SPECIAL POWER OF ATTORNEY

Consolidation Coal Company, a Delaware corporation, with its principal corporate offices at 1800 Washington Road, Pittsburgh, PA 15241 (the "Company") hereby nominates, constitutes and appoints Jonathan Pachter as its Attorney-in-Fact, to act its place and steed and on its behalf in any and all matters relating in any way to the execution, filing or submission of documents of any kind, including but not limited to, applications for permits, licenses, plans, bonds, consents, waivers, changes, renewals or modifications to any such permits or other documents and forms of any kind or character as may be necessary or convenient for the businesses of the Company related to the mining, re-mining, abandonment and reclamation of coal lands and facilities of the Company, including the power to negotiate, sign, execute and deliver on behalf of it any and all filings, forms, submissions, agreements, transfers, assignments, waivers, consents, confirmations or other documents of any kind as may be necessary or convenient to complete any of the above described purposes.

This Power of Attorney shall remain in full force and effect until revoked in writing.

Given under the signature and seal of the above named Company effective the 31stth day January, 2003.

Consolidation Coal Company

By _____

Name: P. B. Lilly

It's Chief Operating Officer

Commonwealth of Pennsylvania
County of Allegheny

On this 31st day of January, 2003, the undersigned, P. B. Lilly, appeared before me and acknowledged himself to be the President of above named company and that as such officer, being authorized to do so, executed the foregoing Power of Attorney for the purposes therein contained, by signing the name of the corporation by himself as President.

In witness whereof, I hereunto set my hand and seal.

Notarial Seal
Jane M. Schaff, Notary Public
Upper St. Clair Twp., Allegheny County
My Commission Expires June 20, 2005
Member, Pennsylvania Association of Notaries

_____ Notary Public

My Commission Expires: _____

Seal

Acceptance: The undersigned hereby accepts the Power of Attorney as granted herein.

_____

Jonathan Pachter

LEGAL NOTICE

Consolidation Coal Company of Pittsburgh, Pennsylvania, hereby announces it's intention to conduct activities incidental to underground mining activities at the Emery Mine. The currently approved permit is ACT/015/015.

Consolidation Coal Company operates the Emery Mine which is located (3) miles south of Emery, Utah within Sections 27, 28, 29, 32 and 33 of Township 22 South, Range 6 East, Salt Lake Base & Meridian.

Emery Mine plans to construct a cattle guard and new entrance road within 100 feet of Emery County Road #915 at the 4th East Portal located near the center of:

Township 22 S, Range 6E, Section 27, Salt Lake Basin Meridian

(INSERT SKETCH)

The area of the construction site has been submitted for approval:

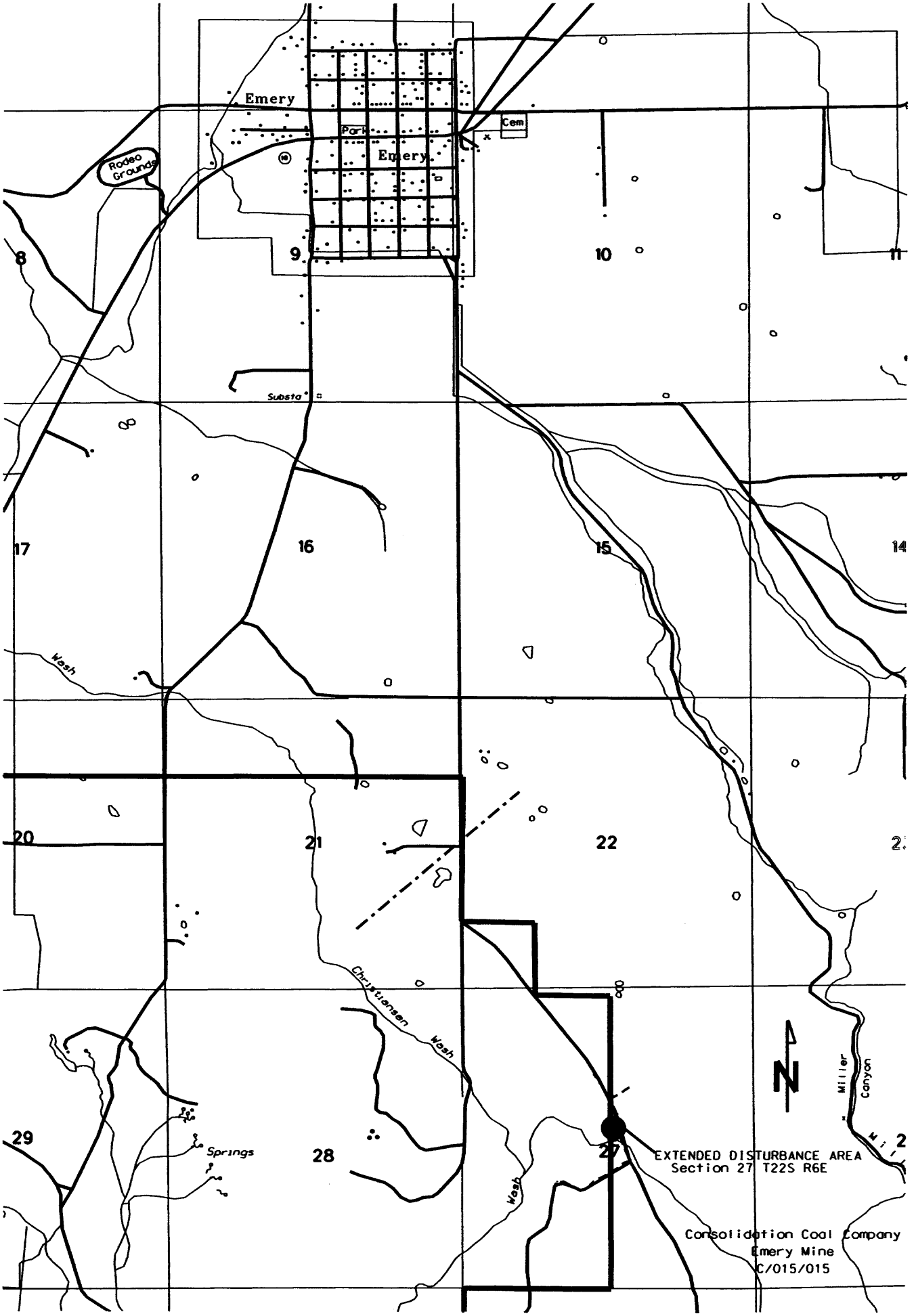
The address of the applicant is:

Consolidation Coal Company
Emery Mine
P.O. Box 527
Emery, Utah 84522
Phone: (435)286-2301

The address of the operator is:

Consol Energy, Inc.
Consol Plaza
1800 Washington Road
Pittsburgh, PA 15241-1421
Phone: (412)831-4000

Written comments or request for a hearing regarding the activities for the construction must be made within 30 days of the last publication of this notice, and may be addressed to the Division of Oil, Gas and Mining, 1594 West North Temple, Suite 1210, Salt Lake City, Utah 84114-5801


Emery
Park
Emery
Cem
Rodeo Grounds
Substa
8
9
10
11
17
16
15
14
Wash
20
21
22
Christiansen Wash
Miller Canyon
29
Springs
28
27
Wash
N
EXTENDED DISTURBANCE AREA
Section 27 T22S R6E
Consolidation Coal Company
Emery Mine
C/015/015

I.B Legal, Financial, and Compliance Information

The Emery Mine is owned by Consolidation Coal Company ~~(Consol). Consol is 50% owned by E.I. du Pont de Nemours and Company of Wilmington Delaware and 50% owned by~~ Consolidation Coal Company is owned by Consol Energy Inc., a public company. Rheinbraun A.G. of Lindenthal, Germany controls 73.65% of Consol Energy stock. The first page of Appendix I-1 is a chart of Consol's ownership structure.

UMC 782.13, UMC 782.19

Permit Applicant:

Consolidation Coal Company
Consol Plaza
1800 Washington Road
Pittsburgh, PA 15241
(412) 831-4000

Mine Operator:

Consolidation Coal Company
~~Western/Non Mining Operations~~
~~P.O. Box 566~~
~~Sesser, IL 62884~~
~~(618)-625-2041~~

1800 Washing Road
Pittsburgh, PA 15241
(412) 831-4000

Mine Operation:

Emery Mine
P. O. Box 527
Emery, UT 84522
(801) 286-2301

Resident Agent:

C T. Corporation System
175 South Main St.
Salt Lake City, UT 84111

Consolidation Coal Company is a corporation, incorporated under the laws of the State of Delaware.

Consol have not jointly operated any coal mines in the United States under any other names within the previous five years.

The Mine Safety and Health Administration identification number for the Emery Mine is 42-00079.

A list of the officers and directors of Consol is contained in Appendix III, attached to this chapter.

Revised 4-23-92
Revised 8-31-95
Revised 9-16-96
Revised 10-13-03

Section 22 T22S, R6E	Consolidation Coal Company 1800 Washington Road Pittsburgh, Pennsylvania 15241 (412) 831-4000
	John & Vicki Byars P.O. Box 575 Emery, Utah 84522
	Kenneth L. & Earlene Christiansen P.O. Box 552 Emery, Utah 8452
	D.U. Company, Inc. 53 West Angelo Avenue Salt Lake City, Utah 84115
Section 27 T22S, R6E	Consolidation Coal Company 1800 Washington Road Pittsburgh, Pennsylvania 15241 (412) 831-4000
Section 28 T22S, R6E	Wayne Staley Emery, Utah 84522 (801) 286-2213
	Glendon E. Johnson 1200 19th ST. NW Suite 500 Washington, DC 20036
	Consolidation Coal Company 1800 Washington Road Pittsburgh, Pennsylvania 15241 (412) 831-4000
Section 29 T22S, R6E	George Olsen 15 E. Center Orangeville, Utah 84537
	Emery County Emery County Courthouse Castle Dale, Utah 84513
Refer to Page 7b thru 7d for Exploration & Surface Agreement	Morgan Robertson P.O. Box 65 Emery, Utah 84522
	Glendon E. Johnson 1200 19th ST. NW Suite 500 Washington, DC 20036

Revised 10/2003

Osburn Bret Carter
P.O. Box 24
Emery, Utah 84522

Section 30 T22S, R6E

George Olsen
15 E. Center
Orangeville, Utah 84537
(801) 748-2522

Bonnie A. Petty (trustee)
3839 Highland Cove Lane
Apt 202
Salt Lake City, Utah 84106

Josiah K. & Etta Marie Eardley
2433 South Highway 10
Price, Utah 84501

George Lewis
75 East 3rd South
Salt Lake City, Utah 84103
Phone Unknown

Consolidation Coal Company
1800 Washington Road
Pittsburgh, Pennsylvania 15241
(412) 831-4000

Emery County
Emery County Courthouse
Castle Dale, Utah 84513

Morgan Robertson
P.O. Box 65
Emery, Utah 84522

Right of Entry - Road &Monitoring Facilities, right-of-way & easement grant executed 10-3-88, filed & recorded 10-6-88, Utah, Emery County Book 174, Page 600-601

Glendon E. Johnson
1200 19th ST. NW Suite 500
Washington, DC 20036

Thomas C. Bunn
P.O. Box 59
Paradise, Utah 84328

Wynona P. Olsen (trustee)
3805 Highland Cove Lane
Apt #D18
Salt Lake City, Utah 84146

Revised 10/2003

EXPLORATION AND SURFACE AGREEMENT

THIS AGREEMENT is entered into this 12th day of November, 1980, by and between John S. Lewis and Carolyn C. Lewis, husband and wife, whose address is 1163 E. 25th Street, Idaho Falls, Idaho, 83401, hereinafter called Owner, whether one or more, and Consolidation Coal Company, whose address is 14 Inverness Drive East, Building 6Q, Englewood, Colorado, 80112, hereinafter called Consol.

In consideration of Ten Dollars ($10.00) in hand paid to Owner and the covenants and agreements herein set forth, the parties hereto mutually agree as follows:

1. Owner owns and holds the following described lands, hereinafter called said lands, located in Emery County, Utah:

T. 22 S., R. 6 E

Section 29: NE¼ SE¼, S½ S½, NE¼ NE¼ West of the County Road

Section 30: NW¼ SE¼, S½ SE¼, SE¼ SW¼

Section 31: NE¼, E½ NW¼, NW¼ NW¼

and any other lands now or hereafter owned by Owner.

2. Owner consents to Consol's entry upon the said lands for the purpose of investigating and exploring for coal by coring, drilling, geophysical or other methods deemed desirable by Consol and also entry upon the said lands to conduct vegetation surveys, soil surveys, wildlife surveys, land surveys and to construct subsidence monitoring stations and to perform any other acts as may be required by any local, state or federal law or regulation.

3. Consol shall pay to Owner the sum of One Hundred Dollars ($100.00) for each drill site. If actual damage to Owner's surface exceeds One Hundred Dollars ($100.00) per site, Consol shall compensate Owner to the extent such damage was occasioned by the acts, activities and operations of Consol or its authorized representatives.

4. For any activity other than drilling, Consol shall compensate Owner for all actual damages occasioned by such activity of Consol or its authorized representatives.

5. All operations conducted hereunder shall be conducted in a reasonable and workmanlike manner. All drill holes will be plugged and reclaimed in compliance with all applicable governmental laws, rules, and regulations.

Tab 5

Additionally, all gates on the said lands shall be left open or closed as found, the speed of all vehicles shall be held to a reasonable rate with extra care taken in the vicinity of livestock and all refuse from any operations hereunder shall be promptly removed from the said lands by Consol or its authorized representatives. Neither Consol's employees nor its authorized representatives shall carry firearms on the said lands without the express permission of Owner.

6. Owner, or Owner's representative will be notified in advance of any entry onto said lands. Consol agrees to consult with Owner or Owner's representative as to the specific locations for drill sites. If the parties cannot agree on a location, Consol shall choose the location and compensate Owner pursuant to Paragraph (3) herein.

7. Neither Consol nor its authorized representatives shall have the right to the use of water from wells, tanks, or reservoirs belonging to Owner unless Owner shall consent to allow the use of water from such sources. Consol shall notify Owner of the location of any drill hole to which substantial amounts of water are encountered by Consol or its authorized representatives.

8. Consol hereby agrees to indemnify and hold harmless Owner from and against any and all claims, demands, suits, or causes of action for damages and injuries of every kind and nature to persons and property occurring on the said lands and arising out of the activities of Consol or its authorized representatives.

9. This agreement shall be in effect from this date forward, for so long as the coal lease entered into on November 12, 1980, between Owner and Consol Land Development Company is in effect.

10. It is expressly understood between the parties hereto that Consol, by entering into this agreement does not waive or relinquish any of its water or water rights or any rights it has to the use and occupancy of said lands by virture of its ownership or leasehold interest in the coal under said lands.

EXECUTED the day and year set forth above:

CONSOLIDATION COAL COMPANY

BY _____

OWNER

_____

_____

STATE OF COLORADO)
SS:
COUNTY OF ARAPAHOE)

On the 13th day of NOV., 1980, personally appeared before me KENT M. REDDING, the signer of the above instrument, who duly acknowledged to me that he executed the same.

Witness my hand and official seal.

/s/ Judy K. Maestas
Notary Public

(Seal) Residing at 900 So. QUINCE, DENVER, CO 80231

My Commission Expires: January 31, 1983

STATE OF Utah)
SS:
COUNTY OF Salt Lake)

On the 14th day of November 1980, personally appeared before me John S. Lewis, the signer of the above instrument, who duly acknowledged to me that he executed the same.

Witness my hand and official seal.

/s/ Richard G. Allen
Notary Public

RICHARD G. ALLEN NOTARY PUBLIC STATE OF UTAH

(Seal) Residing at Lehi, Utah

My Commission Expires: 1/28/82

STATE OF Utah)
SS:
COUNTY OF Salt Lake)

On the 14th day of November, 1980, personally appeared before me Carolyn C. Lewis, the signer of the above instrument, who duly acknowledged to me that he executed the same.

Witness my hand and official seal.

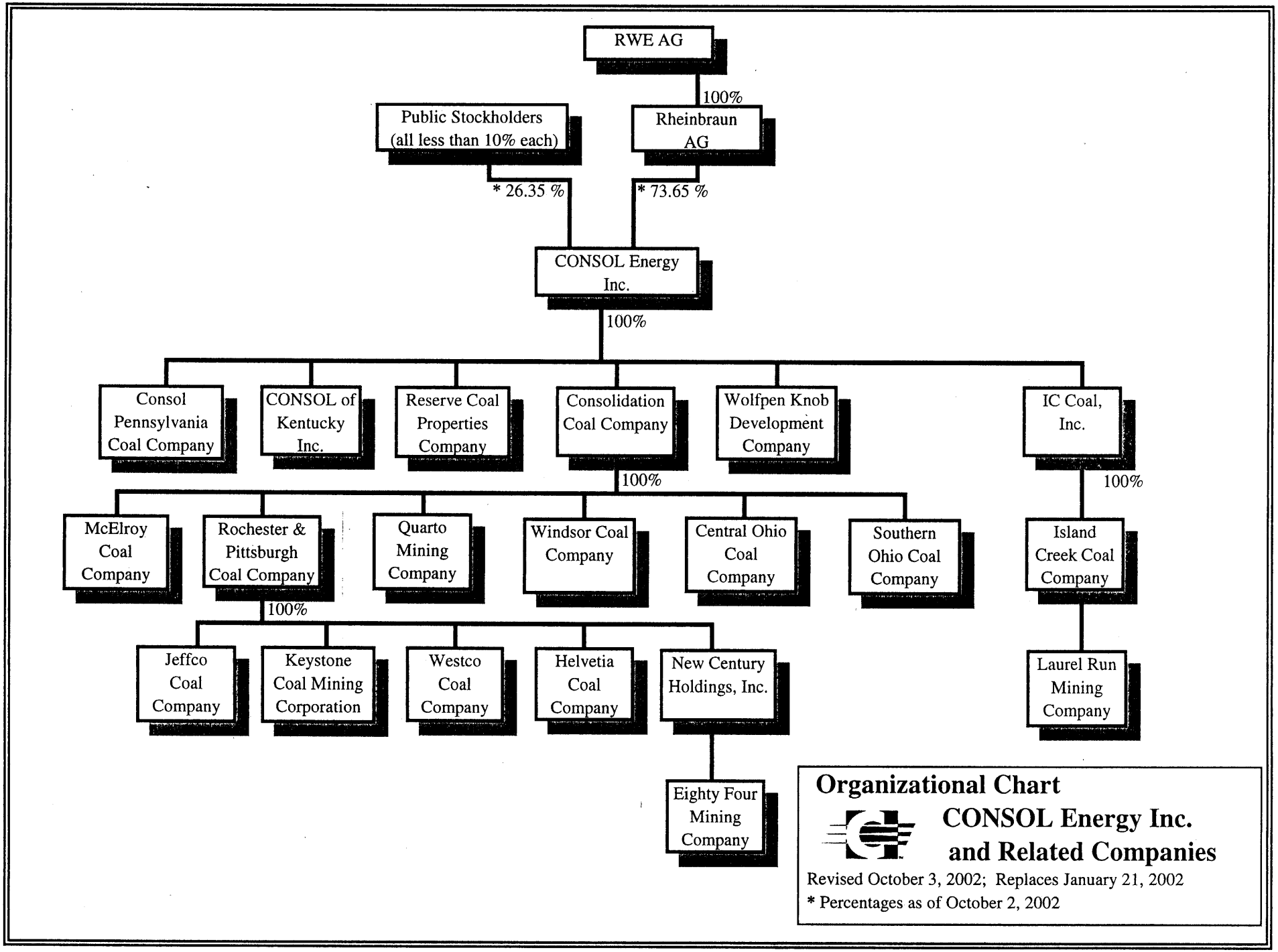
/s/ Richard G. Allen
Notary Public

RICHARD G. ALLEN NOTARY PUBLIC STATE OF UTAH

(Seal) Residing at Lehi, Utah

My Commission Expires: 1/28/82

7d


RWE AG
100%
Public Stockholders (all less than 10% each)
Rheinbraun AG
* 26.35 %
* 73.65 %
CONSOL Energy Inc.
100%
Consol Pennsylvania Coal Company
CONSOL of Kentucky Inc.
Reserve Coal Properties Company
Consolidation Coal Company
Wolfpen Knob Development Company
IC Coal, Inc.
100%
100%
McElroy Coal Company
Rochester & Pittsburgh Coal Company
Quarto Mining Company
Windsor Coal Company
Central Ohio Coal Company
Southern Ohio Coal Company
Island Creek Coal Company
100%
Jeffco Coal Company
Keystone Coal Mining Corporation
Westco Coal Company
Helvetia Coal Company
New Century Holdings, Inc.
Laurel Run Mining Company
Eighty Four Mining Company
Organizational Chart
CONSOL Energy Inc.
and Related Companies
Revised October 3, 2002; Replaces January 21, 2002
* Percentages as of October 2, 2002

Officers, Directors, and Stockholders of Central Ohio Coal Company

05-Sep-03

Name: Consolidation Coal Company
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: **FEIN:** 13-2566594
Title: Sole Shareholder **Title Effective Date:** 07/02/2001
Percent Ownership: 100% **Ownership Effective Date:** 07/02/2001
Ending Date:

Name: Gary J. Bench
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: 187-48-7192 **FEIN:**
Title: Assistant Secretary **Title Effective Date:** 07/02/2001
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Rodney E. Ford
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Assistant Secretary **Title Effective Date:** 06/15/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: J. Brett Harvey
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 07/02/2001
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Peter B. Lilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 11/01/2002
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Peter B. Lilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: President **Title Effective Date:** 11/01/2002
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Officers, Directors, and Stockholders of Central Ohio Coal Company

Name: **Lloyd C. Price**
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 06/15/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: **John M. Reilly**
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Treasurer **Title Effective Date:** 07/02/2001
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: **Walter J. Scheller**
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 06/15/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: **John W. Schlueter**
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 06/15/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: **Karl T. Skrypak**
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: 173-40-7443 **FEIN:**
Title: Secretary **Title Effective Date:** 07/02/2001
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: **William D. Stanhagen**
Address: 1800 Washington Road.
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 06/15/2003
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Officers, Directors, and Stockholders of Central Ohio Coal Company

Name: **Stephen E. Williams**
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 06/15/2003
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: **John F. Zachwieja**
Address: 172 Route 519
Eighty Four PA 15330
Telephone: 724-206-2005
Social Security No: n/a **FEIN:**
Title: General Manager **Title Effective Date:** 03/01/2002
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Officers, Directors, and Stockholders of CONSOL Energy Inc.

Name: Philip W. Baxter
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
Title: Director
Percent Ownership: <10%
Ending Date:
FEIN:
Title Effective Date: 08/01/1999
Ownership Effective Date:

Name: Gary J. Bench
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: 187-48-7192
Title: Assistant Secretary
Percent Ownership: <10%
Ending Date:
FEIN:
Title Effective Date: 11/01/1999
Ownership Effective Date:

Name: Berthold A. Bonekamp
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
Title: Director
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 07/17/1998
Ownership Effective Date:

Name: Bernd J. Breloer
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
Title: Director
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 09/15/1998
Ownership Effective Date:

Name: William A. Bruno
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: 047-40-3571
Title: Vice President
Percent Ownership: n/a
Ending Date:
FEIN:
Title Effective Date: 09/30/2000
Ownership Effective Date:

Name: Frank P. Burke
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
Title: Vice President
Percent Ownership: n/a
Ending Date:
FEIN:
Title Effective Date: 09/30/2000
Ownership Effective Date:

Officers, Directors, and Stockholders of CONSOL Energy Inc.

Name: Rowland H. Burns, Jr.
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Ass't Secretary **Title Effective Date:** 09/30/2000
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: Nicholas J. Deluliis
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 01/01/2002
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: Danny L. Fassio
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: 182-38-2744 **FEIN:**
Title: Vice President **Title Effective Date:** 11/01/1999
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: Patricia A. Hammick
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 06/11/2001
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: J. Brett Harvey
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Pres,CEO,& Dir. **Title Effective Date:** 01/01/1998
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Thomas F. Hoffman
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: 202-36-9233 **FEIN:**
Title: Vice President **Title Effective Date:** 09/30/2000
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: Jack A. Holt
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 09/30/2000
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: Larry W. Hull
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: 232-82-8546 **FEIN:**
Title: Vice President **Title Effective Date:** 03/01/2002
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: Marshall W. Hunt
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 09/30/2000
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: James D. Kingsley
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 09/30/2000
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: Christoph Koether
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Executive Vice President **Title Effective Date:** 07/01/2001
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Christoph Koether
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 02/01/2001
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Officers, Directors, and Stockholders of CONSOL Energy Inc.

Name: Peter B. Lilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Chief Operating Officer **Title Effective Date:** 11/01/2002
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: William J. Lyons
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Senior Vice President **Title Effective Date:** 12/01/2000
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: William J. Lyons
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Chief Financial Officer **Title Effective Date:** 12/01/2000
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: William J. Lyons
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Controller **Title Effective Date:** 01/01/1995
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: Robert F. Pusateri
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 09/30/2000
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: John M. Reilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Treasurer **Title Effective Date:** 10/23/2002
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: **Rheinbraun AG**
Address: Stuttgenweg 2
50935 Köln, Germany
Telephone: 011 49 221-4801
Social Security No: n/a
FEIN:
Title: Shareholder
Title Effective Date: 01/01/1992
Percent Ownership: 73.65%
Ownership Effective Date: 10/2/2002
Ending Date:

Name: **William G. Rieland**
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
FEIN:
Title: Vice President
Title Effective Date: 09/30/2000
Percent Ownership: n/a
Ownership Effective Date:
Ending Date:

Name: **Walter J. Scheller**
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
FEIN:
Title: Vice President
Title Effective Date: 04/01/2003
Percent Ownership: n/a
Ownership Effective Date:
Ending Date:

Name: **Ronald E. Smith**
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: 503-52-8341
FEIN:
Title: Executive VP
Title Effective Date: 09/30/2000
Percent Ownership: n/a
Ownership Effective Date:
Ending Date:

Name: **Ronald G. Stovash**
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: 211-36-5558
FEIN:
Title: Vice President
Title Effective Date: 09/30/2000
Percent Ownership: n/a
Ownership Effective Date:
Ending Date:

Name: **John L. Whitmire**
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
FEIN:
Title: Director
Title Effective Date: 03/03/1999
Percent Ownership: <10%
Ownership Effective Date:
Ending Date:

Officers, Directors, and Stockholders of CONSOL Energy Inc.

Name: Stephen E. Williams
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: **FEIN:**
Title: General Counsel **Title Effective Date:** 04/01/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: Stephen E. Williams
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: **FEIN:**
Title: Vice President **Title Effective Date:** 04/01/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: Stephen E. Williams
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: **FEIN:**
Title: Secretary **Title Effective Date:** 04/01/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: Stephen G. Young
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: 234-54-4913 **FEIN:**
Title: Vice President **Title Effective Date:** 09/30/2000
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: Rolf Zimmermann
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 09/29/1993
Percent Ownership: <10% **Ownership Effective Date:**
Ending Date:

Officers, Directors, and Stockholders of CONSOL of Kentucky Inc.

Name: CONSOL Energy Inc.
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: (412) 831-4000
Social Security No: **FEIN:** 51-0337383
Title: Sole Shareholder **Title Effective Date:** 01/01/1993
Percent Ownership: 100% **Ownership Effective Date:** 1/1/2001
Ending Date:

Name: Gary J. Bench
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: 187-48-7192 **FEIN:**
Title: Assistant Secretary **Title Effective Date:** 07/01/2001
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Barry D. Dangerfield
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: (412) 831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 11/01/1999
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Rodney E. Ford
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Assistant Secretary **Title Effective Date:** 06/15/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: J. Brett Harvey
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: (412) 831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 08/31/1998
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Peter B. Lilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 11/01/2002
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Officers, Directors, and Stockholders of CONSOL of Kentucky Inc.

Name: Peter B. Lilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a
FEIN:
Title: President
Title Effective Date: 11/01/2002
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: John M. Reilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: (412) 831-4000
Social Security No: n/a
FEIN:
Title: Treasurer
Title Effective Date: 09/01/1998
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: Walter J. Scheller
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
FEIN:
Title: Vice President
Title Effective Date: 06/15/2003
Percent Ownership: n/a
Ownership Effective Date:
Ending Date:

Name: Karl T. Skrypak
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: 173-40-7443
FEIN:
Title: Secretary
Title Effective Date: 03/01/2002
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: William D. Stanhagen
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a
FEIN:
Title: Vice President
Title Effective Date: 06/15/2003
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: Stephen E. Williams
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a
FEIN:
Title: Director
Title Effective Date: 06/15/2003
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Officers, Directors, and Stockholders of Consol Pennsylvania Coal Company

Name: CONSOL Energy Inc.
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: **FEIN:** 51-0337383
Title: Sole Shareholder **Title Effective Date:** 01/01/1993
Percent Ownership: 100% **Ownership Effective Date:** 01/01/2001
Ending Date:

Name: Gary J. Bench
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: 187-48-7192 **FEIN:**
Title: Assistant Secretary **Title Effective Date:** 07/01/2001
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Rodney E. Ford
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Assistant Secretary **Title Effective Date:** 06/15/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: J. Brett Harvey
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 08/31/1998
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: David D. Hudson
Address: 172 Route 519
Eighty Four PA 15330
Telephone: 724-206-2005
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 03/01/2002
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Peter B. Lilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: President **Title Effective Date:** 11/01/2002
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Officers, Directors, and Stockholders of Consol Pennsylvania Coal Company

Name: Peter B. Lilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a
Title: Director
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 11/01/2002
Ownership Effective Date:

Name: John M. Reilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a
Title: Treasurer
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 11/01/1999
Ownership Effective Date:

Name: Walter J. Scheller
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
Title: Vice President
Percent Ownership: n/a
Ending Date:
FEIN:
Title Effective Date: 06/15/2003
Ownership Effective Date:

Name: Karl T. Skrypak
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: 173-40-7443
Title: Secretary
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 06/01/1992
Ownership Effective Date:

Name: William D. Stanhagen
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a
Title: Vice President
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 06/15/2003
Ownership Effective Date:

Name: Stephen E. Williams
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a
Title: Director
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 06/15/2003
Ownership Effective Date:

Officers, Directors, and Stockholders of Consolidation Coal Company

Name: CONSOL Energy Inc.
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: **FEIN:** 51-0337383
Title: Sole Shareholder **Title Effective Date:** 01/01/1992
Percent Ownership: 100% **Ownership Effective Date:** 1/1/2001
Ending Date:

Name: Albert A. Aloia
Address: 172 Route 519
Eighty Four PA 15330
Telephone: 724-206-2005
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 03/01/2002
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Gary J. Bench
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: 187-48-7192 **FEIN:**
Title: Assistant Secretary **Title Effective Date:** 07/01/2001
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Barry D. Dangerfield
Address: Route 460
Oakwood VA 24631
Telephone: 703/498-8200
Social Security No: 236-80-5801 **FEIN:**
Title: Vice President **Title Effective Date:** 05/01/1987
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Rodney E. Ford
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Assistant Secretary **Title Effective Date:** 06/15/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: J. Brett Harvey
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412 - 831-4000
Social Security No: n/a **FEIN:**
Title: President & Director **Title Effective Date:** 01/01/1998
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Bart J. Hyita
Address: 172 Route 519
Eighty Four PA 15330
Telephone: 724-206-2005
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 03/01/2002
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Christoph Koether
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 11/30/2001
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Peter B. Lilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Chief Operating Officer - Coal **Title Effective Date:** 11/01/2002
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Peter B. Lilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 11/01/2002
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: William J. Lyons
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412 - 831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 09/30/2000
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: William J. Lyons
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412 - 831-4000
Social Security No: n/a **FEIN:**
Title: VP & Controller **Title Effective Date:** 01/01/1995
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Officers, Directors, and Stockholders of Consolidation Coal Company

Name: James J. McCaffrey
Address: 172 Route 519
Eighty Four PA 15330
Telephone: 724-206-2005
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 03/01/2002
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: John M. Reilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: (412) 831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 07/10/2002
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: John M. Reilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412 - 831-4000
Social Security No: n/a **FEIN:**
Title: Treasurer **Title Effective Date:** 11/01/1999
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Walter J. Scheller
Address: 172 Route 519
Eighty Four PA 15330
Telephone: 724-206-2005
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 03/01/2002
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Samuel P. Skeen
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: 236-76-7594 **FEIN:**
Title: Ass't Secretary **Title Effective Date:** 06/01/1995
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Ronald E. Smith
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412 - 831-4000
Social Security No: 503-52-8341 **FEIN:**
Title: Director **Title Effective Date:** 02/01/1999
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Officers, Directors, and Stockholders of Consolidation Coal Company

Name: William D. Stanhagen
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 06/15/2003
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Stephen E. Williams
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 06/15/2003
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Stephen E. Williams
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 06/15/2003
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Stephen E. Williams
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Secretary **Title Effective Date:** 06/15/2003
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: John F. Zachwieja
Address: 172 Route 519
Eighty Four PA 15330
Telephone: 724-206-2005
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 06/15/2003
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: John F. Zachwieja
Address: 172 Route 519
Eighty Four PA 15330
Telephone: 724-206-2005
Social Security No: n/a **FEIN:**
Title: General Manager **Title Effective Date:** 03/01/2002
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Officers, Directors, and Stockholders of Eighty Four Mining Company

Name: New Century Holdings, Inc.
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No:
Title: Sole shareholder
Percent Ownership: 100 %
Ending Date:
FEIN: 51-0344312
Title Effective Date: 12/21/1992
Ownership Effective Date:

Name: Gary J. Bench
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: 187-48-7192
Title: Assistant Secretary
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 07/01/2001
Ownership Effective Date:

Name: Rodney E. Ford
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
Title: Assistant Secretary
Percent Ownership: n/a
Ending Date:
FEIN:
Title Effective Date: 06/15/2003
Ownership Effective Date:

Name: J. Brett Harvey
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a
Title: Director
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 09/22/1998
Ownership Effective Date:

Name: Peter B. Lilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a
Title: Director
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 11/01/2002
Ownership Effective Date:

Name: Peter B. Lilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a
Title: President
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 11/01/2002
Ownership Effective Date:

Officers, Directors, and Stockholders of Eighty Four Mining Company

Name: James J. McCaffrey
Address: 172 Route 519
Eighty Four PA 15330
Telephone: 724-206-2005
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 03/01/2002
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: John M. Reilly
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Treasurer **Title Effective Date:** 11/01/1999
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Walter J. Scheller
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 06/15/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: Karl T. Skrypak
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: 173-40-7443 **FEIN:**
Title: Secretary **Title Effective Date:** 09/22/1998
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Ronald E. Smith
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: 503-52-8341 **FEIN:**
Title: Director **Title Effective Date:** 09/22/1998
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: William D. Stanhagen
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 06/15/2003
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Officers, Directors, and Stockholders of Eighty Four Mining Company

Name: Stephen E. Williams
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 06/15/2003
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Officers, Directors, and Stockholders of Helvetia Coal Company

Name: Rochester & Pittsburgh Coal Company
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: **FEIN:** 25-0761480
Title: Sole shareholder **Title Effective Date:** 04/07/1966
Percent Ownership: 100% **Ownership Effective Date:** 04/07/1966
Ending Date:

Name: Gary J. Bench
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: 187-48-7192 **FEIN:**
Title: Assistant Secretary **Title Effective Date:** 07/01/2001
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Rowland H. Burns, Jr.
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Secretary **Title Effective Date:** 09/22/1998
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Rodney E. Ford
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Assistant Secretary **Title Effective Date:** 06/15/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: J. Brett Harvey
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 09/22/1998
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Peter B. Lilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 11/01/2002
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Officers, Directors, and Stockholders of Helvetia Coal Company

Name: Peter B. Lilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: President **Title Effective Date:** 11/01/2002
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: William J. Lyons
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 08/02/2002
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: William J. Lyons
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: (412) 831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 07/10/2002
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Lloyd C. Price
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 06/15/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: John M. Reilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Treasurer **Title Effective Date:** 11/01/1999
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Walter J. Scheller
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 06/15/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Officers, Directors, and Stockholders of Helvetia Coal Company

Name: John W. Schlueter
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
FEIN:
Title: Vice President
Title Effective Date: 06/15/2003
Percent Ownership: n/a
Ownership Effective Date:
Ending Date:

Name: William D. Stanhagen
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a
FEIN:
Title: Vice President
Title Effective Date: 06/15/2003
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Officers, Directors, and Stockholders of IC Coal, Inc.

Name: CONSOL Energy Inc.
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: **FEIN:** 51-0337383
Title: Sole Shareholder **Title Effective Date:** 01/01/2001
Percent Ownership: 100% **Ownership Effective Date:** 1/1/2001
Ending Date:

Name: Gary J. Bench
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: 187-48-7192 **FEIN:**
Title: Assistant Secretary **Title Effective Date:** 07/01/2001
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: J. Brett Harvey
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 11/01/1998
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Christoph Koether
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 07/10/2002
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: William J. Lyons
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: VP; Controller **Title Effective Date:** 01/01/1995
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: John M. Reilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Treasurer **Title Effective Date:** 11/01/1999
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Officers, Directors, and Stockholders of IC Coal, Inc.

Name: Ronald E. Smith
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: President **Title Effective Date:** 08/02/2002
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Stephen E. Williams
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Secretary **Title Effective Date:** 06/15/2003
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Stephen E. Williams
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 06/15/2003
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Stephen E. Williams
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 06/15/2003
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Officers, Directors, and Stockholders of Island Creek Coal Company

Name: IC Coal, Inc.
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No:
Title: sole shareholder
Percent Ownership: 100%
Ending Date:
FEIN: 95-2917408
Title Effective Date: 03/31/2000
Ownership Effective Date: 3/31/2000

Name: Gary J. Bench
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: 187-48-7192
Title: Assistant Secretary
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 07/01/2001
Ownership Effective Date:

Name: Barry D. Dangerfield
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
Title: Vice President
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 08/01/1996
Ownership Effective Date:

Name: Rodney E. Ford
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
Title: Assistant Secretary
Percent Ownership: n/a
Ending Date:
FEIN:
Title Effective Date: 06/15/2003
Ownership Effective Date:

Name: J. Brett Harvey
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
Title: Director
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 08/31/1998
Ownership Effective Date:

Name: Peter B. Lilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a
Title: Director
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 11/01/2002
Ownership Effective Date:

Officers, Directors, and Stockholders of Island Creek Coal Company

Name: Peter B. Lilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: President **Title Effective Date:** 11/01/2002
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: John M. Reilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Treasurer **Title Effective Date:** 07/01/1993
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Walter J. Scheller
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 06/15/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: Karl T. Skrypak
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: 173-40-7443 **FEIN:**
Title: Secretary **Title Effective Date:** 03/01/2002
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: William D. Stanhagen
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 06/15/2003
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Stephen E. Williams
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 06/15/2003
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Officers, Directors, and Stockholders of Jeffco Coal Company

Name: Rochester & Pittsburgh Coal Company
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: **FEIN:** 25-0761480
Title: Sole shareholder **Title Effective Date:** 06/01/1980
Percent Ownership: 100% **Ownership Effective Date:** 6/1/1980
Ending Date:

Name: Gary J. Bench
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: 187-48-7192 **FEIN:**
Title: Assistant Secretary **Title Effective Date:** 07/01/2001
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Rodney E. Ford
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Assistant Secretary **Title Effective Date:** 06/15/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: J. Brett Harvey
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 09/22/1998
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Marshall W. Hunt
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: President **Title Effective Date:** 11/01/1999
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: William J. Lyons
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: V.P., Controller **Title Effective Date:** 09/22/1998
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Officers, Directors, and Stockholders of Jeffco Coal Company

Name: Lloyd C. Price
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 06/15/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: John M. Reilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Treasurer **Title Effective Date:** 11/01/1999
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Walter J. Scheller
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 06/15/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: John W. Schlueter
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 06/15/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: Ronald E. Smith
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: 503-52-8341 **FEIN:**
Title: Director **Title Effective Date:** 11/01/1999
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: William D. Stanhagen
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 06/15/2003
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Officers, Directors, and Stockholders of Jeffco Coal Company

Name: Stephen E. Williams
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 06/15/2003
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Stephen E. Williams
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 06/15/2003
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Stephen E. Williams
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Secretary **Title Effective Date:** 06/15/2003
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Officers, Directors, and Stockholders of Keystone Coal Mining Corporation

Name: Rochester & Pittsburgh Coal Company
Address: 1800 Washington Rd
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: **FEIN:** 25-0761480
Title: Sole shareholder **Title Effective Date:** 08/08/1977
Percent Ownership: 100% **Ownership Effective Date:** 08/08/1977
Ending Date:

Name: Gary J. Bench
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: 187-48-7192 **FEIN:**
Title: Assistant Secretary **Title Effective Date:** 07/01/2001
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Rowland H. Burns, Jr.
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Secretary **Title Effective Date:** 09/22/1998
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Rodney E. Ford
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Assistant Secretary **Title Effective Date:** 06/15/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: J. Brett Harvey
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 09/22/1998
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Christoph Koether
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 07/10/2002
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Officers, Directors, and Stockholders of Keystone Coal Mining Corporation

Name: Peter B. Lilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a
Title: President
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 11/01/2002
Ownership Effective Date:

Name: Peter B. Lilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a
Title: Director
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 11/01/2002
Ownership Effective Date:

Name: Lloyd C. Price
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
Title: Vice President
Percent Ownership: n/a
Ending Date:
FEIN:
Title Effective Date: 06/15/2003
Ownership Effective Date:

Name: John M. Reilly
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a
Title: Treasurer
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 11/01/1999
Ownership Effective Date:

Name: Walter J. Scheller
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
Title: Vice President
Percent Ownership: n/a
Ending Date:
FEIN:
Title Effective Date: 06/15/2003
Ownership Effective Date:

Name: John W. Schlueter
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
Title: Vice President
Percent Ownership: n/a
Ending Date:
FEIN:
Title Effective Date: 06/15/2003
Ownership Effective Date:

Officers, Directors, and Stockholders of Keystone Coal Mining Corporation

Name: **William D. Stanhagen**
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a
FEIN:
Title: Vice President
Title Effective Date: 06/15/2003
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Officers, Directors, and Stockholders of Laurel Run Mining Company

Name: Island Creek Coal Company
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: **FEIN:** 55-0479426
Title: sole shareholder **Title Effective Date:**
Percent Ownership: 100% **Ownership Effective Date:** 07/01/1993
Ending Date:

Name: Gary J. Bench
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: 187-48-7192 **FEIN:**
Title: Assistant Secretary **Title Effective Date:** 07/01/2001
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Barry D. Dangerfield
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Director; V.P. **Title Effective Date:** 11/01/1999
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Rodney E. Ford
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Assistant Secretary **Title Effective Date:** 06/15/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: J. Brett Harvey
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 08/31/1998
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Christoph Koether
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 11/30/2001
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Officers, Directors, and Stockholders of Laurel Run Mining Company

Name: William J. Lyons
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Controller **Title Effective Date:** 07/01/1993
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Lloyd C. Price
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 06/15/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: John M. Reilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Treasurer **Title Effective Date:** 07/01/1993
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Walter J. Scheller
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 06/15/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: John W. Schlueter
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 06/15/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: Ronald E. Smith
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: 503-52-8341 **FEIN:**
Title: President **Title Effective Date:** 11/01/1999
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Officers, Directors, and Stockholders of Laurel Run Mining Company

Name: Ronald E. Smith
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: 503-52-8341
FEIN:
Title: Director
Title Effective Date: 07/01/1993
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: William D. Stanhagen
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a
FEIN:
Title: Vice President
Title Effective Date: 06/15/2003
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: Robert M. Vukas
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: 235-80-9868
FEIN:
Title: Secretary
Title Effective Date: 07/01/1994
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Officers, Directors, and Stockholders of McElroy Coal Company

Name: Consolidation Coal Company
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No:
Title: Sole Shareholder
Percent Ownership: 100%
Ending Date:
FEIN: 13-2566594
Title Effective Date: 06/30/1987
Ownership Effective Date: 06/30/1987

Name: Gary J. Bench
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: 187-48-7192
Title: Assistant Secretary
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 07/01/2001
Ownership Effective Date:

Name: Rodney E. Ford
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
Title: Assistant Secretary
Percent Ownership: n/a
Ending Date:
FEIN:
Title Effective Date: 06/15/2003
Ownership Effective Date:

Name: J. Brett Harvey
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
Title: Director
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 08/31/1998
Ownership Effective Date:

Name: Peter B. Lilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a
Title: President
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 11/01/2002
Ownership Effective Date:

Name: Peter B. Lilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a
Title: Director
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 11/01/2002
Ownership Effective Date:

Officers, Directors, and Stockholders of McElroy Coal Company

Name: James J. McCaffrey
Address: 172 Route 519
Eighty Four PA 15330
Telephone: 724-206-2005
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 03/01/2002
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: John M. Reilly
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Treasurer **Title Effective Date:** 09/01/1998
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Walter J. Scheller
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 06/15/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: Karl T. Skrypak
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: 173-40-7443 **FEIN:**
Title: Secretary **Title Effective Date:** 05/01/1993
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: William D. Stanhagen
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 06/15/2003
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Stephen E. Williams
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 06/15/2003
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Officers, Directors, and Stockholders of New Century Holdings, Inc.

Name: Rochester & Pittsburgh Coal Company
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: **FEIN:** 25-0761480
Title: Sole shareholder **Title Effective Date:** 11/20/1992
Percent Ownership: 100% **Ownership Effective Date:** 11/20/1992
Ending Date:

Name: Gary J. Bench
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: 187-48-7192 **FEIN:**
Title: Assistant Secretary **Title Effective Date:** 07/01/2001
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: John P. Garniewski
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Ass't Secretary **Title Effective Date:** 11/01/1999
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: J. Brett Harvey
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 09/22/1998
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Christoph Koether
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: President **Title Effective Date:** 11/30/2001
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Christoph Koether
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 11/30/2001
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Officers, Directors, and Stockholders of New Century Holdings, Inc.

