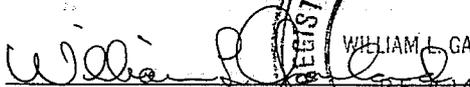
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, Herschler Building, 122 W. 25th, Cheyenne, Wyoming 82002; telephone, 777-7781.

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

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:



  
WILLIAM L. GARLAND  
Administrator P.E. # 1479  
Water Quality Division  
REGISTERED PROFESSIONAL ENGINEER  
STATE OF WYOMING  
January 31, 1985  
Date of Issuance

  
Robert E. Sundin  
Director  
Dept. of Environmental Quality

This permit does not supercede the requirements for obtaining any permit from local agencies.

cc: Glen Eubanks  
Nalco Chemical Co.  
Evansville, WY 82636

Maurice Boyd  
Public Works Supervisor  
P.O. Drawer 158  
Evansville, WY 82636

1-14-85

Review of Plans and Specifications

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
1111 East Lincolnway  
Cheyenne, Wyoming 82002

PROJECT: Nalco Chemical, Collection System, Natrona Co.

ARCHITECT OR ENGINEER: John M. McKinney, Nalco Chemical Co.  
2901 Butterfield Road, Oak Brook, IL 60521

APPLICANT: Nalco Chemical Co.  
2901 Butterfield Road, Oak Brook, IL 60521

WATER QUALITY DIVISION REFERENCE NUMBER: 84-579R

REVIEWING ENGINEER: Thomas S. Norman *T.S. Norman*

DATE OF REVIEW: January 11, 1985

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

1. I am concerned about the process where if the storm water runoff becomes contaminated that you open the valve next to MH#2 and drain the runoff to the collected system and lift station. The problem arises that there is no method of keeping the contaminated runoff out of the drywell. There appears to be a lack of control for the protection of the groundwater via the dry well. Also how do you determine when the water is contaminated and when to open the drywell?
2. There was not a response to the ability or mechanisms that will be used to remove the pump equipment without entering the wetwell.
3. Does the electrical equipment meet the NEC requirements for Class I, Division I, Groups C & D as requested previously?
4. Some questions have been raised concerning the NPDES permit. An inspection by LeRoy Feusner in February 1983 stated that MH #2 has replaced the discharge pipe into the Burlington-Northern Railroad right-of-way. If this is the case, an NPDES permit is no longer required. The submitted plans also do not show a discharge pipe out of MH #2.

On the other hand, the monitoring reports from April to September 1984 show a discharge. Can you clarify whether there is still a surface discharge or whether it is all discharged below grade?

cc: Maurice Boyd, Public Works Supervisor, P.O. Drawer 158, Evansville, WY 82636  
Glen Eubanks, Nalco Chemical Co., Evansville, WY 82636

Review of Plans and Specifications

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
1111 East Lincolnway  
Cheyenne, Wyoming 82002

PROJECT: Nalco Chemical, Collection System, Natrona Co.

ARCHITECT OR ENGINEER:

APPLICANT: Glen Eubanks, Nalco Chemical Co.  
Evansville, WY 82636

WATER QUALITY DIVISION REFERENCE NUMBER: 84-579

REVIEWING ENGINEER: Thomas S. Norman *T. Norman*

DATE OF REVIEW: December 7, 1984

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

1. In order to process your permit application, you need to submit an application form (attached), 3 copies of the plans and specifications, and a design report. The plans must be signed/sealed by a Wyoming registered professional engineer.
2. The design information needs to address the following:
  - a. What is the type and amount of wastewater? Where does the wastewater originate and where is it pumped to? Are there any solids? Where do these wastes go now and why is a change needed?
  - b. Is the 2-inch discharge line large enough to handle the solids?
  - c. Why is there a valve on the inlet to the pump station?
  - d. Why is there a valve on the line to MH #2? What potential wastes could go to the dry well?
  - e. What happens in case of power or equipment failure? Where does the alarm go to? Are there dual pumps and compressors?
3. The following items on the plans and specifications need to be corrected or clarified:
  - a. The sewer lines are not clear as to where they originate and where they go. The lines on one plan sheet are different than the other sheet. This is especially true in the area around M.H. #2 and the lines entering the dry well and pump station.
  - b. Profiles were not provided on the sewer lines.
  - c. Cleanouts are required at all changes in direction.

- 
- d. The pump equipment must be able to be removed without entering the wetwell.
  - e. Electrical equipment shall comply with the NEC requirements for Class 1, Division 1, Groups C and D areas.
  - f. The pump capacities and head characteristics were not provided.

cc: Maurice Boyd, Public Works Supervisor, P.O. Drawer 158, Evansville, WY 82636

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 84-580RRR

Town of Torrington, Well #15  
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

Town of Torrington

P.O. Box 250

Torrington, WY 82240

to construct, install, or modify a municipal water well facility according to the procedures and conditions of the application No. 84-580RRR. The facility is located in Section 15, T24N, R61W in the County of Goshen, in the State of Wyoming. This permit shall be effective for a period of two (2) years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

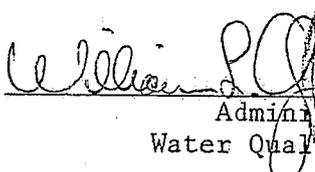
The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

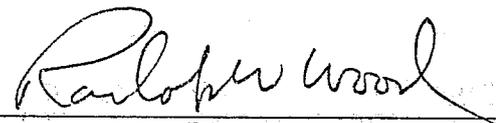
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, Herschler Building, 122 W. 25th, Cheyenne, Wyoming 82002; telephone, 777-7781.

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

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:

  
\_\_\_\_\_  
REGISTERED PROFESSIONAL ENGINEER  
WILLIAM C. GARLAND  
P.E. # 1479  
Water Quality Division  
STATE OF WYOMING  
November 14, 1985  
Date of Issuance

  
\_\_\_\_\_  
Director  
Dept. of Environmental Quality

This permit does not supercede the requirements for obtaining any permit from local agencies.

cc: John T. Baker  
Baker, Sweeney & Assoc.  
1915 First Avenue  
Scottsbluff, NE 69361

Review of Plans and Specifications

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
Herschler Building, 4 West, 122 West 25th  
Cheyenne, Wyoming 82002

PROJECT: Town of Torrington, Well No. 15, Goshen Co.

ARCHITECT OR ENGINEER: John Baker, Baker, Sweeney & Assoc.  
1915 First Avenue, Scottsbluff, NE 69361

APPLICANT: Town of Torrington  
P.O. Box 250, Torrington, WY 82240

WATER QUALITY DIVISION REFERENCE NUMBER: 84-580RR

REVIEWING ENGINEER: Thomas S. Norman *TSN*

DATE OF REVIEW: November 4, 1985

ACTION: NOT AUTHORIZED FOR CONSTRUCTION OR USE

COMMENTS:

1. The design data for calculating the TDH for the pump was not submitted.
2. The air release valve must be on the upstream side of the check valve. Your downstream side explanation is not acceptable.
3. The new radiological sampling results have not been received.

TSN/nc

9-17-85

Review of Plans and Specifications

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
Herschler Building, 4 West, 122 West 25th  
Cheyenne, Wyoming 82002

PROJECT: Town of Torrington, Well No. 15, Goshen Co.

ARCHITECT OR ENGINEER: John Baker, Baker, Sweeney & Assoc.  
1915 First Avenue, Scottsbluff, NE 69361

APPLICANT: Town of Torrington  
P.O. Box 250, Torrington, WY 82240

WATER QUALITY DIVISION REFERENCE NUMBER: 84-580R

REVIEWING ENGINEER: Thomas S. Norman TSN

DATE OF REVIEW: September 16, 1985

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

1. The recent submittal did not address my comments from the December 11, 1984 review letter (attached).
2. The U.W. forms No. 6 and 8 are not applicable to the Department of Environmental Quality. Were they supposed to go to the State Engineer's office for filing?
3. The chemical analysis did not address all the primary drinking water standards. Manganese concentrations exceed the secondary drinking water standards.
4. The radiological results exceed EPA's standards. What will be done to bring the water into compliance?
5. Biological results were not submitted.

TSN/nc



*Department of Environmental Quality*  
*Water Quality Division*

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

July 16, 1985

Town of Torrington  
P.O. Box 250  
Torrington, WY 82240

Gentlemen:

Our records indicate your application for a permit to construct has not been resubmitted to this office for review and authorization. The specific information for your proposed project are:

Facility name:	Torrington Well #15
DEQ/WQD Reference Number:	84-580
Engineering Consultant:	Baker, Sweeney & Associates
DEQ/WQD Reviewing Engineer:	Thomas S. Norman
Date of DEQ/WQD Review:	December 11, 1984

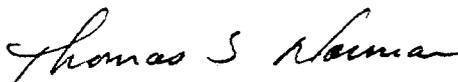
According to Chapter III of the Water Quality Rules and Regulations, Section 7 b. (2), "If an application is denied because of incompleteness necessitating a request for additional information, the applicant shall have a maximum of six months to comply with the request. If the applicant fails to provide the requested information within that period, the entire incomplete application shall be returned."

Please indicate below the status of your application and return this form to our office:

- The application will not be resubmitted as the proposed project has been cancelled.
- The application will be resubmitted within 30 days.
- The facility has been constructed, or is under construction. As built construction plans and specifications will be submitted within 30 days.
- Other remarks \_\_\_\_\_

You are reminded that the construction, installation, or modification of any sewerage system, treatment works, disposal system, or other facility capable of causing or contributing to pollution, or public water supply system without a Permit to Construct is a violation of Wyoming State Statutes. Unless the Water Quality Division reviewing engineer receives this information within 15 days of the receipt of this letter, follow-up action will be taken.

Sincerely,



Thomas S. Norman  
Water Quality Engineer  
Water Quality Division

TSN/nc

cc: Baker, Sweeney & Associates  
1915 1st Ave.  
Scottsbluff, NE 69361

1072-84

Review of Plans and Specifications

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
1111 East Lincolnway  
Cheyenne, Wyoming 82002

PROJECT: Town of Torrington, Well No. 15, Goshen Co.

ARCHITECT OR ENGINEER: John Baker, Baker, Sweeney & Associates  
1915 First Avenue, Scottsbluff, NE 69361

APPLICANT: Town of Torrington  
P.O. Box 250, Torrington, WY 82240

WATER QUALITY DIVISION REFERENCE NUMBER: 84-580

REVIEWING ENGINEER: Thomas S. Norman *SNorman*

DATE OF REVIEW: December 11, 1984

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

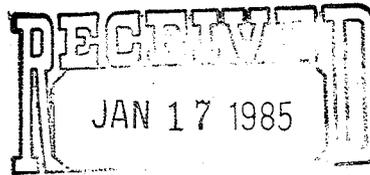
A permit to construct cannot be issued until all these items have been adequately addressed. Some of this information may not be available until the well has been dug, developed, and tested for quantity and quality unless the test hole provided the necessary design data. If you feel confident that you can address all the other items adequately, this letter will serve as authorization for you to go ahead and complete the well to obtain the final information. If you have questions, let us address them before construction is complete.

1. How was the TDH obtained for the pump? What are the limits or conditions on how the pump will be controlled?
2. In the event of contamination, could this well be adapted for chlorination along with a 30-minute detention time?
3. No specifications are provided on the air release valve. The air release must be on the upstream side of the check valve.
4. The well water must be analyzed for chemical, biological, and radiological parameters.
5. What design information was obtained from test hole #83-10? Where is this hole located?
6. The following information must also be obtained and submitted for the well test data:
  - a. Test pump capacity - head characteristics
  - b. Static water level
  - c. Depth of test pump setting

d. Pumping rate

7. A smooth-nose sampling tap is required in the vault. A permanent air-line is required in the well to measure water levels.
8. More information is necessary on the aquifer characteristics (sieve analysis) to determine if the gravel pack is adequately sized.
9. What ever happened to well No. 14 (application No. 84-28R)?

THE STATE OF WYOMING



ED HERSCHLER  
GOVERNOR

*Department of Environmental Quality*  
*Water Quality Division*

210 LINCOLN STREET

LANDER, WYOMING 82520

TELEPHONE 307-332-3144

January 10, 1985

U. S. Department of the Interior  
National Park Service  
Yellowstone National Park  
Wyoming 82190

Attention: Mr. Richard L. Engle

RE: Canyon Village - Sewage Treatment  
Sludge Drying Beds # 84-581R

Dear Mr. Engle:

This office is in receipt of your as constructed plans and specifications for the Canyon Village wastewater treatment plant, sludge drying beds. The State of Wyoming, Department of Environmental Quality cannot issue a Permit to Construct this improvement since the construction has been completed. We can treat your application as "as-built" plans and hereby authorize this improvement.

Please feel free to contact this office in the future. An open dialogue can prevent any possible misunderstanding on future projects.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Ed".

