UNITED STATES USS STEEL CORPORATION

C9-1214

WELLINGTON COAL CLEANING PLANT
PROPERTY MAP

C9-1214

ENGINEERING DEPARTMENT
COAL MINES & QUARRIES

APPROVED G.H.S. 2-25-81

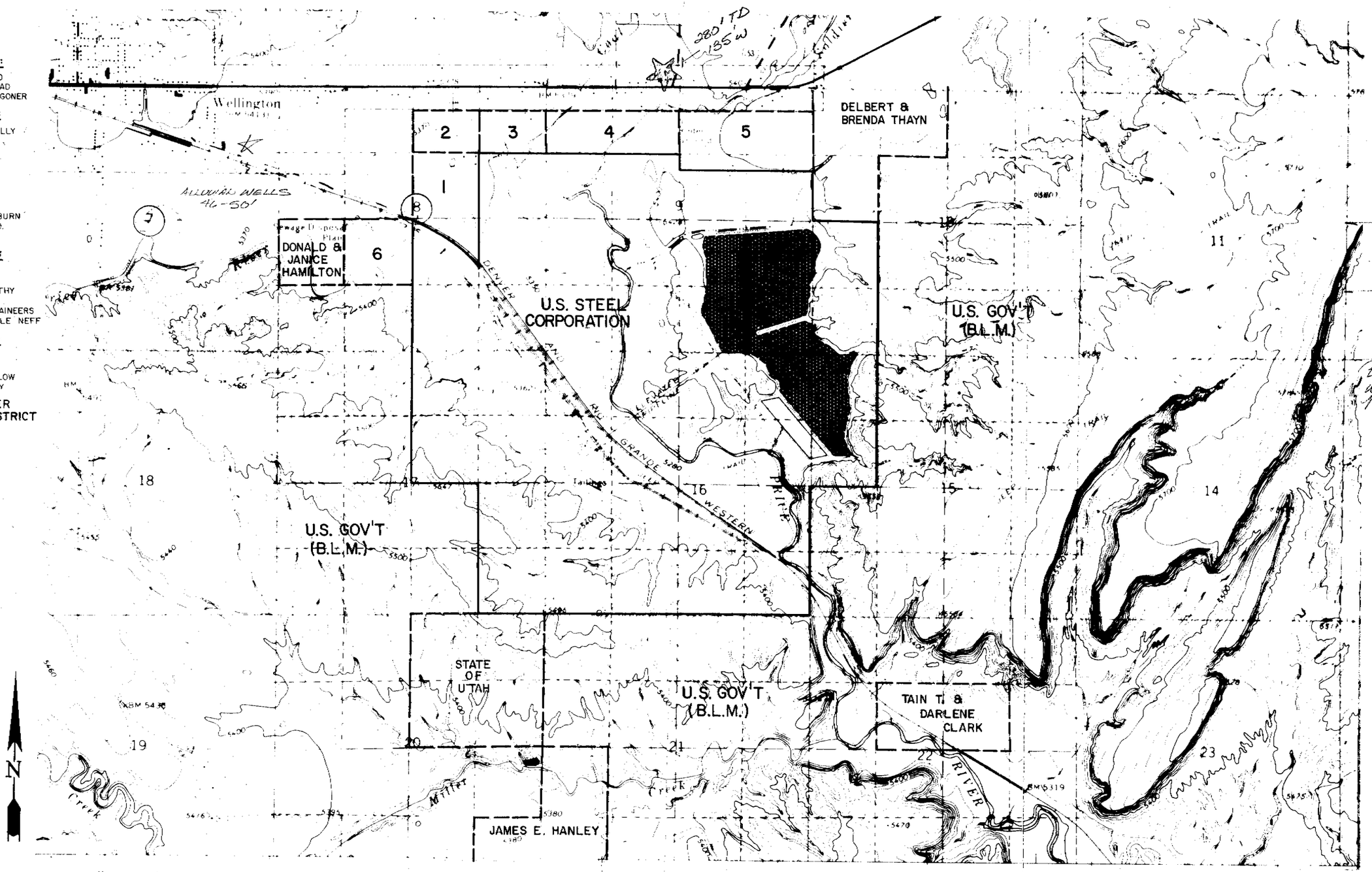
CHECKED: 2-25-81
APPROVED FOR SAFETY

DRAWN: J.U.
TRACED:

PEMBROKE CO.

LEGEND

1. **PRIVATELY OWNED:**
   MERRILL & ELLEN MEAD
   BENJAMIN & MYRNA MEAD
   WILLARD & M.M. VANWAGONER
2. **PRIVATELY OWNED:**
   MICHAEL & ARLENE KELLY
   MATT & PAM RAUHALA
   MAX & RONDA LOPAN
   RULON & MARY RICH
   BRIAN & TONI BREWER
3. **PRIVATELY OWNED:**
   RULON RICH
   MONT & LESLIE BLACKBURN
   DESERET LIVESTOCK CO.
   EARL & WILMA RICH
4. **PRIVATELY OWNED:**
   FLOYD HAWKINS
   LAYTON FOSTER
   PERRY & CAROL TIMOTHY
   MERLE NEFF
   THE WELLINGTON MOUNTAINEERS
   M.M. MOREHOUSE & MERLE NEFF
5. **PRIVATELY OWNED:**
   NICK & IRENE SIAPERAS
   ARCHIE MARVELL
   JOHN & SUSAN CRITCHLOW
   JOHN & SALLY TIMOTHY
6. PRICE RIVER WATER IMPROVEMENT DISTRICT



SCALE: 1" = 2000'

REVISIONS

782-6

Entry No. 010722
Indexed
Abstracted
Rcdg. Fee 7.00

STATE OF UTAH)
COUNTY OF CARBON) ss
FILED AND RECORDED FOR
William B. Prince
HOLME, ROBERTS & OWEN
JAN 2 4 16 PM '86
BOOK 256 OF RECORDS
PAGE 180-181-182
COUNTY RECORDER

180

Assignment of Permits

(Utah)

THIS ASSIGNMENT OF PERMITS (this "Assignment") dated as of December 30, 1985, is from UNITED STATES STEEL CORPORATION and U.S. STEEL MINING CO., INC., both Delaware corporations, 600 Grant Street, Pittsburgh, Pennsylvania 15230 (collectively "U.S. Steel") to KAISER COAL CORPORATION, a Delaware corporation, 102 South Tejon, Suite 800, P. O. Box 2679, Colorado Springs, Colorado 80901-2679 ("Kaiser").

FOR AND IN CONSIDERATION of Ten Dollars ($10.00) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, U.S. Steel, as successor in interest by merger and consolidation to United States Steel Corporation, a New Jersey corporation, hereby transfers, conveys and assigns to Kaiser, without representation or warranty of title, either express or implied, the licenses, permits and other agreements described on Schedule I attached hereto consisting of 1 page (the "Permits"), together with all property, rights, and privileges incident thereto.

TO HAVE AND TO HOLD the Permits unto Kaiser and its successors and assigns forever.

Kaiser agrees to take this Assignment subject to existing contracts, agreements, rights-of-way and easements and to perform and discharge all obligations and to assume all liabilities related to the Permits.

Separate assignments of the Permits may be executed on officially approved forms by U.S. Steel to Kaiser, in sufficient counterparts to satisfy applicable local, state of Utah, and federal statutory and regulatory requirements. Those assignments shall be deemed to contain all of the exceptions, reservations, rights, title, powers and privileges set forth herein as fully as though they were set forth in such assignments. The Permits conveyed by such separate assignments are the same, and not in addition to, the Permits conveyed herein.

This Assignment is executed this 30th day of December, 1985, to be effective for all purposes as of the date first above written.

ATTEST:

UNITED STATES STEEL CORPORATION

Assistant Secretary

By: F. P. Adams, Vice President - Accounting & Related Resources

ATTEST:

U.S. STEEL MINING CO., INC.

Secretary

By: F. P. Adams, Attorney-in-fact

KAISER COAL CORPORATION

By: Charles S. McNeil
, President

STATE OF COLORADO)
) ss.
CITY AND COUNTY OF DENVER)

On the 30th day of December, 1985, personally appeared before me F. P. Adams, who, being by me duly sworn did say that he is the Vice President - Accounting & Related Resources of UNITED STATES STEEL CORPORATION, and that said instrument was signed in behalf of said corporation by authority of its by-laws and said F. P. Adams acknowledged to me that said corporation executed the same.

(SEAL)

Carol A. Phillips
Notary Public

My Commission Expires:
Nov 14, 1986

Residing at:
1700 Broadway
Denver, Colorado 80290

STATE OF COLORADO)
) ss.
CITY AND COUNTY OF DENVER)

On the 30th day of December, 1985, personally appeared before me F. P. Adams, who, being by me duly sworn did say that he is the Attorney-in-fact of U.S. STEEL MINING CO., INC., and that said instrument was signed in behalf of said corporation by authority of a resolution of the Board of Directors of U.S. STEEL MINING CO., INC., and said F. P. Adams acknowledged to me that said corporation executed the same.

(SEAL)

Carol A. Phillips
Notary Public

My Commission Expires:
Nov 14, 1986

Residing at:
1700 Broadway
Denver, Colorado 80290

STATE OF COLORADO)
) ss.
CITY AND COUNTY OF DENVER)

On the 30th day of December, 1985, personally appeared before me Charles S. McNeil, who, being by me duly sworn did say that he is the President of KAISER COAL CORPORATION, and that said instrument was signed in behalf of said corporation by authority of its by-laws and said Charles S. McNeil acknowledged to me that said corporation executed the same.

(SEAL)

Pamela K. Simpson
Notary Public

My Commission Expires:
12/17/89

Residing at: P.O. Box 2679
Colorado Springs Co
80901

SCHEDULE I(D)

(Attached to and made a part of the ASSIGNMENT OF PERMITS dated as of December 30, 1985 from UNITED STATES STEEL CORPORATION and U.S. STEEL MINING CO., INC. to KAISER COAL CORPORATION)

PERMITS

PART 1. UTAH - PREPARATION PLANT

A. Mining and Reclamation

Division of Oil, Gas and Mining, Permit No. ACT/007/012.

B. Utah Department of Health

Air quality approval order to remove coal fines from settling ponds at Wellington Coal Cleaning Plant (Carbon County) dated December 31, 1981.

C. Environmental Protection Agency

Pending application at Wellington Coal Cleaning Plant - Application No. UT-0024376 - Wellington.

D. Mine Safety and Health Administration

1211-UT-9-0110 Plant Refuse Pile
1211-UT-9-0012 Clear Water Pond
1211-UT-9-0013 Lower Refuse Pond Embankment
1211-UT-9-0014 Upper Refuse Pond Embankment

UMC 782.14 Compliance Information

(a) Kaiser or any subsidiary, affiliate, or persons controlled by or under common control with Kaiser has not had a federal or state mining permit suspended or revoked in the five (5) years previous to the date of this application. Furthermore, Kaiser or any subsidiary, affiliate, or persons controlled by or under common control with Kaiser has not forfeited any mining bond or similar security deposited in lieu of bond.

(b) Does not apply.

(c) A listing of the violation notices received by the applicant in connection with underground and surface coal mining activities during the three (3) year period prior to the date of this application for violations of any law, rule, or regulation pertaining to air or water environmental protection appears in Appendix A.

UMC 782.18 Personal Injury and Property Damage Insurance Information

Kaiser Coal Corporation has liability insurance. A copy of the certification of insurance is included on the following page. The original is in file in the Sunnyside mine offices.

acord CERTIFICATE OF INSURANCE

SET TAB STOPS AT ARROWS

ISSUE DATE (MM/DD/YY) 4-1-87 lp

PRODUCER

MARSH & MCLENNAN, INC.
3303 WILSHIRE BLVD.
LOS ANGELES, CA 90010

INSURED KAISER STEEL CORPORATION
P.O. BOX 5050
FONTANA, CA 92335

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

COMPANIES AFFORDING COVERAGE

COMPANY LETTER A	NATIONAL UNION FIRE INSURANCE COMPANY
COMPANY LETTER B	
COMPANY LETTER C	
COMPANY LETTER D	
COMPANY LETTER E	

COVERAGES

THIS IS TO CERTIFY THAT POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS, AND CONDITIONS OF SUCH POLICIES.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIABILITY LIMITS IN THOUSANDS	EACH OCCURRENCE	AGGREGATE
A	GENERAL LIABILITY X COMPREHENSIVE FORM X PREMISES/OPERATIONS X UNDERGROUND EXPLOSION & COLLAPSE HAZARD X PRODUCTS/COMPLETED OPERATIONS X CONTRACTUAL X INDEPENDENT CONTRACTORS X BROAD FORM PROPERTY DAMAGE X PERSONAL INJURY	GLA 5010595 RA	4-1-87	4-1-88	BODILY INJURY	$	$
					PROPERTY DAMAGE	$	$
					BI & PD COMBINED	$ 1,000	$ 1,000
					PERSONAL INJURY		$ 1,000
	AUTOMOBILE LIABILITY ANY AUTO ALL OWNED AUTOS (PRIV. PASS.) ALL OWNED AUTOS (OTHER THAN PRIV. PASS.) HIRED AUTOS NON-OWNED AUTOS GARAGE LIABILITY	?			BODILY INJURY (PER PERSON)	$	
					BODILY INJURY (PER ACCIDENT)	$	
					PROPERTY DAMAGE	$	
					BI & PD COMBINED	$	
	EXCESS LIABILITY UMBRELLA FORM OTHER THAN UMBRELLA FORM	?			BI & PD COMBINED	$	$
	WORKERS' COMPENSATION AND EMPLOYERS' LIABILITY				STATUTORY		
						$ (EACH ACCIDENT)	
						$ (DISEASE-POLICY LIMIT)	
						$ (DISEASE-EACH EMPLOYEE)	
	OTHER						

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS

CERTIFICATE HOLDER

STATE OF UTAH
UTAH DIVISION OF OIL, GAS & MINING
355 W. NORTH TEMPLE
3 TRIAD CENTER - SUITE 350
SALT LAKE CITY, UT 84180-1203

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE Martin S. Frank

UMC 782.18 Personal Injury and Property Damage Insurance Information

U. S. Steel Mining Co., Inc. has liability insurance. A copy of the Certificate of Insurance is included on the following page. The original is on file in the East Carbon General Office.

ATTACHMENT B

CERTIFICATE OF INSURANCE

REED STENHOUSE INC.

Of California

INTERNATIONAL INSURANCE BROKERS

THREE EMBARCADERO CENTER SAN FRANCISCO, CALIFORNIA 94111 TELEPHONE: 415/986-1122 TELEX 340801

1. Name and address of party to whom this certificate is issued	2. Name and address of Insured
Utah Division of Oil, Gas & Mining III Triad Center - 3rd Floor Salt Lake City, UT 84180	KAISER STEEL CORPORATION, ET AL 9400 Cherry Avenue P.O. Box 5050 Fontana, CA 92335 Attn: Corporate Risk Insurance Dept.

3. Location of operations to which this certificate applies:

All operations of Kaiser Steel Corporation and their wholly-owned subsidiaries, in the United States & Canada.

TYPE OF INSURANCE	INSURER	POLICY NO.	TERM	LIMITS OF LIABILITY
COMPREHENSIVE GENERAL LIABILITY Bodily (Personal) injury Liability and/or Property Damage Liability including Premises-Operations, Products/Completed Operations, Contractors' Protective and Blanket Contractual Liability	National Union Fire Ins. Co. of Pittsburg, PA	GLA1940[illegible]RA	3/12/85 to 4/01/86	$1,000,000 CSL BI & PD per occurrence/annual aggregate
COMPREHENSIVE AUTOMOBILE LIABILITY Including Owned, Hired and Non-Owned Vehicles	National Union Fire Ins. Co.	BA9283922RA	3/12/85 to 4/01/86	$1,000,000 CSL BI & PD per accident
UMBRELLA LIABILITY	Industrial Underwriters	JU8844190	3/12/85 to 4/01/86	$5,000,000 XS Underlying Primary Limits per occ./annual agg.
WORKERS' COMPENSATION & EMPLOYERS' LIABILITY a) New Mexico/USL&H b) California/other States	Self-Insured American Home	N/A WC8510706	N/A 2/28/85-86	Statutory Compensation Benefits and $1,000,000 Employers' Liability Limit

SAMPLE ONLY

This is to certify that policies of insurance as described above have been issued to the Insured named above and are in force at this time. If such policies are canceled or materially changed during the periods of coverage as stated herein, in such a manner as to affect this certificate, 30 days written notice will be mailed to the party designated above for whom this certificate is issued by the Company/ies named above.

This certificate or verification of insurance is not an insurance policy and does not amend, extend or alter the coverage afforded by the policies listed herein. Notwithstanding any requirement, term or condition of any contract or other document with respect to which this Certificate or verification of insurance may be issued or may pertain, the insurance afforded by the policies described herein is subject to all the terms, exclusions and conditions of such policies.

REED STENHOUSE INC.

for the Company/ies/Underwriters

Date Dec. 9, 1985

By [signature]

FROM TRANSFER DOC

Certificate of Insurance

acord

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES LISTED BELOW.

NAME AND ADDRESS OF AGENCY

Marsh & McLennan, Inc.
600 Grant Street
Suite 5500
Pittsburgh, PA 15230

NAME AND ADDRESS OF INSURED

U.S. Steel Mining Co., Inc.
600 Grant Street
Room 2782
Pittsburgh, PA 15230

COMPANIES AFFORDING COVERAGES

COMPANY LETTER **A** Employers Casualty Company

COMPANY LETTER **B**

COMPANY LETTER **C**

COMPANY LETTER **D**

COMPANY LETTER **E**

This is to certify that policies of insurance listed below have been issued to the insured named above and are in force at this time. Notwithstanding any requirement, term or condition of any contract or other document with respect to which this certificate may be issued or may pertain, the insurance afforded by the policies described herein is subject to all the terms, exclusions and conditions of such policies.

CO. LTR.	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE	Limits of Liability in Thousands ($)	
	GENERAL LIABILITY				CURRENT
A	X COMPREHENSIVE FORM X PREMISES/OPERATIONS X EXPLOSION AND COLLAPSE HAZARD X UNDERGROUND HAZARD X PRODUCTS/COMPLETED OPERATIONS HAZARD X CONTRACTUAL X INDEPENDENT CONTRACTORS X BROAD FORM PROPERTY DAMAGE X PERSONAL INJURY	CGL573881	4-1-84	BODILY INJURY	$ 300,000 / 500,000
				PROPERTY DAMAGE	$ 300,000 / 500,000
				BODILY INJURY AND PROPERTY DAMAGE COMBINED	$
				PERSONAL INJURY	
	AUTOMOBILE LIABILITY				
	COMPREHENSIVE FORM OWNED HIRED NON-OWNED			BODILY INJURY EACH PERSON	$
				BODILY INJURY EACH ACCIDENT	$
				PROPERTY DAMAGE	$
				BODILY INJURY AND PROPERTY DAMAGE COMBINED	$
	EXCESS LIABILITY				
	UMBRELLA FORM OTHER THAN UMBRELLA FORM			BODILY INJURY AND PROPERTY DAMAGE COMBINED	$
	WORKERS' COMPENSATION and EMPLOYERS' LIABILITY			STATUTORY	
					$
	OTHER				

DESCRIPTION OF OPERATIONS LOCATIONS/VEHICLES

Coal Mining - Geneva Mine & Wellington Preparation Plant

Cancellation: Should any of the above described policies be cancelled before the expiration date thereof, the issuing company will endeavor to mail 30 days written notice to the below named certificate holder, but failure to mail such notice shall impose no obligation or liability of any kind upon the company.

NAME AND ADDRESS OF CERTIFICATE HOLDER

State of Utah
Department of Natural Resources & Energy
Division of Oil & Gas Mining
4241 State Office Building
Salt Lake City, Utah 84114

782 - 13

DATE ISSUED April 12, 1983

BY R C Hager
AUTHORIZED REPRESENTATIVE

ACORD 25 (1-79) Rev. 1: 6-30-83

UMC 782.19 Identification of Other Licenses and Permits

Type: Business License
Issued By: Carbon County Board of Commissioners
Carbon County Courthouse
Price, Utah 84501

Due to the Wellington Preparation Plant shutdown, a business license is not required at this time. Kaiser Coal Corporation intends to apply for a business license if market conditions warrant operating the plant. (Personal communication Carbon County recorder's office April 8, 1987)

Type: Air Quality Approval Order
Issued By: State of Utah, Department of Health
150 West North Temple
P. O. Box 2500
Salt Lake City, Utah 84110

Approval letter included on page 782-15

Notice of change of ownership included on page 782-15i

Type: Impoundment Plans, Refuse Pile
Issued By: Mine Safety and Health Administration
P. O. Box 25367, DFC
Denver, CO 80225

ID Nos:

1211-UT-09-00099-01	PLANT REFUSE PILE
1211-UT-09-00099-02	CLEAR WATER POND
1211-UT-09-00099-03	LOWER REFUSE POND
1211-UT-09-00099-04	UPPER REFUSE POND
1211-UT-09-00099-05	POND REFUSE PILE

Approval letters included on pages 782-17 thru 782-20.

Letter showing change of ownership application is included on page 782-20vi

Letters showing change of numbering system for Ponds and Refuse Pile are included on Pages 782.20i - 20v

Note: The three foot increases to embankment heights of the Clear Water and Lower Refuse dikes were never built.

UMC 782.19 Identification of Other Licenses and Permits

Type: Business License
Issued By: Carbon County Board of Commissioners
Carbon County Courthouse
Price, Utah 84501
ID No.: 0870
Expiration Date: December 31, 1983

Type: Air Quality Approval Order
Issued By: State of Utah, Department of Health
150 West North Temple
P. O. Box 2500
Salt Lake City, Utah 84110

Approval letter included on page 782-15

Type: Impoundment Plans, Refuse Pile
Issued By: Mine Safety and Health Administration
P. O. Box 25367, DFC
Denver, CO, 80225
ID Nos.: 1211-UT-9-0110 Plant Refuse Pile
1211-UT-9-0012 Clear Water Pond
1211-UT-9-0013 Lower Refuse Pond Embankment
1211-UT-9-0014 Upper Refuse Pond Embankment

Approval letters included on pages 782-17 thru 782-20.

Note: The three foot increases to embankment heights of the Clear Water and Lower Refuse dikes were never built.

UMC 782.19 Identification of Other Licenses and Permits

Type: Water Rights

Issued By: State of Utah, Department of Natural Resources, Division of Water Rights, 1636 West North Temple, Salt Lake City, Utah 84116

Water Right Nos.: 91-37°, 91-118°, 91-143°, 91-145°, 91-158°, 91-159°, 91-361°, 91-364°, 91-372°, 91-3522°, 91-3524°, 91-3761°, 91-215°, 91-216°, 91-371°, 91-3759°, 91-3882°, 91-3883°, 91-737°.

Approval letters included following Page 782 - 20.

ATTACHMENT

UMC 782.19 Identification of Other Licenses and Permits

Type: Business License
Issued By: Carbon County Board of Commissioners
Carbon County Courthouse
Price, Utah 84501

Expiration Date: December 31, 1985
Transfer: Non-transferable, Kaiser Coal Corporation will apply for a county business license immediately following Closing.

Type: Air Quality Approval Order
Issued By: State of Utah, Department of Health
Utah Air Conservation Committee
150 West North Temple
P.O. Box 2500
Salt Lake City, Utah 84110
Transfer: U.S. Steel Corporation will assign to Kaiser Coal Corporation upon Closing. Department of Health will be notified of assignment immediately following Closing.

Type: Impoundment Plans, Refuse Pile
Issued By: Mine Safety and Health Administration
P.O. Box 25367, DFC
Denver, Colorado 80225
ID Nos.: 1211-UT-9-0110 Plant Refuse Pile
1211-UT-9-0012 Clear Water Pond
1211-UT-9-0013 Lower Refuse Pond Embankment
1211-UT-9-0014 Upper Refuse Pond Embankment

Note: The three foot increases to embankment heights of the Clear Water and Lower Refuse dikes were never built.

Transfer: U.S. Steel Corporation will assign to Kaiser Coal Corporation upon Closing. MSHA will be notified of transfer immediately following Closing.

Type: National Pollution Discharge Elimination System (NPDES) Permit Application. Submitted in July, 1984 to U.S. EPA, Region VIII, Denver, Colorado, attention of Patrick J. Godsill (App. No. UT-0024376--Wellington).

1986 From TRANSFER

Type: Water Rights - Utah State Engineer

United States Steel Corporation owned
Direct Flow Rights in the Price River

Morse Decree	1st Class	5.197	CFS
App. No. 27718	12-13-55	10.000	CFS
App. No. 27818	12-23-56	5.000	CFS
App. No. 29509		10.000	CFS
App. No. 29462		2.500	CFS
App. No. 29463		1.000	CFS
App. No. 29464		1.000	CFS

Water R

Scott M. Matheson
Governor

STATE OF UTAH
DEPARTMENT OF HEALTH

150 West North Temple, P.O. Box 2500, Salt Lake City, Utah 84110

James O. Mason, M.D., Dr.P.H.
Executive Director
801-533-6111

DIVISIONS
Community Health Services
Environmental Health
Family Health Services
Health Care Financing and Standards

OFFICES
Administrative Services
Health Planning and Policy Development
Medical Examiner
State Health Laboratory

533-6108
December 30, 1981

Glenn H. Sides
U.S. Steel Mining Company, Inc.
P.O. Box 807
East Carbon, UT 84520

RE: Air Quality Approval Order to Remove Coal Fines from Settling Ponds at Wellington Coal Cleaning Plant (Carbon Co.)

Dear Mr. Sides:

On November 22, 1981, the Executive Secretary published a notice of intent to approve your temporary project to remove coal fines from two settling ponds, store and dry, and transport by railroad cars. The 30-day public comment period expired December 21, 1981, and no comments were received.

This air quality approval order authorizes the removal and handling activities as proposed in your notice of intent dated July 22, 1981, with the following operating conditions:

1. All emission control equipment shall be installed and maintained in good operating condition according to manufacturer's recommendations.

2. No visible emissions shall exceed 20% opacity except as permitted by Section 4.7 (unavoidable equipment breakdown), Utah Air Conservation Regulations (UACR). Visible emissions from diesel engines shall not exceed 20% opacity except for starting motion no farther than 100 yards or for stationary operation not exceeding three minutes in any hour as per Section 4.1.4, UACR.

3. The 10,000 ton dry coal fines stockpile shall be water sprayed to minimize fugitive emissions as dry conditions warrant or as determined necessary by the Executive Secretary. A record/log shall be kept of all sprinkling and shall include date and amount and shall be made available to the Executive Secretary upon request.

4. The work areas of the front end loaders and the haul roads shall be chemically treated to minimize fugitive emissions as dry conditions warrant or as determined necessary by the Executive Secretary. A record/log of all treatments shall be kept including date, amount, and location and shall be made available to the Executive Secretary upon request.

5. A removal schedule shall be provided to the Executive Secretary when finalized.

6. The Executive Secretary shall be notified when the operations are in progress as an initial compliance inspection is required.

Sincerely,

Brent C. Bradford
Executive Secretary
Utah Air Conservation Committee

MRK:jw
cc: Southeastern District Health Dept.
EPA Region VIII (D. Kircher)
834

U.S. Steel
Mining Co., Inc.
a Subsidiary of United States Steel Corporation

HEADQUARTERS OFFICE

600 GRANT STREET
PITTSBURGH, PENNSYLVANIA 15230
CABLE: USSMINING
TELEX NO 866425

February 14, 1986

Mr. Brent C. Bradford
Executive Secretary
Air Conservation Committee
P. O. Box 4550
3266 State Office Building
Salt Lake City, Utah 84145-0500

Re: Air Emission Inventory
Wellington Coal Cleaning Plant

Dear Mr. Bradford:

I am enclosing the 1985 air emission inventory that you requested.

Please note that on December 30, 1985, the Wellington Coal Cleaning Plant was sold to:

Kaiser Coal Corporation
102 South Tejon
Suite 800
Colorado Springs, Colorado 80903

Please address any future correspondence to Kaiser Coal Company.

Sincerely,

Larry King

L. King
Sr. Environmental Engineer

Enclosure

cc: √Martin Holmes (Kaiser Coal Co.)

United States Department of the Interior
MINING ENFORCEMENT AND SAFETY ADMINISTRATION
COAL MINE HEALTH AND SAFETY
POST OFFICE BOX 15037
DENVER, COLORADO 80215

DISTRICT 9
In Reply Refer To:
EMS-H&S 3-1-8

July 20, 1976

Paul E. Watson, General Superintendent
United States Steel Corporation
P.O. Box 807
East Carbon, Utah 84520

Re: Wellington Prep. Plant
I.D.# 42-00099
Plant Refuse Pile
I.D.# 1211-UT-9-0010

Dear Mr. Watson:

Your letter of May 21, 1976, advising that a ten (10) to twenty (20) foot bench will be built along the railroad side of the refuse pile, has been received at this office. This bench will be constructed as new refuse is placed on top of the existing pile.

Your May 21, 1976 letter will be filed with and made a part of the plan submitted on April 28, 1976.

No additional information will be required unless requested by the District Manager.

Sincerely yours,

Harold E. Dolan

Harold E. Dolan

U.S. DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION
Mailing Address:
P.O. Box 25367, DFC
Denver, Colorado 80225
Street Address:
730 Simms
Lakewood, Colorado

Coal Mine Health and Safety
District 9

September 11, 1978

Paul E. Watson
General Superintendent
United States Steel Corporation
P. O. Box 807
East Carbon, UT 74520

Re: Clear Water Pond
I. D. No. 1211-UT-9-0012
Wellington Prep. Plant
I. D. No. 42-00099

Dear Mr. Watson:

Approval of the impoundment plan for the Clear Water Pond is hereby granted in accordance with Section 77.216, 30 CFR. The proposed additional three (3) foot increase in the embankment height is also approved provided that the pond water surface be maintained at its present elevation of 5,365 feet.

The approved plan consists of the following:

April 28, 1976 - Coal Refuse Piles and Impoundments Reports
April 21, 1978 - Slope Stability Evaluation

Sincerely yours,

for John W. Barton
District Manager

Enclosure

NOT BUILT
4/4/87
UPDATE
MODIFIED

U.S. DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION
Mailing Address:
P.O. Box 25367, DFC
Denver, Colorado 80225
Street Address:
730 Simms
Lakewood, Colorado

Coal Mine Health and Safety
District 9

September 11, 1978

Paul E. Watson
General Superintendent
United States Steel Corporation
P. O. Box 807
East Carbon, UT 74520

Re: Lower Refuse Pond Embankment
I. D. No. 1211-UT-9-0013
Wellington Prep. Plant
I. D. No. 42-00099

Dear Mr. Watson:

Approval of the impoundment plan for the Lower Refuse Pond Embankment is hereby granted in accordance with Section 77.216, 30 CFR. The proposed additional three (3) foot increase in the embankment height, however, cannot be approved at this time. The stability analysis submitted by Rollins, Brown and Gunnell, Incorporated shows a minimum factor of safety of 1.09 for rapid drawdown of the water impounded on the downstream slope. In order to approve an increase in the height of this dam, a Safety factor of 1.5 must be achieved for the rapid drawdown case.

The approved plan consists of the following:

April 28, 1976 - Coal Refuse and Impoundments Reports
April 21, 1978 - Slope Stability Evaluation

Sincerely yours,

for John W. Barton
District Manager

NOT BUILT
4/8/87
UPDATE
MIDTERM

U. S. Department of Labor

Mine Safety and Health Administration
P O Box 25367
Denver, Colorado 80225

Coal Mine Health and Safety
District 9

April 24, 1980

Paul E. Watson
General Superintendent
United States Steel Corporation
P. O. Box 807
East Carbon, Utah 84520

Re: Wellington Preparation Plant
I. D. No. 42-00099
Site I. D. No. 1211-UT-9-0014
Upper Refuse Embankment

Dear Mr. Watson:

As a result of an on-site investigation by Mr. Donald O'Brien in the company of Mr. Bill Kirkwood and the information presented in your letter dated April 21, 1980, the impoundment plan for the subject site has been approved.

You should note that the annual impoundment report for this site is due on April 28 of each year.

Sincerely,

for John W. Barton
District Manager

U. S. Department of Labor

Mine Safety and Health Administration
P O Box 25367
Denver, Colorado 80225

Coal Mine Safety & Health
District 9

October 1, 1986

Douglas C. Pearce
Mine Engineer
Kaiser Coal Corporation of Sunnyside
P.O. Box 10
Sunnyside, UT 84539

Re: Wellington Coal Cleaning Plant
ID No. 42-00099
Wellington Pond Refuse Pile,
ID No. 1211-UT-09-00011
New Identification Number
Wellington Lower Refuse Dike Impoundment
Impoundment Design Investigation

Dear Mr. Pearce:

Kaiser Coal Corporation of Sunnyside's two letters of September 18, 1986, concerning the decant pipe system and request for an identification number change, have been reviewed by MSHA personnel.

The proposed work to excavate and examine the stability of the decant pipe system of the Wellington Lower Refuse Dike Impoundment is approved. The requested Identification Number 1211-UT-09-00099-05 for the Wellington Pond Refuse Pile is granted.

Notify MSHA should any unusual conditions arise during the work process and upon completion of the rehabilitation of the Wellington Lower Refuse Dike Impoundment.

If you have any questions, contact Lee Smith at 303/236-2743.

Sincerely,

William A Holgate
for John W. Barton
District Manager

KAISER COAL

KAISER COAL CORPORATION
Sunnyside Coal Mines
P.O. Box 10
Sunnyside, Utah 84539
Telephone (801) 888-4421

September 18, 1986

Mr. Mike Stanton
M. S. H. A.
P. O. Box 25367, DFC
Denver, Colorado 80225

Re: Wellington Coal Cleaning Plant
ID No. 42-00099
Wellington Pond Refuse Pile
ID No. 1211-UT-09-00011
Assignment of New ID

Dear Mr. Stanton:

In the letter dated June 6, 1986, from Mr. John Barton to Mr. Ron Hughes, new identification numbers were assigned to the impoundments and refuse piles at Wellington with the exception of the Pond Refuse Pile. To remain consistent with the new numbering system, we are requesting that this pond be assigned the ID No. 1211-UT-09-00099-05.

Sincerely,

KAISER COAL CORPORATION

Douglas C. Pearce
Mine Engineer

DCP:th

To: D. P.