Name: William J. Lyons
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
FEIN:
Title: Director
Title Effective Date: 09/30/2000
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: William J. Lyons
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
FEIN:
Title: V.P., Controller
Title Effective Date: 09/22/1998
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: John M. Reilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
FEIN:
Title: Treasurer
Title Effective Date: 11/01/1999
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: Stephen E. Williams
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a
FEIN:
Title: Secretary
Title Effective Date: 06/15/2003
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: Stephen E. Williams
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a
FEIN:
Title: Vice President
Title Effective Date: 06/15/2003
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: Stephen E. Williams
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a
FEIN:
Title: Director
Title Effective Date: 06/15/2003
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Officers, Directors, and Stockholders of Quarto Mining Company

Name: Consolidation Coal Company
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: **FEIN:** 13-2566594
Title: Sole Shareholder **Title Effective Date:** 04/10/1987
Percent Ownership: 100% **Ownership Effective Date:** 04/10/1987
Ending Date:

Name: Gary J. Bench
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: 187-48-7192 **FEIN:**
Title: Assistant Secretary **Title Effective Date:** 07/01/2001
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Rodney E. Ford
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Assistant Secretary **Title Effective Date:** 06/15/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: J. Brett Harvey
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 08/31/1998
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Christoph Koether
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 07/10/2002
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Peter B. Lilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: President **Title Effective Date:** 11/01/2002
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Peter B. Lilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a
Title: Director
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 11/01/2002
Ownership Effective Date:

Name: William J. Lyons
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
Title: Vice President and Controller
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 01/01/1995
Ownership Effective Date:

Name: Lloyd C. Price
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
Title: Vice President
Percent Ownership: n/a
Ending Date:
FEIN:
Title Effective Date: 06/15/2003
Ownership Effective Date:

Name: John M. Reilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
Title: Treasurer
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 11/01/1999
Ownership Effective Date:

Name: Walter J. Scheller
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
Title: Vice President
Percent Ownership: n/a
Ending Date:
FEIN:
Title Effective Date: 06/15/2003
Ownership Effective Date:

Name: John W. Schlueter
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
Title: Vice President
Percent Ownership: n/a
Ending Date:
FEIN:
Title Effective Date: 06/15/2003
Ownership Effective Date:

Officers, Directors, and Stockholders of Quarto Mining Company

Name: Karl T. Skrypak
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: 173-40-7443 **FEIN:**
Title: Secretary **Title Effective Date:** 06/01/1992
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: William D. Stanhagen
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 06/15/2003
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Officers, Directors, and Stockholders of Reserve Coal Properties Company

Name: CONSOL Energy Inc.
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No:
Title: Sole Shareholder
Percent Ownership: 100%
Ending Date:
FEIN: 51-0337383
Title Effective Date: 01/01/1993
Ownership Effective Date: 01/01/2001

Name: Gary J. Bench
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: 187-48-7192
Title: Assistant Secretary
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 07/01/2001
Ownership Effective Date:

Name: Rodney E. Ford
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
Title: Assistant Secretary
Percent Ownership: n/a
Ending Date:
FEIN:
Title Effective Date: 06/15/2003
Ownership Effective Date:

Name: J. Brett Harvey
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
Title: Director
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 11/01/1999
Ownership Effective Date:

Name: Marshall W. Hunt
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: (412) 831-4000
Social Security No: n/a
Title: Director
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 11/01/1999
Ownership Effective Date:

Name: Marshall W. Hunt
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
Title: President
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 05/01/1993
Ownership Effective Date:

Officers, Directors, and Stockholders of Reserve Coal Properties Company

Name: Lloyd C. Price
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
Title: Vice President
Percent Ownership: n/a
Ending Date:
FEIN:
Title Effective Date: 06/15/2003
Ownership Effective Date:

Name: Walter J. Scheller
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
Title: Vice President
Percent Ownership: n/a
Ending Date:
FEIN:
Title Effective Date: 06/15/2003
Ownership Effective Date:

Name: John W. Schlueter
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
Title: Director
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 05/29/1992
Ownership Effective Date:

Name: John W. Schlueter
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
Title: Vice President
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 02/15/1989
Ownership Effective Date:

Name: Samuel P. Skeen
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: 236-76-7594
Title: Secretary
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 08/24/1988
Ownership Effective Date:

Name: William D. Stanhagen
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: (412) 831-4000
Social Security No: n/a
Title: Vice President
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 01/01/1995
Ownership Effective Date:

Name: Rudolf Bertram
Address: Stuttgenweg 2
50935 Köln (Lindenthal), Germany
Telephone: 011 49 221-4801
Social Security No: n/a
Title: Member of Aufsichtsrat
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 10/01/2000
Ownership Effective Date:

Name: Dietrich Böcker
Address: Stuttgenweg 2
50935 Köln (Lindenthal), Germany
Telephone: 011 49 221-4801
Social Security No: n/a
Title: Member of Vorstand
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 01/01/1992
Ownership Effective Date:

Name: Walther Boecker
Address: Stuttgenweg 2
50935 Köln (Lindenthal), Germany
Telephone: 011 49 221-4801
Social Security No: n/a
Title: Member of Aufsichtsrat
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 10/01/2000
Ownership Effective Date:

Name: Berthold A. Bonekamp
Address: Stuttgenweg 2
50935 Köln (Lindenthal), Germany
Telephone: 011 49 221-4801
Social Security No: n/a
Title: Chairman of Vorstand
Percent Ownership: n/a
Ending Date:
FEIN:
Title Effective Date: 10/19/1999
Ownership Effective Date:

Name: Bernd Jobst Breloer
Address: Stuttgenweg 2
50935 Köln (Lindenthal), Germany
Telephone: 011 49 221-4801
Social Security No: n/a
Title: Member of Vorstand
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 01/01/1993
Ownership Effective Date:

Name: Wilfried Eßer
Address: Stuttgenweg 2
50935 Köln (Lindenthal), Germany
Telephone: 011 49 221-4801
Social Security No: n/a
Title: Member of Aufsichtsrat
Percent Ownership: zero
Ending Date:
FEIN:
Title Effective Date: 09/02/1998
Ownership Effective Date:

Name: Dieter Faust
Address: Stuttgenweg 2
50935 Köln (Lindenthal), Germany
Telephone: 011 49 221-4801
Social Security No: n/a
FEIN:
Title: Member of Aufsichtsrat
Title Effective Date: 06/27/2002
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: Horst Grosspeter
Address: Stuttgenweg 2
50935 Köln (Lindenthal), Germany
Telephone: 011 49 221-4801
Social Security No: n/a
FEIN:
Title: Member of Aufsichtsrat
Title Effective Date: 10/01/2000
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: Norbert Haak
Address: Stuttgenweg 2
50935 Köln (Lindenthal), Germany
Telephone: 011 49 221-4801
Social Security No: n/a
FEIN:
Title: Member of Aufsichtsrat
Title Effective Date: 01/18/2001
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: Manfred Holz
Address: Stuttgenweg 2
50935 Köln (Lindenthal), Germany
Telephone: 011 49 221-4801
Social Security No: n/a
FEIN:
Title: Member of Aufsichtsrat
Title Effective Date: 09/05/2000
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: Hans Peter Lafos
Address: Stuttgenweg 2
50935 Köln (Lindenthal), Germany
Telephone: 011 49 221-4801
Social Security No: n/a
FEIN:
Title: Member of Aufsichtsrat
Title Effective Date: 06/27/2002
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: Johannes Lambertz
Address: Stuttgenweg 2
50935 Köln (Lindenthal), Germany
Telephone: 011 49 221-4801
Social Security No: n/a
FEIN:
Title: Member of Vorstand
Title Effective Date: 04/01/2002
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: Hans-Detlef Loosz
Address: Stuttgenweg 2
50935 Köln (Lindenthal), Germany
Telephone: 011 49 221-4801
Social Security No: n/a
FEIN:
Title: Member of Aufsichtsrat
Title Effective Date: 06/27/2002
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: Gert Maichel
Address: Stuttgenweg 2
50935 Köln (Lindenthal), Germany
Telephone: 011 49 221-4801
Social Security No: n/a
FEIN:
Title: Chairman of Aufsichtsrat
Title Effective Date: 10/01/2000
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: Carl Meulenbergh
Address: Stuttgenweg 2
50935 Köln (Lindenthal), Germany
Telephone: 011 49 221-4801
Social Security No: n/a
FEIN:
Title: Member of Aufsichtsrat
Title Effective Date: 10/01/2000
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: Edgar Moron
Address: Stuttgenweg 2
50935 Köln (Lindenthal), Germany
Telephone: 011 49 221-4801
Social Security No: n/a
FEIN:
Title: Member of Aufsichtsrat
Title Effective Date: 11/16/2000
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: Alfons Müller
Address: Stuttgenweg 2
50935 Köln (Lindenthal), Germany
Telephone: 011 49 221-4801
Social Security No: n/a
FEIN:
Title: Member of Aufsichtsrat
Title Effective Date: 01/01/1992
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: Wilhelm Nölling
Address: Stuttgenweg 2
50935 Köln (Lindenthal), Germany
Telephone: 011 49 221-4801
Social Security No: n/a
FEIN:
Title: Member of Aufsichtsrat
Title Effective Date: 01/01/1992
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Officers, Directors, and Stockholders of Rheinbraun AG

Name: Alfred Freiherr von Oppenheim
Address: Stuttgenweg 2
50935 Köln (Lindenthal), Germany
Telephone: 011 49 221-4801
Social Security No: n/a
FEIN:
Title: Member of Aufsichtsrat
Title Effective Date: 01/01/1992
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: Dieter Patt
Address: Stuttgenweg 2
50935 Köln (Lindenthal), Germany
Telephone: 011 49 221-4801
Social Security No: n/a
FEIN:
Title: Member of Aufsichtsrat
Title Effective Date: 10/01/2000
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: RWE AG
Address: Kruppstrasse 5
45128 Essen, Germany
Telephone: 011 49 201-1850
Social Security No: n/a
FEIN:
Title: Sole Shareholder
Title Effective Date: 01/01/1992
Percent Ownership: 100%
Ownership Effective Date:
Ending Date:

Name: Fritz Schramma
Address: Stuttgenweg 2
50935 Köln (Lindenthal), Germany
Telephone: 011 49 221-4801
Social Security No: n/a
FEIN:
Title: Member of Aufsichtsrat
Title Effective Date: 09/19/2001
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: Hermann-Josef Sester
Address: Stuttgenweg 2
50935 Köln (Lindenthal), Germany
Telephone: 011 49 221-4801
Social Security No: n/a
FEIN:
Title: Member of Aufsichtsrat
Title Effective Date: 06/27/2002
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: Gerd Spaniol
Address: Stuttgenweg 2
50935 Köln (Lindenthal), Germany
Telephone: 011 49 221-4801
Social Security No: n/a
FEIN:
Title: Member of Vorstand
Title Effective Date: 02/15/2001
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Officers, Directors, and Stockholders of Rheinbraun AG

Name: Klaus-Dieter Südhofer
Address: Stuttgenweg 2
50935 Köln (Lindenthal), Germany
Telephone: 011 49 221-4801
Social Security No: n/a
FEIN:
Title: Member of Aufsichtsrat
Title Effective Date: 01/01/1992
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: Horst R. Wolf
Address: Stuttgenweg 2
50935 Köln (Lindenthal), Germany
Telephone: 011 49 221-4801
Social Security No: n/a
FEIN:
Title: Member of Aufsichtsrat
Title Effective Date: 10/01/2000
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: Jan Zilius
Address: Stuttgenweg 2
50935 Köln (Lindenthal), Germany
Telephone: 011 49 221-4801
Social Security No: n/a
FEIN:
Title: Member of Aufsichtsrat
Title Effective Date: 09/21/1998
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Officers, Directors, and Stockholders of Rheinbraun US GmbH

Name: Achim Görtz
Address: Stuttgenweg 2
50935 Koln (Lindenthal), Germany
Telephone: 011 49 221-4801
Social Security No: n/a
Title: Geschäftsführer
Percent Ownership: zero
Ending Date: 01/01/2002

FEIN:
Title Effective Date: 01/01/2001
Ownership Effective Date:

Name: Rheinbraun AG
Address: Stuttgenweg 2
50935 Koln (Lindenthal), Germany
Telephone: 011 49 221-4801
Social Security No: n/a
Title: Sole Shareholder
Percent Ownership: 100%
Ending Date: 01/01/2002

FEIN:
Title Effective Date: 06/20/1995
Ownership Effective Date: 06/20/1995

Name: Rolf Zimmermann
Address: Stuttgenweg 2
50935 Koln (Lindenthal), Germany
Telephone: 011 49 221-4801
Social Security No: n/a
Title: Geschäftsführer
Percent Ownership: zero
Ending Date: 01/01/2002

FEIN:
Title Effective Date: 03/23/1994
Ownership Effective Date:

Officers, Directors, and Stockholders of Rochester & Pittsburgh Coal Company

Name: Consolidation Coal Company
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: **FEIN:** 13-2566594
Title: Sole shareholder **Title Effective Date:** 09/22/1998
Percent Ownership: 100% **Ownership Effective Date:** 09/22/1998
Ending Date:

Name: Gary J. Bench
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: 187-48-7192 **FEIN:**
Title: Assistant Secretary **Title Effective Date:** 07/01/2001
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Rodney E. Ford
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Assistant Secretary **Title Effective Date:** 06/15/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: J. Brett Harvey
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Director and President **Title Effective Date:** 09/22/1998
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Christoph Koether
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 11/30/2001
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: William J. Lyons
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Vice President and Controller **Title Effective Date:** 09/22/1998
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Officers, Directors, and Stockholders of Rochester & Pittsburgh Coal Company

Name: Lloyd C. Price
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
FEIN:
Title: Vice President
Title Effective Date: 06/15/2003
Percent Ownership: n/a
Ownership Effective Date:
Ending Date:

Name: John M. Reilly
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a
FEIN:
Title: Treasurer
Title Effective Date: 11/01/1999
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: Walter J. Scheller
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
FEIN:
Title: Vice President
Title Effective Date: 06/15/2003
Percent Ownership: n/a
Ownership Effective Date:
Ending Date:

Name: Ronald E. Smith
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: 503-52-8341
FEIN:
Title: Director
Title Effective Date: 11/01/1999
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: William D. Stanhagen
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a
FEIN:
Title: Vice President
Title Effective Date: 09/22/1998
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: Stephen E. Williams
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a
FEIN:
Title: Secretary
Title Effective Date: 06/15/2003
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Officers, Directors, and Stockholders of Rochester & Pittsburgh Coal Company

Name: Stephen E. Williams
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a
FEIN:
Title: Director
Title Effective Date: 06/15/2003
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: Stephen E. Williams
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a
FEIN:
Title: Vice President
Title Effective Date: 06/15/2003
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: Paul Achleitner
Address: Kruppstrasse 5
45128 Essen, Germany
Telephone: 011 49 201-1850
Social Security No: n/a
Title: Member of Aufsichtsrat
Percent Ownership: N/A
Ending Date:
FEIN:
Title Effective Date: 09/11/2000
Ownership Effective Date:

Name: Carl-Ludwig von Boehm-Bezing
Address: Kruppstrasse 5
45128 Essen, Germany
Telephone: 011 49 201-1850
Social Security No: n/a
Title: Member of Aufsichtsrat
Percent Ownership: N/A
Ending Date:
FEIN:
Title Effective Date: 01/05/2001
Ownership Effective Date:

Name: Franz Bsirske
Address: Kruppstrasse 5
45128 Essen, Germany
Telephone: 011 49 201-1850
Social Security No: n/a
Title: Member of Aufsichtsrat
Percent Ownership: N/A
Ending Date:
FEIN:
Title Effective Date: 01/09/2001
Ownership Effective Date:

Name: Burkhard Drescher
Address: Kruppstrasse 5
45128 Essen, Germany
Telephone: 011 49 201-1850
Social Security No: n/a
Title: Member of Aufsichtsrat
Percent Ownership: N/A
Ending Date:
FEIN:
Title Effective Date: 01/05/2001
Ownership Effective Date:

Name: Wilfried Eickenberg
Address: Kruppstrasse 5
45128 Essen, Germany
Telephone: 011 49 201-1850
Social Security No: n/a
Title: Member of Aufsichtsrat
Percent Ownership: N/A
Ending Date:
FEIN:
Title Effective Date: 11/08/2001
Ownership Effective Date:

Name: Ralf Hiltenkamp
Address: Kruppstrasse 5
45128 Essen, Germany
Telephone: 011 49 201-1850
Social Security No: n/a
Title: Member of Aufsichtsrat
Percent Ownership: N/A
Ending Date:
FEIN:
Title Effective Date: 05/23/2001
Ownership Effective Date:

Name: Heinz-Eberhard Holl
Address: Kruppstrasse 5
45128 Essen, Germany
Telephone: 011 49 201-1850
Social Security No: n/a
Title: Member of Aufsichtsrat
Percent Ownership: N/A
Ending Date:
FEIN:
Title Effective Date: 09/11/2000
Ownership Effective Date:

Name: Berthold Huber
Address: Kruppstrasse 5
45128 Essen, Germany
Telephone: 011 49 201-1850
Social Security No: n/a
Title: Member of Aufsichtsrat
Percent Ownership: N/A
Ending Date:
FEIN:
Title Effective Date: 01/09/2001
Ownership Effective Date:

Name: Richard R. Klein
Address: Kruppstrasse 5
45128 Essen, Germany
Telephone: 011 49 201-1850
Social Security No: n/a
Title: Member of Vorstand
Percent Ownership: N/A
Ending Date:
FEIN:
Title Effective Date: 11/24/2000
Ownership Effective Date:

Name: Berthold Krell
Address: Kruppstrasse 5
45128 Essen, Germany
Telephone: 011 49 201-1850
Social Security No: n/a
Title: Member of Aufsichtsrat
Percent Ownership: N/A
Ending Date:
FEIN:
Title Effective Date: 01/09/2001
Ownership Effective Date:

Name: Dietmar Kuhnt
Address: Kruppstrasse 5
45128 Essen, Germany
Telephone: 011 49 201-1850
Social Security No: n/a
Title: Chairman of Vorstand
Percent Ownership: N/A
Ending Date:
FEIN:
Title Effective Date: 01/01/1995
Ownership Effective Date:

Name: Gerhard Langemeyer
Address: Kruppstrasse 5
45128 Essen, Germany
Telephone: 011 49 201-1850
Social Security No: n/a
Title: Member of Aufsichtsrat
Percent Ownership: N/A
Ending Date:
FEIN:
Title Effective Date: 01/05/2001
Ownership Effective Date:

Name: Gert Maichel
Address: Kruppstrasse 5
45128 Essen, Germany
Telephone: 011 49 201-1850
Social Security No: n/a
FEIN:
Title: Member of Vorstand
Title Effective Date: 11/24/2000
Percent Ownership: N/A
Ownership Effective Date:
Ending Date:

Name: Friedel Neuber
Address: Kruppstrasse 5
45128 Essen, Germany
Telephone: 011 49 201-1850
Social Security No: n/a
FEIN:
Title: Member of Aufsichtsrat
Title Effective Date: 12/10/1992
Percent Ownership: N/A
Ownership Effective Date:
Ending Date:

Name: Josef Pitz
Address: Kruppstrasse 5
45128 Essen, Germany
Telephone: 011 49 201-1850
Social Security No: n/a
FEIN:
Title: Member of Aufsichtsrat
Title Effective Date: 11/08/2001
Percent Ownership: N/A
Ownership Effective Date:
Ending Date:

Name: Wolfgang Reiniger
Address: Kruppstrasse 5
45128 Essen, Germany
Telephone: 011 49 201-1850
Social Security No: n/a
FEIN:
Title: Member of Aufsichtsrat
Title Effective Date: 01/05/2001
Percent Ownership: N/A
Ownership Effective Date:
Ending Date:

Name: Manfred Remmel
Address: Kruppstrasse 5
45128 Essen, Germany
Telephone: 011 49 201-1850
Social Security No: n/a
FEIN:
Title: Member of Vorstand
Title Effective Date: 11/24/2000
Percent Ownership: N/A
Ownership Effective Date:
Ending Date:

Name: Günter Reppien
Address: Kruppstrasse 5
45128 Essen, Germany
Telephone: 011 49 201-1850
Social Security No: n/a
FEIN:
Title: Member of Aufsichtsrat
Title Effective Date: 01/09/2001
Percent Ownership: N/A
Ownership Effective Date:
Ending Date:

Name: Bernhard von Rothkirch
Address: Kruppstrasse 5
45128 Essen, Germany
Telephone: 011 49 201-1850
Social Security No: n/a
Title: Member of Aufsichtsrat
Percent Ownership: N/A
Ending Date:
FEIN:
Title Effective Date: 01/09/2001
Ownership Effective Date:

Name: Manfred Schneider
Address: Kruppstrasse 5
45128 Essen, Germany
Telephone: 011 49 201-1850
Social Security No: n/a
Title: Member of Aufsichtsrat
Percent Ownership: N/A
Ending Date:
FEIN:
Title Effective Date: 12/10/1992
Ownership Effective Date:

Name: Klaus Sturany
Address: Kruppstrasse 5
45128 Essen, Germany
Telephone: 011 49 201-1850
Social Security No: n/a
Title: Member of Vorstand
Percent Ownership: N/A
Ending Date:
FEIN:
Title Effective Date: 09/11/2000
Ownership Effective Date:

Name: Klaus-Dieter Südhofer
Address: Kruppstrasse 5
45128 Essen, Germany
Telephone: 011 49 201-1850
Social Security No: n/a
Title: Member of Aufsichtsrat
Percent Ownership: N/A
Ending Date:
FEIN:
Title Effective Date: 01/09/2001
Ownership Effective Date:

Name: Alfons Friedrich Titzrath
Address: Kruppstrasse 5
45128 Essen, Germany
Telephone: 011 49 201-1850
Social Security No: n/a
Title: Member of Aufsichtsrat
Percent Ownership: N/A
Ending Date:
FEIN:
Title Effective Date: 01/05/2001
Ownership Effective Date:

Name: Karel Van Miert
Address: Kruppstrasse 5
45128 Essen, Germany
Telephone: 011 49 201-1850
Social Security No: n/a
Title: Member of Aufsichtsrat
Percent Ownership: N/A
Ending Date:
FEIN:
Title Effective Date: 06/07/2001
Ownership Effective Date:

Name: **Erwin Winkel**
Address: Kruppstrasse 5
45128 Essen, Germany
Telephone: 011 49 201-1850
Social Security No: n/a
FEIN:
Title: Member of Aufsichtsrat
Title Effective Date: 09/11/2000
Percent Ownership: N/A
Ownership Effective Date:
Ending Date:

Name: **Jan Zilius**
Address: Kruppstrasse 5
45128 Essen, Germany
Telephone: 011 49 201-1850
Social Security No: n/a
FEIN:
Title: Member of Vorstand
Title Effective Date: 09/11/2000
Percent Ownership: N/A
Ownership Effective Date:
Ending Date:

Officers, Directors, and Stockholders of Southern Ohio Coal Company

Name: Consolidation Coal Company
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: **FEIN:** 13-2566594
Title: Sole Shareholder **Title Effective Date:** 07/02/2001
Percent Ownership: 100% **Ownership Effective Date:** 07/02/2001
Ending Date:

Name: Gary J. Bench
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: 187-48-7192 **FEIN:**
Title: Assistant Secretary **Title Effective Date:** 07/02/2001
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Rodney E. Ford
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Assistant Secretary **Title Effective Date:** 06/15/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: J. Brett Harvey
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 07/02/2001
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Peter B. Lilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: President **Title Effective Date:** 11/01/2002
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Peter B. Lilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 11/01/2002
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Officers, Directors, and Stockholders of Southern Ohio Coal Company

Name: Lloyd C. Price
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 06/15/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: John M. Reilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Treasurer **Title Effective Date:** 07/02/2001
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Walter J. Scheller
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 06/15/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: John W. Schlueter
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 06/15/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: Karl T. Skrypak
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: 173-40-7443 **FEIN:**
Title: Secretary **Title Effective Date:** 07/02/2001
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: William D. Stanhagen
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 06/15/2003
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Officers, Directors, and Stockholders of Southern Ohio Coal Company

Name: Stephen E. Williams
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 06/15/2003
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: John F. Zachwieja
Address: 172 Route 519
Eighty Four PA 15330
Telephone: 724-206-2005
Social Security No: n/a **FEIN:**
Title: General Manager **Title Effective Date:** 03/01/2002
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Officers, Directors, and Stockholders of Westco Coal Company

Name: Rochester & Pittsburgh Coal Company
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: **FEIN:** 25-0761480
Title: Sole shareholder **Title Effective Date:** 07/09/1980
Percent Ownership: 100% **Ownership Effective Date:** 07/09/1980
Ending Date:

Name: Gary J. Bench
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: 187-48-7192 **FEIN:**
Title: Assistant Secretary **Title Effective Date:** 07/01/2001
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Danny L. Fassio
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: 182-38-2744 **FEIN:**
Title: V.P., Secretary **Title Effective Date:** 09/22/1998
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: J. Brett Harvey
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 09/22/1998
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: William J. Lyons
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: V.P., Controller **Title Effective Date:** 09/22/1998
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: John M. Reilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Treasurer **Title Effective Date:** 11/01/1999
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Officers, Directors, and Stockholders of Westco Coal Company

Name: **Ronald E. Smith**
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: 503-52-8341 **FEIN:**
Title: Director **Title Effective Date:** 11/01/1999
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Officers, Directors, and Stockholders of Windsor Coal Company

Name: Consolidation Coal Company
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: **FEIN:** 13-2566594
Title: Sole Shareholder **Title Effective Date:** 07/02/2001
Percent Ownership: 100% **Ownership Effective Date:** 07/02/2001
Ending Date:

Name: Gary J. Bench
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: 187-48-7192 **FEIN:**
Title: Assistant Secretary **Title Effective Date:** 07/02/2001
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Rodney E. Ford
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Assistant Secretary **Title Effective Date:** 06/15/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: J. Brett Harvey
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 07/02/2001
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Peter B. Lilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 11/01/2002
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Peter B. Lilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: President **Title Effective Date:** 11/01/2002
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Officers, Directors, and Stockholders of Windsor Coal Company

Name: Lloyd C. Price
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
FEIN:
Title: Vice President
Title Effective Date: 06/15/2003
Percent Ownership: n/a
Ownership Effective Date:
Ending Date:

Name: John M. Reilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a
FEIN:
Title: Treasurer
Title Effective Date: 07/02/2001
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: Walter J. Scheller
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
FEIN:
Title: Vice President
Title Effective Date: 06/15/2003
Percent Ownership: n/a
Ownership Effective Date:
Ending Date:

Name: John W. Schlueter
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a
FEIN:
Title: Vice President
Title Effective Date: 06/15/2003
Percent Ownership: n/a
Ownership Effective Date:
Ending Date:

Name: Karl T. Skrypak
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: 173-40-7443
FEIN:
Title: Secretary
Title Effective Date: 07/02/2001
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: William D. Stanhagen
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a
FEIN:
Title: Vice President
Title Effective Date: 06/15/2003
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Officers, Directors, and Stockholders of Windsor Coal Company

Name: Stephen E. Williams
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a
FEIN:
Title: Director
Title Effective Date: 06/15/2003
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Name: John F. Zachwieja
Address: 172 Route 519
Eighty Four PA 15330
Telephone: 724-206-2005
Social Security No: n/a
FEIN:
Title: General Manager
Title Effective Date: 03/01/2002
Percent Ownership: zero
Ownership Effective Date:
Ending Date:

Officers, Directors, and Stockholders of Wolfpen Knob Development Company

Name: CONSOL Energy Inc.
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: **FEIN:** 51-0337383
Title: SoleShareholder **Title Effective Date:** 01/01/1993
Percent Ownership: 100% **Ownership Effective Date:** 01/01/2001
Ending Date:

Name: Gary J. Bench
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: 187-48-7192 **FEIN:**
Title: Assistant Secretary **Title Effective Date:** 07/01/2001
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Rodney E. Ford
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Assistant Secretary **Title Effective Date:** 06/15/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: J. Brett Harvey
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: (412) 831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 08/31/1998
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: Peter B. Lilly
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: President **Title Effective Date:** 11/01/2002
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: William J. Lyons
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: (412) 831-4000
Social Security No: n/a **FEIN:**
Title: Director **Title Effective Date:** 07/10/2002
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Officers, Directors, and Stockholders of Wolfpen Knob Development Company

Name: **James N. Magro**
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: (412) 831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 11/01/1999
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: **Lloyd C. Price**
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 06/15/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: **John M. Reilly**
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: (412) 831-4000
Social Security No: n/a **FEIN:**
Title: Treasurer **Title Effective Date:** 09/01/1998
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: **Walter J. Scheller**
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 06/15/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: **John W. Schlueter**
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 06/15/2003
Percent Ownership: n/a **Ownership Effective Date:**
Ending Date:

Name: **Ronald E. Smith**
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412/831-4000
Social Security No: 503-52-8341 **FEIN:**
Title: Director **Title Effective Date:** 04/01/1990
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Officers, Directors, and Stockholders of Wolfpen Knob Development Company

Name: **William D. Stanhagen**
Address: 1800 Washington Rd.
Pittsburgh PA 15241
Telephone: 412-831-4000
Social Security No: n/a **FEIN:**
Title: Vice President **Title Effective Date:** 06/15/2003
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

Name: **Robert M. Vukas**
Address: 1800 Washington Road
Pittsburgh PA 15241
Telephone: (412) 831-4000
Social Security No: 235-80-9868 **FEIN:**
Title: Secretary **Title Effective Date:** 05/01/1993
Percent Ownership: zero **Ownership Effective Date:**
Ending Date:

CONSOLIDATION COAL COMPANY - Mining Permit Listing

Mailing Address 1800 Washington Road

City: Pittsburgh **State:** PA **ZIP:** 15241 **Telephone No.** (412) 831-4000

Permittee: Beatrice Pocahontas Company

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
VA						
1400493	VA DMLR		Beatrice Mine	12/29/1983	02/29/2000	Permit transferred to Island Creek Coal on 2/29/2000.

Permittee: Central Ohio Coal Company

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
OH						
D-127	OH DMRM			04/07/1983	04/30/1997	Final bond release 4/30/1997
D-274	OH DMRM			02/06/1984	08/05/1999	Final bond release 8/5/1999
D-455	OH DMRM			03/04/1985	09/17/1998	Final bond release 9/17/1998
D-978	OH DMRM			03/20/1992	12/08/2000	Final bond release 12/8/2000
D-1034	OH DMRM		Brannon Fork	09/09/1993		
D-2047	OH DMRM		Dinner Fork	05/12/2000		
D-322	OH DMRM		Haulroad	04/30/1984		
D-378	OH DMRM		Haulroad - N. Tipple Area	07/13/1984		
D-313	OH DMRM		aulroad- Complex to 3 mile islar	04/17/1984		
D-1084	OH DMRM		Horse Run	07/21/1994		
D-246	OH DMRM		Interconnector Haulroad	12/01/1983		
D-839	OH DMRM		Knowlton	05/15/1989		
D-56	OH DMRM		North Tipple Area	08/16/1982		
D-420	OH DMRM		OCTAD	10/11/1984		
D-678	OH DMRM		Olive Green South	06/15/1987		
D-215	OH DMRM		Preparation Plant	12/20/1983		
D-321	OH DMRM		Skyline Drive Haulroad	04/30/1984		
D-261	OH DMRM		State Route 340	01/13/1984		
D-559	OH DMRM		Titlon Run	03/13/1986		
D-820	OH DMRM		Windy Hill	12/14/1988		

Permittee: CONSOL of Kentucky Inc.

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
KY						
413-0510	KY DSMR			12/09/1980		final bond release, no record in KYDSMRE SMIS
413-5057	KY DSMR			06/09/1988		final bond release, no record in KYDSMRE SMIS
867-0369	KY DSM			07/12/1988		former Fairbanks Coal 867-0299
413-0146	KY DSMR			10/05/1988	04/15/1998	final bond release
413-0118	KY DSMR			10/05/1988	04/30/1998	final bond release 4/30/98
413-7005	KY DSMR			10/05/1988	02/11/1997	Transferred to Addington Enterprises Inc.
813-0028	KY DSM			10/05/1988	01/19/1999	Final bond release 1/19/99; Phase I bond rel 7/20/89
413-7010	KY DSMR			10/05/1988	04/15/1998	final bond release
413-7009	KY DSMR			10/05/1988	12/03/1996	Transferred to Addington Enterprises Inc.
413-0144	KY DSMR			10/05/1988	12/21/1997	final bond release
413-5005	KY DSMR			10/05/1988	12/03/1997	final bond release
413-0007	KY DSMR			10/05/1988	02/11/1997	transferred to Addington Enterprises Inc.
413-7007	KY DSMR			10/06/1988	04/30/1998	final bond release 4/30/98
413-7003	KY DSMR			10/06/1988	12/03/1996	Transferred to Addington Enterprises Inc.
413-0148	KY DSMR			10/12/1988	02/27/1997	final bond release
413-7002	KY DSM			10/18/1988	07/14/1998	Final bond release 7/14/98
413-5047	KY DSMR			01/09/1989	11/25/1996	final bond release
413-0127	KY DSM			02/08/1989	01/18/1999	Phase III bond release - 1/18/99; Phase I release 12/05/86
413-0145	KY DSMR			04/14/1989	02/27/1997	final bond release
813-0113	KY DSMR			05/26/1989	12/02/1996	final bond release
460-0113	KY DSM			06/07/1989	07/02/2001	Final Bond Release - 7/2/01.
867-0370	KY DSM	Fairbanks Coal Co Inc		05/11/1990		former Fairbanks Coal 867-0324
860-5115	KY DSM			04/02/1991	03/25/2002	Final Bond Release - 3/25/02.
860-5116	KY DSM			04/02/1991		
860-5148	KY DSM			05/05/1992	01/05/2001	Final Bond Release - 1/5/01.

Permittee: CONSOL of Kentucky Inc.

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
860-5154	KY DSM			05/25/1993		reclaimed, some increments final bond release
860-0333	KY DSM	Knott Floyd Land Co		11/10/1993		
813-0178	KY DSMR			12/10/1993	12/03/1996	Transferred to Addington Enterprises Inc.
867-0400	KY DSM			04/05/1995		former Fairbanks Coal 867-0362
867-0394	KY DSM			08/11/1998		
860-5229	KY DSM			03/19/1999		
867-5225	KY DSM			08/23/1999		
860-0390	KY DSMRE			08/30/2001		Permit approved 8/30/2001; Application submitted 4/24/2000.
860-7007	KY DSMRE			10/25/2001		Permit approved 10/25/2001; Application submitted 5/1/2001
860-5179	KY DSM		13A	10/19/1993	02/11/2000	Final bond released 2/11/00; closed mine; face-up overlapped by 860-9000
813-0182	KY DSM		Airport	06/01/1992	11/05/2001	Final Bond Release - 11/5/01; Phase I release 1/23/98
413-7006	KY DSM		Airport Road	02/08/1989	12/03/2001	Final Bond Release - 12/3/01.
860-0312	KY DSM		Big Springs	06/15/1993		
860-5212	KY DSM		Blazing Saddles	08/06/1984		mine closed
860-5181	KY DSM		Brushy 11	02/18/1994		closed mine
867-0404	KY DSM		CKI	01/13/2000		
867-5198	KY DSM	Clas Coal Co	Clas	10/11/1989		
867-8040	KY DSM		Deane Processing	05/17/1995	05/04/2000	Final bond released 5/4/00; site reclaimed.
867-5182	KY DSM		E3 Mill Creek	02/04/1994		
867-0407	KY DSMRE		Fairbanks-Crane Fk, CT	06/09/2000		Includes Hughes Drive Mine and Long Fork Mine
860-5255	KY DSMRE	Dennis Mining LLC	Fourmile Branch Elkhorn #3	01/29/2003		Permit issued 1/29/2003.
867-5183	KY DSM		Indian Gap	05/18/1995	10/15/1999	Final bond released 10/15/99; overlapped by 867-0394.
860-5202	KY DSM	Jarisa Inc	Jarisa	12/11/1992		
836-6015	KY DSM		Jett Loadout	08/24/1987		
860-8005	KY DSM		Jones Foek Prep Plant	11/13/1990		
860-9000	KY DSM		Jones Fork Slurry Impdt	02/06/1991		

Permittee: CONSOL of Kentucky Inc.

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
860-9007	KY DSM		Jones Fork-Right Fork Ref	05/17/1999		
836-5238	KY DSM		Lick Fork	08/06/1990		
867-5192	KY DSM		Loves Branch	02/29/1996		
867-0383	KY DSM	Fairbanks Coal Co Inc	Lower Appletree	04/21/1997		
860-5010	KY DSM	Marine Coal Co	Marine Coal E3	01/04/1984		
867-8042	KY DSM		Mill Creek Loadout	04/24/1995		
867-8041	KY DSM		Mill Creek Prep Plant	04/24/1995		
867-9007	KY DSM		Mill Creek Slurry Impdt	04/24/1995		
867-0428	KY DSMRE	Reedy Coal Co.	Mill Creek/Quillen Br. - Area 70	02/26/2002		Permit approved 2/26/2002; Application submitted 4/26/01.
867-0409	KY DSMRE		Mill Creek/Wiley - Area #1	07/17/2002		Permit approved 7/17/02 - MSHA number to be issued. Application submitted 8/25/99
860-5147	KY DSM		Mott's Branch #1	11/23/1992		
813-0186	KY DSM		MT-19	11/05/1992	11/05/2001	Final Bond Release - 11/5/01; Phase I release 01/07/98
813-0119	KY DSM		MT-31	01/17/1989	10/08/2001	Final Bond Release - 10/08/01; Phase I rel 7/20/89
836-5327	KY DSM	North Star Mining Inc	Northstar #3	03/01/1993		
860-5117	KY DSM		office and bath house	02/06/1991		
413-5009	KY DSM		Prater P-3	02/08/1989	10/08/2001	Final Bond Release 10/08/01; Phase I release 11/10/97
867-5184	KY DSM		Rhoades Branch	08/03/1989		
836-5363	KY DSM		Ridge #8	07/24/1997	08/30/2001	Final Bond Release - 8/30/01.
860-5218	KY DSM		Saltlick #10	09/11/1998		
460-5092	KY DSM		Sycamore Fork	06/10/1983		
860-0349	KY DSM		Triplett Br. (Wiley)	06/13/1996		inactive MTR
860-5221	KY DSM		Turtle Branch Portal	05/05/1998		
867-0391	KY DSM		Wiley contour strip	10/02/1997		
867-0405	KY DSMRE		Wiley-Upper Appletree CT	08/28/2000		
WV						
O-25-82	WV DEP			04/11/1996		trans from Fremont Coal Company

Permittee: CONSOL of Kentucky Inc.

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
S-94-85	WV DEP			04/11/1996		trans from Fremont Coal Company
S-71-82	WV DEP			04/11/1996		trans from Fremont Coal Company
O-24-82	WV DEP			04/11/1996		trans from Fremont Coal Company
S-5038-93	WV DEP		Miller Creek MT-11	04/14/1997		MSHA 1211-WV4-0240-01 (formerly Fremont Coal Co.)
S-5039-93	WV DEP		Miller Creek MT-13	04/14/1997	08/22/2002	Trans. To Appalachian Fuels LLC; MSHA 1211-WV4-0240-01
S-5040-93	WV DEP		Miller Creek MT-34	04/14/1997		MSHA 1211-WV4-0240-01 (formerly Fremont Coal Co.)
O-5036-93	WV DEP		ler Creek refuse area & prep pl:	04/14/1997		MSHA 1211-WV4-0240-01 (formerly Fremont Coal Co.)
U-5038-86	WV DEP		Mine No. CB-7	04/11/1996		trans from Fremont Coal Company

Permittee: Consol Pennsylvania Coal Co.

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
PA						
30810703	PA DEP		Bailey	02/27/1986		Bailey Refuse Permit
30841316	PA DEP		Bailey	01/09/1990		
30841317	PA DEP		Enlow Fork	03/08/1996		trans from Enlow Fork Mining Co 03/08/96
WV						
Y-1007-99	WV DEP		Bailey	03/20/1999		Out of state tracking permit, no bond has been posted.
U-2006-01	WV DEP		Bailey	03/11/2003		Application submitted 4/4/01. Approved 3-11-2003.

Permittee: Consolidation Coal Company

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
IL						
264	IL DMM			06/10/1992		
258	IL DMM		Burning Star #2			
468-76	IL DMM		Burning Star #2	06/23/1975		
522-78	IL DMM		Burning Star #2	01/26/1976		
573-79	IL DMM		Burning Star #2	07/07/1976		
880-83	IL DMM		Burning Star #2	08/27/1980		
121	IL DMM		Burning Star #2	03/21/1984		
70	IL DMM		Burning Star #2	08/13/1984		
69	IL DMM		Burning Star #2	08/13/1984		
67	IL DMM		Burning Star #2	10/30/1984		
149	IL DMM		Burning Star #2	07/23/1985		
68	IL DMM		Burning Star #2	09/10/1986		
515-78	IL DMM		Burning Star #3	11/18/1975		
574-79	IL DMM		Burning Star #3	07/08/1976		
814-82	IL DMM		Burning Star #3	10/08/1979		
890-83	IL DMM		Burning Star #3	09/15/1980		
71	IL DMM		Burning Star #3	03/28/1985		
286-75	IL DMM		Burning Star #4	05/01/1974		
470-76	IL DMM		Burning Star #4	06/23/1975		
572-79	IL DMM		Burning Star #4	07/01/1976		
74	IL DMM		Burning Star #4	08/01/1984		
73	IL DMM		Burning Star #4	10/30/1984		
152	IL DMM		Burning Star #4	05/08/1986		
120	IL DMM		Burning Star #4	08/04/1987		
262	IL DMM		Burning Star #4	11/13/1992		

Permittee: Consolidation Coal Company

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
471-76	IL DMM		Burning Star #5	06/23/1975		
570-79	IL DMM		Burning Star #5	04/07/1976		
941-83	IL DMM		Burning Star #5	07/10/1980		
922-83	IL DMM		Burning Star #5	08/01/1980		
882-83	IL DMM		Burning Star #5	08/27/1980		
112	IL DMM		Burning Star #5	09/23/1983		
77	IL DMM		Burning Star #5	05/25/1984		
75	IL DMM		Burning Star #5	06/11/1984		
130	IL DMM		Burning Star #5	10/02/1984		
199	IL DMM		Burning Star #5	06/09/1989		
88-A	IL DMM		Hillsboro	03/21/1984		
281	IL DMM		Rend Lake			
IL-004	IL DMM		Rend Lake	08/01/1984		
162	IL DMM		Rend Lake	11/27/1985		
43	IL DMM		Rend Lake	01/14/1986		
202	IL DMM		Rend Lake	12/02/1987		
217	IL DMM		Rend Lake	08/01/1988		
244	IL DMM		Rend Lake	09/11/1990		
274	IL DMM		Rend Lake	01/03/1994		
44	IL DMM		Wheeler Creek	08/11/1986		
ND						
54	ND PSC		Velva	06/26/1979		
CCVV-8107	ND PSC		Velva	12/28/1983		
NM						
8	NM SMC		Burnham	12/16/1977		
OH						
D-0357	OH DOR					bond release pending

Permittee: Consolidation Coal Company

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
D-0323	OH DOR		Franklin			bond release pending
D-0174	OH DOR		Franklin			
D-0102	OH DOR		Georgetown 24			bond release pending
D-0334	OH DOR		Georgetown 24			inactive
D-192	OH DOR		Georgetown P.P.			
D-0054	OH DOR		Mahoning Valley #33			bond release pending
D-0051	OH DOR		Mahoning Valley #33			
D-0414	OH DOR		Mahoning Valley #33			bond release pending
D-0452	OH DOR		Mahoning Valley #33			bond release pending
D-2100	OH DMRM		Mahoning Valley #33	04/20/2001		
D-0826	OH DOR	Charlotte Coal Co.	Mahoning Valley #36			
D-0784	OH DOR	Charlotte Coal Co.	Mahoning Valley #36			
PA						
02733702	PA DER					pre-SMCRA permit; mine closed
65881701	PA DER					pre-SMCRA permit; mine closed
30841601	PA DEP			09/04/1986		
30743702	PA DEP		Blacksville #1	12/23/1983		
30841319	PA DEP		Blacksville #1	02/27/1986		
D30-033A	PA DEP		Blacksville #1	06/30/1987		
30841312	PA DEP		Blacksville #2	02/27/1986		
30830701	PA DEP		Dilworth	07/23/1984		
30841313	PA DEP		Dilworth	08/13/1986		
30841302	PA DEP		Humphrey #7	02/27/1986		
6377302 (IW)	PA DER		Montour #4			Pre-SMCRA permit; mine closed
3084301	PA DEP		Pursglove #15	06/07/1984	07/18/2000	Bond released 7-18-2000
30733707(R)	PA DEP		Robena	11/25/1986		

Permittee: Consolidation Coal Company

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
63981301	PA DEP		Shoemaker	05/27/1999		
63733709	PA DER		Westland #2		11/07/1999	Pre-SMCRA permit; mine closed; phase II final bond release - 11/7/99.
63851702	PA DER		Westland #2			Pre-SMCRA permit; mine closed
63831301	PA DEP		Westland #2	08/13/1986		
TN						
2449	TN OSMRE		Matthews P.P.	02/11/1986		Inc. 2 Ph. I bond release - 6/29/2001; Inc. 1 Ph. I & II release 10/12/2001.
UT						
ACT/015/015	UT DOGM		Emery			
ACT/015/007	UT DOGM		Hidden Valley			
VA						
1301107	VA DMLR			03/29/1983		
1201325	VA DMLR			03/27/1991		
1201367	VA DMLR	Pigeon Branch Coal		07/23/1991		Operator - Pigeon Branch Coal
1201653	VA DMLR			08/13/1998		
1201761	VA DMLR			11/02/2000		
1201754	VA DMLR		Amonate - Hipoe #8	08/09/2000		
1200360	VA DMLR		Amonate Dunford	12/08/1983		Dunford portal
1200352	VA DMLR		Amonate Greasy Creek	12/07/1983	07/11/2003	Greasy Creek shaft; Phase III bond released on 7/11/2003.
1300410	VA DMLR		Amonate P.P.	12/21/1983		Refuse area
1200006	VA DMLR		Amonate South Shaft	12/08/1983	08/27/2001	South shaft; Phase III final bond release - 8/27/2001.
1200727	VA DMLR		Ball Creek (B-1)	07/01/1985		Transferred from Permac Inc./Raven Coal Co.
1201193	VA DMLR		Ball Creek (B-3)	02/24/1989		Transferred from Permac Inc./Raven Coal Co.
1201311	VA DMLR		Ball Creek (B-4)	01/23/1991		Transferred from Permac Inc./Raven Coal Co.
1201412	VA DMLR		Ball Creek (B-5)	04/28/1992		Transferred from Permac Inc./Raven Coal Co.
1201145	VA DMLR		Ball Creek (O-3)	02/22/1996		Transferred from Permac Inc./Raven Coal Co.
1301365	VA DMLR		Bandy #1 Scalp Rock	07/22/1991	12/11/2002	Phase III bond released - 12/11/2002.
1300314	VA DMLR		Bishop P.P.	11/23/1983	11/29/2000	Phase III bond release - 11/29/00 (Brewster Hollow Ponds)

Permittee: Consolidation Coal Company

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
1301149	VA DMLR		Bishop P.P.	12/28/1983		includes permit 1300464
1201502	VA DMLR		Black Eagle	07/20/1994		
1400047	VA DMLR		Buchanan	03/08/1993		
1201057	VA DMLR		C-4	10/08/1986		Transferred from Permac Inc./Raven Coal Co.
1201154	VA DMLR		Clifton Creek (E-10)	10/06/1988		Transferred from Permac Inc./Raven Coal Co.
1200839	VA DMLR		Clifton Fork (E-9)	04/18/1986		Transferred from Permac Inc./Raven Coal Co.
1201371	VA DMLR		Clinch Valley #3	08/23/1991	08/02/2001	Phase III final bond release - 8/2/2001.
1201368	VA DMLR		Clinch Valley Mine #2	07/23/1991	11/29/2000	Phase III bond release - 11/29/00
1200308	VA DMLR		Dismal Creek (E-2)	11/23/1983		Transferred from Permac Inc./Raven Coal Co.
1301461	VA DMLR		Fiddle Scalp			Pending application #0301991 issued 4/17/93; scalped rock disposal area
1201477	VA DMLR		Gum Branch (P-33)	09/03/1993		Trans.from Permac Inc./Raven Coal Co.; Mine is off Rt. 632.
1200070	VA DMLR		Hale Branch (P-14)	06/01/1983		Transferred from Permac Inc./Raven Coal Co.
1200369	VA DMLR		Hale Branch (P-28)	12/09/1983		Transferred from Permac Inc./Raven Coal Co.
1200700	VA DMLR		Hale Branch (P-31)	04/17/1985		Transferred from Permac Inc./Raven Coal Co.
1100389	VA DMLR		Horsepen Strip #1	12/19/1983		Bond released
1201772	VA DMLR		Jawbone Mine #2	03/29/2001		Succession of 1201557 from New Life Energy (Rheinbraun)
1201511	VA DMLR		Little Hurricane (E-11)	08/02/1989		Transferred from Permac. Mine is off Rt. 628.
1201129	VA DMLR		Miles Branch Mine	11/23/1983		includes permit 1200315
1201625	VA DMLR		Nine Mile Branch (P-32)	08/20/1990		Transferred from Permac Inc./Raven Coal Co.
1300338	VA DMLR		Prep Plant (P-18)	12/02/1983		Transferred from Permac Inc./Raven Coal Co.
1700864	VA DMLR		Prep Plant New Refuse Fill	06/23/1986		Trans. from Permac Inc./Raven Coal; MSHA Impoundment I.D. 1211VA50064006
1500384	VA DMLR		Prep Plant Old Refuse Fill	12/15/1983		Trans. from Permac Inc./Raven Coal; MSHA Impoundment I.D. 1211VA50064053
1200636	VA DMLR		Robinson Fork (E-4)	12/13/1984		Transferred from Permac Inc./Raven Coal Co.
1201407	VA DMLR		Slate Creek (O-2)	03/13/1992		Transferred from Permac Inc./Raven Coal Co.
WV						
U-209-83	WV DEP		Amonate	11/14/1983		

Permittee: Consolidation Coal Company

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
S-4005-01	WV DEP		Amonate Auger No. 1	09/06/2001		Permit approved 9/6/2001. Application submitted 4/20/2001.
U-4002-98	WV DEP		Amonate No. 5 Seam	06/10/1998		
O-150-83	WV DEP		Amonate plant	11/14/1983		
U-70-83	WV DEP		Arkwright	03/31/1983		
U-12-84	WV DEP	Hiope Mining	Beechfork	01/17/1984		
U-35-85	WV DEP		Bentley #2	06/29/1987		trans from Bentley Coal; phase II release - 6/5/1998
U-4016-96	WV DEP	Styx River Coal Co	Big Creek No. 2	02/27/1997		Phase I release - 10/18/2000
U-214-83	WV DEP	Corbin Coal Inc.	Bishop	11/21/1983		also MSHA 46-01868, 46-02369
U-45-84	WV DEP		Blacksville #1	05/30/1984		mine closed
U-46-84	WV DEP		Blacksville #2	05/03/1984		
O-1011-93	WV DEP		Blacksville #2 - Hughes Hollow	05/17/1995		
U-4027-86	WV DEP		Blackwolfe	06/23/1986	04/15/1998	Phase III bond release 4/15/1998.
I-539	WV DEP		Booth Tipple	11/17/1988		
U-4032-88	WV DEP		Clinch Valley #5	03/14/1996	09/23/1998	Trans. from Clinch Valley Coal 03/14/96; phase III release 9/23/98.
U-4028-86	WV DEP		Clinch Valley No. 4	10/23/1986	04/06/2000	Phase III bond release - 4/6/00, phase II - 9/23/98, phase I - 12/9/91
UO-577	WV DEP		Crane Creek #12	06/11/1983	06/10/2002	Phase I release - 1/6/1997; final bond release - 6/10/2002.
U-217-83	WV DEP		Crane Creek #6	11/28/1983	07/31/1998	Phase III bond release 7/31/1998.
UO-692	WV DEP		Crane Creek #9	06/11/1983		Phase I release - 12/16/1996
O-136-83	WV DEP		Crane Creek plant	10/26/1983		
O-7-82	WV DEP		Crane Creek stockpile	10/18/1982	06/12/2002	Final bond released on 6/12/2002.
U-100-83	WV DEP		Four States	05/18/1983		
U-4021-89	WV DEP		Gordy #3	01/17/1990		Phase I release - 5/4/00. Transferred from Katelyn Coal Co. on 7/26/99
U-11-85	WV DEP	Hiope Mining	Greasy Creek #2	12/19/1995		
U-119-83	WV DEP		Humphrey	06/10/1983		
O-1022-92	WV DEP		Humphrey refuse	11/22/1993		
U-191-83	WV DEP		Ireland	12/26/1983		

Permittee: Consolidation Coal Company

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
U-15-84	WV DEP		Itmann #1	08/10/1995		name change from Itmann Coal Company 08/10/95
U-16-84	WV DEP		Itmann #2	08/10/1995		name change from Itmann Coal Company 08/10/95
U-17-84	WV DEP		Itmann #3	08/10/1995		name change from Itmann Coal Company 08/10/95
O-11-85	WV DEP		Itmann plant	08/10/1995		name change from Itmann Coal Company 08/10/95
U-198-83	WV DEP		Jenkinjones #4	10/27/1983	04/12/2000	Phase II and III bond release - 4/12/2000, phase I - 1/6/97.
U-221-83	WV DEP		Jenkinjones #6 & #7	11/28/1983	04/11/2000	Transferred to Mid-Vol Leasing Inc. 4/11/2000.
O-147-83	WV DEP	Recon Resources LLC	Jenkinjones plant	11/14/1983	04/11/2000	Transferred to Mid-Vol Leasing Inc. 4/11/00
U-78-83	WV DEP		Loveridge	09/18/1983		
O-1044-91	WV DEP		Loveridge	06/17/1992		
UO-541	WV DEP		Maitland	02/22/1980		Transferred to USX
UO-431	WV DEP		Nailler	06/28/1979		
U-4018-88	WV DEP	Omega Square	Omega Square	02/07/1989		Phase I release - 1/31/2001
U-4015-86	WV DEP		Omega Square haulroad	10/10/1986		Phase I release - 1/30/2001
U-53-83	WV DEP		Osage	03/02/1983		
O-164-83	WV DEP	Star Buck Coal	Pageton plant	11/28/1983	12/29/1999	Transferred to Deepgreen West Virginia, Inc. 12/29/1999.
UO-374	WV DEP	Hiope Mining Inc.	Pigeon Branch #8	03/15/1993	10/18/2000	Phase III bond release - 10/18/2000.
U-86-83	WV DEP		Pursglove	05/04/1983		
S-72-82	WV DEP		Red Fox	08/02/1982	04/17/2001	Transferred to Bluestone Coal Corp. on 4/17/2001.
U-104-83	WV DEP		Robinson Run #95	06/10/1983		incl. old D-67-82, O-108-83
U-1025-92	WV DEP		Robinson Run #95	03/03/1993		
U-113-83	WV DEP		Rowland	06/09/1983	11/21/1996	overbonded by U-3024-89
UO-440	WV DEP		Rowland	10/07/1983		Repermitted under UO-130
UO-130	WV DEP		Rowland #11	10/07/1983	04/11/2000	Transferred to Clear Fork Coal Company 4/11/2000.
D-40-81	WV DEP		Rowland #14	11/16/1983	04/11/2000	Transferred to Clear Fork Coal Co. 4/11/2000.
U-88-83	WV DEP		Rowland #3	05/12/1983	04/11/2000	Transferred to Clear Fork Coal Company 4/11/2000.
U-3024-89	WV DEP		Rowland #6	08/31/1989	04/11/2000	Transferred to Clear Fork Coal Company 4/11/2000.