Ed Baruth, P.E.  
Northwest District Supervisor

EB:dcn

cc: Jake Strohman, DEQ/WQD Cheyenne  
File

*aba*

REVIEW OF PLANS AND SPECIFICATIONS  
WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER QUALITY DIVISION  
210 LINCOLN  
LANDER, WYOMING 82520  
PHONE: (307) 332-3144

PROJECT: Yellowstone Park - Canyon Junction

ENGINEER: Richard Engle  
U. S. Department of the Interior  
National Park Service  
Yellowstone National Park, WY 82190

OWNER: Yellowstone National Park  
Yellowstone National Park, WY 82190

WATER QUALITY DIVISION REFERENCE NUMBER: #84-581, D5039 (YELL)

REVIEWING ENGINEER: Ed Baruth, P.E. *Ed*

DATE OF REVIEW: December 11, 1984

ACTION: **Not authorized.**

COMMENTS:

1. Thank you for the recent submittal on the sludge drying beds for the Canyon Village Sewage Plant. Find attached page 62 from our Chapter XI, Rules and Regulations concerning sludge drying beds. Please note the design application rate, and provide your rationale for the present design.
2. Will the sludge be taken to the landfill in Livingston, Montana?
3. This application will be handled as an "as built" by this department. When appropriate, a letter of authorization will be issued.

EB:dcn

C



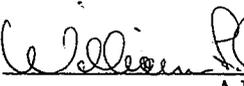
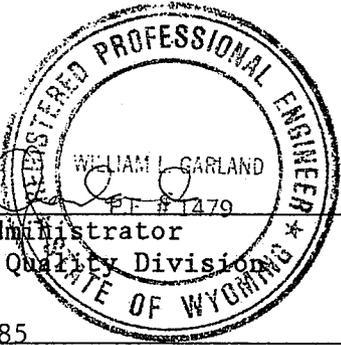
ing working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

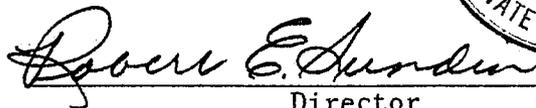
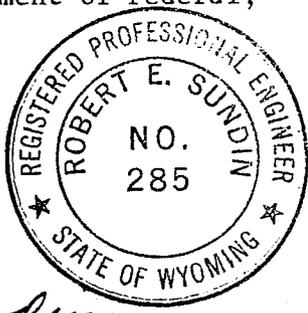
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 210 Lincoln, Lander, Wyoming 82520; telephone, 332-3144.

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

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:

  
  
Administrator  
Water Quality Division  
STATE OF WYOMING

  
  
Director  
Dept. of Environmental Quality

January 25, 1985  
Date of Issuance

This permit does not supercede the requirements for obtaining any permit from local agencies.

JB:dcn



during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 2161 Coffeen Avenue, Suite 301, Sheridan, Wyoming 82801; telephone, 672-6457.

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

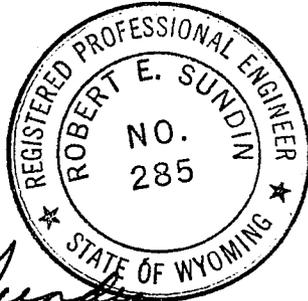
The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:

  
WILLIAM L. GARLAND  
Administrator, E. # 1479  
Water Quality Division  
January 16, 1985  
Date of Issuance



  
ROBERT E. SUNDIN  
Director  
Dept. of Environmental Quality



This permit does not supercede the requirements for obtaining any permit from local agencies.

cc: Western Water Consultants  
2 North Main  
Sheridan, WY 82801



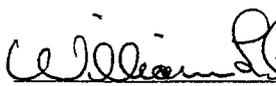
during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

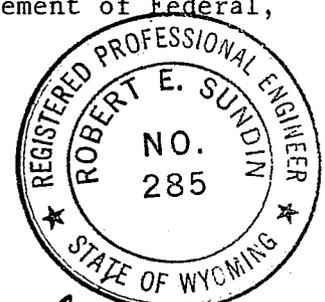
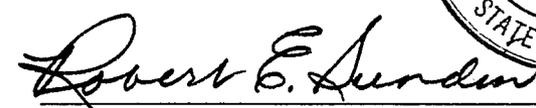
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 2161 Coffeen Avenue, Suite 301, Sheridan, Wyoming 82801; telephone, 672-6457.

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

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:

  
  
WILLIAM L. GARLAND  
Administrator # 1479  
Water Quality Division  
January 1985  
Date of Issuance

  
  
Director  
Dept. of Environmental Quality

This permit does not supercede the requirements for obtaining any permit from local agencies.

cc: Western Water Consultants  
2 North Main  
Sheridan, WY 82801

*Norma*

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
2161 COFFEEN AVE., SUITE 301  
SHERIDAN, WYOMING 82801

PROJECT: Antelope Coal Mine Sediment Pond SP-40 and  
Stockpile Containment Pond SCP-32

ARCHITECT OR ENGINEER: Doyl Fritz  
Western Water Consultants  
P.O. Box 3042  
Sheridan, Wyoming 82801

WATER QUALITY DIVISION  
REFERENCE NUMBERS: 84-584 and 84-585

REVIEWING ENGINEER: Rich Ruyle *RR*

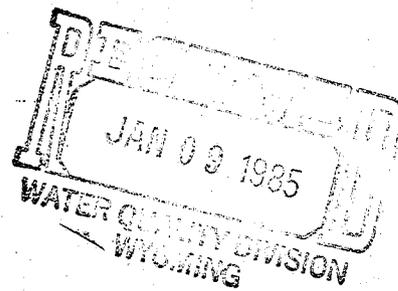
DATE OF REVIEW: January 8, 1985

ACTION: Not Authorized

COMMENTS:

- 1.) Construction specifications are needed for the dam of SP-40. All that is really needed is a note stating that the dike will be constructed of relatively impervious and stable material and compacted to at least 95 percent of maximum density.
- 2.) The application sheet for SCP-32 states that it will receive some mine pit sump water. Is this correct? If it is, there is no pond capacity allocated for this purpose.
- 3.) The NPDES discharge permit for Antelope Coal Mine lists the precipitation from a 10 year 24 hour storm as 2.4 inches rather than the 2.22 inches you have used. I mention this simply for future reference and am not requesting any changes because of this difference.

xc: Bruce Nelson



WATER QUALITY DIVISION  
GROUNDWATER SECTION  
PERMIT APPLICATION REVIEW

*Plans returned 12-24*

APPLICATION NUMBER 84-584 and 84-585

DATE SUBMITTED FOR REVIEW 12-13-84

NAME AND LOCATION OF FACILITY Antelope Mine SP40; SCP-32  
S 35 T 41 N R 71 W  
Converse Co.

I have reviewed the plans and specifications with regard to all aspects of groundwater quality and find the following:

- No comment. The submittal is consistent with current groundwater protection procedures and requirements.
- Comments attached.

SIGNED Richard L. Lamm  
TITLE Eng Eval  
DATE 12-21-84

ACCEPTED FOR RECORD \_\_\_\_\_  
(Date) \_\_\_\_\_ Groundwater Control Supervisor

PERMIT TO CONSTRUCT

New  
 Renewal  
 Modified

Permit No. 84-586R

Redwood Villa Subdivision  
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

Cheyenne Board of Public Utilities

2100 Pioneer Avenue

Cheyenne, WY 82001

to construct, install, or modify a municipal water distribution and wastewater collection facility according to the procedures and conditions of the application No. 84-586R. The facility is located in Section 9, T14N, R66W in the County of Laramie, in the State of Wyoming. This permit shall be effective for a period of two (2) years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

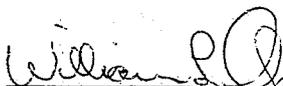
The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

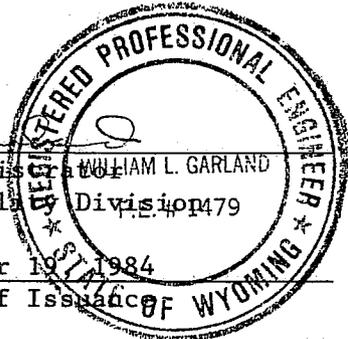
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, Herschler Building, 122 W. 25th, Cheyenne, Wyoming 82002; telephone, 777-7781.

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

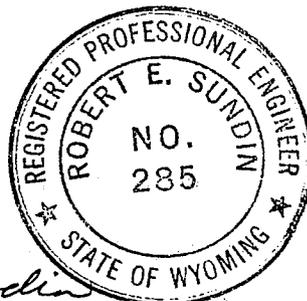
The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:

  
Administrator WILLIAM L. GARLAND  
Water Quality Division 479  
December 10, 1984  
Date of Issuance



  
Director  
Dept. of Environmental Quality



This permit does not supercede the requirements for obtaining any permit from local agencies.

cc: Peter Abplanalp  
Intermountain Professional Services, Inc.  
2206 Pioneer Avenue  
Cheyenne, WY 82001

Review of Plans and Specifications

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
1111 East Lincolnway  
Cheyenne, Wyoming 82002

PROJECT: Redwood Villa Subdivision, Laramie Co.

ARCHITECT OR ENGINEER: Peter Abplanalp, Intermountain Professional Services, Inc.  
2206 Pioneer Ave., Cheyenne, WY 82001

APPLICANT: Cheyenne Board of Public Utilities  
P.O. Box 1469, Cheyenne, WY 82003

WATER QUALITY DIVISION REFERENCE NUMBER: 84-586

REVIEWING ENGINEER: Thomas S. Norman *T.S. Norman*

DATE OF REVIEW: December 12, 1984

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

1. Please use the new application forms (enclosed).
2. The slopes on sheet 4 are not accurate (varies from .02-.04%).
3. Note 3 on sheet 7 refers to cast iron pipe and references AWWA C106 and C108. Both of these standards have been rescinded by AWWA. Also the Public Works Standard Specifications do not include cast iron pipe. The reference to cast iron pipe should be deleted.

1-30-85

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 84-587R  
SEE CONDITION ON BACK

Morrie & Alexander Ave. - Water Main Update  
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

City of Cheyenne

Board of Public Utilities

P.O. Box 1469

Cheyenne, WY 82001

to construct, install, or modify a municipal water distribution system facility according to the procedures and conditions of the application No. 84-587R. The facility is located in Section 5, T13N, R66W in the County of Laramie, in the State of Wyoming. This permit shall be effective for a period of two (2) years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

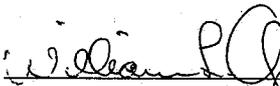
The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, Herschler Building, 122 W. 25th, Cheyenne, Wyoming 82002; telephone, 777-7781.

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

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:

  
WILLIAM L. GARLAND  
Administrator # 1479  
Water Quality Division  
REGISTERED PROFESSIONAL ENGINEER  
STATE OF WYOMING  
January 28, 1985  
Date of Issuance

  
ROBERT E. SUNGIN  
NO. 285  
REGISTERED PROFESSIONAL ENGINEER  
STATE OF WYOMING  
Director  
Dept. of Environmental Quality

This permit does not supercede the requirements for obtaining any permit from local agencies.

Condition to Permit to Construct #84-587R

If there is evidence of hydrocarbon contamination of the groundwater or soils, this office shall be contacted prior to dewatering of the groundwater or covering of the soil.

cc: Joseph E. Kub  
Joseph E. Kub, P.E.  
1750 Westland Road  
Cheyenne, WY 82001

1-30-85

PERMIT TO CONSTRUCT

Permit No. 84-588R  
SEE CONDITION ON BACK

- New
- Renewal
- Modified

15th Street Segment Water Improvements  
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

City of Cheyenne

Board of Public Utilities

P.O. Box 1469

Cheyenne, WY 82001

to construct, install, or modify a municipal water distribution system facility according to the procedures and conditions of the application No. 84-588R. The facility is located in Sections 31 & 32, T14N, R66W in the County of Laramie, in the State of Wyoming. This permit shall be effective for a period of two (2) years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

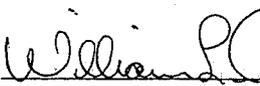
The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

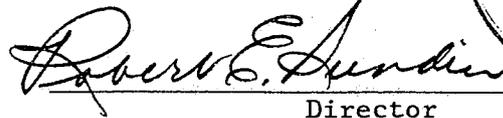
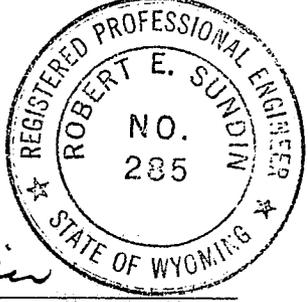
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, Herschler Building, 122 W. 25th, Cheyenne, Wyoming 82002; telephone, 777-7781.

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

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:

  
  
Administrator # 1479  
Water Quality Division  
January 28, 1985  
Date of Issuance

  
  
Director  
Dept. of Environmental Quality

This permit does not supercede the requirements for obtaining any permit from local agencies.

Condition to Permit to Construct #84-588R

If there is evidence of hydrocarbon contamination of the groundwater or soils, this office shall be contacted prior to dewatering of the groundwater or covering of the soil.

cc: Joseph E. Kub  
1750 Westland Road  
Cheyenne, WY 82001

12-19-84

Review of Plans and Specifications

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
1111 East Lincolnway  
Cheyenne, Wyoming 82002

PROJECT: Water Main Update Safety Project, Morrie & Alexander Ave. Segments, Laramie Co.