U. S. Department of Labor

Mine Safety and Health Administration
P O Box 25367
Denver, Colorado 80225
Coal Mine Safety & Health
District 9

June 6, 1986

Mr. Ronald O. Hughes
Manager, Engineering
Kaiser Coal Corporation
P.O. Box D
Sunnyside, UT 84539

Re: Wellington Coal Cleaning Plant,
ID No. 42-00099
Clear Water Pond,
ID No. 1211-UT-09-00012
Lower Refuse Pond,
ID No. 1211-UT-09-00013
Upper Refuse Pond,
ID No. 1211-UT-09-00014
Plant Refuse Pile,
ID No. 1211-UT-09-00010
Annual Impoundment Report

Dear Mr. Hughes:

Kaiser Coal Corporation's letter dated May 23, 1986, containing the annual impoundment reports and acknowledgement of the adopted subject sites along with the plans that are required by 30 CFR 77.215-2 and 77.216 has been received in this office. The annual impoundment reports have been reviewed by MSHA personnel and will be placed in your mine file.

MSHA District 9 is instituting a new identification numbering system for mine waste and refuse facilities. This system will utilize a 15 digit alpha numeric number and will incorporate the last 5 digits of the coal mine or coal preparation facility identification number into the alpha numeric identification numbers assigned to sites belonging to that particular entity. All sites will be assigned double digit trail numbers in consecutive order ranging from 01 to 99. Accordingly, the identification numbers assigned to the Kaiser Coal Corporation sites are:

Plant Refuse Pile, ID No. 1211-UT-09-00099-01

Clear Water Pond, ID No. 1211-UT-09-00099-02

Lower Refuse Pond, ID No. 1211-UT-09-00099-03

Upper Refuse Pond, ID No. 1211-UT-09-00099-04

* * * * *

SAFETY NOTE: Cabs and canopies protect the miner against roof falls, rib rolls, and collisions.

If this is not the desired sequential numbering system, notify this office as soon as possible, including all other sites belonging to ID No. 42-00099 and the preferred numbering order.

If you have any questions, contact Lee Smith at 303/236-2743.

Sincerely,

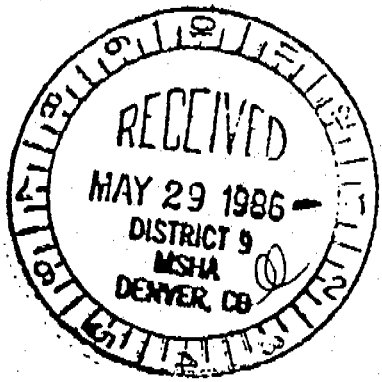
William G Wright

for John W. Barton
District Manager

KAISER COAL

KAISER COAL CORPORATION
Sunnyside Coal Mines
P.O. Box D
Sunnyside, Utah 84539
Telephone (801) 888-4421

May 23, 1986



Mr. John Barton
District Manager (9)
Mine Safety & Health Administration
P. O. Box 25367
Denver, Colorado 80225

Re: Wellington Coal Cleaning Plant
ID No. 42-00099
Impoundments No. 1211-UT-9-0012
1211-UT-9-0013
1211-UT-9-0014
Refuse Pile No. 1211-UT-9-0010

Dear Mr. Barton:

In response to your letter of April 11, 1986, Kaiser Coal Corporation elects to adopt the plans for the four subject structures as submitted by and approved for the U. S. Steel Mining Co., Inc.

Annual Impoundment Reports for the ponds are attached.

Sincerely,

Ronald O. Hughes
Manager, Engineering

ROH:th

cc: J. Kiser

Attachments

U. S. Department of Labor

Mine Safety and Health Administration
P O Box 25367
Denver, Colorado 80225
Coal Mine Safety and Health
District 9

Get Plan
from Kirkwood

April 11, 1986

Robert N. Wiley
Kaiser Coal Corporation
102 South Tejon, Suite 800
Colorado Springs, CO 80903

RE: Wellington Coal Preparation Plant
ID No. 42-00099
Legal Identity Reports

Dear Mr. Wiley:

Enclosed are the 4 legal identity report forms 2000-7, dated December 30, 1985 and signed March 21, 1986, indicating a change of ownership for the 3 impoundments and 1 refuse pile attached to the above referenced facility. These forms are being returned because the 2000-7 form is to be used only to report changes to a mine or facility, not refuse piles or impoundments associated with a mine or facility.

You must either adopt the plans that are required by 30 CFR 77.215-2 and 77.216 as submitted by the former operator or submit plans as required by these regulations. In either case you must notify this office of how you plan to comply with the above listed regulations.

If you have any further questions regarding impoundments, please contact Lee Smith at (303) 236-2743. If you have any questions regarding the 2000-7 form and its use, contact Leslie Lewis at the same number.

Sincerely,

Theodore L Baughman

John W. Barton
District Manager

cc: Charles McGlothlin
Vice President & General Manager
Kaiser Coal Corporation of Sunnyside
P.O. Box 10
Sunnyside, UT 84539

UMC 782.20 Identification of Location of Office for Filing of Application

The application will be available at the:

Carbon County Recorders Office
Carbon County Courthouse Building
Price, Utah 84501

UMC 782.21 Newspaper Advertisement and Proof of Publication

Notice is hereby given that the Wellington Coal Cleaning Plant, operated by the U. S. Steel Mining Co., Inc., Western District, P. O. Box 807, East Carbon, Utah 84520, has submitted an application for a permit to the Utah Division of Oil, Gas and Mining.

The permit application was submitted March 20, 1981 to conduct coal cleaning plant operations on United States Steel Corporation owned land near Wellington, Utah pursuant to UCA-40-10-1 et seq.

The permit area is located in T15S R11E as follows:

Section 8 SE¼ NE¼, SE¼
Section 9 S½ N½, S½
Section 10 W½ SW¼
Section 15 W½ NW¼
Section 16 All
Section 17 NE¼, E½ SE¼

The plant permit area is located on the U. S. Geological Survey Wellington Quadrangle.

A copy of the permit application may be reviewed at the following location:

Carbon County Recorders Office
Carbon County Courthouse Building
Price, Utah 84501

Pertinent comments are solicited from anyone affected by this proposal. Such comments should be filed with:

State of Utah
Department of Natural Resources
Division of Oil, Gas and Mining
4241 State Office Building
Salt Lake City, Utah 84114

UMC 782.21 Newspaper Advertisement and Proof of Publication

Notice is hereby given that the Wellington Coal Cleaning Plant, operated by the U. S. Steel Mining Co., Inc., Western District, P. O. Box 807, East Carbon, Utah 84520, has submitted an application for a permit to the Utah Division of Oil, Gas and Mining.

The permit application was submitted March 20, 1981 to conduct coal cleaning plant operations on United States Steel Corporation owned land near Wellington, Utah pursuant to UCA-40-10-1 et seq.

The permit area is located in T15S R11E as follows:

Section 8 SE1/4 NE1/4, SE1/4
Section 9 S1/2 N1/2, S1/2
Section 10 W1/2 SW1/4
Section 15 W1/2 NW1/4
Section 16 All
Section 17 NE1/4, E1/2 SE1/4

The permit area is located on the U. S. Geological Survey Wellington Quadrangle.

A copy of the permit application may be reviewed at the following location:

Carbon County Recorders Office
Carbon County Courthouse Building
Price, Utah 84501

Pertinent comments are solicited from anyone affected by this proposal. Such comments should be filed with:

State of Utah
Department of Natural Resources
Division of Oil, Gas and Mining
4241 State Office Building
Salt Lake City, Utah 84114

A copy of the determination of completeness public notice is included on page 782-22ii.

Notice of the request to transfer the Wellington permit from U. S. Steel Mining Co. to Kaiser Coal Corporation is included on page 782-22iii.

782.21 cont.

Correspondence approving the permit transfer for the Wellington Preparation Plant is concluded on page 782-22iv.

AFFIDAVIT OF PUBLICATION

STATE OF UTAH }
County of Carbon, } ss.

I, Dan Stockburger, on oath, say that I am the General Manager of The Sun-Advocate, a weekly newspaper of general circulation, published at Price, State and County aforesaid, and that a certain notice, a true copy of which is hereto attached, was published in the full issue of such newspaper for Four (4) consecutive issues, and that the first publication was on the 27th day of January, 19 84, and that the last publication of such notice was in the issue of such newspaper dated the 17th day of February, 19 84

Dan Stockburger

Subscribed and sworn to before me this 17th day of February, 19 84.

Sally J. Baker
Notary Public.

My Commission expires My Commission Expires October 22, 1988

Publication fee, $ 127.20

PUBLIC NOTICE

Notice is hereby given that U.S. Steel Mining Co., Inc. has filed a Mining and Reclamation Plan with the State of Utah, Department of Natural Resources, Division of Oil, Gas and Mining (Division) for the Wellington Coal Cleaning Plant. The Division has completed a review of the plan and determined it to be apparently complete.

1. The full name and business address of the applicant is:
   U.S. Steel Mining Co., Inc.
   Western District
   P.O. Box 807
   East Carbon, Utah 84520
2. The U.S. Steel Mining Co., Inc. permit area is located in Carbon County approximately one mile east of Wellington City. The permit area is south of the U.S. Highway 6 and is bisected by the Price River. The lands containing the permit area are contained in Township 15 South, Range 11 East (SLBM) and are more fully described as follows:
   SE¼ NE¼ and SE¼ of Section 8
   S½ N½ and S½ of Section 9
   W½ NW¼ of Section 15
   All of Section 16
   E½ SE¼, NE¼ Section 17

All lands are owned in fee by United States Steel Corporation and are shown on the Wellington Quadrangle of the U.S. Geological Survey 7.5 minute map series.

3. Copies of the Mining and Reclamation Plan are available for public inspection at the following locations:
   Recorders Office
   Carbon County Courthouse
   Price, Utah 84501

   State of Utah
   Department of Natural Resources
   Division of Oil, Gas and Mining
   4241 State Office Building
   Salt Lake City, Utah 84114
4. Comments on the Mining and Reclamation Plan may be submitted to:
   State of Utah
   Department of Natural Resources
   Division of Oil, Gas and Mining
   4241 State Office Building
   Salt Lake City, Utah 84114

Published in the Sun Advocate, January 27; February 3, 10 and 17, 1984.

Affidavit of Publication

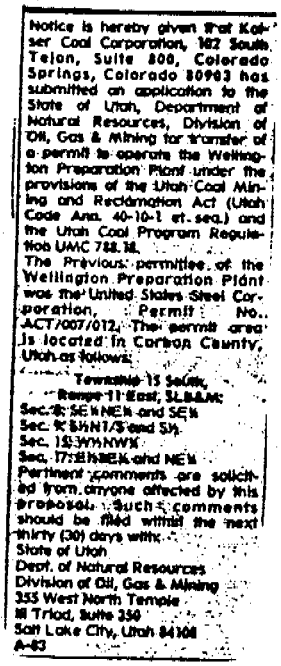
STATE OF UTAH,

County of Salt Lake

ss.

.....Cheryl Gierloff.....

Being first duly sworn, deposes and says that he/she is legal advertising clerk of THE SALT LAKE TRIBUNE, a daily newspaper printed in the English language with general circulation in Utah, and published in Salt Lake City, Salt Lake County, in the State of Utah.



Notice is hereby given that Kaiser Coal Corporation, 102 South Tejon, Suite 808, Colorado Springs, Colorado 80903 has submitted an application to the State of Utah, Department of Natural Resources, Division of Oil, Gas & Mining for transfer of a permit to operate the Wellington Preparation Plant under the provisions of the Utah Coal Mining and Reclamation Act (Utah Code Ann. 40-10-1 et. seq.) and the Utah Coal Program Regulations UMC 788.18.
The Previous permittee of the Wellington Preparation Plant was the United States Steel Corporation, Permit No. ACT/007/012. The permit area is located in Carbon County, Utah as follows:
Township 15 South, Range 11 East, SLB&M:
Sec. 8: SE¼NE¼ and SE¼
Sec. 9: S½NW¼/S½ and S½
Sec. 15: W½NW¼
Sec. 17: E½NE¼ and NE¼
Pertinent comments are solicited from anyone affected by this proposal. Such comments should be filed within the next thirty (30) days with:
State of Utah
Dept. of Natural Resources
Division of Oil, Gas & Mining
355 West North Temple
3 Triad, Suite 350
Salt Lake City, Utah 84108
A-83

That the legal notice of which a copy is attached hereto

.....Notice - Kaiser Coal Corporation.....

.....

.....

.....

.....

was published in said newspaper on.....

.....January 17, 1986.....

.....Cheryl Gierloff.....

Legal Advertising Clerk

Subscribed and sworn to before me this .....22nd..... day of

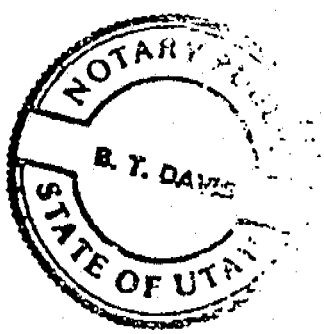
.....January..... A.D. 19..86....

B. J. Davis

Notary Public

My Commission Expires

.....March 1,...1988.....



782 - 22iii

STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

February 25, 1986

Mr. Charles S. McNeil, President
Kaiser Coal Corporation
102 South Tejon, Suite 800
Colorado Springs, Colorado 80903

Dear Mr. McNeil:

Re: Approval for Permit Transfer, Wellington Preparation Plant, ACT/007/012, Folder No. 2 and 4, Carbon County, Utah

The Division has found that Kaiser Coal Corporation has met all requirements for a permit transfer as required under UMC 788.18. Therefore, in accordance with the attached Findings, the request for transfer of the permit for the Wellington Preparation Plant is hereby approved.

As you are aware, Kaiser Coal Corporation is now responsible for all prior commitments relating to this operation as made by U. S. Steel Corporation. Please contact me or Lowell Braxton if we can provide further assistance.

Best regards,

Dianne R. Nielson
Director

SCL:jvb
cc: A. Klein
Denise Dragoo
Marty Holmes
L. Braxton
S. Linner
0028R-72

782 - 22iv

FABIAN & CLENDENIN
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW

TWELFTH FLOOR
215 SOUTH STATE STREET
SALT LAKE CITY, UTAH 84111-2309

TELEPHONE
(801) 531-8900

PETER W. BILLINGS
ALBERT J. COLTON
RALPH H. MILLER
GEORGE D. MELLING, JR.
WARREN PATTEN
M. BYRON FISHER
STANFORD B. OWEN
WILLIAM H. ADAMS
ANTHONY L. RAMPTON
PETER W. BILLINGS, JR.
GORDON CAMPBELL
THOMAS CHRISTENSEN, JR.
RAND M. ELISON
RANDALL A. MACKEY
DENISE A. DRAGOO
JAY B. BELL
DANIEL W. ANDERSON
TERRIE T. McINTOSH

GARY E. JUBBER
W. CULLEN BATTLE
KEVIN N. ANDERSON
DOUGLAS L. FURTH
JATHAN JANOVE
JAMIS M. JOHNSON
ROSEMARY J. BELESS
MICHELE MITCHELL
JOHN E. S. ROBSON
DOUGLAS B. CANNON
ROBERT P. REESE
ROBERT JAMES SKOUSEN
JODI KNOBEL FEUERHELM

HAROLD P. FABIAN
1885-1975
BEVERLY S. CLENDENIN
1889-1971
SANFORD M. STODDARD
1909-1974

January 13, 1986

VIA FEDERAL EXPRESS

Ms. Jewel Barkley
Sun Advocate
76 West Main Street
P.O. Box 870
Price, Utah 84501

Re: Legal Notice - Wellington Preparation Plant
Permit (ACT/007/012)

Dear Ms. Barkley:

Enclosed please find the legal notice of Kaiser Coal Corporation concerning transfer of the Wellington Preparation Plant Permit (ACT/007/012). Please publish the notice one day only in the Sun Advocate and send proof of publication to me at the above address. Please bill the law firm of Fabian & Clendenin for your services in this matter.

Very truly yours,

Denise A. Dragoo

DAD:meh

Enclosure

cc: Jeffrey Collins, Esq.
Susan Linnear

FABIAN & CLENDENIN
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW

TWELFTH FLOOR
215 SOUTH STATE STREET
SALT LAKE CITY, UTAH 84111-2309

TELEPHONE
(801) 531-8900

PETER W. BILLINGS
ALBERT J. COLTON
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WARREN PATTEN
M. BYRON FISHER
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MICHELE MITCHELL
JOHN E. S. ROBSON
DOUGLAS B. CANNON
ROBERT P. REESE
ROBERT JAMES SKOUSEN
JODI KNOBEL FEUERHELM

HAROLD P. FABIAN
1885-1975
BEVERLY S. CLENDENIN
1889-1971
SANFORD M. STODDARD
1909-1974

January 13, 1986

HAND DELIVERED

Mrs. Ruth Bytheway
Newspaper Agency Corporation
Legal Advertisement Department
Mezzanine Floor
143 Main Street
Salt Lake City, Utah 84145

Re: Legal Notice - Transfer of Wellington Preparation Plant Permit (ACT/007/012)

Dear Mrs. Bytheway:

Enclosed please find the legal notice of Kaiser Coal Corporation concerning transfer of the Wellington Preparation Plant Permit (ACT/007/012). Please publish the notice in the Salt Lake Tribune for one day only and send proof of publication to me at the above address. Please bill the law firm of Fabian & Clendenin for your services in this matter.

Very truly yours,

Denise A. Dragoo

DAD:meh

Enclosure

cc: Jeffrey Collins, Esq.
Susan Linnear

HOLME ROBERTS & OWEN

ATTORNEYS AT LAW

1700 BROADWAY
DENVER, COLORADO 80290
TELEPHONE (303) 861-7000
TELEX 45-4460

102 NORTH CASCADE AVENUE
COLORADO SPRINGS, CO. 80903
TELEPHONE (303) 473-3800

50 SOUTH MAIN STREET
SALT LAKE CITY, UT. 84144
TELEPHONE (801) 521-5800

January 10, 1986

Jeff Collins, Esq.
Kaiser Coal Corporation
102 Tejon Street, Suite 800
Post Office Box 2679
Colorado Springs, Colorado 80901-2679

Dear Mr. Collins:

Enclosed are copies of Schedule IV and Exhibits A, B, E, and F to the Purchase and Sale Agreement which I inadvertently omitted from your document during the closing. I apologize for any inconvenience my oversight might have caused you.

~~Yours~~ very truly,

R. D. Haddock

Rich D. Haddock

RDH:cjk

Enclosures

cc: R. F. Erisman, Esq. (w/o encs.)

UMC 783 Information on Environmental Resources

UMC 783.11 Premining Environmental Resources Description

The premining environmental resources within the Coal Cleaning Plant plan area were as follows:

Coal Cleaning Plant Site:

The predisturbance environmental resource was limited to a sparse vegetation community. A ditch carried irrigation water to fields between the DRG&W Railroad and the Price River south and east of the present plant site. The surface rises in elevation to the west and a sparse desert plant community.

Slurry Ponds Site:

The predisturbance environmental resource was limited to an ephemeral stream that appears to have carried irrigation return water from the fields north of the pond locations to the Price River. The ground surface rises in elevation on both sides of the stream channel to a sparse desert plant community.

UMC 783.12 General Environmental Resources Information

(a) The Coal Cleaning Plant facilities are in place and expansion of presently disturbed areas will be limited to expansion of the refuse disposal areas.

(b) There are no known cultural and historic resources listed on the National Register of Historic Places and no known archeological sites within the proposed Coal Cleaning Plant plan and adjacent areas.

UMC 783.12 General Environmental Resources Information

(a) The coal cleaning plant facilities are in place and expansion of presently disturbed areas will be limited to expansion of the refuse disposal areas.

(b) There are no known cultural and historic resources listed on the National Register of Historic Places and no known archeological sites within the proposed coal cleaning plant plan and adjacent areas.

UMC 783.13 Description of Hydrology and Geology

General Discription of Hydrology

The coal cleaning plant is located near Wellington, Utah and the Price River. The plant is sited on the Price River flood plain which has been deposited on the Blue Gate Shale. The operator is not aware of any water wells or springs of significance in the area. The area water users including the towns and cities upstream on or near the Price River are dependent on the storage of water in the Scofield Reservoir and wells at a higher elevation at Colton in Price Canyon that supply water to Price, Utah. In the spring at the beginning of the irrigation season the total flow of the Price River is diverted to an irrigation canal at the Carbon Country Club some 10 miles west of the cleaning plant. The water is drawn from the canal based on the water rights owned by users largely for agricultural uses through irrigation. The Price River at the coal cleaning plant diversions has returned to full flow due to the return of upstream, diverted irrigation water to the river through percolation during the irrigation season.

During the winter months the flow in the river is adequate for the requirements of the coal cleaning plant.

General Description of Geology

The exposed rock sequence in the Castle Valley Area is of Upper Cretaceous Age, with minor coverings of Quaternary gravels to recent terrace gravels and alluvium.

Mancos Shale

The Mancos Shale is exposed in the broad flat valley which includes the area occupied by the coal cleaning plant. The Mancos shale is marine in origin and consists of grayish blue to brown clay shales and sandy shales, except for sandstone lentils near the base and the top. It aggregates 4700 to 5050 feet in thickness.

The Mancos shale has been subdivided into five members from bottom to top as follows. Tununk shale, Ferron sandstone, Blue Gate shale, Emery sandstone, and Masuk shale. All of the rocks exposed in the area are in the Blue Gate shale member with some local exposure of the terrace gravels. The Blue Gate shale in the vicinity of the Price River is over lain by alluvium and river gravels. See USGS Geologic Map I-1178 and Map C9-1213.

UMC 783.13 Description of Hydrology and Geology

General Description of Hydrology

The Coal Cleaning Plant is located near Wellington, Utah and the Price River. The Plant is sited on the Price River floodplain which has been deposited on the Blue Gate Shale. The area water users including the towns and cities upstream on or near the Price River are dependent on the storage of water in the Scofield Reservoir and wells at a higher elevation at Colton in Price Canyon that supply water to Price, Utah. In the spring at the beginning of the irrigation season the total flow of the Price River is diverted to an irrigation canal at the Carbon Country Club some 10 miles west of the Cleaning Plant. The water is drawn from the canal based on the water rights owned by users largely for agricultural uses through irrigation. The Price River at the Coal Cleaning Plant diversions has returned to full flow due to the return of upstream, diverted irrigation water to the river through percolation during the irrigation season.

During the winter months the flow in the river is adequate for the requirements of the Coal Cleaning Plant.

General Description of Geology

The exposed rock sequence in the Castle Valley Area is of Upper Cretaceous Age, with minor coverings of Quaternary gravels to recent terrace gravels and alluvium.

Mancos Shale

The Mancos Shale is exposed in the broad flat valley which inclues the area occupied by the Coal Cleaning Plant. The Mancos shale is marine in origin and consists of grayish blue to brown clay shales and sandy shales, except for sandstone lentils near the base and the top. It aggregates 4700 to 5050 feet in thickness.

The Mancos shale has been subdivided into five members from bottom to top as follows: Tununk shale, Ferron sandstone, Blue Gate Shale, Emery Sandstone and Masuk Shale. All of the rocks exposed

in the permit area are in the Blue Gate Shale, the surface of which has been eroded by stream flow through the permit area. The shale surface is covered by alluvium (Qal) generally parallaling the Price River with a total width of 200 to 500 feet. The alluvium is a stream deposit consisting of clay, silt, sand, and gravel derived from the disintegration of shale and sandstone beds that makeup bedrock in the area. The alluvium grades to Slope Wash (Qsw) west of the river. The Slope Wash material is derived from disintegration of the Mancos Shale. The preconstruction surface in the settling pond area east of the river was also Slope Wash. The Slope Wash materials grade to the Blue Gate Shale with the increase in elevation. See Maps C9-1213 and E9-3428.

(a) The 1957 site investigation drill holes shows the water table to approximate the elevation of the Price River with the water level six feet to 12 feet below the surface and dependent on the collar elevation of the borehole. The Operators designated water well source was listed as the Price River in the water right approval.

(1) The Price River floodplain alluvials in the plant area vary from 15 feet to 42 feet and consist of (in descending order) light brown loams, brown clay loams, brown silty loams, fine sand, coarse sand gravel and fine to medium sand on top of gray shale. See cross sections on E9-3428.

The USGS gage station 09314250 serves a drainage area of 956 square miles. The flow through this gaging station is affected by storage in the Scofield Reservoir. The flow between the Coal Cleaning Plant permit area and the gaging station is directly affected by at least two irrigation diversions, Miller Creek flow and irrigation percolation return. The value of the gaging station records as an indication of the coal cleaning impact on the Price River is poor.

The Mancos shale is the single largest geological feature which has influence upon the water quality in the Price River. Water quality studies in the area indicate that return flows from some 15,700 acres of irrigated lands are major contributors of pollutants (particularly TDS) to streams in the area (see Southeastern Utah Association of Governments 208 Water Quality Management Plan).

The rock beds dip some 4 degrees to the westward. The prevailing strike is N 15 degrees E.

Faults, folds, and joint zones have not been observed in the permit area and there is no documentation of these features in the permit area. Faulting associated with the Farnham anticline has been included on Map C9-1213.

The Blue Gate Shale member discussed in the ORP is the lower member of the Unnamed Shale shown on Map C9-1213.

Seven wells in addition to the USSMCI water rights are located in T15S R11E Sections 7 and 8 (refer to Map C9-1214). These wells were completed in the alluvium with depths ranging from 46 feet to 50 feet. A well was drilled in SE 1/4 SE 1/4 SW 1/4 Section 4 was completed at 280 feet in the Mancos Shale with a water show at 135 feet below the surface. Two wells were completed in the Navajo Sandstone in the NE 1/4 SE 1/4 SW 1/4 Section 12. One well reported brackish water in the Navajo Sandstone. The Navajo Sandstone is so deep below the Coal Cleaning Plant that the operations could have no impact on this formation.

The location of the site investigation drill holes is shown on Map E9-3343.

Cross sections from drill holes and the depth to water are shown on E9-3428.

The October-September 1980-81 and 1981-82 records from the 09314250 Price River station are on pages 783-22 thru 25.

UNITED STATES USS STEEL CORPORATION

C9-1213

WELLINGTON COAL CLEANING PLANT
GEOLOGY MAP

C9-1213

ENGINEERING DEPARTMENT
COAL MINES & QUARRIES

APPROVED G.H.S. 2-25-81

CHECKED: APPROVED FOR SAFETY 2-25-81

DRAWN J.U.

TRACED

PEMBROKE CO.

LEGEND

ALLUVIALS:

Qal: Alluvium (Holocene)

Qpd: Piedmont (Holocene & Pleistocene)

Qsw: Slopewash (Holocene & Pleistocene)

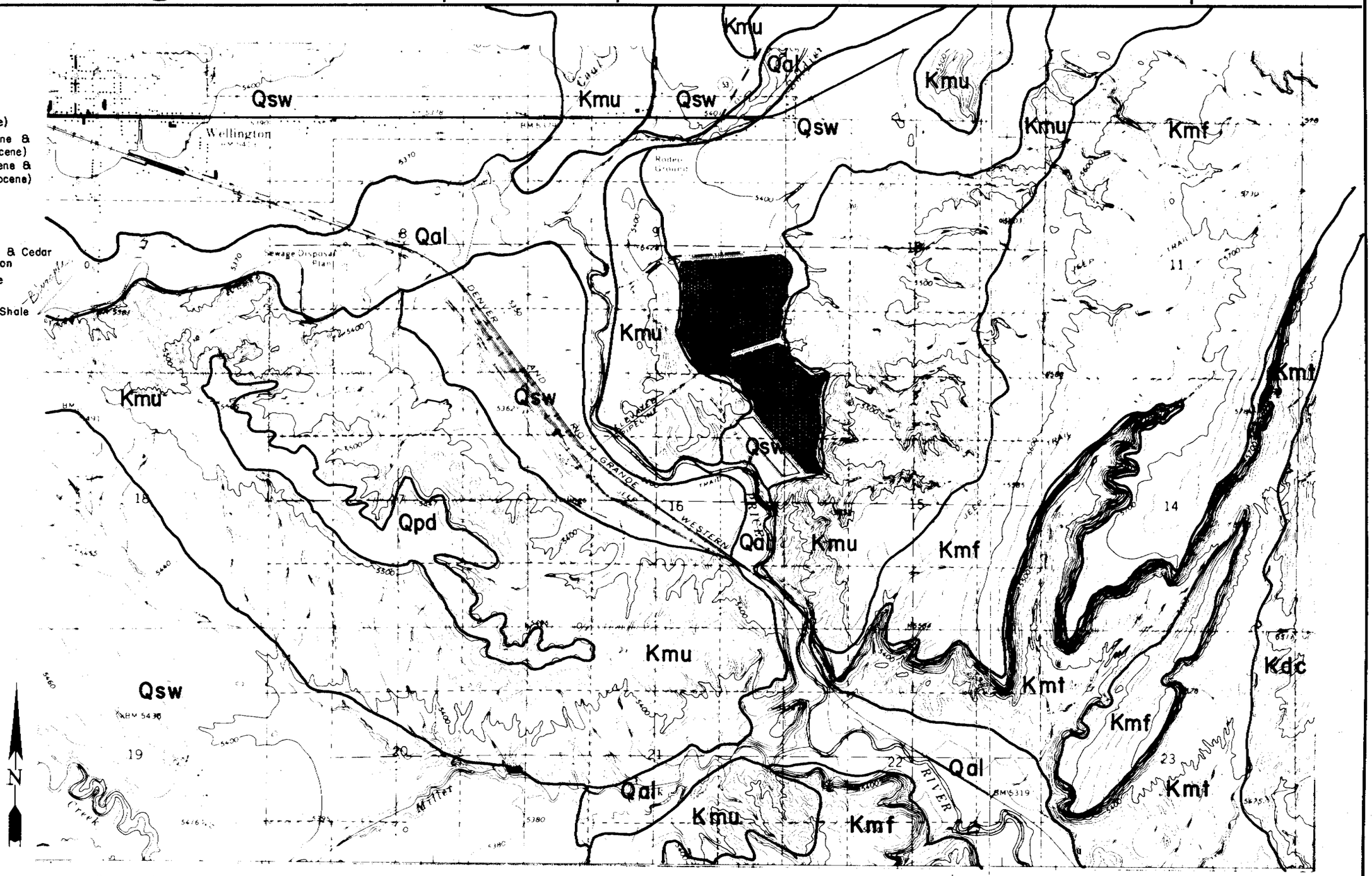
MANCOS SHALE: (Upper Cretaceaus)

Kdc: Dakota Sandstone & Cedar Mountain Formation

Kmf: Ferron Sandstone

Kmt: Tununk Shale

Kmu: Upper Unnamed Shale



SCALE: 1" = 2000' SOURCE: Reconnaissance Geologic Map of the Wellington Quadrangle, USGS Map I-1178.

REVISIONS

783-4

UMC 783.14 Geology Description

(a) The surface areas occupied by the Coal Cleaning Plant are as follows:

(1) The Coal Cleaning Plant facilities.

(2) The Coal Cleaning Plant refuse disposal area and water clarification ponds.

The preconstruction investigation of the Coal Cleaning Plant site shows alluvium underlain by Blue Gate Shale with the shale some 36 to 40 feet below the surface. A five to 15 foot sand and gravel layer consisted of cohesive soils varying in thickness from 15 to 30 feet. The surface is a blanket of brown loam.

The investigation of the pump station site showed a surface layer of four feet of sandy loam, a 29 foot layer of sand and gravel which is underlain by shale.

Test borings in the refuse disposal area show that the total area is underlain by shale and that the valley is underlain by a shale bowl. In the bottom of the valley the shale is immediately overlain by water bearing sand and gravel which is variable in thickness. The sand and gravel was overlain by silty and sandy loams. The shale is exposed on the walls of the valley and is weathered to variable depths.

The sub-surface investigations concluded that the Blue Gate Shale is continuous within the refuse and clear water pond areas as well as the plant area and should provide protection to the underlying Ferron Sandstone. The indicated degree of protection is further supported by the low permeability of the shale shown on Figure 3, Appendix C of the ORP.

UMC 783.14 Geology Description

(a) The surface areas occupied by the coal cleaning plant are as follows:

(1) The coal cleaning plant facilities.

(2) The coal cleaning plant refuse disposal area and water clarification ponds.

The preconstruction investigation of the coal cleaning plant site shows alluvium underlain by Bluegate Shale with the shale some 36 to 40 feet below the surface. A five to 15 foot sand and gravel layer overlies the shale. The layers above the sand and gravel consisted of cohesive soils varying in thickness from 15 to 30 feet. The surface is a blanket of brown loam.

The investigation of the pump station site showed a surface layer of four feet of sandy loam, a 29 foot layer of sand and gravel which is underlain by shale. The ground water level at this location was elevation 5307 and was the elevation of the surface of the Price River.

Test borings in the refuse disposal area show that the total area is underlain by shale and that the valley is underlain by a shale bowl. In the bottom of the valley the shale is immediately overlain by water bearing sand and gravel which is variable in thickness. The sand and gravel was overlain by silty and sandy loams. The shale is exposed on the walls of the valley and is weathered to variable depths.

The sub-surface investigations concluded that the Bluegate Shale is continuous within the refuse and clear water pond areas as well as the plant area and is sufficiently thick to prevent seepage loss to the underlying Ferron Sandstone.

UMC 783.14 Geology Description

(a) The surface areas occupied by the coal cleaning plant are as follows:

(1) The coal cleaning plant facilities.

(2) The coal cleaning plant refuse disposal area and water clarification ponds.

The preconstruction investigation of the coal cleaning plant site shows an alluvial underlain by Bluegate Shale with the shale some 36 to 40 feet below the surface. A five to fifteen foot sand and gravel layer over lies the shale. The layers above the sand and gravel consisted of cohesive soils varying in thickness from 15 to 30 feet. The surface is a blanket of brown loam.

The investigation of the pump station site showed a surface layer of 4 feet of sandy loam, a 29 foot layer of sand and gravel which is underlain by shale. The ground water level at this location was elevation 5307 and was the elevation of the surface of the Price River.

Test borings in the refuse disposal area show that the total area is underlain by shale and that the valley is underlain by a shale bowl. In the bottom of the valley the shale is immediately over lain by water bearing sand and gravel which is variable in thickness. The sand and gravel was over lain by silty and sandy loams. The shale is exposed on the walls of the valley and is weathered to variable depths.

The sub-surface investigations concluded that the Bluegate Shale is continuous within the refuse and clearwater pond areas as well as the plant area and is sufficiently thick to prevent seepage loss to the underlying Ferron Sandstone.

UMC 783.15 Groundwater Information

(a) The Ferron Sandstone which underlies the plant and refuse disposal area is identified as a principal water bearing formation. The study of the area indicated that the groundwater above the shale surface will not pass to the sandstone formation. The operator does not have site specific information of the quality or quantity of water that maybe available in the Ferron Sandstone.