Permittee: Consolidation Coal Company

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
U-83-83	WV DEP		Rowland #9	05/04/1983	04/11/2000	Transferred to Clear Fork Coal Company 4/11/2000.
S-142-78	WV DEP		Rowland Hilltop	12/29/1982	04/11/2000	Transferred to Clear Fork Coal Company 4/11/00.
O-125-83	WV DEP		Rowland plant	09/27/1983	04/11/2000	Transferred to Clear Fork Coal Co. 4/11/2000.
28-81	WV DEP		Shawnee	09/03/1982	06/14/1999	Phase III bond release 6/14/1999
U-146-82	WV DEP		Shoemaker	12/17/1982	11/21/1996	Final release prior to 11/21/96
U-1045-91	WV DEP		Shoemaker	12/23/1991		
U-1025-91	WV DEP		Shoemaker	12/31/1991		
O-1001-00	WV DEP		Shoemaker	01/11/2000		Cunningham Hollow Refuse application approved 4/19/2002, submitted 1/11/00.
UO-225	WV DEP		Shoemaker Britts Run	01/04/1978	05/15/2002	Phase III release 5/15/2002
U-4004-91	WV DEP	Hiope Mining Inc	Squire Jim	12/11/1991		
U-11-84	WV DEP		Turkey Gap	01/17/1984		
UO-584	WV DEP		Turkey Gap shaft	01/17/1984		Phase I bond rel. 11/27/97
UO-471	WV DEP		Westigan	10/23/1979	07/12/2000	Transferred to Riverside Energy Inc. - 7/12/00

Permittee: Eighty Four Mining Company

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
PA						
63831302	PA DEP		Eighty Four Mine	03/30/1987		
63743702	PA DEP		Eighty Four Refuse	12/27/1985		

Permittee: Glenrock Coal Co

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
WY						
291T2	WY DEQ			03/11/1985	12/31/1997	J. B. Harvey resigned 12/31/97
WY0022	WY DEQ			03/11/1986	12/31/1997	J. B. Harvey resigned 12/31/97
291T3	WY DEQ			03/09/1990	12/31/1997	J. B. Harvey resigned 12/31/97
291T5	WY DEQ			01/25/1992	12/31/1997	J. B. Harvey resigned 12/31/97
291T4	WY DEQ			01/25/1992	12/31/1997	J. B. Harvey resigned 12/31/97

Permittee: Helvetia Coal Company

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
PA						
32743710	PA DEP		Helvetia #1	04/12/1985		Refuse disposal area
32743711	PA DEP		Helvetia #2	10/03/1985		Refuse disposal area
32851302	PA DEP		Lucerne #6 Extension	02/02/1987		Mining inactive, water treatment continues.
32841303	PA DEP		Lucerne #6 Mine	09/15/1986		Mining inactive, water treatment continues.
32841320	PA DEP		Lucerne #8 Mine	04/15/1986		Mining inactive, water treatment continues.
32841317	PA DEP		Lucerne #9 Mine	08/08/1985		Mining inactive, water treatment continues. (2nd MSHA #: 36-04597)
32921302	PA DEP		Marshall Run Deep	08/13/1993		Mining inactive

Permittee: Island Creek Coal Co (supp)

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
WV						
I-678	WV DEP					
I-700	WV DEP					
I-700	WV DEP					
P-590	WV DEP					
I-678	WV DEP					
O-130-83	WV DEP					
U-5042-91	WV DEP					
P-672	WV DEP		Beaver Creek/Alpine AMD			
I-700	WV DEP		Beaver Creek/Alpine AMD			
I-700	WV DEP		Beaver Creek/Alpine AMD			
I-700	WV DEP		Beaver Creek/Alpine AMD			
I-678	WV DEP		North AMD			
I-678	WV DEP		North AMD			
O-129-83	WV DEP		North Branch Fuel Supply			
U-5068-87	WV DEP		Roach Branch 5 block		10/23/1997	final bond release 10/23/97

Permittee: Island Creek Coal Company

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
KY						
498-5424	KY DSMRE					
498-5423	KY DSMRE					
498-0191	KY DSMRE					
698-5325	KY DSMRE					
836-5119	KY DSMRE					
898-5234	KY DSMRE					
898-8011	KY DSMRE					
898-5426	KY DSMRE					
498-5372	KY DSMRE		Big Creek #1			
654-5004	KY DSMRE		Fies #9 P.P.		11/25/1998	Transferred to Pennyrile Coal Co. 11/25/98
713-5002	KY DSMRE		Hamilton #1			
713-5001	KY DSMRE		Hamilton #2			
713-5000	KY DSMRE		Ohio 11			
436-8006	KY DSMRE		Spurlock P.P.			
VA						
1400493	VA DMLR		Beatrice Mine			Transferred from Beatrice Pocahontas on 2/29/2000
1400496	VA DMLR		Mine #3			
1300341	VA DMLR		Saw Mill Storage Area			
1400492	VA DMLR		VP 1			
1401232	VA DMLR		VP 2			
1400498	VA DMLR		VP 4			
1401489	VA DMLR		VP 5			Permit 1400497 transferred from VP5 Mining Co. & reissued as 1401489.
1401531	VA DMLR		VP 8			Also MSHA # 44-04517
WV						
O-2012-96	WV DEP					
D-28-82	WV DEP					Not started

Permittee: Island Creek Coal Company

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
EM-72	WV DEP					
D-93-82	WV DEP			11/01/1995	09/21/1999	Final bond release 9/21/99; transfer from Cline Brothers 11/1/95
U-134-83	WV DEP		Abb's #1 Mine	11/09/1994	07/16/1998	Final bond rel.7/16/98; trans from Abbs11/09/94
U-5076-86	WV DEP		Abb's #3	10/29/1993		Inactive, trans. from Abb's Resources Inc. 10/29/93; phase I release - 6/76/2001
U-5076-87	WV DEP		ake Energy #3	10/03/1995	09/18/2000	Phase III bond release 9/18/00. Transferred from Top Kat Mining 10/03/95
U-4011-89	WV DEP		Alpine #1 deep	12/14/1989	01/30/1997	Transferred to Still Run Coal Co;Final bond rel 01/30/97
U-4012-89	WV DEP		Alpine #3 deep	08/08/1989	01/30/1997	Transferred to Still Run Coal Co;Final bond rel 01/30/97
U-5064-88	WV DEP		ARB #1	11/09/1994	04/16/2002	Transferred from ARB Mining 11/09/94; phase II release - 8/4/1998; phase III release 4/16/2002.
UO-352	WV DEP		Baron #1	12/09/1994	09/29/1998	Phase II bond release 9/29/98. Transferred from Baron Coal Co Inc 12/09/94.
I-700	WV DEP		Beaver Creek/Alpine AMD			
H-84	WV DEP		Billy Ridge Road			Phase I bond release 06/21/89
U-5035-91	WV DEP	Brandy Mining Inc, Mine#2	Brandy #2	07/25/1991	06/07/2001	Phase III release - 6/7/2001
O-5037-91	WV DEP		Buckeye haulroad	07/25/1991	11/13/1997	O-5037-91 has been totally overbonded by H-456
EM-55	WV DEP		C&G #1	03/04/1991	09/18/2000	Phase III bond release - 9/18/00, phase I - 5/25/93. Transferred from C&G CoalCo
U-5036-91	WV DEP	Cline Brothers Mining Inc	Cline Bros. #6 deep	07/25/1991	06/07/2001	Phase III release - 6/7/2001
U-167-83	WV DEP		Crazy Horse / Hi-Top		12/01/1998	Phase III bond release - 12/1/98
U-130-83	WV DEP		D-9 C seam deep	06/24/1988	05/17/2000	Phase III bond release 5/17/2000. Not started
UO-212	WV DEP		Dear Creek	08/08/1989	07/16/1998	final bond release 7/16/98
U-5075-87	WV DEP		Dingess Branch deep	01/20/1988	05/17/2000	Phase III bond release 5/17/2000. Not started
S-5049-86	WV DEP		Dorothy	08/18/1991	12/03/1997	Final bond rel 12/3/97; Trans. to Jupiter Coal Co
U-5065-86	WV DEP		Eagle Delta #1	11/09/1994	09/29/1998	Phase III bond release 9/29/98. Transferred from Eagle Delta Coal Corp 11/09/94
U-5026-86	WV DEP		Eagle Delta #2	08/10/1995	10/13/1998	Phase III bond release 10/13/98. Transferred from Slick Rock Coal Co 08/10/95
U-4006-86	WV DEP	Paybra Mining Co Inc	Eagle-2 Gas deep	04/16/1991	05/17/2000	Phase III bond release 5/17/2000. Not started; Paybra had approved DR-19, never op'd
P-590	WV DEP		Elk Creek #10 plant	01/04/1993		
H-456	WV DEP		Elk Creek haulroad	01/04/1993		
U-5096-88	WV DEP		Gemstone #1	11/09/1994	10/05/1999	Final Bond Release 10/5/99; transfer from Gemstone Coal 11/9/94

Permittee: Island Creek Coal Company

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
U-58-85	WV DEP		Har Mat #1 deep	03/24/1995		Reclaimed; trans from Har Mat Coal Co Inc 3/24/95
UO-665	WV DEP		Har Mat #2 deep	03/24/1995		Phase I rel 6/11/93; trans from Har Mat Coal Co
U-5008-86	WV DEP		Har-Mat #3	12/08/1993	12/03/1997	Final bond rel 12/03/97; Trans to Jupiter Coal Co
O-4027-89	WV DEP		Haulroad	02/01/1990	01/30/1997	Transferred to Still Run Coal Co;Final bond rel 01/30/97
U-229-83	WV DEP		Hemshaw #2 deep	12/28/1988	12/03/1997	Final bond rel. 12/03/97; Trans to Jupiter Coal Co
U-230-83	WV DEP		Hemshaw #3 deep	12/28/1988	12/03/1997	Final bond rel. 12/03/97; Trans to Jupiter Coal Co
S-5064-91	WV DEP		Hiwall Miner #1	02/23/1994	05/17/2000	Phase III bond release - 5/17/00; not started
S-5053-86	WV DEP		Kittanning Strip	08/18/1991		Reclaimed; phase I released
S-2019-88	WV DEP		Knight Ink #1	09/02/1988		Not started
U-5056-87	WV DEP	Shield Mining, Inc.	Lynk #1	10/29/1993	03/04/1997	Released operator - 3/4/1997
UO-442	WV DEP		Mackline #1	12/13/1992	09/21/1999	Phase Iii release - 9/21/1999
UO-550	WV DEP		Mackline #3	12/13/1987	07/16/1998	Final bond release 07/16/98
O-4016-89	WV DEP		Marianna loadout	02/01/1990	01/30/1997	Transferred to Still Run Coal Co;Final bond rel 01/30/97
53-75	WV DEP		Mill's Creek			Phase I bond release 07/22/93
59-77	WV DEP		Mill's Creek			Phase I bond release 07/22/93
I-678	WV DEP		North AMD			
EM-69	WV DEP		North Branch Airshaft	02/24/1988		
O-129-83	WV DEP		North Branch Fuel Supply	10/26/1988		
EM-100	WV DEP		North Portal,11A airshaft			
P-672	WV DEP		North Prep Plant			
U-5050-91	WV DEP		Old 10K Mine	03/01/1994		
U-5065-88	WV DEP	P-F Mining Inc.	P-F Mining #6	01/31/1989	09/18/2000	Phase III bond release - 9/18/2000. P-F's last production 07/13/91
UO-531	WV DEP		Phillips	03/24/1995		Phase I rel 6/10/91; trans from Phillips Coal Co
EM-47	WV DEP		Phillips #1	03/24/1995		Phase I rel 3/21/91; trans from Phillips Coal Co
U-5034-91	WV DEP	Pine Creek Mining Inc	Pine Creek #5 deep	07/25/1991	06/07/2001	Phase III release - 6/7/2001
U-5029-92	WV DEP	Pine Creek Mining IV, Inc	Pine Creek IV, Mine #1	09/24/1993		Phase I bond release - 12/1/1998

Permittee: Island Creek Coal Company

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
U-5051-87	WV DEP	Pine Creek Mining IV Inc.	Pine Creek IV, Mine #2	12/13/1994		Transferred from Thunder Mountain Energy, phase I release - 6/7/2001
U-5056-87	WV DEP	Pine Creek IV	Pine Creek IV, Mine #3	10/29/1993		
H-537	WV DEP		Pond Fork haulroad	01/04/1993	12/03/1997	Final bond rel. 12/03/97; Trans to Jupiter Coal Co
P-605	WV DEP		Pond Fork plant	01/04/1993	12/03/1997	Final bond rel. 12/03/97; Trans to Jupiter Coal Co
O-26-82	WV DEP		Pond Fork top hill road	06/07/1992	12/03/1997	Final bond rel. 12/03/97; Trans to Jupiter Coal Co
UO-649	WV DEP		Red Rose	08/16/1988	10/13/1998	Phase III bond release 10/13/98, phase II 2/15/96, phasel 05/05/93
D-23-82	WV DEP		Ritter/Greene			Phase I bond release 08/ /91
U-5068-87	WV DEP		Roach Branch 5 Block	02/08/1993	10/23/1997	Not started, final bond rel. 10/23/97
U-5061-86	WV DEP		S&M #7	01/01/1996		Phase I bond release 3/16/99. Transferred from S & M Coal
U-222-83	WV DEP		Saturn #3 deep	11/11/1986	12/03/1997	Final bond rel. 12/03/97; Trans to Jupiter Coal Co
U-5085-86	WV DEP		Saturn deep	03/24/1995		Phase I rel 10/21/91; trans from Saturn Coal Co
U-5026-97	WV DEP		School House Alma	12/15/1997		Not Started
U-5042-91	WV DEP	Stonecoal Branch Mining Inc	Stonecoal Branch, Mine #1	07/07/1993		
U-5025-96	WV DEP	Stonecoal Branch Min. Inc	Stonecoal Branch, Mine #2	02/10/1997		
H-195	WV DEP		Sugartree haulroad	04/11/1993	11/18/1997	H-195 has been totally overbonded by H-456
U-5079-88	WV DEP		Thunder Mtn #5 deep	05/10/1989	05/21/1999	Phase III released - 5/21/99; Thunder Mtn. Energy operator 2/1/90-5/18/91
U-5014-97	WV DEP		Turkeypen #2 Gas	11/19/1997		Not Started
O-32-82	WV DEP		Verner Ramp	07/02/1992	09/07/2000	Phase III bond release 9/7/00.
UO-30	WV DEP		West Portal subsidence			
P-674	WV DEP		West Prep Plant	02/24/1988		
O-130-83	WV DEP		West Refuse Area #1	10/26/1988		
U-5074-87	WV DEP	Brandy Mining Inc Mine #2	Wynchester #21-C	10/29/1993		Inactive, from Wynchester Mining; also MSHA 46-07776(11/4/94)

Permittee: Island Creek Mining Company

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
WV						
H-613	WV DEP					Total bond release 03/24/93
H-536	WV DEP					Inactive
57-80	WV DEP		#5 shop & office			Reclaimed
S-108-82	WV DEP		#7 Tenney area			Reclaimed
S-12-82	WV DEP		#8 D Hinkle area			Reclaimed
163-76	WV DEP		Bean's Mill			Reclaiming
I-699	WV DEP		Bean's Mill loadout			Reclaiming
S-91-83	WV DEP		Job 10			Reclaimed
P-698	WV DEP		prep plant			Inactive
D-55-82	WV DEP		T'ville #3			Reclaimed
O-12-83	WV DEP		Upshur			Not started
O-61-82	WV DEP		Upshur			Inactive

Permittee: Island Creek Mining Company (s

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
WV						
57-80	WV DEP					
S-12-82	WV DEP					

Permittee: Jeffco Coal Company

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
PA						
33723006	PA DEP		Wilson #7 Mine	07/01/1985		transferred from Maud Mining Co. 1/17/2002.

Permittee: Kent Coal Mining Company

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
PA						
03850105R	PA DEP		Brickchurch #3 Mine	06/19/1984		
03793072C	PA DEP		Iselin #10	02/15/1985		Completed, water treatment continues.
3279103	PA DEP		Iselin #11			Completed/ Stage II/ Water Quality
2869BSM13	PA DEP		Iselin #6	02/13/1975		Completed/ Stage II/ Water Quality
32803037	PA DEP		Kent #53	06/27/1984		Completed/ Stage II
32860106	PA DEP		Kent #55	07/13/1987		Completed/ Water Quality
32803010	PA DEP		Kent #56	08/06/1984		Completed, water treatment continues.
32890109	PA DEP		Kent #57	10/15/1990		Completed, water treatment continues.
32803712	PA DEP		Lewisville Recovery Plant	01/16/1986		Completed, water treatment continues.
32940105	PA DEP		Lucerne #2	05/09/1995		Completed/ Water Quality
03890113	PA DEP		Margaret #50	01/25/1991		Completed/ Stage II
32920102	PA DEP		Marshall Run Mine #1	04/14/1993		Completed/ Stage II
32970103	PA DEP		Marshall Run Mine #2	08/15/1997		Completed/ Stage II
32930101	PA DEP		Tide #3 Mine	09/10/1993	08/08/2001	Phase III final bond release - 8/8/2001
32813031	PA DEP		Waterman #1	06/19/1984		Completed, water treatment continues.

Permittee: Keystone Coal Mining Corp.

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
PA						
32941301	PA DEP		Crooked Creek	01/09/1995		
32931301	PA DEP		Dutch Run	04/09/1996		
03841307	PA DEP		Emilie #4 Mine	07/28/1986		Mining inactive, water treatment continues.
03773706	PA DEP		Emilie #4 Refuse	05/28/1985		Refuse disposal area
03841305	PA DEP		Emilie Mine	08/11/1986		
03831305	PA DEP		Jane Mine	01/03/1986		Mining inactive, water treatment continues.
03813704	PA DEP		Keystone #1	06/28/1985		Refuse disposal area
03970701	PA DEP		Keystone #2			Refuse disposal area
03940701	PA DEP		Keystone #2 CRD	01/04/1996		
03951601	PA DEP		Keystone Cleaning Plant	02/29/1996		
0380302	PA DEP		Margaret #7	02/25/1987		Mining inactive, water treatment continues.
03841304	PA DEP		Margaret 11	08/27/1985		
03851304	PA DEP		Margaret 11	04/07/1993		
03891301	PA DEP		Margaret 11 - No 2 Portal	02/21/1991		Mining inactive
500121	PA DEP		Margaret Refuse			Refuse disposal area
3576SM24	PA DEP		Margaret Refuse Recovery			Mining inactive, water treatment continues.
3274301	PA DEP		O'Donnell #4 - Manor 8	09/05/1974		Mining inactive, water treatment continues.
32841321	PA DEP		O'Donnell Mine #3	11/15/1995		Mining inactive
32921301	PA DEP		Plumcreek #1 Mine	11/07/1993		Mining inactive. Phase II & partial phase III release on 4/10/2002.
32841313	PA DEP		Urling #2 Mine	02/20/1986		Mining inactive, water treatment continues.
32841323	PA DEP		Urling #3-E	02/20/1986		Permitted reserve
32841312	PA DEP		Urling Nos. 1 & 3 Mines	06/10/1986		Mining inactive, water treatment continues.
03753705	PA DEP		Urling Nos. 1 & 3 Refuse	09/26/1985		Refuse disposal area

Permittee: Laurel Run Mining Co (supp)

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
WV						
O-54-82	WV DEP					
O-139-83	WV DEP					
O-139-83	WV DEP					
O-37-85	WV DEP					
O-139-83	WV DEP					
S-5084-86	WV DEP					
U-139-83	WV DEP		Potomac			

Permittee: Laurel Run Mining Company

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
PA						
63841304	PA DEP		Vesta	12/22/1998		transfer from Massey; reclamation only
WV						
O-111-83	WV DEP		#12 loadout	03/02/1990	09/23/1998	Phase III bond release 9/23/98, phase II 8/28/96, phase I 10/30/92
O-37-85	WV DEP		#29 impoundment	01/19/1994	07/19/1999	Trans to Logan Mining Co
O-27-82	WV DEP		#29A Loadout	11/30/1994	07/19/1999	trans to Logan Mining Co
U-5060-88	WV DEP		20DA Dorothy Deep	01/19/1994	07/16/1999	Trans to Logan Mining Co
U-5061-88	WV DEP		20DB Dorothy Deep	01/19/1994	07/16/1999	Trans to Logan Mining Co
UO-609	WV DEP		Academy #2	03/17/1995	11/06/1996	Final bond release 11/06/96 (ex Academy Coal Co)
O-1039-90	WV DEP		Alpine Refuse #2			
D-38-81	WV DEP		Brandy #1	11/01/1995	04/15/1998	trans from Cline Bros 11/1/95; final rel. 4/15/98
U-5047-86	WV DEP		Brandy #1A Mine	11/01/1995	08/11/1998	trans fr.Cline Bros 11/1/95; final bond release - 8/11/1998.
O-5014-87	WV DEP		Brandy #1A Road	11/01/1995	04/15/1998	trans from Cline Bros 11/1/95; final rel. 4/15/98
U-172-83	WV DEP		Brandy #2	11/01/1995	04/15/1998	trans from Cline Bros 11/1/95; final rel. 4/15/98
U-5045-86	WV DEP		Brandy #2 Mine	11/01/1995	04/15/1998	trans from Cline Bros 11/1/95; final rel. 4/15/98
U-5044-86	WV DEP		Brandy #3 Mine	11/01/1995	07/16/1999	trans to Logan Mining Co
U-72-85	WV DEP		Brandy 2A Mine	11/01/1995	04/15/1998	trans from Cline Bros 11/1/95; final rel. 4/15/98
S-4020-96	WV DEP		Coal Mountain No. 1	05/07/1997		
S-4021-96	WV DEP		Coal Mountain Valley Fill	05/07/1997		
H-477	WV DEP		Coal Mtn #9 road	03/02/1990		
EM-65	WV DEP		Coal Mtn #9E tunnel	03/02/1990	09/23/1998	Phase III bond release 9/23/98, phase II - 1/7/97, phase I - 12/03/93
P-586	WV DEP	Childress Service Corp	Coal Mtn. plant	03/02/1990		Inactive
S-117-85	WV DEP		contour and haulroad	01/19/1994	07/19/1999	Trans to Logan Mining Co
S-5058-88	WV DEP		Contour Coal Strip	01/30/1994	06/01/1998	Phase III release 6/1/98, totally overbonded by S-5017-96. Trans. from Contour Coal Inc.
UO-432	WV DEP		Double E	04/17/1995		Reclaimed; trans from Double E Mining 4/17/95
U-5022-86	WV DEP		Elm #6 Mine	11/30/1994	06/26/1997	trans.from Twin Branch Coal Co; final rel. 6/26/97

Permittee: Laurel Run Mining Company

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
124-78	WV DEP		Elm Strip	11/30/1994	04/01/1999	Phase III bond release - 4/1/99. Transfer from Twin Branch Coal Co 11/30/94
O-53-82	WV DEP		Haulroad to Laurel	01/19/1994	07/19/1999	Trans to Logan Mining Co
P-581	WV DEP		Holden 29 plant	01/19/1994	07/19/1999	Trans to Logan Mining Co
UO-610	WV DEP		L. D. R.	03/17/1995	11/06/1996	Final bond release 11/06/96 (ex Academy Coal Co)
U-5043-86	WV DEP		Logan Coals #4	01/19/1994	06/13/1997	Trans.from War Eagle Constr; final rel 6/13/97
S-5041-89	WV DEP	Magnet Coal, Inc.	Magnet #2 Strip	11/30/1994	07/19/1999	trans to Logan Mining Co
S-5017-96	WV DEP	Magnet Coal Inc.	Magnet $4 Strip	03/18/1997	07/19/1999	Trans to Logan Mining Co
EM-74	WV DEP		Marcus #4	04/17/1995		Phase I rel 8/13/88;trans from Marcus Coal 4/17/95
O-5042-86	WV DEP		Mutual #1 Road	02/09/1996	07/19/1999	trans to Logan Mining Co
S-5062-88	WV DEP	Mutual Mining Inc	Mutual #1 Strip	03/17/1995	07/19/1999	Trans to Logan Mining co
S-5042-88	WV DEP		Mutual #1 Strip	02/09/1996	07/19/1999	trans to Logan Mining Co
S-5041-86	WV DEP		Mutual #1 Strip	02/09/1996	07/19/1999	trans to Logan Mining Co
S-5012-89	WV DEP		Mutual #2 Strip	02/09/1996	05/23/1997	transfer from Mutual Mining; final bond rel
U-5021-86	WV DEP		Old 20D Mine	11/30/1994	06/13/1997	trans.from Twin Branch Coal Co; final rel. 6/13/97
O-5046-91	WV DEP		Overland Belt	05/04/1995	07/19/1999	trans to Logan Mining Co
U-177-83	WV DEP		Paybra #4	02/16/1994	10/30/2000	Phase III bond release 10/30/2000
U-5043-88	WV DEP		Pine Creek #8	11/30/1994	10/22/1997	transfer from Twin Branch Coal Co; phase III release - 10/22/1997.
U-139-83	WV DEP		Potomac			also MSHA 46-04190 (12/20/78), 1211WV30102 (12/75)
O-31-82	WV DEP		ROM loadout - Twin Branch	01/19/1994		Transfer from Twin Branch Coal Co
D-15-82	WV DEP		S & M #5	05/19/1995	11/06/1996	Final bond release 11/06/96 (ex S & M Coal)
U-153-83	WV DEP		S&M #6	05/19/1995	09/10/1998	Trans from S&M 5/19/95; Final bond rel. 9/10/98
U-49-85	WV DEP		Shabeth #3	10/31/1995	06/18/1998	final bond rel.6/18/98; trans from Shabeth
S-2-79	WV DEP		Silver Creek Strip	11/30/1994	07/19/1999	trans to Logan Mining Co
S-5084-86	WV DEP		South Copperas	11/30/1994	07/16/1999	trans to Logan Mining Co
U-5013-93	WV DEP		Spring Branch	02/04/1997		
O-54-82	WV DEP		Twin Branch Prep Plant	01/19/1994	05/23/1997	Trans from Twin Branch Coal Co; final bond rel

Permittee: Laurel Run Mining Company

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
S-5053-89	WV DEP		Whitman #2 Strip	11/30/1994	07/19/1999	trans to Logan Mining Co
S-5054-89	WV DEP		Whitman #3 Strip	11/30/1994	07/19/1999	Trans to Logan Mining Co
S-5-80	WV DEP		Whitman C&A	11/30/1994	07/19/1999	trans. to Logan Mining Co
S-9-85	WV DEP		Whitman C&A	11/30/1994	07/19/1999	trans to Logan Mining Co
U-5063-88	WV DEP		Whitman Dorothy Mine	11/30/1994	10/22/1997	transfer from Twin Branch Coal Co; phase III release - 10/22/1997.

Permittee: Maud Mining Company

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
PA						
33910103	PA DEP		Adrian #1	07/25/1991	02/20/2001	Phase III final release - 2/20/2001.
33900115	PA DEP		Eleanora #1	04/30/1991	09/20/2001	Phase III final release - 9/20/2001.
33910102	PA DEP		Eleanora #2	09/13/1991	12/22/1999	Phase III final release - 12/22/1999.
33940103	PA DEP		Fuller Bridge #1	08/30/1994	06/30/1999	Phase III final release - 6/30/1999.
33773120	PA DEP		Lewis Mine	05/22/1985	03/05/2000	Phase III final release - 3/5/2000.
24910101	PA DEP		Medix Run #1	06/26/1992	09/13/2001	Phase III final release - 9/13/2001.
17880110	PA DEP		routville #1	11/30/1989	04/17/1998	Phase III final release - 4/17/1998.
33820150	PA DEP		Wilson #5	12/12/1986	08/17/1998	Phase III final release - 8/17/1998.
33723006	PA DEP		Wilson #7 Mine	07/01/1985	01/17/2002	transferred to Jeffco Coal Co. 1/17/2002.

Permittee: McElroy Coal Company

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
WV						
U-1026-92	WV DEP		Blakes Ridge - McElroy	05/04/1993		
U-33-83	WV DEP		McElroy	02/10/1983		
O-1023-92	WV DEP		McElroy refuse area	02/10/1996		

Permittee: Pacificorp Energy Inc

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
UT						
ACT015019	UT OGM	Energy West Mining Co		07/06/1994	12/31/1997	J. B. Harvey resigned 12/31/97
ACT015009	UT OGM	Energy West Mining Co		02/21/1995	12/31/1997	J. B. Harvey resigned 12/31/97
ACT015017	UT OGM	Energy West Mining Co		08/29/1995	12/31/1997	J. B. Harvey resigned 12/31/97
ACT015018	UT OGM	Energy West Mining Co		02/07/1996	12/31/1997	J. B. Harvey resigned 12/31/97
WA						
WA0001D	WA DEP	Centralia Mining Co		11/21/1995	12/31/1997	J. B. Harvey resigned 12/31/97

Permittee: Quarto Mining Company

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
OH						
D-433	OH DMRM		Powhatan #4	11/29/1984		
D-422	OH DMRM		Powhatan #7	10/19/1984		

Permittee: Southern Ohio Coal Company

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
OH						
D-354	OH DMRM		Meigs #1	06/12/1984		
D-355	OH DMRM		Meigs #2	06/12/1984		
D-463	OH DMRM		Raccoon #3	04/09/1985		

Permittee: Welco Mining Company

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
WV						
UO-350	WV DEP		Hill #1	01/28/1993	08/08/1997	
UO-696	WV DEP		Hill #2	01/28/1993	08/08/1997	

Permittee: Windsor Coal Company

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
WV						
O-485	WV DEP			01/17/1985		
P-744	WV DEP			01/26/1988		
E-128-00	WV DEP			01/26/1988		

Permittee: Wolfpen Knob Development Co.

Permit Number	State Regulatory Authority	Operator *(If different from permittee)*	Mine Name	Permit Issue Date	END DATE	Comments
WV						
U-2015-92	WV DEP			01/28/1998		
O-1052-91	WV DEP			01/28/1998		

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: CONSOL of Kentucky Inc.

PERMIT NO:	867-5182	MSHA NO:	N/A	MSHA DATE:	00/00/00
VIOLATION NO:	53-1855	DATE VIOL. ISSUED:	07/25/2003	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	Off permit disturbance when constructing Haul Road G				
CURRENT STATUS:	PENDING			STATUS DATE:	
ABATEMENT ACTIONS:					

PERMIT NO:	860-5221	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	43-1032	DATE VIOL. ISSUED:	07/25/2003	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	(1) Adequate sediment control has not been provided. (2) An unapproved fill has been created. (3) An off-site disturbance has been created. (4) a diversion ditch has been breached.				
CURRENT STATUS:	PENDING			STATUS DATE:	
ABATEMENT ACTIONS:					

PERMIT NO:	860-5202	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	43-0414	DATE VIOL. ISSUED:	07/24/2003	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	(1) & (2) Pond 1 effluent exceeds pH discharge limits				
CURRENT STATUS:	TERMINATED			STATUS DATE:	
ABATEMENT ACTIONS:	Required work has been completed, violation terminated.				

PERMIT NO:	867-0404	MSHA NO:	N/A	MSHA DATE:	00/00/00
VIOLATION NO:	53-1854	DATE VIOL. ISSUED:	07/02/2003	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	Permittte allowed material on steepslopes and downslopes within the permit area of Big John Hollow and Shelby Fork.				
CURRENT STATUS:	PENDING			STATUS DATE:	
ABATEMENT ACTIONS:	Extension granted by inspector to 9/2/03.				

PERMIT NO:	860-0390	MSHA NO:	N/A	MSHA DATE:	00/00/00
VIOLATION NO:	53-0745	DATE VIOL. ISSUED:	06/25/2003	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	(1) Off permit disturbance on Increment #8 (2) Failed to properly maintain Silt Pond #P-1				
CURRENT STATUS:	PENDING			STATUS DATE:	
ABATEMENT ACTIONS:	Extension to 8/25/03 granted by inspector.				

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: CONSOL of Kentucky Inc.

PERMIT NO:	867-0409	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	53-1680	DATE VIOL. ISSUED:	06/20/2003	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	(1)&(2)Failed to pass all drainage through approved sediment control. (3)Failed to build Sidehill Fill as per design. (4)Allowed deposition of material on downslopes.				
CURRENT STATUS:	PENDING			STATUS DATE:	
ABATEMENT ACTIONS:	Extension granted to 8/19/03 by inspector.				

PERMIT NO:	860-9000	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	43-0529	DATE VIOL. ISSUED:	06/16/2003	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	Discharged water during rain event that exceeded settleable solids limits.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	
ABATEMENT ACTIONS:	Required work completed, violation terminated				

PERMIT NO:	867-0405	MSHA NO:	N/A	MSHA DATE:	00/00/00
VIOLATION NO:	53-1852	DATE VIOL. ISSUED:	05/20/2003	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	Off permit disturbance; 0.25 acre slide of spoil and debris occurred on Increment 5.				
CURRENT STATUS:	PENDING			STATUS DATE:	
ABATEMENT ACTIONS:	Extension granted to 8/21/03. Extension requested of the Director prior to 8/21/2003.				

PERMIT NO:	867-0404	MSHA NO:	N/A	MSHA DATE:	00/00/00
VIOLATION NO:	53-1851	DATE VIOL. ISSUED:	05/13/2003	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	Off permit disturbance occurred. Material on downslope face of pond D moved from the permitted area. 5/20/03 NOV modified to include second off permit disturbance.				
CURRENT STATUS:	PENDING			STATUS DATE:	
ABATEMENT ACTIONS:	Extensiion granted by inspector to 8/13/03. Extension has been requested of Director prior to 8/13/03				

PERMIT NO:	860-0390	MSHA NO:	N/A	MSHA DATE:	00/00/00
VIOLATION NO:	53-0744	DATE VIOL. ISSUED:	04/29/2003	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	(1)Allowed substandard water to by-pass pond P-2. (2) By-passed water exceeded effluent limitations. (3) Cut through natural barrier allowing by-pass. (4) Placed spoil material off permit.				
CURRENT STATUS:	PENDING			STATUS DATE:	
ABATEMENT ACTIONS:	(1) & (2) are non correctable. (3) work on barrier complete, item 3 terminated (4) Extension grantedby the Director to 9/23/2003				

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: CONSOL of Kentucky Inc.

PERMIT NO:	860-5202	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	43-0408	DATE VIOL. ISSUED:	04/25/2003	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	(1) & (2) Pond 1 discharge exceeds iron discharge limits				
CURRENT STATUS:	TERMINATED			STATUS DATE:	
ABATEMENT ACTIONS:	Required work completed - violations terminated.				

PERMIT NO:	867-0400	MSHA NO:		MSHA DATE:	
VIOLATION NO:	53-2342	DATE VIOL. ISSUED:	04/16/2003	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	Off permit disturbance in which slide occurred below bench pond 2. Order modified on 4/24/03 to include 2nd slide located on Inc. #1				
CURRENT STATUS:	PENDING			STATUS DATE:	
ABATEMENT ACTIONS:	An extension has been requested through the Director's office. Extension granted by the Director to 9/10/03.				

PERMIT NO:	860-0390	MSHA NO:	N/A	MSHA DATE:	00/00/00
VIOLATION NO:	53-0742	DATE VIOL. ISSUED:	03/26/2003	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	Off permit disturbance at five locations.				
CURRENT STATUS:	PENDING			STATUS DATE:	
ABATEMENT ACTIONS:	Extension requested of the Director Extension granted by the Director to 8/25/03				

PERMIT NO:	867-0407	MSHA NO:	N/A	MSHA DATE:	00/00/00
VIOLATION NO:	53-0741	DATE VIOL. ISSUED:	03/25/2003	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	Off permit disturbance caused by three slides				
CURRENT STATUS:	PENDING			STATUS DATE:	
ABATEMENT ACTIONS:	An extension beyond 90 days has been made with the Director. Director granted extension to 8/22/03.				

PERMIT NO:	867-0404	MSHA NO:	N/A	MSHA DATE:	00/00/00
VIOLATION NO:	53-1850	DATE VIOL. ISSUED:	03/18/2003	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	Allowed spoil and debris from grubbing to be placed downslope				
CURRENT STATUS:	TERMINATED			STATUS DATE:	05/19/2003
ABATEMENT ACTIONS:	Required work was completed; violation terminated.				

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: CONSOL of Kentucky Inc.

PERMIT NO:	867-5225	MSHA NO:	N/A	MSHA DATE:	00/00/00
VIOLATION NO:	53-1672	DATE VIOL. ISSUED:	03/14/2003	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	Off permit disturbance; borehole started without authorization.				
CURRENT STATUS:	PENDING			STATUS DATE:	
ABATEMENT ACTIONS:	Extension to 8/11/03 has been granted by the Director. Extension has been requested of the Director prior to 8/11/03.				

PERMIT NO:	867-9007	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	53-2340	DATE VIOL. ISSUED:	03/12/2003	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	(1) Slurry line break discharged slurry to Razor Blade Br. (2) Non correctable - Sslurry discharged into Rockhouse Creek (3) Rockhouse Creek contaminated with slurry.				
CURRENT STATUS:	PENDING			STATUS DATE:	
ABATEMENT ACTIONS:	(1) Terminated slurry discharge stopped.				

PERMIT NO:	860-9000	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	43-0527	DATE VIOL. ISSUED:	03/12/2003	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	Allowed slurry water to encroach onto Equitable Production Co. gas well without approval.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	05/22/2003
ABATEMENT ACTIONS:	Order modified to allow pumping with water level restrictions Required work completed; violation terminated.				

PERMIT NO:	860-5202	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	43-0403	DATE VIOL. ISSUED:	02/19/2003	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	(1) & (2) Pond 1 discharge exceeds iron discharge limits (3) Failed to properly maintain diversion ditch #2 (4) Failed to properly maintain Haul Road B drain pipes				
CURRENT STATUS:	TERMINATED			STATUS DATE:	02/21/2003
ABATEMENT ACTIONS:	(1), (2), (3) & (4) All violations terminated. Required work completed.				

PERMIT NO:	860-9000	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	43-0735	DATE VIOL. ISSUED:	01/31/2003	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	(1) Failed to maintain durable surface on access road. (2) Company tracked material onto public road and material slide into public road ditchline (3) Failed to certify sedimentation pond.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	02/04/2003
ABATEMENT ACTIONS:	(1), (2) & (3) All violations terminated. Required work completed.				

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: CONSOL of Kentucky Inc.

PERMIT NO:	867-8041	MSHA NO:	N/A	MSHA DATE:	00/00/00
VIOLATION NO:	53-1053	DATE VIOL. ISSUED:	12/26/2002	ISSUED BY:	KY DSMRE

VIOLATION DESCRIPTION: Failed to properly maintain diversion around raw coal stockpile.

CURRENT STATUS: TERMINATED STATUS DATE: 05/12/2003

ABATEMENT ACTIONS: Required work has been completed, violation terminated.

PERMIT NO:	867-5182	MSHA NO:	N/A	MSHA DATE:	00/00/00
VIOLATION NO:	53-1050	DATE VIOL. ISSUED:	09/18/2002	ISSUED BY:	KY DSMRE

VIOLATION DESCRIPTION: Off permit disturbance at proposed mine portal.

CURRENT STATUS: TERMINATED STATUS DATE: 12/04/2002

ABATEMENT ACTIONS: Required work completed, violation terminated.

PERMIT NO:	867-9007	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	53-1049	DATE VIOL. ISSUED:	08/28/2002	ISSUED BY:	KY DSMRE

VIOLATION DESCRIPTION: (1) Slurry line break discharged slurry to Rockhouse Creek.
(2) Rockhouse Creek contaminated with slurry spill.

CURRENT STATUS: TERMINATED STATUS DATE: 09/11/2002

ABATEMENT ACTIONS: Required worked completed, violation terminated.

PERMIT NO:	867-5184	MSHA NO:	N/A	MSHA DATE:	00/00/00
VIOLATION NO:	53-0786	DATE VIOL. ISSUED:	06/24/2002	ISSUED BY:	KY DSMRE

VIOLATION DESCRIPTION: Subsidence cracks to surface property have not been repaired in a timely manner.

CURRENT STATUS: PENDING STATUS DATE:

ABATEMENT ACTIONS: An extension from the Director has been requested.
Director has approved extension to 8/1/2003.
An extension has been requested of the Director prior to 8/1/03

PERMIT NO:	860-9000	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	43-0526	DATE VIOL. ISSUED:	05/16/2002	ISSUED BY:	KY DSMRE

VIOLATION DESCRIPTION: (1) Refuse embankment not built as designed.
(2) Pond is full and has no sediment control left.

CURRENT STATUS: PENDING STATUS DATE:

ABATEMENT ACTIONS: Violation (2) terminated 10/17/2002 since required work is done.
Extension granted for violation (1) by Director to 8/18/2003.

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: CONSOL of Kentucky Inc.

PERMIT NO:	867-0428	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	53-1044	DATE VIOL. ISSUED:	05/14/2002	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	Coal trucks tracking mud off permit.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	
ABATEMENT ACTIONS:	Mud was cleaned from road by 1:00 PM on 5/14/02				

PERMIT NO:	860-5202	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	43-0392	DATE VIOL. ISSUED:	05/06/2002	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	(1) & (2) Water from breached diversion exceeded iron and suspended solids limits. (3) (4) & (5) Failed to properly maintain sediment structures.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	
ABATEMENT ACTIONS:	(1) (2) (3) & (5) Required work has been completed by 5/8/02.. (4) Required work completed.				

PERMIT NO:	860-5202	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	43-0391	DATE VIOL. ISSUED:	04/24/2002	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	(1) Two off-permit disturbance areas were created. (2) Failed to properly dispose of non-coal waste.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	09/20/2002
ABATEMENT ACTIONS:	(2) Terminated - required actions completed. Additional time granted to 10/02/2002. (1) Terminated - required actions completed.				

PERMIT NO:	860-0390	MSHA NO:	N/A	MSHA DATE:	00/00/00
VIOLATION NO:	53-1043	DATE VIOL. ISSUED:	04/04/2002	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	Off permit disturbance at Increment #8. Notice Modified - 4/15/2002 Extension granted to 12/4/2002.				
CURRENT STATUS:	PENDING			STATUS DATE:	
ABATEMENT ACTIONS:	Extension requested of Director - 10/2/2002. Extension granted to 1/15/2003. Extension requested of Director.				

PERMIT NO:	860-0390	MSHA NO:	N/A	MSHA DATE:	00/00/00
VIOLATION NO:	53-1041	DATE VIOL. ISSUED:	03/29/2002	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	Operator is using a highwall miner in violation of approved method of operation. 4/1/2002 - Notice modified.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	
ABATEMENT ACTIONS:	Required work completed.				

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: CONSOL of Kentucky Inc.

PERMIT NO:	860-5202	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	43-0384	DATE VIOL. ISSUED:	03/06/2002	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	Failure to pass disturbed area above Access Road A through approved sediment control.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	03/22/2002
ABATEMENT ACTIONS:	Required actions completed.				

PERMIT NO:	867-0407	MSHA NO:	N/A	MSHA DATE:	00/00/00
VIOLATION NO:	53-0783	DATE VIOL. ISSUED:	02/13/2002	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	(1) Haul road 3 not built to plans. Rebuild & certify or revise permit. (2) Slide has created offsite disturbance. (3) Dugout #3 was not built and certified in a timely manner.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	11/18/2002
ABATEMENT ACTIONS:	(3) Terminated - work has been completed. (1) and (2) Terminated - work has been completed.				

PERMIT NO:	867-0405	MSHA NO:	N/A	MSHA DATE:	00/00/00
VIOLATION NO:	53-0782	DATE VIOL. ISSUED:	01/25/2002	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	Diversion ditch breached during 4-5 inch rainfall washing dirt and rocks off permit.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	02/12/2002
ABATEMENT ACTIONS:	Required actions have been completed.				

PERMIT NO:	860-0390	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	43-0383	DATE VIOL. ISSUED:	01/24/2002	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	(1) Discharging water from pond P-2 high in settleable solids. (2) Discharging high settleable solids water off permit.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	01/30/2002
ABATEMENT ACTIONS:	Required work has been completed.				

PERMIT NO:	860-7007	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	43-0382	DATE VIOL. ISSUED:	01/09/2002	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	(1) Haulroad construction caused off-permit disturbance and did not follow approved grade design. (2) Failed to monitor air blast as required.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	07/15/2002
ABATEMENT ACTIONS:	Additional time requested through Director's office - 5/14/2002 Additional time granted by Director's office to 7/15/2002 Required work completed; violation terminated.				

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: CONSOL of Kentucky Inc.

PERMIT NO:	860-5202	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	43-0380	DATE VIOL. ISSUED:	12/27/2001	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	Failed to pass disturbed area drainage through a pond.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	01/17/2002
ABATEMENT ACTIONS:	Required corrective actions have been made.				

PERMIT NO:	860-0390	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	43-0379	DATE VIOL. ISSUED:	12/21/2001	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	(1) Failed to properly build ponds P-1 & P-2. Both ponds leak. (2) Pond P-2 created 0.63 acre off-permit disturbance. (3) Failed to follow approved Pond Access Plan				
CURRENT STATUS:	TERMINATED			STATUS DATE:	04/29/2002
ABATEMENT ACTIONS:					

PERMIT NO:	867-5182	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	53-1038	DATE VIOL. ISSUED:	12/13/2001	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	Failed to follow approved method of operation.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	01/31/2002
ABATEMENT ACTIONS:	Extension granted by inspector. Required work has been completed.				

PERMIT NO:	860-0312	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	41-1780	DATE VIOL. ISSUED:	11/13/2001	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	Grading and backfilling work needed on part of Inc. #4				
CURRENT STATUS:	TERMINATED			STATUS DATE:	06/11/2002
ABATEMENT ACTIONS:	Extension granted to 6/17/02 due to wet weather. Required work has been completed.				

PERMIT NO:	S-71-82	MSHA NO:	46-06760	MSHA DATE:	01/16/87
VIOLATION NO:	S-71-82 (40)	DATE VIOL. ISSUED:	11/05/2001	ISSUED BY:	WV DEP
VIOLATION DESCRIPTION:	Failed to properly maintain pond #1.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	01/10/2002
ABATEMENT ACTIONS:	Pond 1 has been eliminated and the violation terminated.				

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: CONSOL of Kentucky Inc.

PERMIT NO:	860-5229	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	41-1779	DATE VIOL. ISSUED:	10/24/2001	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	Reclamation grading, seeding and drainage control do not meet standards.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	11/13/2001
ABATEMENT ACTIONS:	Backfilling, grading and seeding work completed as required.				

PERMIT NO:	S-94-85	MSHA NO:	46-06760	MSHA DATE:	01/16/87
VIOLATION NO:	S-94-85 (18)	DATE VIOL. ISSUED:	10/09/2001	ISSUED BY:	WV DEP
VIOLATION DESCRIPTION:	Failed to renew NPDES permit before it expired.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	
ABATEMENT ACTIONS:	Partially abated since NPDES permit renewal is pending Violation terminated when NPDES permit was renewed.				

PERMIT NO:	U-5038-86	MSHA NO:	46-06760	MSHA DATE:	01/16/87
VIOLATION NO:	U-5038-86 (6)	DATE VIOL. ISSUED:	10/09/2001	ISSUED BY:	WV DEP
VIOLATION DESCRIPTION:	Failed to renew NPDES permit before it expired.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	06/25/2002
ABATEMENT ACTIONS:	Partially abated since NPDES permit renewal is pending Violation terminated when NPDES permit was renewed.				

PERMIT NO:	S-71-82	MSHA NO:	46-06760	MSHA DATE:	01/16/87
VIOLATION NO:	S-71-82 (38/39)	DATE VIOL. ISSUED:	10/09/2001	ISSUED BY:	WV DEP
VIOLATION DESCRIPTION:	Failed to renew NPDES permit before it expired.				
CURRENT STATUS:	WITHDRAWN			STATUS DATE:	01/10/2002
ABATEMENT ACTIONS:	Partially abated since NPDES permit renewal is pending A timely renewal was submitted. Violation is withdrawn.				

PERMIT NO:	867-0405	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	05-1943	DATE VIOL. ISSUED:	09/07/2001	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	Blasting caused imminent danger to off site dwelling.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	09/10/2001
ABATEMENT ACTIONS:	Remedial work has been completed				

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: CONSOL of Kentucky Inc.

PERMIT NO:	867-0405	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	51-2240	DATE VIOL. ISSUED:	09/07/2001	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	(1) Blasting forced boulder off permit to within 200' of a dwelling. (2) Off permit disturbance; (3) Blasting posed imminent danger. Cease blasting, revise blasting plan to prevent future similar events.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	09/10/2001
ABATEMENT ACTIONS:	All corrective actions have been taken; violation terminated.				

PERMIT NO:	867-0407	MSHA NO:	N/A	MSHA DATE:	00/00/00
VIOLATION NO:	51-2192	DATE VIOL. ISSUED:	08/29/2001	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	(1) Material off-permit in several locations. (2) Failed to maintain 15' berms. Berms have been disturbed and removed. Violation 2 is non-correctable.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	
ABATEMENT ACTIONS:	Additional time requested through Director's office on 10/15/02. Extension request to 12/03/2002 granted. Required work completed; violation terminated.				

PERMIT NO:	860-5010	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	41-0179	DATE VIOL. ISSUED:	08/17/2001	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	(1) Discharged substandard water from pond. (2) KPDES violation for substandard water discharge				
CURRENT STATUS:	TERMINATED			STATUS DATE:	08/21/2001
ABATEMENT ACTIONS:	Required action taken, pond is not discharging.				

PERMIT NO:	860-5202	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	41-2148	DATE VIOL. ISSUED:	08/14/2001	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	(1) Off permit disturbance adjacent to Increment 3 (2) Failed to follow pre-blast suvey and notification procedures before blasting for mine face up #2.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	12/26/2001
ABATEMENT ACTIONS:	Work for violation (2) finished, violation (2) terminated 10/10/01 Minor field revision submitted 10/8/01 Violation (1) terminated 12/26/2001				

PERMIT NO:	867-5198	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	51-2470	DATE VIOL. ISSUED:	08/07/2001	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	Off permit disturbance for ventililation borehole.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	12/21/2001
ABATEMENT ACTIONS:	Additional time requested through Director's office - 11/05/2001. Required work has been completed.				

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: CONSOL of Kentucky Inc.

PERMIT NO:	867-0405	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	51-2190	DATE VIOL. ISSUED:	08/06/2001	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	Sediment pond needs cleanded out.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	09/10/2001
ABATEMENT ACTIONS:	Found pond 50% cleaned out on 9/4/2001. All coorective actions have been taken				

PERMIT NO:	867-0404	MSHA NO:	N/A	MSHA DATE:	00/00/00
VIOLATION NO:	51-2191	DATE VIOL. ISSUED:	08/06/2001	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	(1) Pond 3, Incr 7 is full of sediment. (2) Off permit disturbance occurred.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	09/05/2001
ABATEMENT ACTIONS:	Required work has been completed.				

PERMIT NO:	860-0312	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	41-1777	DATE VIOL. ISSUED:	08/02/2001	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	Failed to certify sediment structures #2 and #5				
CURRENT STATUS:	TERMINATED			STATUS DATE:	08/17/2001
ABATEMENT ACTIONS:	Required certifications were submitted.				

PERMIT NO:	867-0405	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	51-2188	DATE VIOL. ISSUED:	07/23/2001	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	(1) Flyrock traveled along ground & off-permit. (2) Off permit disturbance due to blasting (3) Company allowed unsafe blasting practices				
CURRENT STATUS:	TERMINATED			STATUS DATE:	02/12/2002
ABATEMENT ACTIONS:	Corrective actions completed for (1) and (3) Additional time being requested through the Director Permit revision approved to abate violation 2.				

PERMIT NO:	867-0405	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	05-3041	DATE VIOL. ISSUED:	07/23/2001	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	Blasting caused imminent danger to off site dwelling.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	07/26/2001
ABATEMENT ACTIONS:	Remedial work has been completed				

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: CONSOL of Kentucky Inc.

PERMIT NO:	860-5202	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	41-1071	DATE VIOL. ISSUED:	07/23/2001	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	(1) Off permit disturbance (2) Section of Road B was not built to approved plans.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	03/22/2002
ABATEMENT ACTIONS:	(1) Required actions completed; KAR 7:040 terminated (2) Required actions completed; KAR 18:230 terminated				

PERMIT NO:	867-0405	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	05-3044	DATE VIOL. ISSUED:	07/12/2001	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	Blasting caused imminent danger to off site dwelling.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	07/13/2001
ABATEMENT ACTIONS:	Required actions completed				

PERMIT NO:	867-0405	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	51-2187	DATE VIOL. ISSUED:	07/12/2001	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	(1) Blasting forced boulder off permit to within 300' of a dwelling. (2) Off permit disturbance; (3) Blasting posed imminent danger. (4) Failed to notify Cabinet of emergency condition (non-correctable).				
CURRENT STATUS:	TERMINATED			STATUS DATE:	07/20/2001
ABATEMENT ACTIONS:	Violations (2) & (3) remedial work completed. Revised blasting plan approved.				

PERMIT NO:	860-5202	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	41-2145	DATE VIOL. ISSUED:	06/21/2001	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	Failed to properly build Hollowfill #1 rock underdrain				
CURRENT STATUS:	TERMINATED			STATUS DATE:	09/18/2001
ABATEMENT ACTIONS:	Required work has been completed.				

PERMIT NO:	867-0404	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	51-2069	DATE VIOL. ISSUED:	04/04/2001	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	Off permit disturbance				
CURRENT STATUS:	PENDING			STATUS DATE:	
ABATEMENT ACTIONS:	Additional time being requested through director - 9/5/01				

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: CONSOL of Kentucky Inc.

PERMIT NO:	860-5202	MSHA NO:	N/A	MSHA DATE:	00/00/00
VIOLATION NO:	41-2132	DATE VIOL. ISSUED:	04/02/2001	ISSUED BY:	KY DSMRE

VIOLATION DESCRIPTION: Dugout sediment pond discharge exceeded iron limits.

CURRENT STATUS: TERMINATED STATUS DATE: 04/04/2001

ABATEMENT ACTIONS: Water treated for iron, discharge is in compliance.

PERMIT NO:	860-0333	MSHA NO:	N/A	MSHA DATE:	00/00/00
VIOLATION NO:	41-1776	DATE VIOL. ISSUED:	04/02/2001	ISSUED BY:	KY DSMRE

VIOLATION DESCRIPTION: (1) Slides & slumps on increment #4 between ponds 4 & 5.
(2) Slide has moved off permit.

CURRENT STATUS: TERMINATED STATUS DATE: 03/11/2002

ABATEMENT ACTIONS: Required work for 405 KAR 7:040 completed.
Extension granted to complete work on (1)
Required work for 405 KAR 16:190 completed.

PERMIT NO:	867-5182	MSHA NO:	N/A	MSHA DATE:	00/00/00
VIOLATION NO:	51-2114	DATE VIOL. ISSUED:	03/30/2001	ISSUED BY:	KY DSMRE

VIOLATION DESCRIPTION: Approved mine plan 50% coal recovery exceeded in certain area.

CURRENT STATUS: PENDING STATUS DATE:

ABATEMENT ACTIONS: Permit revision has been requested.
Extension request to 7/29/2002 granted.
Additional time requested of Director - 8/2/02.

PERMIT NO:	867-0405	MSHA NO:	N/A	MSHA DATE:	00/00/00
VIOLATION NO:	51-2072	DATE VIOL. ISSUED:	03/07/2001	ISSUED BY:	KY DSMRE

VIOLATION DESCRIPTION: Access road B not built according to approved design

CURRENT STATUS: PENDING STATUS DATE:

ABATEMENT ACTIONS:

PERMIT NO:	867-0404	MSHA NO:	N/A	MSHA DATE:	00/00/00
VIOLATION NO:	51-2075	DATE VIOL. ISSUED:	03/07/2001	ISSUED BY:	KY DSMRE

VIOLATION DESCRIPTION: Haulroad #1 on Increment #1 not built according to plans

CURRENT STATUS: PENDING STATUS DATE:

ABATEMENT ACTIONS: Permit revision was requested.
Additional time being requested through director on 9/5/2001.

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: CONSOL of Kentucky Inc.

PERMIT NO:	867-0405	MSHA NO:	N/A	MSHA DATE:	00/00/00
VIOLATION NO:	51-2071	DATE VIOL. ISSUED:	02/26/2001	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	(1) Failure to pass all drainage thru a pond-non correctable (2) Substandard water entered stream - non correctable				
CURRENT STATUS:	TERMINATED			STATUS DATE:	02/26/2000
ABATEMENT ACTIONS:	Violations were non correctable				

PERMIT NO:	867-0404	MSHA NO:	N/A	MSHA DATE:	00/00/00
VIOLATION NO:	51-2067	DATE VIOL. ISSUED:	02/20/2001	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	(1) mining has exceeded the 4,500' contemporaneous variance (2) ponds are not built, certified or maintained as approved				
CURRENT STATUS:	TERMINATED			STATUS DATE:	12/02/2002
ABATEMENT ACTIONS:	Extension requested of Director on 7/22/02. FINAL Extension granted to 11/26/2002 by Director. Required work has been completed, violation terminated.				

PERMIT NO:	867-0405	MSHA NO:	N/A	MSHA DATE:	00/00/00
VIOLATION NO:	51-2070	DATE VIOL. ISSUED:	02/16/2001	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	Slides off permit have occurred at Access Road B, Incr. 1.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	02/12/2002
ABATEMENT ACTIONS:	Additional time being requested through director - 5/18/01 Additional time granted by director thru 12/17/2001 Required work has been completed.				

PERMIT NO:	867-9007	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	51-1993	DATE VIOL. ISSUED:	12/04/2000	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	Coarse refuse placed above approved elevation.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	08/30/2002
ABATEMENT ACTIONS:	Additional time requested through Director's office - 6/27/2002. Extension request to 8/29/2002 granted. Required work has been completed.				

PERMIT NO:	867-0405	MSHA NO:	N/A	MSHA DATE:	00/00/00
VIOLATION NO:	51-1866	DATE VIOL. ISSUED:	11/20/2000	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	Slide occurred off permit.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	01/04/2001
ABATEMENT ACTIONS:	required remedial work has been completed				

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: CONSOL of Kentucky Inc.

PERMIT NO:	860-5010	MSHA NO:	N/A	MSHA DATE:	00/00/00
VIOLATION NO:	41-0167	DATE VIOL. ISSUED:	11/01/2000	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	Constructed deep mine openings on wrong side of drainage.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	11/20/2000
ABATEMENT ACTIONS:	Revision submitted and subsequently approved on 11/13/00.				