ARCHITECT OR ENGINEER: Joe Kub  
1750 Westland Road, Cheyenne, WY 82001

APPLICANT: City of Cheyenne, Board of Public Utilities  
P.O. Box 1469, Cheyenne, WY 82001

WATER QUALITY DIVISION REFERENCE NUMBER: 84-587

REVIEWING ENGINEER: Thomas S. Norman 

DATE OF REVIEW: December 18, 1984

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

1. The profile sheet shows two 8+00 stations on sheet 4.
2. The profile sheet must show the location of sewers where they cross the water line.
3. References to cast iron pipe should be deleted. AWWA has rescinded their standards.
4. Is polyethylene encasement required for ductile iron pipe?
5. Three copies of the plans and specifications are required.
6. Because of the high potential for contaminants in this area, a condition will be added to your permit requiring notification of DEQ/WQD in the event you encounter such material during construction.
7. If a treatment facility is constructed or used to treat contaminated groundwater, a permit to construct, install or modify will be required.

Review of Plans and Specifications

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
1111 East Lincolnway  
Cheyenne, Wyoming 82002

PROJECT: 15th Street Segment Water Improvements, Laramie Co.

ARCHITECT OR ENGINEER: Joe Kub  
1750 Westland Road, Cheyenne, WY 82001

APPLICANT: City of Cheyenne, Board of Public Utilities  
P.O. Box 1469, Cheyenne, WY 82001

WATER QUALITY DIVISION REFERENCE NUMBER: 84-588

REVIEWING ENGINEER: Thomas S. Norman *TS Norman*

DATE OF REVIEW: December 18, 1984

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

1. The location of sewers (within 30 feet) need to be shown on the plan and profile of the water line.
2. What is the size of pipe at the connection at station 32+20?
3. Will any fire hydrants be installed on this line?
4. An air release mechanism is required at the high point near station 27+00.
5. Because of the high potential for contaminants in this area, a condition will be added to your permit requiring notification of DEQ/WQD in the event you encounter such material during construction.
6. Please identify the specific areas where polyethylene encasement is required and the rationale for requiring it. See section 301.02 and III.J.7.
7. The reference to cast iron pipe should be deleted. Those AWWA standards are no longer in effect.
8. Three copies of plans and specifications are required.



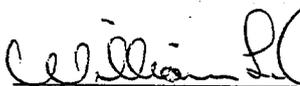
during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 2161 Coffeen Avenue, Suite 301, Sheridan, Wyoming 82801; telephone, 672-6457.

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

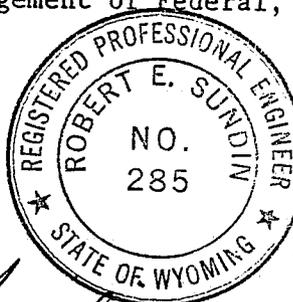
The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:

  
WILLIAM L. GARLAND  
Administrator E. # 1479  
Water Quality Division  
June 12, 1985  
Date of Issuance



  
Robert E. Sunden  
Director  
Dept. of Environmental Quality



This permit does not supercede the requirements for obtaining any permit from local agencies.

#### CONDITIONS

- 1.) The recovery well pumping system shall be properly operated and maintained by personnel trained in its use in order to maximize the amount of hydrocarbon recovered by the well.
- 2.) The hydrocarbon recovery process shall continue until official notice is received from the DEQ that cleanup has been adequate. This permit does not preclude the use of additional recovery wells to achieve adequate cleanup. Sampling of the monitoring wells shall continue as needed to determine the effectiveness of the recovery process.

cc: Paul A. Rechar  
Western Water Consultants  
611 Skyline Road  
Laramie, WY 82070

WATER QUALITY DIVISION  
GROUNDWATER SECTION  
PERMIT APPLICATION REVIEW

*Notice  
Ret. to  
Sheridan  
6-10-85*

APPLICATION NUMBER 84-589 R

DATE SUBMITTED FOR REVIEW 5-30-85

NAME AND LOCATION OF FACILITY TRANSIDE General Store  
LUSIK Wy  
Recovery well

I have reviewed the plans and specifications with regard to all aspects of groundwater quality and find the following:

- No comment. The submittal is consistent with current groundwater protection procedures and requirements.
- Comments attached.

SIGNED Richard Lenny  
TITLE Eng. Eval  
DATE 6-10-85

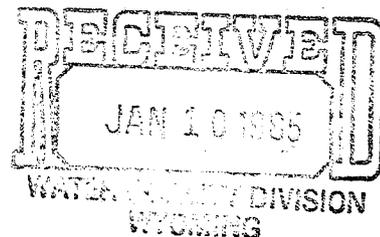
ACCEPTED FOR RECORD \_\_\_\_\_  
(Date)

*[Signature]*  
Groundwater Control Supervisor

Norma

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
2161 COFFEEN AVE., SUITE 301  
SHERIDAN, WYOMING 82801



PROJECT: Lusk Trailside General Store  
Gasoline Recovery System

APPLICANT: Jerry Knutson  
Western States Tank Testing  
P.O. Box 21413  
Billings, Montana 59104

WATER QUALITY DIVISION  
REFERENCE NUMBER: 84-589

REVIEWING ENGINEER: Rich Ruyle *RR*

DATE OF REVIEW: January 9, 1985

ACTION: Not Authorized

COMMENTS:

1.) I have inspected the recovery well and equipment that are currently being used at the Trailside General Store. The recovery and recharge wells are properly constructed and are recovering a significant amount of product as planned. However, the area of contamination as defined by Western Water Consultants' explosivity measurements is large enough that the cone of depression created by the recovery well apparently may not influence the entire contaminated area.

The extent of the current cone of depression can be determined by measuring the groundwater level at an appropriate distance away from the recovery well. The area of contamination could also be better defined by sampling the groundwater at strategic locations. I recommended that both of these procedures be carried out before proceeding any further. In this manner, the actual extent of the contamination and the adequacy of the present recovery well can be determined. Further recovery efforts should be based on these findings.

The area of influence of the recovery well(s) must coincide with the area of contamination. Assuming that this is not currently the case, it can be accomplished by either constructing more recovery wells or by deepening the current recovery well. Either way, a design for a more complete recovery system must be submitted before DEQ can grant approval of the clean up procedures and issue a Permit to Construct. My recommendation, pending the outcome of additional information, is to construct one or two more recovery wells to the west and south of the store property.

Review of Plans and Specifications  
Lusk Trailside General Store  
Gasoline Recovery System, 84-589  
January 9, 1985  
Page Two

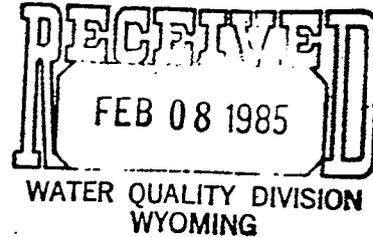
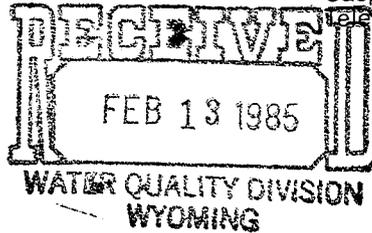
- 2.) An acceptable method of well abandonment must be submitted for the recovery and recharge wells.
- 3.) The leaky union for the unleaded fuel pump that Jerry Knutson pointed out in his report of December 5, 1984, should be replaced if not already done.
- 4.) The application sheet and any plans submitted must bear the signature of a professional engineer registered in Wyoming. Items 3, 5, and 7 must also be filled in on the application sheet.

xc: Dick Lennox, WQD Cheyenne  
Brent C. Overson  
Verlin Rice, Trailside General Store  
Steward Toolson  
Western Water Consultants, Laramie



P.O. Box 2659  
Casper, Wyoming 82602  
Telephone 307/577-1555

February 5, 1985



Department of Environmental Quality  
Water Quality Division  
210 Lincoln Street  
Attn: Mr. Jack Bedessem  
Lander, Wyoming 82520

*Replaced  
by  
85-76*

Sir:

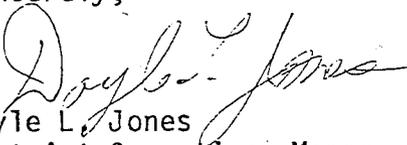
Marathon Oil Company requests that permit number 84-590 for the construction of a temporary 3.5 acre evaporative pond, in Section 24, T19N, R94W, Sweetwater County, Wyoming; be cancelled. Marathon Oil Company plans to permit this facility as a permanent evaporative pond.

C.E.I. Inc., Consulting Engineers have been retained to complete the engineering work on the 3.5 acre facility and submit application for the permanent facility. As agreed, Marathon will not use the facility for water disposal until we have been issued a permit for a permanent evaporative pond from your office.

Future plans include incorporating the 3.5 acre facility with an expansion of approximately 6 acres to complete a 9.5 acre full evaporative type water disposal system. A separate application will be submitted for a permanent 9.5 acre evaporative pit, which will include the then permitted 3.5 acre pit.

Thank you for your patience and cooperation in dealing with this project.

Sincerely,

  
Doyle L. Jones  
District Operations Manager

DLJ:FMK:mrt

cc: Bureau of Land Management  
P.O. Box 670  
(1300 Third Street)  
Rawlins, Wyoming 82301  
Attn: Mr. John Crane

State of Wyoming  
Oil & Gas Conservation Comm.  
P.O. Box 2640  
Casper, Wyoming 82602  
Attn: Mr. Rick Marvel



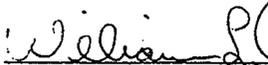
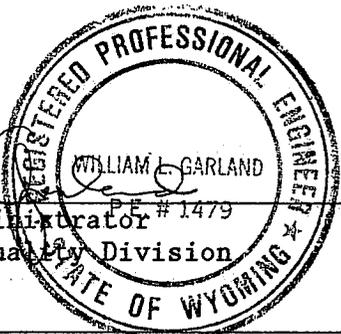
ing working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

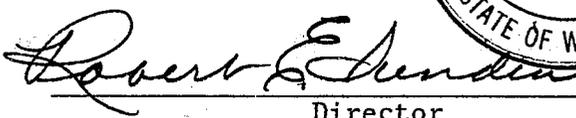
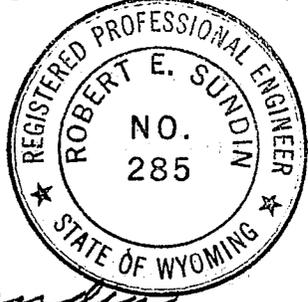
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 210 Lincoln, Lander, Wyoming 82520; telephone, 332-3144.

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

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:

  
WILLIAM L. GARLAND  
PE # 1479  
Administrator  
Water Quality Division  
  
January 2, 1985  
Date of Issuance

  
Director  
Dept. of Environmental Quality  


This permit does not supercede the requirements for obtaining any permit from local agencies.

\* CONDITIONS OF PERMIT \*

1. This permit is valid for the construction of a temporary produced water disposal/evaporation pond. This temporary pond may be utilized only until the permanent facility has been completed and no later than December 31, 1985.
2. Once the permanent facility (84-573) has been completed, this temporary pond must be dewatered, and reclaimed or reconstructed in a manner acceptable to the Department of Environmental Quality/Water Quality Division. Contact the Lander office (307-332-3144) or Cheyenne office (307-777-7781).

JB:dcn

12/27/85

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 84-591RRR  
 Reference No. 83-139RR

\* CONDITION ON PERMIT \*

Sims Water and Liquid Waste Disposal Facility-Modification  
 (Name of Facility) to Cell "C"

This permit hereby authorizes the applicant (name and address):

Richard Sims  
P.O. Box AK  
Evanston, WY 82930

to construct, install, or modify a synthetic (polyethylene) liner in Cell "C"  
including a leak detection system and monitoring wells

facility according to the procedures and conditions of the  
application No. 84-591RRR. The facility is located in

Sec. 28, T16N, R120W  
in the County of Uinta,

in the State of Wyoming. This permit shall be effective for a period of two (2)  
years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and dur-

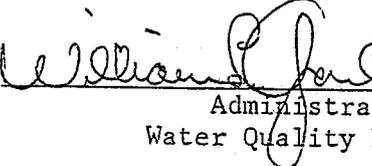
ing working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

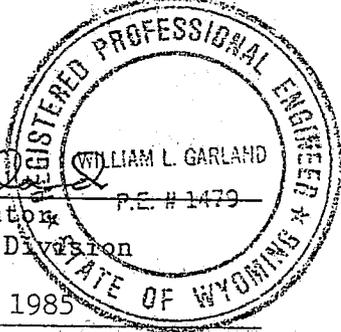
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 210 Lincoln, Lander, Wyoming 82520; telephone, 332-3144.

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

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:

  
Administrator  
Water Quality Division  
December 16, 1985  
Date of Issuance



  
Director  
Dept. of Environmental Quality

This permit does not supercede the requirements for obtaining any permit from local agencies.