A groundwater level at an elevation of 5330 was established in March 1957 at the plant site which was some 12 feet below the surface. The ground water level was established at a nominal elevation of 5336 feet ± two feet within the bottom of the projected reservoir area. Apprasial of the groundwater quality was not made at that time or to date.

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UMC 783.15 Ground Water Information

Three members of the geologic column are of primary interest in an evaluation of ground water potential for the permit area: Blue Gate Shale, Ferron Sandstone, and alluvium deposits.

Ferron Sandstone

The Ferron Sandstone is a portion of the Mancos Shale geologic column and underlies a wide area which includes the permit area. Two drill holes drilled during the site investigations in 1957 penetrated this stratum but did not go through. These drill holes are shown on E9-3428. The Operator has no information regarding this stratum within the permit area. The Utah State Engineer Technical Publication No. 15 - "Water From Bedrock in the Colorado Plateau of Utah" provides information from remote areas as follows:

Source	Location	TDS(PPM)	Flow Rate
Gas Well	T20S R7E	21,534	-
Coal Mine	T22S R6E	3,454	-
Gas Wells	T13-16S R6-7W	4000 - 6000	-
Gas Wells	Sec. 23/24 T22S R5E		21 - 25gpm

This published information seems to indicate a poor quality of water in this member. A survey of the Division of Water Rights records did not reveal any users of water from the Ferron Sandstone in the permit area or adjacent area (T15S R11E). This would seem to indicate that this member ~~(if an aquifer)~~ is of minor local importance.

The core drilling information shown on Map E9-3428 shows that the Blue Gate Shale is apparently continuous throughout the permit area. The presence of a low permeability shale member above the sandstone should afford some protection from contamination by percolating water.

Blue Gate Shale

The Blue Gate Shale is a member of the Mancos Shale formation and overlies the Ferron Sandstone. the shale member extends to the surface forming the hills east and west of the Price River. The shale has a relatively low permeability of 3700 feet/year (refer to Hole No. 2 Appendix C) which would limit the value of this member as an aquifer. A search of the Division of Water Rights records did not locate any wells in the

permit or adjacent area (T15S R11E) which used water from the Blue Gate Shale. therefore, the Operator concludes that this member has a limited potential as an aquifer.

Alluvium

Alluvium deposits overlie the Blue Gate Shale in portions of the permit area. The deposits range from only a few feet in depth near the shale hills to approximately 35 feet deep in the flat areas near the Price River. The alluvium was most likely deposited by the Price River and the ephemeral drainage currently under the refuse ponds. Near the shale hills slope erosion material may overlie or be mixed with the alluvium. Division of Water Rights records show seven wells in Sections 7 and 8 of T15S R11E completed in alluvium. Refer to Map C9-1214 for locations.

The alluvium deposits are estimated to extend horizontally through the areas marked Qal (alluvium) and Qsw (slope wash) on Map C9-1213. Map E9-3428 shows the elevation of the static water level in various core drill holes which are located on Map E9-3343. This seems to indicate a water table extending essentially throughout the alluvium. It is concluded that the alluvium is an aquifer and the uses of water upstream from the permit area show some local importance.

Other Well Information

The "Utah Hydrologic Data Report No. 32 Selected Coal Related-Ground-Water Data" shows seven wells located in T15S R11E Sections 7 and 8 (refer to Map C9-1214) that were completed in the alluvium with depths ranging from 46 feet to 50 feet. The water levels varied from 8 to 13 feet below the collar elevations of the wells. A well drilled in the SE 1/4 SE 1/4 SW 1/4 Section 4 was completed at 280 feet in the Mancos Shale. The driller reported water in the alluvium at 11 feet below the collar and in shale 135 feet below the collar. The above reports did not include an appraisal of the quality of the water encountered in these wells. The report does not tabulate any wells completed in the Ferron Sandstone in T15S R11E. All of these wells are located upgradient and some 1/4 to 1/2 mile from the permit area.

The Utah Division of Water Rights list a spring in the NW 1/4 NW 1/4 section 7 (refer to Map C9-1214). This spring is located upgradient

and some 1.5 miles from the permit area.

The groundwater in the alluvium, considered a utilized aquifer in the plant area, flows from the top of the foothills to the Price River. (see groundwater levels on map E9-3428.) The location of the refuse ponds impounded in a swale above the Price River may create points of high groundwater potential. The north diversion ditch between the refuse ponds and irrigation fields to the north, appears to be a point of low ground water potential. As such, the ditch would tend to separate ground water flow between the refuse ponds and irrigated fields.

Wells to the north of the plant are assumed to be up gradient. It is doubtful the plant operations would affect these wells.

The "Hydrologic Resources, Probable Hydrologic Consequences and Hydrologic Monitoring Associated with the Wellington Prep Plant" report is included in Appendix I.

and some 1.5 miles from the permit area.

Refer to Appendix III of the Determination of Completeness Response for a discussion on the ground water resource and a detailed ground water monitoring plan.

UMC 783.16 Surface Water Information

(a) The Coal Cleaning Plant and the refuse disposal area are contained in the Price River watershed. Map F9-177 exhibits the relationship of these sites to the Price River. The Price River probably in the past occupied other channels than that in which it flows at the present time. Site investigations indicate that the channel was adjacent to the present location of the plant. The ground water elevation appears to coincide with the elevation of the water level in the river.

The clear water pond was lined with clay and clay loam to form an impervious liner. The ponds above the lower refuse pond dam were not lined. It is possible that the thick coal fines and other material that has settled in the pond areas form a low permeable layer. Refer to Appendix C for permeability measurements.

(b) (1) The Price River separates the Coal Cleaning Plant and the refuse disposal area. The flow in the Price River varies with the seasons and precipitation.

(2) The 1980 "Report of Distribution of the Water Supply of the Price River" shows the following distribution of water to users on the Price River (Grassy Trail usage deleted). The Operator diverted 900 acre feet of water from the Price River for use in the Coal Cleaning Plant.

Source of Water Distributed

Type of Flow	Acre Feet	Percent
Direct Flow	55,478	76.64
Reservoir	16,907	23.36
Total	72,385	100.00

Type of Use	Acre Feet	Percent
Irrigation	65,442	90.41
City & Industrial	6,943	9.59
Total	72,385	100.00

During 1957, Dames and Moore conducted a site investigation of the proposed location of the Coal Cleaning Plant. The site investigation included boreholes, soil tests, alluvial depths, and water table as required to determine site acceptability for the proposed construction. The investigation concluded that the site was acceptable for location of the proposed Coal Cleaning Plant and the ancilliary settling ponds.

During 1978, Rollins, Brown and Gunnell, Inc. Professional Engineers conducted a "Slope Stability Evaluation" of the settling pond impounding structures. The purpose of the investigation was to establish impounding structure safety factors as required by MSHA's 30 CFR.216 Regulations. The investigation concluded that the impounding structures did meet the regulatory requirements and MSHA accepted the structures. The investigation included borings on the impoundments, analyses of the subsurface materials within the structures and then a determination of stability based on the site investigations.

During 1982-83 Rollins, Brown and Gunnell, Inc. conducted site investigations, proposed materials for construction, and designs for the proposed increase in the heights of the impounding structures. The investigation concluded that the proposed structure modification meets the CFR 30.216 factor of safety requirements. The Operator is submitting the proposal to MSHA for approval. The proposed modification was submitted to the Division as a Technical Revision for approval of the proposed construction.

The flow data from USGS Price River Gaging Station 09314250 is included on pages 783-22 thru 25.

Flow patterns of the surface drainages system is shown on Map F9-177.

The following pages show water quality of the Price River flow at the sampling points shown on Map F9-177.

SURFACE WATER QUALITY DATA
WELLINGTON COAL CLEANING PLANT
See Map No. F9-177 For Location of Sampling Stations

Sampling Date:	6/18/80	7/28/80	8/13/80	9/10/80	10/8/80	11/14/80	12/10/80	1/6/81
A								
Acidity as $CaCO_3$ mg/l	< .1	18.0	< .1	4.0	12.0	< .1	< .1	10.0
Alkalinity as $CaCO_3$ mg/l	212.00	258.00	282.00	240.00	310.00	374.00	362.00	406.00
Dissolved Iron mg/l	NA	3.250	0.130	15.500	0.390	2.650	0.160	2.880
Iron as Fe (Total) mg/l	7.540	6.654	0.370	67.500	0.520	7.850	0.350	6.950
Manganese as Mn (Tot) mg/l	NA	NA	NA	NA	0.110	0.185	0.025	0.179
Suspended Solids mg/l	432	17.0	15.0	3.076	23.0	32.0	21.0	29.0
Total Dissolved Solids mg/l	1,120	1,500	1,650	1,000	NA	2,100	1,540	2,350
pH Units	7.20	7.60	8.10	7.60	7.60	7.80	8.10	7.40
B								
Acidity as $CaCO_3$ mg/l	18.0	12.0	< .1	8.0	12.0	< .1	< .1	12.0
Alkalinity as $CaCO_3$ mg/l	180.00	272.00	280.00	246.00	328.00	366.00	364.00	366.00
Dissolved Iron mg/l	NA	5.540	0.110	15.600	0.370	2.355	0.118	3.150
Iron as Fe (Total) mg/l	12.900	11.850	0.160	64.000	0.460	14.550	0.180	12.850
Manganese as Mn (Tot) mg/l	NA	NA	NA	NA	0.145	0.175	0.019	0.169
Suspended Solids mg/l	290	11.0	13.0	2,912	25.0	27.0	15.0	16.0
Total Dissolved Solids mg/l	1,540	1,600	1,650	1,050	NA	2,200	1,610	2,350
pH Units	7.45	7.70	7.80	7.30	7.60	7.80	8.00	7.20

NA - Not Available

SURFACE WATER QUALITY DATA
WELLINGTON COAL CLEANING PLANT
See Map No. F9-177 For Location of Sampling Stations

Sampling Date:	6/18/80	7/28/80	8/13/80	9/10/80	10/8/80	11/14/80	12/10/80	1/6/81
D								
Acidity as $CaCO_3$ mg/l	<.1	10.0	<.1	6.0	8.0	<.1	<.1	12.0
Alkalinity as $CaCO_3$ mg/l	180.00	270.00	274.00	252.00	334.00	400.00	354 00	378.00
Dissolved Iron mg/l	NA	8.250	0.160	10.500	0.490	2.669	0.165	23.765
Iron as Fe (Total) mg/l	14.700	15.850	0.250	54.700	38.100	12.560	0.240	10.350
Manganese as MN (Tot) mg/l	NA	NA	NA	NA	0.178	0.180	.020	0.188
Suspended Solids mg/l	515	16.0	18.0	2,276	36.0	32.0	18.0	22.0
Total Dissolved Solids mg/l	1,178	1,700	1,700	1,150	NA	2,300	1,610	2,350
pH Units	7.40	7.70	8.20	7.40	7.60	7.80	7.90	7.20

NA - Not Available

SURFACE WATER QUALITY DATA
WELLINGTON COAL CLEANING PLANT
See Map No. F9-177 For Location of Sampling Stations

Sampling Date:	2-9-81	3-81	4-22-81	5-81	6-23-81	7-81	8-81	9-23-81
A								
Acidity as $CaCO_3$ mg/l	NA	14.0	2.50	<0.01	<0.01	<0.01	6.30	<0.01
Alkalinity as $CaCO_3$ mg/l	NA	326.00	300.00	294.00	290.00	266.00	180.00	378.00
Dissolved Iron mg/l	NA	0.630	0.050	0.740	0.680	0.660	0.710	0.320
Iron as Fe (Total) mg/l	0.750	0.930	1.500	0.880	0.780	0.820	0.995	0.840
Manganese as Mn (Tot) mg/l	NA	0.170	0.160	0.120	0.100	0.110	0.150	0.120
Suspended Solids mg/l	87.0	41.0	64.0	7.0	72.0	7.0	2,752	84.0
Total Dissolved Solids mg/l	2,350	1,850	1,950	100	2,100	2,050	800	3,350
pH Units	7.80	7.60	7.90	8.20	7.90	8.40	8.10	8.20
Sampling Date:								
B								
Acidity as $CaCO_3$ mg/l	NA	8.0	5.00	<0.01	<0.01	9.50	12.60	12.00
Alkalinity as $CaCO_3$ mg/l	NA	320.00	312.00	286.00	292.00	248.00	298.00	332.00
Dissolved Iron mg/l	NA	0.020	0.430	0.380	0.030	0.035	0.349	0.310
Iron as Fe (Total) mg/l	0.230	0.500	0.740	0.850	0.630	0.650	1.110	0.920
Manganese as Mn (Tot) mg/l	NA	0.110	0.160	0.120	0.040	0.050	0.132	0.125
Suspended Solids mg/l	37.0	31.0	48.0	5.0	38.0	81.0	3,588	25.0
Total Dissolved Solids mg/l	2,440	1,850	2,000	130	2,100	2,000	1,800	2,600
pH Units	7.90	7.60	8.00	8.10	8.20	7.90	7.70	7.90
Sampling Date:								
D								
Acidity as $CaCO_3$ mg/l	NA	<0.1	5.00	<0.01	<0.01	<0.01	10.80	10.00
Alkalinity as $CaCO_3$ mg/l	NA	300.00	314.00	274.00	290.00	250.00	230.00	330.00
Dissolved Iron mg/l	NA	0.580	0.430	0.660	0.020	0.040	0.633	0.335
Iron as Fe (Total) mg/l	0.450	0.770	1.220	0.850	0.400	0.310	0.978	0.930
Manganese as Mn (Tot) mg/l	NA	0.170	0.180	0.130	0.030	0.028	0.146	0.144
Suspended Solids mg/l	29.0	27.0	94.0	13.0	110	25.0	2,544	47.0
Total Dissolved Solids mg/l	2,840	1,900	2,050	210	2,150	2,100	1,200	2,550
pH Units	7.90	7.90	8.10	8.00	8.40	8.10	7.60	8.00

NA - Not Available

SURFACE WATER QUALITY DATA
WELLINGTON COAL CLEANING PLANT
See Map No. F9-177 For Location of Sampling Stations

Sampling Date:	10-13-81	11-9-81	12-28-81	1-26-82	2-10-82	3-9-82	4-22-82	5-11-82
A								
Flow (gpm)								
Acidity as $CaCO_3$ mg/l	4.00	4.00	<0.01	18.00	22.00	28.00	<0.01	<0.01
Alkalinity as $CaCC_3$ mg/l	198.70	300.60	352.00	316.60	322.70	310.50	304.50	236.70
Dissolved Iron mg/l	0.095	0.690	0.135	0.010	1.580	0.020	6.870	6.800
Iron as Fe (Total) mg/l	0.465	0.810	0.440	0.690	2.430	1.860	27.100	15.800
Manganese as Mn (Tot) mg/l	0.034	0.110	0.110	0.050	0.170	0.070	0.665	0.475
Suspended Solids mg/l	11.2	39.0	61.0	10.5	43.0	92.0	1,088	332
Total Dissolved Solids mg/l	1,100	1,935	1,850	1,650	1,550	2,132	792	516
pH Units	6.80	7.80	8.10	7.20	7.40	7.60	8.00	8.00
Sampling Date:								
B								
Flow (gpm)								
Acidity as $CaCO_3$ mg/l	6.00	6.00	<0.01	20.00	12.00	28.00	6.00	<0.01
Alkalinity as $CaCO_3$ mg/l	197.30	298.30	309.00	309.40	318.20	310.30	298.20	242.30
Dissolved Iron mg/l	0.080	0.035	0.200	0.020	1.530	1.450	0.050	5.600
Iron as Fe (Total) mg/l	0.520	0.520	0.510	0.900	2.480	2.160	18.500	16.300
Manganese as Mn (Tot) mg/l	0.045	0.032	0.080	0.060	0.200	0.190	0.690	0.470
Suspended Solids mg/l	9.50	32.0	64.0	12.3	154	75.0	1,022	646
Total Dissolved Solids mg/l	1,150	1,925	1,900	1,725	1,550	2,238	784	524
pH Units	7.10	7.80	8.10	7.20	7.80	7.60	8.00	8.00
Sampling Date:								
D								
Flow (gpm)								
Acidity as $CaCO_3$ mg/l	6.00	4.00	<0.01	16.00	16.00	26.00	<0.01	<0.01
Alkalinity as $CaCO_3$ mg/l	202.70	280.10	339.30	304.40	328.00	304.10	306.10	252.10
Dissolved Iron mg/l	0.065	0.025	0.110	0.030	1.360	1.230	7.370	7.300
Iron as Fe (Total) mg/l	0.449	0.360	0.330	1.390	2.020	1.800	21.400	18.300
Manganese as Mn (Tot) mg/l	0.038	0.035	0.039	0.170	0.190	0.200	0.740	0.570
Suspended Solids mg/l	10.7	39.0	52.0	11.7	17.0	55.0	1,302	828
Total Dissolved Solids mg/l	1,200	1,980	1,900	1,700	1,625	2,286	842	520
pH Units	7.40	7.90	8.20	7.20	7.60	7.70	8.00	8.00

NA - Not Available

SURFACE WATER QUALITY DATA
WELLINGTON COAL CLEANING PLANT
See Map No. F9-177 For Location of Sampling Stations

Sampling Date:	6-9-82	7-30-82	8-26-82	10-28-82
A				
Flow (gpm)				
Acidity as $CaCO_3$ mg/l	<0.01	34.00	15.00	3.00
Alkalinity as $CaCC_3$ mg/l	227.80	262.10	297.80	39.00
Dissolved Iron mg/l	3.000	0.050	2.440	2.650
Iron as Fe (Total) mg/l	5.700	27.500	5.560	3.950
Manganese as Mn (Tot) mg/l	0.170	5.480	0.159	0.205
Suspended Solids mg/l	399	39,720	50.0	195
Total Dissolved Solids mg/l	410	2,915	1,750	1,730
pH Units	8.00	7.50	7.80	7.90
Sampling Date:				
B				
Flow (gpm)				
Acidity as $CaCO_3$ mg/l	< 0.01	26.00	13.00	8.00
Alkalinity as $CaCO_3$ mg/l	242.40	241.10	298.60	360.00
Dissolved Iron mg/l	3.550	0.050	2.860	3.850
Iron as Fe (Total) mg/l	7.200	21.000	8.350	4.370
Manganese as Mn (Tot) mg/l	0.210	4.780	0.240	0.225
Suspended Solids mg/l	579	56,433	28.0	103
Total Dissolved Solids mg/l	420	3,180	1,760	1,745
pH Units	8.00	7.60	7.80	7.70
Sampling Date:				
D				
Flow (gpm)				
Acidity as $CaCO_3$ mg/l	< 0.01	14.00	7.00	9.00
Alkalinity as $CaCO_3$ mg/l	221.00	183.50	296.50	390.00
Dissolved Iron mg/l	2.550	4.120	2.350	3.140
Iron as Fe (Total) mg/l	7.600	5.700	8.240	3.700
Manganese as Mn (Tot) mg/l	0.250	0.925	0.246	0.220
Suspended Solids mg/l	663	1,680	40.0	179
Total Dissolved Solids mg/l	420	2,800	1,810	1,760
pH Units	8.00	7.60	8.00	7.70

NA - Not Available

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WATER QUALITY DATA

WELLINGTON COAL CLEANING PLANT

Sample Date:	Reference Price River 5-24-83	Plant Effluent Auxiliary Pond 5-24-83 (filtered)	Diversion Ditch Adj. to North Dike 2-9-81	River Water Collector Well 5-24-83
Aluminum as Al mg/l	33.000	0.060	0.070	2.130
Ammonia as NH3-N mg/l	0.20	0.10	<0.01	0.30
Arsenic as As mg/l	0.036	0.010	<0.001	0.005
Barium as Ba mg/l	1.140	0.010	0.010	0.020
Bicarbonate as HCO3 mg/l	278.20	312.30	280.60	722.20
Boron as B mg/l	0.10	0.480	0.730	0.09
Cadmium as Cd mg/l	0.006	<0.001	<0.001	0.005
Calcium as Ca mg/l	72.0	120.00	400.03	404.00
Carbonate as CO3 mg/l	<0.01	<0.01	6.00	<0.01
Chloride as Cl mg/l	20.00	292.00	109.00	164.00
Chromium as Cr mg/l	0.045	0.011	0.003	0.005
Conductivity umhos/cm	750	3,700	9,000	9,600
Copper as Cu mg/l	0.120	0.008	0.030	0.030
Flouride as F mg/l	0.30	0.54	0.30	0.58
Hardness as CaCO3 mg/l	NA	NA	NA	NA
Iron as Fe (Total) mg/l	41.700	0.028	0.170	0.290
Lead as Pb mg/l	0.085	0.002	<0.001	0.016
Magnesium as Mg mg/l	43.20	124.80	341.47	352.80
Manganese as Mn mg/l	2.250	0.008	0.150	1.430
Mercury as Hg mg/l	0.0002	<0.0002	<0.00020	0.0002
Molybdenum as Mo mg/l	0.003	0.004	<0.001	0.011
Nickel as Ni mg/l	0.103	0.020	<0.001	0.035
Nitrate as NO3-N mg/l	0.25	0.10	0 42	0.06
Nitrite as NO2-N mg/l	0.03	<0.01	<0.01	<0.02
Phosphate as PO4-P Total mg/l	1.720	0.258	0.040	0.420
Potassium as K mg/l	3.30	7.90	17.50	8.20
Sodium as Na mg/l	43.0	500	947.00	1,090
Sulfate as SO4 mg/l	185	1,200	3,900	3,850
Sulfide as S mg/l	0.19	0.02	6.20	0.20
Suspended Solids mg/l	3,590	(1,325) filtered ??	20.0	56.0
Selenium	<0.001	<0.001	<0.001	<0.001
Total Combustable Solids mg/l	NA	NA	NA	NA
Total Dissolved Solids mg/l	510	2,410	5,850	6,250
Zinc as Zn mg/l	0.330	0.025	0.005	0.025
pH Units	8.00	7.18	7.80	7.40

NA - Not Available

09314250 PRICE RIVER BELOW MILLER CREEK, NEAR WELLINGTON, UTAH

LOCATION.--Lat 39°26'59", long 110°37'38", in SE¼NE¼ sec.12, T.16 S., R.11 E., Emery County, Hydrologic Unit 14060007, on left bank 100 ft (30 m) downstream from highway bridge, and 8.5 mi (13.7 km) southeast of Wellington.

DRAINAGE AREA.--956 mi^2 (2,476 km^2).

PERIOD OF RECORD.--April 1972 to current year.

REVISED RECORDS.--WDR UT-77-1: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 5,150 ft (1,600 m) from topographic map.

REMARKS.--Records good except those of no gage-height record, Nov. 3 to Jan. 13 and Jan. 22 to Mar.18, which are poor. Diversions for irrigation above station. Flow affected by storage in Scofield Reservoir.

AVERAGE DISCHARGE.--9 years, 84.0 ft^3/s (2.379 m^3/s), 60,860 acre-ft/yr (75.0 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,880 ft^3/s (81.6 m^3/s) September 11, 1975, gage height, 9.97 ft (3.039 m) from floodmark; minimum, 0.68 ft^3/s (0.019 m^3/s) June 30, July 1, 2, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 800 ft^3/s (22.7 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Oct. 15	1000	*1,760	49.8	9.20	2.804
Aug. 15	1700	926	26.2	6.47	1.972
Sept. 5	1800	1,160	32.9	7.27	2.216

Minimum, 13 ft^3/s (0.368 m^3/s) Sept. 18, 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	41	28	23	18	30	24	27	43	40	25	32
2	48	37	27	27	18	35	28	34	41	32	26	30
3	41	35	26	28	24	37	36	71	48	42	28	31
4	47	33	24	27	26	31	32	55	44	26	26	30
5	47	32	24	26	27	33	27	42	38	22	26	334
6	44	29	27	24	23	34	28	40	35	19	25	185
7	37	28	24	19	24	36	41	39	34	18	23	86
8	29	28	22	21	30	31	38	38	28	20	24	156
9	32	27	17	25	25	28	34	39	32	30	21	121
10	28	28	18	35	19	30	59	38	30	38	22	60
11	26	28	22	41	22	28	60	38	30	50	140	68
12	34	29	30	41	25	28	49	38	28	38	59	48
13	61	28	29	30	31	27	44	38	29	145	131	41
14	135	27	28	35	34	28	40	35	32	105	71	58
15	670	26	33	35	37	29	96	36	36	44	100	35
16	158	24	40	38	34	30	76	37	34	32	58	23
17	85	22	39	40	34	31	56	39	35	20	47	19
18	74	23	40	40	34	28	49	39	33	42	38	14
19	67	25	41	41	31	26	52	36	28	57	32	15
20	56	27	39	40	29	26	73	37	27	28	31	16
21	50	26	38	36	28	32	52	48	31	24	65	20
22	47	29	36	24	24	27	44	44	30	21	86	22
23	42	33	34	23	25	27	38	41	29	34	56	19
24	42	33	32	24	26	39	35	38	25	60	63	76
25	43	32	32	21	27	42	33	36	22	32	49	68
26	45	30	34	17	28	40	37	36	23	27	37	43
27	47	28	36	25	29	40	36	36	22	24	33	40
28	45	26	34	27	27	48	37	40	39	22	30	38
29	43	29	33	32	---	41	34	42	110	25	31	38
30	44	30	26	30	---	34	30	98	58	24	34	39
31	44	---	22	23	---	30	---	37	---	26	40	---
TOTAL	2258	873	935	918	759	1006	1318	1292	1074	1167	1477	1805
MEAN	72.8	29.1	30.2	29.6	27.1	32.5	43.9	41.7	35.8	37.6	47.6	60.2
MAX	670	41	41	41	37	48	96	98	110	145	140	334
MIN	26	22	17	17	18	26	24	27	22	18	21	14
AC-FT	4480	1730	1850	1820	1510	2000	2610	2560	2130	2310	2930	3580

CAL YR 1980 TOTAL 76063 MEAN 208 MAX 1900 MIN 13 AC-FT 150900
WTR YR 1981 TOTAL 14882 MEAN 40.8 MAX 670 MIN 14 AC-FT 29520

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

09314250 PRICE RIVER BELOW MILLER CREEK, NEAR WELLINGTON, UT
(LAT 39°26'59", LONG 110°37'08")

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)
OCT					JUN				
07...	1400	32	17.5	4490	17...	1430	29	25.5	2900
NOV					JUL				
25...	1500	32	1.0	3100	16...	1400	37	25.5	2800
JAN					23... *	1400	19	27.0	2850
13...	1240	29	.5	3140	AUG				
MAR					05...	1425	27	27.5	2650
18...	1220	30	8.0	3000	SEP				
APR					17...	1600	20	25.0	3900
14...	1635	42	18.0	2990					
MAY									
14...	1415	31	19.0	2920					

*Low flow value used in evaluation in Section 784.14(a)(3).

09314250 PRICE RIVER BELOW MILLER CREEK, NEAR WELLINGTON, UTAH

LOCATION.--Lat 39°26'59", long 110°37'38", in NE¼SE¼NE¼ sec.12, T.16 S., R.11 E., Emery County, Hydrologic Unit 14060007, on left bank 100 ft (30 m) downstream from highway bridge, and 8.5 mi (13.7 km) southeast of Wellington.

DRAINAGE AREA.--956 mi² (2,476 km²).

PERIOD OF RECORD.--April 1972 to current year.

REVISED RECORDS.--WDR UT-77-1: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 5,150 ft (1,600 m) from topographic map.

REMARKS.--Records poor. Diversions for irrigation above station. Flow affected by storage in Scofield Reservoir.

AVERAGE DISCHARGE.--10 years, 89.1 ft³/s (2.523 m³/s), 64,550 acre-ft/yr (79.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,880 ft³/s (81.6 m³/s) September 11, 1975, gage height, 9.97 ft (3.039 m) from floodmark; minimum, 0.68 ft³/s (0.019 m³/s) June 30, July 1, 2, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 800 ft³/s (22.7 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 29	0800	931	26.4	6.38	1.945
July 30	unknown	*957	27.1	6.47	1.972

Minimum daily, 14 ft³/s (0.396 m³/s) Jan. 8.

UNITED STATES DEPARTMENT OF IN[T]OR - GEOLOGICAL SURVEY PROCESS DATE IS 12-1[6]

STATION NUMBER 09314250 PRICE RIVER BL MILLER CREE[K] WELLINGTON, UT STREAM SOURCE AGENCY USGS
LATITUDE 392659 LONGITUDE 1103738 DRAINAGE ARE[A] 956.00 DATUM 5250.00 STATE 49 COUNTY 015

DISCHARGE, IN CUBIC FEET PER SECOND, WA[TER] YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

AL DATA

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	34	15	22	29	100	76	440	798	130	120	60
2	41	28	17	20	28	90	72	480	780	107	80	54
3	50	34	18	18	25	110	74	540	728	83	110	50
4	191	33	19	21	23	90	84	640	680	78	120	47
5	150	26	20	24	21	70	89	630	661	76	80	44
6	58	27	21	20	17	55	81	600	644	73	65	97
7	55	30	21	16	15	50	68	540	566	72	65	56
8	51	28	22	14	18	50	69	500	535	71	60	50
9	45	29	23	16	20	45	66	470	480	83	70	61
10	43	30	23	18	23	42	65	500	452	86	80	57
11	210	28	23	19	22	52	73	440	423	74	85	75
12	276	29	22	19	25	56	83	390	397	61	75	63
13	110	31	22	21	26	52	214	360	391	63	70	71
14	90	32	22	19	24	60	214	363	359	56	69	88
15	60	31	22	20	24	90	238	337	369	56	64	81
16	490	32	21	21	25	72	199	349	359	53	56	67
17	180	28	20	22	25	73	163	359	346	52	46	59
18	90	31	19	23	26	67	195	361	334	51	40	54
19	60	28	20	25	28	65	191	421	333	49	35	54
20	50	24	22	23	29	63	172	434	319	48	31	112
21	45	26	24	20	30	60	163	387	309	50	40	67
22	43	29	23	18	33	57	152	379	302	55	102	66
23	40	33	21	17	45	53	172	391	276	60	56	60
24	38	32	21	19	80	57	210	432	255	65	78	50
25	40	31	21	20	80	60	296	518	237	65	49	48
26	35	30	22	22	90	66	302	620	218	70	50	66
27	35	24	23	26	100	90	285	691	198	100	201	145
28	33	20	19	24	110	90	340	796	181	160	77	285
29	34	19	22	30	---	101	360	873	158	108	255	220
30	32	17	25	32	---	83	410	848	144	249	154	374
31	36	---	23	28	---	75	---	848	---	150	76	---
TOTAL	2745	854	656	657	1041	2144	5176	15937	12232	2537	2541	2681
MEAN	88.5	28.5	21.2	21.2	37.2	69.2	173	514	408	81.8	82.6	86.7
MAX	490	34	25	32	110	110	410	873	798	248	255	374
MIN	32	17	15	14	15	42	65	337	144	48	31	44
AC[-FT]	5440	1690	1300	1300	2060	4250	10270	31610	24260	5030	5080	5160

CAL YR 1981 TOTAL 15071 MEAN 41.3 MAX 490 MIN 14 AC[-FT] 29890
WTR YR 1982 TOTAL 49141 MEAN 135 MAX 873 MIN 14 AC[-FT] 97478

UNPUBLISHED RECORDS SUBJECT TO REVISION

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY — PROCES

C9314250 - PRICE RIVER BL MILLER CREEK NR WELLINGTON, U1 — DISTRICT CODE

WATER QUALITY DATA

UNPUBLISHED RECORDS
SUBJECT TO REVISION

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)
OCT , 1981				
05...	1230	97	14.5	1760
NOV				
16...	1105	34	6.5	3000
FEB , 1982				
16...	1320	33	1.0	--
MAR				
08...	1235	56	6.0	2790
APR				
12...	1030	85	9.0	1690
MAY , 1982 *				
14...	1410	373	12.0	930
JUN				
16...	1310	358	17.5	770
JUL				
14...	1050	56	21.0	2650
AUG				
13...	0920	65	17.5	3140
SEP				
15...	1430	72	16.5	2100

UNPUBLISHED RECORDS
SUBJECT TO REVISION

*High flow value used in evaluation in Section 784.14(a)(3).

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UMC 783.16 Surface Water Information

(a) The coal cleaning plant and the refuse disposal area are contained in the Price River watershed. Map C9-1212 exhibits the relationship of these sites to the Price River. The Price River probably in the past occupied other channels than that in which it flows at the present time. Site investigations indicate that the channel was adjacent to the present location of the plant. The ground water elevation appears to coinside with the elevation of the water level in the river.

The Soldier Creek is believed to have, at one time, flowed through the drainage occupied by the water clarification ponds to the Price River. This stream presently discharges to the Price River north west of the coal cleaning plant property. It appear that a part of the Soldier Creek continues to flow in the sands and gravels above the shale beds and below the settling pond beds to the Price River.

(b) Surface Water Information

(1) The Price River separates the coal cleaning plant and the coal cleaning plant refuse disposal area. The flow in the Price River varies with the seasons and precipitation.

(2) The 1980 "Report of Distribution of the Water Supply of the Price River" shows the following distribution of water to users on the Price River (Grassy Trail usage deleted). The operator diverted 900 acre feet of water from the Price River for use in the coal cleaning plant.