PERMIT NO:	867-0394	MSHA NO:	N/A	MSHA DATE:	00/00/00
VIOLATION NO:	51-2401	DATE VIOL. ISSUED:	09/18/2000	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	blasting record deficiencies from 3/2 - 3/30/2000				
CURRENT STATUS:	TERMINATED			STATUS DATE:	10/20/2000
ABATEMENT ACTIONS:	deficiencies in blasting records corrected				

PERMIT NO:	867-0404	MSHA NO:	N/A	MSHA DATE:	00/00/00
VIOLATION NO:	51-1864	DATE VIOL. ISSUED:	08/24/2000	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	Problems with sedimentation ponds and diversions.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	11/21/2000
ABATEMENT ACTIONS:	Necessary actions taken.				

PERMIT NO:	867-0404	MSHA NO:	N/A	MSHA DATE:	00/00/00
VIOLATION NO:	51-1862	DATE VIOL. ISSUED:	08/10/2000	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	(1) ponds BS17 & BS19 have not been built; BS20 was not build to plans. (2) pond BS20 discharged substandard water				
CURRENT STATUS:	PENDING			STATUS DATE:	
ABATEMENT ACTIONS:					

PERMIT NO:	867-0407	MSHA NO:	N/A	MSHA DATE:	00/00/00
VIOLATION NO:	51-1863	DATE VIOL. ISSUED:	08/10/2000	ISSUED BY:	KY DSMRE
VIOLATION DESCRIPTION:	failed to construct access road 6 according to approved plans				
CURRENT STATUS:	TERMINATED			STATUS DATE:	11/17/2000
ABATEMENT ACTIONS:	Minor revision #1 issued 11/14/00.				

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: Consol Pennsylvania Coal Company

PERMIT NO:	30841316	MSHA NO:	36-07230	MSHA DATE:	10/01/81
VIOLATION NO:		DATE VIOL. ISSUED:	06/10/2003	ISSUED BY:	PA DEP
VIOLATION DESCRIPTION:	Pond discharge exceeded suspended solids limits due to inoperable sump pump.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	06/11/2003
ABATEMENT ACTIONS:	Required actions completed - violation terminated.				

PERMIT NO:	30841316	MSHA NO:	36-07230	MSHA DATE:	10/01/81
VIOLATION NO:		DATE VIOL. ISSUED:	03/14/2003	ISSUED BY:	PA DEP
VIOLATION DESCRIPTION:	Failed to perform a pre-mining subsidence survey at property number 2207-141C				
CURRENT STATUS:	TERMINATED			STATUS DATE:	03/14/2003
ABATEMENT ACTIONS:					

PERMIT NO:	Y-1007-99	MSHA NO:	36-07230	MSHA DATE:	10/01/81
VIOLATION NO:	Y-1007-99 (1)	DATE VIOL. ISSUED:	06/04/2002	ISSUED BY:	WV DEP
VIOLATION DESCRIPTION:	Failed to perform and obtain approval of pre-subsidence surveys.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	06/24/2002
ABATEMENT ACTIONS:	Required pre-subsidence survey work was conducted.				

PERMIT NO:	30841316	MSHA NO:	36-07230	MSHA DATE:	10/01/81
VIOLATION NO:	011033	DATE VIOL. ISSUED:	05/08/2001	ISSUED BY:	PA DEP
VIOLATION DESCRIPTION:	(1) Unpermitted discharge of mine water to unnamed Enlow Fork trib from broken nipple on pressure gage on line to slurry pond. (2) Failure to report unpermitted discharge.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	05/08/2001
ABATEMENT ACTIONS:	Fixed valve nipple and stopped potential discharge.				

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: Consolidation Coal Company

PERMIT NO:	ACT/015/015	MSHA NO:	42-00079	MSHA DATE:	05/13/75
VIOLATION NO:	N 03-38-1-1	DATE VIOL. ISSUED:	08/05/2003	ISSUED BY:	UT DOGM

VIOLATION DESCRIPTION: Permittee conducted mining activities outside of permitted area.

CURRENT STATUS: PENDING STATUS DATE:

ABATEMENT ACTIONS:

PERMIT NO:	1401825	MSHA NO:	N/A	MSHA DATE:	n/a
VIOLATION NO:	TMM0003253	DATE VIOL. ISSUED:	07/16/2003	ISSUED BY:	VA DMLR

VIOLATION DESCRIPTION: Sediment Basin SB-1 discharge exceeded maximum daily limit for total suspended solids.

CURRENT STATUS: TERMINATED STATUS DATE: 07/16/2003

ABATEMENT ACTIONS: Non-remedial, violation terminated.

PERMIT NO:	U-1025-91	MSHA NO:	46-01436	MSHA DATE:	n/a
VIOLATION NO:	U-1025-91 (36)	DATE VIOL. ISSUED:	07/03/2003	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to properly maintain an approved drainage control structure in that a large slip has developed at the 8N #2 airshaft site.

CURRENT STATUS: PENDING STATUS DATE:

ABATEMENT ACTIONS: Required pre-subsidence surveys have been conducted and approved.

PERMIT NO:	30841313	MSHA NO:	36-04281	MSHA DATE:	08/13/86
VIOLATION NO:		DATE VIOL. ISSUED:	06/16/2003	ISSUED BY:	PA DER

VIOLATION DESCRIPTION: Failed to perform a pre-mining water supply survey at Edward and Christina Malanowski property.

CURRENT STATUS: TERMINATED STATUS DATE: 06/16/2003

ABATEMENT ACTIONS: Violation terminated since it is non-correctible.

PERMIT NO:	U-1025-91	MSHA NO:	46-01436	MSHA DATE:	n/a
VIOLATION NO:	U-1025-91 (35)	DATE VIOL. ISSUED:	06/11/2003	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to submit & obtain pre-subsidence surveys for Travis Fonner and Scott Ross properties.

CURRENT STATUS: TERMINATED STATUS DATE: 07/07/2003

ABATEMENT ACTIONS: Required pre-subsidence surveys have been conducted and approved.

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: Consolidation Coal Company

PERMIT NO:	U-100-83	MSHA NO:	46-01431	MSHA DATE:	n/a
VIOLATION NO:	U-100-83 (1)	DATE VIOL. ISSUED:	06/10/2003	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to submit in a timely manner all renewal application information.

CURRENT STATUS: PENDING STATUS DATE:
ABATEMENT ACTIONS:

PERMIT NO:	UO-431	MSHA NO:	46-05620	MSHA DATE:	n/a
VIOLATION NO:	UO-431 (1)	DATE VIOL. ISSUED:	06/10/2003	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to submit in a timely manner all renewal application information.

CURRENT STATUS: PENDING STATUS DATE:
ABATEMENT ACTIONS:

PERMIT NO:	U-1025-91	MSHA NO:	46-01436	MSHA DATE:	n/a
VIOLATION NO:	U-1025-91 (34)	DATE VIOL. ISSUED:	06/06/2003	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to meet effluent limitations by discharging water high in iron from sump at Brown's run Refuse lower slope belt.

CURRENT STATUS: TERMINATED STATUS DATE: 06/13/2003
ABATEMENT ACTIONS: Required work has been completed, violation terminated.

PERMIT NO:	U-1025-92	MSHA NO:	46-01318	MSHA DATE:	n/a
VIOLATION NO:	U-1025-92 (9)	DATE VIOL. ISSUED:	04/28/2003	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to stabilize and protect all surface areas from erosion and attendant air and water pollution.

CURRENT STATUS: PENDING STATUS DATE:
ABATEMENT ACTIONS:

PERMIT NO:	U-104-83	MSHA NO:	46-01318	MSHA DATE:	n/a
VIOLATION NO:	U-104-83 (54)	DATE VIOL. ISSUED:	04/23/2003	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to contruct required compaction testing for expansion of Niles Run slurry inpoundment.

CURRENT STATUS: TERMINATED STATUS DATE: 06/16/2003
ABATEMENT ACTIONS: Required work completed; violation terminated.

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: Consolidation Coal Company

PERMIT NO:	O-1001-00	MSHA NO:	46-01436	MSHA DATE:	n/a
VIOLATION NO:	O-1001-00 (4)	DATE VIOL. ISSUED:	04/10/2003	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to install sediment control prior to disturbance.

CURRENT STATUS:	TERMINATED	STATUS DATE:	05/02/2003
ABATEMENT ACTIONS:	Required work completed - violation terminated.		

PERMIT NO:	U-1025-91	MSHA NO:	46-01436	MSHA DATE:	n/a
VIOLATION NO:	U-1025-91 (33)	DATE VIOL. ISSUED:	04/03/2003	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to properly maintain refuse haul road.

CURRENT STATUS:	TERMINATED	STATUS DATE:	05/02/2003
ABATEMENT ACTIONS:	Required work completed - violation terminated.		

PERMIT NO:	U-46-84	MSHA NO:	46-01968	MSHA DATE:	00/00/00
VIOLATION NO:	U-46-84 (25)	DATE VIOL. ISSUED:	03/17/2003	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to establish permanent permit markers and provide correct information on permit signs.

CURRENT STATUS:	PENDING	STATUS DATE:	
ABATEMENT ACTIONS:			

PERMIT NO:	U-104-83	MSHA NO:	46-01318	MSHA DATE:	n/a
VIOLATION NO:	U-104-83 (53)	DATE VIOL. ISSUED:	03/14/2003	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Allowed slurry from pipeline break to be deposited off-site.

CURRENT STATUS:	TERMINATED	STATUS DATE:	04/11/2003
ABATEMENT ACTIONS:	Required actions completed - violation terminated.		

PERMIT NO:	U-104-83	MSHA NO:	46-01318	MSHA DATE:	n/a
VIOLATION NO:	U-104-83 (52)	DATE VIOL. ISSUED:	02/25/2003	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to properly contruct and maintain the refuse haulroad to adequately control erosion and siltation.

CURRENT STATUS:	TERMINATED	STATUS DATE:	06/25/2003
ABATEMENT ACTIONS:	Required work completed, violation terminated.		

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: Consolidation Coal Company

PERMIT NO:	O-1001-00	MSHA NO:	46-01436	MSHA DATE:	n/a
VIOLATION NO:	O-1001-00 (3)	DATE VIOL. ISSUED:	02/14/2003	ISSUED BY:	WV DEP
VIOLATION DESCRIPTION:	Failed to protect hydrologic balance by allowing discolored discharge to Boggs Run.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	02/21/2003
ABATEMENT ACTIONS:	Required work completed. Sedimentation pond completed and certified. Boggs Run stream is flowing clear.				

PERMIT NO:	U-104-83	MSHA NO:	46-01318	MSHA DATE:	n/a
VIOLATION NO:	U-104-83 (51)	DATE VIOL. ISSUED:	02/13/2003	ISSUED BY:	WV DEP
VIOLATION DESCRIPTION:	Failed to dispose of coarse refuse at the Nolan's Run embankment according to approved plan.				
CURRENT STATUS:	PENDING			STATUS DATE:	
ABATEMENT ACTIONS:					

PERMIT NO:	U-45-84	MSHA NO:	46-01867	MSHA DATE:	00/00/00
VIOLATION NO:	U-45-84 (14)	DATE VIOL. ISSUED:	01/29/2003	ISSUED BY:	WV DEP
VIOLATION DESCRIPTION:	Failed to meet Fe and Mn effluent limits at outfall 002				
CURRENT STATUS:	TERMINATED			STATUS DATE:	01/29/2003
ABATEMENT ACTIONS:	Completed work that stopped discharge				

PERMIT NO:	1400047	MSHA NO:	44-04856	MSHA DATE:	n/a
VIOLATION NO:	TIM0003177	DATE VIOL. ISSUED:	01/13/2003	ISSUED BY:	VA DMLR
VIOLATION DESCRIPTION:	All required groundwater monitoring sites were not sampled for 3rd quarter 2002.				
CURRENT STATUS:	TERMINATED, NON-REMEDIAL			STATUS DATE:	01/13/2003
ABATEMENT ACTIONS:	no action is required; violation is non-remedial				

PERMIT NO:	ACT/015/015	MSHA NO:	42-00079	MSHA DATE:	05/13/75
VIOLATION NO:	N 03-39-1-1	DATE VIOL. ISSUED:	01/09/2003	ISSUED BY:	UT DOGM
VIOLATION DESCRIPTION:	Coal fines from stockpile were blown outside of permitted area.				
CURRENT STATUS:	PENDING			STATUS DATE:	
ABATEMENT ACTIONS:	Extension gratnted to 9/12/03 to file permit revision.				

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: Consolidation Coal Company

PERMIT NO:	U-119-83	MSHA NO:	46-01453	MSHA DATE:	00/00/00
VIOLATION NO:	U-119-83 (26)	DATE VIOL. ISSUED:	01/08/2003	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to comply with approved subsidence control plan.

CURRENT STATUS: TERMINATED STATUS DATE: 04/08/2003

ABATEMENT ACTIONS: Violation termianted - required actions completed.

PERMIT NO:	O-1001-00	MSHA NO:	46-01436	MSHA DATE:	n/a
VIOLATION NO:	O-1001-00 (2)	DATE VIOL. ISSUED:	01/03/2003	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to protect hydrologic balance by allowing discolored discharge to Boggs Run.

CURRENT STATUS: TERMINATED STATUS DATE: 01/06/2003

ABATEMENT ACTIONS: Terminated - required actions completed.

PERMIT NO:	1201653	MSHA NO:	44-05616	MSHA DATE:	11/24/1981
VIOLATION NO:	TMM0002968	DATE VIOL. ISSUED:	12/11/2002	ISSUED BY:	VA DMLR

VIOLATION DESCRIPTION: Suspended solids effluent violation on 9/25/02 at Outfall 005.

CURRENT STATUS: VACATED STATUS DATE: 04/24/2003

ABATEMENT ACTIONS: Violation was withdrawn because water sample was taken at the wrong location and not at the permitted discharge point.

PERMIT NO:	U-1025-91	MSHA NO:	46-01436	MSHA DATE:	n/a
VIOLATION NO:	W-02-M-120602-01	DATE VIOL. ISSUED:	12/06/2002	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Allowed petroleum product to escape from a storage container such that it could impact groundwater quality.

CURRENT STATUS: PENDING STATUS DATE:

ABATEMENT ACTIONS:

PERMIT NO:	U-1025-91	MSHA NO:	46-01436	MSHA DATE:	n/a
VIOLATION NO:	W-02-M-120602-02	DATE VIOL. ISSUED:	12/06/2002	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Stored drums whose contents could contaminate groundwater in a manner that would not contain spills.

CURRENT STATUS: PENDING STATUS DATE:

ABATEMENT ACTIONS:

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: Consolidation Coal Company

PERMIT NO:	U-1025-91	MSHA NO:	46-01436	MSHA DATE:	n/a
VIOLATION NO:	U-1025-91 (32)	DATE VIOL. ISSUED:	12/05/2002	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Indiscriminate dumping or disposal of material.

CURRENT STATUS: PENDING STATUS DATE:

ABATEMENT ACTIONS:

PERMIT NO:	O-150-83	MSHA NO:	46-05449	MSHA DATE:	n/a
VIOLATION NO:	NOV Division of W	DATE VIOL. ISSUED:	11/14/2002	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to clean up released used oil.
Failed to label "used oil" containers.

CURRENT STATUS: PENDING STATUS DATE:

ABATEMENT ACTIONS:

PERMIT NO:	ACT/015/015	MSHA NO:	42-00079	MSHA DATE:	05/13/75
VIOLATION NO:	N 02-39-2-1	DATE VIOL. ISSUED:	10/22/2002	ISSUED BY:	UT DOGM

VIOLATION DESCRIPTION: Failed to protect vegetation and topsoil in undisturbed area by allowing vehicles to travel over and park in these areas.

CURRENT STATUS: TERMINATED STATUS DATE: 11/26/2002

ABATEMENT ACTIONS: Required work completed; abatement plan submitted on time.

PERMIT NO:	O-1001-00	MSHA NO:	46-01436	MSHA DATE:	n/a
VIOLATION NO:	O-1001-00 (1)	DATE VIOL. ISSUED:	10/22/2002	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to install drainage control prior to mining activities

CURRENT STATUS: TERMINATED STATUS DATE: 04/03/2003

ABATEMENT ACTIONS: Terminated - required actions completed.

PERMIT NO:	1201129	MSHA NO:	46-01868	MSHA DATE:	09/01/85
VIOLATION NO:	TMM0002862	DATE VIOL. ISSUED:	09/24/2002	ISSUED BY:	VA DMLR

VIOLATION DESCRIPTION: Company reported Discharge 004 discharge results that exceeded iron limits for the months of March, April, May and June 2002.

CURRENT STATUS: TERMINATED STATUS DATE: 09/24/2002

ABATEMENT ACTIONS: Violation is non-remedial.

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: Consolidation Coal Company

PERMIT NO:	ACT/015/015	MSHA NO:	42-00079	MSHA DATE:	05/13/75
VIOLATION NO:	C02-39-1-1	DATE VIOL. ISSUED:	09/17/2002	ISSUED BY:	UT DOGM

VIOLATION DESCRIPTION: Operated unlincensed mine vehicle on public roads.

CURRENT STATUS:	TERMINATED	STATUS DATE:	09/17/2002
ABATEMENT ACTIONS:	Permittee committed to not driving unlincensed mine vehicles outside of permit area.		

PERMIT NO:	ACT/015/015	MSHA NO:	42-00079	MSHA DATE:	05/13/75
VIOLATION NO:	N02-39-1-2	DATE VIOL. ISSUED:	09/13/2002	ISSUED BY:	UT DOGM

VIOLATION DESCRIPTION: (1) semi-trailer parked on area where topsoil and vegetation was not removed.
(2) Sediment containing water flowed off-site by main gate.

CURRENT STATUS:	TERMINATED	STATUS DATE:	09/17/2002
ABATEMENT ACTIONS:	Required actions have been taken violations terminated.		

PERMIT NO:	U-1025-91	MSHA NO:	46-01436	MSHA DATE:	n/a
VIOLATION NO:	U-1025-91 (31)	DATE VIOL. ISSUED:	08/12/2002	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to comply with administrative order issued 6/10/02.

CURRENT STATUS:	WITHDRAWN	STATUS DATE:	09/27/2002
ABATEMENT ACTIONS:	Violation withdrawn by agency.		

PERMIT NO:	U-11-84	MSHA NO:	46-01443	MSHA DATE:	00/00/00
VIOLATION NO:	U-11-84 (9)	DATE VIOL. ISSUED:	08/09/2002	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to comply with administrative order issued 6/5/02.

CURRENT STATUS:	WITHDRAWN	STATUS DATE:	10/03/2002
ABATEMENT ACTIONS:	Violation was withdrawn based on decision of the West Virginia Surface Mine Board		

PERMIT NO:	U-78-83	MSHA NO:	46-01433	MSHA DATE:	n/a
VIOLATION NO:	U-78-83 (33)	DATE VIOL. ISSUED:	08/07/2002	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to comply with administrative order issued 6/7/02.

CURRENT STATUS:	WITHDRAWN	STATUS DATE:	09/30/2002
ABATEMENT ACTIONS:	Violation withdrawn		

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: Consolidation Coal Company

PERMIT NO:	U-104-83	MSHA NO:	46-01318	MSHA DATE:	n/a
VIOLATION NO:	U-104-83 (50)	DATE VIOL. ISSUED:	08/07/2002	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to comply with administrative order issued 6/7/02.

CURRENT STATUS:	WITHDRAWN	STATUS DATE:	09/30/2002
ABATEMENT ACTIONS:	Violation withdrawn by agency.		

PERMIT NO:	U-45-84	MSHA NO:	46-01867	MSHA DATE:	00/00/00
VIOLATION NO:	U-45-84 (13)	DATE VIOL. ISSUED:	08/07/2002	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to comply with administrative order issued 6/6/02.

CURRENT STATUS:	WITHDRAWN	STATUS DATE:	10/09/2002
ABATEMENT ACTIONS:	Violation was withdrawn based on decision of the West Virginia Surface Mine Board		

PERMIT NO:	U-46-84	MSHA NO:	46-01968	MSHA DATE:	00/00/00
VIOLATION NO:	U-46-84 (24)	DATE VIOL. ISSUED:	08/07/2002	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to comply with administrative order issued 6/6/02.

CURRENT STATUS:	WITHDRAWN	STATUS DATE:	10/09/2002
ABATEMENT ACTIONS:	Violation was withdrawn based on decision of the West Virginia Surface Mine Board		

PERMIT NO:	O-150-83	MSHA NO:	46-05449	MSHA DATE:	n/a
VIOLATION NO:	O-150-83 (14)	DATE VIOL. ISSUED:	08/06/2002	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to comply with administrative order issued 6/3/02.

CURRENT STATUS:	WITHDRAWN	STATUS DATE:	10/07/2002
ABATEMENT ACTIONS:	Violation was withdrawn based on decision of the West Virginia Surface Mine Board		

PERMIT NO:	U-214-83	MSHA NO:	46-01886	MSHA DATE:	09/01/85
VIOLATION NO:	U-214-83 (10)	DATE VIOL. ISSUED:	08/06/2002	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to comply with administrative order issued 6/3/02.

CURRENT STATUS:	WITHDRAWN	STATUS DATE:	10/07/2002
ABATEMENT ACTIONS:	Violation was withdrawn based on decision of the West Virginia Surface Mine Board		

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: Consolidation Coal Company

PERMIT NO:	U-119-83	MSHA NO:	46-01453	MSHA DATE:	00/00/00
VIOLATION NO:	U-119-83 (25)	DATE VIOL. ISSUED:	08/06/2002	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to comply with administrative order issued 6/5/02.

CURRENT STATUS:	WITHDRAWN	STATUS DATE:	09/30/2002
ABATEMENT ACTIONS:	Violation was withdrawn based on decision of the West Virginia Surface Mine Board		

PERMIT NO:	U-1025-91	MSHA NO:	46-01436	MSHA DATE:	n/a
VIOLATION NO:	U-1025-91 (30)	DATE VIOL. ISSUED:	07/18/2002	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Off-permit disturbance

CURRENT STATUS:	TERMINATED	STATUS DATE:	07/25/2002
ABATEMENT ACTIONS:	Required actions completed. Violation terminated.		

PERMIT NO:	U-78-83	MSHA NO:	46-01433	MSHA DATE:	n/a
VIOLATION NO:	U-78-83 (31)	DATE VIOL. ISSUED:	06/28/2002	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Off permit disturbance

CURRENT STATUS:	TERMINATED	STATUS DATE:	04/22/2003
ABATEMENT ACTIONS:	Required work completed, violation terminated.		

PERMIT NO:	U-78-83	MSHA NO:	46-01433	MSHA DATE:	n/a
VIOLATION NO:	U-78-83 (30)	DATE VIOL. ISSUED:	06/28/2002	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Disturbed land within 100 ft. of stream without obtaining waiver.

CURRENT STATUS:	WITHDRAWN	STATUS DATE:	07/24/2002
ABATEMENT ACTIONS:	Violation withdrawn- IBR 44 permitting pipeline was issued prior to violation		

PERMIT NO:	O-1044-91	MSHA NO:	46-01433	MSHA DATE:	00/00/00
VIOLATION NO:	O-1044-91(4)	DATE VIOL. ISSUED:	06/28/2002	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Deposited non-coal mine wastes in a refuse pile.

CURRENT STATUS:	TERMINATED	STATUS DATE:	09/25/2002
ABATEMENT ACTIONS:	Required action completed - violation terminated.		

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: Consolidation Coal Company

PERMIT NO:	U-78-83	MSHA NO:	46-01433	MSHA DATE:	n/a
VIOLATION NO:	U-78-83 (32)	DATE VIOL. ISSUED:	06/28/2002	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to minimize erosion on two acres at toe of 2 & 5 refuse embankment

CURRENT STATUS: WITHDRAWN STATUS DATE: 07/24/2002

ABATEMENT ACTIONS: Violation withdrawn

PERMIT NO:	U-1025-92	MSHA NO:	46-01318	MSHA DATE:	n/a
VIOLATION NO:	U-1025-92 (8)	DATE VIOL. ISSUED:	05/22/2002	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Pumped muddy water off-site from at outfall 022.

CURRENT STATUS: TERMINATED STATUS DATE: 05/23/2002

ABATEMENT ACTIONS: Required corrective actions were taken.

PERMIT NO:	U-104-83	MSHA NO:	46-01318	MSHA DATE:	n/a
VIOLATION NO:	U-104-83 (48)	DATE VIOL. ISSUED:	05/02/2002	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Nolans Run haulroad sumps discharged water high in solids.

CURRENT STATUS: TERMINATED STATUS DATE: 06/10/2002

ABATEMENT ACTIONS:

PERMIT NO:	U-104-83	MSHA NO:	46-01318	MSHA DATE:	n/a
VIOLATION NO:	U-104-83 (49)	DATE VIOL. ISSUED:	05/02/2002	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to properly maintain haulroad and sediment controls to Nolans Run Slurry Impoundment.

CURRENT STATUS: TERMINATED STATUS DATE: 05/15/2002

ABATEMENT ACTIONS: Required actions completed.

PERMIT NO:	1201761	MSHA NO:	44-06239	MSHA DATE:	8/13/1985
VIOLATION NO:	JCL0002549	DATE VIOL. ISSUED:	04/05/2002	ISSUED BY:	VA DMLR

VIOLATION DESCRIPTION: Mining has occurred beyond the 50' outcrop barrier.

CURRENT STATUS: TERMINATED STATUS DATE: 05/23/2002

ABATEMENT ACTIONS: Required actions taken

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: Consolidation Coal Company

PERMIT NO:	1201129	MSHA NO:	46-01868	MSHA DATE:	09/01/85
VIOLATION NO:	TMM0002603	DATE VIOL. ISSUED:	03/06/2002	ISSUED BY:	VA DMLR
VIOLATION DESCRIPTION:	Operator allowed accumulation of non-coal wastes on permit areas not permitted for such wastes.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	05/22/2002
ABATEMENT ACTIONS:	Required actions taken				

PERMIT NO:	D-0784	MSHA NO:	33-04143	MSHA DATE:	09/01/88
VIOLATION NO:	19619	DATE VIOL. ISSUED:	02/28/2002	ISSUED BY:	OH DMRM
VIOLATION DESCRIPTION:	Severe erosion exists on drainageway leading to pond #013.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	07/10/2002
ABATEMENT ACTIONS:	Required actions completed, violation terminated.				

PERMIT NO:	U-1025-91	MSHA NO:	46-01436	MSHA DATE:	n/a
VIOLATION NO:	U-1025-91 (29)	DATE VIOL. ISSUED:	02/07/2002	ISSUED BY:	WV DEP
VIOLATION DESCRIPTION:	Failed to control dust from haulroads and/or access roads.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	02/08/2002
ABATEMENT ACTIONS:	Effective road watering was implemented				

PERMIT NO:	1301107	MSHA NO:	44-05746	MSHA DATE:	03/29/1983
VIOLATION NO:	TMM0002558	DATE VIOL. ISSUED:	02/04/2002	ISSUED BY:	VA DMLR
VIOLATION DESCRIPTION:	(1) Slide in backfill entered ditch TD-1 & destroyed piezomenter P-1. (2) Failed to properly maintain diversion ditches TD-1 & TD-1A. (3) Failed to maintain piezometer P-1 as per monitoring plan.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	04/15/2002
ABATEMENT ACTIONS:	Terminated - required work completed				

PERMIT NO:	U-1025-91	MSHA NO:	46-01436	MSHA DATE:	n/a
VIOLATION NO:	U-1025-91 (28)	DATE VIOL. ISSUED:	01/23/2002	ISSUED BY:	WV DEP
VIOLATION DESCRIPTION:	Failed to properly maintain diversion ditch CD-1.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	03/01/2002
ABATEMENT ACTIONS:	Required work has been completed.				

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: Consolidation Coal Company

PERMIT NO:	30841302	MSHA NO:	46--01453	MSHA DATE:	n/a
VIOLATION NO:	011100	DATE VIOL. ISSUED:	12/19/2001	ISSUED BY:	PA DEP
VIOLATION DESCRIPTION:	Failure to maintain adequate erosion and sedimentation controls as required by Violation # 011094				
CURRENT STATUS:	TERMINATED			STATUS DATE:	02/02/2002
ABATEMENT ACTIONS:	Required actions completed, violation terminated.				

PERMIT NO:	1201761	MSHA NO:	44-06239	MSHA DATE:	8/13/1985
VIOLATION NO:	TMM0002467	DATE VIOL. ISSUED:	12/07/2001	ISSUED BY:	VA DMLR
VIOLATION DESCRIPTION:	Improper maintenance has allowed a discharge from a hole in the embankment of Sediment Basin #2.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	01/08/2002
ABATEMENT ACTIONS:	Required actions taken				

PERMIT NO:	30841302	MSHA NO:	46--01453	MSHA DATE:	n/a
VIOLATION NO:	011094	DATE VIOL. ISSUED:	11/27/2001	ISSUED BY:	PA DEP
VIOLATION DESCRIPTION:	Failure to maintain adequate erosion and sedimentation controls.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	02/02/2002
ABATEMENT ACTIONS:	Required actions completed, violation terminated.				

PERMIT NO:	U-1025-91	MSHA NO:	46-01436	MSHA DATE:	n/a
VIOLATION NO:	U-1025-91 (27)	DATE VIOL. ISSUED:	11/06/2001	ISSUED BY:	WV DEP
VIOLATION DESCRIPTION:	Unpermitted discharge of water from collection barge below sample house spill pan.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	11/06/2001
ABATEMENT ACTIONS:	Unpermitted discharge stop. Procedures established to properly handle discharge.				

PERMIT NO:	U-1025-91	MSHA NO:	46-01436	MSHA DATE:	n/a
VIOLATION NO:	U-1025-91 (26)	DATE VIOL. ISSUED:	11/06/2001	ISSUED BY:	WV DEP
VIOLATION DESCRIPTION:	Failed to maintain & install permit signs as required.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	01/22/2002
ABATEMENT ACTIONS:	Required corrective actions have been taken.				

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: Consolidation Coal Company

PERMIT NO:	O-150-83	MSHA NO:	46-05449	MSHA DATE:	n/a
VIOLATION NO:	O-150-83 (13)	DATE VIOL. ISSUED:	11/01/2001	ISSUED BY:	WV DEP
VIOLATION DESCRIPTION:	Disposed of solid waste on permitted area without a solid waste permit.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	06/03/2002
ABATEMENT ACTIONS:	Solid waste permit has been obtained.				

PERMIT NO:	U-1025-91	MSHA NO:	46-01436	MSHA DATE:	n/a
VIOLATION NO:	U-1025-91 (25)	DATE VIOL. ISSUED:	10/03/2001	ISSUED BY:	WV DEP
VIOLATION DESCRIPTION:	Placed spoil material outside of permitted area.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	10/05/2001
ABATEMENT ACTIONS:	Required corrective actions taken.				

PERMIT NO:	1201129	MSHA NO:	46-01868	MSHA DATE:	09/01/85
VIOLATION NO:	TMM0002361	DATE VIOL. ISSUED:	09/21/2001	ISSUED BY:	VA DMLR
VIOLATION DESCRIPTION:	Drainage pipe blocked, drainage by-passed sediment structure				
CURRENT STATUS:	TERMINATED			STATUS DATE:	10/11/2001
ABATEMENT ACTIONS:	Required actions taken				

PERMIT NO:	D-0784	MSHA NO:	33-04143	MSHA DATE:	09/01/88
VIOLATION NO:	19629	DATE VIOL. ISSUED:	09/19/2001	ISSUED BY:	OH DMRM
VIOLATION DESCRIPTION:	Reclamation of 11th & 12th yearly segments not done in a contemporaneous manner.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	02/16/2002
ABATEMENT ACTIONS:	Required actions completed.				

PERMIT NO:	U-1025-91	MSHA NO:	46-01436	MSHA DATE:	n/a
VIOLATION NO:	U-1025-91 (24)	DATE VIOL. ISSUED:	07/18/2001	ISSUED BY:	WV DEP
VIOLATION DESCRIPTION:	Placed spoil/topsoil outside of bonded area.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	12/07/2001
ABATEMENT ACTIONS:	IBR #15 and NPDES permit Modification #12 issued.				

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: Consolidation Coal Company

PERMIT NO:	U-78-83	MSHA NO:	46-01433	MSHA DATE:	n/a
VIOLATION NO:	U-78-83 (29)	DATE VIOL. ISSUED:	06/27/2001	ISSUED BY:	WV DEP
VIOLATION DESCRIPTION:	placed junked equipment on reclaimed refuse area				
CURRENT STATUS:	TERMINATED			STATUS DATE:	10/29/2001
ABATEMENT ACTIONS:	permit revised to allow storage on refuse area				

PERMIT NO:	U-104-83	MSHA NO:	46-01318	MSHA DATE:	n/a
VIOLATION NO:	U-104-83 (46)	DATE VIOL. ISSUED:	06/13/2001	ISSUED BY:	WV DEP
VIOLATION DESCRIPTION:	Lack of adequate vegetation at four sites.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	08/08/2001
ABATEMENT ACTIONS:	Deficient areas were retreated.				

PERMIT NO:	U-104-83	MSHA NO:	46-01318	MSHA DATE:	n/a
VIOLATION NO:	U-104-83 (45)	DATE VIOL. ISSUED:	06/13/2001	ISSUED BY:	WV DEP
VIOLATION DESCRIPTION:	Failed to maintain haulroad to Nolan's Run Slurry pond.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	08/08/2001
ABATEMENT ACTIONS:	Work completed as required.				

PERMIT NO:	U-104-83	MSHA NO:	46-01318	MSHA DATE:	n/a
VIOLATION NO:	U-104-83 (44)	DATE VIOL. ISSUED:	06/13/2001	ISSUED BY:	WV DEP
VIOLATION DESCRIPTION:	Non-coal waste was placed on refuse area.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	07/11/2001
ABATEMENT ACTIONS:	Required actions are completed.				

PERMIT NO:	U-104-83	MSHA NO:	46-01318	MSHA DATE:	n/a
VIOLATION NO:	U-104-83 (47)	DATE VIOL. ISSUED:	06/13/2001	ISSUED BY:	WV DEP
VIOLATION DESCRIPTION:	Failed to maintain erosion control measures at Nolan's Run slurry impoundment.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	06/25/2001
ABATEMENT ACTIONS:	Required actions completed.				

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: Consolidation Coal Company

PERMIT NO:	U-104-83	MSHA NO:	46-01318	MSHA DATE:	n/a
VIOLATION NO:	U-104-83 (43)	DATE VIOL. ISSUED:	05/18/2001	ISSUED BY:	WV DEP
VIOLATION DESCRIPTION:	Cessation Order #42C modified to Notice of Violation #43N Discharged high suspended solids & iron slurry water to stream. Caused adverse hydrologic impacts.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	09/14/2001
ABATEMENT ACTIONS:	Required corrective actions taken; violation terminated.				

PERMIT NO:	U-104-83	MSHA NO:	46-01318	MSHA DATE:	n/a
VIOLATION NO:	U-104-83 (42)	DATE VIOL. ISSUED:	05/17/2001	ISSUED BY:	WV DEP
VIOLATION DESCRIPTION:	Leaks in slurry pipeline discharging to Robinson Run				
CURRENT STATUS:	TERMINATED			STATUS DATE:	05/18/2001
ABATEMENT ACTIONS:	Pipeline repairs made. Slurry leaks to Robinson Run stopped. Cessation Order #42C modified to Notice of Violation #43N				

PERMIT NO:	U-70-83	MSHA NO:	46-01452	MSHA DATE:	00/00/00
VIOLATION NO:	U-70-83 (35)	DATE VIOL. ISSUED:	04/20/2001	ISSUED BY:	WV DEP
VIOLATION DESCRIPTION:	Discharged water/sludge from Flaggy Meadows AMD holding pond that did not meet effluent limits.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	08/27/2001
ABATEMENT ACTIONS:	Partially abated due to regrading, seeding & mulching Totally abated after required restoration paid.				

PERMIT NO:	U-70-83	MSHA NO:	46-01452	MSHA DATE:	00/00/00
VIOLATION NO:	U-70-83 (34)	DATE VIOL. ISSUED:	04/20/2001	ISSUED BY:	WV DEP
VIOLATION DESCRIPTION:	Discharged water/sludge from Flaggy Meadows AMD holding pond that did not meet effluent limits and caused a fishkill.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	04/22/2001
ABATEMENT ACTIONS:	Stopped and contained discharge. Cessation order #34 modified to Violation #35				

PERMIT NO:	U-214-83	MSHA NO:	46-01886	MSHA DATE:	09/01/85
VIOLATION NO:	U-214-83 (9)	DATE VIOL. ISSUED:	04/03/2001	ISSUED BY:	WV DEP
VIOLATION DESCRIPTION:	Old prep plant no longer needed for mining.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	07/18/2002
ABATEMENT ACTIONS:	Violation stayed by WV Surface Mine Board. Consent Agreement signed. Area has been reclaimed and vegetated.				

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: Consolidation Coal Company

PERMIT NO:	1201129	MSHA NO:	46-01868	MSHA DATE:	09/01/85
VIOLATION NO:	TMM0002088	DATE VIOL. ISSUED:	03/26/2001	ISSUED BY:	VA DMLR

VIOLATION DESCRIPTION: diversion ditch blocked by spilled coal, failure to maintain ditch

CURRENT STATUS:	TERMINATED	STATUS DATE:	04/12/2001
ABATEMENT ACTIONS:	required actions taken		

PERMIT NO:	U-11-85	MSHA NO:	46-04421	MSHA DATE:	n/a
VIOLATION NO:	U-11-85 (2)	DATE VIOL. ISSUED:	03/20/2001	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failure to maintain several pipes in drainage control system.

CURRENT STATUS:	TERMINATED	STATUS DATE:	04/11/2001
ABATEMENT ACTIONS:	Pipes were cleaned to 100% design capacity.		

PERMIT NO:	U-4002-98	MSHA NO:	46-08707	MSHA DATE:	n/a
VIOLATION NO:	U-4002-98 (2)	DATE VIOL. ISSUED:	03/20/2001	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failure to drain IBR 2 acres to Pond A

CURRENT STATUS:	TERMINATED	STATUS DATE:	04/11/2001
ABATEMENT ACTIONS:	All drainage was directed to Pond A.		

PERMIT NO:	U-78-83	MSHA NO:	46-01433	MSHA DATE:	n/a
VIOLATION NO:	U-78-83 (28N)	DATE VIOL. ISSUED:	02/27/2001	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: prospect drilling on bonded site not allowed by approved permit

CURRENT STATUS:	TERMINATED	STATUS DATE:	04/05/2001
ABATEMENT ACTIONS:	prospect permit P201201 issued 3/15/01		

PERMIT NO:	U-104-83	MSHA NO:	46-01318	MSHA DATE:	n/a
VIOLATION NO:	U-104-83 (41)	DATE VIOL. ISSUED:	11/14/2000	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to certify IBR 40 pond,ditches, road & cuttings pit.

CURRENT STATUS:	TERMINATED	STATUS DATE:	12/11/2000
ABATEMENT ACTIONS:	Proper certifications submitted		

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: Consolidation Coal Company

PERMIT NO:	U-1025-92	MSHA NO:	46-01318	MSHA DATE:	n/a
VIOLATION NO:	U-1025-92 (6)	DATE VIOL. ISSUED:	10/31/2000	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to certify construction of 10 specified roads.

CURRENT STATUS:	TERMINATED	STATUS DATE:	01/26/2001
ABATEMENT ACTIONS:	roads certified as required		

PERMIT NO:	U-1025-92	MSHA NO:	46-01318	MSHA DATE:	n/a
VIOLATION NO:	U-1025-92 (7)	DATE VIOL. ISSUED:	10/31/2000	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Allowed coal build-up on 500 feet of conveyor access road.

CURRENT STATUS:	TERMINATED	STATUS DATE:	12/28/2000
ABATEMENT ACTIONS:	Coal has been removed & road resurfaced with stone.		

PERMIT NO:	U-1025-91	MSHA NO:	46-01436	MSHA DATE:	n/a
VIOLATION NO:	U-1025-91 (23)	DATE VIOL. ISSUED:	10/26/2000	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to contemporaneously reclaim refuse pile.

CURRENT STATUS:	TERMINATED	STATUS DATE:	12/13/2000
ABATEMENT ACTIONS:	Lime applied and soil cover placed. Seeding postponed until spring.		

PERMIT NO:	U-1025-91	MSHA NO:	46-01436	MSHA DATE:	n/a
VIOLATION NO:	U-1025-91 (22)	DATE VIOL. ISSUED:	10/17/2000	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Approved 2S vent borehole access road location not followed.

CURRENT STATUS:	TERMINATED	STATUS DATE:	10/23/2000
ABATEMENT ACTIONS:	Revision obtained, road relocation approved.		

PERMIT NO:	U-104-83	MSHA NO:	46-01318	MSHA DATE:	n/a
VIOLATION NO:	U-104-83 (39)	DATE VIOL. ISSUED:	09/25/2000	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to use best technology available to protect hydrologic balance.
Failed to pass all runoff from disturbed area thru a sediment structure.

CURRENT STATUS:	TERMINATED	STATUS DATE:	10/10/2000
ABATEMENT ACTIONS:	Required actions taken		

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: Consolidation Coal Company

PERMIT NO:	U-104-83	MSHA NO:	46-01318	MSHA DATE:	n/a
VIOLATION NO:	U-104-83 (40)	DATE VIOL. ISSUED:	09/25/2000	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to meet iron & ph effluent limits at outfall 002, pond #1.

CURRENT STATUS:	TERMINATED	STATUS DATE:	09/26/2000

ABATEMENT ACTIONS: Pumped pond to Nolan's Run AMD stopping discharge.

PERMIT NO:	U-1025-91	MSHA NO:	46-01436	MSHA DATE:	n/a
VIOLATION NO:	U-1025-91 (21)	DATE VIOL. ISSUED:	08/14/2000	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to control dust on refuse pile and haulageways.

CURRENT STATUS:	TERMINATED	STATUS DATE:	08/15/2000

ABATEMENT ACTIONS: Roads and haulageways watered as required.

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: Eighty-Four Mining Company

PERMIT NO:	63743702	MSHA NO:	36-00958	MSHA DATE:	12/20/76
VIOLATION NO:	021060	DATE VIOL. ISSUED:	07/11/2002	ISSUED BY:	PA DEP

VIOLATION DESCRIPTION: Slurry pipeline discharge at Outfall 009 to Pigeon Creek

CURRENT STATUS:	TERMINATED	STATUS DATE:	07/11/2002

ABATEMENT ACTIONS: Required actions completed, violation abated.

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: Island Creek Coal Company

PERMIT NO:	I-700	MSHA NO:	46-01308	MSHA DATE:	05/09/80
VIOLATION NO:	I-700 (8)	DATE VIOL. ISSUED:	03/20/2003	ISSUED BY:	WV DEP
VIOLATION DESCRIPTION:	Discharged from outlet 006 before authorized by NPDES permit.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	03/20/2003
ABATEMENT ACTIONS:	required action complete. Violation terminated.				

PERMIT NO:	1401489	MSHA NO:	44-03795	MSHA DATE:	9/20/1974
VIOLATION NO:	RYH0002704	DATE VIOL. ISSUED:	02/07/2003	ISSUED BY:	VA DMLR
VIOLATION DESCRIPTION:	Failed to notify Division of anticipated water by passes.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	04/18/2003
ABATEMENT ACTIONS:	Two NPDES discharge points were added to permit.				

PERMIT NO:	1401232	MSHA NO:	44-01009	MSHA DATE:	2/18/68
VIOLATION NO:	BXB0003043	DATE VIOL. ISSUED:	02/04/2003	ISSUED BY:	VA DMLR
VIOLATION DESCRIPTION:	Allowed an erosional gully to develop face of one of the lifts of the refuse disposal area.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	06/03/2003
ABATEMENT ACTIONS:	Required work completed; violation terminated.				

PERMIT NO:	1401531	MSHA NO:	44-03795	MSHA DATE:	9/20/1974
VIOLATION NO:	RYH0002694	DATE VIOL. ISSUED:	01/29/2003	ISSUED BY:	VA DMLR
VIOLATION DESCRIPTION:	Allowed black water from the variance area at toe of refuse fill to flow into Garden Creek.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	02/10/2003
ABATEMENT ACTIONS:	Violation terminated. Required work completed.				

PERMIT NO:	1401531	MSHA NO:	44-03795	MSHA DATE:	9/20/1974
VIOLATION NO:	RYH0002474	DATE VIOL. ISSUED:	09/17/2002	ISSUED BY:	VA DMLR
VIOLATION DESCRIPTION:	Company reported Pond 2 discharge results exceeded total suspended solids permit limits.				
CURRENT STATUS:	TERMINATED			STATUS DATE:	09/17/2002
ABATEMENT ACTIONS:	Non-remedial. Terminated on date of issuance.				

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: Island Creek Coal Company

PERMIT NO:	U-5051-87	MSHA NO:	N/A	MSHA DATE:	N/A
VIOLATION NO:	U-5051-87 (3N)	DATE VIOL. ISSUED:	08/30/2002	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to maintain sediment capacity in Pond 2.

CURRENT STATUS: TERMINATED STATUS DATE: 09/20/2002

ABATEMENT ACTIONS: Required actions completed, violation abated.

PERMIT NO:	1401531	MSHA NO:	44-03795	MSHA DATE:	9/20/1974
VIOLATION NO:	RYH0002408	DATE VIOL. ISSUED:	08/12/2002	ISSUED BY:	VA DMLR

VIOLATION DESCRIPTION: Drainage from refuse haulage road discharged to Garden Creek without going through a sediment control structure.

CURRENT STATUS: TERMINATED STATUS DATE: 09/17/2002

ABATEMENT ACTIONS: Required actions were completed; violation terminated.

PERMIT NO:	1401531	MSHA NO:	44-03795	MSHA DATE:	9/20/1974
VIOLATION NO:	RYH0002409	DATE VIOL. ISSUED:	08/12/2002	ISSUED BY:	VA DMLR

VIOLATION DESCRIPTION: Unauthorized discharge of artesian boreholes outside of permit berm. Total iron concentration exceeds allowable limits.

CURRENT STATUS: TERMINATED STATUS DATE: 09/17/2002

ABATEMENT ACTIONS: Required actions were completed; violation terminated.

PERMIT NO:	I-700	MSHA NO:	46-01308	MSHA DATE:	05/09/80
VIOLATION NO:	I-700 (7)	DATE VIOL. ISSUED:	07/05/2002	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Pipeline pumping AMD from Dobbin Mine to AMD plant ruptured.

CURRENT STATUS: TERMINATED STATUS DATE: 07/05/2002

ABATEMENT ACTIONS: Pump has been shutdown until repairs are made. Violation terminated.

PERMIT NO:	1401531	MSHA NO:	44-03795	MSHA DATE:	9/20/1974
VIOLATION NO:	RYH0002353	DATE VIOL. ISSUED:	06/21/2002	ISSUED BY:	VA DMLR

VIOLATION DESCRIPTION: Company reported Pond 3 discharge results exceeded total suspended solids permit limits.

CURRENT STATUS: TERMINATED STATUS DATE: 06/21/2002

ABATEMENT ACTIONS: Non-remedial. Terminated on date of issuance.

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: Island Creek Coal Company

PERMIT NO:	1401531	MSHA NO:	44-03795	MSHA DATE:	9/20/1974
VIOLATION NO:	RYH0002348	DATE VIOL. ISSUED:	06/17/2002	ISSUED BY:	VA DMLR

VIOLATION DESCRIPTION: Pond 4 discharged black water to Garden Creek on 6/13/2002.

CURRENT STATUS: TERMINATED STATUS DATE: 06/17/2002

ABATEMENT ACTIONS: Non-remedial. Terminated on date of issuance.

PERMIT NO:	1400498	MSHA NO:	44-02134	MSHA DATE:	5/19/71
VIOLATION NO:	RBA0002239	DATE VIOL. ISSUED:	04/11/2002	ISSUED BY:	VA DMLR

VIOLATION DESCRIPTION: Failed to submit water data for outfalls 005 & 006 from 1/2001 thru 3/2002. Violation is non-remedial.

CURRENT STATUS: TERMINATED STATUS DATE: 04/11/2002

ABATEMENT ACTIONS: Violation is non-remedial.

PERMIT NO:	1401232	MSHA NO:	44-01009	MSHA DATE:	2/18/68
VIOLATION NO:	RBA0002236	DATE VIOL. ISSUED:	04/11/2002	ISSUED BY:	VA DMLR

VIOLATION DESCRIPTION: Failed to submit water data for outfall 001 from June - Nov 2001 Violation is non-remedial.

CURRENT STATUS: TERMINATED STATUS DATE: 04/11/2002

ABATEMENT ACTIONS: Violation is non-remedial.

PERMIT NO:	1401531	MSHA NO:	44-03795	MSHA DATE:	9/20/1974
VIOLATION NO:	RYH0002135	DATE VIOL. ISSUED:	01/31/2002	ISSUED BY:	VA DMLR

VIOLATION DESCRIPTION: Discharged black water to Garden Creek on 1/24/2002.

CURRENT STATUS: TERMINATED STATUS DATE: 01/31/2002

ABATEMENT ACTIONS: Non-remedial. Terminated on date of issuance.

PERMIT NO:	1401531	MSHA NO:	44-03795	MSHA DATE:	9/20/1974
VIOLATION NO:	TIM0002471	DATE VIOL. ISSUED:	10/01/2001	ISSUED BY:	VA DMLR

VIOLATION DESCRIPTION: Failed to submit water data for GW-1 since 3rd Qtr. 1999.

CURRENT STATUS: TERMINATED STATUS DATE: 10/01/2001

ABATEMENT ACTIONS: Required corrective actions completed.

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: Island Creek Coal Company

PERMIT NO:	P-590	MSHA NO:	46-0244	MSHA DATE:	03/16/73
VIOLATION NO:	P-590 (21)	DATE VIOL. ISSUED:	08/16/2001	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to maintain impoundment haulroad and drainage structures.

CURRENT STATUS:	TERMINATED	STATUS DATE:	09/28/2001
ABATEMENT ACTIONS:	Required work completed ; violation terminated.		

PERMIT NO:	1401489	MSHA NO:	44-03795	MSHA DATE:	9/20/1974
VIOLATION NO:	DLH0002139	DATE VIOL. ISSUED:	08/08/2001	ISSUED BY:	VA DMLR

VIOLATION DESCRIPTION: Failure to mainten plant access road caused coal material to be tracked onto SR657.

CURRENT STATUS:	TERMINATED	STATUS DATE:	08/13/2001
ABATEMENT ACTIONS:	Required corrective actions taken		

PERMIT NO:	1401531	MSHA NO:	44-03795	MSHA DATE:	9/20/1974
VIOLATION NO:	TIM0002308	DATE VIOL. ISSUED:	06/28/2001	ISSUED BY:	VA DMLR

VIOLATION DESCRIPTION: Discolored water discharged from pond 02 due to a short intense storm on 6/26/01.

CURRENT STATUS:	TERMINATED	STATUS DATE:	06/28/2001
ABATEMENT ACTIONS:	Non-remedial		

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: Kent Coal Mining Company

PERMIT NO:		MSHA NO:	N/A	MSHA DATE:	00/00/00
VIOLATION NO:	011048	DATE VIOL. ISSUED:	06/01/2001	ISSUED BY:	PA DEP

VIOLATION DESCRIPTION: NPDES discharge exceeded manganese limits

CURRENT STATUS: ABATED STATUS DATE: 07/12/2001

ABATEMENT ACTIONS:

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: Laurel Run Mining Company

PERMIT NO:	63841304	MSHA NO:	n/a	MSHA DATE:	n/a
VIOLATION NO:	21052	DATE VIOL. ISSUED:	06/25/2002	ISSUED BY:	PA DEP

VIOLATION DESCRIPTION: Water discharged from breach in 3 butt B collection pipe exceeded iron limits based on sample collected on 5/23/2002.

CURRENT STATUS:	TERMINATED	STATUS DATE:	06/25/2002

ABATEMENT ACTIONS: Required actions were taken. All discharged water meets effluent limits.

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: McElroy Coal Company

PERMIT NO:	O-1023-92	MSHA NO:	46-01437	MSHA DATE:	00/00/00
VIOLATION NO:	O-1023-92 (17)	DATE VIOL. ISSUED:	08/07/2003	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to maintain access road from refuse toe drain to collection area in Graveyard Run.

CURRENT STATUS: PENDING STATUS DATE:

ABATEMENT ACTIONS:

PERMIT NO:	U-33-83	MSHA NO:	46-01437	MSHA DATE:	n/a
VIOLATION NO:	U-33-83 (40)	DATE VIOL. ISSUED:	06/11/2003	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to submit drainage control certifications at 5S 1L Bleeder Shaft site before surface disturbances started.

CURRENT STATUS: PENDING STATUS DATE:

ABATEMENT ACTIONS:

PERMIT NO:	U-33-83	MSHA NO:	46-01437	MSHA DATE:	n/a
VIOLATION NO:	U-33-83 (39)	DATE VIOL. ISSUED:	06/06/2003	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to properly maintain drainage control structure at the 5North #1 airshaft site.

CURRENT STATUS: TERMINATED STATUS DATE: 07/25/2003

ABATEMENT ACTIONS: Required work has been completed, violation terminated.

PERMIT NO:	O-1023-92	MSHA NO:	46-01437	MSHA DATE:	00/00/00
VIOLATION NO:	O-1023-92 (16)	DATE VIOL. ISSUED:	04/23/2003	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to follow approved plan for stages of refuse placement at Conner's Run refuse site

CURRENT STATUS: PENDING STATUS DATE:

ABATEMENT ACTIONS:

PERMIT NO:	O-1023-92	MSHA NO:	46-01437	MSHA DATE:	00/00/00
VIOLATION NO:	O-1023-92 (15)	DATE VIOL. ISSUED:	03/05/2003	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to properly maintain east haulroad at entrance from Fish Creek Road.