\* CONDITION ON PERMIT \*

The six existing monitoring wells shall be monitored on a quarterly basis. The procedures for sampling and reporting shall be performed as outlined in the letter from Jack Bedessem dated October 30, 1985.

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER QUALITY DIVISION  
210 LINCOLN  
LANDER, WYOMING 82520  
PHONE: (307) 332-3144

PROJECT: Sims Drilling Fluids Disposal Ponds - Cell "C"

ENGINEER: Ken Walker  
Uinta Engineering and Surveying, Inc.  
P.O. Box 746  
Evanston, WY 82930

OWNER: Richard Sims  
P.O. Box AK  
Evanston, WY 82930

WATER QUALITY DIVISION REFERENCE NUMBER: 84-591RR

REVIEWING ENGINEER: Jack Bedessen<sup>JB</sup> and Kate Laudon

DATE OF REVIEW: October 17, 1985

ACTION: Not authorized.

COMMENTS:

Your latest response has been reviewed by this department. The majority of the problems associated with Cell "C" have been addressed. A "Permit to Modify" can be issued when the following items have been resolved and a reclamation schedule finalized.

1. All the items to be completed on Cell "C", once a permit has been issued, should be outlined in detail, entitled SPECIFICATIONS and signed by the engineer (i.e., inspection, earth cover, notification, monitoring, operation, etc.).

2. The six existing monitoring wells should not be abandoned at this time. You should continue to monitor the wells as detailed in the attached letter.

3. The six existing monitoring wells were not completed in accordance with Water Quality Rules and Regulations. However, they should function satisfactorily during this interim period.

4. The leak detection trench should also extend along the west side of Cell "C". Construction of this section can be delayed until Cell "B" has been completely reclaimed.

5. This office must be contacted at least 7 days prior to the construction of the leak detection trenches. Personnel from this department may perform an onsite inspection during excavation.

C

6. For proposed leak detection system it should be specified that the leak detection system will be inspected at least monthly. After the facility goes back into operation, if any liquid is detected or leak suspected, this department must be notified immediately.

7. A filter fabric or straw may be needed around the rock and/or perforated pipe of the leak detection system. Fine soil particles may filter through and clog the rock and/or pipe.

8. Some capacity in Cell "C" may be required for liquid and sludge from Cells "A" and "B". Therefore, a "Permit to Modify" must be issued and construction on Cell "C" completed prior to the reclamation of Cells "A" and "B". Cell "C" can not be utilized for commercial operation until Cells "A" and "B" have been completely evacuated.

Submit the required information and revised drawings to this office in triplicate. Be sure to include the Water Quality Reference Number that appears on this review sheet in a cover letter or transmittal sheet. If you have any questions please feel free to contact me.

JB/jw  
copy: Kate Laudon

Norma, I will  
keep plans.

WATER QUALITY DIVISION  
GROUNDWATER SECTION  
PERMIT APPLICATION REVIEW

APPLICATION NUMBER 84-591R

DATE SUBMITTED FOR REVIEW 9-10-85

NAME AND LOCATION OF FACILITY Sims Evaporation Ponds  
Winta County

I have reviewed the plans and specifications with regard to all aspects of groundwater quality and find the following:

( ) No comment. The submittal is consistent with current groundwater protection procedures and requirements.

Comments attached.

SIGNED Kate Laudon

TITLE Engineer Evaluator

DATE 10-15-85

ACCEPTED FOR RECORD 10/15/85  
(Date)

AJM  
Groundwater Control Supervisor



*Department of Environmental Quality*  
*Water Quality Division*

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

MEMORANDUM

TO: Jack Bedessem, Southwest District Supervisor

FROM: Kate Laudon, Groundwater Engineer Evaluator *KgZ*

DATE: October 15, 1985

SUBJECT: Groundwater review, Sims Evaporation Ponds, DEQ/WQD Ref. No. 84-591R

In two letters, dated September 10, 1985 and September 30, 1985, Uinta Engineering and Surveying has responded to your May 10, 1985 review of Richard Sims Evaporation Ponds and the associated groundwater contamination problem.

After seepage from the existing ponds was detected in the spring of 1984, cells A and B were shut down, and a groundwater investigation was initiated. Two of six wells installed across the draw approximately 600 feet southwest of the ponds have detected evidence of seepage.

Since that time a synthetic liner has been installed in cell C and the owner intends to abandon cells A and B. The most recent information submitted includes plans for installing a leak detection system adjacent to cell C, and abandoning cells A and B.

With respect to groundwater monitoring at the site:

1. The 6 monitor wells at the site should be monitored on a quarterly basis for the following list of parameters:

Chloride	Oil and grease
Chromium	pH
Manganese	Sulfates
Phenols	Total Dissolved Solids
Static Water Level	

Within 30 days of the end of a quarter, analytical results should be reported to the Groundwater Section.

2. If monitoring indicates an increasing seepage problem, additional wells may be required to determine the extent of contamination, along with mitigation or clean-up activities.

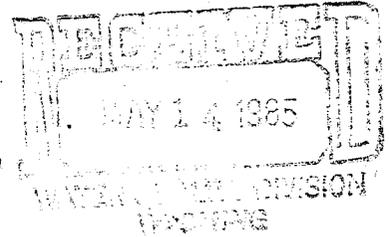
3. The leak detection system proposed for cell C should be effective if it can be keyed into a low permeability hardpan horizon. The soils report prepared by Chen and Associates in March 1983 indicates that soil borings encountered only clay to a depth of 20 feet along the west side of cell C. The leak detection system should be installed under the supervision of an engineer to insure that it is placed on an effective perching horizon.
4. Any wells that are no longer being used for monitoring should be abandoned according to the requirements of Chapter XI, Part G of the WQD Rules and Regulations.

KL/nc

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER QUALITY DIVISION  
210 LINCOLN  
LANDER, WYOMING 82520  
PHONE: (307) 332-3144



PROJECT: Sims Drilling Fluids Disposal Ponds - Cell "C"

ENGINEER: Ken Walker  
Uinta Engineering and Surveying, Inc.  
P.O. Box 746  
Evanston, WY 82930

OWNER: Richard Sims  
P.O. Box AK  
Evanston, WY 82930

WATER QUALITY DIVISION REFERENCE NUMBER: 84-591R

REVIEWING EVALUATOR: Jack Bedessem <sup>JB</sup> Kate Laudon

DATE OF REVIEW: May 10, 1985

ACTION: Not authorized.

COMMENTS:

As stated previously, this "Permit to Modify" Cell "C" will not be issued until all the problems associated with your facility have been resolved. Refer to the attached letter.

In regards to cell "C" the following items need to be addressed and/or resolved:

1. Compatibility of the liner - ok.
2. Protection of liner from mechanical abrasion. The liner material should be compatible with the fluids and climate, however as an added safety factor and after a discussion with the manufacturer's representative, it is recommended that a soil cover be placed over the synthetic liner for protection.
3. Leak detection system and subsurface monitoring program. From the information provided, we are unable to determine whether the six existing monitoring wells will be adequate to monitor the subsurface for seepage from the ponds.
  - a. The monitoring well detail indicates a fill dirt mound around the top of the well and extending down the casing. This will not provide an adequate sanitary seal and may be part of the reason for the high variability in water quality between the wells.

AC

b. Water Quality Rules and Regulations, Chapter XI, Section 65 requires the annular space to be sealed, to protect against contamination, with neat cement grout, sand-cement grout, bentonite clay or concrete.

4. A lithological log of the sediments encountered during drilling should be provided. The elevations of the top and bottom of the monitoring wells should also be provided and correlated to the elevation of the pond bottoms and water levels.

5. The results of the monitoring well sampling have been reviewed. A significant variability exists in water quality between the six wells. This variability may be the result of improper well construction and/or seepage from the ponds.

a. Proper sampling procedures. Bale the well dry and sample after it recharges. If the recharge is too fast to completely evacuate the well, remove 3-5 casing volumes and then take the sample.

b. Additional sampling of the monitoring wells will be required until consistent analytical results are obtained and actual water quality characteristics established.

c. The samples collected February 1, 1985 were analyzed for the majority of the parameters listed in Chapter VIII. Not all of these parameters will be required for the additional sampling. Samples from the monitoring wells should be analyzed for:

Aluminum	Nitrate
Arsenic	Oil and Grease
Barium	pH
Chloride	Sulfates
Chromium	Total Dissolved Solids
Fluoride	Total Organic Carbon
Lithium	Vanadium
Manganese	Zinc

d. Once the actual subsurface water quality has been established, a routine monitoring program will have to be developed.

6. The splash pad should extend down the side slopes and a short way along the bottom of the pond.

7. The synthetic liner has been installed for almost one year. Before this pond can be placed into operation, the liner shall be inspected by a qualified individual and any repairs completed.

May 10, 1985  
Review of Plans & Specs.  
Ref. No. 84-591R  
Page Three

8. A letter from the manufacturers representative or a Wyoming Professional Engineer certifying that (a) the liner was installed according to the manufacturers specifications and (b) the liner condition.

Submit the required information and revised drawings as soon as possible. If you have any questions please feel free to contact Kate Laudon (307-777-7781) or me.

JB/jw

5-8-85

WATER QUALITY DIVISION  
GROUNDWATER SECTION  
PERMIT APPLICATION REVIEW

APPLICATION NUMBER 84-591R

DATE SUBMITTED FOR REVIEW 3-18-85

NAME AND LOCATION OF FACILITY Sims Drilling Fluids Pond  
Cell "C"  
Sec. 28 T16N R120W  
Uinta County

I have reviewed the plans and specifications with regard to all aspects of groundwater quality and find the following:

- No comment. The submittal is consistent with current groundwater protection procedures and requirements.
- Comments attached.

SIGNED Kate Laudon  
TITLE Engineer Evaluator  
DATE 5-6-85

ACCEPTED FOR RECORD 5/6/85  
(Date)

[Signature]  
Groundwater Control Supervisor

MEMORANDUM

TO: Jack Bedessem, Southwest District Supervisor

FROM: Kate Laudon, Groundwater Engineering Evaluator *RJL*

DATE: May 6, 1985

SUBJECT: Groundwater Review, Sims Drilling Fluid Disposal Ponds - Cell "C", DEQ Reference #84-591R

Uinta Engineering has submitted additional information concerning monitor well construction and groundwater quality in the vicinity of Sims Drilling Fluid Disposal Ponds in Uinta County. The information was submitted in response to review letters written by you on December 6, 1984 and January 15, 1985.

With respect to the monitor wells:

1. It appears that the wells have not been constructed according to the Chapter XI standards. The Monitor Well Detail included on the construction drawing shows a Fill Dirt Mound surrounding the top of the well and extending down the borehole. This will not provide a sanitary seal sufficient to keep surface runoff from entering the well. Chapter XI, Part G, Section 65(c), specifies that sealing material shall consist of neat cement grout, sand-cement grout, bentonite clay or concrete.
2. A lithologic log of the sediments encountered while drilling should be provided. Also the elevations of the tops and the bottoms of the wells must be determined, and correlated to the elevations of the ponds. This information is necessary to evaluate potential seepage pathways out of the ponds.

With respect to the Water Quality Analyses:

1. The samples should have been analyzed for oil and grease and phenols. These two parameters are considered indicator parameters for oil field waste, and would probably be incorporated into a compliance monitoring schedule.
2. The complete analysis should be provided for the pond, and for the July 10, 1985 sampling of all points. The summary provided in Table 1 is not appropriate for our requirements. Also, water levels should be recorded every time the wells are sampled.
3. The high variability in water quality exhibited between wells (MW2, TDS 748, MW5 TDS, 5330) may be due to surface water infiltration because of the improper well construction, or it could be attributable to seepage from the ponds. Once the additional information is submitted, we may get a better handle on the situation.

KL/nc

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER QUALITY DIVISION  
210 LINCOLN  
LANDER, WYOMING 82520  
PHONE: (307) 332-3144

PROJECT: Sims Drilling Fluids Disposal Ponds - Cell C

ENGINEER: Dale E. Peterson  
Rocky Mountain Engineering  
P. O. Box 805  
Evanston, WY 82930

OWNER: Richard Sims  
P. O. Box AK  
Evanston, WY 82930

WATER QUALITY DIVISION REFERENCE NUMBER: #84-591

REVIEWING EVALUATOR: Jack Bedessem JB

DATE OF REVIEW: January 15, 1985

ACTION: Not authorized.

COMMENTS: Your plans to install a synthetic liner on Cell C and utilize it for the disposal of oil field waste drilling have been reviewed. The following items need to be addressed and/or resolved:

1. Address the compatibility of the liner material with the fluids, climate (including sunlight), and soils.
2. Address the protection of the synthetic liner from mechanical damage (i.e. floating debris, ice, abrasion from influent, need for splash pad, rip-rap, etc.).
3. A leak detection system or subsurface monitoring program needs to be developed and implemented. The six monitoring wells mentioned in your July 13, 1984 letter may or may not be sufficient to monitor the subsurface and effectiveness of the liner.