Source of Water Distributed

Type of Flow	Acre Feet	Percent
Direct Flow	55,478	76.64
Reservoir	16,907	23.36
Total	72,385	100.00

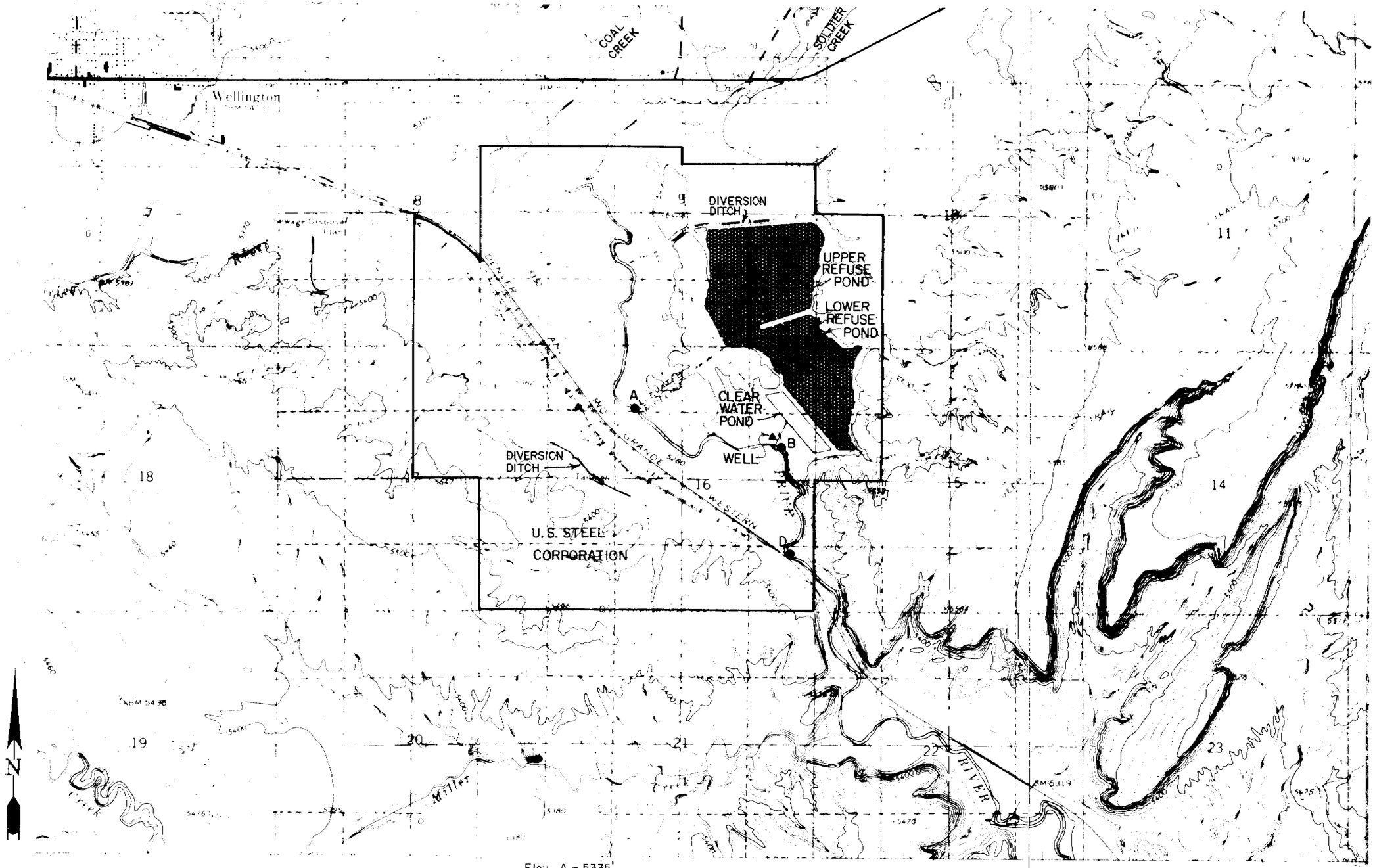
Type of Use	Acre Feet	Percent
Irrigation	65,442	90.41
City & Industrial	6,943	9.59
Total	72,385	100.00

The following two pages show water quality of the Price River flow at the sampling points. Shown on Map C9-1212.

UNITED STATES USS STEEL CORPORATION | C9-1212

WELLINGTON COAL CLEANING PLANT
HYDROLOGY & TOPOGRAPHY MAP

C9-1212



SCALE: 1" = 2000'

● – WATER SAMPLING STATIONS

Elev A – 5335'
Elev B – 5325'
Elev D – 5315'

ENGINEERING DEPARTMENT
COAL MINES & QUARRIES

APPROVED G.H.S. 2-25-81

CHECKED

APPROVED FOR SAFETY

DRAWN J.U. 2-25-81

TRACED

REVISIONS

PEMBROKE CO.

783-11

SURFACE WATER QUALITY DATA
WELLINGTON COAL CLEANING PLANT
See Map No. C9-1212 For Location of Sampling Stations

Sampling Date:	6/18/80	7/28/80	8/13/80	9/10/80	10/8/80	11/14/80	12/10/80	1/6/81
A								
Acidity as $CaCO_3$ mg/l	< .1	18.0	< .1	4.0	12.0	< .1	< .1	10.0
Alkalinity as $CaCO_3$ mg/l	212.00	258.00	282.00	240.00	310.00	374.00	362.00	406.00
Dissolved Iron mg/l	NA	3.250	0.130	15.500	0.390	2.650	0.160	2.880
Iron as Fe (Total) mg/l	7.540	6.654	0.370	67.500	0.520	7.850	0.350	6.950
Manganese as Mn (Tot) mg/l	NA	NA	NA	NA	0.110	0.185	0.025	0.179
Suspended Solids mg/l	432	17.0	15.0	3.076	23.0	32.0	21.0	29.0
Total Dissolved Solids mg/l	1,120	1,500	1,650	1,000	NA	2,100	1,540	2,350
pH Units	7.20	7.60	8.10	7.60	7.60	7.80	8.10	7.40
B								
Acidity as $CaCO_3$ mg/l	18.0	12.0	< .1	8.0	12.0	< .1	< .1	12.0
Alkalinity as $CaCO_3$ mg/l	180.00	272.00	280.00	246.00	328.00	366.00	364.00	366.00
Dissolved Iron mg/l	NA	5.540	0.110	15.600	0.370	2.355	0.118	3.150
Iron as Fe (Total) mg/l	12.900	11.850	0.160	64.000	0.460	14.550	0.180	12.850
Manganese as Mn (Tot) mg/l	NA	NA	NA	NA	0.145	0.175	0.019	0.169
Suspended Solids mg/l	290	11.0	13.0	2,912	25.0	27.0	15.0	16.0
Total Dissolved Solids mg/l	1,540	1,600	1,650	1,050	NA	2,200	1,610	2,350
pH Units	7.45	7.70	7.80	7.30	7.60	7.80	8.00	7.20

NA - Not Available

SURFACE WATER QUALITY DATA
WELLINGTON COAL CLEANING PLANT
See Map No. C9-1212 For Location of Sampling Stations

Sampling Date:	6/18/80	7/28/80	8/13/80	9/10/80	10/8/80	11/14/80	12/10/80	1/6/81
D								
Acidity as $CaCO_3$ mg/l	<.1	10.0	<.1	6.0	8.0	<.1	<.1	12.0
Alkalinity as $CaCO_3$ mg/l	180.00	270.00	274.00	252.00	334.00	400.00	354.00	378.00
Dissolved Iron mg/l	NA	8.250	0.160	10.500	0.490	2.669	0.165	23.765
Iron as Fe (Total) mg/l	14.700	15.850	0.250	54.700	38.100	12.560	0.240	10.350
Manganese as MN (Tot) mg/l	NA	NA	NA	NA	0.178	0.180	.020	0.188
Suspended Solids mg/l	515	16.0	18.0	2,276	36.0	32.0	18.0	22.0
Total Dissolved Solids mg/l	1,178	1,700	1,700	1,150	NA	2,300	1,610	2,350
pH Units	7.40	7.70	8.20	7.40	7.60	7.80	7.90	7.20

783-9

NA - Not Available

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UMC 783.17 Alternative Water Supply Information

The Operator owns 10.079 cubic feet per second of water diversion rights in the Price River for industrial and irrigation uses at its Wellington Coal Cleaning Plant properties. The Operator also has a lease from the Price Water Improvement District for up to 10 cubic feet per second of the sewer plant outfall. The make up water required from the Price River for plant operation is estimated to not exceed 4 cubic feet per second. The balance of the water rights is available for irrigation of operator owned lands.

The Operator's ownership and use of water under these water rights is covered by the State of Utah water laws and administrated by the Division of Water Rights - State Engineers Office. The use of the Price River water is monitored year-round by a water commissioner employed by the Price River Water Users and appointed by the State Engineer. The water laws and the administration of these laws appear to be adequate to protect all legitimate water users. In the event that the Operators actions result in diminution or interruption of the water rights of a legitimate water user the Operator will make available water from the Operator owned or controlled water rights during the diminution or interruption.

The quality of water available in the Price River is administrered by the State Department of Health. In the event that the quality of water becomes unsuitable for use by a legitimate water user due to actions by the Operator, the Operator will make available water from the Operator owned water rights during the period of unsuitable water quality.

The Operator owns a diversion upstream from the Coal Cleaning Plant on the Price River which could be used to provide water to the user being impacted. If necessary, water will be provided to the impacted user at his point of diversion.

Reference section 784.14 for a tabulation of water rights in the permit and adjacent areas. Please note that all downstream rights are for surface water only.

UMC 783.17 Alternative Water Supply Information

The operator owns water rights in the Price River that are adequate for the diversion of the make up water required for the operation of the coal cleaning plant. The processing water system is a closed circuit with water escaping through the heat dryer and pond evaporation. There is no known contamination, diminution, or interruption of water flow in the area that will adversely affect holders of water rights on the Price River.

UMC 783.18 Climatological Information

(a) See the following sheet for the average precipitation by month and total year for the Price-BLM weather station, which is the closest station to Wellington.

(b) See the following sheet for the average temperatures recorded by months at the Price-BLM weather station.

Temperature and precipitation data for 1986 is attached on page 783 - 29i.

KAISER COAL CORPORATION
WELLINGTON PREPARATION PLANT
ACT/007/012

1986 WEATHER DATA*

	Average Minimum Temperature	Average Maximum Temperature	Monthly Precipitation
January	22.6	46.8	0.15
February	28.9	49.6	1.85
March	34.2	60.9	0.69
April	35.7	61.8	1.19
May	42.2M	73.0	0.37
June	55.5	88.5	0.10
July	56.4	87.5	1.12
August	57.2	88.3	0.93
September	42.1	78.4M	1.99
October	31.4	66.2	1.42
November**			
December**			___.

Total Precipitation

* Data from Price Warehouses weather station
** Official NOAA information not yet published
M = 1-9 days data missing

UMC 783.18 Climatological Information

(a) See the following sheet for the average precipitation by month and total year for the Price-BLM weather station which is the closest station to Wellington.

(b) See the following sheet for the average temperatures recorded by months at the Price-BLM weather station.

Total Precipitation

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1978	1.59	1.61	-	-	-	T	0.70	0.15	T	-	3.47	0.77	-
1977	0.60	0.10	T	T	1.53	0.11	2.35	1.13	0.29	0.41	0.31	1.53	8.36
1976	T	1.16	0.20	0.91	0.77	0.13	0.39	0.30	1.62	0.37	0.03	0.00	5.88
1975	0.76	0.69	1.11	T	0.74	0.92	1.54	0.06	1.26	0.14	0.45	0.08	7.75

Average Temperatures

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1978	25.2	27.4	-	-	M	69.0	76.3	72.7	63.0M	M	40.0	19.8
1977	22.6	35.6	37.2	52.4	53.8	71.3	73.3	73.0M	63.3	-	-	34.2
1976	25.5	36.2	38.2M	46.8	58.1M	65.4M	76.0M	70.4	64.0	50.5	-	-
1975	25.0	31.6	41.3	43.7	53.6	59.9M	72.3	71.0	63.9M	52.1M	M	-

Ref. Climatological Data - Utah Annual Summary 1978, 1977, 1976, 1975
U. S. Department of Commerce
NOAA

UMC 783.18 Climatological Information

(a) See the following sheet for the average precipitation by month and total year for the Price-BLM weather station which is the closest station to Wellington.

(b) See the following sheet for the average temperatures recorded by months at the Price-BLM weather station.

UMC 783.18 CLIMATOLOGICAL DATA - Price, Utah

Total Precipitation

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1978	1.59	1.61	-	-	-	T	0.70	0.15	T	-	3.47	0.77	-
1977	0.60	0.10	T	T	1.53	0.11	2.35	1.13	0.29	0.41	0.31	1.53	8.36
1976	T	1.16	0.20	0.91	0.77	0.13	0.39	0.30	1.62	0.37	0.03	0.00	5.88
1975	0.76	0.69	1.11	T	0.74	0.92	1.54	0.06	1.26	0.14	0.45	0.08	7.75

783 - 14

Average Temperatures

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1978	25.2	27.4	-	-	M	69.0	76.3	72.7	63.0M	M	40.0	19.8
1977	22.6	35.6	37.2	52.4	53.8	71.3	73.3	73.0M	63.3	-	-	34.2
1976	25.5	36.2	38.2M	46.8	58.1M	65.4M	76.0M	70.4	64.0	50.5	-	-
1975	25.0	31.6	41.3	43.7	53.6	59.9M	72.3	71.0	63.9M	52.1M	M	-

Ref. Climatological Data - Utah Annual Summary 1978, 1977, 1976, 1975
U. S. Department of Commerce
NOAA

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A vegetation study is included in Appendix H. This study contains the following information which can be used to develop a revegetation plan:

* General Site Description
* Sampling Methods
* Sampling Results
* Revegetation Plan
* Tables
* Vegetation Maps.

UMC 783.19 Vegetation Information

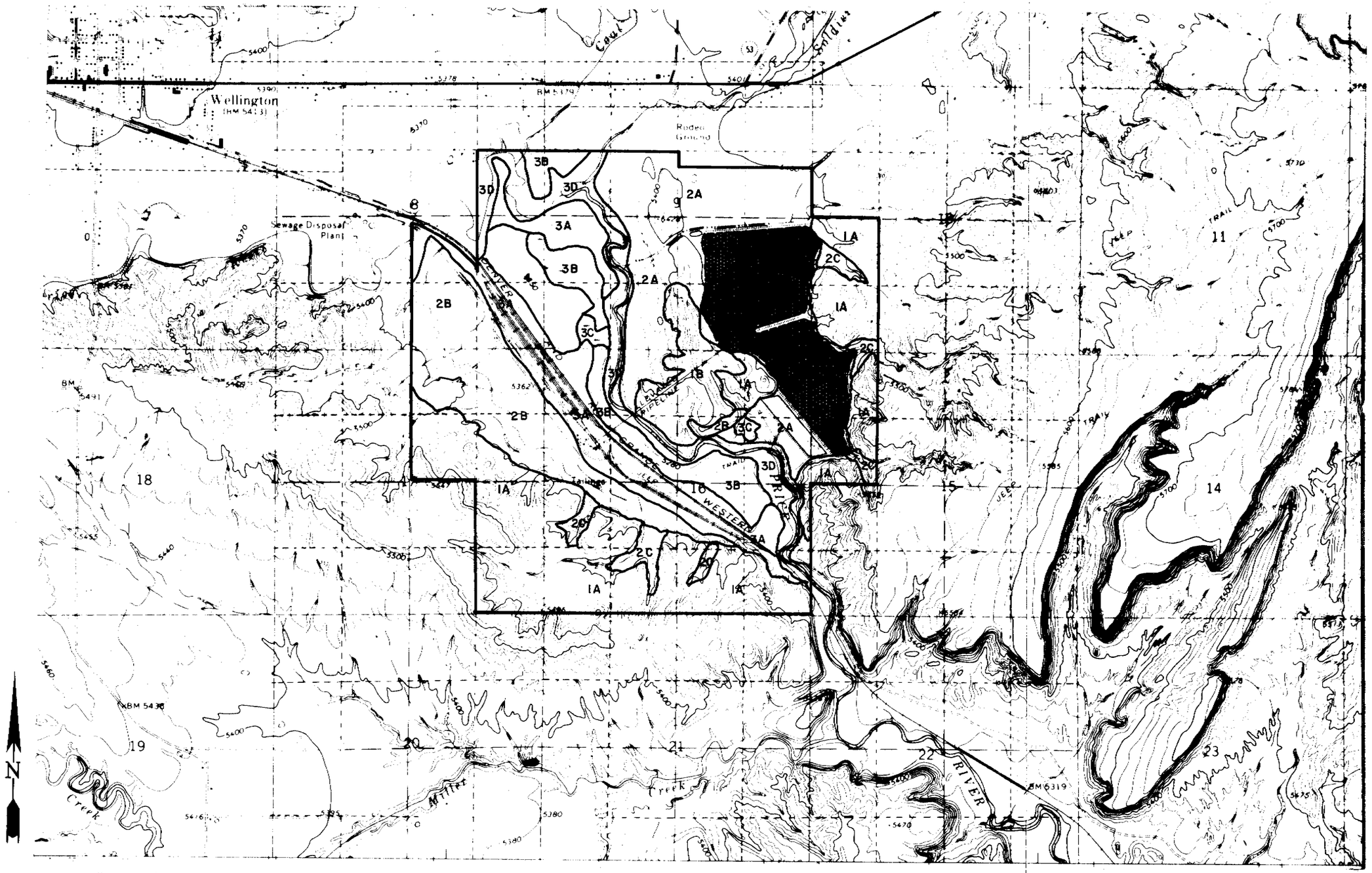
The Operator has engaged the services of a qualified individual to perform a vegetation study that will meet the requirements of this section. The completed study will be submitted when received by the Operator.

UNITED STATES USS STEEL CORPORATION

C9-1218

WELLINGTON COAL CLEANING PLANT
VEGETATIVE TYPES AND PLANT COMMUNITIES

C9-1218



SCALE: 1" = 2000'

Ref. Dwg. E9-3345

783-17

REVISIONS

ENGINEERING DEPARTMENT
COAL MINES & QUARRIES

APPROVED G.H.S. 2-25-81

CHECKED: APPROVED FOR SAFETY

DRAWN: J.U. 2-25-81

TRACED:

PEMBROKE CO.

UMC 783.19 Vegetation Information

See Appendix E and Map Nos. E9-3345 and C9-1218 for the description of existing vegetation.

MC 783.20 Fish and Wildlife Resources Information

The Utah Division of Wildlife Resources provided the applicant with a report "Fish and Wildlife Resource Information Wellington Preparation Plant, U. S. Steel Corporation". The report identifies the potential fish and wildlife in the biogeographic area which contains the coal cleaning plant permit area. This report is contained in Appendix F.

UMC 783.20 Fish and Wildlife Resources Information

The Utah Division of Wildlife Resources provided the applicant with a report "Fish and Wildlife Resource Information Wellington Preparation Plant, U. S. Steel Corporation". The report identifies the potential fish and wildlife in the biogeographic area which contains the coal cleaning plant permit area. This report is on file in the Western District-Coal offices in East Carbon, Utah and will be referenced in the conduct of future activities at the coal cleaning plant.

The soils descriptions of the disturbed areas indicate a relatively low value for vegetative growth that would support grazing or wildlife.

The occupancy of these lands by the operator has created ponds which are inhabited by a variety of fish and water fowl and a wetland area west of the river which supports a wetlands community. The wildlife population has not been inventoried by the agency or the operator.

UMC 783.21 Soil Resource Information

(a) (1) See map E9-3339 which delineates the soils within the cleaning plant permit area.

(2) Soil identification, description and potential productivity of the existing soil. The identified soil groups in the area of the coal cleaning plant and waste disposal site are:

Are there a new June 1978 Soil Survey for Carbon Creek?

Billings yes Bunderson - No

1. Billings-Bunderson Complex, 1 to 3 Percent Slopes, Eroded (BuB2)

The soils of this complex are on alluvial fans and flood plains. Bunderson loam, 1 to 3 percent slopes, eroded, occupies about 20 percent of the complex. It occurs as irregularly shaped slickspots that are interspersed with areas of Billings silty clay loam, 1 to 3 percent slopes.

The profile of the Billings soil is like the one described for the Billings series, except that some rill erosion and gully erosion have occurred. The profile of the Bunderson soil is the one described as typical for the Bunderson series. Included in mapping were areas of Ravola loam.

The surface layer of the Bunderson boil is platy and is nearly impervious to water. As a result, permeability and infiltration are very slow, especially in the surface layer. At depths of 10 to 20 inches, permeability is moderate. The surface of the Bunderson soil is nearly bare, except for scattered greasewood and pickleweed plants. About 11 inches of water is retained by this soil, but only about 4.5 inches is readily available to plants because of the high salt content in the upper 18 inches of the profile. Tiny crystals of salt are in the surface layer.

Runoff is rapid, and the soils of this complex are highly susceptible to erosion, especially during summer thunderstorms of high intensity. Gullying is variable, but in most areas the gullies are 10 to 20 feet deep and 500 to 1300 feet apart. In addition, gullies 4 to 8 feet deep are eroding in a cranching pattern, and head cutting is common.

The soils are better suited to production of range forage than to other uses. Reseeding of grasses and clearing of brush are not practical, because of the inadequate amount of rain. Proper use of the range and the

control of gully erosion are the main management requirements. Plants growing on the Bunderson soil have no forage value. (The Billings soil is in capability unit VIIe-D, nonirrigated; Desert Loam Bottom range site. The Bunderson soil is in capability unit VIIIS-7, nonirrigated; not rated for other uses)

Capability Unit VIIe-D (Nonirrigated)

This capability unit consists of well-drained, nearly level to sloping, eroded soils and of some soils that are moderately deep over shale. The surface layer is silty clay loam to loam. The soils are on alluvial fans and flood plains and in narrow alluvial valleys. They are in the Billings, Killpack, Penoyer, Ravola, and Bunderson series. Some irregularly shaped slipkspots consisting of Bunderson loam are within areas of Ravola soils.

The soils of this unit retain from 5.5 to 11 inches of moisture. They are seldom moistened to a depth of 3 feet by precipitation. Fertility and the content of organic matter are naturally low.

These soils are moderately to highly susceptible to erosion. Gullies are 3 to 10 feet deep and about 100 to 500 feet apart. Without irrigation, these soils are suited only to range. Reseeding of grasses, clearing of brush, or other practices are not feasible, because of the limited amount of precipitation.

Capability Unit VIIIs-7 (Nonirrigated)

This capability unit consists of rough, broken, and nearly bare areas of Badland and of a Bunderson soil. These areas have little potential for the production of plants and are sources of silt carried by runoff.

Small areas are used for a limited amount of grazing. The areas are used mainly, however, as a habitat for wildlife, for water supply, and for esthetic purposes.

2. Shaly Colluvial Land (Sn)

Shaly colluvial land is a mixture of soil material, cobblestones, and fragments of rock. It has accummulated on moderately steep and steep slopes and at the bases of slopes, primarily as the result of gravity. This colluvium is variable in thickness, and in some places it is as much as 3 feet thick over shale. This mis-

cellaneous land type is extensive in the survey area because the mesas or benches are capped with gravelly and cobbly glacial outwash. As the shale on the slopes of the mesas and benches erodes away, this capping falls and rolls down the slope. From 20 to 40 percent of the surface is shale outcrops. Because of the steep slopes, the lack of precipitation to establish plants, and the unconsolidated nature of the colluvium, moderate to severe erosion is active.

Included in mapping were some areas of medium-textured and moderately coarse textured soils that occupy the less steep slopes near the mountains. Included also were some areas of deep, gravelly heavy loams on narrow ridges.

The dominant vegetation is galleta grass and shadscale. Some of the gentler slopes have a good cover of galleta grass. This land type is used for spring and fall range. (Capability unit VIIs-DX, nonirrigated; Desert Cobbly Loam range site)

Capability Unit VIIs-DX (Nonirrigated)

This capability unit is composed of the miscellaneous land type called shaly colluvial land. This land type consists of a mixture of soil material, cobblestones, and stones that have accumulated on strong to steep slopes. In places shale bedrock crops out, but in other places the soil material is as much as 3 feet thick over shale.

The susceptibility to erosion is moderate to high. The capacity to retain moisture is variable and depends on the thickness and kind of material over shale bedrock. Because of the limited amount of precipitation, this land type usually is dry.

This land type is suitable for range. Reseeding of grasses and clearing of brush or other mechanical practices that would improve the range are not feasible.

NP 3. Mixed Alluvial Land (Mx)

Mixed alluvial land consists of unconsolidated alluvium that is typically stratified and widely variable in texture, color, and consistence. It occurs along stream channels and in most places has been deposited recently by streams. This material is subject to change

through periodic overflow, but it has remained in place long enough for plants to have become established. Typically, there has been no development of a soil profile, but in places the soil material near the surface is slightly darkened by organic matter. Drainage generally is restricted, and the soil material is mottled. Small areas in which the material is cobbly or stony are near the mouths of canyons. Away from the canyons, the sediments are finer textured.

This miscellaneous land type has little value for farming, except that it is used for grazing. (Capability unit VIw-2, nonirrigated; Wet Stream Bottom range site)

Capability Unit VIw-2 (Nonirrigated)

This capability unit consists mainly of recently deposited alluvial soil material that is stratified and variable in texture and is called Mixed alluvial land. In addition, it includes soils of the Abbott and Killpack series. The Abbott soil is mainly along streams, and in places it is subject to stream overflow and to a fluctuating water table. The Killpack soil is moderately deep over shale. In many places below settlements, the surface layer is moderately to strongly saline.

These soils are used mainly for pasture. A small acreage is suitable for crops or improved pasture.

4. Riverwash (Rv)

Riverwash consists of streambeds or riverbeds, including oxbowloops and other channels. These areas are exposed at low water and subject to shifting during periods of high water because of deposition and erosion. The deposited materials are extremely variable, ranging from boulders in the upper part of streams to silt and clay in the lower, more nearly level areas. Most areas are channeled and have little or no cover of vegetation. (Capability unit VIIIw-4, nonirrigated; not rated for other uses)

Capability Unit VIIIw-4 (Nonirrigated)

This capability unit consists of the land type Riverwash, which is gravelly and cobbly. Areas of this land type are subject to damaging overflows and do not support the growth of plants. Their main use is for wildlife habitat.

5. Rock Land (Ry)

Rock land is a miscellaneous land type having a surface 50 to 70 percent covered by stones, boulders, and outcrops of shale and sandstone. Most of this land type is moderately eroded, but many areas are severely eroded. Soil characteristics are almost obscured by the stones and boulders. The slopes are very steep to perpendicular, but typically they are between 50 and 80 percent.

Included in mapping were gently sloping, deep fine sandy loams. Intermingled with the sandstone outcrops were inclusions of shallow fine sandy loams. Also included on some of the north-facing slopes in the mountains along the west side of the survey area were small areas of an unidentified soil.

This land type has almost no value for farming, although some areas have a sparse cover of grass, sagebrush, pinion, and juniper. This vegetation grows on all exposure but it is dominant on north and west exposures. Small areas are accessible to livestock and wildlife, but most of the land type is too steep and rocky for grazing. (Capability unit VIIIs-3, nonirrigated; not rated for other uses)

Capability Unit VIIIs-3 (Nonirrigated)

This capability unit consists only of bare, steep ledges of Rock land on which plants do not grow. The only use is for wildlife habitat, water supply, and esthetic purposes.

6. Beebe Loamy Fine Sand, 1 to 3 Percent Slopes (BeB)

The profile of this soil is the one described as typical of the series. This soil normally has a texture of loamy fine sand throughout, but it contains interspersed layers, 2 to 6 inches thick, in which the texture is loam to sand. This soil is easy to work and to irrigate. If it is cultivated and irrigated, the salt and alkali leach out readily.

Included in mapping where this soil adjoins other soils were small areas that have a surface layer of loam or light loam.

This Beebe soil is well drained, and it is highly susceptible to wind erosion. Permeability is rapid, and runoff is slow. Roots penetrate deeply. The soil retains about 4 inches of available water, but only about two inches is readily available to plants.

Crops grown under irrigation are alfalfa, small grains, pasture plants, sugar beets, and small areas of corn. Alfalfa is well suited to this soil. It produces two crops and sometimes a small third crop. Because the growing season is short, corn does not mature for grain and is used only for ensilage. Many areas are still in range. Alfalfa responds to a phosphate fertilizer; small grains, corn, and pasture respond to a nitrogen fertilizer. (Capability units IVs-26, irrigated, and VIIe-D6, nonirrigated; Desert Sandy Loam range site)

Capability Unit VIIe-D6 (Non irrigated)

This capability unit consists of sandy, deep, well drained, gently to moderately sloping soils of the Beebe and Penoyer series. These soils are on alluvial fans and flood plains and in narrow valleys. The surface layer is very fine sandy loam, loam, and loamy fine sand. Some of the soils are eroded and contain shallow gullies and rills.

These soils hold 4.0 to 7.5 inches of water available to plants. Runoff is slow to medium, and permeability is moderate. The susceptibility to erosion is moderate to high. The frost-free season is 110 to 160 days.

The soils are used for range.

7. Ravola Series

The Ravola series consists of soils that are deep, medium textured, moderately permeable, and well drained. These soils occupy moderate to large areas on alluvial fans, on flood plains, and in narrow alluvial valleys. They have formed in alluvium that washed from shale and sandstone. The vegetation is mainly galletagrass, shadscale, and some greasewood. Elevations range from 4,000 to 6,500 feet. The annual rainfall is 6 to 11 inches, and the mean annual soil temperature is 47° to 54° F. The frostfree season is 110 to 160 days.

In a typical profile, the surface layer is light brownish-gray, slightly hard, moderately calcareous loam about 9 inches thick. The underlying material is light brownish-gray, moderately to strongly calcareous loam that in places is weakly stratified with layers of sandy loam or clay loam.

Nearly all areas have been cleared and are used for irrigated pasture, alfalfa, small grains, and corn. Some areas in the mouths of canyons, where air drainage is good enough to reduce the hazard of frost, are used for apple and peach orchards. Areas not cultivated are used for range.

Representative profile of a Ravola loam in a cultivated field, 2,000 feet west and 600 feet north of the SE corner of section 31, T.17S., R.9E., in Emery County, Utah:

Ap1 - 0 to 6 inches, light brownish-gray (2.5Y 6/2) loam, dark grayish brown (2.5Y 4/2) when moist; weak, coarse, subangular blocky structure breaking to weak, fine, subangular blocky structure; slightly hard, friable, nonsticky and slightly plastic; plentiful fine and few large roots; common fine and medium continuous pores; moderately calcareous; mildly alkaline (pH 7.8); clear, smooth boundary.

Ap2 - 6 to 9 inches, light brownish-gray (2.5Y 6/2) loam, dark grayish brown (2.5Y 4/2) when moist; weak, coarse, subangular blocky structure breaking to weak, coarse, granular structure; hard, friable, slightly sticky and slightly plastic; plentiful fine roots; common fine and few medium pores; strongly compacted plowpan layer; moderately calcareous; mildly alkaline (pH 7.7); clear, smooth boundary.

C1 - 9 to 18 inches, brownish-gray (2.5Y 6/2) loam, dark grayish brown (2.5Y 4/2) when moist; weak, thin, platy structure breaking to weak, very thin, platy structure; hard friable, slightly sticky and slightly plastic; few large and plentiful fine roots: many large and common fine pores; moderately calcareous: mildly alkaline (pH 7.7); gradual, wavy boundary.

C2 - 18 to 45 inches, light brownish-gray (2.5Y 6/2) loam, cark grayish brown (2.5Y 4/2) when moist; weak, coarse, subangular blocky structure breaking to weak, medium, granular structure; slightly hard, friable, slightly sticky and slightly plastic; few large and plentiful fine roots; common large and many fine pores; strongly calcareous; moderately alkaline (pH 7.9); gradual, irregular boundary.

C3 - 45 to 60 inches, light brownish-gray (2.5Y 6/2) loam, dark grayish brown (2.5Y 4/2) when moist; massive; soft, very friable, nonsticky and non plastic; few fine roots; few fine pores; moderately calcareous; moderately alkaline (pH 7.9).

Ravola soils generally are dry when not frozen, unless they are irrigated. The content of calcium carbonate ranges from 5 to 25 percent. Reaction is mildly and moderately alkaline. Salinity ranges from slight to moderate. The clay mineralogy is mixed, but the clay is mainly illite. In the A horizon, the hue is 2.5Y to 5Y; value is 6 or 7 when the soils are dry and is 4 to 5 when they are moist; and chroma ranges from 2 to 4. In some places the A horizon is silty clay loam. The part of the profile between 10 and 40 inches is heavy loam, silt loam, or very fine sandy loam that contains 18 to 27 percent clay and less than 15 percent sand coarser than very fine sand. All of the upper 40 inches is about the same color. Below a depth of 40 inches, the texture ranges from sandy loam to silty clay loam.

Ravola-yes
Bunderson-No

Ravola-Bunderson complex, 1 to 3 Percent Slopes, Eroded (RuB2)

About 80 percent of this mapping unit is Ravola loam, 1 to 3 percent slopes, eroded, and 20 percent is Bunderson loam, 1 to 3 percent slopes, eroded. Typically, the Bunderson soil occupies slickspots that are interspersed with areas of the Ravola soil (figure 13). Both soils are on flood plains and alluvial fans.

Included in mapping were small areas of Billings silty clay loam.

Runoff is rapid from the Bunderson soil, and most areas contain gullies 5 to 20 feet deep and 500 to 1,300 feet apart. Head cutting is common, and it is forming shallow gullies. In places wind-blown hummocks less than 2 feet high occur. Typically, these are on the east and north sides of greasewood and other plants.

The soils in this mapping unit are suited to the production of range forage. Controlling gully erosion and regulating the amount and season of range use are needed. Clearing the brush and reseeding grasses are not feasible, because of the small amount of rainfall. (Both soils are in Capability unit VIIe-D, nonirrigated; Ravola soil is in Desert Loam Bottom range site)

Capability Unit VIIe-D (Nonirrigated)

This capability unit consists of well-drained, nearly level to sloping, eroded soils and of some soils that are moderately deep over shale. The surface layer is silty clay loam to loam. The soils are on alluvial fans and flood plains and in narrow alluvial valleys. They are in the Billings, Killpack, Penoyer, Ravola, and Bunderson series. Some irregularly shaped slickspots consisting of Bunderson loam are within areas of Ravola soils.

The soils of this unit retain from 5.5 to 11 inches of moisture. They are seldom moistened to a depth of 3 feet by precipitation. Fertility and the content of organic matter are naturally low.

These soils are moderately to highly susceptible to erosion. Gullies are 3 to 10 feet deep and about 100 to 500 feet apart. Without irrigation, these soils are suited only to range. Reseeding of grasses, clearing of brush, or other practices are not feasible, because of the limited amount of precipitation.

8. Billings Series

The Billings series consists of soils that are moderately fine textured, calcareous, and well drained or moderately well drained. These soils are on alluvial fans, on flood plains, and in narrow alluvial valleys. They have formed in alluvium that washed from alkaline, gypsum-bearing marine

shale. The vegetation is dominantly greasewood, shadscale, galletagrass, and Indian ricegrass. Elevations range from 4,000 to 6,500 feet. The annual rainfall ranges from 6 to 11 inches, and the frost-free season ranges from 110 to 160 days. The mean annual temperature of the soil ranges from 47° to 54° F.

In a typical profile, the surface layer is light brownish-gray, strongly calcareous, hard silty clay loam about 11 inches thick. The underlying material is also light brownish-gray, mainly silty clay loam that is weakly stratified with thin layers of loam or clay loam. The profile contains crystals, veins, or soft nodules or gypsum at a depth below 20 inches.

Nearly all the acreage has been cleared and planted to irrigated crops, mainly alfalfa, small grains, corn, pasture plants, and sugar beets. Areas that have not been cleared are used for spring and fall range.