CURRENT STATUS: TERMINATED STATUS DATE: 03/26/2003

ABATEMENT ACTIONS: Required actions completed.

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: McElroy Coal Company

PERMIT NO:	U-33-83	MSHA NO:	46-01437	MSHA DATE:	n/a
VIOLATION NO:	U-33-83 (38)	DATE VIOL. ISSUED:	03/05/2003	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to properly maintain pond embankment at 5N #1 Airshaft

CURRENT STATUS:	TERMINATED	STATUS DATE:	04/29/2003
ABATEMENT ACTIONS:	Required work completed; violation terminated.		

PERMIT NO:	O-1023-92	MSHA NO:	46-01437	MSHA DATE:	00/00/00
VIOLATION NO:	O-1023-92 (14)	DATE VIOL. ISSUED:	02/05/2003	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Discharging water high in iron from pond 023.

CURRENT STATUS:	TERMINATED	STATUS DATE:	02/07/2003
ABATEMENT ACTIONS:	Required actions completed.		

PERMIT NO:	O-1023-92	MSHA NO:	46-01437	MSHA DATE:	00/00/00
VIOLATION NO:	O-1023-92 (13)	DATE VIOL. ISSUED:	12/19/2002	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to properly maintain sediment control structure.

CURRENT STATUS:	TERMINATED	STATUS DATE:	01/09/2003
ABATEMENT ACTIONS:	Required actions completed - violation terminated.		

PERMIT NO:	U-33-83	MSHA NO:	46-01437	MSHA DATE:	n/a
VIOLATION NO:	U-33-83 (37)	DATE VIOL. ISSUED:	12/19/2002	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Off-site area disturbed by waste concrete dust.

CURRENT STATUS:	TERMINATED	STATUS DATE:	01/10/2003
ABATEMENT ACTIONS:	Required work has been completed - violation terminated.		

PERMIT NO:	U-33-83	MSHA NO:	46-01437	MSHA DATE:	n/a
VIOLATION NO:	U-33-83 (36)	DATE VIOL. ISSUED:	11/08/2002	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Area disturbed off permit by de-gas borehole.

CURRENT STATUS:	TERMINATED	STATUS DATE:	05/20/2003
ABATEMENT ACTIONS:	Permit IBR 31 approved; violation terminated.		

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: McElroy Coal Company

PERMIT NO:	U-33-83	MSHA NO:	46-01437	MSHA DATE:	n/a
VIOLATION NO:	U-33-83 (35)	DATE VIOL. ISSUED:	09/26/2002	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Area disturbed by construction before all sediment controls were in place

CURRENT STATUS: TERMINATED STATUS DATE: 10/04/2002

ABATEMENT ACTIONS: Required actions completed - violation terminated.

PERMIT NO:	O-1023-92	MSHA NO:	46-01437	MSHA DATE:	00/00/00
VIOLATION NO:	O-1023-92 (12)	DATE VIOL. ISSUED:	04/02/2002	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Discharge 023 failed to meet iron and manganese effluent limits.

CURRENT STATUS: TERMINATED STATUS DATE: 04/04/2002

ABATEMENT ACTIONS: Required actions completed.

PERMIT NO:	O-1023-92	MSHA NO:	46-01437	MSHA DATE:	00/00/00
VIOLATION NO:	O-1023-92 (10)	DATE VIOL. ISSUED:	02/25/2002	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Ruptured pipe released AMD to Graveyard Creek.

CURRENT STATUS: TERMINATED STATUS DATE: 03/07/2002

ABATEMENT ACTIONS: Ruptured pipe repaired.

PERMIT NO:	O-1023-92	MSHA NO:	46-01437	MSHA DATE:	00/00/00
VIOLATION NO:	O-1023-92 (11)	DATE VIOL. ISSUED:	02/25/2002	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Repaired pipe failed causing 2nd AMD release to Graveyard Creek.

CURRENT STATUS: TERMINATED STATUS DATE: 03/07/2002

ABATEMENT ACTIONS: Required actions completed.

PERMIT NO:	U-33-83	MSHA NO:	46-01437	MSHA DATE:	n/a
VIOLATION NO:	U-33-83 (34)	DATE VIOL. ISSUED:	01/03/2002	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to adequately replace livestock water supplies in that heaters have not been installed to prevent freeze-ups.

CURRENT STATUS: TERMINATED STATUS DATE: 04/25/2003

ABATEMENT ACTIONS: Required work completed; violation terminated

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CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: McElroy Coal Company

PERMIT NO:	O-1023-92	MSHA NO:	46-01437	MSHA DATE:	00/00/00
VIOLATION NO:	O-1023-92 (9)	DATE VIOL. ISSUED:	12/20/2001	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Outlet #023 discharge violated iron effluent limitations.

CURRENT STATUS:	TERMINATED	STATUS DATE:	12/26/2001
ABATEMENT ACTIONS:	Water has been treated as required.		

PERMIT NO:	U-33-83	MSHA NO:	46-01437	MSHA DATE:	00/00/00
VIOLATION NO:	U-33-83 (33)	DATE VIOL. ISSUED:	10/30/2001	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to install all required drainage control before starting to construct 5-South #2 Airshaft

CURRENT STATUS:	TERMINATED	STATUS DATE:	11/07/2001
ABATEMENT ACTIONS:	Drainage structure installed and certified.		

PERMIT NO:	U-33-83	MSHA NO:	46-01437	MSHA DATE:	00/00/00
VIOLATION NO:	U-33-83 (32)	DATE VIOL. ISSUED:	10/16/2001	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Slurry line leak discharged unacceptable water to stream.

CURRENT STATUS:	TERMINATED	STATUS DATE:	
ABATEMENT ACTIONS:	Corrective measures taken.		

PERMIT NO:	U-33-83	MSHA NO:	46-01437	MSHA DATE:	00/00/00
VIOLATION NO:	U-33-83 (31)	DATE VIOL. ISSUED:	08/14/2001	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to correct material damage to surface lands from subsidence.

CURRENT STATUS:	TERMINATED	STATUS DATE:	08/21/2001
ABATEMENT ACTIONS:	Work started 8/15/01 and finished 8/21/01		

PERMIT NO:	U-33-83	MSHA NO:	46-01437	MSHA DATE:	00/00/00
VIOLATION NO:	U-33-83 (30)	DATE VIOL. ISSUED:	06/12/2001	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: failed to correct or compensate for material damage from subsidence

CURRENT STATUS:	TERMINATED	STATUS DATE:	06/27/2001
ABATEMENT ACTIONS:			

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: McElroy Coal Company

PERMIT NO:	O-1023-92	MSHA NO:	46-01437	MSHA DATE:	00/00/00
VIOLATION NO:	O-1023-92 (8)	DATE VIOL. ISSUED:	05/22/2001	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to collect and treat all acid mine drainage at Western Slope pumphouse.

CURRENT STATUS:	TERMINATED	STATUS DATE:	08/23/2001
ABATEMENT ACTIONS:	Treatment system has been upgarded as required.		

PERMIT NO:	O-1023-92	MSHA NO:	46-01437	MSHA DATE:	00/00/00
VIOLATION NO:	O-1023-92 (7)	DATE VIOL. ISSUED:	04/19/2001	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Released acid mine drainage into watershed before treating.

CURRENT STATUS:	TERMINATED	STATUS DATE:	07/19/2001
ABATEMENT ACTIONS:	Pump repaired Collection pump system is being rebuilt. Required work completed, violation terminated.		

PERMIT NO:	U-33-83	MSHA NO:	46-01437	MSHA DATE:	00/00/00
VIOLATION NO:	U-33-83 (29)	DATE VIOL. ISSUED:	02/08/2001	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to maintain sediment control system at loadout.

CURRENT STATUS:	TERMINATED	STATUS DATE:	02/18/2001
ABATEMENT ACTIONS:	Required actions completed, violation terminated.		

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: Quarto Mining Company

PERMIT NO:	D-0433	MSHA NO:	33-01157	MSHA DATE:	00/00/00
VIOLATION NO:	24359	DATE VIOL. ISSUED:	03/18/2003	ISSUED BY:	OH DOR

VIOLATION DESCRIPTION: Pond 8 discharge exceeded pH and iron permit limits.

CURRENT STATUS:	TERMINATED	STATUS DATE:	03/21/2003

ABATEMENT ACTIONS: Required work completed. Violation terminated.

PERMIT NO:	D-0433	MSHA NO:	33-01157	MSHA DATE:	00/00/00
VIOLATION NO:	21958	DATE VIOL. ISSUED:	01/29/2002	ISSUED BY:	OH DOR

VIOLATION DESCRIPTION: Slurry pond 06 embankment was breached.

CURRENT STATUS:	TERMINATED	STATUS DATE:	02/14/2002

ABATEMENT ACTIONS: Required work completed on 2/14/2002.

CONSOL Energy Inc. and Related Companies - Violation History

August 1,2000 - September 5, 2003

Entity to whom violation(s) were issued: Windsor Coal Company

PERMIT NO:	E-128-00	MSHA NO:	46-01286	MSHA DATE:	n/a
VIOLATION NO:	E-128-00 (14)	DATE VIOL. ISSUED:	11/08/2001	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Indiscriminate discarding on non coal wastes.

CURRENT STATUS:	TERMINATED	STATUS DATE:	12/07/2001

ABATEMENT ACTIONS: Required actions were conducted.

PERMIT NO:	E-128-00	MSHA NO:	46-01286	MSHA DATE:	n/a
VIOLATION NO:	E-128-00 (13)	DATE VIOL. ISSUED:	11/08/2001	ISSUED BY:	WV DEP

VIOLATION DESCRIPTION: Failed to maintain sediment pond 2 and ditches.

CURRENT STATUS:	TERMINATED	STATUS DATE:	04/25/2002

ABATEMENT ACTIONS: Required actions completed.

4 EAST PORTAL STRUCTURES - No structure listed for the 4th East Portal existed prior to disturbance for the boxcut with the exception of a subsidence marker.

Topsoil Stockpile & Topsoil Berms

Map Code: identified on Plate II-3
Status: existing - 3rd quarter 2002

This stockpile is located in the northwest corner of the proposed disturbance. The stockpile will be fully bermed to contain a 100 yr/24 hr rainfall event. The stockpile and berms is sized to contain approximately ~~13,000~~ 7,900 cubic yards of topsoil material. Berms constructed with topsoil make up the north and western portion of the excavation stockpile and the west perimeter of the disturbance boundary. These berms contain approximately 1,400 cubic yards of topsoil.

Excavation Material Stockpile

Map Code: identified on Plate II-3
Status: existing - 3rd quarter 2002

This stockpile is located on the west edge of the portal excavation. The pile is sized to contain approximately 128,000 cubic yards of material. Material placed in the pile will come from the portal and airshaft excavation. Additional material from the construction of the coal handling facilities may also be placed within the pile. Placement of a material berm will be constructed around the pile to assist in sediment control. The berm shall be constructed with an interior retention basin sized to fully contain a 100 yr/ 24 hr rainfall event. The non-topsoil material will be utilized in the reclamation of the portal entries, backfilling the boxcut excavation and airshaft.

Sediment Pond #9

Map Code: identified on Plate II-3
Status: existing - 3rd quarter 2002

This sediment pond is proposed to be placed in the northeast corner of the 4 East disturbance site. The pond will be partially incised (0.2 ac-ft) of sediment volume. An embankment will be constructed along the west and north sides to provide required storage volume for runoff. This pond is designed to fully contain a 10 yr/24 hr storm event. The dewatering of the pond following 24 hours will be through a 15-inch PVC pipe equipped with a slide gate. An emergency spillway has been designed to handle events in excess of a 10 yr/24 hr storm.

Inserted 10/2002
Revised 9/2003

Coal Handling Facilities & Stockpiles

Map Code: identified on Plate II-3
Status: existing - 4th quarter 2002

The coal exits the mine portal via a 54-inch conveyor belt and is delivered to a transfer point located on the lower bench of the boxcut excavation. The transfer point moves the coal to a 42-inch conveyor belt which moves the coal off the lower bench to the crusher/screen building located on the top area of the site. This transfer point will be equipped with the ability to dump coal onto a surge coal pile located on the lower bench within the portal excavation. Crushing is performed as the coal is transferred to a 5' by 10' fixed sloping screen. Coal passing through the screen is fed to a third conveyor. Coal trapped by the screen is fed into a crusher for processing.

The crushed coal leaves the crusher/screen building by conveyor belt to a radial stacker. The radial stacker can be fed directly into a hopper/feeder which conveys the coal to the truck loadout facility. The radial stacker will also feed a small coal stockpile when haul trucks are not available. The coal from the stacker stockpile will be fed into the hopper/feeder by front-end loaders.

This facility will handle a throughput capacity of approximately 1,300,000 tons of coal per year.

Surface drainage from the lower coal stockpile located on the lower bench area runs to a sump located on the portal entry level. Some drainage runoff may flow into the underground mine workings. Runoff collected in the sump will be pumped to the underground mine. Surface runoff from the radial stockpile and truck loadout facilities is conveyed by berms and culverts to sedimentation pond no. 9.

Stream Diversion - Unaffected Drainage

Map Code: identified on Plate II-3
Status: existing - 3rd quarter 2002

This diversion is propose as a temporary diversion. The diversion will intercept and divert natural drainage from the upstream watershed around the site. The natural stream is ephemeral.

Inserted 10/2002
revised 9/2003

County Road - Cowboy Mine Road No. 915

Map Code: identified on Plate II-3
Status: Existing

This road is used by local farmers and the Live Earth operation.

Storage Area

Map Code: identified on Plate II-3
Status:existing - 4th quarter 2002

This supply yard is located adjacent to the portal ramp and contains parts and bulk supply items used on a continual basis for either the surface or the underground operation. The yard is used to store inventory parts, machinery, and bulk items in a consistent and easily accessible manner. The supply yard is located within the proposed surface drainage control area and reports to sedimentation pond no. 9.

Airshaft

Map Code: identified on Plate II-3
Status: existing - 4th quarter 2002

The proposed airshaft will be located in the southwest portion of the disturbance area. The 16 ft diameter vertical shaft will be approximately 70 feet in depth. The airshaft and associated exhaust fan and housing is required to ventilate the underground mine workings.

Rock Dust Bin

Map Code: identified on Plate II-3
Status: existing - 4th quarter 2002

This structure is a supported steel bin 11 ft. in diameter and 38 ft. high. It is used for bulk storage and delivery of rock dust and has a capacity of 100 tons. Surface drainage from the bin area will report to sedimentation pond #9.

Inserted 10/2002
Revised 9/2003

Water Tank

Map Code: identified on Plate II-3
Status: Existing - 4th Quarter 2002

The 100,000- gallon tank measures 25 feet high by 26 feet in diameter, and will be located near the southwest corner of the topsoil stockpile. The tank will sit upon a concrete base. It is equipped with an overflow, level indicator, and a bank of valves to direct flow.

The water tank serves as a surge tank for both surface and underground water supplies. Water from underground is pumped to the tank through a bi-directional pipeline.

Surface drainage from the tank area flows into the northwest corner of the disturbed portal yard where it discharges through a silt fence. The tank shall be equipped with an automatic level control to eliminate any overflow discharge.

Truck Scale

Map Code: identified on Plate II-3
Status: Existing - 4th quarter 2002

The truck scale will be a standard highway scale unit of a size and capacity suitable for weighing highway coal trucks. Also associated with the scale is a small metal building to house the controls and read-out . The scales shall be calibrated and certified by the State at least once per year. Surface runoff from the scale area will report to sediment pond #9.

Silt Fence
Map Code: identified on Plate II-3
Status: Existing - 3rd quarter 2002

To treat surface runoff leaving the disturbance area. Provides alternate sediment control for small areas which do not report through sediment pond #9 or full containment retention basins. The fence is located along the northern and northwest corner of the disturbance area. This silt fence controls untreated drainage between the topsoil stockpile and outside slope of sediment basin #9 and the fence line. The silt fence located in the northwest corner treats drainage off the primary road leading to the ventilation fan site. A small section of silt fence will also be installed along the southern berm to provide a discharge point for the small watershed collected along the berm.

Inserted 10/2002
Revised 9/2003

Ventilation Fan Road

Map Code: identified on Plate II-3
Status: Existing - 4th quarter of 2002

Classified as a primary roadway. Light truck traffic will use the road to access the ventilation fan.

Coal Loadout Road

Map Code: identified on Plate II-3
Status: Proposed - 4th quarter of 2002

Classified as a primary road. ~~The roadway will loop around the top coal stockpile area to access the coal loadout facility and truck scale.~~ The roadway will enter the loadout along the east fence line from County Road No. 915. Coal trucks will load from the loadout bin and proceed across the scales located near the northeast corner of the permit area. Trucks & other vehicles will exit onto Emery County Road No. 915 (referred locally as "Cowboy Mine Road"). Drainage off the road will be conveyed to sediment pond 9.

Jersey Barriers

Status: Proposed - 4th quarter of 2003

These barriers will be strategically placed alond the perimeter of the stockpile to prevent encroachment of coal fines into the adjacent plant area.

Wind Fence

Map Code: Identified on Plate II-3
Status: Proposed - 4th quarter of 2003

Wind fence(s) will be constructed upstream of the stockpile. The wind fence disrupts the mechanism that causes dust particles to become airborne.

Water Cannon

Map Code: Installed near stockpile, perhaps integrated with/on wind fence.
Status: Proposed - 4th quarter of 2003

Used to control fugitive emissions during high wind events. System automated based on wind velocities.

Inserted 10/2002
Revised 9/2003

Cattle Guard

Map Code: Identified on Map II-3
Status: Proposed 4th quarter of 2003

Used to assist in collecting solids which may dislodge from truck tires under both overly wet and dry conditions. This collection sump makes it less likely for solids to be re-entrained.

Inserted 9/2003

Two (2) structures, associated with underground mining activities, are located within 100 ft. of the right-of-way of County Road 9-07. The location of Borehole Pump Facility #3 and the Northwest Coal Stockpile are shown on Plates VI-18 and II-1, respectively. They were approved by the Division and subsequently constructed according to the approved plan.

~~Two~~ Three structures associated with the 4th East Portal site are located within 100 ft. of the right of way of County Road 9-15. These structures consist of cattle guard, berms and the perimeter fencing.

Other than future access or haul roads joining the public roads, Consol does not propose any other facilities within 100 ft. of a right-of-way. To protect the general public the entrance gate will be posted with a stop sign prior to entering onto the county road from the mine property. The county road will be posted with warning signs as to the existence of the mine entrance. Flagman will be used to protect the general public and employees during construction activities where operation of large equipment or transportation of supplies may create a safety concern.

No public road relocations are proposed for the permit area.

UMC 784.23(a), (b) (1 through 12)

This permit renewal application contains the necessary maps, plans and cross-sections to provide compliance with the appropriate regulations.

UMC 784.24

Descriptions for transportation facilities, specifically roads and conveyor systems, whether existing or proposed, have been provided previously in this part.

For the sake of continuity we are providing all design information in Chapter IV. Chapter IV also covers the designs for relocation of natural drainage ways.

UMC 786.21

All existing structures have been found by the Division to be in compliance with this regulation.

UMC 817.150 - 176

Detailed design information for all roads, to show compliance with these performance standards, is contained in Chapter IV.

Revised 10/2002
Revised 9/2003

UMC 817.52

In addition to NPDES monitoring of discharge points, a monitoring program of surface and ground water sites has been established to assess mining impacts on these resources. The current operational monitoring plan is described in Sec, VI.A.5.

UMC 817.95

Protection of air resources during operation of the mine is discussed in Part C of Chapter X. Appendix X.C-1 evaluates emissions from the proposed preparation plant. Fugitive dust (particulate) is considered the only potentially significant air pollutant generated by both facilities. Appendix X.C-2 evaluates emissions from the 4th East Portal. Appendix X.C-3, Norwest's evaluation and recommendation of engineering controls and other measures to minimize generation of dusting from the 4th East Portal.

Control measures employed at the current operation utilize water sprays at all product transfer points, a silt fence downwind of the conical product stockpile, a water truck to wet down unpaved roads, and revegetation of topsoil and subsoil stockpiles. Measures to be used at the proposed coal preparation plant will include fully hooded conveyor belts, totally enclosed transfer points with water sprays, stacking tubes with water sprays at storage pile loading points, revegetation of topsoil and subsoil stockpiles, and water spraying of unpaved roads.

All control equipment will be properly installed, maintained, and operated such that visible emissions from the facilities will not exceed opacity limits established by the Utah Division of Environmental Health and applicable requirements of the Clean Air Act. ~~No air monitoring plan has been proposed.~~ Operator will perform opacity readings as required by the modified approval order.

UMC 817.97

Protection of fish and wildlife during operation of the mine is discussed in Chapter IX, The discussion addresses mining impacts on these resources and mitigative measures that will be employed at the mine. A study of fish and wildlife and their habitats, within the permit area, was conducted by Mine Reclamation Consultants, Inc. in 1980 and their report is attached in Appendix IX-1.

A fish and macro-invertebrate count was performed in September of 2002 by JBR Consultants. The study was conducted in Quitchupah Creek and Christiansen Wash. The completed report from JBR is attached as Appendix IX-2.

Revised 10/2002
Revised10/2003

- plant species for revegetation have been selected for their compatibility with habitat restoration and grazing as well as erosion control and survival.

- recommendations from the Utah Department of Wildlife Resources will be followed to insure minimal impact on fish and wild-life.

- water spraying throughout the operations and reclamation process, on a regular basis is and will be used to control air pollutants.

- a subsidence monitoring and mitigation plan is in effect which will protect established buffer zones and repair any damage elsewhere.

UMC 783.24(i)

The permit area does not contain any public parks. All cultural resource issues are covered in Part A of Chapter X.

UMC 783.24 (k)

The permit area and adjacent area does ~~not~~ contain ~~any~~ land which is within the boundaries of any units of the National System of Trails or the Wild and Scenic Rivers System, including study rivers designated under Section 5(a) of the Wild and Scenic Rivers Act.

Portions of the designated disturbance area under the Emery Mine permit was placed under the National Trails System in late 2002. The Act cited as the "Old Spanish Trail Recognition Act of 2002" was by the President on December 4, 2002. Notation as to the trails existence is located on the "Cultural Resource Map", Plate X-A-1.

CHAPTER III

RECLAMATION PLAN (CONT.)

TABLE III-1

SURFACE OPERATIONS AREA
PRE- AND POST-MINING LAND USES

Land Use	Acres Pre-Mining	Acres Post-Mining
Grazing/Wildlife	~~415.7~~ 417.2	~~435.2~~ 436.7
Industrial (Coal Mining)	19.5	0
Roads	5.8	5.8
TOTAL	~~441.0~~ 442.5	~~441.0~~ 442.5

TABLE III-2

EXISTING AND FUTURE
SURFACE DISTURBANCE AREAS

	Acres	%
Prior to August 3, 1977 Area	19.5	4
August 3, 1977 to May 3, 1978 Area	4.7	1
May 3, 1978 to January 5, 1986 Area	17.9	4
Post January 5, 1986 Area	8.6	2
[1]Proposed Near Future Disturbance Area	~~85.7~~ 86.2	20
Post July 1, 2002 Area at 4th East Portal	~~15.0~~ 16.0	3
Potential Surface Operations Area	289.6	66
TOTAL	~~441.0~~ 442.5	100

[1]Includes ~~7.5~~ 8.0 acres at 4E Portal Site.

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UMC 817.100, UMC 817.101(a), UMC 817.113

A description of each item listed under Contemporaneous Reclamation in the reclamation schedule follows.

The sections of road reclaimed in 1982 were completed in conjunction with upgrading the road to borehole pump #1. Reclamation consisted of removing existing culverts across Quitchupah Creek and disking and harrowing of the roadbeds. Since no earth materials were removed and no road surfacing material was placed during construction (prior to Aug. 3, 1977) of these roads, no grading, backfilling or topsoil respreading was required. Following this the reclaimed site was seeded with the following seed mix.

Species	Lbs PLS[2]	PLS/Sq.Ft.
Crested wheatgrass	0.5	10
Western wheatgrass	1.0	14
Indian ricegrass	0.5	11
Galleta	0.5	9
Streambank wheatgrass	1.0	18
Fourwing saltbush	1.5	12
TOTAL	5.0	74

Seeding was performed with a grass seed drill with disc furrow openers and press or packing wheels. No chemical soil amendments, irrigation or herbicides were necessary. Straw mulch was applied to the reclaimed areas and crimped at the rate of 1.5 tons/acre.

The reclamation of an old abandoned mine portal and associated borrow area for backfill was completed in 1986 in conjunction with fire control activities. The method utilized to seal the portal is described in Chapter III.C.2. Since the sealed portal was riprapped to protect the area from erosion, no seed was applied. The reclaimed borrow area is located along Christiansen Wash approximately three hundred feet upstream of the sealed portal. It is located in an area where soils consist of gullied and alluvial land (Plate VII-1) and the vegetation is of the greasewood shrubland type (Plate VIII-1). Reclamation of the borrow area consisted of grading to approximate predisturbance conditions and broadcasting according to seed plan B (Chapter VIII.C.4). The application rate for seed plan B was doubled and the area was lightly raked to aid in covering the seeds since the seed was applied by broadcasting.

The area affected by vehicle traffic to install wooden poles along the east fence line of the 4th East Portal was seeded and hydro-mulched with native seed mix described in Chapter VIII.C.3 on August 19, 2002.

Inserted 10/2002
Revised 10/2003

[2]Pure Live Seed

Reclamation of the underground development waste disposal site and excess cut material site will be initiated as soon as all the material presently being stored at the northwest coal stockpile area is placed in the waste disposal site. During excavation of the initial disposal site, excavation material will be stockpiled to provide four (4) feet of non-toxic material to cover the wastes. Based upon differences in soil quality, the cover material will be segregated into two stockpiles. One stockpile will be designated as a subsoil stockpile and the other will be designated as a topsoil stockpile. These stockpiles will be independently bermed and contemporaneously revegetated. Excess cut material will be conveyed and placed in a bermed depression west of the office building. After the existing temporarily stored wastes are placed in the disposal site, the wastes will be covered with subsoil and topsoil, and revegetated. The remaining portion of the disposal site will be developed and reclaimed in a similar manner on an as-needed basis as additional underground development wastes are generated. In order to reclaim the active portion of the site, sufficient cover material will be maintained in stockpiles adjacent to the active area. Temporary stabilization will be established by broadcasting the *native* ~~following~~ seed mix described in Chapter VIII.C.3 :

~~Species~~	~~Lbs PLS/Acre~~
~~Crested wheatgrass~~	~~3~~
~~Streambank wheatgrass~~	~~3~~
~~Russian wildrye~~	~~3~~
~~Western wheatgrass~~	~~3.5~~
~~Yellow Sweetclover~~	~~1.5~~
~~TOTAL~~	~~14.0~~

Permanent cover will be established by utilizing seed mix A (mixed desert shrub) as described in Chapter III.F.1 and Chapter VIII.C.4. Additional detail concerning backfilling and grading of these sites may be found in Chapter III.C.1. The soil quality and design parameters for the disposal site are described in Chapter VII - Appendix 2 and Chapter IV.C.1. respectively.

Contemporaneous grading will be conducted at the coarse refuse disposal site as the refuse is deposited. As the refuse disposal bank is constructed, grading will be conducted on the lower face to insure stability and maintain the design slope (2.5H to 1V). A small 25 foot wide terrace will be constructed above each grade lower face to control drainage. In addition, grading will be conducted on all lower faces to repair any gullies which occur during the life of the facility. The slurry impoundment is projected to be constructed in conjunction with the coarse refuse disposal site construction. Therefore, the slurry impoundment borrow area shown on Plate III-3 will be contemporaneously reclaimed as described in Chapter III.C.1. The borrow area will be jointly reclaimed with the contemporaneous grading of the coarse refuse disposal site within one (1) year of the construction of these two (2) facilities. Upon final cessation of active use, the final grading and backfilling as described in Chapter III.C.1 will be completed according to the reclamation schedule. Topsoiling and revegetation will be completed as described in Chapter III.E.1 and Chapter III.F.1. Additional detail concerning the design parameters and drainage control can be found in Chapter IV.C and Chapter VI.C respectively.

Revised 10/2003

All surface land areas affected by mining activities will be restored in a timely manner and reclaimed as contemporaneously as practicable with mining operations. Seeding and planting of disturbed areas will be conducted immediately after final site preparation and during the first normal period for favorable planting conditions. When necessary to effectively control erosion, any disturbed area will be seeded and planted, contemporaneously with the completion of grading, with the temporary seed mix described in Chapter VIII.C.3 until a permanent cover is established.

UMC 800.11-UMC 800.13, UMC 800.15-UMC 800.50

After the permit renewal application has been approved, but before the permit renewal is issued, a bond or bonds for performance will be filed with DOGM on the required forms furnished by DOGM to comply with UMC 800.11-UMC 800.13 and UMC 800.15-UMC 800.50.

UMC 800.14

The following information applies to the existing and anticipated near future surface disturbances at the Emery Mine. Furthermore it is assumed that these costs shall be updated with each permit renewal and therefore only reflect the cost of reclamation during the permit term. For additional detail of the unit costs and assumptions for this estimate, please refer to Chapter IV.B.

Existing Facilities
Reclamation Costs at Time of Abandonment

Item	Cost
Structure Demolition and Removal	$172,522
Backfilling and Grading	334,600
Topsoil Preparation and distribution	86,600
Revegetation	146,270
Erosion Control	36,600
Incidental Disturbance	15,650
4th East Portal Bond Calculation	691,478 ~~584,929~~
Subtotal	$1,483,720 ~~*$1,377,171*~~
10% Maintenance and Monitoring Costs	148,372 ~~137,717~~
10% Contingency and Engineering Costs	148,372 ~~137,717~~
Total Reclamation Cost (1998 Dollars)	$1,780,464 ~~*$1,652,606*~~

Revised 10/2002
Revised 10/2003

impoundment with the excavated dirt forming an embankment around the pond. Prior to reclamation, the accumulated sediment may be removed and disposed of in the same manner as the coal fines described in Chapter III.B.1. Reclamation grading will require the dozing of the embankment material back into the pond so that approximate original topography is replaced.

Pond No. 4 was also constructed prior to Aug 3, 1977. This structure is an evaporation lagoon for the waste produce of the reverse osmosis water treatment system. Reclamation of this site will include the removal of the embankment so that approximate original topography is achieved. Analysis of the soils in the bottom of this pond will be made to determine if evaporative salts have accumulated to a toxic level. Soils that are found to be toxic will be removed or covered with sufficient material to comply with UMC 817.103.

Existing ponds No. 5 and No. 6 and proposed pond No. 7 are all incised structures. Prior to reclamation, the accumulated sediment may be removed and disposed of in the same manner as the coal fines described in Chapter III.B.1. Reclamation grading will require the dozing of the embankment material back into the ponds so that approximate original topography is replaced. However, subsoil and topsoil which are removed and stockpiled from these sites will also be utilized in the reclamation of these ponds.

~~Proposed~~ Existing sediment pond no.9 collects and treats runoff from the 4 East Portal site. Reclamation of this site will include the removal of the embankment and filling the incised volume so that original topography is achieved. Analysis of the soils in the bottom of this pond will be made to determine if evaporative salts have accumulated to a toxic level. Soils that are found to be toxic will be removed or covered with sufficient material to comply with rules and regulations. However, subsoil and topsoil which are removed and stockpiled from this site will also be utilized in the reclamation of this pond.

For additional detail concerning the topsoil and revegetation of these sites, please refer to Chapter III.E.1 and Chapter III.F.1. Additional detail concerning the volume of material in the embankments and design information for Pond No. 1, 2, 3, 4, 5, 6 and 9 is contained in Chapter IV.B and Chapter VI.C respectively. The location of these structures may be found on Plates II-1,II-2 and II-3 and on Plate VI-10.

Revised 10/2002
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Topsoil material contained within stockpiles will be sampled and analyzed for soil texture, available potassium, phosphorus, total nitrogen, and pH prior to redistribution. Any cryptogamic material which was harvested during topsoil salvaging and transplanted on the topsoil stockpile needs to be reharvested prior to disturbing the stockpile. The cryptogams should be temporarily stored in a dry place until topsoil redistribution, gouging, seeding and mulching is completed.

After respreading and soil testing have been completed, the seedbed may have, fertilizer broadcasted or sprayed onto the soil. Incorporation of the fertilizer and other amendments into the rooting zone by surface roughening prior to seeding the approved seed mix described in Chapter VIII.C.4.

Reclamation of subsoil and topsoil stockpile areas will be completed in the same manner as other disturbed areas. Subsoil stockpiles will be removed to the original ground surface during grading and backfilling operations. Topsoil stockpiles will be removed until the required topsoil depth is retained over the stockpile site. Thus, topsoil respread operations need only to be conducted on the subsoil stockpile sites. Surface preparation on all subsoil and topsoil stockpile sites will be conducted as previously described.

Plates III-1, III-2, III-3, III-4 and III-4A, indicate the location of all existing and near-future disturbance areas at Emery Mine. For additional information pertaining to the topsoil quality, data, and substitution plans, please refer to Chapter VII.

During final reclamation at the 4th East Portal the topsoil will be respread to an average depth of 7 to 8 inches. This average is derived from taking the loose cubic yards placed in the topsoil stockpile of 7,840 cu. yds plus topsoil berms (1,400 cu. yds) plus and estimated 1,200 yards from the disturbed land (1.0 ac.) of the extension area (avg. 9 inch). ~~over a total 9.0 10.0 acres of disturbed land (10 11.0 acres disturbed minus 1.0 acre of rock outcrop) where topsoil was salvaged.~~ The 7,840 cu. yds. contained within the current topsoil stockpile was obtained from an as-built certification of the stockpile. ~~The previous yardage reported of 12,900 cu. yds. was a rough calculation taking only a few elevations and assuming an overall average height for the stockpile. Based on the resurvey, the overall height of the stockpile was found to less than first assumed.~~ The total 10,440 cubic yards of stored topsoil will be respread over ten (10) acres of reclaimed disturbance area. One (1) acre of the disturbed land will not be retopsoiled due to stream restoration of the original rock lined channel which transects the disturbance area. Therefore the average depth of redistributed topsoil shall be:

Area to be Retopsoiled: 10.0 acres * 43,560 sq ft/acre = 435,600 sq ft
Volume of Material Available: 10,440 cu yds * 27 cu ft /cu yd = 281,880 cu ft

Depth of Cover (D in ft): Area for Retopsoiling (435,600 sq ft) * D = Available Topsoil (281,880 cu. ft.)

therefore, D = 281,880 cu ft/435,600 sq ft or D = .64 ft or 7.7 inches

The topsoiled surface will be roughened (gouged) by pocking with a backhoe or excavator. Following the roughening the site will be seeded with the appropriate ~~warm season~~ native seed mixture and mulch as described in Chapter VIII.C.4 and VIII.C.7.

If cryptogamic soils were harvested, they should be applied manually as a final step. They ~~should be~~ cryptogams shall be planted in selective locations, such as along the interior edges of gouged depressions. Areas where this material is transplanted, shall be recorded either by survey and/or marked in the field.

Inserted 10/2002
Revised 10/2003

Soils and Vegetation

Refer to Chapter VII, Appendix VII-3 & Appendix VII-4 for narrative of soil resources at the 4 East Portal Area. Prior to portal and diversion excavation, the area will be checked for topsoil thickness. Once the thickness is determined, depth stakes, thickness maps or similar measures will be used to ensure total recovery. All topsoil designated on Plate III-1 for topsoil removal shall be removed and stockpiled in the topsoil stockpile location refer to Plate II-3 and/or IV-3.

Salvage of topsoil material from the 4th East Portal area will involve the following deviation from the topsoil handling plan outlined in Chapter III.E.1.

1. The topsoil which lies within the interior of the excavation material stockpile and topsoil stockpile will be preserved in-place.

2. The interface of the in-place original topsoil and the place material will be marcated with a 4" yellow tape. The tape shall be placed in a 10 ft by 10 ft. grid. and shall remain in place until final reclamation.

3. The topsoil stockpile will be roughened by pocking the surface.

4. Following seeding of the topsoil pile it will be irrigated and records kept as to date and amount of water applied.

The topsoil material from the excavation material and the topsoil stockpile will remain preserved in-place. This practice deviates from normal topsoil handling practices. This deviation is requested in an attempt to preserve the soil structures and cryptogam's within the area. Prior to placement of excavated overburden material on top of the in-place topsoil, the interface was delineated in the field with 4-inch wide yellow tape. The tape was applied in a 10 ft by 10 ft grid pattern. Material from the excavation will be placed over top the in-place topsoil. No toxic material will be placed within this excavation pile.

The topsoil stockpile interface between the in-place and placed topsoil was marked with the grid pattern utilizing the yellow tape. ~~The top few inches 3"-4" was segregated and temporarily stored while the remaining topsoil material was picked up and placed in the topsoil stockpile. This segregation was performed to salvage as much of the vegetation root structures, organic matter and crpytogam's as possible. This organic matter was then spread over the constructed topsoil stockpile.~~ Salvaging of the topsoil with the initial disturbance of the 4th East Portal was conducted under the direction of Jim Nyenhuis a qualified soil specialist under a contract with Mt. Nebo Scientific of Springville, Utah. Soil salvage from the site progressed from the north (Persayo-Chipeta map unit) to the south (Castle Valley & Montwell soil units), with the Castle Valley soils being placed on top of the stockpile. The surface of the topsoil stockpile was roughened with a backhoe leaving undulating (pocked) surface. The topsoil stockpile was hydro-seeded and tactified on July 10,2002, with ~~the cold season~~ non-native seed mixture defined in Chapter VIII.C.3 This seed mix involved Crested Wheatgrass, Fourwing Saltbush and Russian Wildrye. The southern edge of the topsoil berm was seeded with the ~~warm season contemporary~~ native (interim) seed mix which included Shadscale, Fourwing Saltbush, Castle Valley Clover, Streambank Wheatgrass, Scarlet Globemallow, Winter Fat, Blue Grama, Indian Ricegrass and Alkali Sacaton.

The berm located along the northern half of the east fence line was removed in the spring of 2003. This material which consisted of topsoil was removed to protect it from fugitive coal fines. The relocated topsoil was placed on the western outside edge of the topsoil stockpile berm. This section of berm was hydro-seeded and tactified August 19, 2003. The seed mix utilized in the reseeding involved the native seed mix under Chapter VIII.C.3. Record of the applied seed mix was provided to DOGM at the time of reseeding for their records.

Revised 10/2002
Revised 10/2003

Irrigation of the south and west side of the topsoil berm (only) began on July 11,2002 by applying one-quarter inch of water. The following table represents the date and amount of water sprayed on the berm.

July 12 - 1/4"	July 18 - 3/4"	July 29 - 1/2"
July 15 - 1/2"	July 19 - 1/2"	Aug 1 - 1/2" Rain
July 16 - 1/4"	July 22 - 1/4"	Aug 2 - 1/2" Rain
July 17 - 1/4"	July 23 - 1/4"	Periodic Rains Have Continued No Further Manual Watering

The topsoil stockpile was not irrigated because of seeding with ~~cool season~~ non-native mix.

Salvage of topsoil contaminated by wind blown coal fines at the 4th East Portal site will be handled in the following manner:

Prior to any topsoil salvage operation, coal fines will be vacuumed up to the best extent possible. This vacuuming operation will be done in a manner which attempts to minimize further disturbance of the topsoil and it's vegetation. On completion of the vacuuming operation, the one acre area of surface disturbance will be checked for cryptogamic matter prior to any topsoil removal. The Division of Oil, Gas and Mining will assist in determining the presence of cryptogams of this soil prior to removal. Should cryptogams be found within the area, the organic matter will be manually collected and immediately transplanted by hand on the topsoil stockpile. The location selected for transplanting of the cryptogams shall be a small confined area of the topsoil stockpile. The cryptogamic material shall be placed along the interior western edge of depressions (gouges) to protect it from prevailing winds. To prevent over saturation the material should be placed within the upper portion of the depression, not in the depression bottom. The depressions where transplanting of cryptogams took place shall be noted, staked and records kept of the area.

The existing west end of the topsoil stockpile berm will be crowded into the existing stockpile (see Figure IV-15). Topsoil currently in-place between the water tank and the topsoil stockpile will be picked up and placed in the topsoil stockpile. Topsoil from the additional 1 acre of disturbance associated with construction of the re-route road will be picked up under the direction of a qualified soil specialist. The excavated topsoil will be moved to the existing topsoil stockpile, where, it will be used to rebuild the berm. The stockpile and associated berm will be placed in a manner to allow for minimal side slope, but, still retains the runoff from the stockpile. The disturbed portions of the topsoil stockpile and berm will be randomly pocked and seeded with native seed mix defined in Chapter VIII.C.3. Seed tag will be saved and date of seeding recorded. Copy of seed tag will be forwarded to DOGM. The affected berm(s) and stockpile will be mulched with straw or hay applied at a rate of one to two tons per acre. The material used for mulching needs to be free of noxious weeds.

All berms composted of topsoil will be clearly marked as topsoil storage area.

Wildlife

The disturbance area was inspected on April 11, 1989 by Mr. L. B. Dalton of the Division of Wildlife Resources, Department of Natural Resources, State of Utah. Mr. Dalton finds that "the portal development will have minimal impacts on the wildlife resource." These findings, in letter form, are attached for reference.

The 4 East portal site was resurveyed in May 2002 by Mt. Nebo Scientific Consultants. The survey was performed by request from the Division of Oil Gas and Mining. The report in contained as Appendix VIII-3 in Chapter VII.

The vegetation map and T&E survey for the extension area of 1.5 acres at the 4th East Portal was modified by Patrick Collins, Ph.D. of Mt. Nebo Consultants. Mr. Collins letter is located in Chapter VII, Appendice VII-4.

Sampling of fish and macro invertebrates were conducted in September 2002 by JBR Environmental Consultants. The survey was conducted in Quitchupah Creek and Christiansen Wash. The sampling was performed to provide new baseline data for the reactivation of mining operations. Because of the minimal number of samples taken, a second sampling will be performed in September of 2003. The process methods and final report of the 2002 sampling is contained as Appendix IX-2. In accordance with DOGM requirements for perennial streams the micro invertebrate sampling will be performed every three years following the 2003 sampling. Results of these sampling's will be included as part of the annual report for that year.

Cultural Resources

The area of disturbance was surveyed in 1975, as part of an 880 acre area of investigation, by Mr. Michael S. Berry, Assistant Utah State Archaeologist. After traversing the entire area on 50 to 75 foot intervals, three (3) sites were located and recorded. The nearest of these sites is approximately 0.5 miles to the southwest of the proposed 4 East Portal Site. As a result, we do not anticipate any cultural resource impacts from this development.

Mr. Berry's report on this investigation is contained in Chapter X.

The 4 East portal site was resurveyed in May 2002 by Montgomery Archaeological Consultants. The survey was performed by request from the Division of Oil Gas and Mining. The report is contained as Appendix 5-5 in Chapter X. In March 2003, Montgomery Archaeological Consultants extended the cultural resource survey of the 4th East Portal site. This report is "Confidential", Appendix 5-7 in Chapter X, Vol 2, and should be placed in DOGM's confidential files.

Inserted 10/2002
Revised 10/2003

APPENDIX IV-7-G 4th EAST PORTAL ROADS

The proposed road system for the 4th East Portal is comprised of two (2) primary roads. These roads are to be constructed fairly flat, following the existing topography with topsoil removed. The first primary road noted as the Coal Loadout Road, begins just southeast of the loadout off exiting to the right off Emery County Road 915. Coal trucks will access coal loadout bin from the south and exit the loadout at the northeast corner of the site. The surface of the road will be rocked, dust suppressant will be utilized to control fugitive dust. For further detail on the road and use of chemical suppressants, refer to Appendix X.C-3 in Chapter X. The second primary road noted as the Ventilation Fan Road, branches off the coal loadout road at the west edge of the boxcut ramp and proceeds along the west side of the disturbed area to access the ventilation fan site. This section of the road is to be on bedrock (sandstone) or constructed of materials available on the site. Access to the site will be light truck to perform daily fan checks.

As-built drawings will be filed upon final construction. Please refer to Plate IV-13 for the proposed profile, plans and cross sectional views of the primary Coal Loadout Facility road. Proposed profile for the Ventilation Fan Road is delineated on Plate IV-14.

The portal site is entirely fenced restricting access to and from the site. The ~~only~~ entrances to the site is through two gates located in the northeast corner of the site. These entrances connect directly to Emery County Road No 915, also known as Cowboy Mine Road.

To protect the general public the entrance gate will be posted with a stop sign prior to entering onto the county road from the mine property. The county road will be posted with warning signs as to the existence of the mine entrance. Flagman will be used to protect the general public and employees during construction activities where operation of large equipment or transportation of supplies may create a safety concern. The mine road has excellent visibility in both direction of the county road.

Road Culvert No. 1 - Coal Loadout Road (station 0+90 inlet)
Design information: Drainage collected between the coal loadout facility and the county road right-of-way is conveyed thru the culvert into sedimentation pond #9.

Based on SEDCAD 4 modeling "Emergency Spillway 25YR/24 HR Design Storm" the peak inflow of 2.54 cfs will need to conveyed by the road culvert. Therefore, a corrugated metal pipe 18-inches in diameter is proposed.

BOND AMOUNT COMPUTATION

Applicant: **CONSOLIDATION COAL COMPANY**

Permit No. **015/015** Permitted Acreage: **24.0 acre permitted - (16.0 acre disturbed)**

Bonding Scheme (permit area, incremental, cumulative): **Permit Area**

If Incremental:

Increment Number: _____

Increment Acreage: _____

If Cumulative:

Acres previously authorized for disturbance: 247

New acres proposed for disturbance: 1.5

Type of Operation: **Surface Facility (Underground Coal Mine)**

Location: **Emery Mine, 4th East Portal, Emery County, UT**

Prepared By: **Timothy Kirschbaum**

Date: **October 30, 2002 Revised October 25, 2003**

Total Bond Amount: **$691,478**

WORKSHEET 1
DESCRIPTION OF THE WORST-CASE RECLAMATION SCENARIO

Worst Case - is at completion of mining when the coal reserve is exhausted, all facilities have been constructed and abandoned. Coal stockpile has been sold and removed from the site leaving the coal base. Coal handling facility were neglected the final years of maintenance and major parts for resale of salvage has already been removed. The site contains no valuable assets or mobile equipment.

The following discussion will present the tasks needed to be performed for returning the mine site to the original premining condition. See Plate III-1 of Chapter III of MRP.

I. Structure Demolition:

When returning site to post mining land use, all surface structures most be removed. This includes all man made items to include the following:

a. Crusher/Screen Facility - sized 25' x 30' x 40' constructed of metal sheeting, steel I-beams and reinforced concrete slab floor 25'x 30' x 2'. Cost of demolition includes removing floor and building.

b. Five structures included for the process coal transportation from the mine mouth to the loadout. Each structure is connected with the conveyor system. Two belts (740') transport the coal from the mine mouth to the crusher/screen processing building. The 200' section from the crusher to the coal stockpile is a radial stacker. The final 100' section of belt moves the coal from the stockpile to the loadout.

- 250' of 54" belt from the mine mouth to transfer point
- 490' of 48" belt from transfer point to the crusher/screen facility
- 200' of 48" belt on the radial stacker to the loadout.
- 100' of 48" from the pile to the loadout.
- Loadout structure 26' x 26' x 35'

c. 1.4 miles of powerline from the mine's main substation to the 4th East Portal. Powerline consists of 5 line hung on 32 overhead poles.

d. Water supply tank installed on concrete pad (37' dia x 1'). Cost of Demolition includes the cost of removing tank and concrete slab.

e. Rock dust tank - placed on concrete pad (8' x 10' x 1') - cost of demolition includes the cost of removing tank and concrete pad.

f. Ventilation Fan - concrete collar 16.5' diameter hole, fan and housing. Demolition cost includes fan housing, fan, and concrete collar. Backfilling included in earthwork.

g. Radial stacker - 10' x 75' x 1' - reinforced concrete.

h. Cattle Guard - 8' x 16' x 1' bottom + 2(2' x 16' x 1')sides - reinforced concrete

i. Wind Fence- 25 steel posts with concrete - posthole -7' depth by 24" dia

j. Concrete Barriers - prepored cast blocks - reusable, truck cost

Earthmoving Activity -

4th East development involved excavating a boxcut to ramp down to the coal seam. Ramp constructed 10% grade. with depth of approximately 70 ft. The boxcut is to be backfilled and restoration of an ephemeral stream channel through the backfilled boxcut. The portal consists of three entries which will require MSHA approved seals be constructed and backfilled in accordance with MRP (refer to page 16, chapter III). Site is to be returned to approximate original contour (AOC). Backfill material to come from the stored excavation material stockpile (see Plate IV-3, Chapter IV). Fill material is to be placed in three (3') foot lifts and compacted. The fill material primarily consists of blasted rock (sandstone) from the original excavation of the boxcut. The final three (3) foot lift is not to be compacted. Travel over the final lift should be limited and avoided by heavy rubber tired equipment.

In addition all waste coal material from the stockpile area is to be placed in the bottom of the boxcut. Sedimentation Pond #9 and the Diversion ditch are to be backfilled and graded into the surrounding topography.

Sedimentation pond is partially incised 0.3 ac-ft of sediment volume. The pod bottom to be sampled for toxicity and sediment placed in the mine's refuse pile if needed. Volume incised is 460 b.c.y.

Diversion ditch measures 500 feet in length with an average depth of 5 feet, bottom width of 6 ft and side slope of 2H:1V. Volume is 1,500 b.c.y.

Ventilation shaft to be backfilled with non toxic material from the excavation stockpile. Shaft measures 16.5 ft in diameter with a depth of 70 feet.

Non topsoil berms need to be graded back into the surrounding topography. This earthwork can be included with the final grading of the backfill prior to topsoiling. Rubber liner required (300' x 14') as part of stream restoration.

Topsoil Replacement

Topsoil stockpile is located adjacent to the excavation stockpile. The MRP requires for 7 to 8-inches of topsoil be spread over 10 acres of disturbed area where topsoil was originally salvaged. The plan notes the harvesting of cryptogams from the topsoil crust prior to disturbing for topsoiling activities. ~~segregation of top 2-inch crust be salvaged and used for top dressing of the respread topsoil. Topsoil removal area is 9 11 acres.~~ Refer to Plate III-1, Chapter III.

Revegetation

Under this MRP, topsoil was saved in-place underneath the excavation stockpile. The MRP requires that this in-place topsoil along with the original surface of the topsoil stockpile be ripped. The area involves 5 acres. The ripping of 12-inches with a spacing of 2-feet is required to decompress the soil horizons. These five acres will be roughened and seeded with ~~warm season~~ a permanent seed mix and mulched. The ~~9~~ 11 acres where topsoil is to be respread will be surface roughened prior to seeding and mulching with the ~~warm season~~ native seed mix. The surface roughening involves using a backhoe or excavator to develop shallow depressions randomly to the disturbed surface. Following mulching all cryptogam material shall be transplanted back into depressions formed from the roughening activity. Area of transplanting should be recorded and marked.