Propose a program to monitor the subsurface and the effectiveness of the liner. (Include monitoring frequency, sampling procedures, parameters, notification, etc.) Submit "as built" plans and details of the monitoring wells.

Submit the required information to this office in triplicate.

JB:dcn

C



*Department of Environmental Quality*  
*Water Quality Division*

210 LINCOLN STREET

LANDER, WYOMING 82520

TELEPHONE 307-332-3144

January 15, 1985

Richard Sims  
Sims Water and Liquid Waste  
P.O. Box AK  
Evanston, WY 82930

RE: Sims Drilling Fluids Disposal Ponds

Dear Mr. Sims:

I have reviewed your plans (84-591) to install a synthetic liner in Cell C and utilize it for the disposal of oil field waste drilling fluids. The attached review letter itemizes a few concerns which remain to be addressed and/or resolved.

These plans will not be authorized until it has been demonstrated to this department that the existing cells have been secured with respect to seepage. This includes the concerns outlined in my December 6, 1984 letter which still need to be addressed.

1. "As built" plans, specifications and design criteria for the septic tank-disposal field serving the office and dwelling, need to be submitted. Note this was first requested on March 8, 1984.
2. Your original "Permit to Construct" Nos. 82-694R and 83-139RR required that the liner in the existing cells consist of material at least 3 feet thick having a permeability of  $4 \times 10^{-7}$  cm/sec or less. The barrel-permeability tests performed on the dikes indicate the material to have a permeability on the order of  $10^{-6}$  cm/sec with no respect to thickness.

Before these existing cells may be placed back into operation, it must be demonstrated to this office that no seepage is occurring, and they comply with liner requirements. This may entail test borings, reconstruction, and/or installing a synthetic liner.

3. Your facility accepted wastes which originated from the Chevron plant(s) and Amoco plant(s). Since these wastes are inconsistent with the type or quantity for which the facility was permitted and may be defined as

hazardous, you were asked to quantify and identify the wastes according to their specific plant processes.

4. On June 13, 1984, I requested that a depth integrated composite sample from each cell be collected and analyzed. To date, this office has not received the results of these analyses. The results should include a description of how the samples were collected and composited.
5. Augmenting the embankments may control the seepage through the dikes; however, seepage through the cell bottoms must also be controlled.

Information is needed as to whether the seepage from Cell A has been identified and mitigated. Address whether the seepage into the observation/collection trenches has stopped.

The fluids contained in the existing cells may have to be pumped to Cell C once it has been authorized and completed.

6. The "as built" locations and details of the six monitoring wells need to be submitted to this office. Include completion details, static water levels, gravel packing, perforations, sealing, capping, logs, etc.

These wells will have to be monitored on a regular basis. Refer to item number 3 of the attached review letter. Contact Kate Laudon (307-777-7781) concerning a groundwater monitoring program--sampling procedures, parameters, frequency, report submittal, etc.

Samples from these wells were sent to the lab on July 10, 1984. The results of the analyses have not yet been submitted to this office. The results should include a description of the sampling procedure used.

7. An application for a permit to install a synthetic liner in Cell C was received by this office on December 11, 1984. The application has been reviewed. Refer to the attached review letter.

Submit the required information by February 8, 1985. If a satisfactory response is not received by that date, legal action will be initiated. If you have any questions, please feel free to contact me.

Sincerely,



Jack Bedessem  
Area III Supervisor

JB:dcn

Enclosure

cc: Jake Strohman, DEQ/WQD Cheyenne  
Kate Laudon, DEQ/WQD Cheyenne  
Andrew Armstrong  
Rocky Mountain Engineering  
File (2)

Returned  
1-21-85

WATER QUALITY DIVISION  
GROUNDWATER SECTION  
PERMIT APPLICATION REVIEW

APPLICATION NUMBER 84-591

DATE SUBMITTED FOR REVIEW 12-19-84

NAME AND LOCATION OF FACILITY Sims Drilling Fluids Pond  
Cell "C"  
Sec 28, T14N R120W  
Uinta County

I have reviewed the plans and specifications with regard to all aspects of groundwater quality and find the following:

- ( ) No comment. The submittal is consistent with current groundwater protection procedures and requirements.
- (X) Comments attached. Telephoned 1-15-85

SIGNED Kate Laudon  
TITLE Engineer Evaluator  
DATE 1-18-85

ACCEPTED FOR RECORD 1/18/85  
(Date)

AJM  
Groundwater Control Supervisor

MEMORANDUM

TO: Jack Bedessem, Southwest District Supervisor

FROM: Kate Laudon, Groundwater Engineer Evaluator *KgA*

DATE: January 18, 1985

SUBJECT: Groundwater Review, Sims Drilling Fluids Pond Cell "C", Section 28, T16N, R120W, Uinta Co., DEQ/WQD Ref. No. 84-591

This memo is being written as a follow-up to our telephone discussion of January 15, 1985.

Richard Sims has submitted an application to install a polyethelyne geomembrane liner in Cell "C" of his existing evaporation pond operation. Before an additional permit is authorized, several issues associated with the existing pond (outlined in your December 6, 1984 letter) should be resolved.

With respect to groundwater:

1. As built plans for the six additional monitor wells have not been submitted yet.
2. I spoke with the site supervisor today and she told me that one set of background water samples has been collected from the six monitor wells. She will send me the analytical results, and collect another round of background samples on Monday, January 21, 1985.

Once background water quality has been determined, a quarterly monitoring program will be established.

THE STATE



OF WYOMING

ED HERSCHLER  
GOVERNOR

*Department of Environmental Quality*  
*Water Quality Division*

210 LINCOLN STREET

LANDER, WYOMING 82520

TELEPHONE 307-332-3144

January 28, 1985

Pittsburg and Midway Coal Mining Company  
P. O. Box 950  
Kemmerer, WY 83101

Attention: Don Lamborn

RE: Modification of KSB-L "As Built"  
#84-592

Dear Mr. Lamborn:

Sedimentation reservoir KSB-L was initially authorized for construction by permit No. 84-192 on May 18, 1984.

The "As Built" plans (84-592), which indicate the KSB-L Sedimentation reservoir modifications, have been reviewed. The facility appears to meet minimum design standards as defined by the State of Wyoming.

A "Permit to Construct" cannot be issued owing to the fact that the facility has already been constructed. Retain this letter as verification that the facility has been accepted by the Wyoming Department of Environmental Quality.

If you have any questions, please feel free to contact me.

Sincerely,

A handwritten signature in cursive script, appearing to read "Jack Bedessem".

Jack Bedessem  
Area III Supervisor

JB:dcn

cc: Cheyenne DEQ/WQD  
Lynn Askew, DEQ/LQD Lander  
File (6)

*aba*



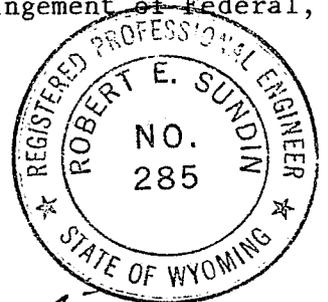
ing working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

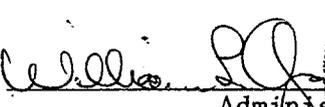
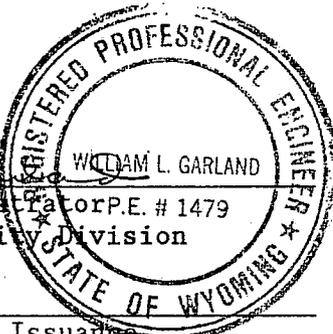
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 210 Lincoln, Lander, Wyoming 82520; telephone, 332-3144.

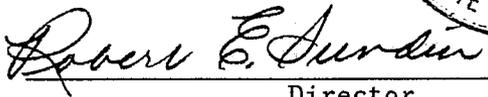
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to any applicable State law or regulation.

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:



  
WILLIAM L. GARLAND  
Administrator P.E. # 1479  
Water Quality Division  


  
Director  
Dept. of Environmental Quality

January 11, 1985  
Date of Issuance

This permit does not supercede the requirements for obtaining any permit from local agencies.

EB:dcn

REVIEW OF PLANS AND SPECIFICATIONS

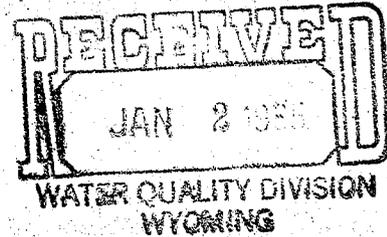
WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER QUALITY DIVISION  
210 LINCOLN  
LANDER, WYOMING 82520  
PHONE: (307) 332-3144

PROJECT: City of Cody, Mountain View Road Sanitary Sewer Extension

ENGINEER: Bruce McKee  
Box 1653  
Red Lodge, Montana 59068

OWNER: Ron Hill  
c/o Spragg Realty  
Irma Hotel  
Cody, WY 82414



WATER QUALITY DIVISION REFERENCE NUMBER: #84-593

REVIEWING ENGINEER: Ed Baruth, P.E. *Ed*

DATE OF REVIEW: December 19, 1984

ACTION: Not authorized.

COMMENTS:

1. In Section 1-S, your specification requires trench excavation in rock to be carried to a depth of at least four inches below the bottom of the pipe. The Wyoming Department of Environmental Quality Chapter XI requires a minimum of six inches.
2. Please provide documentation of City of Cody acceptance of this project for connection to their sewer collection system.

EB:dcn

BC



## Department of Environmental Quality

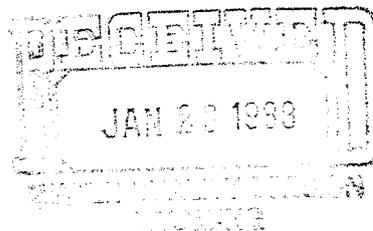
Air Quality Division  
(307) 332-3144

Land Quality Division  
(307) 332-3047

Solid Waste Management Program  
(307) 332-3144

Water Quality Division  
(307) 332-3144

January 25, 1988



Gary Wright  
69 E. 4th Avenue  
Afton, WY 83110

RE: Afton Radio Station Sewage Disposal Facility, 84-594

Dear Mr. Wright:

During a check of our "Application for a Permit to Construct" records, we find that your engineer did not respond to our January 8, 1985 review letter regarding the referenced project.

Due to the lack of response, your application is considered inactive and is being returned under the assumption that the applicant does not wish to proceed with the permit to construct process.

This project has not been permitted. Construction of this facility without a permit is a violation of the Environmental Quality Act and punishable with fines not to exceed \$10,000 per day of violation. If you wish to reconsider construction of this facility, then application procedures pursuant to Chapter III, Water Quality Rules and Regulations, must be followed.

Sincerely,

  
William L. Garland  
Administrator  
Water Quality Division

WLG/JH/jw  
cc: Norma Coulson, DEQ/WQD, Cheyenne  
Ross Turner, P.E.

REVIEW OF PLANS AND SPECIFICATIONS  
WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER QUALITY DIVISION  
210 LINCOLN  
LANDER, WYOMING 82520  
PHONE: (307) 332-3144

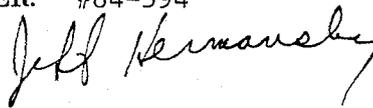
PROJECT: Afton Radio Station

ENGINEER: Ross M. Turner, P.E.  
Selectronics  
P. O. Box 808  
Afton, WY 83110

OWNER: Gary Wright  
69 E. 4th Ave.  
Afton, WY 83110

WATER QUALITY DIVISION REFERENCE NUMBER: #84-594

REVIEWING EVALUATOR: Jeff Hermansky



DATE OF REVIEW: January 8, 1985

ACTION: **Not authorized.**

COMMENTS: The following questions and comments need to be addressed before a Permit to Construct can be issued:

1. The sidewall leaching area in the pit is the wall below the invert of the inlet pipe. How far is the invert above the proposed pit bottom?
2. If steel is to be used for the leach pit structural liner, it must be coated inside and out with a bitumastic or equivalent compound after the holes are drilled.
3. A round septic tank is not acceptable since the length to width ratio must be at least 2 to 1.
4. The septic tank outlet baffle must extend into the middle third of the water depth.
5. A septic tank's water level must be between four and six feet deep.
6. How many percolation tests were run and at what depth were they located?
7. What is the proposed pipe material for the sewer lines from the building to septic tank and tank to seepage pit? What are the proposed slopes of these pipe lines?

Please feel free to contact either Jack Bedessem or me, if you have any questions.

JH:dcn

ABC

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 84-595  
SEE CONDITIONS ON BACK

Office-Shop  
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

Dale Fox  
5116 Windmill Road  
Cheyenne, WY 82009

to construct, install, or modify a small wastewater facility according to the procedures and conditions of the application No. 84-595. The facility is located in Section 26, T14N, R66W in the County of Laramie, in the State of Wyoming. This permit shall be effective for a period of two (2) years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

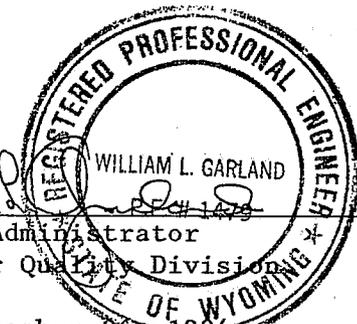
The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, Herschler Building, 122 W. 25th, Cheyenne, Wyoming 82002; telephone, 777-7781.