Representative profile of a Billings silty clay loam in a nearly salt-free cultivated field, 2,000 feet west and 600 feet north of the SE. corner of section 20, T.17S., R.9E., in Emery County, Utah:

Ap1 - 0 to 3 inches, light brownish-gray (2.5Y 6/2) silty clay loam, dark grayish brown (2.5Y 4/2) when moist; weak, medium, granular structure; hard, firm, sticky and plastic; plentiful medium roots; common medium pores; strongly calcareous; moderately alkaline (pH 7.9); clear, smooth boundary.

Ap2 - 3 to 11 inches, light brownish-gray (2.5Y 6/2) silty clay loam, dark grayish brown (2.5Y 4/2) when moist; weak, fine, angular and subangular blocky structure; hard, firm, sticky and plastic; plentiful medium roots; common fine pores; strongly calcareous; moderately alkaline (pH 8.0); clear, smooth boundary.

C1 - 11 to 18 inches, light brownish-gray (2.5Y 6/2) silty clay loam, dark grayish brown (2.5Y 4/2) when moist; weak, fine, angular and subangular blocky structure; hard, firm, sticky and plastic; few fine roots; few fine pores; strongly calcareous; mildly alkaline (pH 7.8); gradual, wavy boundary.

C2 - 18 to 42 inches, light brownish-gray (2.5Y 6/2) silty clay loam, dark grayish borwn (2.5Y 4/2) when moist; weak, coarse, subangular blocky structure; hard, firm, sticky and plastic; few fine roots; few fine, discontinuous pores; strongly calcareous; few soft gypsum nodules; mildly alkaline (pH 7.6); diffuse boundary.

C3 - 42 to 58 inches, light brownish-gray (2.5Y 6/2 silty clay loam, dark grayish brown (2.5Y 4/2) when moist; massive; hard, firm, sticky and plastic; few fine roots; few fine discontinuous pores; few, fine, light grayish-brown (10YR 6/2); soft gypsum nodules; strongly calcareous; moderately alkaline (pH 8.0).

Salinity and alkalinity range from slight to strong, and the content of lime ranges from 5 to 25 percent. The content of gypsum in the lower C horizon ranges from 0.5 to 25 percent; gypsum nodules and crystals occur in this horizon. Clay minerals are mixed but are mainly illite and kaolinite. Unless irrigated, the soils are generally dry when not frozen. Distinct mottles occur in the moderately well drained areas at depth below 36 inches. The A1 horizon has a hue of 2.5Y to 5Y. Value in this horizon is 6 or 7 when the soils are dry and 4 or 5 when they are moist; and chroma ranges from 2 to 4. The part of the profile between 10 and 40 inches is silty clay loam to clay loam and contains 27 to 35 percent clay and 15 percent sand that is coarser than very fine sand. The color of the upper 40 inches is similar to that of the A1 horizon.

Billings soils occur with the Bunderson soils.

No 9. Bunderson Series

The Bunderson series consists of well-drained, calcareous, medium-textured soils that are strongly affected by alkali. These soils are on alluvial fans, flood plains, and alluvial plains. They have formed in alluvium that washed from alkaline marine shale and sandstone. The vegetation is a aparse stand of pickleweed and greasewood. Most areas are bare and have a platy, nearly impermeable crust on the surface. Elevations range from 5,000 to 6,500 feet. The annual rainfall ranges from 6 to 11 inches, and the frost-free season ranges from 110 to 130 days. The mean annual soil temperature is between 47° and 54° F.

In a typical profile, the surface layer is light-gray to light brownish-gray, slightly hard loam about 4 inches thick. The underlying material is light brownish-gray silt loam and loam.

The Bunderson soils are used only for wildlife habitat.

Representative profile of Bunderson loam, 1 to 3 percent slopes, eroded, in a range area 1,400 feet east and 900 feet north of the SW. corner of section 25, T.21S., R.6E., in Emery County, Utah:

A11 - 0 to 1 inch, light-gray (2.5Y 7/2) loam, grayish brown (2.5Y 5/2) when moist; moderate, medium, platy structure; hard, friable, nonsticky and slightly plastic; no roots; few medium and fine vesicular pores; strongly calcareous; moderately saline; very strongly alkaline (pH 9.3); abrupt, smooth boundary.

A12 - 1 to 4 inches, light brownish-gray (2.5Y 6/2) loam, grayish brown (2.5Y 5/2) when moist; moderate, thin, platy structure; slightly hard, friable, nonsticky and slightly plastic; few fine roots; few very fine pores; strongly calcareous; strongly saline; very strongly alkaline (pH 10.0); abrupt, smooth boundary.

C1 - 4 to 11 inches, light brownish-gray (2.5Y 6/2) silt loam, dark grayish brown (2.5Y 4/2) when moist; moderate, medium, subangular blocky structure; hard, friable, slightly sticky and plastic; few fine roots; few very fine pores; strongly calcareous; strongly saline; strongly alkaline (PH 8.7); clear, wavy boundary.

C2 - 11 to 18 inches, light brownish-gray (2.5Y 6/2) loam, dark grayish brown (2.5Y 4/2) when moist; massive; slightly hard, very friable, nonsticky and slightly plastic; few very fine roots; few, fine, discontinuous pores; strongly calcareous; strongly saline; moderately alkaline (pH 8.4); gradual, irregular boundary.

C3 - 18 to 31 inches, light brownish-gray (2.5Y 6/2) loam, dark grayish brown (2.5Y 4/2) when moist; massive; soft, very friable, nonsticky and slightly plastic; few very

fine roots; few very fine pores; strongly calcareous; strongly saline; moderately alkaline (pH 8.0); clear, wavy boundary.

C4 - 31 to 38 inches, gray (2.5Y 6/1) silt loam, dark gray (2.5Y 4/1) when moist; massive; soft, friable, slightly sticky and plastic; few very fine roots; few very fine pores; strongly calcareous; strongly saline; moderately alkaline (pH 7.9); clear, wavy boundary.

C5 - 38 to 72 inches, light brownish-gray (2.5Y 6/2) loam, grayish brown (2.5Y 5/2) when moist; massive; slightly hard, very friable, nonsticky and slightly plastic; few very fine roots; few fine pores; strongly calcareous; moderately saline; moderately alkaline (pH 7.9).

The content of exchangeable sodium ranges from 30 to 96 percent; it is greatest in the upper part of the profile and decreases with depth. Salinity ranges from moderate to strong. Lime content ranges from 5 to 25 percent. The soils are generally dry when not frozen. The A1 horizons have a hue of 2.5Y to 5Y; value is 6 or 7 when the soils are dry and 4 or 5 when they are moist; and chroma ranges from 2 to 4. The part of the profile between 10 and 40 inches is loam or silt loam, which contains 18 to 27 percent clay and less than 15 percent sand coarser than very fine sand. Color of the upper 40 inches is about the same as that of the A1 horizons.

Sunderson soils occur with the Billings and Ravola soils. In this survey area, they were mapped only with these soils.

NP

10. Sanpete Series

The Sanpete series consists of deep, well-drained, gently sloping, gravelly or cobbly soils that have formed in glacial outwash derived mainly from sandstone and quartzite. These soils occupy moderately large to large areas on mesas and benches along the west and south sides of the survey area. The vegetation is galletagrass, shadscale, black sage and Indian ricegrass. Elevations range from 5,000 to 6,500 feet. The annual rainfall is 7 to 11 inches, and the mean annual soil temperature is between 47° and 54° F. The frost-free season is 110 to 130 days.

UNITED STATES USS STEEL CORPORATION

C9-1211

WELLINGTON COAL CLEANING PLANT
SOILS MAP

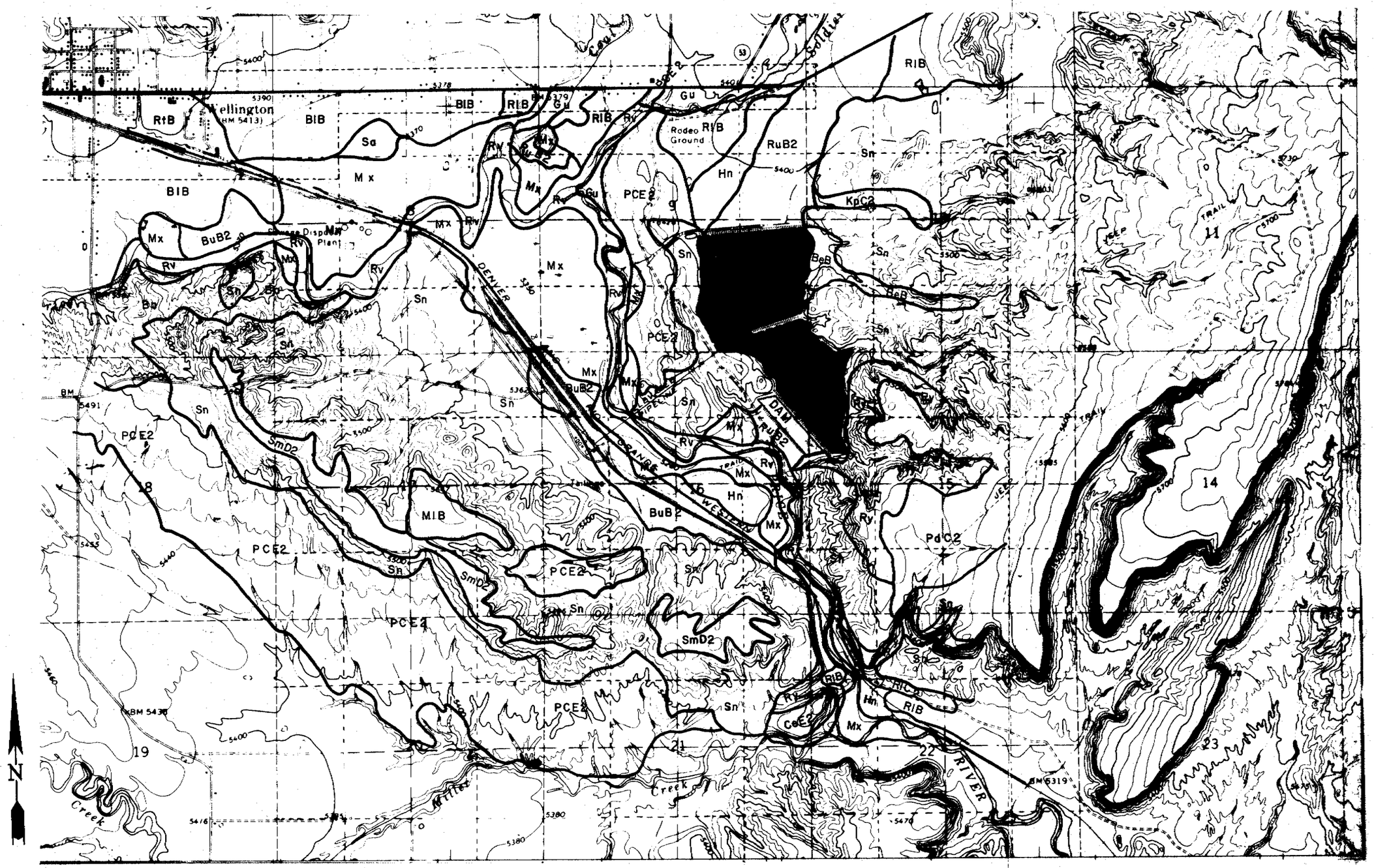
C9-1211

ENGINEERING DEPARTMENT
COAL MINES & QUARRIES

APPROVED G.H.S. 2-25-81

DRAWN J.U. 2-25-81 CHECKED:

TRACED: APPROVED FOR SAFETY



SCALE: 1" = 2000'

783-25

REVISIONS

PEMBROKE CO.

UMC 783.21 Soil Resource Information

(a) (1) See map E9-3339 which delineates the soils within the cleaning plant permit area.

(2) Soil identification, description and potential productivity of the existing soil. The identified soil groups in the area of the coal cleaning plant and waste disposal site are:

1. Billings-Bunderson Complex, 1 to 3 Percent Slopes, Eroded (BuB2)

The soils of this complex are on alluvial fans and flood plains. Bunderson loam, 1 to 3 percent slopes, eroded, occupies about 20 percent of the complex. It occurs as irregularly shaped slickspots that are interspersed with areas of Billings silty clay loam, 1 to 3 percent slopes.

The profile of the Billings soil is like the one described for the Billings series, except that some rill erosion and gully erosion have occurred. The profile of the Bunderson soil is the one described as typical for the Bunderson series. Included in mapping were areas of Ravola loam.

The surface layer of the Bunderson boil is platy and is nearly impervious to water. As a result, permeability and infiltration are very slow, especially in the surface layer. At depths of 10 to 20 inches, permeability is moderate. The surface of the Bunderson soil is nearly bare, except for scattered greasewood and pickleweed plants. About 11 inches of water is retained by this soil, but only about 4.5 inches is readily available to plants because of the high salt content in the upper 18 inches of the profile. Tiny crystals of salt are in the surface layer.

Runoff is rapid, and the soils of this complex are highly susceptible to erosion, especially during summer thunderstorms of high intensity. Gullying is variable, but in most areas the gullies are 10 to 20 feet deep and 500 to 1300 feet apart. In addition, gullies 4 to 8 feet deep are eroding in a cranching pattern, and head cutting is common.

The soils are better suited to production of range forage than to other uses. Reseeding of grasses and clearing of brush are not practical, because of the inadequate amount of rain. Proper use of the range and the

control of gully erosion are the main management requirements. Plants growing on the Bunderson soil have no forage value. (The Billings soil is in capability unit VIIe-D, nonirrigated; Desert Loam Bottom range site. The Bunderson soil is in capability unit VIIIS-7, nonirrigated; not rated for other uses)

Capability Unit VIIe-D (Nonirrigated)

This capability unit consists of well-drained, nearly level to sloping, eroded soils and of some soils that are moderately deep over shale. The surface layer is silty clay loam to loam. The soils are on alluvial fans and flood plains and in narrow alluvial valleys. They are in the Billings, Killpack, Penoyer, Ravola, and Bunderson series. Some irregularly shaped slipkspots consisting of Bunderson loam are within areas of Ravola soils.

The soils of this unit retain from 5.5 to 11 inches of moisture. They are seldom moistened to a depth of 3 feet by precipitation. Fertility and the content of organic matter are naturally low.

These soils are moderately to highly susceptible to erosion. Gullies are 3 to 10 feet deep and about 100 to 500 feet apart. Without irrigation, these soils are suited only to range. Reseeding of grasses, clearing of brush, or other practices are not feasible, because of the limited amount of precipitation.

Capability Unit VIIIs-7 (Nonirrigated)

This capability unit consists of rough, broken, and nearly bare areas of Badland and of a Bunderson soil. These areas have little potential for the production of plants and are sources of silt carried by runoff.

Small areas are used for a limited amount of grazing. The areas are used mainly, however, as a habitat for wildlife, for water supply, and for esthetic purposes.

2. Shaly Colluvial Land (Sn)

Shaly colluvial land is a mixture of soil material, cobblestones, and fragments of rock. It has accummulated on moderately steep and steep slopes and at the bases of slopes, primarily as the result of gravity. This colluvium is variable in thickness, and in some places it is as much as 3 feet thick over shale. This mis-

cellaneous land type is extensive in the survey area because the mesas or benches are capped with gravelly and cobbly glacial outwash. As the shale on the slopes of the mesas and benches erodes away, this capping falls and rolls down the slope. From 20 to 40 percent of the surface is shale outcrops. Because of the steep slopes, the lack of precipitation to establish plants, and the unconsolidated nature of the colluvium, moderate to severe erosion is active.

Included in mapping were some areas of medium-textured and moderately coarse textured soils that occupy the less steep slopes near the mountains. Included also were some areas of deep, gravelly heavy loams on narrow ridges.

The dominant vegetation is galleta grass and shadscale. Some of the gentler slopes have a good cover of galleta grass. This land type is used for spring and fall range. (Capability unit VIIs-DX, nonirrigated; Desert Cobbly Loam range site)

Capability Unit VIIs-DX (Nonirrigated)

This capability unit is composed of the miscellaneous land type called shaly colluvial land. This land type consists of a mixture of soil material, cobblestones, and stones that have accumulated on strong to steep slopes. In places shale bedrock crops out, but in other places the soil material is as much as 3 feet thick over shale.

The susceptibility to erosion is moderate to high. The capacity to retain moisture is variable and depends on the thickness and kind of material over shale bedrock. Because of the limited amount of precipitation, this land type usually is dry.

This land type is suitable for range. Reseeding of grasses and clearing of brush or other mechanical practices that would improve the range are not feasible.

3. Mixed Alluvial Land (Mx)

Mixed alluvial land consists of unconsolidated alluvium that is typically stratified and widely variable in texture, color, and consistence. It occurs along stream channels and in most places has been deposited recently by streams. This material is subject to change

through periodic overflow, but it has remained in place long enough for plants to have become established. Typically, there has been no development of a soil profile, but in places the soil material near the surface is slightly darkened by organic matter. Drainage generally is restricted, and the soil material is mottled. Small areas in which the material is cobbly or stony are near the mouths of canyons. Away from the canyons, the sediments are finer textured.

This miscellaneous land type has little value for farming, except that it is used for grazing. (Capability unit VIw-2, nonirrigated; Wet Stream Bottom range site)

Capability Unit VIw-2 (Nonirrigated)

This capability unit consists mainly of recently deposited alluvial soil material that is stratified and variable in texture and is called Mixed alluvial land. In addition, it includes soils of the Abbott and Killpack series. The Abbott soil is mainly along streams, and in places it is subject to stream overflow and to a fluctuating water table. The Killpack soil is moderately deep over shale. In many places below settlements, the surface layer is moderately to strongly saline.

These soils are used mainly for pasture. A small acreage is suitable for crops or improved pasture.

4. Riverwash (Rv)

Riverwash consists of streambeds or riverbeds, including oxbowloops and other channels. These areas are exposed at low water and subject to shifting during periods of high water because of deposition and erosion. The deposited materials are extremely variable, ranging from boulders in the upper part of streams to silt and clay in the lower, more nearly level areas. Most areas are channeled and have little or no cover of vegetation. (Capability unit VIIIw-4, nonirrigated; not rated for other uses)

Capability Unit VIIIw-4 (Nonirrigated)

This capability unit consists of the land type Riverwash, which is gravelly and cobbly. Areas of this land type are subject to damaging overflows and do not support the growth of plants. Their main use is for wildlife habitat.

5. Rock Land (Ry)

Rock land is a miscellaneous land type having a surface 50 to 70 percent covered by stones, boulders, and outcrops of shale and sandstone. Most of this land type is moderately eroded, but many areas are severely eroded. Soil characteristics are almost obscured by the stones and boulders. The slopes are very steep to perpendicular, but typically they are between 50 and 80 percent.

Included in mapping were gently sloping, deep fine sandy loams. Intermingled with the sandstone outcrops were inclusions of shallow fine sandy loams. Also included on some of the north-facing slopes in the mountains along the west side of the survey area were small areas of an unidentified soil.

This land type has almost no value for farming, although some areas have a sparse cover of grass, sagebrush, pinion, and juniper. This vegetation grows on all exposure but it is dominant on north and west exposures. Small areas are accessible to livestock and wildlife, but most of the land type is too steep and rocky for grazing. (Capability unit VIIIs-3, nonirrigated; not rated for other uses)

Capability Unit VIIIs-3 (Nonirrigated)

This capability unit consists only of bare, steep ledges of Rock land on which plants do not grow. The only use is for wildlife habitat, water supply, and esthetic purposes.

6. Beebe Loamy Fine Sand, 1 to 3 Percent Slopes (BeB)

The profile of this soil is the one described as typical of the series. This soil normally has a texture of loamy fine sand throughout, but it contains interspersed layers, 2 to 6 inches thick, in which the texture is loam to sand. This soil is easy to work and to irrigate. If it is cultivated and irrigated, the salt and alkali leach out readily.

Included in mapping where this soil adjoins other soils were small areas that have a surface layer of loam or light loam.

This Beebe soil is well drained, and it is highly susceptible to wind erosion. Permeability is rapid, and runoff is slow. Roots penetrate deeply. The soil retains about 4 inches of available water, but only about two inches is readily available to plants.

Crops grown under irrigation are alfalfa, small grains, pasture plants, sugar beets, and small areas of corn. Alfalfa is well suited to this soil. It produces two crops and sometimes a small third crop. Because the growing season is short, corn does not mature for grain and is used only for ensilage. Many areas are still in range. Alfalfa responds to a phosphate fertilizer; small grains, corn, and pasture respond to a nitrogen fertilizer. (Capability units IVs-26, irrigated, and VIIe-D6, nonirrigated; Desert Sandy Loam range site)

Capability Unit VIIe-D6 (Non irrigated)

This capability unit consists of sandy, deep, well drained, gently to moderately sloping soils of the Beebe and Penoyer series. These soils are on alluvial fans and flood plains and in narrow valleys. The surface layer is very fine sandy loam, loam, and loamy fine sand. Some of the soils are eroded and contain shallow gullies and rills.

These soils hold 4.0 to 7.5 inches of water available to plants. Runoff is slow to medium, and permeability is moderate. The susceptibility to erosion is moderate to high. The frost-free season is 110 to 160 days.

The soils are used for range.

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UMC 783.22 Land Use Information

(a) The Wellington Coal Cleaning Plant was completed in 1958 and has been in continuous operation since that date.

(1) See Map No. E9-3343 for the present uses of the land which has not changed in the last five years. Prior to the construction and operation of the Coal Cleaning Plant portions of the lands were used for grazing. The specific sites occupied by the Coal Cleaning Plant, railroad tracks and the refuse disposal areas appear to have been undeveloped land.

(2) (i) The capability of the site specific areas occupied by the Coal Cleaning Plant complex was limited to undeveloped land due to the soil types and limited availability of water in the area. Some of the adjacent area was irrigated and used for grazing.

(ii) The productivity of the predisturbed area of the Coal Cleaning Plant was very low due to the soil types in these areas. The disturbed areas were undeveloped land even though they were fenced and subject to grazing. The productivity is considered to have been low on the west side of the river due to the soil type of Billings-Bunderson Complex. The suitability for wildlife habitat is rated as "very poor" by the U.S. Soils Conservation Service in their "Soil Survey Interpretations" for both the Billings and the Bunderson soils. The source of the soils are marine shales and sandstone and are strongly alkaline. It appears that the disturbed areas were not managed for any land use prior to disturbance. The mixed alluvial land (Mx) soil covers a smaller area of disturbance west of the river and is only rated for grazing by the Soil Conservation Service. The disturbed area (presently covered by the refuse piles and the water clarification ponds) appears to have been shaly colluvial land (Sn). the soil type is rated as suitable for range. Practices such as reseeding of grasses, clearing of brush, or other mechanical practices

that would improve the range were not feasible according to the Soil Conservation Service publication "Soil Survey Carbon-Emery Area, Utah". Based on the soils descriptions it is concluded that the productivity of the predisturbance areas was relatively low.

(b) The paragraph refers to mining.

(c) The land use classifications and land use of the permit area is industrial under local law. Land uses of adjacent areas include residential, mining, grazing, agricultural, and industrial.

A statement of predisturbance vegetation productivity is included in the Vegetation Study (Appendix H).

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A statement of predisturbance vegetation productivity will be included in the Vegetation Study.

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UMC 783.22 Land Use Information

(a) The Wellington Coal Cleaning Plant was completed in 1958 and has been in continuous operation since that date.

(1) See map No. E9-3343 for the present uses of the land which has not changed in the last five years. Prior to the construction and operation of the coal cleaning plant portions of the lands were used for grazing. The specific sites occupied by the coal cleaning plant, railroad tracks and the refuse disposal areas appear to have been undeveloped land.

(2) (i) The capability of the site specific areas occupied by the coal cleaning plant complex was limited to undeveloped land due to the soil types and limited availability of water in the area. Some of the adjacent area was irrigated and used for grazing.

(ii) The productivity of the predisturbed area of the coal cleaning plant was very low due to the soil types in these areas. The disturbed areas were undeveloped land even though they were fenced and subject to grazing. The productivity is considered to have been low on the west side of the river due to the soils type Billings-Bunderson Complex. The suitability for wildlife habitat is rated as "very poor" by the U. S. Soils Conservation Service in their "Soil Survey Interpretations" for both the Billings and the Bunderson soils. The source of the soils are marine shales and sandstone and are strongly alkaline. It appears that the disturbed areas were not managed for any land use prior to disturbance. The Mixed alluvial land (Mx) soil covers a smaller area of disturbance west of the river and is only rated for grazing by the Soil Conservation Service. The disturbed area (presently covered by the refuse piles and the water clarification ponds) appears to have been Shaly colluvial land (Sn). The soil type is rated as suitable for range. Practices such as reseeding of grasses, clearing of brush, or other mechanical practices that would improve the range were not feasible according to the Soil Conservation Service publication "Soil Survey Carbon-Emery Area, Utah". Based on the soils descriptions it is concluded that the productivity of the predisturbance areas was relatively low.

(b) The paragraph refers to mining.

(c) The land use classifications and land uses under local law of the permit area is industrial. Land uses of adjacent areas include residential, mining, grazing, agricultural, and industrial.

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UMC 783.24 Maps: General Requirements

(a) See Map C9-1214

(b) See Map C9-1214

(c) See Map E9-3341 and E9-3339

(d) The only buildings within 1000 feet of the permit area which are not owned by the operator and part of the coal cleaning plant facilities are the sewage treatment plant facilities owned by the Price River Water Improvement District and are shown on Map C9-1213.

(e) See Maps F9-177 and E9-3341.

(f) See section UMC 783.19.

(g) See Map F9-177.

(h) See Maps C9-1214, F9-177 and E9-3341.

(i) There are no known public parks and cultural or historical resources which are listed or eligible for listing in the National Register of Historic Places within the permit and adjacent areas. There are no known archeological sites within the permit and adjacent areas.

(j) There is no known public cemetery or Indian burial ground within the permit and adjacent areas.

(k) The land within the permit adjacent areas are not included within the boundaries of any unit of the National System of Trails or the Wild and Scenic Rivers System.

(l) Map E9-3430 shows existing structures within 100 feet of the Price River as requested under UMC 817.57 of the ACR.

UMC 783.24 Maps: General Requirements

(a) See Map C9-1214

(b) See Map C9-1214

(c) See Map E9-3341

(d) The only buildings within 1000 feet of the permit area which are not owned by the operator and part of the coal cleaning plant facilities are the sewage treatment plant facilities owned by the Price River Water Improvement District and are shown on Map C9-1212.

(e) See Maps C9-1212 and E9-3341.

(f) See section UMC 783.19.

(g) See Maps C9-1212 and E9-3341.

(h) See Maps C9-1212 and E9-3341.

(i) There are no known public parks and cultural or historical resources which are listed or eligible for listing in the National Register of Historic Places within the permit and adjacent areas. There are no known archeological sites within the permit and adjacent areas.

(j) There is no known public cemetery or Indian burial ground within the permit and adjacent areas.

(k) The land within the permit adjacent areas are not included within the boundaries of any unit of the National System of Trails or the Wild and Scenic Rivers System.

UMC 783.25 Cross Sections, Maps and Plans

(a) See Appendix C and E9-3428

(b) See Map F9-177

(c) Does not apply since this is not a coal mine.

(d) Does not apply since this is not a coal mine.

(e) There are no underground mine workings in the permit and adjacent areas.

(f) See Section UMC 783.15 and E9-3428.

(g) See Map F9-177.

(h) There are no surface mined areas within the permit or adjacent areas.

(i) See Maps F9-177 and E9-3341.

(j) There are no known oil or gas wells within the permit area. The Price River Collection Well is located on E9-3341. See Map C9-1214 for well locations in sections 4, 7 and 8.

(k) Does not apply since this is not a coal mine.

(l) All maps, plans and cross sections were prepared under the direction of a registered professional engineer.

UMC 783.25 Cross Sections, Maps, and Plans

(a) See Appendix C

(b) See Map C9-1212

(c) Does not apply since this is not a coal mine.

(d) Does not apply since this is not a coal mine.

(e) There are no underground mine workings in the permit and adjacent areas.

(f) See section UMC 783.15.

(g) See Map C9-1212

(h) There are no surface mined areas within the permit or adjacent areas.

(i) See Maps C9-1212 and E9-3341.

(j) There are no known oil or gas wells within the permit or adjacent areas.

(k) Does not apply since this is not a coal mine.

(l) All maps, plans and cross sections were prepared under the direction of a registered professional engineer.

UMC 783.27 Prime Farmland Investigation

(a) The pre-application investigation of the coal cleaning plant disturbed areas as to a prime farmland designation are stated below.

(b) (1) The land has not been historically used as cropland.

(2) The land is generally less than 10% slope.

(3) The land is not irrigated, or naturally sub-irrigated, has no developed water supply that is dependable, and the average annual precipitation is less than 14 inches.

(4) Does not apply.

(5) The soil mapping units within the coal cleaning plant and refuse disposal area have not been designated prime farmland by the U. S. Soil Conservation Service.

(c) On the basis of the above investigation, a negative determination is requested regarding prime farmland. The Soil Conservation Service has been requested to provide a determination on this property.

United States
Department of
Agriculture

Soil
Conservation
Service

P. O. Box 11350
Salt Lake City, UT 84147

June 14, 1983

Glenn H. Sides
Chief Engineer
U. S. Steel Mining Co., Inc.
P. O. Box 807
East Carbon, Utah 84520

Dear Mr. Sides:

After site investigation, the Soil Conservation Service has determined that no prime farmland occurs at the U. S. Steel Mining Company, Inc., Wellington Coal Cleaning Plant. The area is too saline and without irrigation water the moisture requirement for prime farmland cannot be met.

We are retaining the map for future reference.

The area is located as follows:

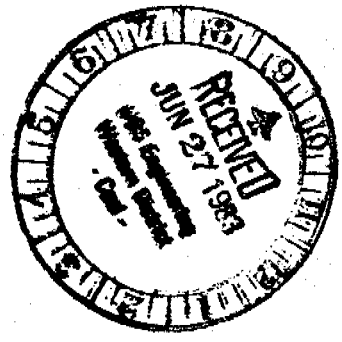
T15S R11E SLBM

Section 8 SE 1/4 NE 1/4
Portion of NW 1/4 SE 1/4
NE 1/4 SE 1/4
S 1/2 E 1/4
Section 9 S 1/2 NW 1/4
Portion of SW 1/4 NE 1/4
Portion of SE 1/4 SE 1/4
S 1/2
Section 10 W 1/2 SW 1/4
Section 15 W 1/2 NW 1/4
Section 16 All
Section 17 NE 1/4
E 1/2 SE 1/4

Sincerely,

Francis T. Holt

FRANCIS T. HOLT
State Conservationist



cc: Keith Beardall, DC, Price, UT

783 - 45
Rev. 1: 6-30-83

UMC 783.27 Prime Farmland Investigation

(a) The pre-application investigation of the coal cleaning plant disturbed areas as to a prime farmland designation are stated below.

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(2) The land is generally less than 10% slope.

(3) The land is not irrigated, or naturally sub-irrigated, has no developed water supply that is dependable, and the average annual precipitation is less than 14 inches.

(4) Does not apply.

(5) The soil mapping units within the coal cleaning plant and refuse disposal area have not been designated prime farmland by the U. S. Soil Conservation Service.

(c) On the basis of the above investigation a negative determination is requested regarding prime farmland.

UMC 784 Underground Coal Mining Permit Application - Reclamation and Operation Plan

UMC 784.11 Operation Plan

The permit area is occupied by a coal cleaning plant, railroad tracks, material storage and refuse disposal areas.

(a) The coal cleaning plant has operated from 1958 to 1985. During December 1985 the plant ceased operations temporarily and has remained idle due to market conditions. The cleaning plant receives raw coal by rail from operating mines, dumps, processes and ships clean coal by rail. The plant has processed from 1.5 to 1.8 million tons of raw coal annually and shipped 1.2 to 1.5 million tons of clean coal. Some 300,000 tons of refuse is pumped or trucked to the refuse disposal areas.

(b) (1) The refuse disposal area contains three impounding structures and one embankment as follows:

Upper Refuse Dike

Appendix C describes the construction of this impounding structure. The purpose of this structure is to impound the flow of waste carrying water from the coal cleaning plant, permitting the initial settlement of the waste material carried by this water. The partially clarified water is decanted to the Lower Refuse Pond. Future plans include raising the height of this impoundment. Conversion plans are contained in Appendix E of this text.

Lower Refuse Dike

Appendix C describes the construction of this impounding structure. The purpose of this structure is to impound the decanted water from the Upper Refuse Pond, complete the clarification of the water and decant the clear water to the Clear Water Pond. Plans are contained in Appendix E for raising this impoundment. The as constructed drawing is also included in Appendix E.

Clear Water Dike

Appendix C describes the construction of this impounding structure. This structure impounds

the decanted water from the Lower Refuse Pond and forms the reservoir for the clear water that passes to the coal cleaning plant for the processing of raw coal. This structure is not expected to be modified. Refer to Exhibit 4, page 784-14.

North Dike

Appendix C describes the construction of this embankment. The purpose of this structure is to divert water within the ponds toward the impounding structures, and divert water passing from the fields north of the ponds away from the ponds. Future plans include conversion to an impounding structure. Conversion plans are contained in Appendix E of this text.

For the operation and maintenance plan for these structures refer to 784.16 (a) (2) (iii).

For reclamation plans for the refuse area east of the Price River refer to 784.13, 14, 15, and 16.

(2) The future surface disturbances at the coal cleaning plant will generally be associated with the extension of the refuse piles onto adjacent areas. Overburden spoil piles from proposed pond excavations are described in the list of facilities referenced on Drawing No. E9-3341. Topsoil handling is discussed on in 784-13 (b) (4).

(3) The run-of-mine (raw) coal is dumped from rail cars in the dump station. The rail cars are moved either under a clean coal loading station and loaded with clean coal or placed in storage tracks for return to the mines. The cars loaded with clean coal are placed on the Denver and Rio Grande Western Railroad tracks for shipment. All coal cleaning plant tracks will be removed during reclamation. The rail bed will be graded to the configuration shown on Drawing No. E9-3342.

(4) See Map E9-3341 for the location of the coal processing waste disposal areas. Refer to Appendix E for long range operation and

784.11 cont.

expansion plans. For reclamation plans, refer to 784.13, 14, 15, and 16.

(5) The following structures and facilities are locatedon Drawing No. E9-3341:

UMC 784.11 Operation Plan

The permit area is occupied by a coal cleaning plant, railroad tracks, material storage and refuse disposal areas.

(a) The coal cleaning plant has been in continuous operation since 1958 with a projected life exceeding some 30 years. The cleaning plant receives raw coal by rail from the operating coal mines, dumps, processes and ships clean coal by rail to the Geneva Steel Works in Orem, Utah. The plant receives from 1.5 to 1.8 million tons of raw coal annually and ships 1.2 to 1.5 million tons of clean coal. Some 300,000 tons of refuse is pumped or trucked to the refuse disposal areas.