WORKSHEET 2
STRUCTURAL DEMOLITION AND DISPOSAL COSTS

Structures to be Demolished:

Item	Construction Material	Volume	unit	Unit Cost Basis ($)	unit	Demolition Cost ($)
Crusher/Screen Building	Metal	30,000	c.ft.	$0.20	c.ft.	$6,000.00
Crusher/Screen Building	Concrete	55	c.yd.	$13.56	c.yd.	$745.80
Conveyor System	Metal	1,060	c.ft.	$0.20	c.ft.	$212.00
Radial Stacker	Concrete	46	c.yd.	$13.56	c.yd.	$623.76
Water Tank	Metal	17,177	c.ft.	$0.20	c.ft.	$3,435.40
Water Tank	Concrete	3	c.yd.	$13.56	c.yd.	$40.68
Rock Dust Bin	Metal	1,600	c.ft.	$0.20	c.ft.	$320.00
Rock Dust Bin	Concrete	3	c.yd.	$13.56	c.yd.	$40.68
Ventilation Fan	Metal	1	item	$7,000.00	unit	$7,000.00
Fan Collar	Concrete	44	c.yd.	$13.56	c.yd.	$596.64
Coal Stockpile Feeder	Metal	150	c.ft.	$0.20	c.ft.	$30.00
Loadout	Metal	23,660	c.ft.	$0.20	c.ft.	$4,732.00
Powerline Poles	each	32	poles	$125.00	poles	$4,000.00
Powerline Wire	5 Wire	36,960	l.ft.	$0.23	l.ft.	$8,500.80
Wind Fence Poles	Metal	1,300	c.ft.	$0.20	c.ft.	$260.00
Wine Fence Foundation	Concrete	26	c.yd.	$13.56	c.yd.	$352.56
Cattle Guard	Metal	96	c.ft.	$0.20	c.ft.	$19.20
Cattle Guard	Concrete	6	c.yd.	$13.36	c.yd.	$80.14
Concrete Barriers	Concrete	60	c.yd.	$13.36	c.yd.	$801.60
Subtotal						$37,791.26
Debris Handling and Disposal Costs:						
Truck Haulage		20	truck	$160.00	truck	$3,200.00
Disposal		14	truck	$450.00	truck	$6,300.00
Total Demolition and Disposal						**$47,291.26**

WORKSHEET 3
MATERIAL HANDLING PLAN SUMMARY

Earthmoving Activity	Volume (LCY)	Origin	Destination	Haul Distance (ft)	Grade (%)	Equipment To Be Used
Boxcut Backfill	132,149	Excavation Stockpile	Portal Boxcut	500	10	Cat 988 Loader Two (2)- 35 ton Cat 769 Trucks Cat 825 B Compactor
Ventilation Shaft	706	Excavation Stockpile	Vent Shaft	100	2	Cat 988 Loader
Sediment Pond #9	580	Embankment	Pond Area	100	2	Cat D8N
Berms	2,300	Disturbed Area	Disturbed area	100	3	Cat D6
Stream Diversion	1,800	Diversion	Diversion	300	3	Cat D-6 Cat 769 Truck
Topsoil Berms	1,400	West Berm North & West Excavation Berm	Disturbed Area	100	3	Cat D6 Two (2)- End Dump Trucks 988 Loader
Topsoil	7,840 1,200	Topsoil Stockpile	Disturbed Area	500	5	Cat D6 Two (2)- End Dump Trucks 988 Loader
Surface Roughening			Disturbed - Topsoil			416 Backhoe
Ripping In-Place Topsoil			Disturbed Topsoil			Cat D6 w/Ripper 3 shanks

WORKSHEET 4B
EARTHWORK QUANTITY

Site Grading

Backfill Entries - 3 entries each entry is 8 ft high, 16 ft wide, 100 ft depth with 20% swell.
(3 * 8ft * 16 ft * 100 ft * 1.2) / 27 cft/cyd = 1,706 LCY

Backfill Portal Boxcut - 132,149 LCY (see worksheet 4A)
3/4 - Moved by 35 T. Cat 769 Truck & 988 Loader = 99,111 LCY
1/4 - Moved by D8N = 33,038 LCY

Diversion - 500 ft length, 6 ft bottom, 5 ft depth (avg), 2H:1V side slopes, 20% swell
(500 ft * 6 ft * 5 ft * 10 ft * 5 ft) = 1,500 BCY - 1,500 BCY * 1.20 = 1,800 BCY

Sediment Pond - Incised Volume = 0.29 ac-ft, swell - 20%
(0.29 ac-ft * 43,560 sqft/acre)/27 cft/cyd = 467 BCY - 467 BCY * 1.20 = 560 LCY

Berms - 4,168 l.ft with 24 sqft cross section = 3,720 LCY

Ventilation Shaft - 16.5 diameter shaft, 70 feet depth with 20% swell.
(8.252ft * 3.1415 * 70ft*1.20) / 27 cft/cyd = 706 LCY

Topsoil - Cover depth for 11.0 acres at depth of 0.6 feet.
(11 acres * 43,560 sqft/acre * 0.6 ft) / 27 cft./cyd = 10,640 LCY

Ripping - Ripper Depth for 5.0 acres at depth of 1.5 feet
(5 acres x 43,560 sqft/acre * 1.5 ft) / 27 cft/cyd = 12,100 BCY

Roughening - Re-topsoiled areas - 16 acres - 70% roughening random effective ration of area.
(16 acres * 43,560 sqft/acre * 1 ft) / 27 cft/cyd = 25,813 LCY * 70 % area = 18,069 LCY

WORKSHEET 5

PRODUCTIVIVITY AND HOURS REQUIRED FOR DOZER USE

Earthmoving Acivity:

Grading berm material back into surrounding topography.

Characteristization of Dozer Used (type, size, etc.):

CAT D6 SU

Description of Dozer Use (origin, destination, grade, haul distance, material, etc.):

Berms, adjacent disturbed ground, 3& avg. 100 max dirt (incl. Small rock)

Productivity Calculations:

Operating Adjustment Factor = **0.75** (operator factor) x **0.9** (material factor) x **0.8** (efficiency factor) x **1.0** (grade factor)

x **1.0** (weight correction factor) x **1.0** (production method/blade factor) x **1.0** (visibility factor) x **1.0** (elevation factor) = **0.54**

Net Hourly Production = **350** (normal hourly production) LCY/hr x **0.54** (operating adjustment factor) = **189** LCY/hr

Hours Required = **3721** (volume to be moved) LCY/hr / **189** (net hourly production) = **20** hr

Data Source(s):

Volume : 4,186 l.ft. Plate IV-3 Average Berm 3 ft high, 2 ft top width, 2H:1V slope

CAT Handbook

WORKSHEET 5
PRODUCTIVIVITY AND HOURS REQUIRED FOR DOZER USE

Earthmoving Acivity:
Partial backfilling of portal boxcut, fill ventilation shaft, fill sediment pond

Characteristization of Dozer Used (type, size, etc.):
CAT D8 SU

Description of Dozer Use (origin, destination, grade, haul distance, material, etc.):
Boxcut - excacation material stockpile (-5%) grade at 200 ft max. distance, sandstone & dirt material
Ventilation Shaft & Sediment Pond - +2% grade, 100 ft max. distance, sandstone & dirt material

Productivity Calculations:

Operating Adjustment Factor = **0.75** (operator factor) x **0.7** (material factor) x **0.8** (efficiency factor) x **1.1** (grade factor)
x **1.0** (weight correction factor) x **1.0** (production method/blade factor) x **1.0** (visibility factor) x **1.0** (elevation factor) = **0.462**

Net Hourly Production = **700** (normal hourly production) LCY/hr x **0.462** (operating adjustment factor) = **323.4** LCY/hr

Hours Required = **34277** (volume to be moved) LCY/hr / **323.4** (net hourly production) = **106** hr

Data Source(s):
From Worksheet 4B - 33,011(boxcut) + 560 (sediment pond) + 706 (ventilation shaft)
CAT Handbook

WORKSHEET 7
PRODUCTIVITY AND HOURS REQUIRED FOR RIPPER-EQUIPPED DOZER USE

Ripping Activity:
Reclamation of In-place stored topsoil (excavation stockpile & topsoil stockpile)

Characterization of Dozer and Ripper Use:
D6H

Description of Ripping (ripping depth, cut spacing, cut length, and materials to be ripped):
1.5 depth @ 2 ft. spacing - cut length 300 ft.

Productivity Calculation:

Cycle time = (**300** ft / 88 ft/min) + **0.3** min = **3.71** min/pass
(cut length; [speed]; fixed turn time*)

Passes/Hour = 60 min/hr / **3.71** min/pass x **0.75** = **12.13** passes/hr
(cycle time; efficiency factor)

Volume Cut/Pass = (**1.5** ft x **2** ft x **300** ft) / 27 ft^3/yd^3
(tool penetration; cut spacing; cut length)

= **33.3** BCY/pass

Hourly Production = **33.3** BCY/pass x **12.13** passes/hr = **404** BCY/hr

Hours Required = **12,100** BCY / **404** BCY/hr = **30** hr

* Fixed turn time depends upon dozer used. 0.25 min/turn is normal

** Remember to use the swell factor to t from bank cubic yards to loose cubic yards when applying these data to Worksheet 5. Calculate separate dozer hauling of ripped material for each lift on that sheet.

Data Source(s):
CAT Handbook
Worksheet 4B

WORKSHEET 8
PRODUCTIVITY AND HOURS REQUIRED FOR LOADER USE

Earthmoving Activity:
Loading 35 ton off road CAT 769

Characterization of Loader Use (type, size, etc.):
CAT 988 - 7.0 cubic yard bucket

Description of Loader Use (origin, destination, grade, haul distance, etc.):
Work off flat benches excavation material stockpile, load truck, 100 ft work area

Productivity Calculations:

Cycle Time = **0.12** min (haul time (loaded)) + **0.1** min (return time (empty)) + **0.55** min (basic cycle time) = **0.77** min

Net Bucket Capacity = **7** LCY (heaped bucket capacity) x **0.8** (bucket fill factor*) = **5.6** LCY

Hourly Production = **5.6** LCY (net bucket capacity) / **0.77** min (cycle time) x **0.8** x 60 min/hr (efficiency factor) = **349** LCY/hr

Hours Required = **111,451** LCY (volume to be moved) / **349** LCY/hr (hourly production) = **319** hr

* see loader section of equipment manuel

Data Source(s):
Worksheet 4B - 99,011 (boxcut), 1,800 (diversion), 9,040 (topsoil), 1,400 (topsoil berm)
CAT Handbook

Project: 4th East Portal
Date: 10/30/02, Revised 10/26/03
Prepared By: TDK

WORKSHEET 9
PRODUCTIVITY AND HOURS REQUIRED FOR TRUCK USE

Earthmoving Activity:
Use rock material for backfilling portal boxcut area. Assume 3/4 volume plus diversion.

Characterization of Truck Use (type, size, etc.)
CAT 769 - off road truck - 35 ton - 28 LCY average capacity.

Description of Truck Use (origin, destination, grade, haul distance, capacity, etc.):
Excavation stockpile

Productivity Calculations:

No. Loader Passes/Truck
= **28** LCY (truck capacity) / **5.6** LCY (loader bucket net capacity) = **5** passes (round down to nearest whole number)

Net Truck Capacity = **5.6** LCY (loader bucket net capacity) x **5** (no. loader passes/truck) = **28** LCY

ding Time/Truck = **0.77** min (loader cycle time (from worksheet 8 or 10)) x **5** (no. loader passes/truck) = **3.85** min

Truck Cycle Time = **1.40** min (haul time) + **0.70** min (return time) + **3.85** min (loading time) + **1.20** min (dump and maneuver time) = **7.15** min

No. Trucks Required = **7.15** min (truck cycle time) / **3.85** min (total loading time) = **1.86** trucks

Production Rate = **28** LCY (net truck capacity) x **2** (no. trucks) / **7.15** min (truck cycle time) = **7.83** LCY/min

Hourly Production = **7.83** LCY/hr (production rate) x 60 min/hr x **0.75** (efficiency factor) = **352.45** LCY/hr

Hours Required = **100,911** LCY (volume to be moved) / **352.45** LCY/hr (hourly production) = **286.3** hr

* use the average of the struck and heaped capacities.

Data Source(s):

WORKSHEET 9
PRODUCTIVITY AND HOURS REQUIRED FOR TRUCK USE

Earthmoving Activity:
Move topsoil for respread

Characterization of Truck Use (type, size, etc.)
Dump Truck tandem axle

Description of Truck Use (origin, destination, grade, haul distance, capacity, etc.):
Topsoil stockpile, disturbed area, 500 ft. average distance, 12 ton/9 cubic yard capacity, 2% to 3% grade

Productivity Calculations:

No. Loader Passes/Truck = **9** LCY (truck capacity) / **5.6** LCY (loader bucket net capacity) = **1** passes (round down to nearest whole number)

Net Truck Capacity = **5.6** LCY (loader bucket net capacity) x **1** (no. loader passes/truck) = **5.6** LCY

Loading Time/Truck = **0.77** min (loader cycle time (from worksheet 8 or 10)) x **1** (no. loader passes/truck) = **0.77** min

Truck Cycle Time = **0.5** min (haul time) + **0.5** min (return time) + **0.77** min (loading time) + **1.0** min (dump and maneuver time) = **2.77** min

No. Trucks Required = **2.77** min (truck cycle time) / **0.77** min (total loading time) = **3.6** trucks

Production Rate = **9** LCY (net truck capacity) x **3** (no. trucks) / **2.77** min (truck cycle time) = **9.7** LCY/min

Hourly Production = **9.7** LCY/hr (production rate) x 60 min/hr x **0.8** (efficiency factor) = **468** LCY/hr

Hours Required = **10,440** LCY (volume to be moved) / **468** LCY/hr (hourly production) = **22.3** hr

* use the average of the struck and heaped capacities.

Data Source(s):
Assumption made for haul time and return time.

WORKSHEET 10

PRODUCTIVITY FOR HYDRAULIC EXCAVATOR USE (BACKHOE OR POWER SHOVEL)

Earthmoving Activites

Roughening - Placed Topsoil (pocking)

Characterization of the Excavator Used (type, size, etc.):

CAT 416 Series II Backhoe

Description of Excavator Used (loading geometry, materials, etc.):

Develop shallow depressions randomly on topsoiled disturbance area.

Depth of depressions 6-inches to -foot - effective coverage ration 50%

Productivity Calculations:

Net Bucket Capacity = **1.0** LCY (heaped bucket capacity) x **1.0** (bucket fill factor*) = **1.0** LCY

Hourly Production = **1.0** LCY (net bucket capacity) x **60** min/hr / **0.25** min (cycle time **) x **0.8** (efficiency factor) = **192** LCY/hr

Hours Required = **18,069** LCY (volume to be handled) / **192** LCY/hr (net hourly production) = **94** hr

* see loader section of the equipment manuel

** see excavator section of equipment manuel

Data Source(s):

CAT Handbook

Worksheet 4B

Project: 4th East Portal
Date: 10/30/02, Revised 10/26/03
Prepared By: TDK

WORKSHEET 13
SUMMARY CALCULATION OF EARTHMOVING COSTS

Equipment *	Ownership & Operating Cost ($/hr)	Labor Cost ($/hr)	Total Hours Required **	Total Cost *** ($)
CAT 769 - 35 T. TRUCK	112	$47.15	572	$91,033.80
CAT D8N - DOZER SU BLADE	128	$47.15	106	$18,565.90
CAT D6 DOZER	60	$47.15	50	$5,357.50
CAT 416 BACKHOE	35	$38.00	94	$6,862.00
CAT 988G LOADER	135	$47.15	388	$70,674.20
CAT 825 COMPACTER	92	$47.15	319	$44,388.85
5,000 GALLON WATER TRUCK	60	$38.00	388	$38,024.00
DUMP TRUCK (12 TON)	40	$38.00	69	$5,382.00
			GRAND TOTAL	**$280,288.25**

* Include all necessary attachments and accessories for each item of equipment. Also, add support equipment such as water wagons and graders to match total project time as appropriate

** Account for multiple units in truck and/or scrapers teams

*** To compute Total Cost: Add Ownership & Operating Cost and Labor Cost Columns then multiple by Total Hours Required column

Data Source(s):

Cost sheets provided by Division of Oil Gas & Mining

WORKSHEET 14
REVEGETATION COSTS

Name and Description of Rea To Be Revegetated:
Disturbed surface of 4th East Portal site.

Description of revegetation Activities:

Cost Calculation for Individual Revegetation Activities:

Initial Seeding

16 (area to be seeded) ac x ($ 0 (seedbed preparation) /ac + $ 500 (seeding, fertilizing & mulching) /ac) = $ 8,000.00

Planting Trees and Shrubs

0 (area to be planted) ac x ($ 0 (planting) /ac + $ 0 (herbicide treatment) /ac) = $ 0.00

Reseeding

16 (area to be seeded) ac x 0.6 (failure rate*) x ($ 0 (seedbed preparation) /ac + $ 500 (seeding, fertilizing & mulching) /ac) = $ 4,800.00

Replanting Trees and Shrubs

0 (area to be seeded) ac x _____ (failure rate*) x ($ 0 (seedbed preparation) /ac + $ 0 (seeding, fertilizing & mulching) /ac) = $ 0.00

Other Necessary Revegetation Activities

Examples of other activities that may be necessary include soil sampling, irrigation, and rill and gully repair. Describe each activity and provide a cost estimate with documentation. Use additional worksheets if necessary

Annual rill and gully costs assured $2,500 x 10 years = $25,000

Other Costs = $ 25,000.00

TOTAL REVEGETATION COST = = $ **37,800.00**

* Identify failure rate and basis. If anticipated failure rate vary within the area proposed for disturbance, use a separate worksheet for the area subject to each failure rate.

Roughening of surface in earth work covers seedbed preparation.

Data Source(s):
Assumed failure rate of 60% - area is semi-arid

WORKSHEET 15
OTHER RECLAMATION ACTIVITY COSTS

(Subsidence damage repair costs, water supply replacement costs, funds required to support long-term treatment of unantcipated acid or ferruginous mine drainage, etc.)

Description of Reclamation, Repair or Pollution Abatement Activity:
Install MSHA approved seal in each entry (3 entries total)
Install permanent cap over backfilled shaft (ventilation shaft)
Plug water borehole - water tank
Install rubber liner in channel of stream diversion.

Assumptions

Cost Estimate Calculations:

* MSHA seal of entries - $5,200 per entry times 3 entries	$15,600
* Cap ventilation shaft - $5,000	$5,000
* Plug borehole - $5,000	$5,000
** Rubber liner 300 ft in length x 14 ft in width = $4,200 sq.ft. @ $5.50 sq.ft.	$23,100
TOTAL COSTS =	**$48,700**

Other Documentation or Notes:
Plate III-10, Chapter III

Data Source(s):
* Cost provided by DOGM 10/29/02
** Previous estimate from Consol project

WORKSHEET 16
RECLAMATION BOND SUMMMARY

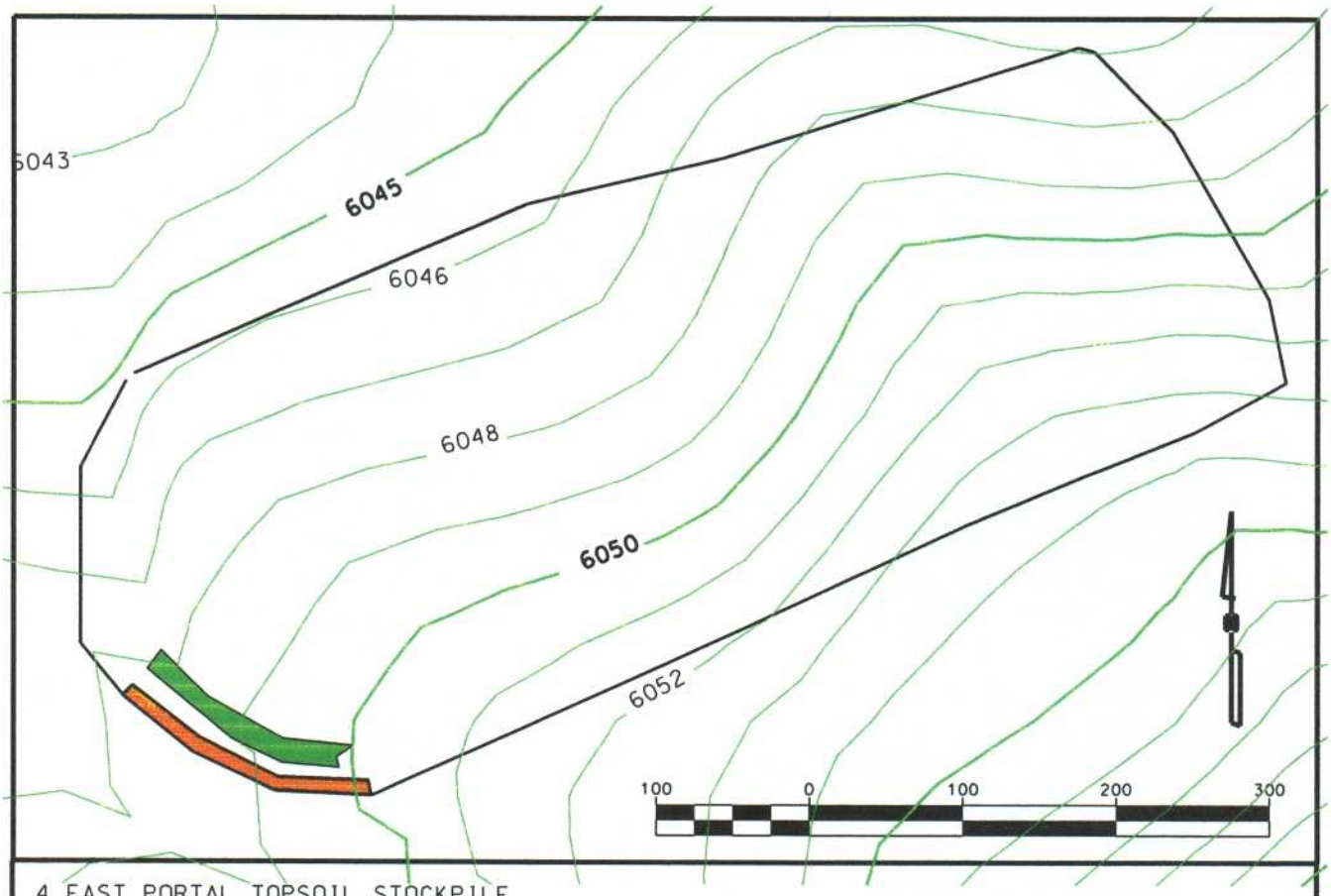
1	Total Facility and Structure Removal Costs	$	47,291		
2	Total Earthmoving Costs	$	280,288		
3	Total Revegetation Costs	$	37,800		
4	Total Other Reclamation Activities Costs	$	48,700		
5	Total Direct Costs (sum of line 1 through 4)	$	414,079		
6	Inflated Total Direct Costs (line 5 x inflation factor*)			$	466,584
7	Mobilzation/Demobilization (10% of line 6)	$	46,658		
8	Contingencies (5% of line 6)	$	23,329		
9	Engineering Redesign Fee (3% of line 6)	$	13,998		
10	Contractor Profit/Overhead (25% of line 6)	$	116,646		
11	Project Management Fee (5.2% of line 6)	$	24,262		
12	Total Indirect Costs (sum of lines 7 through 11)			$	224,894
13	GRAND TOTAL BOND AMOUNT (sum of lines 6 and 12)			$	**691,478**

$$* \text{ Inflation factor} = \frac{\text{ENR Construction Cost Index (CCI) for current year}}{\text{ENR CCI for mo/yr 5 years prior to current mo/yr}} = \frac{6{,}578}{5{,}838} = 1.1268$$

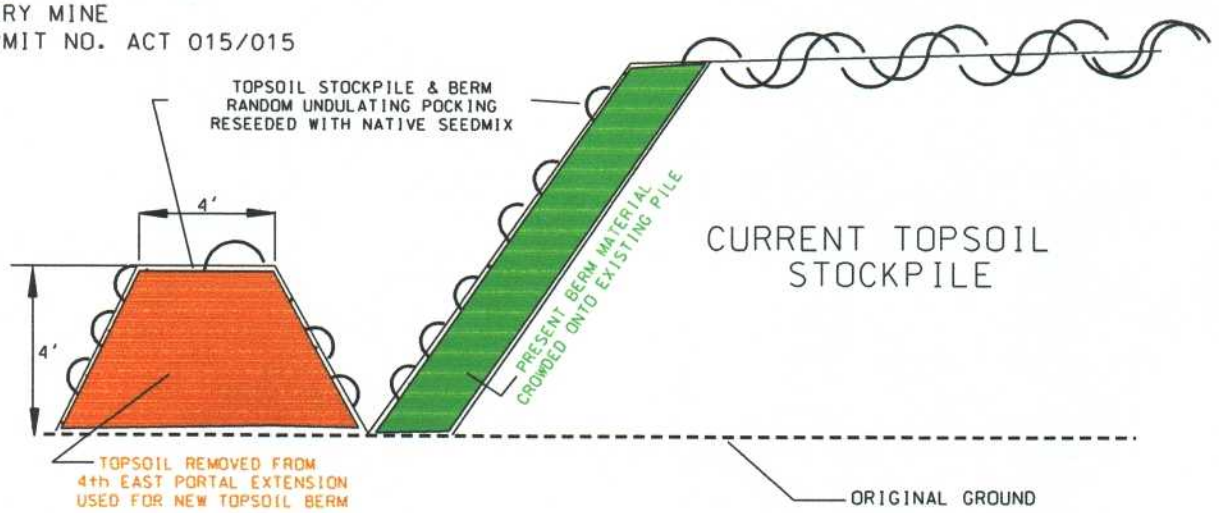
Identify current month/year used in formula above: Nov. 2002
Identify prior month/year used in formula above: Nov. 1997

ENR = Engineering News Record, McGraw-Hill Construction Information Group, New York, NY; http://www.enr.com

Formula assumes permit term of time until next bond adequacy evaluation is 5 years. Adjust time as necessary.



4 EAST PORTAL TOPSOIL STOCKPILE
REAFFECTED TOPSOIL STOCKPILE
FIGURE NO. IV-15
EMERY MINE
PERMIT NO. ACT 015/015

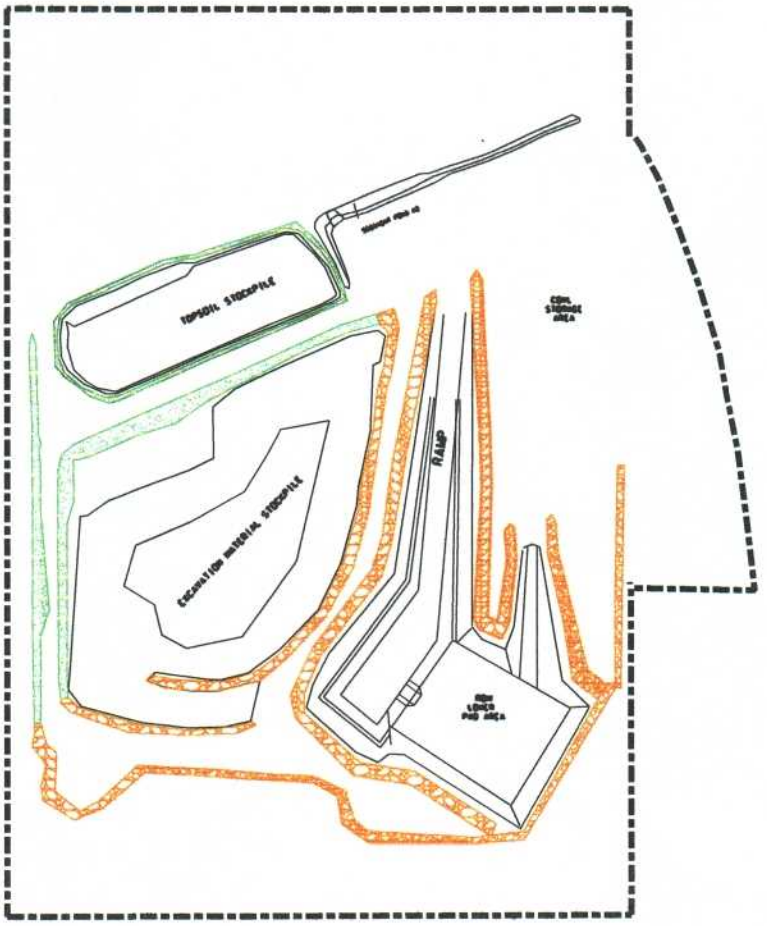


RECONFIGURED TOPSOIL STOCKPILE
ABATEMENT NOV 03-39-1-1

(PERIMETER BERM)

THIS TYPICAL SECTION OF THE
PERIMETER BERM ILLUSTRATES
COLORED SECTION OF THE PLAN VIEW

SCALE: NONE
DATE: 10/2003



TOPSOIL BERM

ROCK & SUBSOIL BERM

100 0 100 200 300

4th EAST PORTAL

CONSTITUENTS OF BERM MATERIAL

EMERY MINE

FIGURE IV-16

10/2003

EMERY PERMIT ACT 015/015

Pond No. 9

I. Hydrologic Information

Drainage Area: ~~3.2~~ 4.9 acres or ~~0.005~~ 0.0077 mi²
Storm Type: SCS Type II
Hydrologic Soil Groups: C
Curve Number: 85 (moderate)
Design Event - Normal Pool: 10 yr/24 hr (1.7 inches)*
Design Event - Spillway: 25 yr/24 hr (2.1 inches)*

*Note: Precipitation value obtained from Precipitation-Frequency Atlas, Volume VI - Utah.

A) Runoff Characteristics

SCS Soil Group	Land Use	Area	Curve No.
C	Mine Yard Area	~~3.2~~ 4.9 Ac.	90

B) Direct Runoff, Q (10 yr/24 hr)

$$Q = \frac{(P - 0.2S)^2}{P + 0.8S}$$

where: P = precipitation (inches)
S = (1000/CN) - 10
= (1000/90) - 10
= 1.11

$$= \frac{(1.7 - 0.2\,(1.11))^2}{1.7 + 0.8\,(1.11)}$$

= 0.84 inches

C) Total Runoff Volume, Vt (10 yr/24 hr)

$$Vt = \frac{(\text{~~3.2~~ 4.9Ac})(0.84 \text{ inches})}{12 \text{ in/ft}}$$

Vt = ~~0.224~~ 0.343 ac-ft

D) Sediment Storage Volume:

The following are sediment yield calculations as predicted by the Universal Soil Loss Equation (USLE) for an estimated life of 5 years. Using the Universal Soil Loss Equation;

A = (R)(K)(LS)(CP) where:

A = Average Soil Loss (tons/ac-yr)
R = Rainfall Erosivity Factor (Annual) = 20
K = Soil Erodibility Factor = 0.35
(SCS Soils Interpretation Record)
*LS = Slope Length and Steepness Factor
**CP = Control Practice Factor

The following USLE Parameters charts illustrate the Control Practice Factor (CP) and topographic characteristics of the watershed for specific time intervals during the estimated 5 year life of the pond. Weighted averages of the USLE Parameters are then applied to the Universal Soil Loss Equation for the period of time specified to predict the sediment yield.

USLE Parameters (1-5 Years)

Location	Area (Ac)	Activity	Avg. Slope (%)	CP
Mine Yard Area	~~3.2~~ 4.9	Disturbed	3.5	1.00

S = 21% **CP = 0.66
*LS = 3.5

A = (20)(0.35)(~~3.2~~ 4.9)(1.00)
A = ~~22.4~~ 34.3 tons/ac-yr

Sediment Yield = (~~22.4~~ 34.3 tons/ac-yr)(~~3.2~~ 4.9ac)(5 yr)
= ~~359~~ 840.4 tons

* Topographic Factor, LS "Applied Hydrology and Sedimentology for Disturbed Areas" p. 334, LS is derived using an Average Slope Length = 100 ft. and an area weighted avg. slope, S.

** Control Practice Factor CP "Applied Hydrology and Sedimentology for Disturbed Areas" p. 390, Appendix 5A. CP represents the area weighted average of the CP values.

Weighted Sediment Density

Mine Yard Area containing coal fines = ~~2.6~~ 2.8 acres

Mine Yard Area containing soil material = ~~0.6~~ 2.1 acres

Soil Density = 68 lb/cf

Coal Density = 54.4 lb/cf

Weighted Sediment Density = $\frac{(\text{~~2.6~~ 2.8 ac})(54.4 \text{ lb/cf}) + (2.1 \text{ ac})(68 \text{ lb/cf})}{\text{~~3.2~~ 4.9 acres}}$

= ~~56.95~~ 60.23 lb/cf

Required Sediment Volume (5 years)

Sediment Yield = ~~359~~ 840.4 tons
Weighted Sediment Density = ~~56.95~~ 60.23 lb/cf

Total Sediment Volume = (~~359~~ 755.6 tons) $\frac{(2000 \text{ lb})}{\text{ton}}$ $\frac{(\text{ft}^3)}{\text{~~56.95~~ 60.23 lb.}}$ $\frac{(\text{ac})}{43560 \text{ ft}^2}$

= ~~0.29~~ 0.64 ac-ft or ~~0.06~~ 0.13 ac-ft/yr

Total Sediment Storage

The dewatering system for Pond No. 9 consists of one (1) ~~12~~15 inch diameter pipe located at the normal pool elevation of ~~6053.0~~ 6052.55 ft. The ~~12~~15 inch pipe furnished with a slide gate which remain closed except when dewatering.

Total Sediment Storage (Elev. 6052.55') = 0.328 ac-ft

60% Sediment Storage (Elev. 6052.1') = 0.20 ac-ft

Inserted 10/2002
Revised 9/2003

Cleanout of Pond No. 9 will be conducted when the sediment level reaches Elev. 6052.0 ft. Based on the estimated annual sediment accumulation of ~~0.06~~ 0.13 ac-ft/yr, the cleanout interval for Pond 9 is approximately ~~3.6~~1.6 years. Please see the following page for storage volume calculations.

E) Pond No. 9 Stage - Storage Information

Listed below is the stage-storage relationship for this pond:

EMERY MINE
POND NO. 9
STAGE VS. STORAGE

ELEVATION (FT)	AREA (AC)	AVG AREA (AC)	DEPTH (FT)	VOLUME (AC-FT)	CUM. VOLUME (AC-FT)
6049.4	0.000				0.000
		0.010	0.6	0.006	
6050.0	0.020				0.006
		0.061	1	0.061	
6051.0	0.101				0.067
		0.145	1	0.145	
6052.0	0.189				0.212
		0.213	0.55	0.117	
6052.6	0.236				0.328
		0.258	0.45	0.116	
6053.0	0.280				0.444
		0.368	1	0.368	
6054.0	0.456				0.812
		0.496	0.55	0.598	
6054.6	0.536				1.411

Inserted 10/2002
Revised 9/2003

F) Design Pool Information (10 yr/24 hr)

Pond No. 9 is designed and will be constructed to provide full containment of runoff from a 10 yr/24 hr event by maintaining the one ~~12~~15 inch CMP slide gate closed at all times except when the pond is being dewatered. From the Stage vs. Storage Curve having a Total Sediment Elev. ~~6053.0~~6052.55', the Peak Pool Elev. during the 10 yr/24 hr event is derived as follows:

Design Pool Volume = Total Sediment Volume + Total Runoff Volume

= ~~0.316~~ 0.328 ac-ft + ~~0.224~~ 0.325ac-ft

= ~~0.654~~ 0.653ac-ft

Peak Pool Elev. (10 yr/24 hr) = ~~6053.9~~ 6053.64 ft.

With the top of the embankment at an elev. 6055.2 ft., full containment of the 10 yr/24 hr runoff is provided. To facilitate Pond No. 9 in discharging precipitation events larger than the 10 year/24 hour storm, the proposed open channel emergency spillway will be constructed ~~0.1~~ 0.9 foot above the peak pool of the 10 yr/24 hr design storm at an elev. 6054.55 feet.

Dewatering of Pond No. 9 will proceed only after a minimum of 24 hours of storm water detention is provided to achieve effluent limitations.

Inserted 10/2002
Revised 9/2003

G) Dewatering Discharge Calculations (10 yr/24 hr event)

The peak discharge for the proposed ~~12~~ 15- inch steel pipe outlet for Pond No. 9 is derived using the full pipe flow equation as derived in "Applied Hydrology and Sedimentology for Disturbed Areas", 1983 and shown below.

$$Q = \frac{a\,(2gH')^{0.5}}{(Kx + Ke + Kb + KcL)^{.5}}$$

where: H' = Peak Pool Elev. - Outlet Elev. + 0.6D

H' = 6053.64' - 6052.55' - 0.6 (~~12~~ 15/12)

H' = 0.34'

$$Q = \frac{a\,[2g(0.34)]^{0.5}}{(Kx + Ke + Kb + KcL)^{0.5}}$$

where: a = pipe area, 3.93 ft²
Kx = exit coefficient, 1.0
Ke = entrance coefficient, 1.0
Kb = bend coefficient, 0.0
Kc = friction coefficient, 0.0715
(using n = 0.015)
L = pipe length, 40 ft.

$$Q = \frac{3.93[2(32.2)(0.34)]^{0.5}}{[1.0 + 1.0 + 0.0 + 0.0715(40)]^{0.5}}$$

Q = ~~6.27~~ 8.36cfs

Inserted 10/2002
Revised 9/2003

H) Dewatering Discharge Rate

The following is an estimate of the time required to discharge the 10 yr/24 hr design storm runoff volume through the ~~12~~ 15-inch outlet pipe after a minimum of 24 hours of detention.

From the previous discharge calculations,

Q max = ~~6.27~~ 8.36cfs
Q avg = ~~3.13~~ 4.18 cfs

Estimated Discharge Time = $\frac{\text{Total Runoff Volume (10 yr/24 hr)}}{\text{Q avg}}$

$$= \frac{(\sim\!\!0.224\ 0.325\text{ac-ft})(43560\ \text{ft}^2/\text{ac})}{\sim\!\!3.13\ 4.18\text{cfs}} \times \frac{\text{hr}}{3600\text{s}}$$

= ~~0.87~~ 0.94 hours

I) Emergency Spillway Design (25 yr/24 hr storm event)

The proposed emergency overflow spillway will be constructed to discharge stormwater runoff which exceeds a 10 year/24 hour precipitation event. During the 25 year/24 hour design event, Pond No. 9 provides ~~partial~~ full storage of the runoff volume. ~~while the remaining runoff will discharge through the proposed emergency spillway.~~ (See the Outlet Verification, Item J, for routing information.) The spillway will be a trapezoidal shaped broad crested weir. Dimensions of the overflow spillway section is designed as follows:

Bottom Width	:	5 ft.
Sideslopes	:	1V:3H
Manning's "n"	:	0.035 (rocklined)
Depth	:	~~1.2~~ 0.65 ft.
Flowline Elev.	:	~~6054.0~~ 6054.55 ft.
Peak Flow Depth	:	~~0.1~~ 0.0 ft.
Peak Outflow	:	~~0.3~~ 0.0 cfs
Peak Velocity	:	~~0.9~~ 0.0 fps
Channel Slope	:	Flat 1.0% (Min)

The spillway will be constructed in the fill embankment and will discharge into the watershed of Christiansen Wash.

Inserted 10/2002
Revised 9/2003

J) Outlet Verification (25 year/24 hour event)

A SEDCAD computer routing was performed to confirm peak discharge and peak stage values for the 25 year/24 hour storm event. The SCS Type II storm distribution was used in the SEDCAD computer routing. With the ~~12~~ 15" dewatering pipe control valves closed*, ~~partial~~ full storage of the 25 year/24 hour event is provided while the remaining runoff is discharged through the proposed Emergency Spillway. A summary of the results is as follows:

Pond Data

Normal Pool Elev.	=	~~6053.0~~ 6052.55 ft.
Emergency Spillway Elev.	=	~~6054.0~~ 6054.55 ft.
Embankment Crest Elev.	=	6055.2 ft.

Routing Data

Peak Inflow	=	~~3.88~~ 9.58 cfs
Peak Outflow	=	0.00 cfs
Peak Outflow Velocity	=	0.00 fps
Peak Pool Elev.	=	~~6054.3~~ 6053.96 ft.

* Note: SEDCAD modeled with 1-inch corrugated metal pipe to function as a gated valve. Detailed discharge table contained within SEDCAD 4 Report demonstrates discharge from the straight pipe (1-inch principle) is 0.00 at all elevations. The proposed design fully contains the 25 yr/24 hr design storm.

Inserted 10/2002
Revised 9/2003

EMERY MINE
4th EAST PORTAL SITE
ACT/015/015

FULL CONTAINMENT

10 YR/24 HR DESIGN STORM

SEDIMENT POND #9

Revised 9-9-03

Kirschbaum

Island Creek Coal Company
P.O. Box 566
Sesser, IL 62884

Phone: 618-625-6847
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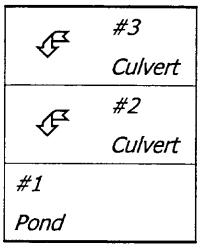
General Information

Storm Information:

Storm Type:	NRCS Type II
Design Storm:	10 yr - 24 hr
Rainfall Depth:	1.700 inches

Structure Networking:

Type	Stru #	(flows into)	Stru #	Musk. K (hrs)	Musk. X	Description
Pond	#1	==>	End	0.000	0.000	Sediment Pond #9
Culvert	#2	==>	#1	0.000	0.000	18-inch Entrance Rd
Culvert	#3	==>	#1	0.000	0.000	12-inch Vent Rd



Structure Summary:

		Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)
#3		0.600	0.600	0.99	0.05
#2		1.500	1.500	1.48	0.07
#1	In	3.300	5.400	6.93	0.34
	Out			0.00	0.00

Structure Detail:

Structure #3 (Culvert)

12-inch Vent Rd

Culvert Inputs:

Length (ft)	Slope (%)	Manning's n	Max. Headwater (ft)	Tailwater (ft)	Entrance Loss Coef. (Ke)
30.00	0.50	0.0150	1.00	0.00	0.90

Culvert Results:

Minimum pipe diameter required: 8 inches

Structure #2 (Culvert)

18-inch Entrance Rd

Culvert Inputs:

Length (ft)	Slope (%)	Manning's n	Max. Headwater (ft)	Tailwater (ft)	Entrance Loss Coef. (Ke)
60.00	0.50	0.0150	1.00	0.00	0.90

Culvert Results:

Minimum pipe diameter required: 10 inches

Structure #1 (Pond)

Sediment Pond #9

Pond Inputs:

Permanent Pool Elev:	6,052.55
Permanent Pool:	0.32 ac-ft

Straight Pipe

Barrel Diameter (in)	Barrel Length (ft)	Barrel Slope (%)	Manning's n	Spillway Elev	Entrance Loss Coefficient	Tailwater Depth (ft)
1.00	40.00	0.01	0.0140	6,052.55	0.90	0.00

Pond Results:

Peak Elevation:	6,053.64
H'graph Detention Time:	0.00 hrs
Dewater Time:	0.00 days

Dewatering time is calculated from peak stage to lowest spillway

Elevation-Capacity-Discharge Table

Elevation	Area (ac)	Capacity (ac-ft)	Discharge (cfs)	Dewater Time (hrs)	
6,049.00	0.000	0.000	0.000		
6,049.50	0.012	0.002	0.000		
6,050.00	0.020	0.010	0.000		
6,050.50	0.053	0.028	0.000		
6,051.00	0.101	0.066	0.000		
6,051.50	0.142	0.126	0.000		
6,052.00	0.189	0.208	0.000		
6,052.50	0.232	0.313	0.000		
6,052.55	0.236	0.325	0.000		Spillway #1
6,053.00	0.280	0.441	0.000		
6,053.50	0.363	0.601	0.000		
6,053.64	0.392	0.657	0.000	0.00	Peak Stage
6,054.00	0.456	0.805	0.000		
6,054.50	0.529	1.051	0.000		
6,054.55	0.536	1.078	0.000		
6,055.00	0.537	1.319	0.000		
6,055.20	0.537	1.427	0.000		

Detailed Discharge Table

Elevation	Straight Pipe (cfs)	Combined Total Discharge (cfs)
6,049.00	0.000	0.000
6,049.50	0.000	0.000
6,050.00	0.000	0.000
6,050.50	0.000	0.000
6,051.00	0.000	0.000
6,051.50	0.000	0.000
6,052.00	0.000	0.000
6,052.50	0.000	0.000
6,052.55	0.000	0.000
6,053.00	0.000	0.000
6,053.50	0.000	0.000
6,054.00	0.000	0.000
6,054.50	0.000	0.000

Elevation	Straight Pipe (cfs)	Combined Total Discharge (cfs)
6,054.55	0.000	0.000
6,055.00	0.000	0.000
6,055.20	0.000	0.000

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#3	1	0.600	0.052	0.000	0.000	92.000	F	0.99	0.05
	Σ	**0.600**						**0.99**	**0.05**
#2	1	1.500	0.056	0.000	0.000	85.000	F	1.48	0.07
	Σ	**1.500**						**1.48**	**0.07**
#1	1	3.300	0.030	0.000	0.000	89.000	F	4.45	0.22
	Σ	**5.400**						**6.93**	**0.34**

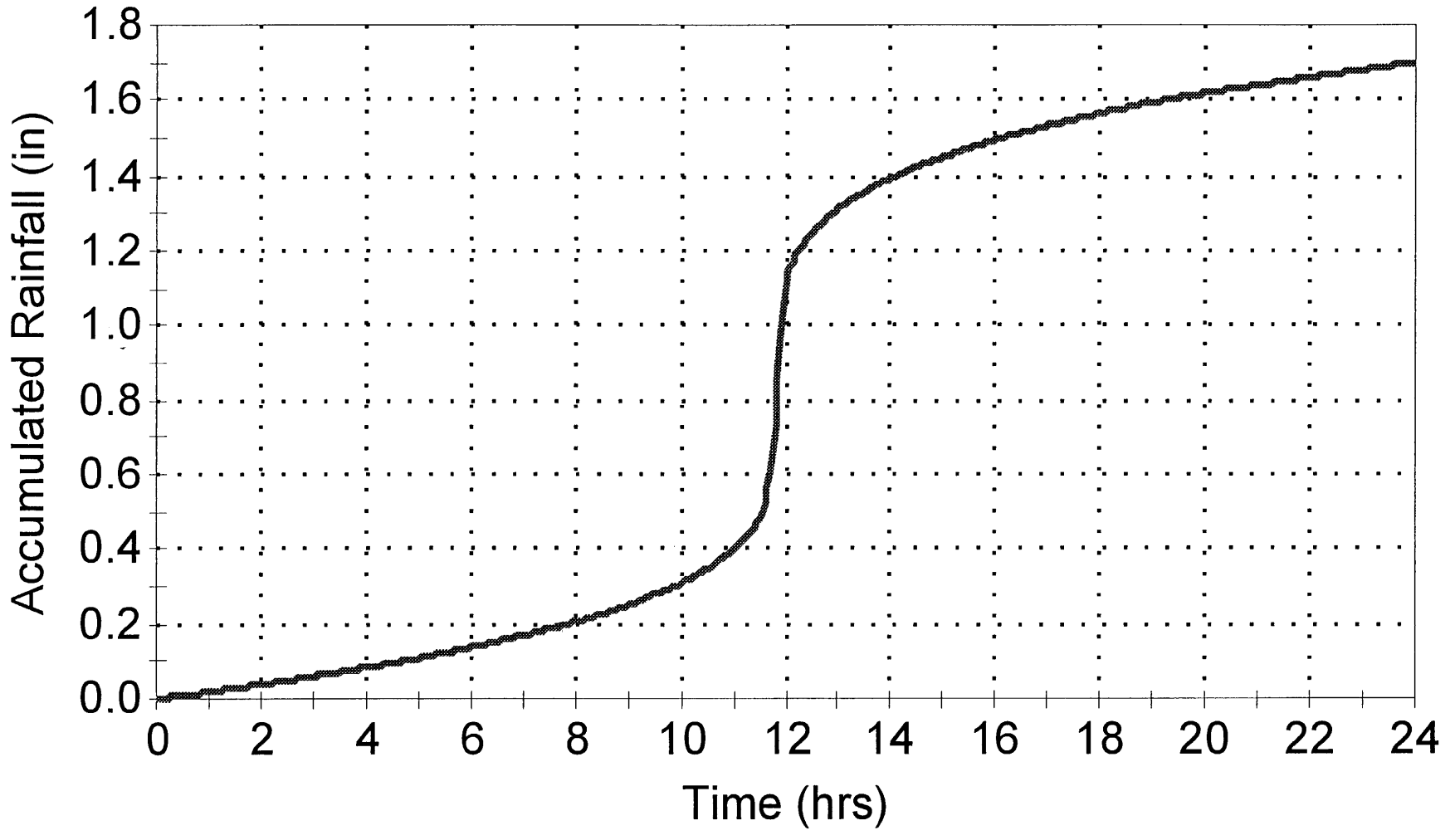
Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	7. Paved area and small upland gullies	5.00	25.00	500.00	4.500	0.030
#1	**1**	**Time of Concentration:**					**0.030**
#2	1	5. Nearly bare and untilled, and alluvial valley fans	6.00	30.00	500.00	2.440	0.056
#2	**1**	**Time of Concentration:**					**0.056**
#3	1	7. Paved area and small upland gullies	2.50	15.00	600.00	3.180	0.052
#3	**1**	**Time of Concentration:**					**0.052**

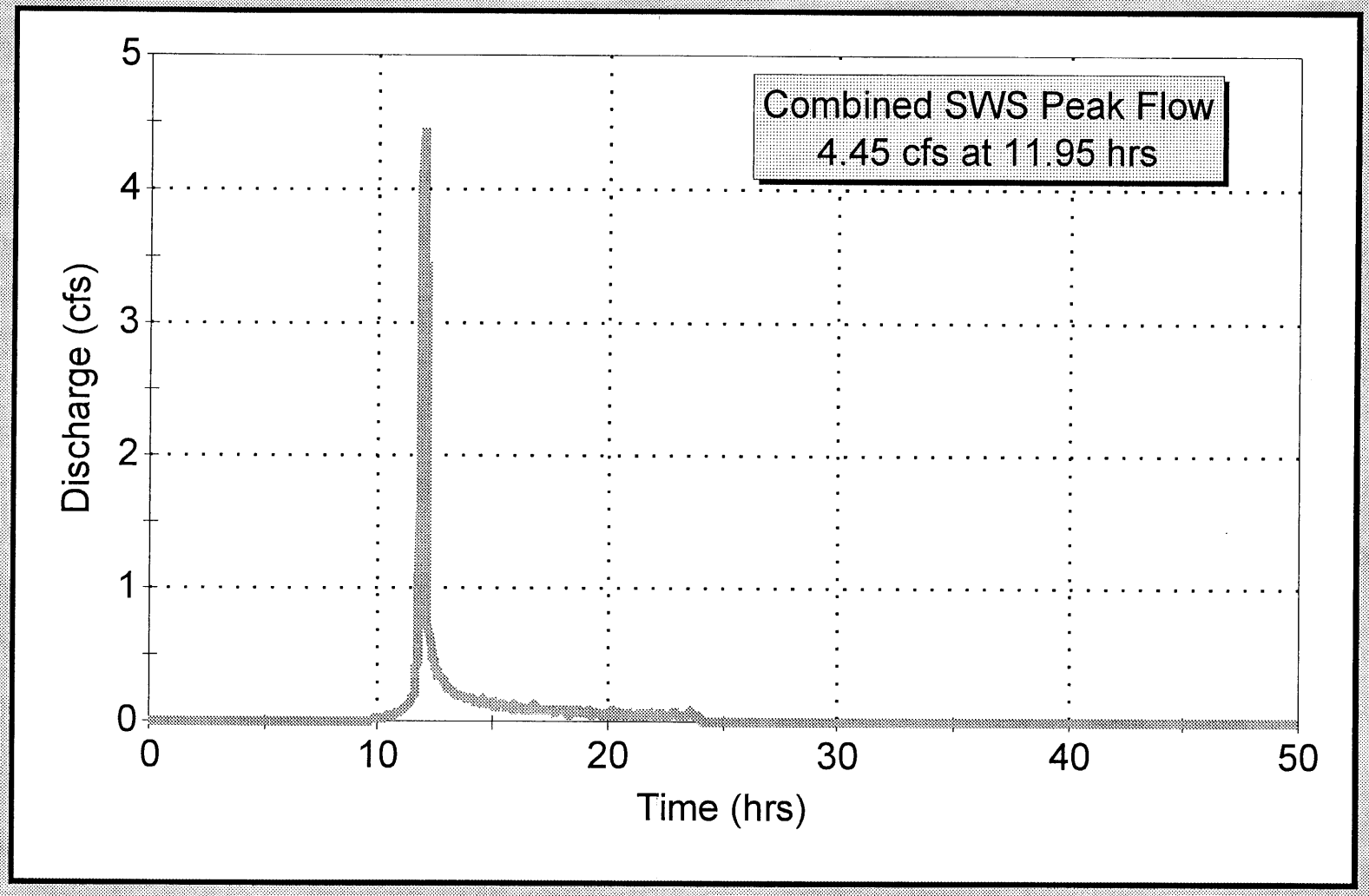
Subwatershed Muskingum Routing Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#2	1		0.00	0.00	0.00	0.000	0.000
#2	**1**	**Muskingum K:**					**0.000**