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

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:

  
*William L. Garland*  
WILLIAM L. GARLAND  
Administrator  
Water Quality Division  
STATE OF WYOMING  
December 26, 1984  
Date of Issuance

  
*Robert E. Sundin*  
Director  
Dept. of Environmental Quality

This permit does not supercede the requirements for obtaining any permit from local agencies.

Conditions to Permit to Construct #84-595

1. Cleanouts shall be installed in the sewer line between the building and septic tank at all bends greater than 22-1/2 degrees.
2. The permittee shall notify Don Pack, Laramie County Environmental Health, 1700 Snyder Avenue, Cheyenne, Wyoming 82001 (phone number 638-8545), of the estimated day construction will commence and the estimated day of completion of this project. Inspection of the installed system is required prior to backfilling.

cc: Donald M. Hopkins  
DM Hopkins & Associates  
216 E. 17th Street  
Cheyenne, WY 82001

Don Pack

1-5-86

# GUERNSEY STONE AND CONSTRUCTION COMPANY

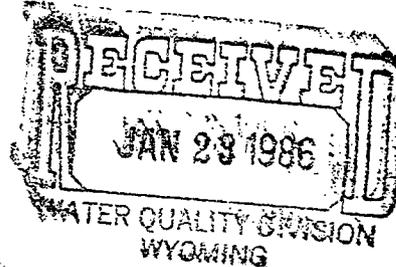
P.O. BOX 6206  
SHERIDAN, WYOMING 82801  
PHONE: 307/672-8605

84-596R

January 21, 1986

A KIEWIT COMPANY

Mr. Thomas Norman  
DEQ Water Quality Division  
Herschler Building  
Cheyenne, Wyoming 82002



Dear Mr. Norman:

We have recently constructed a run-off control pond, your No. WY-0032492, at our quarry at Guernsey, Wyoming.

This pond design contains room for a dead pool of water below a trickle tube. We are permitted by the State Engineer to use water below the tube for dust control on roads at the quarry. Above the trickle tube, the pond has capacity to contain a ten year, twenty four hour storm event.

We plan to install a gate valve on the trickle tube to retain runoff from a storm until it can be legally discharged by effluent quality standards.

Also at our quarry at Guernsey, is an old pit containing run-off water from the quarry area. We would like to pump this water through our pond and let it discharge as follows.

Over a period of time, we would pump water through the pond at a rate that the trickle tube could handle. This discharge, of course, would need to meet effluent quality standards.

Pumping would be carried out during hours the quarry is manned so that in case of a run-off event, the pump could be stopped and the gate valve closed to contain the storm.

Once the water in the pond again meets effluent quality standards, the gate would be opened and when the water level is down to the pipe, pumping would resume. This process would continue until all of the water in the old pit has been discharged.

Does this procedure for de-watering our old pit by using our run-off control pond sound acceptable to you?

*called on 1-27-85  
- left message  
that this proposal  
was acceptable.*

*OK  
TBNorman*

Mr. Thoman Norman  
Page 2

Please let me know as soon as possible so that I may respond to Mr. John Wagner of your office about our plans for use of our run-off control pond.

Sincerely,

GUERNSEY STONE AND CONSTRUCTION COMPANY



E. Gary Robbins

EGR:svm

cc: Dave Jennings  
Harold Anderson

PERMIT TO CONSTRUCT

Permit No. 84-596R

- New
- Renewal
- Modified

Guernsey Stone Reservoir  
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

Guernsey Stone Co.  
P.O. Box 339  
Guernsey, WY 82214

to construct, install, or modify a commercial sedimentation control facility facility according to the procedures and conditions of the application No. 84-596R. The facility is located in Section 25, T27N, R66W in the County of Platte, in the State of Wyoming. This permit shall be effective for a period of two (2) years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

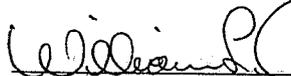
The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

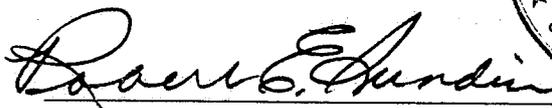
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, Herschler Building, 122 W. 25th, Cheyenne, Wyoming 82002; telephone, 777-7781.

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

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:

  
REGISTERED PROFESSIONAL ENGINEER  
WILLIAM L. GARLAND  
Administrator # 1479  
Water Quality Division  
STATE OF WYOMING  
January 28, 1985  
Date of Issuance

  
REGISTERED PROFESSIONAL ENGINEER  
ROBERT E. SUNDIN  
NO. 285  
STATE OF WYOMING  
Director  
Dept. of Environmental Quality

This permit does not supercede the requirements for obtaining any permit from local agencies.

cc: William G. Klapperich  
Decker Coal Company  
P.O. Box 12  
Decker, MT 59025



during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

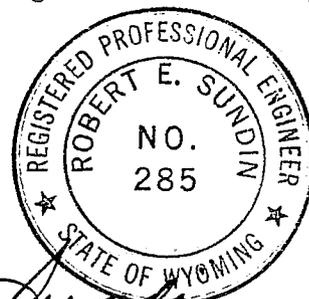
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 2161 Coffeen Avenue, Suite 301, Sheridan, Wyoming 82801; telephone, 672-6457.

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

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:

  
  
WILLIAM L. GARLAND  
P.E. # 1479  
Administrator  
Water Quality Division  
STATE OF WYOMING  
January 24, 1985  
Date of Issuance

  
  
ROBERT E. SUNDIN  
NO. 285  
REGISTERED PROFESSIONAL ENGINEER  
STATE OF WYOMING  
Director  
Dept. of Environmental Quality

This permit does not supercede the requirements for obtaining any permit from local agencies.

xc: Doyl M. Fritz  
Western Water Consultants  
P.O. Box 3042  
Sheridan, WY 82801

*Yorma*

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
2161 COFFEEN AVE., SUITE 301  
SHERIDAN, WYOMING 82801

PROJECT: Wyodak Mine 1984-85 Sediment Trap Reservoir

ARCHITECT OR ENGINEER: Doyl Fritz  
Western Water Consultants  
P.O. Box 3042  
Sheridan, Wyoming 82801

WATER QUALITY DIVISION  
REFERENCE NUMBER: 84-597

REVIEWING ENGINEER: Rich Ruyle *RR*

DATE OF REVIEW: January 7, 1985

ACTION: Not Authorized

COMMENTS:

A 5.0 percent slope should be used on the appropriate table to determine the "LS" factor rather than a 0.5 percent slope. This will increase your "LS" by a factor of ten. It is not a very significant alteration in this case, but the change should still be made to keep our records accurate.

xc: Steve Mueller, Wyodak Mine

WATER QUALITY DIVISION  
GROUNDWATER SECTION  
PERMIT APPLICATION REVIEW

Returned to  
Sheldon  
1-9-85

APPLICATION NUMBER 84-597

DATE SUBMITTED FOR REVIEW 1-5-85

NAME AND LOCATION OF FACILITY WYODAK Mine Sediment Trap Res  
S 28 T 50 N R 71 W  
Campbell Co.

I have reviewed the plans and specifications with regard to all aspects of groundwater quality and find the following:

- No comment. The submittal is consistent with current groundwater protection procedures and requirements.
- Comments attached.

SIGNED Richard J. Lemmer  
TITLE Eng Eval  
DATE 1-8-85

ACCEPTED FOR RECORD 1/9/85  
(Date)

ajm  
Groundwater Control Supervisor



THE STATE OF WYOMING

ED HERSCHLER  
GOVERNOR

*Department of Environmental Quality*  
*Water Quality Division*

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

February 5, 1985

Mr. Pat Lyons  
General Superintendent  
Umetco Minerals Corporation  
P.O. Box 151  
Riverton, WY 82501

RE: Permit GPC 84-598

Dear Mr. Lyons:

Enclosed are two copies of the signed revised permit for the operation of the A-9 Collection Drip System which includes acid drip wells DC1, DC2, DD1 and DD2. All four are located in the SE1/4 SW1/4 Section 15, T33N, R89W, in Natrona County. Please discard the permit copies and cover letter dated January 3, 1985.

Please note the following:

1. Enclosed with this letter are several copies of form GPC 7. One copy of this form must accompany each submittal of information to the Groundwater Section of the Water Quality Division. This form can be reproduced, or additional copies may be requested as needed. The form is to be signed as specified in Section Q of the permit, Signatories Requirement. All reports are to be signed by an executive officer of at least the level of vice president, or a duly authorized representative as described in Section Q.
2. The administrator of the Water Quality Division or his representative must be notified 48 hours before injection is to start. Written notification must be provided within 7 days after injection commences, of the date and time of commencement.
3. If the authorized injection rate is exceeded, this shall be reported as specified in Section I of this permit.
4. Additional monitoring requirements are included in Section F of this permit.

Mr. Pat Lyons  
February 5, 1985  
Page 2

5. All data shall be reported within 30 days after the end of the reporting period to the Groundwater Section.

Sincerely,



William L. Garland  
Administrator

WLG/ML/nc  
Enclosures

cc: Tom Wong, Umetco Minerals Corp., P.O. Box 151, Riverton, WY 82501

DEPARTMENT OF ENVIRONMENTAL QUALITY

STATE OF WYOMING

GROUNDWATER POLLUTION CONTROL PERMIT  
AUTHORIZATION TO DISCHARGE INTO UNDERGROUND RECEIVERS  
(Permit to Inject)

( ) New

Permit Number:

(X ) Modified

GPC 84-598  
Ref.No. GPC 84-18R

In compliance with the Wyoming Environmental Quality Act (W.S. 35-11-101 through 1104, specifically 301(a)(i) through (iv), Laws 1973, Ch. 250, Section 1) and Water Quality Rules and Regulations Chapter IX (September 4, 1980),

Umetco Mineral Corporation  
Pat Lyons, General Superintendent  
P.O. Box 151  
Riverton, WY 82501

is authorized to operate

the A-9 Collection Drip System

which includes 4 acid drip wells identified in the permit application as DC1, DC2, DD1 and DD2. Acid wells DC1 and DC2 are located 15 feet south and west, respectively, of collection well GW3C. Acid wells DD1 and DD2 are located 10 feet northeast and southwest of collection well GW3D. All wells are located in the SE1/4 SW1/4 Section 15, T33N, R89W in Natrona County.

according to procedures and conditions of the application GPC 84-18R and as modified by submittals by Umetco and requirements and other conditions of this permit (GPC 84-598).

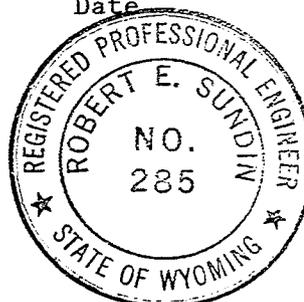
This permit shall become effective on date of issuance.

William P. Gula  
Administrator - Water Quality Division  
Herschler Building, 122 W. 25th  
Cheyenne, WY 82002  
Phone: (307) 777-7781

February 5, 1985  
Date

Robert E. Sundin  
Director - Department of Environmental Quality  
Herschler Building, 122 W. 25th  
Cheyenne, WY 82002

Feb. 6, 1985  
Date



A. Discharge (Injection) Zone and Area of Review

The discharge zone is located within the Upper Wind River Formation, and is confined to 4 discharge wells designated on page 1 of the permit application, and to the 40 foot interval of perforated casing located approximately 105 feet to 145 feet below the land surface. The area of review extends throughout that portion of the formation which may be affected by the discharge, and at a minimum within a radius of 1/4 mile of each of the acid drip wells.

B. Groundwater Classification

The ambient quality of groundwater in the Wind River Formation is suitable for livestock purposes although radium concentrations may range from 10 pCi/l to 100 pCi/l. In the general vicinity, groundwater from the Wind River formation is used for livestock purposes. Therefore, it is classified as Class III, suitable for livestock use.

C. Authorized Operations

The permittee is authorized to drip concentrated sulfuric acid into 4 proposed drip wells located within 10-15 feet of 2 collection wells as specified in the permit application, as a miscellaneous discharge to underground water. The application indicates that a maximum total drip rate of 10 gal/day in each drip well (20 gallons per day per collection well, or 40 gal/day for 2 collection wells) will be sufficient to maintain the pH of the collection water at 3.5 or less. The low pH is required to prevent the formation of an aluminum sulfate precipitate in the collection wells. The proposed drip wells are located within the cone of depression formed by the collection wells. The addition of the acid is expected to increase the pumping rate of the collection well, and should prevent contaminated groundwater in the vicinity from flowing further down gradient.