(b) (1) The refuse disposal area contains three impounding structures and one embankment as follows:

Upper Refuse Dike

Appendix C describes the construction of this impounding structure. The purpose of this structure is to impound the flow of waste carrying water from the coal cleaning plant, permitting the initial settlement of the waste material carried by this water. The partially clarified water is decanted to the Lower Refuse Pond. Future plans include raising the height of this impoundment. Tentative conversion plans are contained in Appendix E of this text and Appendix E of Technical Revision No. 1.

Lower Refuse Dike

Appendix C describes the construction of this impounding structure. The purpose of this structure is to impound the decanted water from the Upper Refuse Pond, complete the clarification of the water and decant the clear water to the Clear Water Pond. Plans have been submitted in Technical Revision No. 1 for raising this impoundment.

Clear Water Dike

Appendix C describes the construction of this impounding structure. This structure impounds the decanted water from the Lower Refuse Pond and forms the reservoir for the clear water that passes to the coal cleaning plant for the processing of raw coal. This structure is not expected to be modified. Refer to Exhibit 4, page 784-14.

North Dike

Appendix C describes the construction of this embankment. The purpose of this structure is to divert water within the ponds toward the impounding structures, and divert water passing from the fields north of the ponds away from the ponds. Future plans include conversion to an impounding structure. Tenative conversion plans are contained in Appendix E of this text and Appendix E of Technical Revision No. 1.

For the operation and maintenance plan for these structures refer to 784.16(a)(2)(iii).

For reclamation plans for the refuse area east of the Price River refer to 784.13,14,15, and 16.

(2) The future surface disturbances at the coal cleaning plant will generally be associated with the extension of the refuse piles onto adjacent areas. Overburden spoil piles from proposed pond excavations are described in the list of facilities referenced on Drawing No. E9-3341. Topsoil handling is discussed on in 784-13(b)(4).

(3) The run-of-mine (raw) coal is received with the incoming railroad cars containing the raw coal placed on the raw coal storage tracks. The cars containing the raw coal are passed through a dump station where the cars are dumped and passed either under the clean coal loading station and loaded with clean coal or placed in the empty car storage tracks for return to the mines for loading. The cars loaded with clean coal are placed on the Denver and Rio Grande Western Railroad tracks for movement to the Geneva Steel Works in Orem, Utah. All coal cleaning plant tracks will be removed during reclamation. The rail bed will be graded to the configuration shown on Drawing No. E9-3342.

(4) See Map E9-3341 for the location of the coal processing waste disposal areas. Refer to Appendix E for long range operation and expansion plans. For reclamation plans, refer to 784.13,14,15, and 16.

(5) The following structures and facilities are located on Drawing No. E9-3341:

A. Bridge Entrance to the Property

The bridge entrance into the property is a concrete structure bridging the Price River which is the primary entrance to the property.

B. Electric Power Substation

The electric power substation receives the incoming power at the transmission voltage and transforms it to the plant voltage for use in the plant.

C. Coal Cleaning Plant Building

The coal cleaning plant building is a concrete corrugated steel structure that contains the equipment for processing the raw coal into the clean coal and refuse components.

D. Track Hopper and Raw Coal Conveyor

The track hopper is a structural steel building with corrugated steel siding which sits on a reinforced concrete underground structure. Three tracks of the plant railroad system pass through this building. The railroad cars containing the incoming raw coal are dumped in this building into the raw coal bins. The raw coal passes from the bins through feeders for blending and placing on the raw coal conveyor for transfer to the coal cleaning plant building. Refer to Exhibits 1 and 2, pages 784-11, 12.

E. Plant Railroad System

The plant railroad system consists of the receiving, raw coal storage, unloading, and loading tracks for the movement of raw coal into the plant area and clean coal out of the plant area.

F. Heat Dryer and Conveyor

The heat dryer is a plant that receives wet, clean coal from the coal cleaning process, reduces the moisture to a nominal 5½% and returns the dry coal to the loading bins in the coal cleaning plant. Refer to Exhibits 1 and 3, pages 784-11, 13.

G. Refuse Pipeline and Supporting Structure

The reject material from the coal cleaning process is pumped to the refuse disposal area through an elevated 12 inch steel pipeline supported by steel structures on concrete piers. Refer to Exhibits 1 and 2, pages 784-11, 12.

H. Pumphouse

The pumphouse is a steel structure with corrugated steel siding that houses the pumps that pump water from the sump fed by the Price River to the clear water pond for makeup water which is lost in the heat drying process and to evaporation due to low humidity. Refer to Exhibit 4, page 784-14.

I. Coarse Refuse Bin

The coarse refuse bin is a steel structure that accumulates the coarse refuse for trucking to the coarse refuse disposal area. Refer to Exhibit 2, page 784-12.

J. Office Building

The office building is a steel structure on a concrete foundation which houses the coal cleaning plant offices and laboratory. Refer to Exhibit 2, page 784-12.

K. Storehouse

The storehouse is a steel frame steel side building erected on a concrete slab which houses the spare parts and materials required to maintain and operate the coal cleaning plant. Refer to Exhibit 2, page 784.12.

L. Shop

The shop is a steel structure - steel siding building which houses the maintenance shop facilities. Refer to Exhibit 2, page 784-12.

M. Coal Carbonization Lab

The coal carbonization lab is a steel structure - steel siding building which houses the equipment for testing the coking quality of the clean coal. Refer to Exhibit 2, page 784-12.

N. Fuel Storage Building

The fuel storage building is a steel structure that houses the fuel oil storage tanks and lubricants. Refer to Exhibit 1, page 784-11.

O. Plant Pumphouse

The plant pumphouse is a steel building that houses the fire protection pumps, fresh water pumps and bilge pumps. Refer to Exhibit 2, page 784-12.

P. Auxiliary Pond

The auxiliary pond provides water storage capacity to support plant operations. Water is maintained in the pond for use in plant operations. Void capacity is maintained to receive plant discharge and runoff volumes. The holding capacity of the auxiliary pond will be combined with that of the proposed Road Pond by a culvert. Refer to Exhibit 2, page 784-12.

Q. North Dike

The north dike is constructed of the material excavated from the ditch immediately north of the dike. For further discussion, refer to item (b)(1) in this section.

R. Upper Refuse Pond

The upper refuse pond receives the water carrying the waste material from the coal cleaning process. Clarification begins in this pond.

S. Upper Refuse Dike

The upper refuse dike is the impounding structure that forms the upper refuse pond. For further discussion, refer to item (b)(1) in this section.

T. Lower Refuse Pond

The lower refuse pond receives the water from the upper refuse pond. Final water clarification takes place in this pond.

U. Lower Refuse Dike

The lower refuse dike is the impounding structure that forms the lower refuse pond. For further discussion, refer to item (b)(1) in this section.

V. Clear Water Pond

The clear water pond provides storage for the clarified water that is used in coal processing. Refer to Exhibit 4, page 784-14.

W. Clear Water Dike

The clear water dike is the impounding structure for the clear water pond. Refer to Exhibit 4, page 784-14.

X. Coarse Refuse Pile

The coarse refuse pile is the disposal area for coarse reject from the coal cleaning process.

Y. Diversion Ditch

This diversion ditch was constructed to lower the water table in the fields north of the slurry ponds and to divert irrigation return water from those fields away from the slurry ponds. Refer to Appendix E for proposed modifications. This diversion ditch is a permanent structure.

Z. Sauerman Hoist and Tail Tower

The sauerman hoist and tail tower are used to remove coal fines from the refuse ponds. The sauerman hoist has been dismantled and removed from the site. Reclamation of the site was completed during the Fall of 1986. Appendix B contains additional information.

AA. Clear Water Pipeline

The clear water pipeline is a buried line that carries water from the clear water pond to the coal cleaning plant for processing raw coal.

BB. Material and Equipment Storage Area

The material and equipment storage area provides storage for equipment and various repair, maintenance, and construction materials (primarily steel) that are required to support the coal cleaning plant operation. Refer to Appendix G.

CC. Scrap Metal Storage Area

Two scrap metal storage areas, one for carbon steel and one for stainless steel, are holding area for the accumulation of recyclable scrap metals. Accumulated scrap metal is periodically loaded into rail cars for shipment to recycling plants. Refer to Appendix G.

DD. Wood Storage Area

The wood storage area ia a holding area for the wood which is removed from the coal product during the coal cleaning process. Refer to Appendix G.

EE. Non-Coal Waste Holding Area

Non-coal waste is accumulated in the designated holding area. This material is periodically hauled off the site for disposal in an approved sanitary landfill. Refer to Appendix G.

FF. Oil Drum Storage Area

The oil drum storage area is used for the accumulation of empty "returnable oil drums", other drums for the accumulation of waste oil, and empty drums for the future use as required by the plant operation. Refer to Appendix G.

GG. River Water Collection Well

The river water collection well pumps water from the well, fed by the Price River through the unconsolidated alluvials, into the sump in the pumphouse (H). Refer to Exhibit 4, page 784-14.

HH. Road Pond

The proposed road pond will provide storage capacity to receive plant discharge and runoff volumes. The holding capacity of the road pond will be combined with the auxiliary pond by a culvert.

II. Spoil Pile II

The proposed road pond is an incised pond. The soil which will be excavated will be stored in this location. (See Map C4 - 0071).

JJ. Heat Dryer Pond

The proposed heat dryer pond will be a catch basin for effluent waters from the heat drying process and excess runoff. Water will be pumped from the pond from a gravity-fed sump and returned to the plant water circuit.

KK. Spoil pile

The proposed heat dryer pond is a incised pond. The soil which will be excavated will be stored in this location.

LL. Natural Gas Pipeline

The natural gas pipeline will provide natural gas fuel for heating the coal cleaning plant, office, and railroad car thawers.

MM. Diversion Ditch

The diversion ditch diverts runoff from undisturbed areas away from the plant site.

NN. Topsoil Borrow Area

Areas from which topsoil will be obtained for use in final reclamation.

OO. Future Topsoil Storage Area

Area to be cleared of topsoil as coarse refuse pile is expanded. Topsoil may be stored in the Future Storage Area just west of the plant.

PP. Slurry Containment Basin

The catch basin collects flow from the area adjacent to the slurry pipe line on the east side of the Price River.

QQ. Pond Refuse Pile

This refuse pond is constructed by using the Sauerman Dragline to pull up the settled coarse slurry materials. Once in a pile, the coarse slurry material is compacted in 2 ft. lifts by a dozer. Slopes generally are less then 2H : 1V.

(6) Water Pollution Control Facilities

Refer to Appendix B and Section 784.14 of this text for a description of the protection of the hydrologic balance.

The maintenance and inspection plan for the slurry pipeline is as follows:

(A) The pipeline is inspected daily for substandard conditions. Observed substandard conditions are corrected immediately.

(B) The pipeline is rotated 1/4 turn at regular intervals to insure even wear and extend the life of the pipeline.

(C) The pipeline is replaced when wall thickness will not support the pumping load.

(D) The joints in the pipeline immediately above, east and west or the Price River are welded to preclude line breaks in this area.

The procedure for cleaning a plugged slurry line is as follows:

(A) If it is determined that plugging is occurring, the solid feed is reduced and water increased, which usually clears the line.

(B) If the line plugs, the pumping is switched to the standby line and only water is pumped through the line.

(C) In the event the line cannot be cleared by pumping water, the line is broken outside the river buffer zone for unplugging.

U. Lower Refuse Dike

The lower refuse dike is the impounding structure that forms the lower refuse pond. For further discussion, refer to item (b)(1) in this section.

V. Clear Water Pond

The clear water pond provides storage for the clarified water that is used in coal processing. Refer to Exhibit 4, page 784-14.

W. Clear Water Dike

The clear water dike is the impounding structure for the clear water pond. Refer to Exhibit 4, page 784-14.

X. Coarse Refuse Pile

The coarse refuse pile is the disposal area for coarse reject from the coal cleaning process.

Y. Diversion Ditch

This diversion ditch was constructed to lower the water table in the fields north of the slurry ponds and to divert irrigation return water from those fields away from the slurry ponds. Refer to Technical Revision No. 1 for proposed modifications. This diversion ditch is a permanent structure.

Z. Sauerman Hoist and Tail Tower

The sauerman hoist and tail tower are used to remove coal fines from the refuse ponds. Refer to Appendix G for further discussion.

AA. Clear Water Pipeline

The clear water pipeline is a buried line that carries water from the clear water pond to the coal cleaning plant for processing raw coal.

BB. Material and Equipment Storage Area

The material and equipment storage area provides storage for equipment and various repair, maintenance, and construction materials (primarily steel) that are required to support the coal cleaning plant operation. Refer to Appendix G.

CC. Scrap Metal Storage Area

Two scrap metal storage areas, one for carbon steel and one for stainless steel, are holding areas for the accumulation of recyclable scrap metals. Accumulated scrap metal is periodically loaded into rail cars for shipment to recycling plants. Refer to Appendix G.

DD. Wood Storage Area

The wood storage area is a holding area for the wood which is removed from the coal product during the coal cleaning process. Refer to Appendix G.

EE. Non-Coal Waste Holding Area

Non-coal waste is accumulated in the designated holding area. This material is periodically hauled off site for disposal in an approved sanitary landfill. Refer to Appendix G.

FF. Oil Drum Storage Area

The oil drum storage area is used for the accumulation of empty "returnable oil drums", other drums for the accumulation of waste oil, and empty drums for future use as required by the plant operation. Refer to Appendix G.

GG. River Water Collection Well

The river water collection well pumps water from the well, fed by the Price River through the unconsolidated alluvials, into the sump in the Pumphouse (H). Refer to Exhibit 4, page 784-14.

HH. Road Pond

The proposed road pond will provide storage capacity to receive plant discharge and runoff volumes. The holding capacity of the road pond will be combined with the auxiliary pond by a culvert.

II. Spoil Pile

The proposed road pond is an incised pond. The soil which will be excavated will be stored in this location.

JJ. Heat Dryer Pond

The proposed heat dryer pond will be a catch basin for effluent waters from the heat drying process and excess runoff. Water will be pumped from the pond from a gravity fed sump and returned to the plant water circuit.

KK. Spoil Pile

The proposed heat dryer pond is an incised pond. The soil which will be excavated will be stored in this location.

LL. Natural Gas Pipeline

The natural gas pipeline will provide natural gas fuel for heating the coal cleaning plant, office, and railroad car thawers.

MM. Diversion Ditch

The diversion ditch diverts runoff from undisturbed areas away from the plant site.

(6) Water Pollution Control Facilities

Refer to Appendix B and Section 784.14 of this text for a description of the protection of the hydrologic balance.

The maintenance and inspection plan for the slurry pipeline is as follows:

A. The pipeline is inspected daily for substandard conditions. Observed substandard conditions are corrected immediately.

B. The pipeline is rotated 1/4 turn at regular intervals to insure even wear and extend the life of the pipeline.

C. The pipeline is replaced when wall thickness will not support the pumping load.

D. The joints in the pipeline immediately above, east and west of the Price River are welded to preclude line breaks in this area.

The procedure for cleaning a plugged slurryline is as follows:

A. If it is determined that plugging is occurring the solid feed is reduced and water increased which usually clears the line.

B. If the line plugs,the pumping is switched to the standby line and only water is pumped through the line.

C. In the event the line cannot be cleared by pumping water, the line is broken outside the river buffer zone for unplugging.

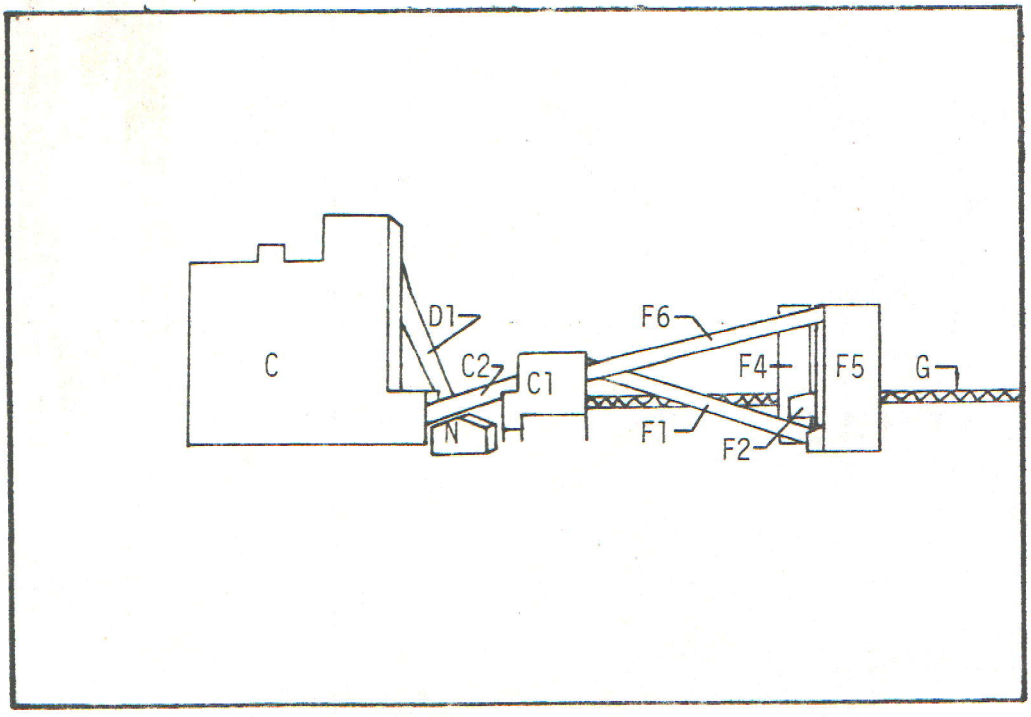


Exhibit 1 Looking Northwest: C-Coal Cleaning Plant Building; C1-Clean Coal Loading Point; C2-Clean Coal Conveyors; D1-Raw Coal Conveyor; F1-Dry Coal Conveyor; F2-Control Building; F4-Scrubber; F5-Wet Coal Bin and Blower Building; F6-Wet Coal Conveyor; G-Refuse Pipeline and Supporting Structure; N-Fuel Storage Building

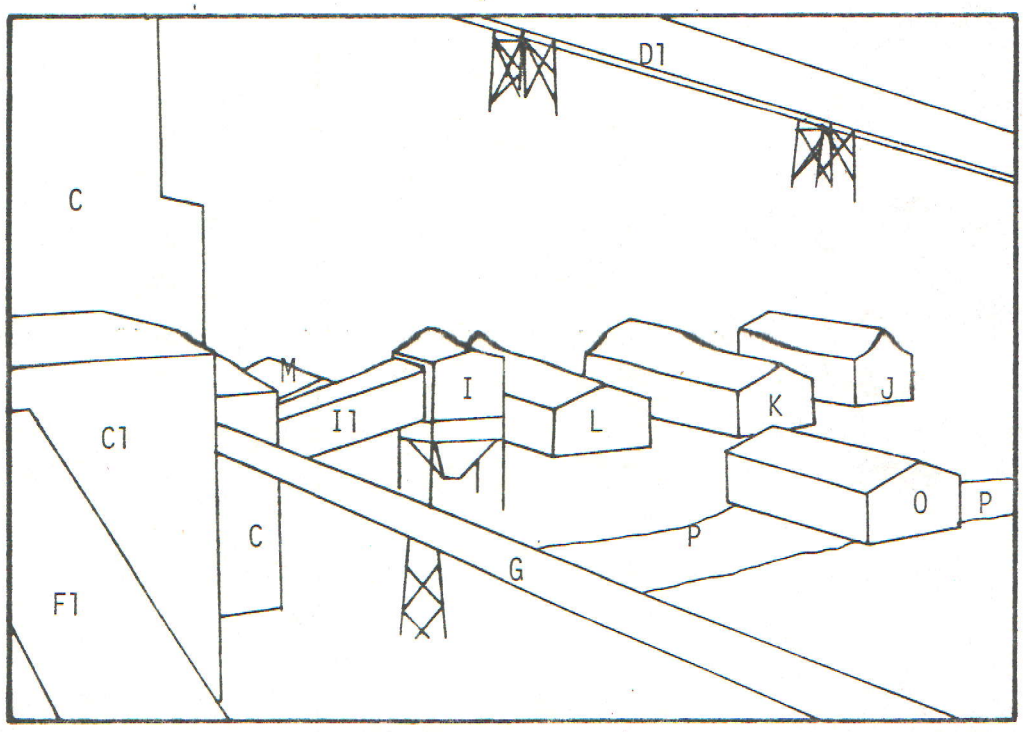
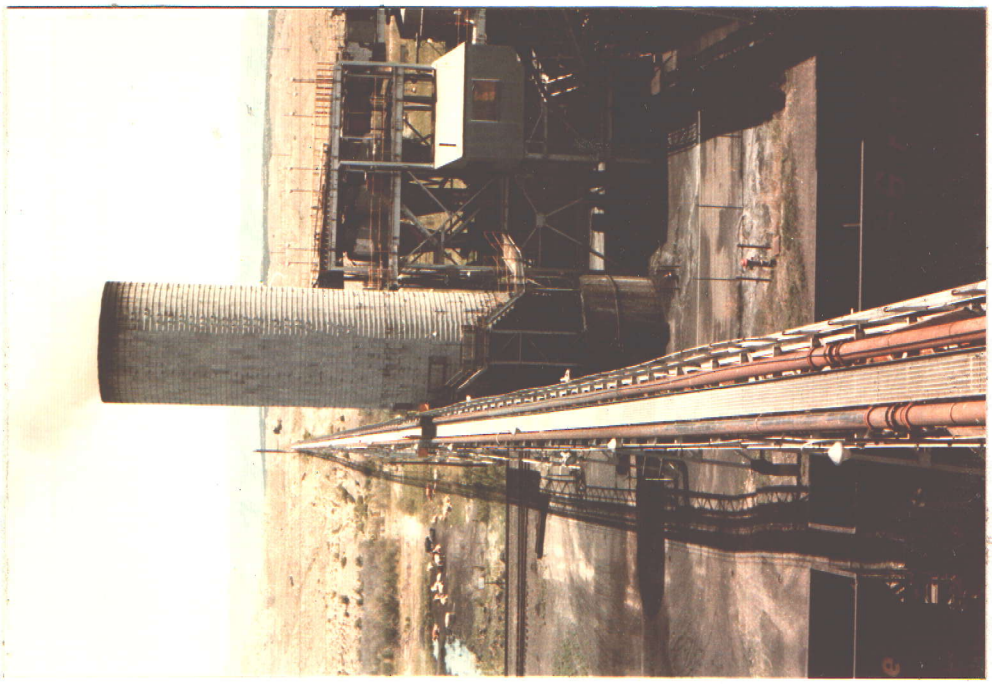


Exhibit 2 Looking West: C-Coal Cleaning Plant Building; C1-Clean Coal Loading Point; D1-Raw Coal Conveyor; F1-Dry Coal Conveyor; G-Refuse Pipeline and Supporting Structure; I-Coarse Refuse Bin; I1-Coarse Refuse Conveyor; J-Office Building; K-Storehouse; L-Shop; M-Coal Carbonization Lab; O-Plant Pumphouse; P-Auxiliary Pond



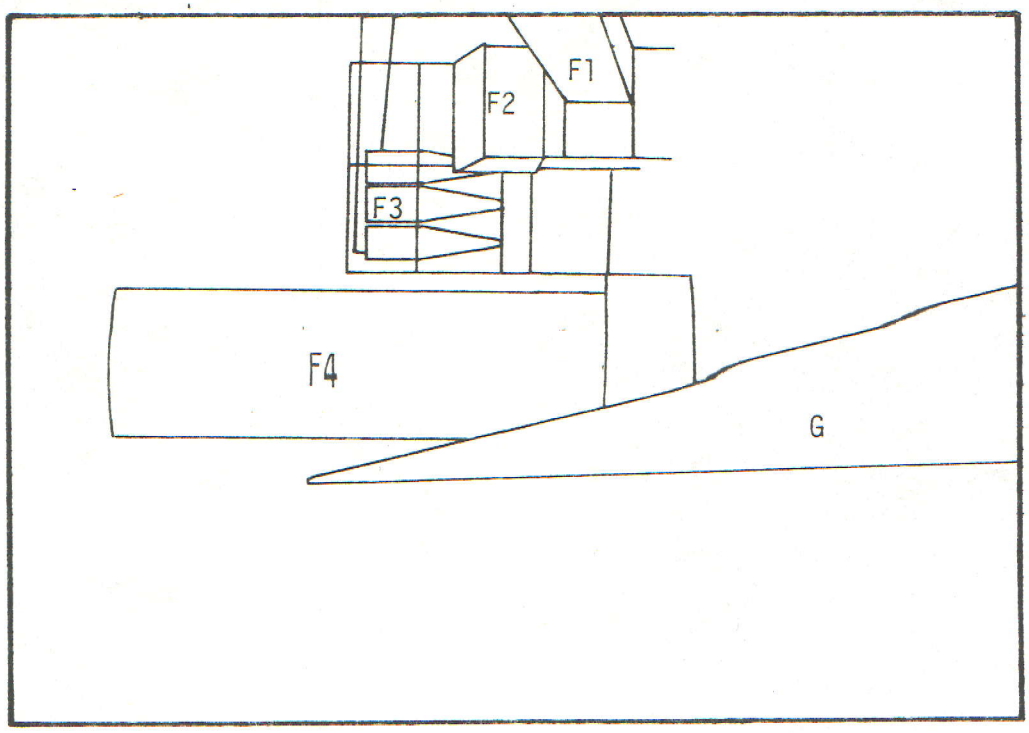


Exhibit 3 Looking Northeast: F1-Dry Coal Conveyor; F2-Control Building; F3-Cyclone Heavy Media Separation; F4-Scrubber; G-Refuse Pipeline

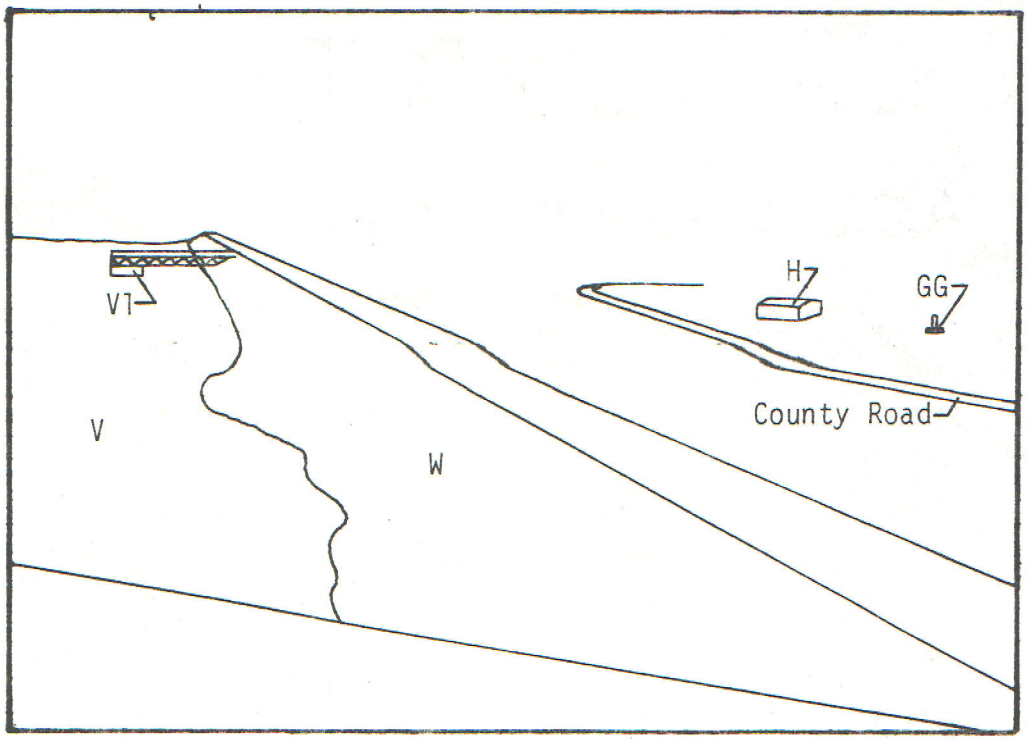


Exhibit 4 Looking Southeast: H-Pumphouse; GG-River Water Collection Well; W-Clearwater Dike; V-Clearwater Pond; V1-Clear Water Intake Structure

ENGINEERING DEPARTMENT
WESTERN DISTRICT

APPROVED: G.H.S. 7-1-83

DRAWN: CWW 6-13-83 CHECKED: APPROVED FOR SAFETY:

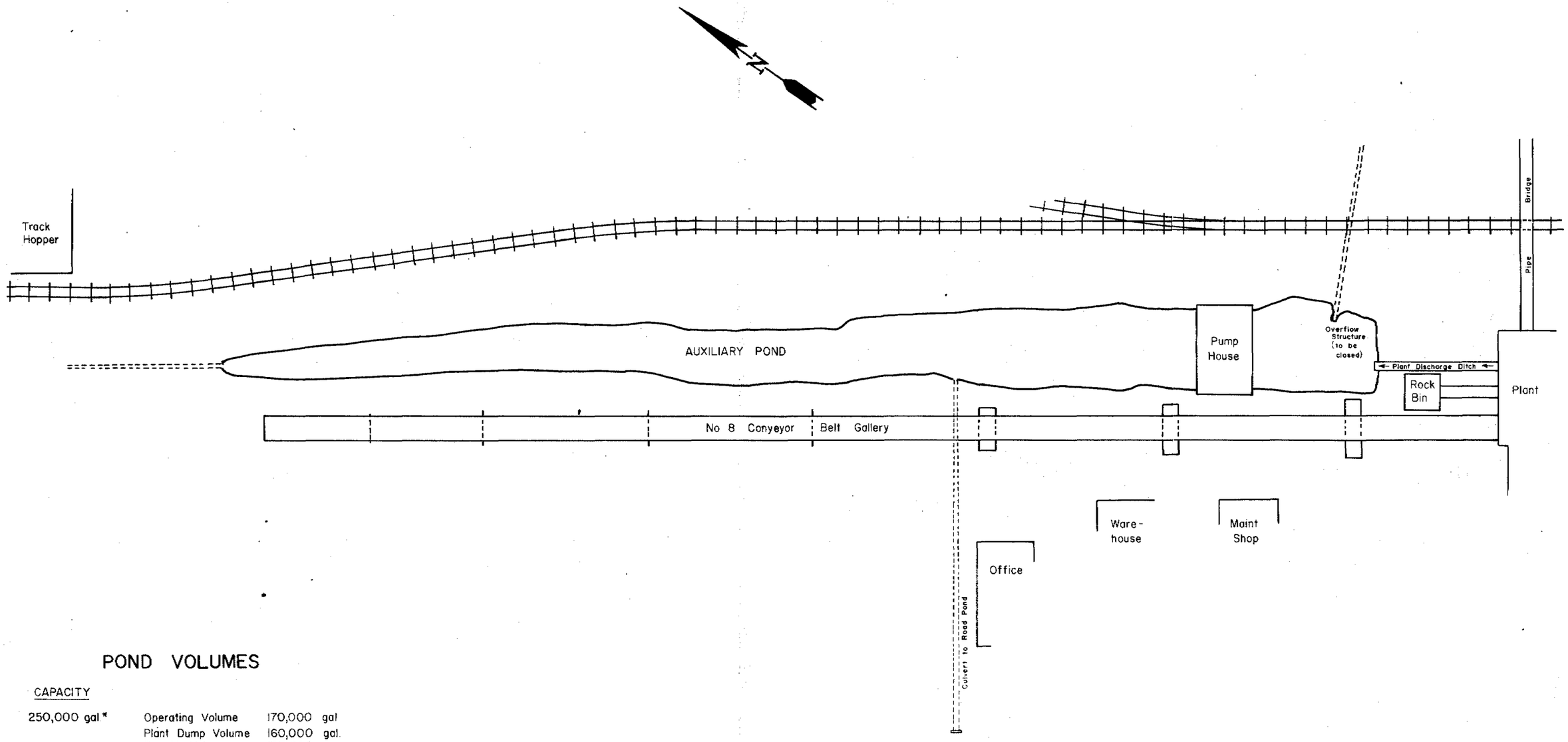
TRACED:

U.S. Steel Mining Company, Inc.

WELLINGTON COAL CLEANING PLANT

AUXILIARY POND

C9-1285



POND VOLUMES

CAPACITY

250,000 gal *

Operating Volume	170,000 gal
Plant Dump Volume	160,000 gal.
Runoff Volume	175,000 gal.
Total	505,000 gal

* Remainder of required volume is in the Road Pond.

No cross section is available

Scale: 1"=50'

THIS DRAWING PREPARED BY:

Carl W. Winters

Registered Professional Engineer
State of Utah No. 05118
Date: July 1, 1983

Reference drawings: E9-3341
E9-3429

REVISIONS

OSBORNE

UMC 784.11 Operation Plan

The permit area is occupied by a coal cleaning plant, railroad tracks, material storage and refuse disposal areas.

(a) The coal cleaning plant has been in continuous operation since 1958 with a projected life exceeding some 30 years. The cleaning plant receives raw coal by rail from the operating coal mines, dumps, processes and ships clean coal by rail to the Geneva Steel Works in Orem, Utah. The plant receives from 1.5 to 1.8 million tons of raw coal annually and ships 1.2 to 1.5 million tons of clean coal. Some 300,000 tons of refuse is pumped or trucked to the refuse disposal areas.

(b) (1) Dams, Embankments and Other Impoundments

The refuse disposal area contains three dams or impounding structures as follows:

Upper Refuse Dike

Appendix C describes the construction of this impounding structure. The purpose of this structure is to impound the flow of waste carrying water from the coal cleaning plant, permitting the initial settlement of the waste material carried by this water. The partially clarified water is decanted to the Lower Refuse Pond. It is anticipated that encroachment of coarse waste will at some time in the future fill the area occupied by the upper refuse pond and encroach into the Lower Refuse Pond. It is not planned to remove the structure.

Lower Refuse Dike

Appendix C describes the construction of this impounding structure. The purpose of this structure is to impound the decanted water from the Upper Refuse Pond, complete the clarification of the water and decant the clear water to the Clear Water Pond. It is anticipated that the coarse refuse at some time in the future will fill this pond. It is not planned to remove this structure.

Clearwater Dike

Appendix C describes the construction of this impounding structure. This structure impounds the decanted water from the Lower Refuse Pond and forms the reservoir for the clear water that passes to the coal cleaning plant for the processing of raw coal. This structure is considered permanent and will not be removed at the time of reclamation.