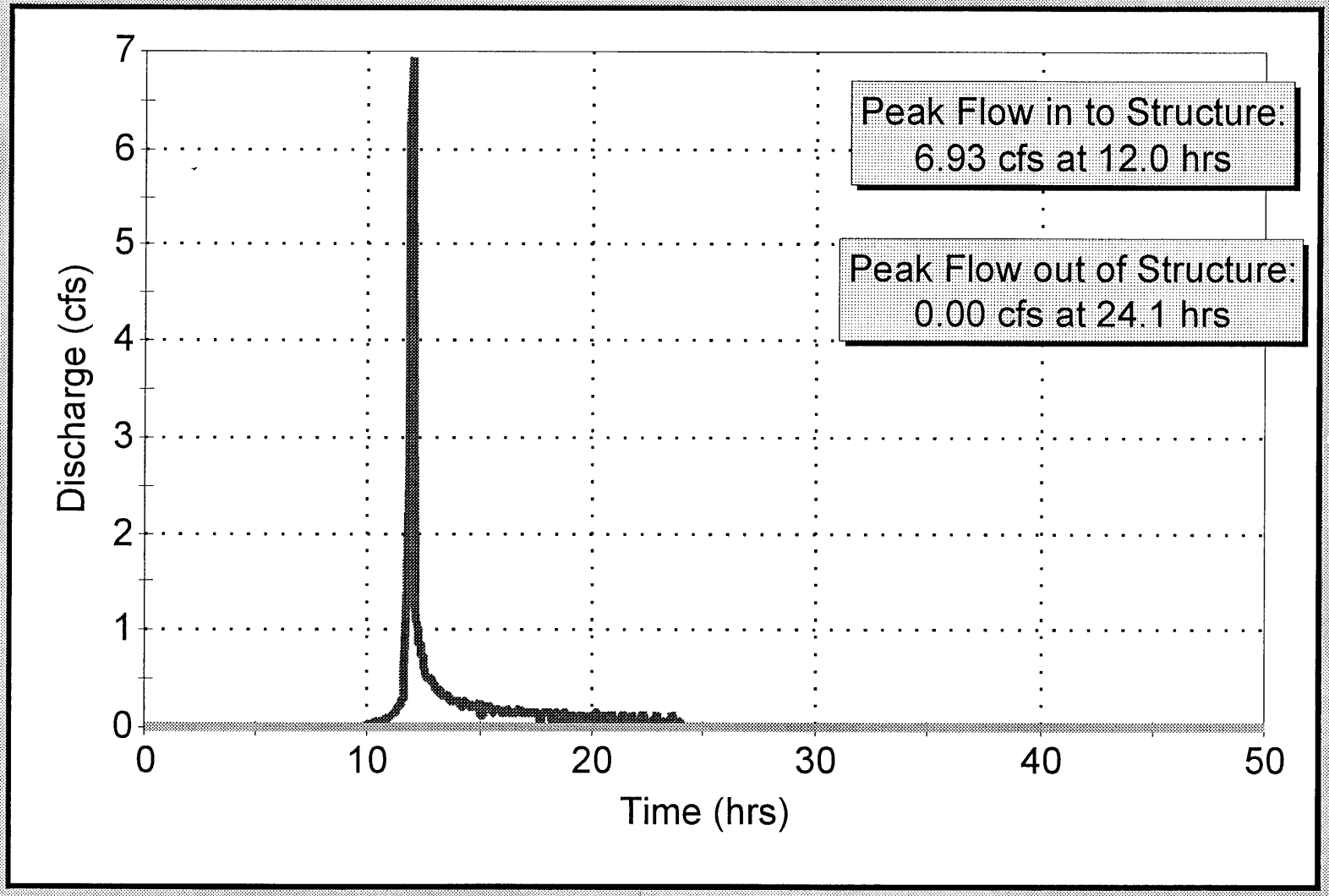
NRCS Type II, 10 yr - 24 hr Storm



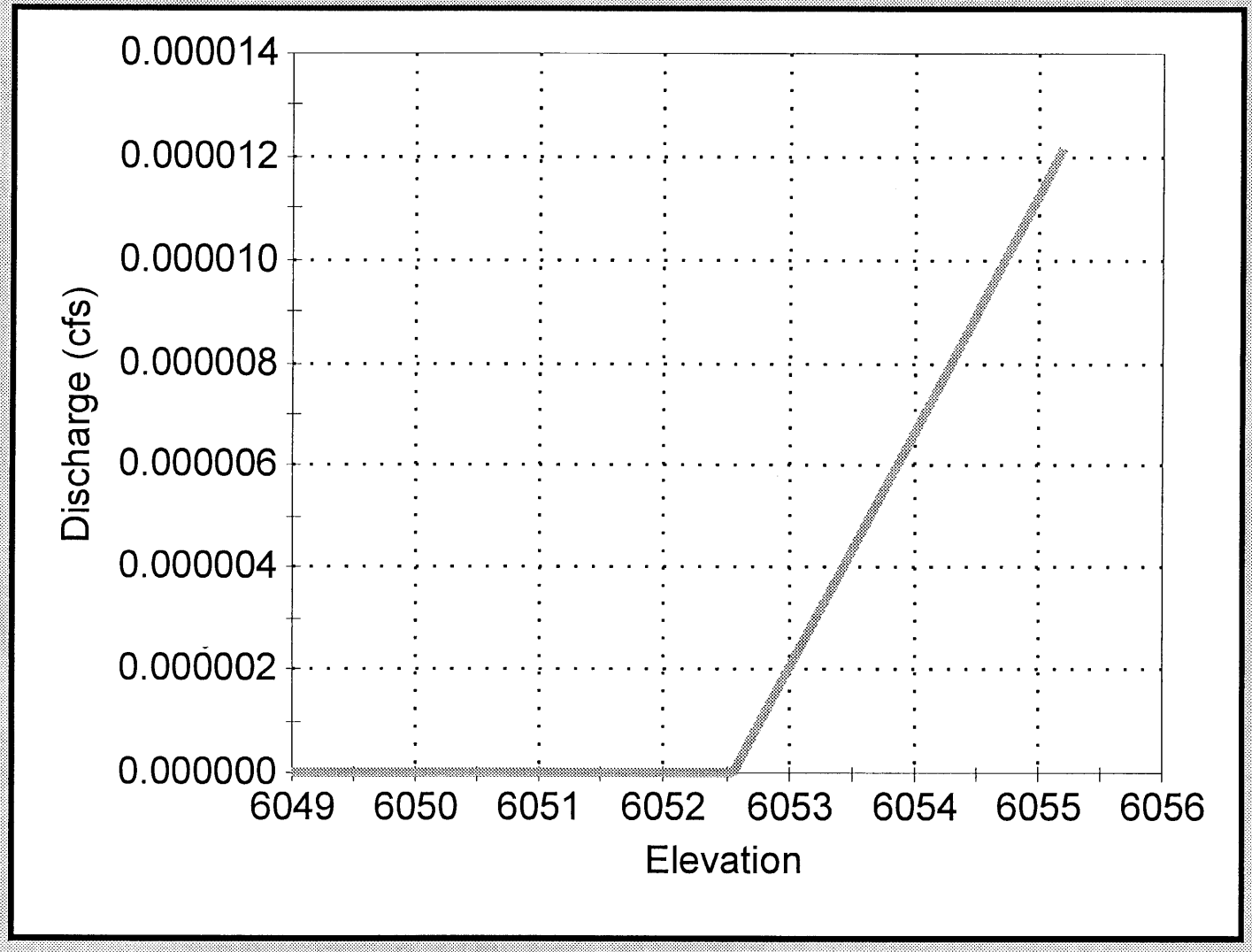
Contributing SWS Hydrograph(s) for Structure # 1 (does not include upstream flow)



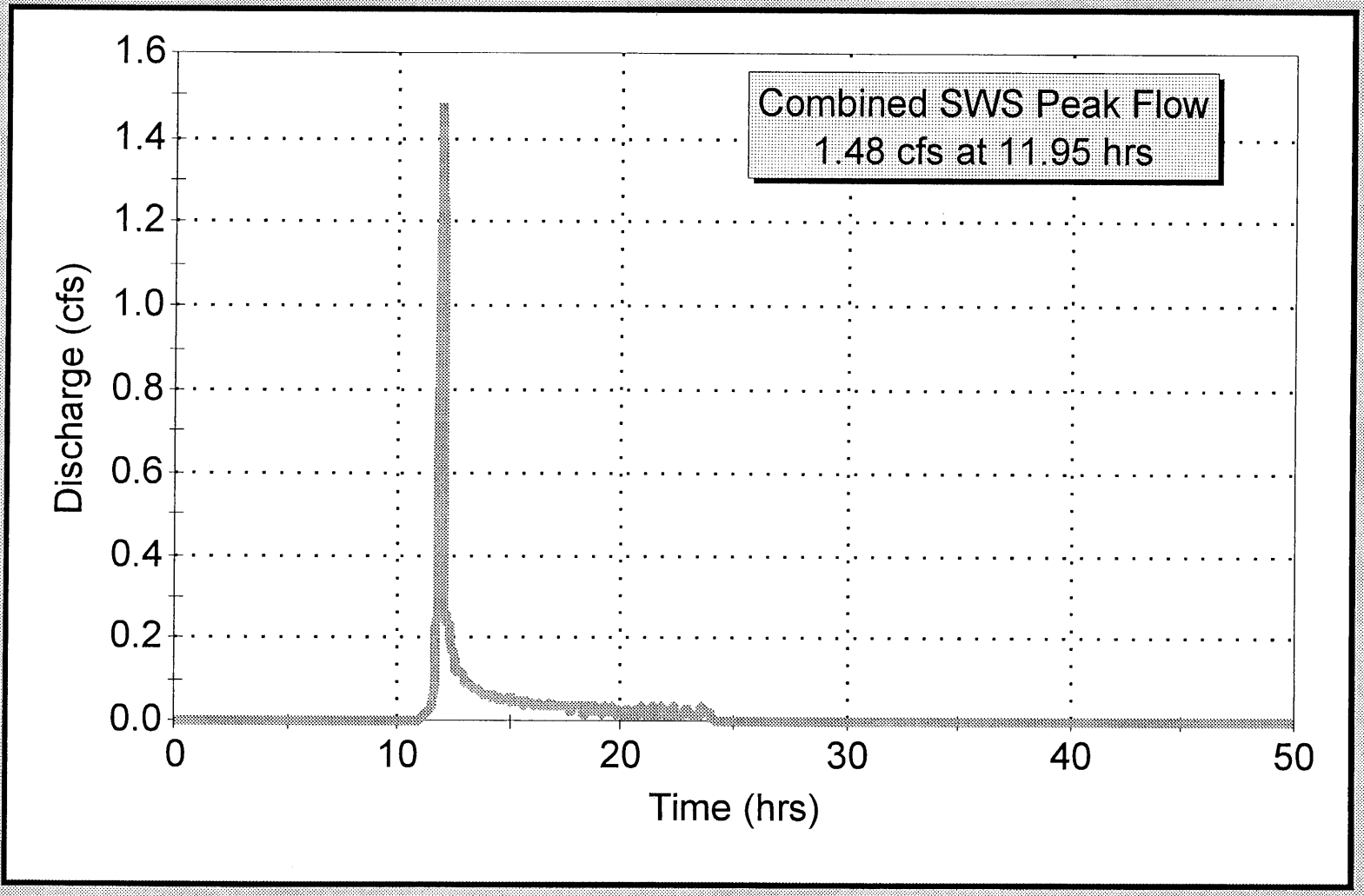
Inflow/Outflow Hydrographs for Structure # 1



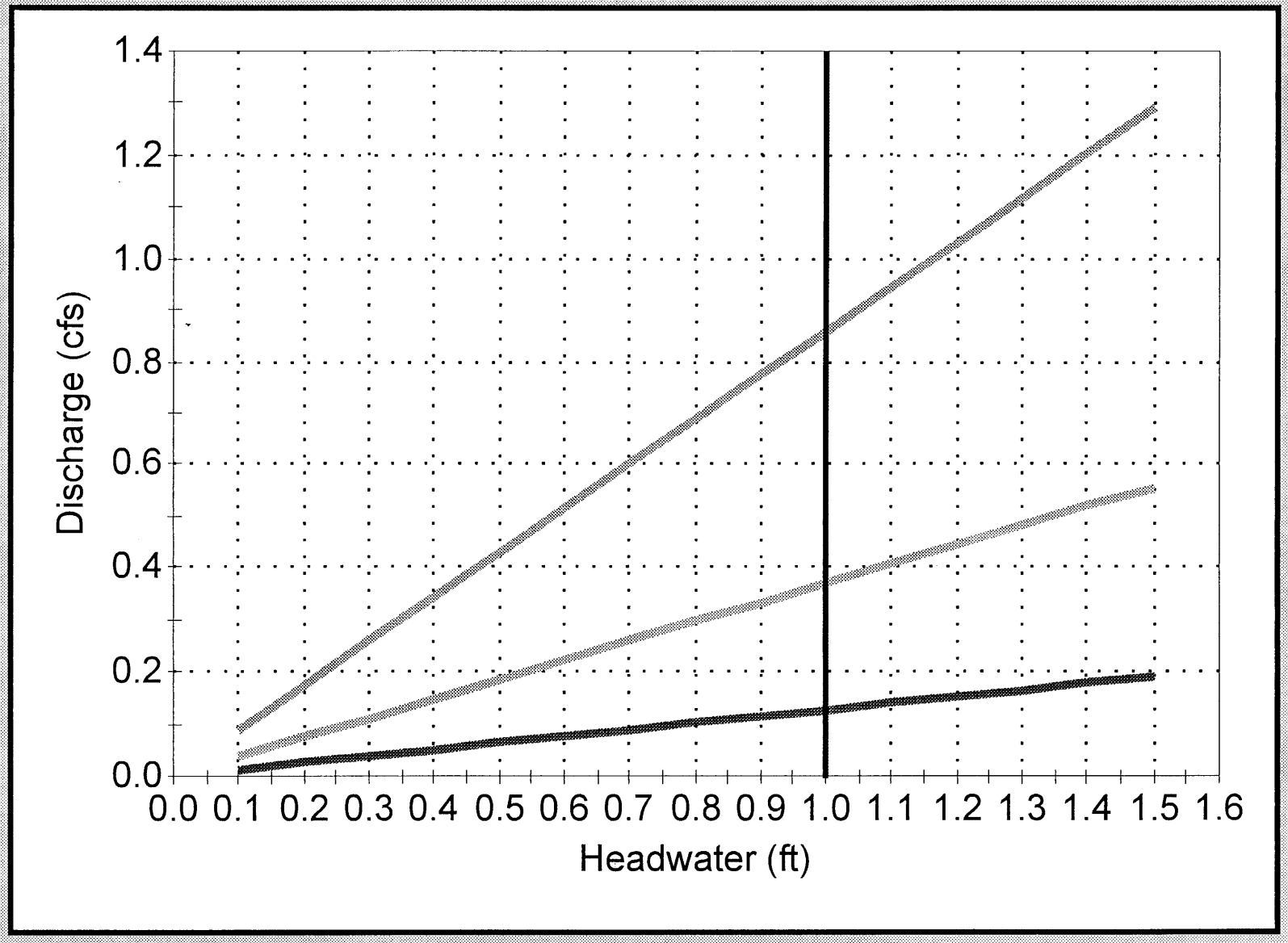
Stage-Discharge Curves for Structure # 1



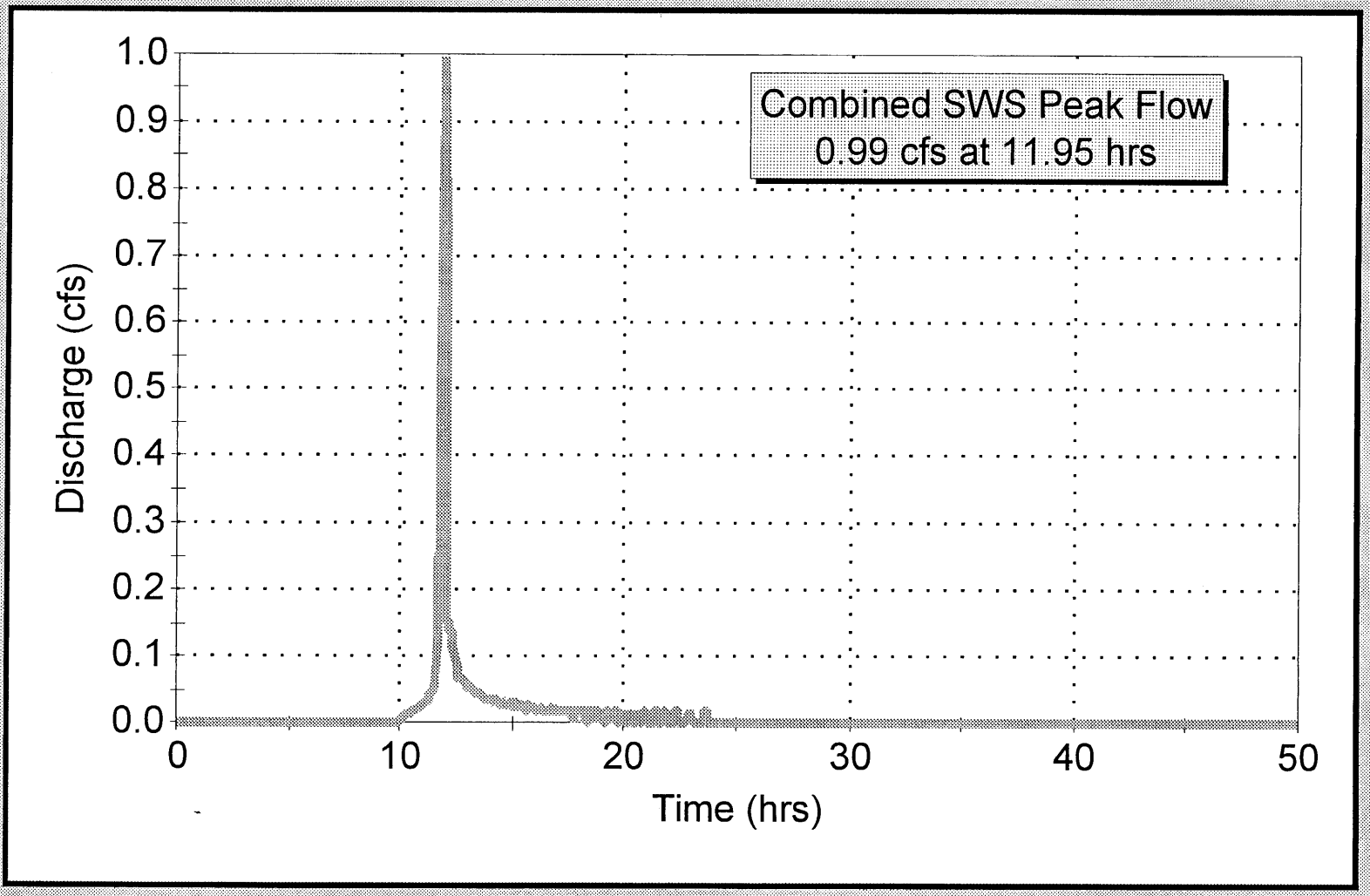
Contributing SWS Hydrograph(s) for Structure # 2 (does not include upstream flow)



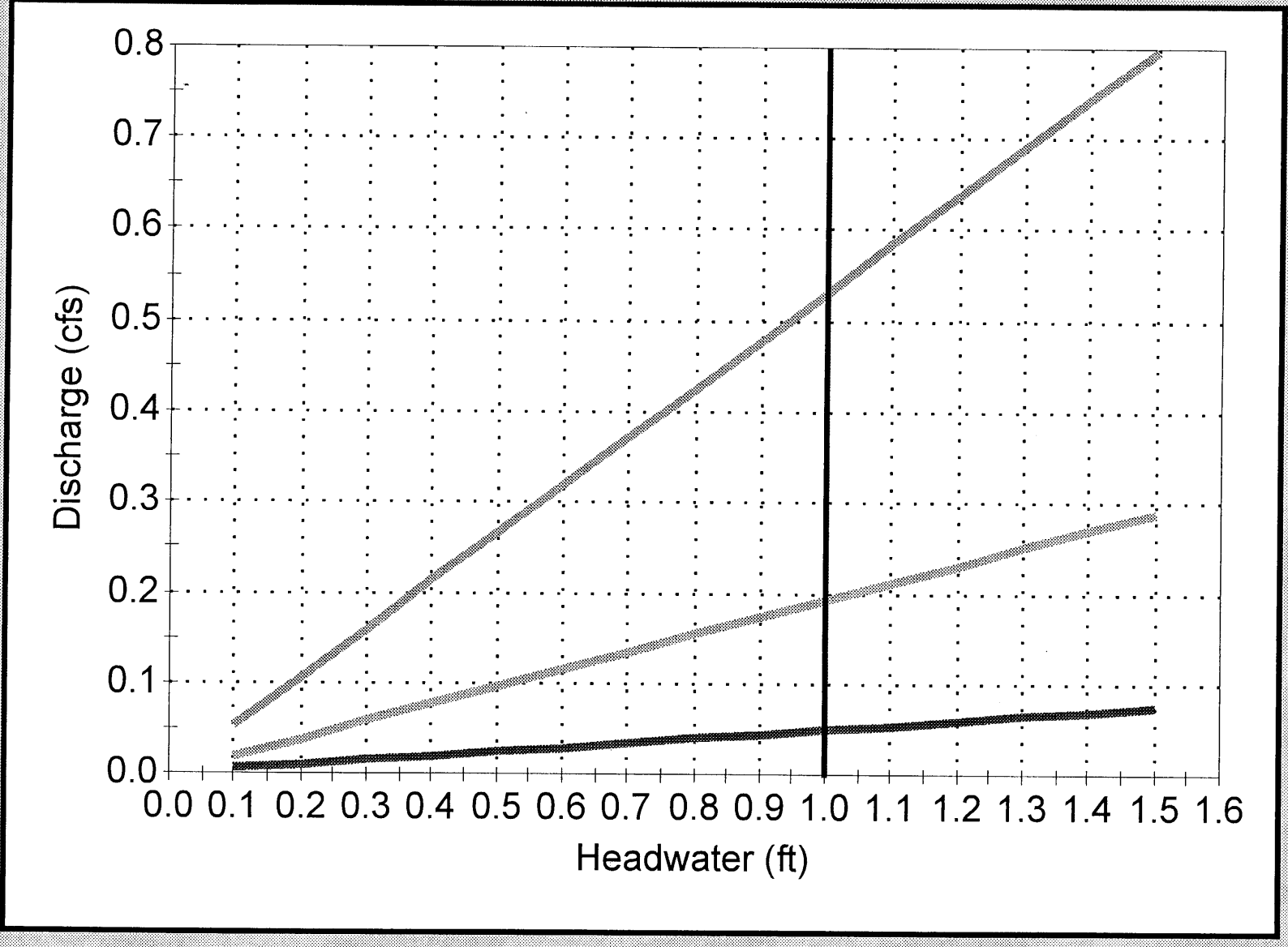
Culvert Performance Curves - Structure # 2



Contributing SWS Hydrograph(s) for Structure # 3 (does not include upstream flow)



Culvert Performance Curves - Structure # 3



EMERY MINE

4th EAST PORTAL SITE

ACT/015/015

EMERGENCY SPILLWAY

25 YR/24 HR DESIGN STORM

SEDIMENT POND #9

Revised 9-9-03

Kirschbaum

Island Creek Coal Company
P.O. Box 566
Sesser, IL 62884

Phone: 618-625-6847
Email: timkirschbaum@consolenergy.com

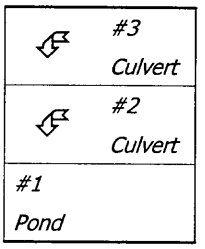
General Information

Storm Information:

Storm Type:	NRCS Type II
Design Storm:	25 yr - 24 hr
Rainfall Depth:	2.100 inches

Structure Networking:

Type	Stru #	(flows into)	Stru #	Musk. K (hrs)	Musk. X	Description
Pond	#1	==>	End	0.000	0.000	Sediment Pond #9
Culvert	#2	==>	#1	0.000	0.000	18-inch Entrance Rd
Culvert	#3	==>	#1	0.000	0.000	12-inch Vent Rd



Structure Summary:

		Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)
#3		0.600	0.600	1.14	0.06
#2		1.500	1.500	2.86	0.14
#1	In	3.300	5.400	10.28	0.50
	Out			0.00	0.00

Structure Detail:

Structure #3 (Culvert)

12-inch Vent Rd

Culvert Inputs:

Length (ft)	Slope (%)	Manning's n	Max. Headwater (ft)	Tailwater (ft)	Entrance Loss Coef. (Ke)
30.00	0.50	0.0150	1.00	0.00	0.90

Culvert Results:

Minimum pipe diameter required: 10 inches

Structure #2 (Culvert)

18-inch Entrance Rd

Culvert Inputs:

Length (ft)	Slope (%)	Manning's n	Max. Headwater (ft)	Tailwater (ft)	Entrance Loss Coef. (Ke)
60.00	0.50	0.0150	1.00	0.00	0.90

Culvert Results:

Minimum pipe diameter required: 18 inches

Structure #1 (Pond)

Sediment Pond #9

Pond Inputs:

Permanent Pool Elev:	6,052.55
Permanent Pool:	0.32 ac-ft

Straight Pipe

Barrel Diameter (in)	Barrel Length (ft)	Barrel Slope (%)	Manning's n	Spillway Elev	Entrance Loss Coefficient	Tailwater Depth (ft)
1.00	40.00	0.01	0.0140	6,052.55	0.90	0.00

Emergency Spillway

Spillway Elev	Crest Length (ft)	Left Sideslope	Right Sideslope	Bottom Width (ft)
6,054.55	15.00	2.00:1	2.00:1	5.00

Pond Results:

Peak Elevation:	6,054.04
H'graph Detention Time:	0.00 hrs
Dewater Time:	0.00 days

Dewatering time is calculated from peak stage to lowest spillway

Elevation-Capacity-Discharge Table

Elevation	Area (ac)	Capacity (ac-ft)	Discharge (cfs)	Dewater Time (hrs)	
6,049.00	0.000	0.000	0.000		
6,049.50	0.012	0.002	0.000		
6,050.00	0.020	0.010	0.000		
6,050.50	0.053	0.027	0.000		
6,051.00	0.101	0.065	0.000		
6,051.50	0.142	0.126	0.000		
6,052.00	0.189	0.208	0.000		
6,052.50	0.232	0.313	0.000		
6,052.55	0.236	0.325	0.000		Spillway #1
6,053.00	0.280	0.441	0.000		
6,053.50	0.363	0.601	0.000		
6,054.00	0.456	0.805	0.000		
6,054.04	0.452	0.823	0.000	0.00	Peak Stage
6,054.50	0.529	1.051	0.000		
6,054.55	0.536	1.077	0.000		Spillway #2
6,055.00	0.537	1.319	3.885		
6,055.20	0.537	1.426	5.611		

Detailed Discharge Table

Elevation	Straight Pipe (cfs)	Emergency Spillway (cfs)	Combined Total Discharge (cfs)
6,049.00	0.000	0.000	0.000
6,049.50	0.000	0.000	0.000
6,050.00	0.000	0.000	0.000
6,050.50	0.000	0.000	0.000

Elevation	Straight Pipe (cfs)	Emergency Spillway (cfs)	Combined Total Discharge (cfs)
6,051.00	0.000	0.000	0.000
6,051.50	0.000	0.000	0.000
6,052.00	0.000	0.000	0.000
6,052.50	0.000	0.000	0.000
6,052.55	0.000	0.000	0.000
6,053.00	0.000	0.000	0.000
6,053.50	0.000	0.000	0.000
6,054.00	0.000	0.000	0.000
6,054.50	0.000	0.000	0.000
6,054.55	0.000	0.000	0.000
6,055.00	0.000	3.885	3.885
6,055.20	0.000	5.611	5.611

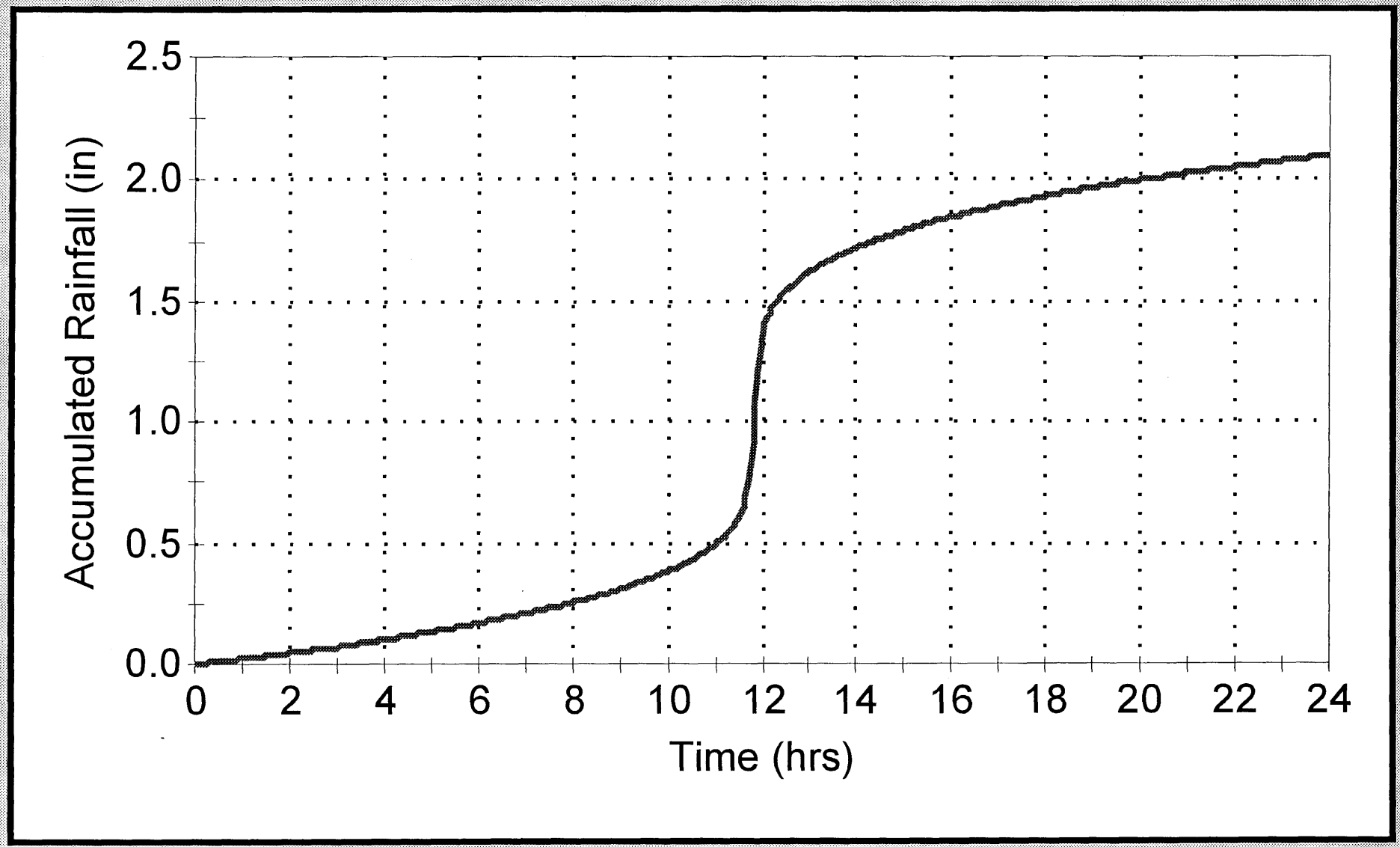
Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#3	1	0.600	0.052	0.000	0.000	89.000	F	1.14	0.06
	Σ	**0.600**						**1.14**	**0.06**
#2	1	1.500	0.056	0.000	0.000	89.000	F	2.86	0.14
	Σ	**1.500**						**2.86**	**0.14**
#1	1	3.300	0.030	0.000	0.000	89.000	F	6.28	0.31
	Σ	**5.400**						**10.28**	**0.50**

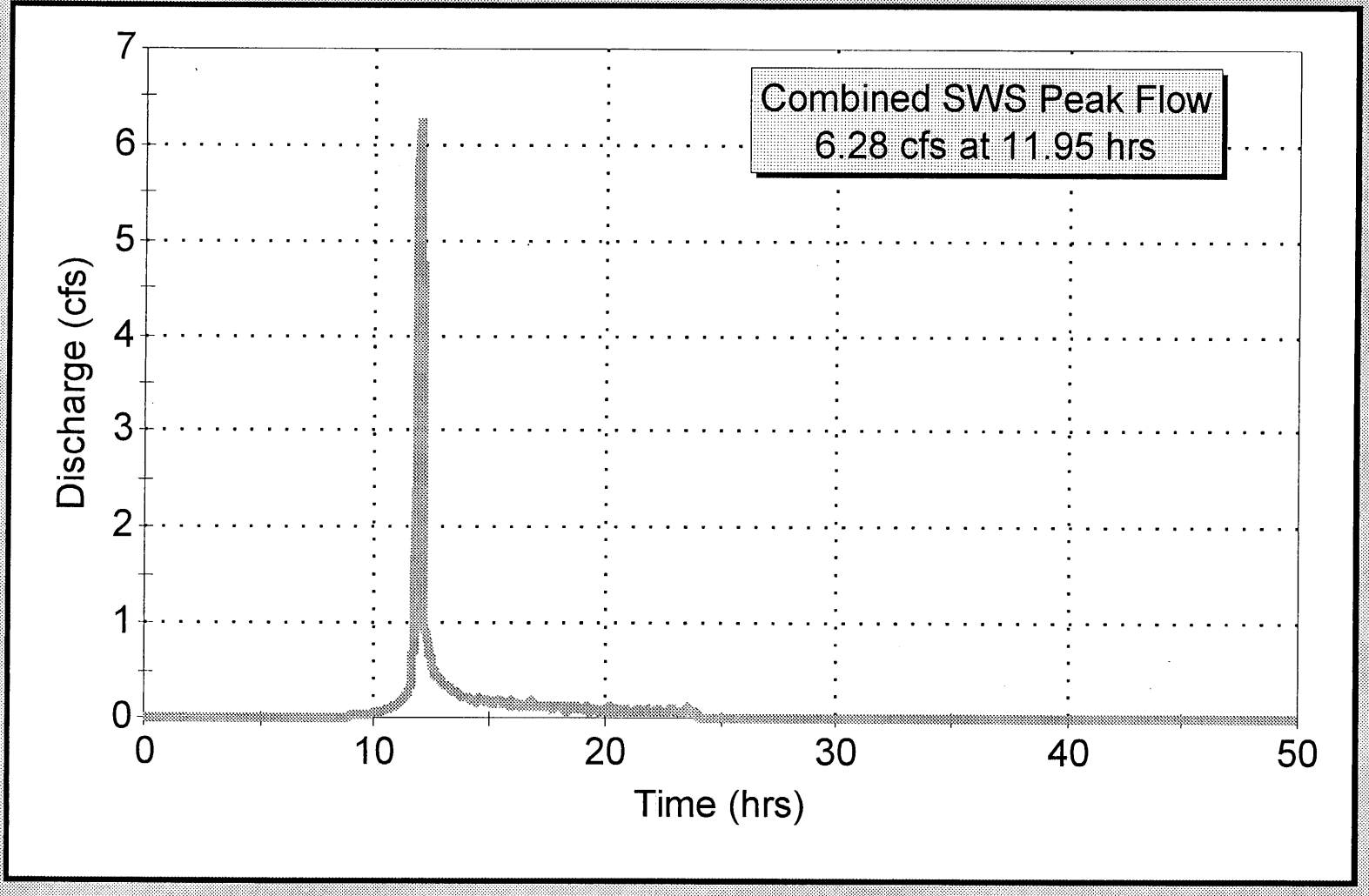
Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	7. Paved area and small upland gullies	5.00	25.00	500.00	4.500	0.030
#1	**1**	**Time of Concentration:**					**0.030**
#2	1	5. Nearly bare and untilled, and alluvial valley fans	6.00	30.00	500.00	2.440	0.056
#2	**1**	**Time of Concentration:**					**0.056**
#3	1	7. Paved area and small upland gullies	2.50	15.00	600.00	3.180	0.052
#3	**1**	**Time of Concentration:**					**0.052**

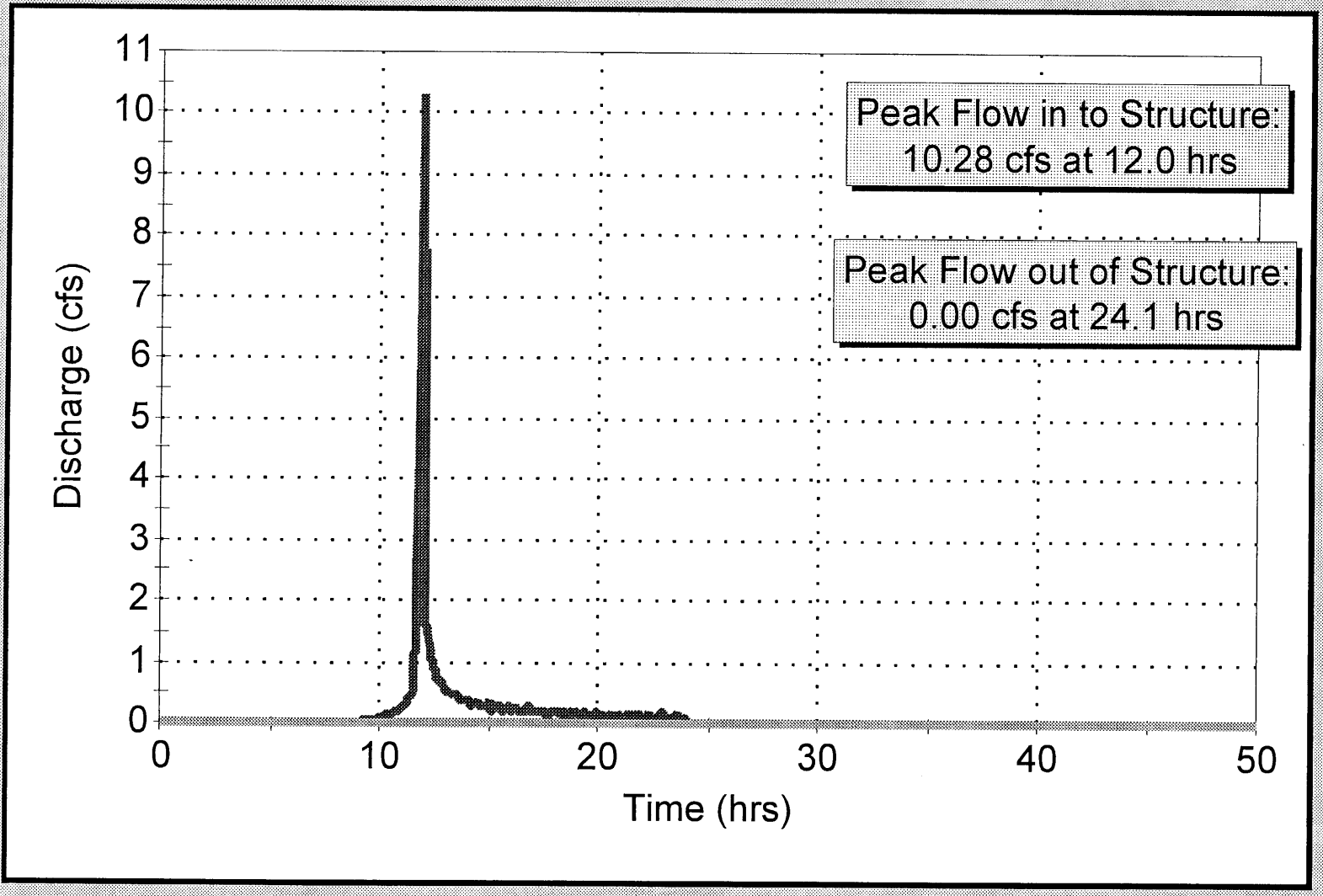
NRCS Type II, 25 yr - 24 hr Storm



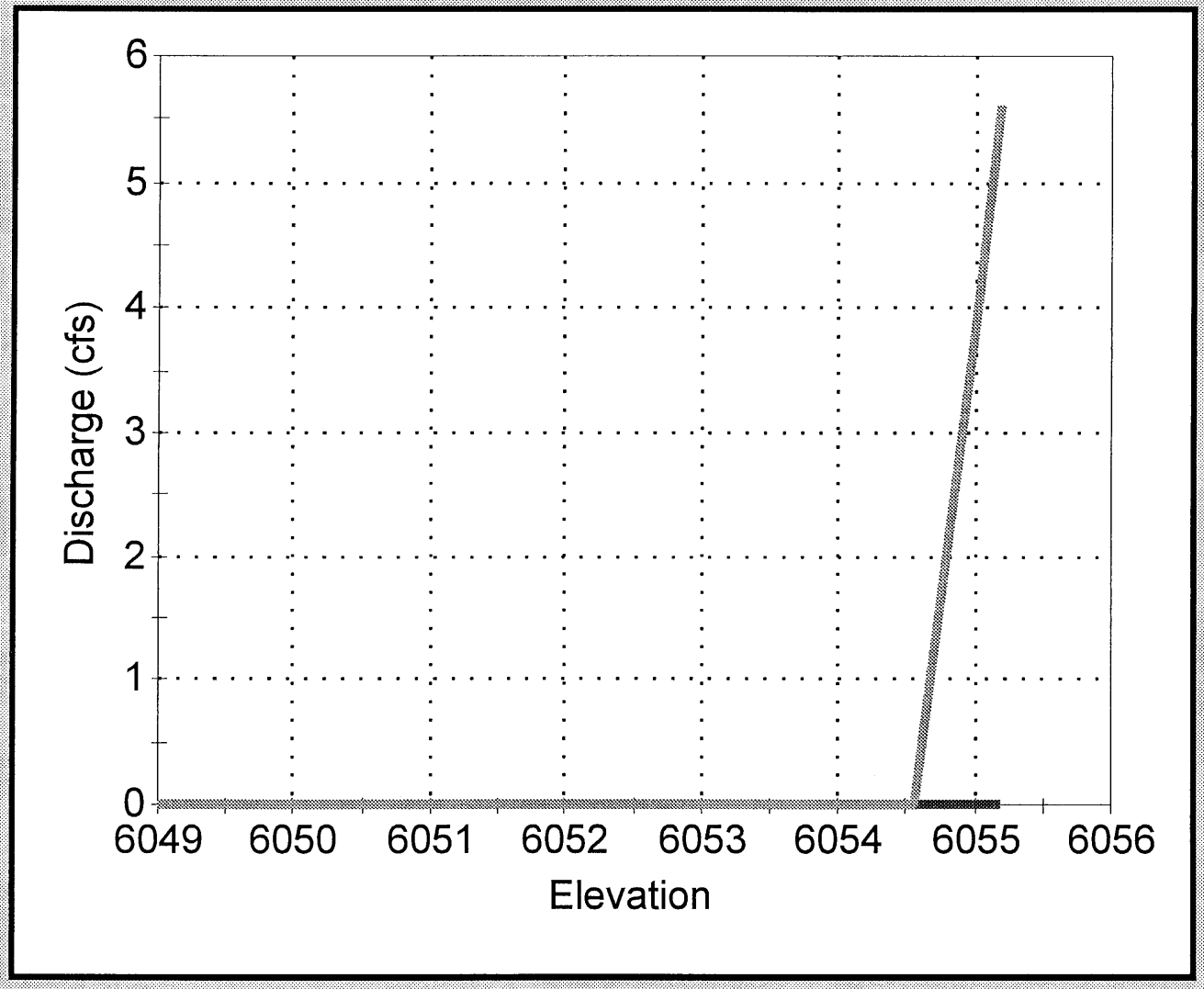
Contributing SWS Hydrograph(s) for Structure # 1 (does not include upstream flow)



Inflow/Outflow Hydrographs for Structure # 1



Stage-Discharge Curves for Structure # 1



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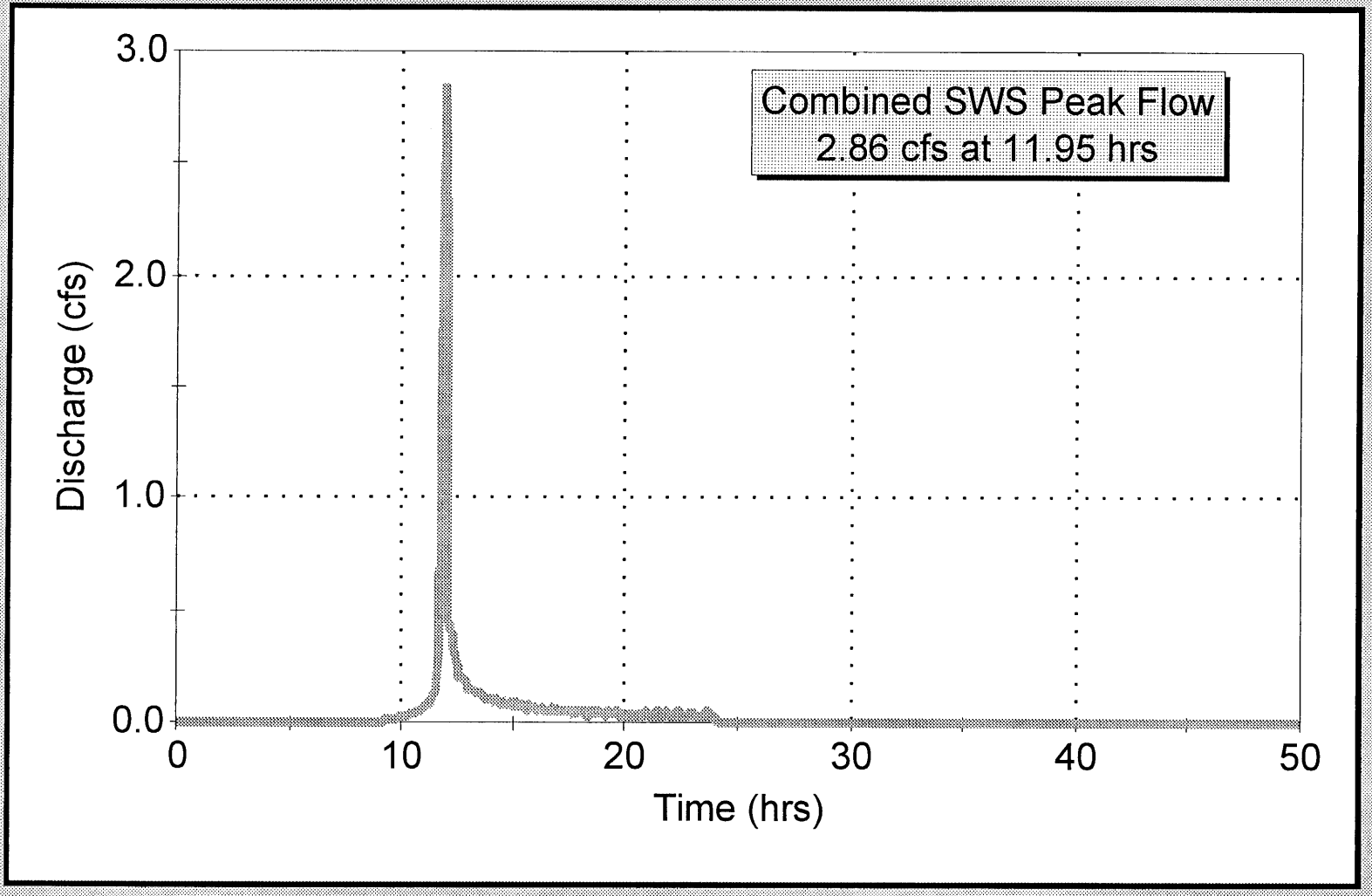
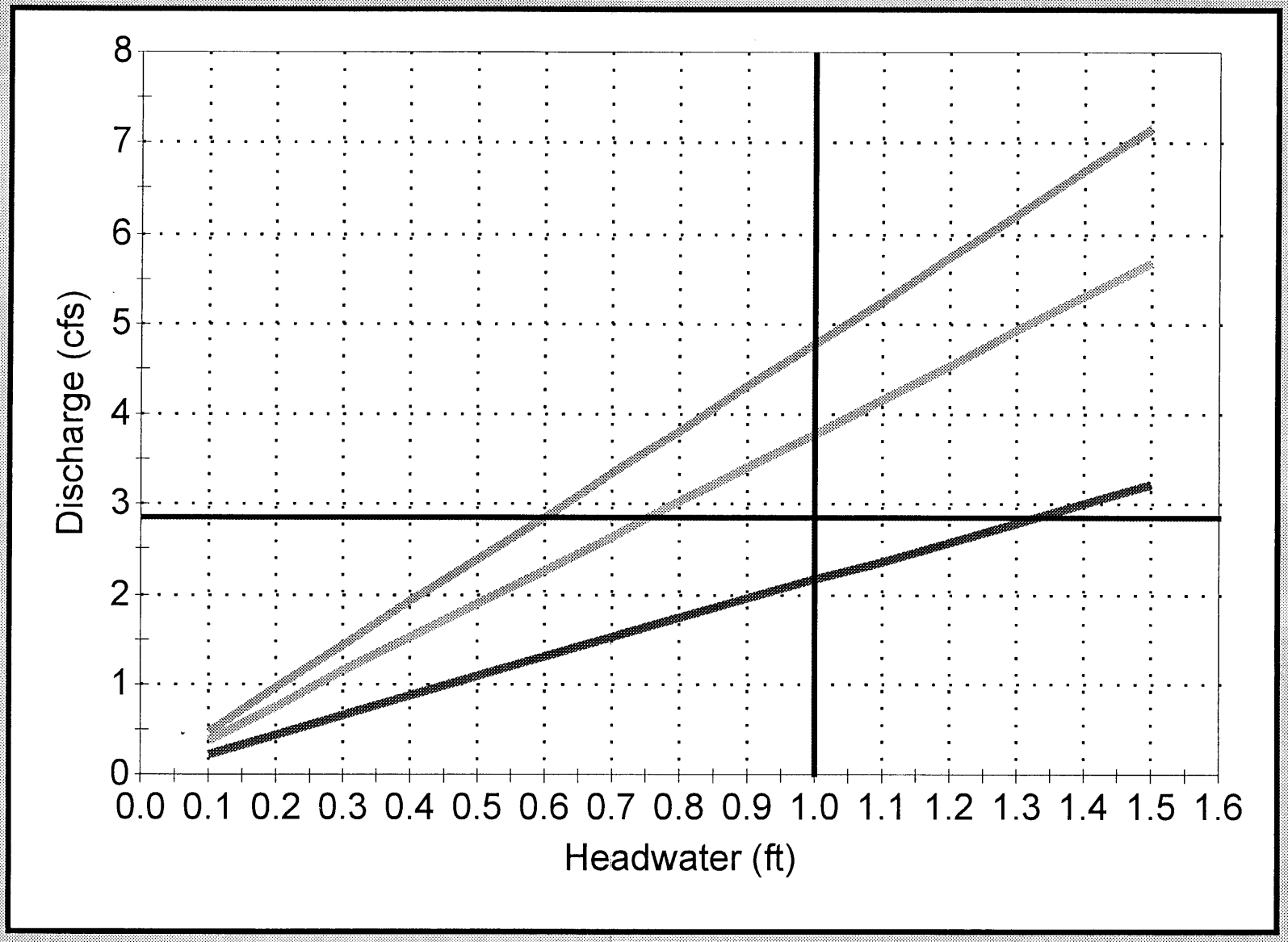
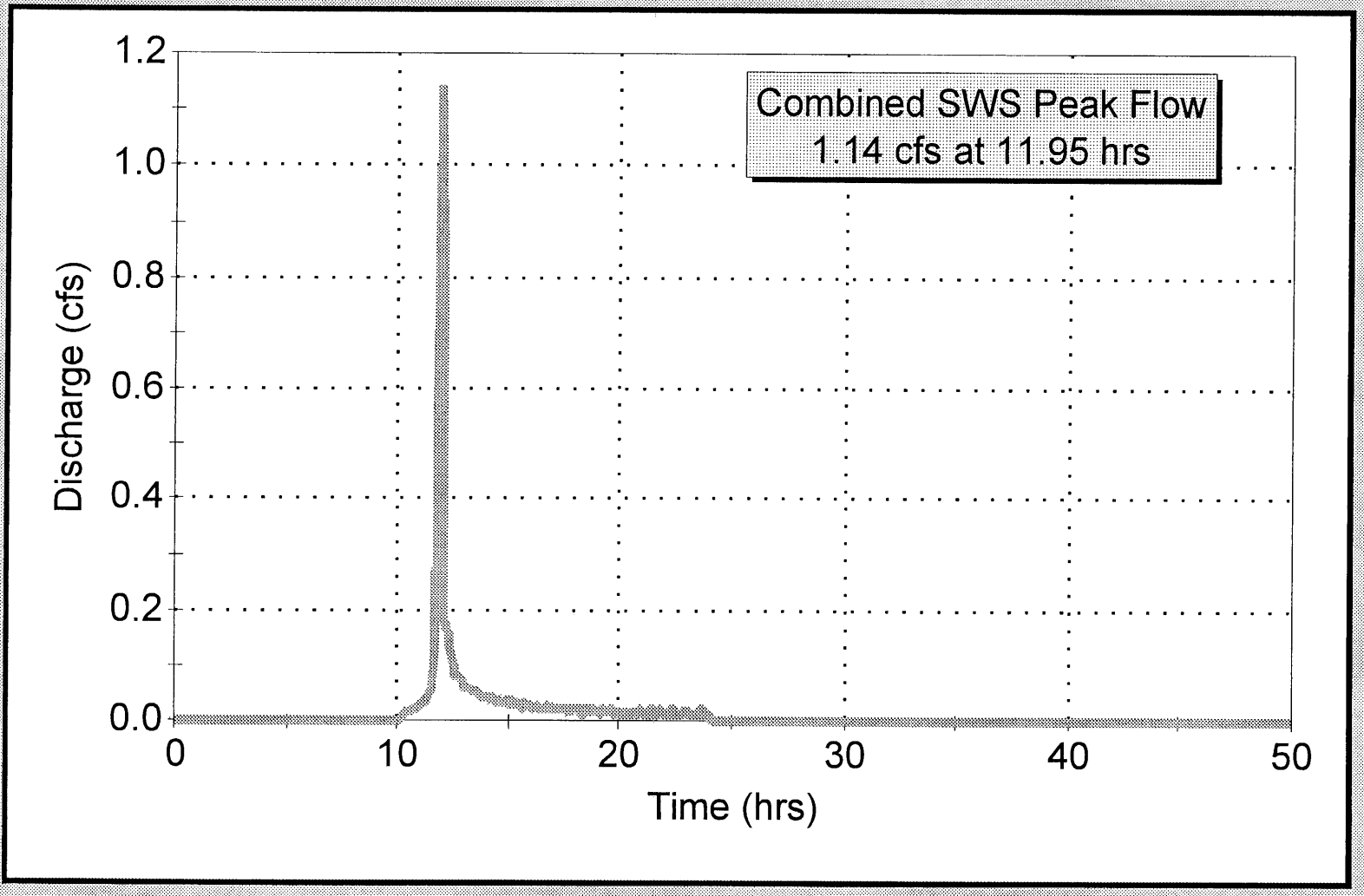


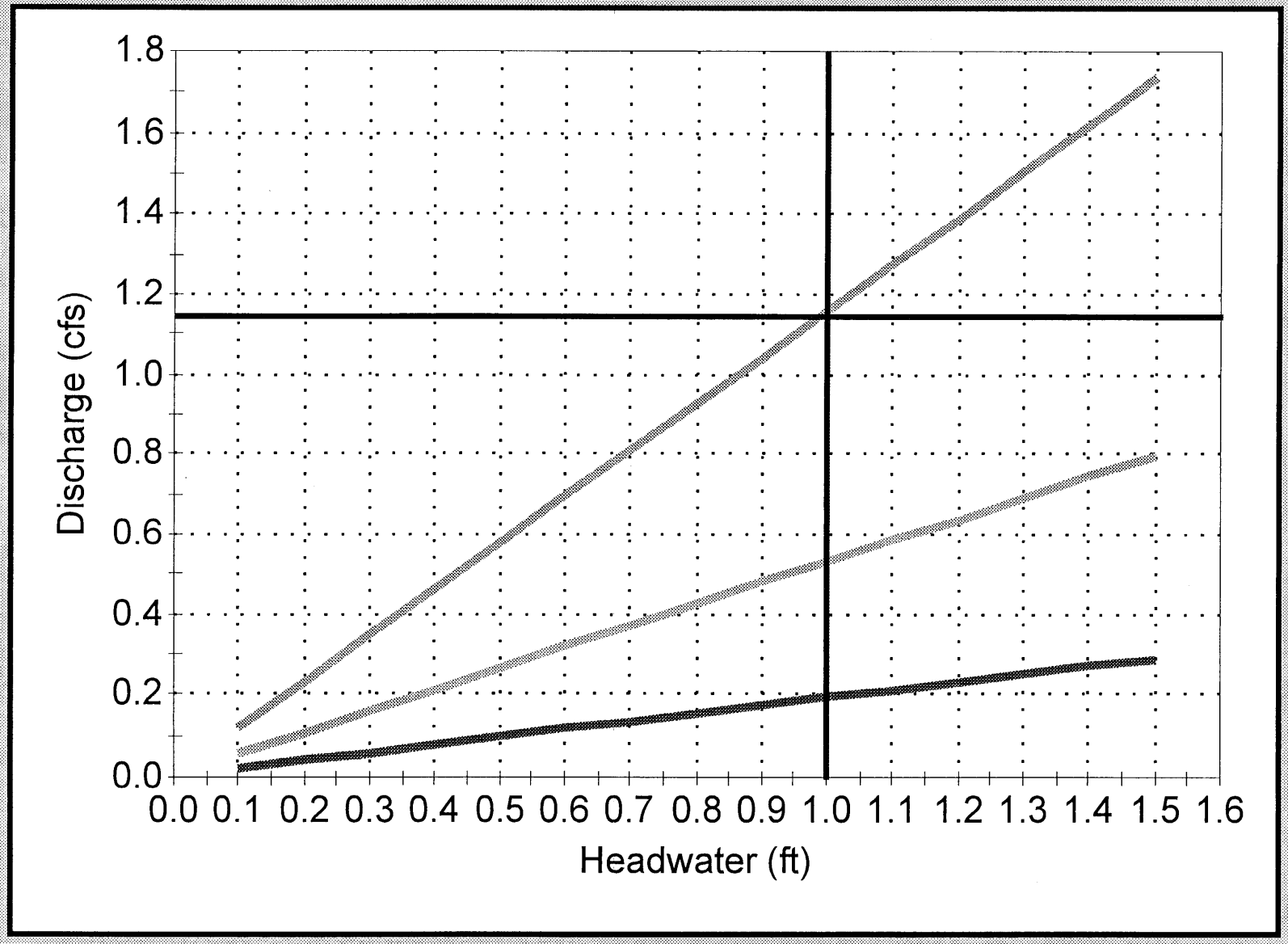
Culvert Performance Curves - Structure # 2



Contributing SWS Hydrograph(s) for Structure # 3 (does not include upstream flow)



Culvert Performance Curves - Structure # 3



APPENDICES

VII-1 TOPSOIL SUBSTITUTION PLAN - REVEGETATION DEMONSTRATION PLAN FOR AREAS AFFECTED PRIOR TO AUGUST 3, 1977

VII-2 TOPSOIL SUBSTITUTION PLAN - UNDERGROUND DEVELOPMENT WASTE DISPOSAL SITE

VII-3 SOIL RESOURCES AT THE 4th EAST PORTAL AREA- Mt. Nebo Scientific, Inc., April 2002

VII-4 LETTER FROM MT. NEBO CONSULTANTS - APPEND 1.5 AC. AREA TO 4th EAST PORTAL AREA-

PLATES

VII-1 SOIL MAP

LOCATION MONTWEL UT+CO

Established Series
REV: GWL/RLM/SSP
07/1999

MONTWEL SERIES

The Montwel series consists of moderately deep to shale , well drained, moderately slowly permeable soils that formed in slope alluvium and colluvium over residuum from variegated shale, siltstone, and sandstone. These soils are on hillslopes . Slopes are 2 to 90 percent. The average annual precipitation is about 8 inches and mean annual temperature is about 46 degrees F.