A uniform drip rate will be maintained with an AE micrometering valve which will feed each set of drip wells from a 100 gallon feed tank. The micrometering valves will be set to zero flow if the collection well pumps are found not to be operational. Each AE micrometering valve will be checked each shift to determine whether the valve is operating.

Sulfuric acid will be manually transferred from a main storage tank to the feed tanks about once a week. The feed tank volume will be read every day to monitor actual acid usage.

The permittee shall not exceed a maximum acid drip rate of 10 gallons per day in each drip well without prior written approval of the Administrator.

The permittee shall notify the Administrator of the Water Quality Division, or his representative, 48 hours before injection is to start. Permittee shall provide written notification within 7 days after injection commences of the date and time of commencement.

Additional wells may be drilled and operations may be modified upon written request by Umetco Minerals Corporation and after written approval by the Administrator. Such changes, upon approval, shall become part of this permit by reference.

D. Proper Operation and Maintenance

The permittee is required to conduct the operation in accordance with statements, representations and procedures presented in the complete permit application and supporting documents, as accepted and approved by the Administrator.

The permittee is required at all times to properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve permit compliance. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training and adequate laboratory and process controls, including appropriate quality assurance procedures.

The subsurface discharge (injection) authorized by permit shall be consistent with the conditions and content of the permit; 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.

E. Entry and Inspection

The permittee shall allow the Administrator, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the appropriate rules and regulations of the Department, any substances or parameters at any location.

F. Environmental Monitoring Program for Groundwaters of the State

1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
2. The permittee shall prepare records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation to be retained for a period of at least three (3) years after closure of the facility.

3. Records of monitoring information shall include:

- a. The date, exact place, and time of sampling or measurements;
- b. The name(s) of individual(s) who performed the sampling or measurements;
- c. The date(s) analyses were performed;
- d. Names of individuals who performed the analyses;
- e. The analytical techniques or methods used; and
- f. The results of such analyses.

4. The prescribed program for this permitted activity is as follows:

The permittee shall keep all intake and drip tubing, tanks, and pumps in working order.

Periodic operating records for the acid drip and collection wells will be kept by the permittee. Included in these records will be records of the average daily acid drip rate and the maximum daily acid drip rate, and the discharge rates in the corresponding collection wells. Pump down times in the collection wells should be documented and the corresponding shut down of the drip system verified.

Quarterly reports will be submitted to the Water Quality Division. In addition to the operating records and the documentation required in Section K of the permit, the reports will include the water quality data that has been collected in wells GW7, GW8, PW3A and PW4 as part of UCC's existing monitoring program during that quarter. Water level elevations will be monitored in wells GW7, GW8, PW3A, PW4, RW1 and RW2. Potentiometric data will be submitted in tabular form and as a map based on water levels measured in the specified wells.

G. Requirements for Monitoring the Discharge

Discharge (injection) volume and/or pressure shall be controlled and monitored to prevent fracturing of confining strata.

These requirements are not applicable.

H. Test Procedures

Test procedures for the determination of water quality parameters and constituents shall be in accord with provisions of Water Quality Rules and Regulations Chapter VIII, Section 7.

## I. Records and Reports

1. The permittee shall retain copies of all 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 report or application.
2. The permittee shall give notice to the Administrator as soon as possible of any planned physical alterations or additions to the permitted facility.
3. The permittee shall give advance notice to the Administrator of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
4. Monitoring results shall be reported at intervals specified elsewhere in the permit.
5. 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 14 days following each schedule date.
6. The permittee shall report any noncompliance which may endanger health or the environment, orally within 24 hours from the time the permittee 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 Groundwaters of the State.

A written submission shall be provided within five (5) days of the time the permittee 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.

7. The permittee shall report all instances of noncompliance not reported otherwise, at the time monitoring reports are submitted; such reports shall contain the information listed in 6. above.
8. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Administrator, it shall promptly submit such facts or information.
9. 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.

10. A subsurface discharge (injection) well may not commence subsurface discharge (injection) until, following public notice and an opportunity for hearing, a Groundwater Pollution Control Permit has been issued by the Department for the proposed operation, and:
  - a. Well construction is complete and the permittee has submitted notice of completion of construction to the Administrator, and
  - b. The Administrator has inspected or otherwise reviewed the subsurface discharge (injection) well and finds it in compliance with the conditions of the permit; or the permittee has not received notice from the Administrator of intent to inspect or otherwise review the facility within thirteen (13) days of the notice of a. above, in which case prior inspection or review is waived, and
  - c. Well mechanical integrity testing has been proven or demonstrated to the satisfaction of the Administrator.
11. Annual reports shall be submitted to the Administrator within thirty (30) days following the anniversary date of the permit.
12. A comprehensive report for an aborted or curtailed operation authorized by this permit shall be submitted to the Administrator within thirty (30) days of complete termination of the injection (discharge) or associated activity, in lieu of an annual report.

J. Permit Actions

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 the permit;
2. Obtaining a permit by misrepresentation or failure of the discharge well or system.

Each permit is 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 is issued.

A permit may be modified in whole or part in order to apply more, or less, stringent standards; or prohibitions for a toxic or other substance present in the permittee's discharge, as may be ordered by the Council.

This operation (permit) can be terminated by authority of the Administrator for one or more permit violations.

Public notice of the permit review and request for public comment will be made every ten (10) years by the Administrator.

The requirement for public notice is not applicable.

K. Mechanical Integrity

Each discharge well and associated discharge facilities is required to have mechanical integrity which demonstrates the unimpaired condition of the well and facilities. The approved procedures for demonstrating the mechanical integrity for the well and facilities handling the discharge authorized by this permit consist of:

Visual inspection to verify that the wells have been completed according to the specifications illustrated in figure 9, page 16 of the permit application. The drip wells will be drilled with a 5-1/8 inch drill bit. The lower 40 feet of each well will be completed with 2 inch Schedule 40 PVC perforated casing and capped at the bottom. The drill hole will be washed with fresh water before installation of the well casing. A gravel pack will be placed in the annulus of the well adjacent to the entire perforated interval. A bentonite plug will be placed on top of the gravel pack to seal the well annulus above the perforations. The remainder of the well annulus will be backfilled with drill cuttings to an elevation of 10 feet below the land surface. A cement seal will be placed in the well annulus to a depth of at least 10 feet below the ground surface. A PVC cap with a drill hole for the 1/4 inch drip tubing will be secured with a screw to the top of the casing.

Documentation will be provided in quarterly reports that will indicate the maintenance of a 15 gpm pumping rate in these two collection wells, and drawdown in observation wells specified in Section F.4 of this permit.

The operation (discharge) of any well or system will terminate immediately if mechanical integrity of the well or system fails and/or a leak or unauthorized fluid movement occurs. The discharge shall be discontinued until mechanical integrity has been restored and permission to continue the discharge has been obtained from the Administrator.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of the permittee in the exercise of its activities allowed under this permit.

L. Abandonment

The permittee shall notify the Administrator at least 180 days before well abandonment. Immediately following the permanent cessation of subsurface discharge or related activity, or where a well has not been completed, the applicant/permittee shall notify the Director and follow the procedures prescribed by the Director for plugging and abandonment or the discontinuance of related activities:

Plugging and abandonment procedures will be implemented upon the discontinuance of each particular well or upon the termination of the useful operation of a well.

M. Duties of the Permittee

It is a duty of the permittee to:

1. Comply with all permit conditions;
2. Halt or reduce activity -- it shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the permit conditions;
3. Take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit;
4. Furnish to the Administrator within a reasonable time, any information which the Administrator may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit; and furnish to the Administrator, upon request, copies of records required to be kept by this permit.

N. Financial Responsibility

The permittee is required to maintain financial responsibility and resources in form approved by the Director, to close, plug and abandon the discharge operation in a manner prescribed by the Director.

Not applicable.

O. Special measures the Director finds necessary:

In the event of unauthorized movement of sulfuric acid, the permittee will take immediate corrective action.

The permitted activity must commence within one year of the issuance date of this permit or the permit will be invalid.

P. Special permit conditions:

Pollution or waste which migrates into an aquifer containing a usable groundwater of the State is a violation of the permit.

Mechanical integrity -- operations terminate immediately if mechanical integrity of well or system fails and/or a leak or unauthorized fluid movement occurs.

Q. Signatories Requirement

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 described 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 an authorized representative.

Any person signing a report or other requested information shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

R. Noncompliance

Any permit noncompliance constitutes a violation of the permit.

The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification or planned changes or anticipated noncompliance, does not stay any permit condition.

S. Permit Transfer

The owner/operator of record (permittee) is always responsible for permit compliance. A permit holder cannot transfer his permit without approval of the Department Director.

T. Responsibilities

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

U. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

V. Severability

The provisions of this permit are severable, and if any provision of the permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

1-2-85



ED HERSCHLER  
GOVERNOR

*Department of Environmental Quality*  
*Water Quality Division*

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

January 3, 1985

Mr. Pat Lyons  
General Superintendent  
Umetco Minerals Corporation  
P.O. Box 5100, Gas Hills  
Riverton, WY 82501

RE: Permit GPC 84-598

Dear Mr. Lyons:

Enclosed are two copies of the signed permit for the operation of the A-9 Collection Drip System which includes acid drip wells DB1, DB2, DD1 and DD2. All four are located in the SE1/4 SW1/4 Section 15, T33N, R89W, in Natrona County.

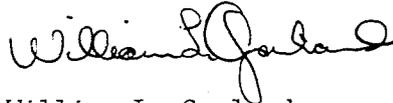
Please note the following:

1. Enclosed with this letter are several copies of form GPC 7. One copy of this form must accompany each submittal of information to the Groundwater Section of the Water Quality Division. This form can be reproduced, or additional copies may be requested as needed. The form is to be signed as specified in Section Q of the permit, Signatories Requirement. All reports are to be signed by an executive officer of at least the level of vice president, or a duly authorized representative as described in Section Q.
2. The administrator of the Water Quality Division or his representative must be notified 48 hours before injection is to start. Written notification must be provided within 7 days after injection commences, of the date and time of commencement.
3. If the authorized injection rate is exceeded, this shall be reported as specified in Section I of this permit.
4. Additional monitoring requirements are included in Section F of this permit.

Mr. Pat Lyons  
January 3, 1985  
Page 2

5. All data shall be reported within 30 days after the end of the reporting period to the Groundwater Section.

Sincerely,



William L. Garland  
Administrator

WLG/ML/nc  
Enclosures

cc: Tom Wong, Umetco Minerals Corp., P.O. Box 5100, Gas Hills, Riverton, WY 82501

DEPARTMENT OF ENVIRONMENTAL QUALITY

STATE OF WYOMING

GROUNDWATER POLLUTION CONTROL PERMIT  
AUTHORIZATION TO DISCHARGE INTO UNDERGROUND RECEIVERS  
(Permit to Inject)

( ) New

Permit Number:

(X ) Modified

GPC 84-598  
Ref.No. GPC 84-18R

In compliance with the Wyoming Environmental Quality Act (W.S. 35-11-101 through 1104, specifically 301(a)(i) through (iv), Laws 1973, Ch. 250, Section 1) and Water Quality Rules and Regulations Chapter IX (September 4, 1980),

Umetco Mineral Corporation  
Pat Lyons, General Superintendent  
P.O. Box 5100, Gas Hills  
Riverton, WY 82501

is authorized to operate

the A-9 Collection Drip System

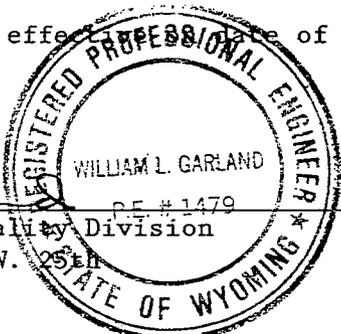
which includes 4 acid drip wells identified in the permit application as DB1, DB2, DD1 and DD2. Acid wells DB1 and DB2 are located 15 feet south and west, respectively, of collection well GW3B. Acid wells DD1 and DD2 are located 10 feet northeast and southwest of collection well GW3D. All wells are located in the SE 1/4 SW14/ Section 15, T33N, R89W in Natrona County.

according to procedures and conditions of the application GPC 84-18R and as modified by submittals by Umetco and requirements and other conditions of this permit (GPC 84-598).

This permit shall become effective as of issuance.

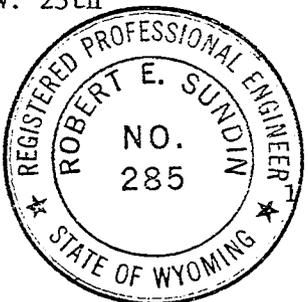
*See Permit  
Dated 2/5/85*

*William L. Garland*  
Administrator - Water Quality Division  
Herschler Building, 122 W. 25th  
Cheyenne, WY 82002  
Phone: (307) 777-7781



*January 3, 1985*  
Date

*Robert E. Sundin*  
Director - Department of Environmental Quality  
Herschler Building, 122 W. 25th  
Cheyenne, WY 82002



*Jan 3, 1985*  
Date

A. Discharge (Injection) Zone and Area of Review

The discharge zone is located within the Upper Wind River Formation, and is confined to 4 discharge wells designated on page 1 of the permit application, and to the 40 foot interval of perforated casing located approximately 105 feet to 145 feet below the land surface. The area of review extends throughout that portion of the formation which may be affected by the discharge, and at a minimum within a radius of 1/4 mile of each of the acid drip wells.