(2) The future surface disturbances at the coal cleaning plant will generally be associated with the extension of the refuse piles onto adjacent areas. The operator will remove up to one foot of the topsoil in the Billings-Bunderson Complex and establish a topsoil storage stock pile. It is not planned to salvage the surface material in the River wash, Rock land, Shaley alluvial land, and the Mixed alluvial land since these soils are of little value for establishment of vegetation.

(3) The run-of-mine (raw) coal is received with the incoming railroad cars containing the raw coal placed on the raw coal storage tracks. The cars containing the raw coal are passed through a dump station where the cars are dumped and passed either under the clean coal loading station and loaded with clean coal or placed in the empty car storage tracks for return to the mines for loading. The cars loaded with clean coal are placed on the Denver and Rio-Grande Western Railroad tracks for movement to the Geneva Steel Works in Orem, Utah. It is planned to leave the railroad tracks in place after reclamation. It is expected that the tracks would continue in use for side tracking cars and a receiving area for rail shipments.

(4) See map E9-3341 for the location of the coal processing waste disposal areas. It is planned to continue the use and expansion of these areas. Where the areas are filled to their volume limit they will be leveled and contoured to the final grade.

(5) Coal Cleaning Plant Facilities

See map E9-3341 for the location of the coal cleaning plant facilities described below:

A. Bridge Entrance to the Property

The bridge entrance into the property is a concrete structure bridging the Price River which is the primary entrance to the property.

B. Electric Power Substation

The electric power substation receives the incoming power at the transmission voltage and transforms it to the plant voltage for use in the plant.

C. Coal Cleaning Plant Building

The coal cleaning plant building is a concrete-corrugated steel structure that contains the equipment for processing the raw coal in to the clean coal refuse components.

D. Track Hopper and Raw Coal Conveyor

The track hopper is a structural, steel building with corrugated steel siding which sits on a reinforced concrete underground structure. Three tracks of the plant railroad system pass through this building. The railroad cars containing the incoming raw coal are dumped in this building into the raw coal bins. The raw coal passes from the bins over feeders for blending and placing on the raw coal conveyor for transfer to the coal cleaning plant building.

E. Plant Railroad System

The plant railroad system consists of the receiving, raw coal storage, unloading, and loading tracks for the movement of raw coal into the plant area and clean coal out of the plant area.

F. Heat Dryer and Conveyor

The heat dryer is a plant that receives wet, clean coal from the coal cleaning process, reduces the moisture to a nominal 5 1/2% and returns the dry coal to the loading bins in the coal cleaning plant.

G. Refuse Pipe Line and Supporting Structure

The reject material from the coal cleaning process is pumped to the refuse disposal area through an elevated 12 inch steel pipeline supported by steel structures on concrete piers.

H. Pumphouse

The pumphouse is a steel structure with corrugated steel siding that houses the pumps that pump water from the clear water ponds to the coal cleaning plant for processing the raw coal.

I. Coarse Refuse Bin

The coarse refuse bin is a steel structure that accumulates the coarse refuse for trucking to the coarse refuse disposal area.

J. Office Building

The office building houses the coal cleaning plant offices, and laboratory.

K. Storehouse

The storehouse is a steel frame steel side building erected on a concrete slab which houses the spare parts and materials required to maintain and operate the coal cleaning plant.

L. Shop

The shop is a steel structure - steel siding building which houses the maintenance shop facilities.

M. Coal Carbonization Lab

The coal carbonization lab is a steel structure - steel siding building which houses the equipment for testing the coking quality of the clean coal.

N. Fuel Storage Building

The fuel storage building is a steel structure that houses the fuel oil storage tank and lubricants.

O. Plant Pumphouse

The plant pumphouse is a steel building that houses the fire protection pumps, fresh water pumps and bilge pumps.

P. Slurry Pond

The slurry pond provides an emergency plant water reservoir for the plant in the event of power loss, wash down and end of shift dumping.

Q. North Dike

The north dike is constructed of the material excavated from the ditch immediately north of the dike.

R. Upper Refuse Pond

The upper refuse pond receives the water carrying the waste material from the coal cleaning process. Clarification begins in this pond.

S. Upper Refuse Dike

The upper refuse dike is the impounding structure that forms the upper refuse pond.

T. Lower Refuse Pond

The lower refuse pond receives the water from the upper refuse pond. Final water clarification takes place in this pond.

U. Lower Refuse Dike

The lower refuse dike is the impounding structure that forms the lower refuse pond.

V. Clearwater Pond

The clearwater pond provides storage for the clarified water that is used in coal processing.

W. Clearwater Dike

The clearwater dike is the impounding structure for the clearwater pond.

X. Coarse Refuse Pile

The coarse refuse pile is the disposal area for coarse reject from the coal cleaning process.

Y. Diversion Ditch

This diversion ditch was constructed at approximately the same time as the coal cleaning plant facilities. The ditch diverts the runoff from the undisturbed areas.

Z. Sauerman Hoist and Tail Tower

The sauerman hoist and tail tower are used to remove coal fines from the refuse ponds.

AA. Clearwater Pipeline

The clearwater pipeline is a buried line that carries clearwater from the clearwater pond to the coal cleaning plant for processing raw coal.

(6) Water Pollution Control Facilities

The coal cleaning plant does not discharge any water used in the coal cleaning process to any stream leaving the area. The water flow from the cleaning plant to the water clarification ponds and back to the plant is considered a closed circuit. A diversion ditch intercepts runoff water from precipitation events which precludes flow over the coal cleaning plant disturbed areas.

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UMC 784.12 Operation Plan: Existing Structures

(a) (1) See Map E9-3341 for location of structures at the coal cleaning plant and the waste disposal areas.

(2) Plans for the buildings are available for review. The buildings described in 784.11 (b)(5) are maintained in excellent condition and there has been no indication of instability since construction in 1957-58. For pictures of structures, see pages 784-11 through 14.

The impounding structures are described in Appendix C. The structures are stable and meet the required factors of safety.

Plans for the Dryer Pond and Road Pond are included on Drawing E9-3453.

Plans for the East Side Slurry Containment Catch Basin are shown on Drawing E-3450.

The Pond Refuse Pile (Coarse Slurry Basin, MSHA ID No. 1211-UT-09-00099-05) was started in 1958. The pile configuration has changed as the lifetime volume has increased. Plans and cross-sections are available at the Sunnyside Mine Office.

(3) The structures were completed and placed in operation in 1958 with the coal dryer placed in operation in 1960.

The Upper Refuse Dike and the Lower Refuse Dike have been increased in height since initial construction. THe study by Rollins, Brown and Gunnell, Inc. (Appendix C) concluded that the structures are stable and that the safety factors are adequate and in accord with applicable regulations. There have been no modifications to these structures since the stability study. It is planned to increase the height of the North Dike, Upper Refuse Dike, and the Lower Refuse Dike. The plans for the proposed modifications to the Lower Refuse Dike, Upper Refuse Dike and North Dike are discussed in Appendix E of this text.

The Lower Refuse Dike was raised during 1985 (see Drawing E9-3460).

The East Side Slurry Containment Basin, the Road Pond, and the Dryer Pond have been completed. Spoil Pile II was constructed during the construction of the Road Pond.

(4) The structures were constructed in accord with engineered plans. It is concluded that the structures meet the relevant performance standards.

(b) The operator plans to increase the height and impounding capacity of the slurry impoundment structures. The plans for pertinent modifications are included in Appendix E and meet the requirements of this paragraph.

The operator has begun removal of the high ash coal fines that are contained within the Upper and Lower Refuse Ponds to provide pond space for continued water clarification. The material will be removed from the ponds with a Sauerman Scraper and stored with the coarser refuse material outside the pond areas. The operator plans to sell this material to energy consumers as purchasers become available. The material will be trucked from the site to the consuming location or to the rail spur on the west side of the river for rail transportation to consumers.

The design criteria for the Road and Dryer Ponds are included on pages 784 - 17i to 784 - 17vii. This inclusion also discusses changes in water volumes from the plant as applicable.

During the temporary cessation of operation, the operator proposes the following activities:

(1) Water monitoring;
(2) Environmental monitoring;
(3) Inspection of surface facilities;
(4) Irrigation of revegetation test plots, as required; and
(5) Contemporaneous reclamation, as required.

OPERATION PLAN

ROAD POND

The Auxiliary Pond provides water storage capacity to support plant operations. Water is maintained in the pond for use in plant operations. Void capacity is maintained to receive plant discharge and runoff volumes.

The Road Pond is an extension or enlargement of the Auxiliary Pond. The culvert, shown on Drawing No. E9-3453, connects the ponds to combine their capacities.

Volume Requirememts

Volume requirements for the Auxiliary Pond and Road Pond are calculated as one since the pond capacities are connected. There are four main sources of water inflow into the ponds:

1. Clear water from the Clear Water Pond
2. Plant discharge water
3. Runoff from precipitation events
4. Dryer Pond discharge water

Capacity requirements were developed as follows:

1. Clear Water from Clear Water Pond

   The Operator has the capability of filling the Auxiliary Pond with water directly from the incoming fresh water line from the Clear Water Pond. Prior to plant startup, the pond is filled with an adequate volume of water for plant operation. It has been the Operators experience that approximately 11,364 cu. ft. (85,000 gallons) is required to operate one shift. Pond design operating volume is therefore based on running two shifts a day or 22,727 cu. ft. (170,000 gallons) of storage capacity for plant operation.

2. Plant Discharge Water

   Inherant to the coal washing process, a given volume of water and slurry are constantly circulated by pumps when coal is being washed. All pumps within the system are electrically driven. In the event of a power loss during the coal washing process, approximately 8792 cu. ft. (65,764 gallons) of water and slurry will be in the system in excess

of sump and structure capacities. This volume is itemized on Exhibit A.

3. Runoff from Precipitation Events

The drainage area into the Auxiliary and Road Ponds is shown on drawing number F9-177 in the Operation and Reclamation Plan (ORP). Hydrologic calculations included in Appendix B of the ORP show that approximately 23,290 cu. ft. (174,209 gallons) of capacity is required to contain a 10 year 24 hour precipitation event.

4. Dryer Pond Discharge Water

All water which enters the Dryer Pond is pumped from that pond into the Auxiliary Pond (see drawing number A9-1234). The void capacity required in the Auxiliary Pond in the event of a power failure is 8,792 cu. ft. The pump in the Dryer Pond is electrically driven so the Auxiliary Pond cannot receive both plant discharge and Dryer Pond discharge concurrently. Since the capacity requirement for a power failure is greater than the Dryer Pond discharge capacity (see discussion on Dryer Pond capacity in this document), the Dryer Pond discharge is not included in the volume requirements.

The total design storage requirement for the Auxiliary Pond and Road Pond is 54,809 cu. ft.; the sum of the first three water sources discussed.

Pond Capacities

Capacities of the Auxiliary Pond and Road Pond are determined in terms of live storage. The live storage is that portion of the pond capacity which can be pumped from the ponds for use in the plant.

The Plant Pumphouse (item O, page 784-6 of the ORP) is situated in the Auxiliary Pond (see Exhibit 2, page 784-12 of the ORP). Pond water flows into the pumphouse sump through windows which are 2' 4" below the pond overflow (overflow elevation = 5339.8 ft). Water is pumped from the sump either into the plant water system when the plant is operating or into the refuse ponds when the plant is idle. Since water contained in the Road Pond flows through the culvert into the Auxiliary Pond, the water from both ponds is recovered by this system.

The Auxiliary Pond is an incised existing pond that has been in place since 1958. The pond was constructed with near vertical side slopes. The banks are stable with no indication of bank instability. Due to the proximity of the plant support buildings to the west and the railroad tracks to the east, there is not

sufficient area to bring these side slopes to a 2h:1v. The pond was surveyed on 5-31-83 and found to have 110,000 gallons per foot of depth (ref. drawing C9-1285 for surface area). Total operating capacity in the Auxiliary Pond is approximately 34,265 cu. ft. (2.33' x 110,000 gal/ft. / 7.46 gal/cu. ft.).

The Auxiliary Pond was originally excavated about 5 to 6 feet deep. During the course of plant operations, water is discharged from the plant into the pond and pumped from the pond back into the plant. Coal fines from the plant discharge settle out and accumulate in the pond. When the fines in the pond approach the elevation of the sump inlet window into pumphouse, the Operator cleans out the pond. As such, the pond bottom may vary from 2.3 feet to 6 feet from the overflow, depending on how recently the pond was cleaned out. Because of this variability, the Operator has chosen not to utilize the dead storage volume as part of the design capacity shown in the calculations. The 34,265 cu. ft. capacity in the pond utilizes only the live storage volume in the pond between the bottom of the inlet windows and the pond overflow.

Storage in the Road Pond is established from the elevation of the connecting culvert. The capacity between elevation 5339.8 (overflow elevation of Auxiliary Pond) and 5337.9 (elevation of bottom of culvert in Road Pond) is live storage because water will flow into the Auxiliary Pond through the culvert as water is pumped out of the Auxiliary Pond. Pond details are shown on Drawing No.'s E9-3453 and C9-1284.

Summary

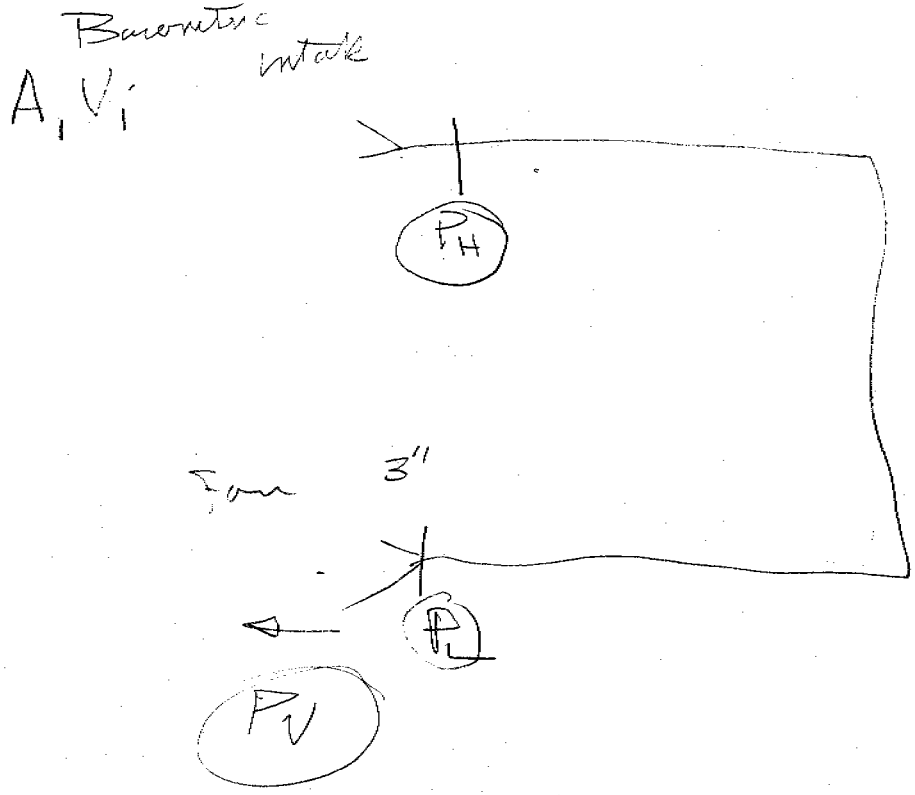
Requirements:

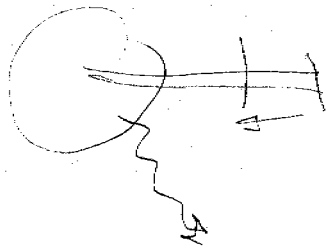
Operating Volume	22,727 cu. ft.
Plant Discharge	8,792 cu. ft.
Runoff (10 YR 24 HR event)	23,290 cu. ft.
TOTAL REQUIREMENT	54,809 cu. ft.

Capacities:

Auxiliary Pond live storage	34,265 cu. ft.
Road Pond live storage	24,603 cu. ft.
TOTAL CAPACITY	58,868 cu. ft.

Pond capacity exceeds the requirements.


Barometric intake
A_1, V_1
P_H
3"
P_L
P_V



DRYER POND

The Heat Dryer Pond provides water storage capacity for dryer effluent and runoff from precipitation events. Refer to drawing number A9-1464.

Volume Requirements

Capacity requirements were developed as follows:

1. Scrubber effluent water

   During normal plant operation, water occasionally enters the Dryer Pond when the volume of water entering the scrubber sump exceeds the scrubber return pump capacity. This condition occurs when the plant is in operation and as such the Dryer Pond sump pump is maintained in working order. Therefore, no void capacity is maintained in the Dryer Pond for discharges which may occur during plant operation.

   When the plant is idle, water is pumped from a sump inside the Blower Room into the scrubber sump. The Blower Room sump is fed at a maximum rate of 4 gallons per minute (measured on 1/31/85). During normal shutdown, the scrubber sump is pumped down so that there is some available capacity in the sump before it will overflow.

   Both the Dryer and Auxiliary Ponds are inspected at least twice a day, including weedends and holidays, to make sure the pumps are functioning. If a pump is not working properly, the inspector takes immediate action to try to correct the problem.

   The volume required to contain the discharge from the scrubber is approximately 1,540 cu. ft. (4 gal/min X 60 min/hr X 48 hrs / 7.48 gal/cu. ft.). This volume is considered prudent in that: (1) 4 gallons per minute is a maximum flow rate and is usually somewhat less than that, (2) the ponds are checked and maintained at least twice a day, so it is unlikely that a pump would remain inoperative for a 48 hour period, and (3) there may be some available capacity in the scrubber sump.

2. Runoff from Precipitation Events

   The drainage area into the Dryer Pond is shown on drawing number F9-177 in the Operation and Reclamation Plan (ORP). Hydrologic calculations included in Appendix B of the ORP show that approximately 3,669 cu. ft. of capacity is required to contain a 10 year 24 hour precipitation event.

The total design storage requirement for the Dryer Pond is 5,209 cu. ft.; the sum of the two water sources discussed.

Pond Capacity

The capacity of the Dryer Pond can be broken down into three categories: 1) dead storage, 2) live storage within the float range, and 3) live storage above the float range.

1. Dead storage is provided in the Dryer Pond because scrubber effluent water usually contains coal fines which will settle out and accumulate. The dead storage available from the pond bottom to approximately elevation 5335 is 3,886 cu. ft. The pond bottom, and subsequently the dead capacity, will vary depending on how recently the pond was cleaned. When the sediment accumulations approach elevation 5335, the Operator clams out the pond and disposes of the sediment at a designated refuse disposal site.

2. The pump in the Dryer Pond sump is equipped with a level sensor. When the water elevation reaches approximately 5336 the pump is activated. When the water elevation is reduced to approximately 5335, the pump shuts off. The pump has a capacity of some 150 gallons per minute, which is well in excess of all pond inflows. The capacity within the float range is 2,416 cu. ft.

3. The pump in the Dryer Pond is activated at elevation 5336, and will pump continuously while the water level exceeds 5335. The pump has the capacity to handle all inflows even during a 10 year 24 hour storm and maintain the water level at or below 5336. In the unlikely event that the storm should occur during a power failure, water would only back up into the drainage ditch which enters the east end of the pond. Untreated water would not discharge from the pond.

Summary
Requirements:

Scrubber effluent volume	1,540 cu. ft.
Runoff (10 YR 24 HR event)	3,669 cu. ft.
TOTAL REQUIREMENT	5,209 cu. ft.

Capacity:

Dead storage	3,886 cu. ft.
Live storage within float range	2,416 cu. ft.
Live storage above float range	3,445 cu. ft.
TOTAL CAPACITY	9,747 cu. ft.

Pond live capacity equals 5,861 cu. ft., which exceeds the requirements.

EXHIBIT A
Water Entering the Auxiliary Pond from a Power Failure

Description	Diameter	Area(ft2)	Height or Length(ft)	Volume(gal)
Desiltor Bowl	44'	1521	1/12	127
Desiltor Bowl	44'	1521	1/12	127
Fresh Water Head Tank	10'	78.5	10.5	6,169
Recirculated Water Head Tank	-	-	-	5,000
Bird Effluent Piping	8"	0.349	114	298
Bird Bypass Piping	8"	0.349	97	253
Raw Coal Piping	10"	0.545	82	334
Silt Piping	6"	0.196	71	104
Scrubber Piping	6"	0.196	250	367
Sand Piping	10"	0.545	28	212
Refuse Sand Piping	8"	0.349	38	99
Refuse Sand Piping	8"	0.349	38	99
Fresh Water Piping	16"	1.396	118	1,232
Slurry Pipeline	10"	0.545	2100	8,561
Slurry Pipeline	10"	0.545	2100	5,861
Slurry Pipeline	12"	0.785	2900	17,037
Slurry Pipeline	12"	0.785	2900	17,037
				65,764

* During normal plant operations, a drain valve is kept partially open which discharges approximately 8.5 gal/min (approx. 1" per 15 minute period). In the event of a power loss, these valves would be closed immediately by the Operator in order to maintain water in the system as well as minimize the time required to start up again when power is reestablished. It is considered a prudent assumption that these valves would be closed within fifteen minutes after a power loss.

Copy 1 of 8

File ACT/007/012
Folder #3, 7
& 15 (w/maps)

U.S. Steel Mining Co., Inc.
a Subsidiary of United States Steel Corporation

WESTERN DISTRICT

P.O. BOX AE
PAONIA, COLORADO 81428
303/527-4816

September 14, 1984

State of Utah
Department of Natural Resources
4241 State Office Building
Salt Lake City, Utah 84114

RECEIVED
SEP 19 1984
DIVISION OF OIL
GAS & MINING

Attn: D. Wayne Hedberg
Permit Supervisor/Reclamation
Hydrologist

Re: Abatement Plans
NOV N84-2-13-1

Dear Mr. Hedberg:

As requested in your letter dated August 14, 1984, the following information is enclosed:

(1) Drawing E9-3450 which proposes modifications to the existing structure to adequately meet the requirements of 817.46(e)-(u).

(2) Map A9-1449 which shows the hydrologic curve numbers and a proposed permit area extension.

(3) Design storm runoff calculation sheets.

The present containment basin is located very close to the permit area boundary. U. S. Steel Mining Co., Inc. proposes to extend the permit area as shown on map A9-1449. This extension will provide additional room to properly install the proposed structure. This change will also allow additional area should future modifications prove necessary.

The following presents a discussion of 817.46(e)-(u):

(e) The structure is designed to the extent possible to prevent short circuiting.

(f) Any discharge will meet the requirements of an NPDES permit (filed June 22, 1984).

(g) The structure is designed to contain runoff from a 10 year-24 hour precipitation event, refer to the attached calculations.

(h) Sediment will be removed as required. Soil loss carried by run-off is not expected to be a significant contributer of sediment.

(i) The structure will contain a runoff from a 25 year - 24 hour precipitation event, refer to the attached calculations.

(j) Refer to drawing E9-3450.

(k) The structure is large enough that if it settles 5 percent no significant impact will result.

(l) The impoundment height is approximately 15 feet. This results in a minimum crest width of 10 feet. The design crest width is 12 feet, refer to drawing E9-3450.

(m) Refer to drawing E9-3450.

(n) The structure will be built on a clear surface with a slope of less than 1:1.

(o) & (p) The structure will be constructed to comply.

(q) Does not apply.

(r) The impoundment has been designed and will be inspected during construction under the supervision of a registered professional engineer.

(s) The embankment will be seeded to control erosion as specified in the permit.

(t) The impoundment will be inspected as specified in the permit.

(u) The primary purpose of this structure is not sedimentation control but process water control.

The proposed modifications will be conducted in an area which was previously disturbed as was noted in the original submittal. Therefore, it will not be necessary to salvage and store topsoil. Spoil from the pond excavation will be stored as shown on map A9-1449.

Potential discharges from the structure were included in the NPDES permit application filed with the Environmental Protection Agency on June 22, 1984. A copy of transmittal letter describing the proposed outfalls was forwarded to the Division at that time.

Sincerely,

Glenn H. Sides
General Superintendent

md
Attachments
cc: V. R. Watts
L. King
B. L. Kirkwood
B. A. Filas
EC File

CALCULATION NOTES

Subject Storm Runoff into Catch Basin

By B.A.F.

Checked

Acc't

8-27 1984

Sheet No. 1 of 2 Sheets

All drawing and page references in this section refer to either drawings submitted in this section, or drawings and pages included in the Operation and Reclamation Plan - Wellington Coal Cleaning Plant - ACT/007/012.

* The entire drainage area is located within the Sn soil group (DWG. E9-3339).

* Due to the proximity to the PCE2 series, the Sn series is assumed to be soil group D (PP. B-18,19).

* Undisturbed areas have a 15% sage-grass cover. (Cover density is estimated at approx. 60% of actual cover noted in field reconnaissance, August 1984, to account for seasonal changes.) This corresponds to a hydrologic curve number of 84 (P. B-3).

* Disturbed areas have no appreciable cover, which corresponds to a hydrologic curve number of 89 (P. B-21,22). The Containment area within the basin also has a curve number of 89 because the pond is generally dry.

* A 10 year-24 hour storm is 1.82 inches. A 25 year-24 hour storm is 2.18 inches (P. B-17).

CALCULATION NOTES

Subject Storm Runoff into Catch Basin

By B.A.F.

Checked

Acc't

8-27 1984

Sheet No. 2 of 2 Sheets

Method referenced on Page B-2 of ORP.

Acres	Curve No.	Weighted CN
3.10	84	45.9
2.57	89	40.3
5.67		86.2

$CN = 86$

$S = 1000/86 - 10 = 1.63$

$$Q_{10-24} = \frac{(1.82 - 0.2(1.63))^2}{1.82 + 0.8(1.63)} = 0.714 \text{ In.}$$

$$\text{Volume} = 0.714 \text{ in } \left(\frac{1 \text{ Ft.}}{12 \text{ In.}}\right) \quad 5.67 \text{ Acres}$$

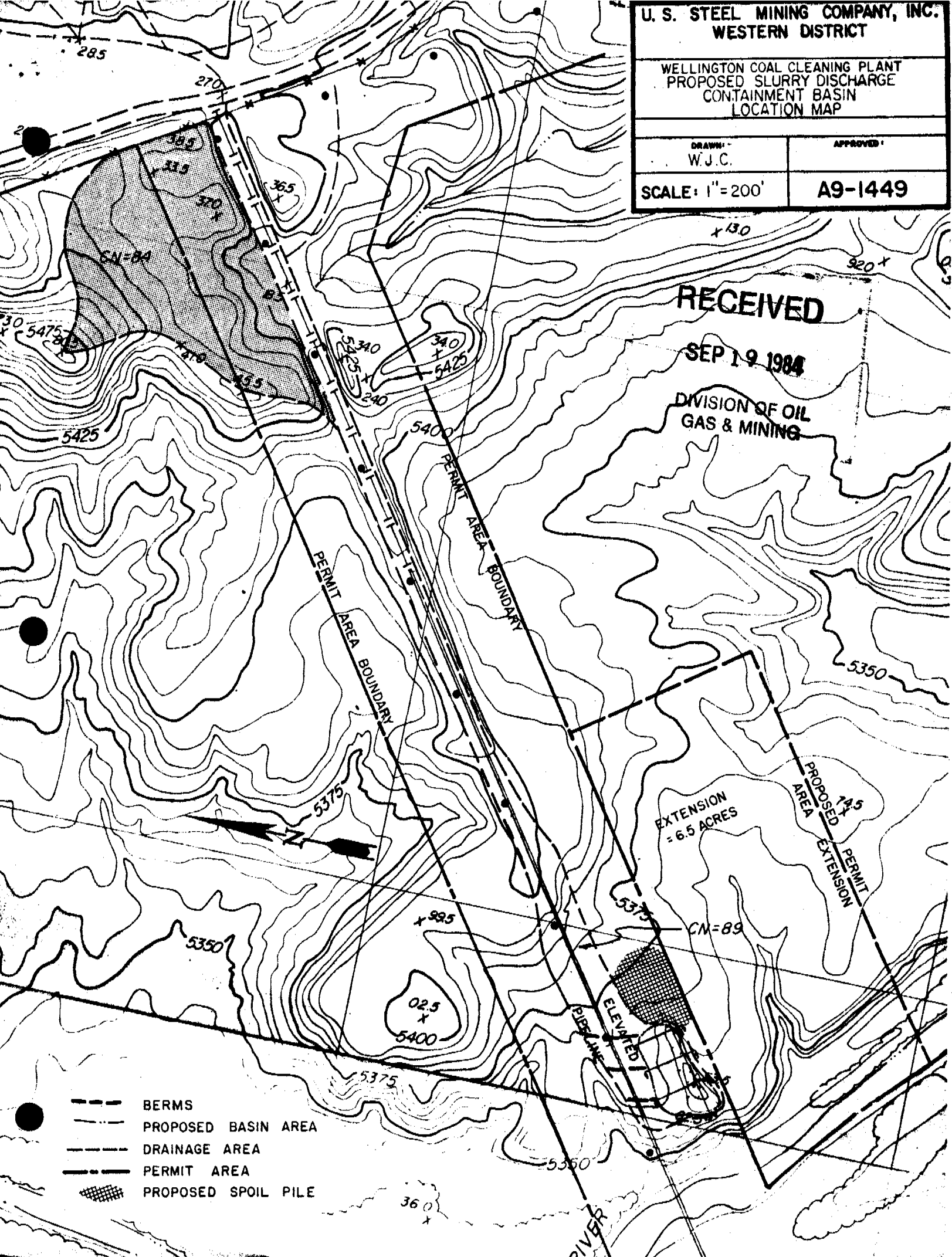
$$= \underline{0.34 \text{ Acre-Ft. for 10 Yr. - 24 Hr. Storm}}$$

$$Q_{25-24} = \frac{(2.18-0.2(1.63))^2}{2.18 = 0.8(1.63)} = 0.987 \text{ In.}$$

$$\text{Volume} = 0.987 \text{ In } \left(\frac{1 \text{ Ft.}}{12 \text{ In.}}\right) \quad 5.67 \text{ Acres}$$

$$= \underline{0.47 \text{ Acre-Ft. for 25 Yr - 24 Hr Storm}}$$

Both the existing and modified basins are adequate to contain a 25 year-24 hour storm.


U. S. STEEL MINING COMPANY, INC.
WESTERN DISTRICT
WELLINGTON COAL CLEANING PLANT
PROPOSED SLURRY DISCHARGE
CONTAINMENT BASIN
LOCATION MAP
DRAWN: W.J.C.
APPROVED:
SCALE: 1"=200'
A9-1449
RECEIVED
SEP 19 1984
DIVISION OF OIL
GAS & MINING
PERMIT AREA BOUNDARY
PERMIT AREA BOUNDARY
EXTENSION
= 6.5 ACRES
PROPOSED
AREA
PERMIT
EXTENSION
ELEVATED
PIPELINE
CM=89
5425
5400
5375
5350
BERMS
PROPOSED BASIN AREA
DRAINAGE AREA
PERMIT AREA
PROPOSED SPOIL PILE

File: ACT/007/012
#7, 15 w/map
*(map attached to review copy to be filed when review complete)

U.S. Steel Mining Co., Inc.
a Subsidiary of United States Steel Corporation

WESTERN DISTRICT

P.O. BOX AE
PAONIA, COLORADO 81428
303/527-4816

May 8, 1985

D. Wayne Hedberg
Permit Supervisor
Division of Oil, Gas & Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, UT 84180-1203

RE: NOV N ~~84-7-10-1~~ 84-2-13-1
Modification of Basin to Control Slurry Line Discharges
ACT/007/012

Dear Mr. Hedberg:

As you are aware, the Division approved modifications to a containment basin submitted as required by NOV N 84-7-10-1. U. S. Steel Mining Co., Inc. has been unable to secure the approval of the structure by the Department of Health and has not proceeded with construction.

On April 3, 1985 representatives of U. S. Steel Mining Co. met with representatives of the Bureau of Water Pollution Control to discuss their concerns. After reviewing the items discussed in that meeting, U. S. Steel Mining Co. has decided to modify it's proposal as follows:

1. The rock gabion and fabric filter will be deleted from the structure.

2. A rip rapped emergency spillway will remain to protect the integrity of the structure.

3. Essentially the basin has been changed to be "full containment" with no provision for discharge other than evaporation and percolation.

Should you have any questions regarding these changes, contact V. R. Watts at 303-527-4816. Please advise if these changes meet with your approval.

Sincerely,

G H Sides (RW)

G. H. Sides
General Manager

GHS/kb

cc: L. King
B. A. Filas
V. R. Watts
EC File

to Wayne Steve

U.S. Steel
Mining Co., Inc.
a Subsidiary of United States Steel Corporation

WESTERN DISTRICT

P.O. BOX AE
PAONIA, COLORADO 81428
303/527-4816

March 14, 1984

James W. Smith
Coordinator Mined Land Development
State of Utah
Division of Oil, Gas, and Mining
4241 State Office Building
Salt Lake City, UT 84114

Attn: Sandy Pruitt
Rick Summers

Dear Mr. Smith:

Re: NOV 84-2-1-2, 2 of 2
Wellington Coal Cleaning Plant
ACT/007/012

The following plan is submitted persuant to NOV 84-2-1-2, 2 of 2:

General

The Wellington Coal Cleaning Plant transports refuse material through one of two slurry pipelines from the main plant area to the slurry pond area. The second pipeline is used as a backup. Both pipelines are 10 or 12 inch diameter (depending on location) steel pipe with expansion joints spaced periodically along the length.

Overnight low temperatures at the Wellington Coal Cleaning Plant rarely exceeded 0° F during December, January, and February of the 1983-84 winter. The week of January 15-21, the average overnight low was -26° F. The lowest recorded temperature was -33° F on January 18.

During winter months, the extreme daily temperature variation causes the pipelines to expand and contract excessively. Slurry is pumped continuously through one line while the plant is operating. Fresh water is pumped through the standby line to minimize the overall pipe movement. Both slurry lines are drained back into the Auxiliary Pond at night to preclude potential freezing. Ordinarily, the expansion joints can facilitate these pipe movements, but occasionally, a line will pull apart. This condition occurs almost exclusively during the winter months. The pipeline contracts and pulls apart at night and when the pumps are started up the next morning. Water or slurry is discharged through the line break.

Several erosion gullies have formed under the pipe bridge east of the Price River as a result of broken slurry lines. The Operator proposes to repair those eroded areas, as well as provide a controlled drainage route through appropriate treatment structures for future slurry line breaks.

Proposed Remedial Action

Problems with slurry line breaks occur almost exclusively during the winter months. Because of the freezing problem, the Operator proposes to construct a series of catch basins, each equipped with a sediment filter and an overflow structure. Sediment pond installations were discounted because freezing during the containment period would preclude proper treatment. Additional water entering a frozen pond would pass untreated through the overflow structures. The catch basins are designed to sequentially pass treated water from one basin to the next, prior to discharge.