B. Groundwater Classification

The ambient quality of groundwater in the Wind River Formation is suitable for livestock purposes although radium concentrations may range from 10 pCi/l to 100 pCi/l. In the general vicinity, groundwater from the Wind River formation is used for livestock purposes. Therefore, it is classified as Class III, suitable for livestock use.

C. Authorized Operations

The permittee is authorized to drip concentrated sulfuric acid into 4 proposed drip wells located within 10-15 feet of 2 collection wells as specified in the permit application, as a miscellaneous discharge to underground water. The application indicates that a maximum total drip rate of 10 gal/day in each drip well (20 gallons per day per collection well, or 40 gal/day for 2 collection wells) will be sufficient to maintain the pH of the collection water at 3.5 or less. The low pH is required to prevent the formation of an aluminum sulfate precipitate in the collection wells. The proposed drip wells are located within the cone of depression formed by the collection wells. The addition of the acid is expected to increase the pumping rate of the collection well, and should prevent contaminated groundwater in the vicinity from flowing further down gradient.

A uniform drip rate will be maintained with a Gorman-Rupp Model 14250-001 Bellows Metering Pump which will feed each set of drip wells from a 100 gallon feed tank. The motor of each of the Bellows metering pumps will be wired to its respective collection well pump so it will cease operation when the collection pump is off. Each Bellows metering pump will be checked each shift to determine whether the pump is operating.

Sulfuric acid will be manually transferred from a main storage tank to the feed tanks about once a week. The feed tank volume will be read every day to monitor actual acid usage.

The permittee shall not exceed a maximum acid drip rate of 10 gallons per day in each drip well without prior written approval of the Administrator.

The permittee shall notify the Administrator of the Water Quality Division, or his representative, 48 hours before injection is to start. Permittee shall provide written notification within 7 days after injection commences of the date and time of commencement.

Additional wells may be drilled and operations may be modified upon written request by Umetco Minerals Corporation and after written approval by the Administrator. Such changes, upon approval, shall become part of this permit by reference.

D. Proper Operation and Maintenance

The permittee is required to conduct the operation in accordance with statements, representations and procedures presented in the complete permit application and supporting documents, as accepted and approved by the Administrator.

The permittee is required at all times to properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve permit compliance. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training and adequate laboratory and process controls, including appropriate quality assurance procedures.

The subsurface discharge (injection) authorized by permit shall be consistent with the conditions and content of the permit; 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.

E. Entry and Inspection

The permittee shall allow the Administrator, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the appropriate rules and regulations of the Department, any substances or parameters at any location.

F. Environmental Monitoring Program for Groundwaters of the State

1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
2. The permittee shall prepare records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation to be retained for a period of at least three (3) years after closure of the facility.

3. Records of monitoring information shall include:

- a. The date, exact place, and time of sampling or measurements;
- b. The name(s) of individual(s) who performed the sampling or measurements;
- c. The date(s) analyses were performed;
- d. Names of individuals who performed the analyses;
- e. The analytical techniques or methods used; and
- f. The results of such analyses.

4. The prescribed program for this permitted activity is as follows:

The permittee shall keep all intake and drip tubing, tanks, and pumps in working order.

Periodic operating records for the acid drip and collection wells will be kept by the permittee. Included in these records will be records of the average daily acid drip rate and the maximum daily acid drip rate, and the discharge rates in the corresponding collection wells. Pump down times in the collection wells should be documented and the corresponding shut down of the drip system verified.

Quarterly reports will be submitted to the Water Quality Division. In addition to the operating records and the documentation required in Section K of the permit, the reports will include the water quality data that has been collected in wells GW7, GW8, PW3A and PW4 as part of UCC's existing monitoring program during that quarter. Water level elevations will be monitored in wells GW7, GW8, PW3A, PW4, RW1 and RW2. Potentiometric data will be submitted in tabular form and as a map based on water levels measured in the specified wells.

G. Requirements for Monitoring the Discharge

Discharge (injection) volume and/or pressure shall be controlled and monitored to prevent fracturing of confining strata.

These requirements are not applicable.

H. Test Procedures

Test procedures for the determination of water quality parameters and constituents shall be in accord with provisions of Water Quality Rules and Regulations Chapter VIII, Section 7.

I. Records and Reports

1. The permittee shall retain copies of all 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 report or application.
2. The permittee shall give notice to the Administrator as soon as possible of any planned physical alterations or additions to the permitted facility.
3. The permittee shall give advance notice to the Administrator of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
4. Monitoring results shall be reported at intervals specified elsewhere in the permit.
5. 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 14 days following each schedule date.
6. The permittee shall report any noncompliance which may endanger health or the environment, orally within 24 hours from the time the permittee 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 Groundwaters of the State.

A written submission shall be provided within five (5) days of the time the permittee 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.

7. The permittee shall report all instances of noncompliance not reported otherwise, at the time monitoring reports are submitted; such reports shall contain the information listed in 6. above.
8. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Administrator, it shall promptly submit such facts or information.
9. 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.

10. A subsurface discharge (injection) well may not commence subsurface discharge (injection) until, following public notice and an opportunity for hearing, a Groundwater Pollution Control Permit has been issued by the Department for the proposed operation, and:
  - a. Well construction is complete and the permittee has submitted notice of completion of construction to the Administrator, and
  - b. The Administrator has inspected or otherwise reviewed the subsurface discharge (injection) well and finds it in compliance with the conditions of the permit; or the permittee has not received notice from the Administrator of intent to inspect or otherwise review the facility within thirteen (13) days of the notice of a. above, in which case prior inspection or review is waived, and
  - c. Well mechanical integrity testing has been proven or demonstrated to the satisfaction of the Administrator.
11. Annual reports shall be submitted to the Administrator within thirty (30) days following the anniversary date of the permit.
12. A comprehensive report for an aborted or curtailed operation authorized by this permit shall be submitted to the Administrator within thirty (30) days of complete termination of the injection (discharge) or associated activity, in lieu of an annual report.

J. Permit Actions

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 the permit;
2. Obtaining a permit by misrepresentation or failure of the discharge well or system.

Each permit is 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 is issued.

A permit may be modified in whole or part in order to apply more, or less, stringent standards; or prohibitions for a toxic or other substance present in the permittee's discharge, as may be ordered by the Council.

This operation (permit) can be terminated by authority of the Administrator for one or more permit violations.

Public notice of the permit review and request for public comment will be made every ten (10) years by the Administrator.

The requirement for public notice is not applicable.

K. Mechanical Integrity

Each discharge well and associated discharge facilities is required to have mechanical integrity which demonstrates the unimpaired condition of the well and facilities. The approved procedures for demonstrating the mechanical integrity for the well and facilities handling the discharge authorized by this permit consist of:

Visual inspection to verify that the wells have been completed according to the specifications illustrated in figure 9, page 16 of the permit application. The drip wells will be drilled with a 5-1/8 inch 40 PVC casing. The lower 40 feet of each well will be completed with 2 inch PVC perforated casing and capped at the bottom. The drill hole will be washed with fresh water before installation of the well casing. A gravel pack will be placed in the annulus of the well adjacent to the entire perforated interval. A bentonite plug will be placed on top of the gravel pack to seal the well annulus above the perforations. The remainder of the well annulus will be backfilled with drill cuttings to an elevation of 10 feet below the land surface. A cement seal will be placed in the well annulus to a depth of at least 10 feet below the ground surface. A PVC cap with a drill hole for the 3/8 inch drip tubing will be secured with a screw to the top of the casing.

Documentation will be provided in quarterly reports that will indicate the maintenance at a 15 gpm pumping rate in all corresponding collection wells, and drawdown in observation wells specified in Section F.4 of this permit.

The operation (discharge) of any well or system will terminate immediately if mechanical integrity of the well or system fails and/or a leak or unauthorized fluid movement occurs. The discharge shall be discontinued until mechanical integrity has been restored and permission to continue the discharge has been obtained from the Administrator.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of the permittee in the exercise of its activities allowed under this permit.

L. Abandonment

The permittee shall notify the Administrator at least 180 days before well abandonment. Immediately following the permanent cessation of subsurface discharge or related activity, or where a well has not been completed, the applicant/permittee shall notify the Director and follow the procedures prescribed by the Director for plugging and abandonment or the discontinuance of related activities:

Plugging and abandonment procedures will be implemented upon the discontinuance of each particular well or upon the termination of the useful operation of a well.

M. Duties of the Permittee

It is a duty of the permittee to:

1. Comply with all permit conditions;
2. Halt or reduce activity -- it shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the permit conditions;
3. Take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit;
4. Furnish to the Administrator within a reasonable time, any information which the Administrator may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit; and furnish to the Administrator, upon request, copies of records required to be kept by this permit.

N. Financial Responsibility

The permittee is required to maintain financial responsibility and resources in form approved by the Director, to close, plug and abandon the discharge operation in a manner prescribed by the Director.

Not applicable.

O. Special measures the Director finds necessary:

In the event of unauthorized movement of sulfuric acid, the permittee will take immediate corrective action.

The permitted activity must commence within one year of the issuance date of this permit or the permit will be invalid.

P. Special permit conditions:

Pollution or waste which migrates into an aquifer containing a usable groundwater of the State is a violation of the permit.

Mechanical integrity -- operations terminate immediately if mechanical integrity of well or system fails and/or a leak or unauthorized fluid movement occurs.

Q. Signatories Requirement

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 described 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 an authorized representative.

Any person signing a report or other requested information shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

R. Noncompliance

Any permit noncompliance constitutes a violation of the permit.

The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification or planned changes or anticipated noncompliance, does not stay any permit condition.

S. Permit Transfer

The owner/operator of record (permittee) is always responsible for permit compliance. A permit holder cannot transfer his permit without approval of the Department Director.

T. Responsibilities

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

U. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

V. Severability

The provisions of this permit are severable, and if any provision of the permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

PERMIT TO CONSTRUCT

New

Permit No. 84-599

Renewal

SEE CONDITIONS ATTACHED TO THIS PERMIT

Modified

Amoco Oil Company Hydrocarbon Monitoring System  
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

Amoco Oil Company

200 E. Randolph Dr.

Chicago, IL 60601

to construct, install, or modify an industrial, subsurface, hydrocarbon monitoring observation system facility according to the procedures and conditions of the application No. 84-599. The facility is located in Sections 17 and 18, T52N, R93W in the County of Big Horn, in the State of Wyoming. This permit shall be effective for a period of two (2) years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

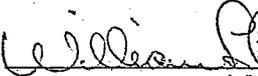
The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

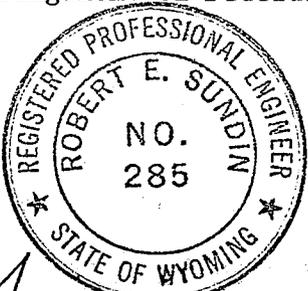
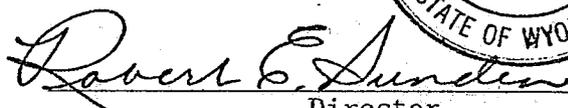
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: Groundwater Section, State of Wyoming, Department of Environmental Quality, Water Quality Division, Herschler Building, 122 W. 25th, Cheyenne, Wyoming 82002; telephone, 777-7781.

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

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:

  
\_\_\_\_\_  
WILLIAM L. GARLAND  
Administrator #1479  
Water Quality Division  
STATE OF WYOMING  
February 27, 1985  
Date of Issuance

  
  
\_\_\_\_\_  
Director  
Dept. of Environmental Quality

This permit does not supercede the requirements for obtaining any permit from local agencies.

CONDITIONS TO PERMIT TO CONSTRUCT #84-599

1. The applicant is authorized to construct and install additional hydrocarbon monitoring wells associated with the Amoco Oil Refinery hydrocarbon monitoring/observation program at the former Greybull refinery site in addition to wells A-1 through A-18.
2. An initial report containing groundwater sample analyses results from installed monitoring/observation wells A-1 through 1-18 shall be submitted to the Water Quality Division by March 29, 1985.

Sample parameters shall include:

Static water levels prior to sampling  
pH  
Total dissolved solids  
Oil and grease  
Total organic carbon  
Chloride  
Sulfate  
Phenol  
Ammonia  
Lead  
Total Chromium  
Arsenic  
Barium  
Sodium

Additional parameters required by other agencies or the applicant can be added to the above list and submitted with the initial report in order that a complete listing may be maintained.

3. Depending upon interpretation of the monitoring data by the Water Quality Division, the applicant may be required to extend the hydrocarbon monitoring wells beyond the existing limits of this authorized system and continue submittal of monitoring data on a scheduled basis. Any additional wells or monitoring requirements would be determined at a joint meeting between the applicant and the Water Quality Division.