The eroded areas referenced in the subject NOV will be stabilized by compacting soil borrow material into the gullies. Any future line break flow will be channeled by the use of berms and trenches away from these areas and into the proposed treatment structure. Locations of the proposed berms are shown on drawing number E9-3445.

The Operator proposes to provide a channelway for water flow along both sides of the slurry lines. This will be accomplished by tilting the blade on a D-8 bulldozer and grading the roadway such that it slopes away from the slurry pipeline. A berm will be constructed along the roadway on the side opposite the slurry pipeline. This will allow water to channel along the roadway at the berm. These berms are shown on the enclosed drawing.

All berms will channel water into one of three catch basins. The Operator proposes to utilize the existing low area to construct the basins. Material will be borrowed from the area shown on drawing number E9-3445. This area was selected because the grade on the water channel can be minimized by borrowing material from the steeper slope. The overflow on each catch basin will consist of a silt fence which spans the entire overflow length. Each silt fence will have two 2" diameter downdrain pipes installed approximately two feet above the ground level for emergency overflow (specifications for silt fence and down drain are attached). Both the silt fence and downdrain will discharge into the next catch basin. The downdrains from Basin no. 3 will be piped as shown on Map E9-3445.

In the event that the material required from the borrow area does not provide a nonerosive channel grade, a silt fence with a downdrain installed at ground level will be installed at the top of the hill. The downdrain will extend the length of the erodable channel and discharge into a flat area.

Your prompt approval of this plan will be appreciated so that it can be implemented and the subject violation abated.

If you have any question reguarding the plan, please contact B.A. Filas at 801 - 637-0120 or V.R. Watts at 303 - 527-4816.

Sincerely,

Glenn H. Sides

Glenn H. Sides
Acting General Superintendent

wl

cc: L. King
B.A. Filas
EC File
V.R. Watts

B., 5-9
Please file plans in revision folder.
Thank you.

I gave verbal approval today to B. Fillis to go ahead and order the lock MR 4/8

D.
ed S

DO
303/527-4816

I gave May 5
Both an approval letter to type
Tom

April 26, 1984

or

d Mining
4241 State Office Building
Salt Lake City, UT 84114

RE: Technical Review of
NOV 84-2-1-2 2 of 2
Wellington Coal Cleaning Plant
ACT/007/012
Carbon County, UT

Dear Mr. Hedberg:

The following is in response to your comments on the subject violation abatement plan:

Item #1

The Operator will riprap any gradients where velocities are expected to exceed 5 fps. See the attached calculation sheets. It should be noted that riprap will be placed on the downslope from the basins to the Price River, the majority of which is within the river buffer zone. The Operator intends to disturb the least amount of area possible in placing material in this area.

Item #2

The Operator will construct three rock gabions at the basin locations shown on drawing number E9-3445 of the original proposal. See the attached calculation sheets for construction and sizing criteria.

Item #3

Drawing number E9-3339 of the Operation and Reclamation Plan identifies this entire area as a currently disturbed area. Salvaging topsoil is not a part of this plan.

The abatement deadline was extended on April 23, 1984 to the final

U.S. Steel
Mining Co., Inc.
a Subsidiary of United States Steel Corporation

WESTERN DISTRICT

P.O. BOX AE
PAONIA, COLORADO 81428
303/527-4816

April 26, 1984

Mr. D. Wayne Hedberg
Special Permits Supervisor
State of Utah
Division of Oil, Gas, and Mining
4241 State Office Building
Salt Lake City, UT 84114

RE: Technical Review of
NOV 84-2-1-2 2 of 2
Wellington Coal Cleaning Plant
ACT/007/012
Carbon County, UT

Dear Mr. Hedberg:

The following is in response to your comments on the subject violation abatement plan:

Item #1

The Operator will riprap any gradients where velocities are expected to exceed 5 fps. See the attached calculation sheets. It should be noted that riprap will be placed on the downslope from the basins to the Price River, the majority of which is within the river buffer zone. The Operator intends to disturb the least amount of area possible in placing material in this area.

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The Operator will construct three rock gabions at the basin locations shown on drawing number E9-3445 of the original proposal. See the attached calculation sheets for construction and sizing criteria.

Item #3

Drawing number E9-3339 of the Operation and Reclamation Plan identifies this entire area as a currently disturbed area. Salvaging topsoil is not a part of this plan.

The abatement deadline was extended on April 23, 1984 to the final

deadline of May 24, 1984 for plan submittal, approval, and implementation. Your prompt approval of this plan will be appreciated so that construction may begin in a timely manner.

Sincerely,

Glenn H. Sides
General Superintendent

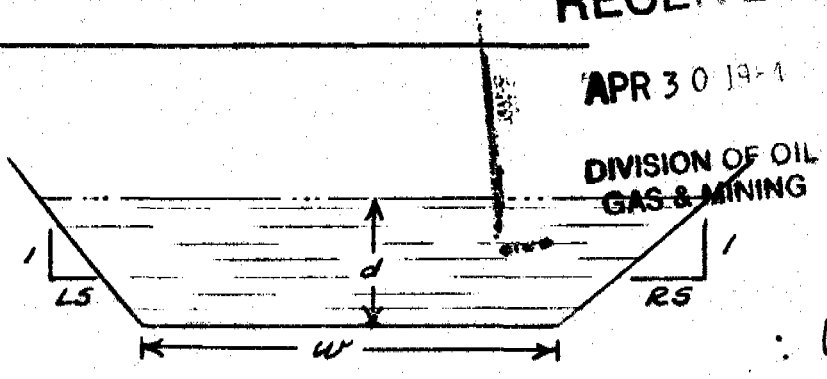
Attachments

cc: L. King
B. L. Kirkwood
B. A. Filas
V. R. Watts
E. C. File

Subject FILTER DESIGN
FOR ABATEMENT OF
NOV 84-2-1-2 2 OF 2

CALCULATION NOTES
By B.A.E.
Checked
Acc't
APRIL 23 1984
Sheet No. 1 of 7 Sheets

RECEIVED
APR 30 1984
DIVISION OF OIL
GAS & MINING



MANNING EQ^N:

$$\therefore \left(\frac{1.486}{n}\right) A R^{2/3} S^{1/2} = Q$$

WHERE: n = ROUGHNESS COEFF.
A = AREA
R = HYDRAULIC RADIUS
S = CHANNEL SLOPE

VELOCITY $V = Q/A$

ALL BERM SIDE SLOPES WILL BE APPROX. 2:1

ROADWAYS WILL BE GRADED AT A 10° TILT

HYDROLOGIC DESIGNS ARE BASED ON A PEAK FLOW OF 3400 GPM (7.58 cfs), WHICH IS THE PUMPING CAPACITY OF A SLURRY LINE. MOST BREAKS OCCUR WHEN ONLY THE GLAND WATER PUMPS ARE RUNNING. THIS DISCHARGE IS APPROXIMATELY 50 GPM. DISCHARGE WHEN A PLUGGED LINE IS CLEARED, OR DURING PLANT STARTUP IS USUALLY ABOUT 2000 GPM BECAUSE ONLY ONE OF THE TWO REFUSE PUMPS IN SERIES IS ON (BOTH PUMPS HAVE A COMBINED CAPACITY OF 3400 GPM). RARELY DO LINE BREAKS OCCUR WHEN THE FULL 3400 GPM IS BEING PUMPED.

FLOW IN ROADWAY ALONG PIPELINE:

$W = 0$ (V CHANNEL)
$LS = 5.67$ (10° TILT IN ROAD)
$RS = 2.00$ (BERM SLOPE)
$n = 0.035$
$S = 0.018$ ft/ft

AT $d = 0.81$ ft $Q = 7.58$ cfs $V = 3.03$ fps

CHANNEL IS NON-EROSIVE

Subject FILTER DESIGN FOR ABATEMENT OF NOV 84-2-1-2 2 OF 2

CALCULATION NOTES
By B.A.F.
Checked
Acc't
APRIL 23 1984
Sheet No. 2 of 7 Sheets

FLOW DOWN BORROW AREA (PRIOR TO BORROW):

W = 0
LS = 5.67
RS = 2.00

$\eta = 0.035$
S = 0.167 ft/ft

AT d = 0.53 ft Q = 7.58 cfs V = 6.98 fps

CHANNEL NEEDS RIPRAP

FLOW FROM BORROW AREA TO BERMS:

W = 0
LS = 5.67
RS = 2.00

$\eta = 0.035$
S = 0.065 ft/ft

AT d = 0.64 ft Q = 7.58 cfs V = 4.90 fps

CHANNEL IS NON-EROSIVE

FLOW ALONG BERMS (SLOPE IS MAX. INTO BASIN #2 SO USE #2 IN THIS CALC.)

W = 0
LS = 15.3 (ROAD GRADE)
RS = 2.00

$\eta = 0.035$
S = 0.057 ft/ft (#2)
note: $S_{\#1} = 0.053$ ft/ft
$S_{\#3} = 0.025$ ft/ft

AT d = 0.48 ft Q = 7.58 cfs V = 3.86 fps

CHANNEL IS NON-EROSIVE

Subject FINAL DESIGN FOR ABATEMENT OF NOV 84-2-1-2 2 OF 2

CALCULATION NOTES
By B.A.E.
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APRIL 23 1984
Sheet No. 3 of 7 Sheets

FLOW IN BASIN #1 :

$W = 15$ ft
$LS = 1.00$
$RS = 2.00$

$n = 0.035$
$S = 0.026$ ft/ft

AT $d = 0.21$ ft $Q = 7.58$ cfs $V = 2.37$ fps

CHANNEL IS NON-EROSIVE

FLOW IN BASINS #2 AND #3:

$W = 20$ ft
$LS = 1.00$
$RS = 2.00$

$n = 0.035$
$S = 0.026$ ft/ft

AT $d = 0.18$ ft $Q = 7.58$ cfs $V = 2.12$ fps

CHANNEL IS NON-EROSIVE

DOWNSLOPE FROM BASIN #3 TO PRICE RIVER

$W = 3$ ft
$LS = 2.00$
$RS = 2.00$

$n = 0.035$
$S = 0.250$ ft/ft

AT $d = 0.27$ ft $Q = 7.58$ cfs $V = 7.91$ fps

CHANNEL NEEDS RIPRAP

Subject FINAL REPORT FOR AMENDMENT OF NOV 84-21-202

CALCULATION NOTES
By B.A.E.
Checked
Acc't
APRIL 23 1984
Sheet No. 4 of 7 Sheets

ROCK FOR GABION CONSTRUCTION AND RIPRAP:

TYPE 1 : -8" +2" CLEAN ROCK

APPROX. SIZE BREAKDOWN

-8" + 6"	20%
- 6" + 4"	40%
- 4" +2"	40%

TYPE 2: - 2" + ½" CLEAN ROCK

APPROX. SIZE BREAKDOWN

-2" + 1"	70%
- 1" + ½"	30%

FOR GABIONS: MIX 70% TYPE 1 WITH 30% TYPE 2 FOR THE FOLLOWING SIZE BREAKDOWN

-8"+6"	14%
- 6" + 4"	28%
- 4" + 2"	28%
- 2" + 1"	21%
- 1" + ½"	9%

Subject Flood Design
FOR ABATEMENT OF
NOV 84 2-1-2 2052

CALCULATION NOTES
By B.A.F.
Checked
Acc't
APRIL 23 1984
Sheet No. 5 of 7 Sheets

FOR RIPRAP: USE ONLY TYPE I ROCK

MANNING'S $n = 0.0395 D_{50}^{1/6}$, WHERE D_{50} IS THE AVERAGE PARTICLE DIAMETER.

$$n = 0.0395(4.60)^{1/6} = 0.051$$

SUITABILITY FOR FLOW DOWN BORROW AREA:

$W = 0$
$LS = 5.67$
$RS = 2.00$

$n = 0.051$
$S = 0.167$ ft/ft

AT $d = 0.61$ ft $Q = 7.58$ cfs $V = 5.26$ fps

RIPRAP IS ADEQUATE

SUITABILITY FOR FLOW FROM BASINS TO RIVER:

$W = 3$ ft
$LS = 2.00$
$RS = 2.00$

$n = 0.051$
$S = 0.250$

AT $d = 0.34$ ft $Q = 7.58$ cfs $V = 6.15$ fps

VELOCITY IS HIGH - CHECK RIPRAP SAFETY FACTOR IN CHANNEL

Subject FILTER DESIGN FOR ABATEMENT OF NOV 84-2-1-2 2 OF 2.

CALCULATION NOTES
By B.A.F.
Checked
Acc't
APRIL 23 1984
Sheet No. 6 of 7 Sheets

CHECK SAFETY FACTOR ACCORDING TO METHODS DESCRIBED IN "APPLIED HYDROLOGY AND SEDIMENTOLOGY FOR DISTURBED AREAS", PP 185-188.

$$\tau = \gamma d s = 62.4\,(0.34)(0.25) = 5.30\ lb/ft^2$$

$$\eta_b = \frac{21\,\tau}{\gamma(SG-1)D_{50}} = \frac{21\,(5.30)}{62.4(2.65-1)(4.60)} = 0.235$$

$\phi = 40^\circ$ (FIG 3.14, P. 187)

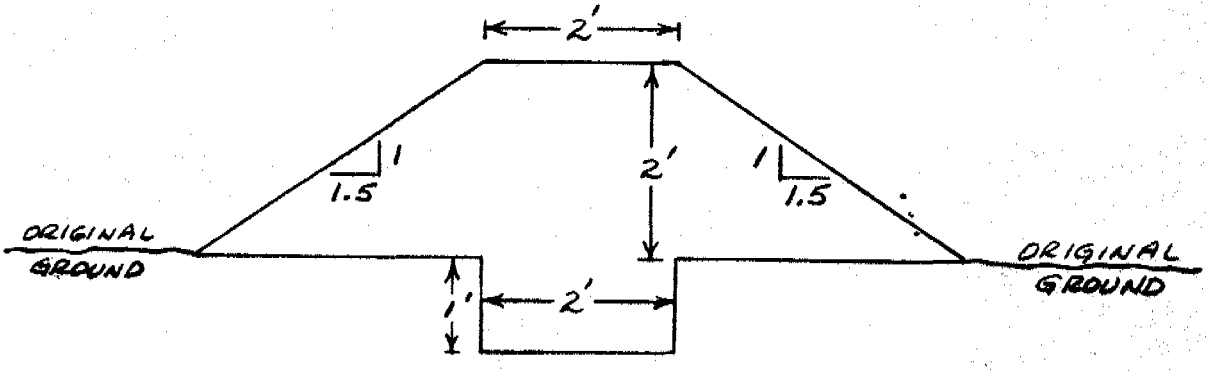
$\theta = 14.04^\circ$ FOR A 25% SLOPE

$$SF_b = \frac{\cos\theta \tan\phi}{\sin\theta + \eta_b \tan\phi} = \frac{\cos 14.04^\circ \tan 40^\circ}{\sin 14.04^\circ + 0.235 \tan 40^\circ}$$

SAFETY FACTOR = 1.85 ∴ RIPRAP IS ADEQUATE

Subject FILTER DESIGN FOR ADDITION OF NOV 84-2-1-7 20ac-2

CALCULATION NOTES
By B.A.F.
Checked
Acc't
APRIL 23 1984
Sheet No. 7 of 7 Sheets



PROPOSED GABION FILTER
(LOOSE ROCK)

THREE ROCK GABIONS WILL BE CONSTRUCTED AT THE BASIN LOCATIONS SHOWN ON DRAWING NO. E9-345. EACH STRUCTURE WILL BE KEYED INTO THE GROUND AS SHOWN ABOVE. THE HEIGHT OF EACH STRUCTURE WILL BE 2 FEET ABOVE ORIGINAL GROUND. THE DEPTH OF WATER ENTERING THE GABION AT DESIGN FLOW IS 0.21 FT AND 0.18 FT FOR BASIN #1 AND BASIN #2 AND #3, RESPECTIVELY. THE 2FT HEIGHT SHOULD ADEQUATELY ALLOW PASSAGE OF WATER WITHOUT OVERFLOWING THE STRUCTURES. IN EMERGENCY SITUATIONS, THE CREST OF THE GABION WILL ACT AS A SPILLWAY. NO SIDE SLOPE OR DOWNSLOPE PROTECTION IS PROPOSED DUE TO THE NON-EROSIVE VELOCITIES IN THE BASINS.

File ACT/007/012 #7 & 15 wh map

RECEIVED
JUL 2 1984
DIVISION OF OIL GAS & MINING

U.S. Steel Mining Co., Inc.
a Subsidiary of United States Steel Corporation

WESTERN DISTRICT

P.O. BOX AE
PAONIA, COLORADO 81428
303/527-4816

June 28, 1984

Mr. D. Wayne Hedberg
Special Permits
State of Utah
Division of Oil, Gas, and Mining
4241 State Office Building
Salt Lake City, Utah 84114

RE: Stipulation to NOV No. 84-2-1-2
No. 2 of 2 Termination Notice

Dear Mr. Hedberg:

Per Inspector Sandy Pruitt's stipulation to the subject termination notice, the following modifications have been made to the gabion structures for providing sedimentation control below the slurry pipelines:

1. The three catch basins were cleaned out and all accumulated sediment and rock was stored at the location shown on Exhibit A.

2. A single earthen catch basin was constructed at the location shown on Exhibit A (at the location of Catch Basin #3 on drawing number E9-3445 of the original plan) for primary settling of sediment.

3. A gabion overflow was constructed such that water in excess of the catch basin capacity will flow through the rock filter prior to discharge.

4. The gabion foundation and downslope was lined with silt fence to minimize undercutting beneath the gabion and surface erosion on the downslope.

5. The toe of the lined downslope was riprapped with -8" +2" clean rock to dissipate velocities and minimize erosion.

6. Rubber tires were placed in the stuper portions of the ditches to further dissipate velocities, minimize erosion, and trap sediment. There channels were riprapped under the original plan.

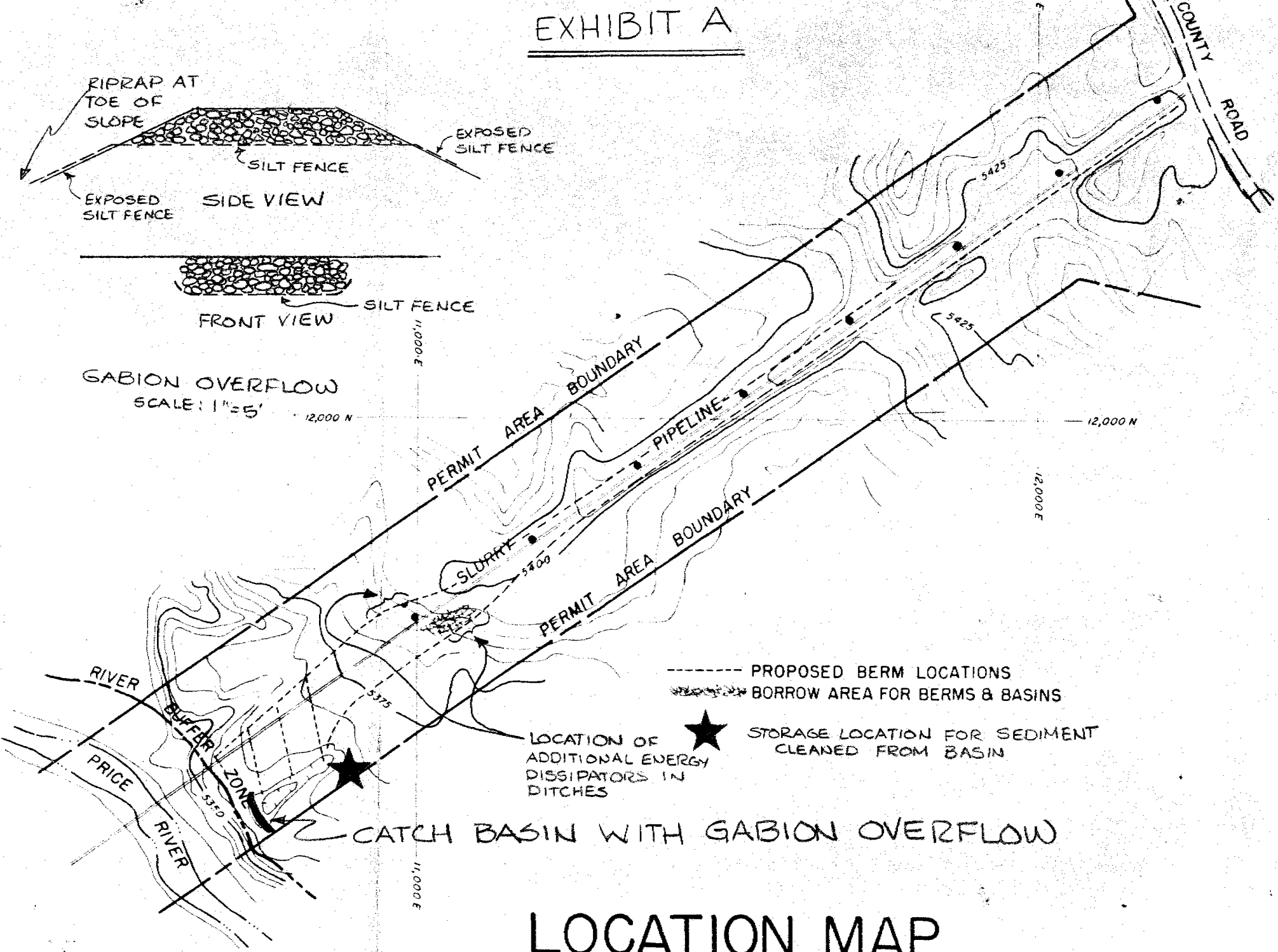
If you have any questions or comments regarding this plan, contact B. A. Filas at 801-637-0120.

Sincerely,

G. H. Sides

cc: S. Pruitt - DOGM
B. L. Kirkwood - USSMC
B. A. Filas - USSMC
V. R. Watts - USSMC, EC File
L. King - USSMC

EXHIBIT A



LOCATION MAP

ALE: 1" = 200'

REF. DWG. F9-177, E9-3445

UMC 784.12 Operation Plan: Existing Structures

(a) (1) See Map E9-3341 for location of structures at the coal cleaning plant and the waste disposal areas.

(2) Plans for the buildings are on file at the Western District General Office and can be made available for review. The buildings described in 784.11(b)(5) are maintained in excellent condition and there has been no indication of instability since construction in 1957-58. For pictures of structures, see pages 784-11 thru 14.

The impounding structures are described in Appendix C. The structures are stable and meet the required factors of safety

(3) The structures were completed and placed in operation in 1958 with the coal dryer placed in operation in 1960.

The Upper Refuse Dike and the Lower Refuse Dike have been increased in height since initial construction. The study by Rollins, Brown and Gunnell, Inc. (Appendix C) concluded that the structures are stable and that the safety factors are adequate and in accord with applicable regulations. There have been no modifications to these structures since the stability study. It is planned to increase the height of the North Dike, Upper Refuse Dike, and the Lower Refuse Dike. The plans for the proposed modifications to the Lower Refuse Dike are included in Technical Revision No. 1. Plans for the Upper Dike and North Dike are discussed in Appendix E of this text and Appendix E of the Technical Revision No. 1.

(4) The structures were constructed in accord with engineered plans which are on file in the District office and are maintained in excellent condition. It is concluded that the structures meet the relevant performance standards.

(b) The operator plans to increase the height and impounding capacity of the slurry impoundment structures. The plans for pertinant modifications are included in Technical Revision No. 1 and meet the requirements of this paragraph.

The operator has begun removal of the high ash coal fines that are contained within the Upper and Lower Refuse Ponds to provide pond space for continued water clarification. The material will be removed from the ponds with a Sauerman Scraper and stored with the coarser refuse material outside the pond areas. The operator plans to sell this mat-

erial to energy consumers as purchasers become available. The material will be trucked from the site to the consuming location or to the rail spur on the west side of the river for rail transportation to consumers.

UMC 784.12 Operation Plan: Existing Structures

(a) (1) See map E9-3341 for location of the structures at the coal cleaning plant and disposal area.

(2) Plans for the buildings are on file at the Western District-Coal General Office and can be made available for review. These buildings (described in 784.11(b)(5)) are maintained in excellent condition and there has been no indication of instability since construction in 1957-58.

The impounding structures are described in Appendix C. The structures are stable with acceptable factors of safety.

(3) The structures were completed and placed in operation in 1958 with the coal dryer constructed in 1959-60 and placed in operation in 1960.

The Upper Refuse Dike and the Lower Refuse Dike have been increased in height since initial construction.

(4) It is our conclusion after investigation and review that the structures as a minimum meet the performance standards of Sub-chapter K.

(b) The operator does not know of any modifications to structures required to meet the performance standards of Sub-chapter K.

(c) The operator will begin removal of the high ash coal fines that are contained within the Upper and Lower Refuse Ponds to provide pond space for continued water clarification. The material will be removed from the ponds with a Sauerman Scraper and stored with the coarser refuse material outside the pond areas. The operator plans to sell this material to energy consumers as purchasers become available. The material will be trucked from the site to the consuming location or to the rail spur on the west side of the river for rail transportation to consumers.

UMC 784.13 Reclamation Plan: Refuse Pile East of Price River

(a) The refuse disposal and pond area east of the Price River has the capacity to accept refuse from the coal cleaning plant in excess of 30 years into the future. When it is determined that the refuse disposal area is at capacity the operator will terminate the pumping of refuse to the area and begin reclamation. It is also anticipated that the operator will install water clarification facilities at the cleaning plant and the ponds will no longer be operational.

(b) (1) Grading to final contours will be completed as the refuse pile is filled. Any final grading, which would be expected to be negliable, will be completed during the first year after the refuse area is filled to capacity.

(2) See Appendix D for the cost of reclamation.

(3) See Map No. E9-3342 and cross section C9-1216 for the projected final configuration of the refuse pile that is east of the Price River.

(4) Top soil will not be available to cover the refuse pile area for reclamation.

(5) It is expected that the undisturbed areas contiguous to the final grade boundaries of the refuse pile will not require revegetation.

The refuse pile and pond areas will be returned to a land classification of undeveloped land. The SCS rates the soils in the contiguous undisturbed areas which include Rock land (Ry), Shaly colluvial land (Sn) and Beebe loamy fine sand (BeB) as having little value for grazing and wildlife habitats. The surface of the refuse and pond areas will be allowed to return naturally to an undeveloped state through natural succession since the potential for revegetation of the surface of the refuse and pond areas will be no better than equal to the potential for revegetation of the contiguous areas.

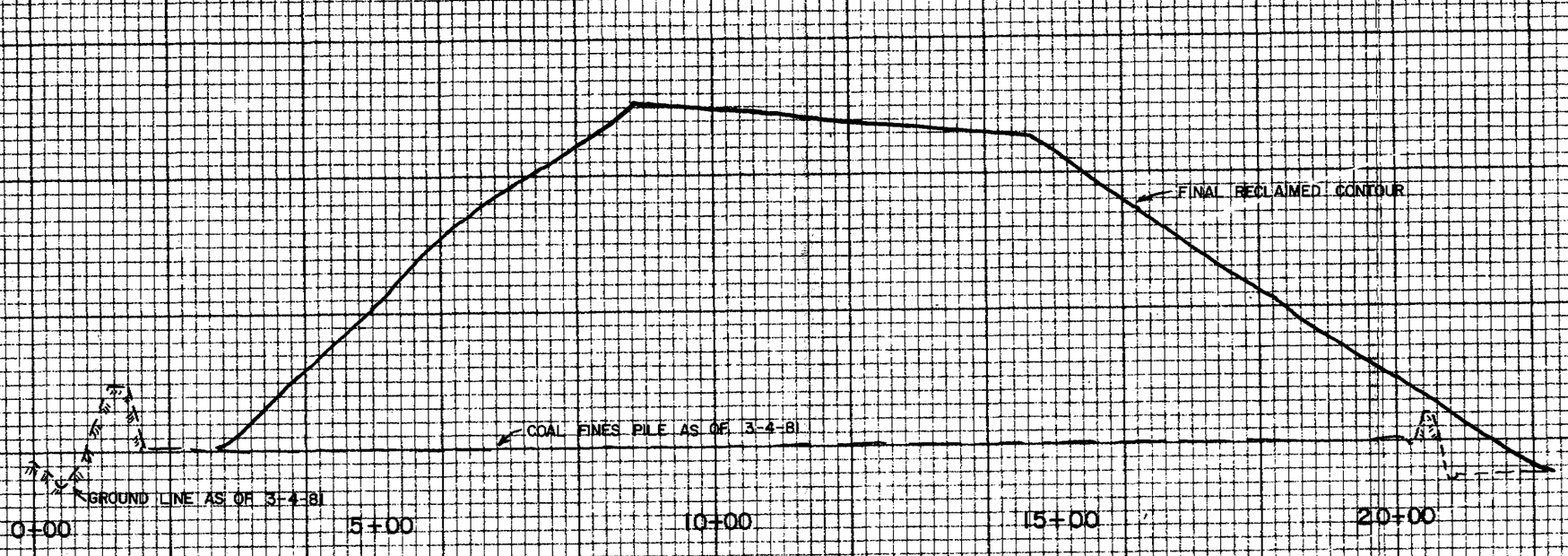
The operator will establish a test revegetation area on a portion of the waste pile that is determined to be at the final grade and not subject to further disturbance to determine vegetation species that will grow and be capable of regeneration on the waste pile. A variance is requested regarding re-vegetation until five years before abandonment of the area due to the final land use as undeveloped land and the results of future test seedings.

(6) This is not a coal mine and does not apply.

(7) The coal cleaning process refuse is non-acid and non-toxic forming material and does not constitute a fire hazard.

(8) Does not apply.

(9) The activities associated with reclamation after the decision to abandon the site for refuse disposal will be limited to final grading of the coal cleaning plant refuse. The operator expects to leave the sedimentation ponds in place to provide settling of any runoff from precipitation events that may occur in the area. Diversion ditches will be constructed as necessary to intercept and carry the runoff from precipitation events away from the refuse pile area to insure that the pond has adequate capacity to contain the precipitation events. The surface area will be chemically stabilized if necessary to preclude fugitive dust due to area winds. During the final grading the area will be sprinkled as necessary to control fugitive dust. Revegetation of the refuse area will be attempted when surface preparation is complete.



SECTION D-D'

SCALE: 1"=200' horizontal
1"=20' vertical

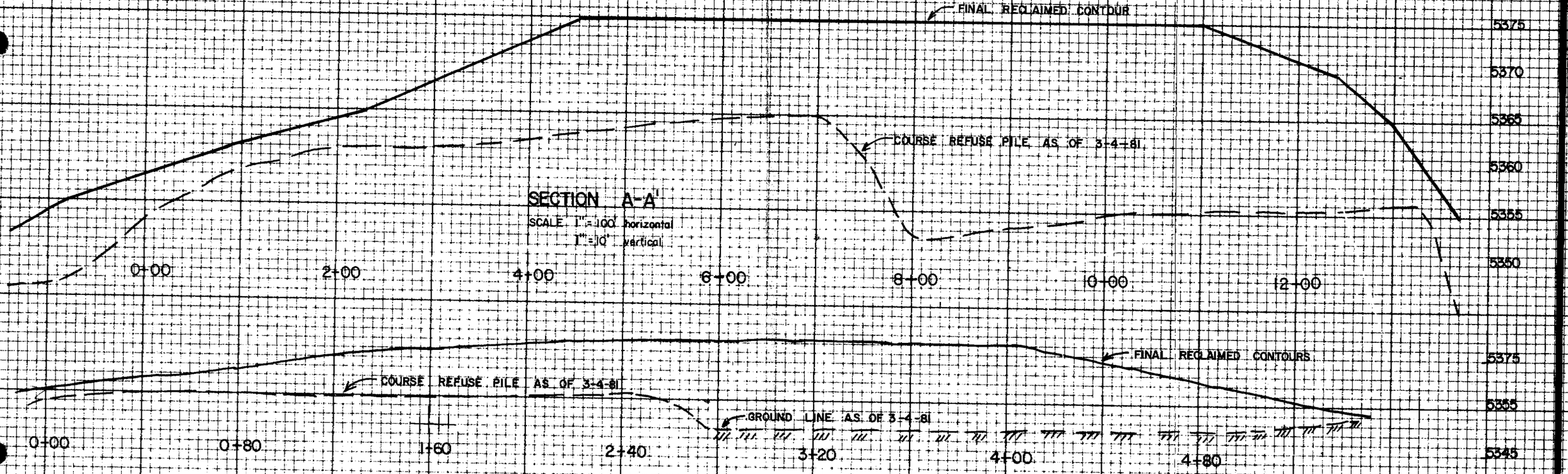
THIS DRAWING WAS PREPARED UNDER MY SUPERVISION

Registered Professional Engineer 4769 — Date: MAR 11 1981

UNITED STATES STEEL CORPORATION
WESTERN DISTRICT COAL
WELLINGTON COAL CLEANING PLANT

REFUSE PILE EAST OF RIVER

Drawn: RMC 3-4-81	Ref. Dwgs. E9-3342
Approved: GHS 3-4-81	C9-1216
Scale: As Shown	

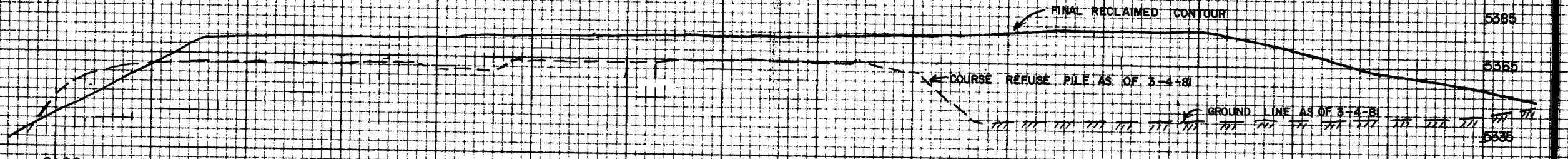


SECTION A-A'

SCALE 1"=100' horizontal
1"=10' vertical

SECTION B-B'

SCALE 1"=40' horizontal & vertical



SECTION C-C'

SCALE 1"=40' horizontal & vertical

THIS DRAWING WAS PREPARED UNDER MY SUPERVISION

G. Leon Hide 4169
Registered Professional Engineer - Utah

MAR 11 1981
Date

UNITED STATES STEEL CORPORATION
WESTERN DISTRICT COAL
WELLINGTON COAL CLEANING PLANT

COURSE REFUSE PILE

Ref. Dwgs. E9-3342	Drawn: RMC 3-4-81
Approved: GHS 3-4-81	C9-1217
Scale: As Shown	