TAXONOMIC CLASS: Fine-loamy, mixed, superactive, calcareous, mesic Typic Torriorthents

TYPICAL PEDON: Montwel loam, on an northeast facing 42 percent slope under Mormon-tea, shadscale, galleta, and snakeweed -rangeland at an elevation of 5,350 feet. (Colors are for air-dry soil unless otherwise noted)

A--0 to 2 inches; brown (7.5YR 5/4) clay loam, strong brown (7.5YR 4/6) moist; weak very fine, fine, and medium subangular blocky structure; soft, friable, moderately sticky and moderately plastic; few fine and very fine roots; few fine and common very fine tubular pores; slightly effervescent, (10 percent calcium carbonate equivalent), carbonates are disseminated; moderately alkaline (pH 8.4); abrupt smooth boundary. (2 to 4 inches thick)

Cy1--2 to 9 inches; pale brown (10YR 6/3) clay loam, yellowish brown (10YR 5/4) moist; massive; soft, friable, slightly sticky and slightly plastic; few fine and very fine roots; few fine and very fine tubular pores; few fine geogenic gypsum crystals; slightly effervescent, (3 percent calcium carbonate equivalent), carbonates are disseminated; moderately alkaline (pH 8.2); abrupt smooth boundary. (3 to 13 inches thick).

Cy2--9 to 24 inches; reddish brown (5YR 5/4) clay loam, reddish brown (5YR 4/4) moist; massive; slightly hard, firm, moderately sticky and moderately plastic; common fine and very fine roots; few very fine tubular pores; few fine geogenic gypsum crystals; very slightly effervescent, (6 percent calcium carbonate equivalent), carbonates are disseminated; moderately alkaline (pH 8.2); abrupt smooth boundary. (5 to 19 inches thick)

Cy3--24 to 36 inches; pinkish gray (7.5YR 7/2) silty clay loam, brown (7.5YR 5/4) moist; massive; hard, firm, slightly sticky and slightly plastic; few fine geogenic gypsum crystals; slightly effervescent, (5 percent calcium carbonate equivalent), carbonates are disseminated; moderately alkaline (pH 8.4); abrupt smooth boundary. (5 to 15 inches thick).

Cr--36 inches; fractured shale.

TYPE LOCATION: Uintah County, Utah; about 10 miles south of Jensen near Red Wash; 1,700 feet south and 1,800 feet east of the northwest corner of sec. 11, T. 7 S., R. 23 E., SLBM; USGS Red

Wash, Utah quadrangle; 40 degrees , 13 minutes, 38 seconds north latitude, 109 degrees, 17 minutes, 47 seconds west longitude; NAD 27.

RANGE IN CHARACTERISTICS:

Soil moisture: The soil moisture control section is affected by precipitation that falls evenly through the year with a slight increase in the late summer and fall. This soil crosses precipitation zones that are considered to be Typic Aridic and Ustic Aridic. However, the drier aspects and steep slopes offset the additional moisture in the Ustic Aridic zone. The soil moisture regime is typic aridic.

Mean annual soil temperature: 47 to 51 degrees F.
Depth to paralithic contact: 20 to 40 inches to shale
The surface is covered with 0 to 60 percent gravel and cobbles.
Calcium carbonate equivalent: 5 to 15 percent.

Particle-size control section: 27 to 35 percent clay, 15 to 35 percent fine sand or coarser, and 0 to 15 percent parachanners

A horizon:
Hue: 2.5YR through 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 2 through 6
Texture: clay loam or cobbly clay loam
Rock fragments: 0 to 25 percent gravel and cobbles
Reaction: moderately alkaline or strongly alkaline

C horizon:
The C horizon is horizontal beds of variegated, stratified weathered shale, siltstone and fine grained sandstone that slakes in water.
Hue: dominantly 2.5YR through 7.5YR with thin layers of 10YR, 2.5Y, or 5Y
Value: 4 through 7 dry, 4 or 5 moist
Chroma: 2 through 6
Texture: clay loam, or silty clay loam
Reaction: moderately alkaline or strongly alkaline
Gypsum: 1 to 10 percent

COMPETING SERIES: These are the Gotho, Greybull, Hostage (T), Norland (T), Ohtog, Teapo, and Turzo series.

Gotho, Hostage, Norland, Ohtog and Turzo soils lack a paralithic contact within 40 inches of the surface.
Greybull soils have soil moisture control sections that are influenced by half the yearly precipitation falling during the months of April through June. They also have lithochromic hues that are dominantly more yellow than 7.5YR.
Teapo soils have more than 35 percent fine sand or coarser and have hue more yellow than 7.5YR.

GEOGRAPHIC SETTING:
Parent material: slope alluvium and colluvium over residuum derived from variegated shale interbedded with sandstone and siltstone

Landform: hillslopes
Slope: 2 to 90 percent
Elevation: 4,600 to 6,400 feet
Mean annual temperature: 45 to 49 degrees F
Mean annual precipitation: 5 to 12 inches
Freeze-free period: 110 to 140 days

GEOGRAPHICALLY ASSOCIATED SOILS: These are the Clapper, Denco, Hideout, and Milok soils.

Denco soils are on hillslopes and have a fine ,smectitic particle size control section.
Clapper and Milok soils are on fan remnants and have a calcic horizon.
Hideout soils are on hillslopes and have a lithic contact within 20 inches of the surface.

DRAINAGE AND PERMEABILITY: Well drained, low to high runoff; moderately slowly permeable.

USE AND VEGETATION: These soils are used mainly for rangeland, wildlife habitat, and recreation. Potential vegetation is shadscale, bud sagebrush, galleta, and Indian ricegrass. This soil has been correlated to the Desert Very Steep Shallow Loam (Shadscale) - 034XY133UT range site at the type location in Utah.

DISTRIBUTION AND EXTENT: Northeastern Utah. The series is of moderate extent. LLR D. MLRA 34.

MLRA OFFICE RESPONSIBLE: Lakewood, Colorado

SERIES ESTABLISHED: Duchesne County, Utah, 1948.

REMARKS: Diagnostic horizons and features recognized in this pedon are:

Particle-size control section: The zone from 10 to 36 inches. (Cy2 and Cy3 horizons)
Ochric epipedon: The zone from the surface to a depth of 2 inches. (A horizon)
Gypsum: The presence of geogenic gypsum in the zone from 2 to 36 inches. (Cy1, Cy2, and Cy3 horizons)
Paralithic contact: The contact with shale at 36 inches. (Cr horizon)

These soils are located in an area that range up to 12 inches of precipitation , typically an ustic aridic zone. However, the interaction of physical conditions (i.e., dry aspects and steep slopes)and moisture only allow desert plant communities to predominate. Thus, the soil moisture is more reflective of Typic Aridic.

Type location moved to Uintah County because of vague original location description.

The type location profile description was reviewed, updated, and revised to meet current standards on 2/1999.

Taxonomic version: Eighth Edition, 1998.

APPENDICE VII-4

LETTER FROM MT. NEBO CONSULTANTS -
APPEND 1.5 AC. AREA to 4th EAST PORTAL AREA

MT NEBO SCIENTIFIC, INC.
research & consulting

March 26, 2003

RECEIVED
MAR 31 2003

Tim Kirschbaum, P.E.
Consolidation Coal Company
P.O. Box 566
Sesser, Illinois 62884

Dear Mr. Kirschbaum:

You requested from us additional vegetation and soils information within the proposed increased area of the 4th East Portal permit boundary.

Vegetation

I have revised the current plant community boundary lines within the 4th East Portal permit area. Although I did not visit the site specifically to revise the current vegetation map, I do have a collection of good color photographs of the area. Because the proposed new permit area extension was relatively small, I used my photographs to extend the existing plant community boundary lines. A revised vegetation map has been included with this letter.

The proposed new area, however, should be survey for threatened, endangered or rare plant species. Plans should be made to do this study in late April or early May 2003.

Soils

I asked Mr. James Nyenhuis, Certified Professional Soil Scientist, to respond to your request regarding soils. Mr. Nyenhuis visited the site. His response is shown below. A revised soils map based on Mr. Nyenhuis' visit has also been included in this letter.

From James Nyenhuis letter-report (March 2003):

At your request, I visited the Emery Deep 4th East Portal Area site on March 14, 2003 for the purpose of extending the previous detailed soil survey to include a small strip of land between the northeast border of the permit area and the closely adjacent northwest/southeast trending dirt road. The area to be surveyed was outlined (cross hatched) on a site map emailed to me on March 6. The intent of the new survey is to support the request to include the small strip in the Disturbance Area of the permit area. The small strip has been impacted by wind-blown coal fines from adjacent mining activities. Prior to the survey, I spoke by telephone with Mr. Tim Kirshbaum (Consol P.E.) and meet with Mr. Seth McCourt (Consol Project Manager) at the site.

330 East 400 South, Ste. 6, P.O. Box 337, Springville, Utah 84663
(801) 489-6937, (fax) 489-6779

The small strip had been traversed by foot during the previous soil survey of the 4th East Portal Area last year although no backhoe pits had been dug on the strip itself. This time, the strip was again traversed by foot and numerous shallow spade holes were dug to confirm and/or revise the previous mapping extension. Results indicate that the previous map unit lines can be extended along contour lines over to the dirt road. From north to south, three map units delineations were extended to the dirt road to the east: (1) map unit PCE2: Persayo-Chipeta complex, (2) map unit CeE2: Castle Valley extremely stony very fine sandy loam, and (3) map unit RY: Rock Land. Map Unit RY (Rock Land) is present along or just south of the south boundary of the small strip area. The attached soil map includes the new soil mapping, and it can be digitized for acreage determination. No soil samples were collected because no new soil series were identified.

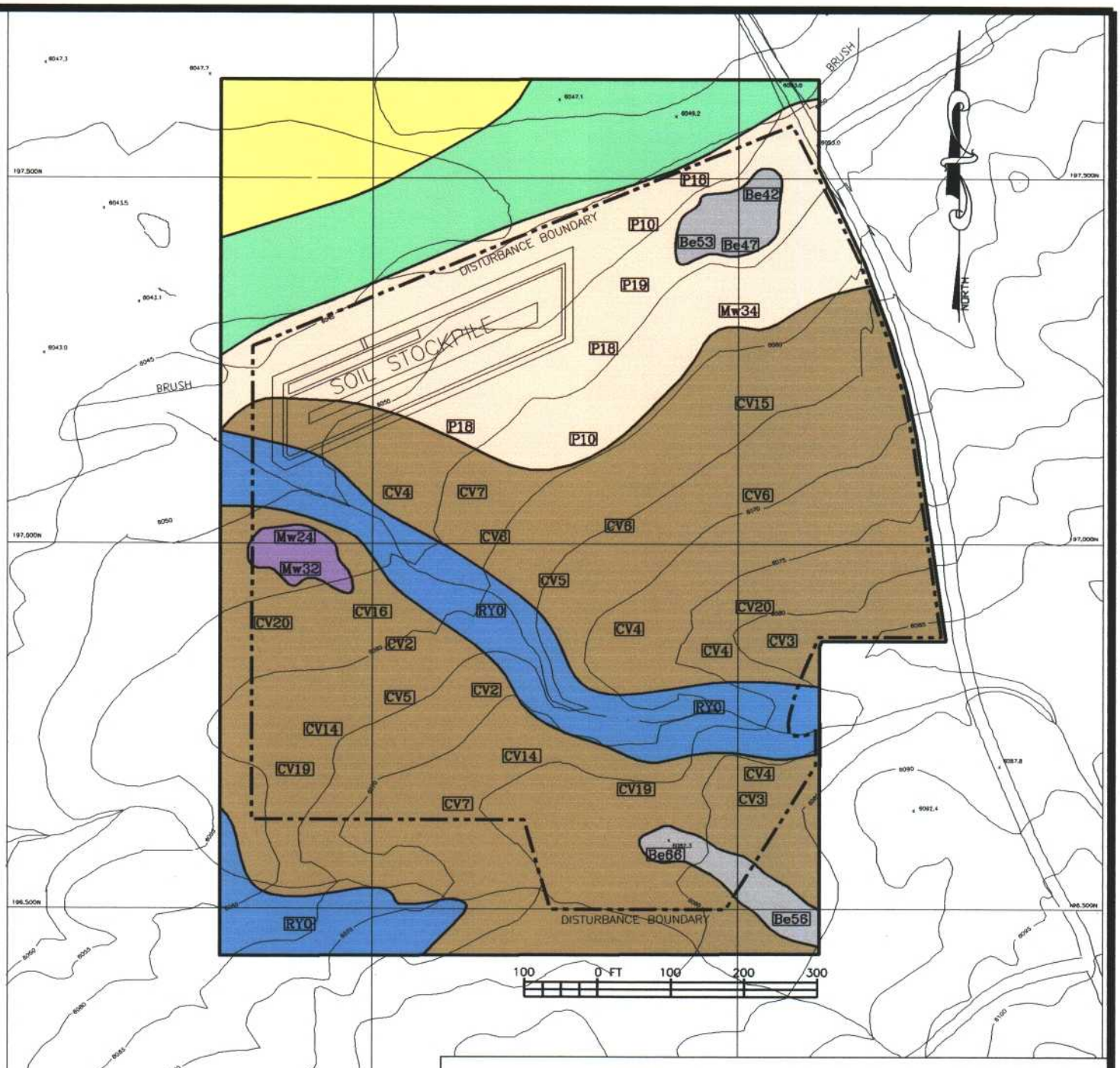
Please contact me if you have questions or comments. Also, let me know if you want me to conduct a sensitive plant survey in the new area at the appropriate time.

Sincerely,

Patrick D. Collins, Ph.D.

Enclosures

330 East 400 South, Ste. 6, P.O. Box 337, Springville, Utah 84663
(801) 489-6937, (fax) 489-6779



MAP UNIT SYMBOLS AND NAMES

KLB	KILLPACK SILTY CLAY LOAM, 0 TO 3% SLOPES
Fe	FERRON SILTY LOAM HEAVY VARIANT, 0 TO 3% SLOPES
PCE2	PERSAYO–CHIPETA COMPLEX, 1 TO 20% SLOPES
Be	BEGAY GRAVELY SANDY LOAM, 2 TO 6% SLOPES
RY	ROCK LAND
CeE2	CASTLE VALLEY EXTREMELY STONY VERY FINE SANDY LOAM, 0 TO 20% SLOPES
Mw	MONTWELL GRAVELY CLAY LOAM, 2 TO 6% SLOPES

SOIL SERIES

P = Persayo
CV = Castle Valley
RY = Rock Outcrop
Be = Begay
Mw = Montwell
Fe = Ferron

CV14 BACKHOE PIT LOCATIONS (LETTERS ARE ABBREVIATIONS FOR THE SOIL TYPE NAMES IDENTIFIED AT EACH PIT LOCATION; NUMBERS REPRESENT DEPTH TO BEDROCK IN INCHES).

SOILS MAP

EMERY DEEP
4TH EAST PORTAL AREA

CONSOLIDATION COAL COMPANY

MT. NEBO SCIENTIFIC, INC.
RESEARCH & CONSULTING

		REVISIONS	BY	DATE
DRAWN	G. Barton	Rev.1	J. Kummer	9.12.02
CHECKED	P. Collins	Rev.2	G. Barton	3.26.03
DATE	May 10, 2002	Rev.3	G. Barton	10.27.03
SCALE	1"=200'			

VIII.C. DEMONSTRATION OF COMPLIANCE WITH PERFORMANCE STANDARDS

VIII.C.1 UMC 783.19 VEGETATION INFORMATION

Vegetation information is provided in this chapter starting with VIII.A.1 ENVIRONMENTAL BASELINE DESCRIPTION and finishing with a review of PLATE VIII-1.C, VEGETATION AND LAND USE MAP.

VIII.C.2 UMC 783.24 MAPS: GENERAL REQUIREMENTS

Refer to Plate VIII-1 for the location of the following reference areas:

- Mixed Desert Shrubland
- Greasewood
- Riparian Meadow

VIII.C.3 UMC 817.100 CONTEMPORANEOUS *(INTERIM)* RECLAMATION

When necessary to provide interim or temporary revegetation of disturbed areas one of the following seed mixes will be applied by an approved seeding method.

	Common Name	*Scientific Name*	Minimum Pounds of Pure Live Seed/Acre
NATIVE	Blue grama	*Boutelous graeilis*	0.75
	Streambank wheatcgrass	*Elymus lanceolatus*	4.0
	Alkali scaton	*Sporobolus airoides*	0.25
	Winterfat	*Eurotia lanata*	2.0
	Fourwing saltbush	*Atriplex canescens*	4.0
	Shadscale saltbush	*Atriplex confertifolia*	4.0
	~~Yellow sweet clover~~	~~*Melilotus officinalis*~~	~~*0.5*~~
	Scarlet globemallow	*Sphaeralcea coccinea*	0.5
		TOTAL # of Seed/Acre	*15.5*
NON-NATIVE	Russian wild rye	*Leymus angustus*	3.0
	Highcrest crested wheatgrass	*Agropyron cristatum*	8.0
	Fourwing saltbush	*Atriplex canescens*	2.0
		TOTAL # of Seed/Acre	13

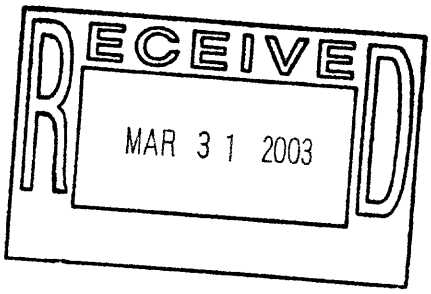
This interim vegetation cover will remain until final reclamation is conducted and the revegetation plan described under VIII.C.4 is established.

APPENDICE VIII-3

LETTER FROM MT. NEBO CONSULTANTS -
APPEND 1.5 AC. AREA to 4th EAST PORTAL AREA

MT NEBO SCIENTIFIC, INC.
research & consulting

March 26, 2003



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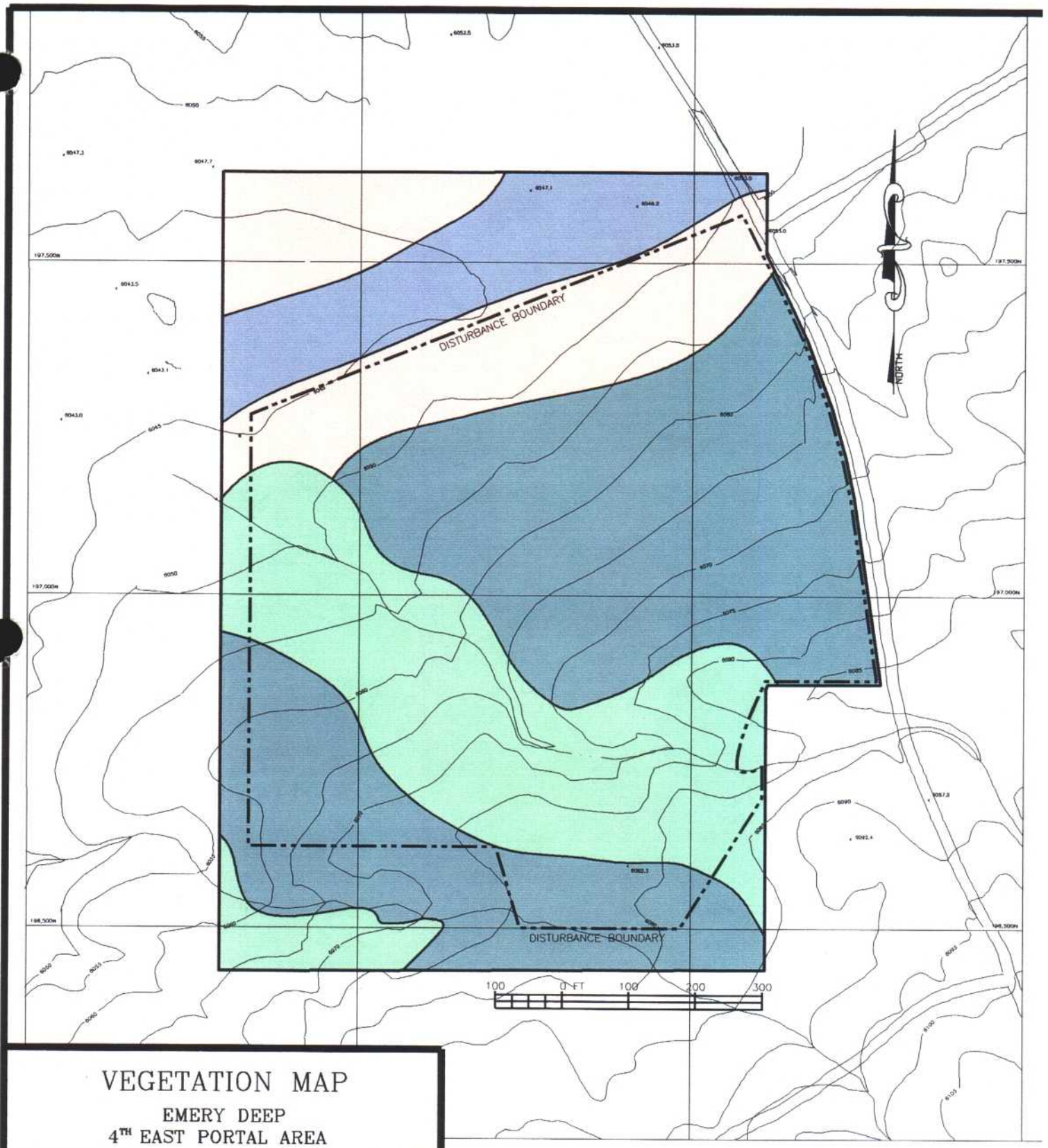

VEGETATION MAP

EMERY DEEP
4TH EAST PORTAL AREA

CONSOLIDATION COAL COMPANY

MT. NEBO SCIENTIFIC, INC.
RESEARCH & CONSULTING

DRAWN	G. Barton	REVISIONS	BY	DATE
CHECKED	P. Collins	Rev.1	G. Barton	3.26.03
DATE	May 10, 2002			
SCALE	1"=200'			

PLANT COMMUNITIES

- Greasewood
- Shadscale
- Saltgrass
- Juniper/ Sagebrush

SENSITIVE SPECIES SURVEY OF THE 1.5 ACRE EXPANSION AREA AT THE 4TH EAST PORTAL AREA

AT THE
EMERY MINE SITE

Prepared by

MT. NEBO SCIENTIFIC, INC.
330 East 400 South, Suite 6
Springville, Utah 84663
(801) 489-6937

Patrick D. Collins, Ph.D.

for

CONSOLIDATION COAL COMPANY
P.O. Box 527
Emery, Utah 84522

October 2003

TABLE OF CONTENTS

INTRODUCTION

In early 2003, expansion to the permit area of the 4th East Portal site at the Emery Mine was proposed. The proposed area was located east of the 4th East Portal (Figure 1) and was approximately 1.5 acres in size. In March 2003, work began to describe and map the vegetation and soils of the proposed expansion area as part of the required permit amendment to be submitted to the State of Utah, Division of Oil, Gas & Mining (DOGM). At that time it was recommended that a sensitive species survey be conducted at the appropriate time, or in the spring when the target plant species should be blooming and more visible to the investigators. This study was accomplished in mid-May 2003. This document reports the findings of the study.

Figure 1. 4th East Portal Area

STUDY METHODS

To begin the study, a search was conducted in the research files at *Mt. Nebo Scientific, Inc.* for location and habitat information of sensitive species that may be present in the area. Additionally, all known collections and specimens were reviewed in the herbarium at Brigham Young University (BYU) for the plant species. Next, known locations were visited in the field for the target species with the exception of *Schoencrambe barnebyi* (the potential of this species occurring in the proposed disturbed area was considered low). Visiting known locations at the time of the survey enabled the investigators to reevaluate the habitat of each species as well as note the current seasonal growth development and phenology of the plants.

Once the literature searches were conducted, herbarium work was done, and habitats were re-visited, a site-specific survey was conducted within the boundaries of the expansion area of the 4th East Portal. To accomplish this, a grid system was employed. Intensive searches for the plants were conducted by walking the grid lines. The survey was conducted May 14-15, 2003.

Plant Species

Based on experience and literature and herbarium searches, a list of the threatened or endangered plant species with the potential of existing in the study area was formulated. This list is shown on Table 1. In addition, plant species considered to be sensitive by the USDA Forest Service (USFS), Bureau of Land Management (BLM), or have the potential be listed as such in the

future, were also considered in the survey. These species are listed on Table 2.

Wildlife Species

Based on previous visits to the site by the State of Utah, Division of Wildlife Resources (DWR) in 2002, and the 2002 studies conducted for sensitive species at the 4th East Portal area by *Mt. Nebo Scientific, Inc.*, the only sensitive wildlife species that have the potential of being present in the study area were raptors. DWR biologists visited the site along with representatives from Consolidation Coal Company in 2002. At that meeting it was suggested that there was a low probability of raptor occurrence in the area (personal communications with S. McCourt, March 2001). Consolidation Coal Company committed at that time to participate in the annual raptor survey conducted by DWR and other coal operators of the area. It is the author's understanding that this survey is conducted for at least a one-half mile buffer around the entire permit in May of each year.

During the sensitive species survey by *Mt. Nebo Scientific, Inc.*, a search was made for prairie dog communities at the 4th East Portal area. Prairie dog communities are known to be important habitat for burrowing owls.

Table 1: Potential Threatened or Endangered Plant Species of the 4th East Portal Area at the Emery Mine

Scientific Name	Common Name	Status	Habitat of Occurrence	Potential
Pediocactus winkleri	Winkler Footcactus	T	Salt desert shrub communities between 4790-5210 ft	L-M
Pediocactus despainii	Despain Footcactus	E	Open PJ on limestone gravels at 6000 ft to 6200 ft elevations.	L-M
Schoencrambe barnebyi	Barneby's schoencrambe	E	Mixed shadscale, eriogonum, and ephedra communities on the Chinle Formation at ca 5590 ft to 6510 ft elevations in Emery and Wayne counties.	L
Sclerocactus wrightiae	Wright Fishhook Cactus	E	Salt desert shrub to PJ communities at 4790 ft to 6120 ft elevations on Mancos Shale.	L-M
Townsendia aprica	Last Chance Townsendia	T	Salt desert shrub and PJ on clay or clay silt soils of the Arapien and Mancos Shale between 6100 ft and 8000 ft elevations.	L-M

E = Federal Protection, Endangered
T = Federal Protection, Threatened
L = Low Potential of Occurrence
M = Moderate Potential of Occurrence

Table 2: Additional Sensitive Plant Species of the 4th East Portal Area at the Emery Mine

Scientific Name	Common Name	Status	Habitat of Occurrence	Potential
Astragalus consobrinus	Bicknell milkvetch	PS	Sagebrush-grassland and PJ communities on the Mancos Shale Formation, volcanic gravel open gravelly or sandy knolls, and barren stony hillsides between 5200 to 9000 ft elev. Sevier, Wayne, Piute, Garfield and Emery Counties.	L-M
Astragalus eastwoodae	Eastwood's milkvetch	PS	Mixed desert shrub and PJ communities at 4,360 ft to 6220 ft elevation.	L
Cryptantha jonesiana	Jones' Cryptanth	PS	Mixed desert shrub and PJ communities at 5575 to 7480 ft elevations in Emery Co.	M
Cryptantha creutzfeldtii	Creutzfeldt-flower	S (FS, BLM)	Mancos Shale in shadscale and mat saltbush communities between 5250 ft and 6500 ft elevation in Carbon and Emery Counties.	L
Hymenoxys acaulis var. nana	Low hymenoxys	S (FS, BLM)	Ephedra, sagebrush, shadscale and PJ communities on fine silty clay to clay loam soils between 4400-7120 ft	M
Lomatium junceum	Rush lomatium	S (FS)	Desert shrub, pinyon-juniper, ponderosa pine, and Douglas fir communities from 5300 to 8200 ft elevation.	M
Penstemon marcusii	Marcus Jones' penstemon	S (BLM)	Shadscale, mat saltbush, sagebrush and salt desert pinyon-juniper communities in gravelly areas on Mancos Shale-derived clay from 5,580 to 6,560 ft. elevation.	L
Sphaeralcea psoraloides	Psoralea globemallow	S (BLM)	Zuckia-ephedra, shadscale, eriogonum, ephedra, gypsiferous Mancos Shale (Tununk Member), Buckhorn Conglomerate, Curtis sandstone, Entrada siltstone, Carmel, Kaibab limestone at 4000 ft to 6315 ft in Emery Grand, and Wayne Counties.	L

PS = Potential Sensitive (rare, needs further study)
FS = Forest Service
BLM =Bureau of Land Management
L = Low Potential of Occurrence
M = Moderate Potential of Occurrence

RESULTS

No threatened, endangered, rare or otherwise sensitive plant species were identified in the May 2003 study at the proposed 1.5 acre expansion area of the 4th East Portal.

One potential limitation of the survey is the fact that, like the past five years, it has been a year of lower than normal annual precipitation patterns. Low precipitation or drought years can sometimes influence the phenology and other behavioral characteristics of plant species making them more difficult to locate. Nevertheless, it is doubtful that these species exist in the relatively small study area.

As mentioned above, prairie dog communities are known to be important habitat for burrowing owls. Although prairie dog communities have been mapped and studied in the near vicinity, no such communities were found in the 1.5 acre survey area.

CHAPTER X

PART A: CULTURAL RESOURCES

CONFIDENTIAL

INFORMATION PLACED IN DOGM CONFIDENTIAL FILES

Emery Mine Weather Station

Date / Time	Wind Direction DEGREES	Wind Speed MPH	Temperature CELLSIUS	Barometer MB	Precipitation INCH
05/23/2003 10:32	37.1	0.4	26.2	815.3	0
05/23/2003 11:02	202.7	0.2	27.4	814.4	0
05/23/2003 11:32	323.3	0.2	29	814.2	0
05/23/2003 12:02	87.1	0	28.2	814.5	0
05/23/2003 12:32	120	0	29	814.8	0
05/23/2003 13:02	296.4	1.1	29.1	814.8	0
05/23/2003 13:32	-3.7	4.1	27.7	814.2	0
05/23/2003 14:02	365.8	4.7	27.2	814.8	0
05/23/2003 14:32	293.5	7.4	27.8	814.9	0
05/23/2003 15:02	314.4	7	27.5	815.2	0
05/23/2003 15:32	306.6	0	27.8	815.3	0
05/23/2003 16:02	218.9	2.5	27.1	814.5	0
05/23/2003 16:32	355.2	2.4	28.4	814.3	0
05/23/2003 17:02	261.8	3.3	27.6	813.4	0
05/23/2003 17:32	57.1	2.9	28.1	813.4	0
05/23/2003 18:02	93.9	1.9	27.2	813.4	0
05/23/2003 18:32	367.6	2.3	26.5	814.3	0
05/23/2003 19:02	368.1	0	26.6	814.9	0
05/23/2003 19:32	302.6	6.1	25.7	815.4	0
05/23/2003 20:02	312.3	3.4	24.7	816.1	0
05/23/2003 20:32	341.6	2	23.4	816.9	0
05/23/2003 21:02	376.8	0	21.3	817.7	0
05/23/2003 21:32	341.5	0.1	21.1	818.7	0
05/23/2003 22:02	32	0.1	21.4	819.3	0
05/23/2003 22:32	315.4	0.4	21.2	819.7	0
05/23/2003 23:02	352.3	0	20.1	819.7	0
05/23/2003 23:32	46.4	1.6	20.4	820.1	0
05/24/2003 0:02	364.3	0	19.5	820	0
05/24/2003 0:32	67.7	1.9	18.9	820.1	0
05/24/2003 1:02	70	0.9	17.8	820.1	0
05/24/2003 1:32	155.2	-0.1	16.5	820.4	0
05/24/2003 2:02	97.1	0	15.8	820.7	0
05/24/2003 2:32	106.4	-0.1	14.5	821.1	0
05/24/2003 3:02	79.7	0.5	13.5	821.4	0
05/24/2003 3:32	90.9	0.5	13.5	821.6	0
05/24/2003 4:02	63	0.5	12.3	821.7	0
05/24/2003 4:32	74	0	11.6	822.3	0
05/24/2003 5:02	56.6	-0.1	11	822.5	0
05/24/2003 5:32	382.4	-0.1	11.1	822.6	0
05/24/2003 6:02	352.4	-0.1	9.3	823.1	0
05/24/2003 6:32	64.1	-0.1	10.8	823.2	0
05/24/2003 7:02	76.6	-0.1	10.4	823.2	0
05/24/2003 7:32	33.7	0	12.7	822.9	0
05/24/2003 8:02	32.8	0	15.2	821.1	0
05/24/2003 8:32	31	0	17.3	819.5	0
05/24/2003 9:02	254.1	0	20.2	817	0
05/24/2003 9:32	350.7	0	23.4	814.8	0
05/24/2003 10:02	42	2.8	24.8	812.5	0

CHAPTER X

PART C: AIR QUALITY

APPENDICES

Revised 10/2002
Revised 9/2003

1a. 4th East Portal Site

Fugitive dust emission at the 4th East Portal will consist primarily from the coal handling and stockpiling of coal. The coal stockpile will be sprayed with water as it is discharged into the pile. In addition the stockpile will be protected to some degree by the rock stockpile located to along the west side of the boxcut. This rock stockpile will function as a wind break from the prevailing westerly winds. The rock stockpile consists primarily of cobble to boulder size sandstone.

The road to the coal loadout will be watered periodically throughout the day. Topsoil stockpile will be roughened, seeded and mulched to prevent wind and water erosion. Berms shall remain roughened and seeded. Rock or wood mulch as will as erosion control netting may be utilized as situation warrants to minimize effects of erosion.

On January 9, 2003, Notice of Violation was written for wind blown coal fines outside the permit area. To abate the violation the following Air Resource Protection shall be implemented to eliminate the generation of coal fines and provide measures to protect the surrounding environment from accumulation of coal fines should they occur.

Dust Control Program:

- Dust treatment program (coal yard and truck re-route areas)
- Water cannon
- Concrete (Jersey) barriers
- Wind fences
- Conveyor and transfer point enclosures
- Water sprays (conveyors)
- Water truck
- Vacuum truck
- Cattle guard
- Replacement of crusher
- Haul truck re-routng
- Maintenance plan

Details for each of these engineering controls and other measures are discussed in Appendix X.C-3.

Inserted 9/2003

CONSOLIDATION COAL COMPANY

EMERY MINE

EMERY COUNTY, UTAH

AMENDMENT TO MINE RECLAMATION PLAN

APPENDIX X. C-3
4TH EAST PORTAL

SEPTEMBER 12, 2003

CONSOLENERGY

NORWEST CORPORATION

NORWEST
CORPORATION

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John B. Richardson
Senior Environmental Scientist

September 12, 2003

File No. 2893

John Gefferth
Consolidation Coal Company
P.O. Box 566
Route 148 North
Sesser, IL 62884-0566

Subject: Consolidation Coal Company – Emery Mine Amendment to Mine Reclamation Plan – 4th East Portal

Dear Mr. Gefferth:

Attached please find the amended Appendix X.C-3 for the 4th East Portal of CONSOL's Emery Mine in Emery County, Utah. The attachment describes the engineering controls and other measures to be implemented in the near future at the 4th East Portal area in order abate the NOV for coal fines outside of the permitted area. More specifically, the amended appendix initiates the implementation phase of the control program that CONSOL and Norwest presented to the Division on August 26, 2003. The Division approved the program as presented and directed that controls be installed and operating by October 15, 2003.

The engineering controls and other measures discussed in the amendment that will be installed or implemented are as follows:

- Dust treatment program (coal yard and truck re-route areas);
- Water cannon;
- Concrete (Jersey) barriers;
- Wind fences;
- Conveyor and transfer point enclosures;
- Water sprays (conveyors);
- Water truck;
- Vacuum truck;
- Cattle guard;
- Replacement of crusher;

- Haul truck re-routing; and
- Maintenance plan.

At this time only preliminary drawings, specifications and engineering data are available on many of the controls. Once controls are installed, "as-built" drawings or specifications will be provided for submittal to the Division.

Sincerely,

NORWEST CORPORATION

John Richardson

John Richardson
Senior Environmental Scientist

VIA HAND DELIVERY

JR/ab

Enclosures

Amendment to Mine Reclamation Plan (MRP) – Emery Mine

Table of Contents

List of Figures

Amendment to Mine Reclamation Plan (MRP) – Emery Mine

Appendix X.C-3, 4th East Portal

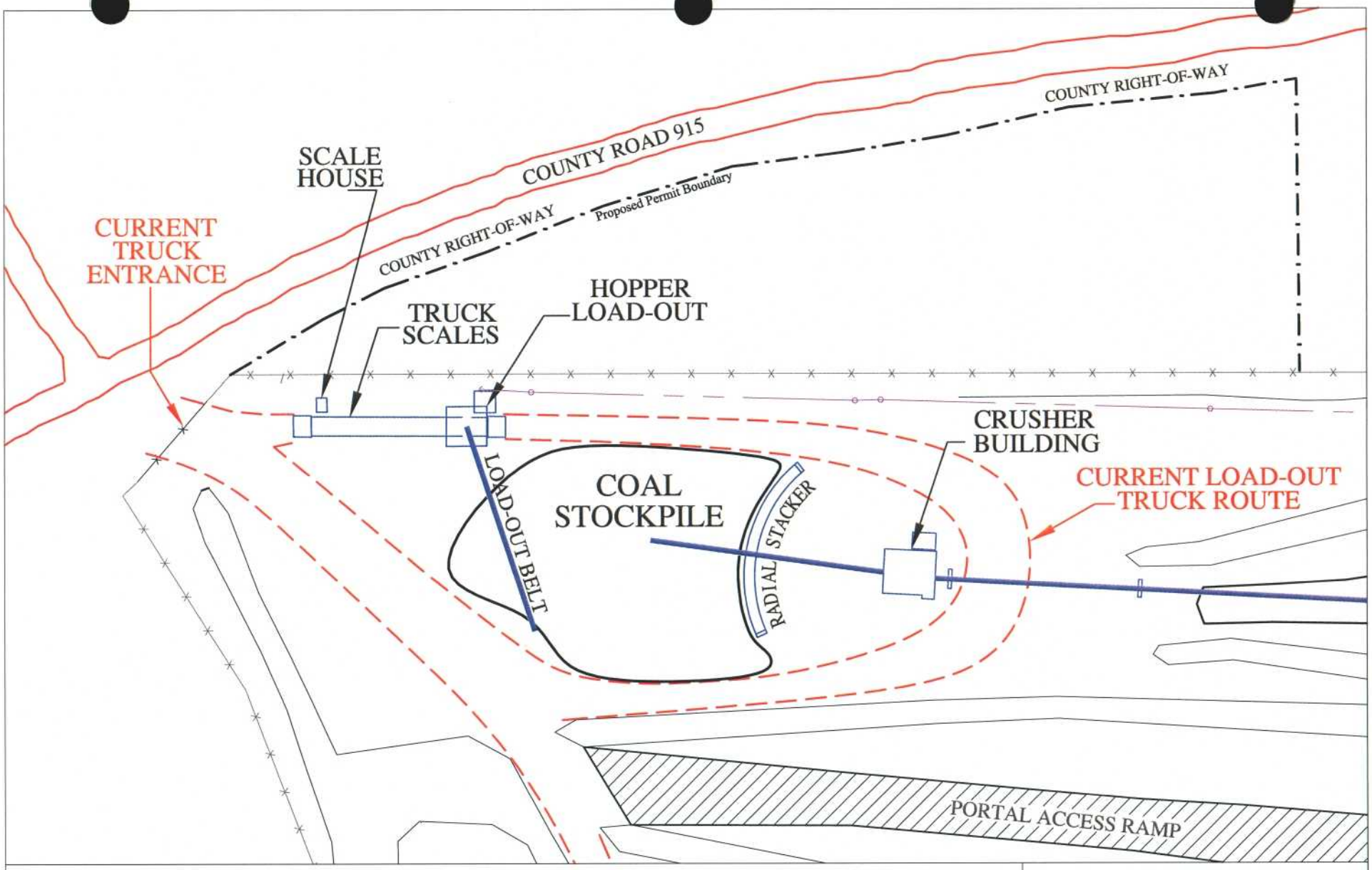
(Note: The Phase I controls discussed below include all those presented to and approved by DOGM on August 26, 2003. Phase II controls, to be activated only if Phase I equipment and measures do not adequately control coal fines, are not addressed here. Phase II controls, if necessary, will consist of a permanently installed and integrated dust suppression system, such as Benetech's program for dust control on conveyor systems and downstream stockpiles. If Phase II is warranted, details of the dust suppression system will be presented in the application to further amend the MRP.)

The general layout of the Emery Mine 4th East Portal is given in Figure 1.

DUST TREATMENT PROGRAM (COAL YARD AND TRUCK RE-ROUTE)
(Note: In order for this control to be fully implemented, the 1.5-acre parcel located between the east boundary and County Road 915 must be integrated into the current permitted area.)

The 1.5-acre parcel of land situated between the east fence line and County Road 915 will be used for the re-routing of haul trucks, as shown in Figure 2. The new route will completely by-pass the present circular path in the coal yard around the stockpile, which will greatly reduce onsite traffic and the attendant dusting. In addition, the new routing will reduce the tracking of material outside the plant. Haul trucks will continue to approach to the 4th East Portal area along the newly paved county road. The trucks will then enter CR 915 (presently an unpaved dirt road), proceed along the road about 500 feet, at which point the trucks will turn to the right off the county road, and will travel in an arc path to the new truck entrance to the plant just south of the load out hopper. The trucks will continue to be loaded as in the present manner, and then will exit the plant through the main gate.

The entrance road will be upgraded as shown in Figure 3A. The existing county road will be bladed to widen the road to accommodate two-way traffic for a distance of about 500 feet, beginning near the entrance to the 4th East Portal coal yard and continuing in a southeast direction. The road will be contoured as needed to afford proper drainage. The bladed and compacted road segment will then be armored with about 6 inches of gravel and conditioned with water prior to application of magnesium chloride dust suppressant as per vendor's recommended rate (e.g., 0.5 gallon of the prescribed mixture of magnesium chloride and water per square yard of surface area). A Material Safety Data Sheet (MSDS) provided by one of the vendors contacted (WRR Industries) and information on the uses and application rates for the chemical are found in Appendix A.



KEY

- Current Truck Route
- Fence (Current Permit Boundary)
- Power Line
- Conveyor Belt
- Proposed Permit Boundary

N

1" = 75'

50 25 0 50 100 Feet

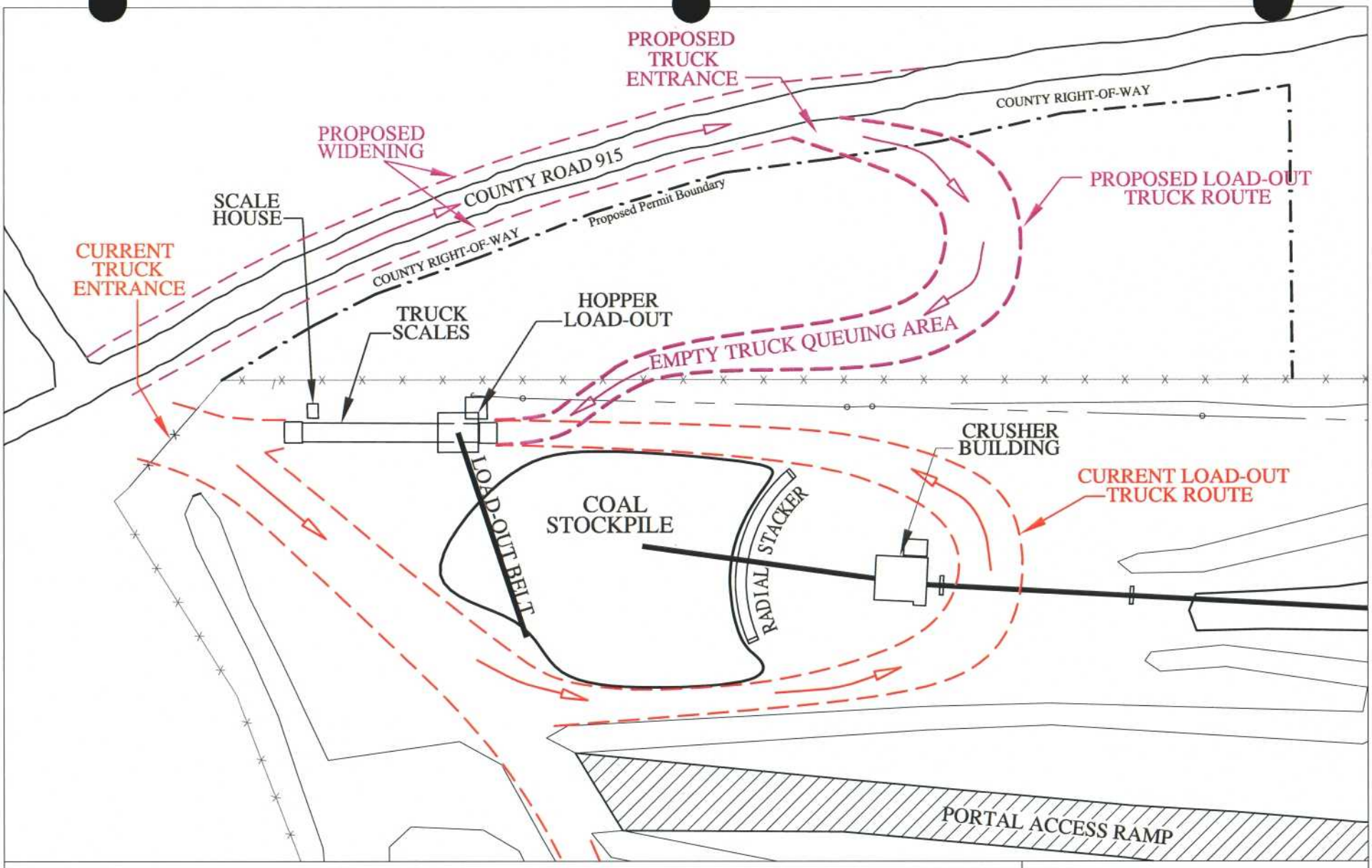
Figure 1

Emery Mine 4th East Portal

Plant Layout

Date: 09/11/03	Project: 2893 Consol

CONSOL ENERGY | NORWEST CORPORATION



KEY

- Proposed Truck Route
- Current Truck Route
- Fence (Current Permit Boundary)
- Power Line
- Conveyor Belt
- Proposed Permit Boundary

N

1" = 75'

50 25 0 50 100 Feet

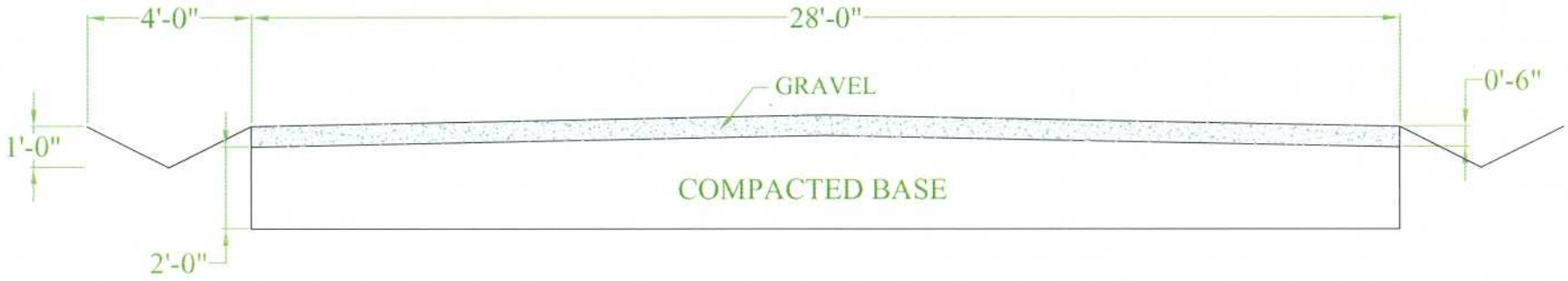
Figure 2

Emery Mine 4th East Portal

Truck Re-Routing

Date: 09/11/03 | Project: 2893 Consol

CONSOL ENERGY | NORWEST CORPORATION



NOTE: Road designed with a 2% crown for proper water drainage (not dimensioned).

Figure 3A
Cross-Section of Road Construction Truck Re-Route on CR 915

Date: 09/11/03 | Project: 2893 Consol

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The upgrades described above for CR 915 will also be applied to the turn off to the plant, including the application of gravel. Figure 3B shows the general locations where gravel will be applied. The arc-shape will be sufficiently large (e.g., $\geq$ 60 foot radius) to safely route trucks onto the property. In order to further minimize potential dusting, the county road segment will be posted with a 10 MPH speed limit sign, effective along the 500-foot segment and the turn off to the plant.

Topsoil will be removed from a portion of the 1.5-acre parcel and stockpiled, and the area will be re-graded to allow drainage to flow to the approved and existing sediment pond to the north. See Figure 2. An 18" diameter culvert will be installed near the main gate, a natural low point, to convey runoff from the disturbed area to the pond.

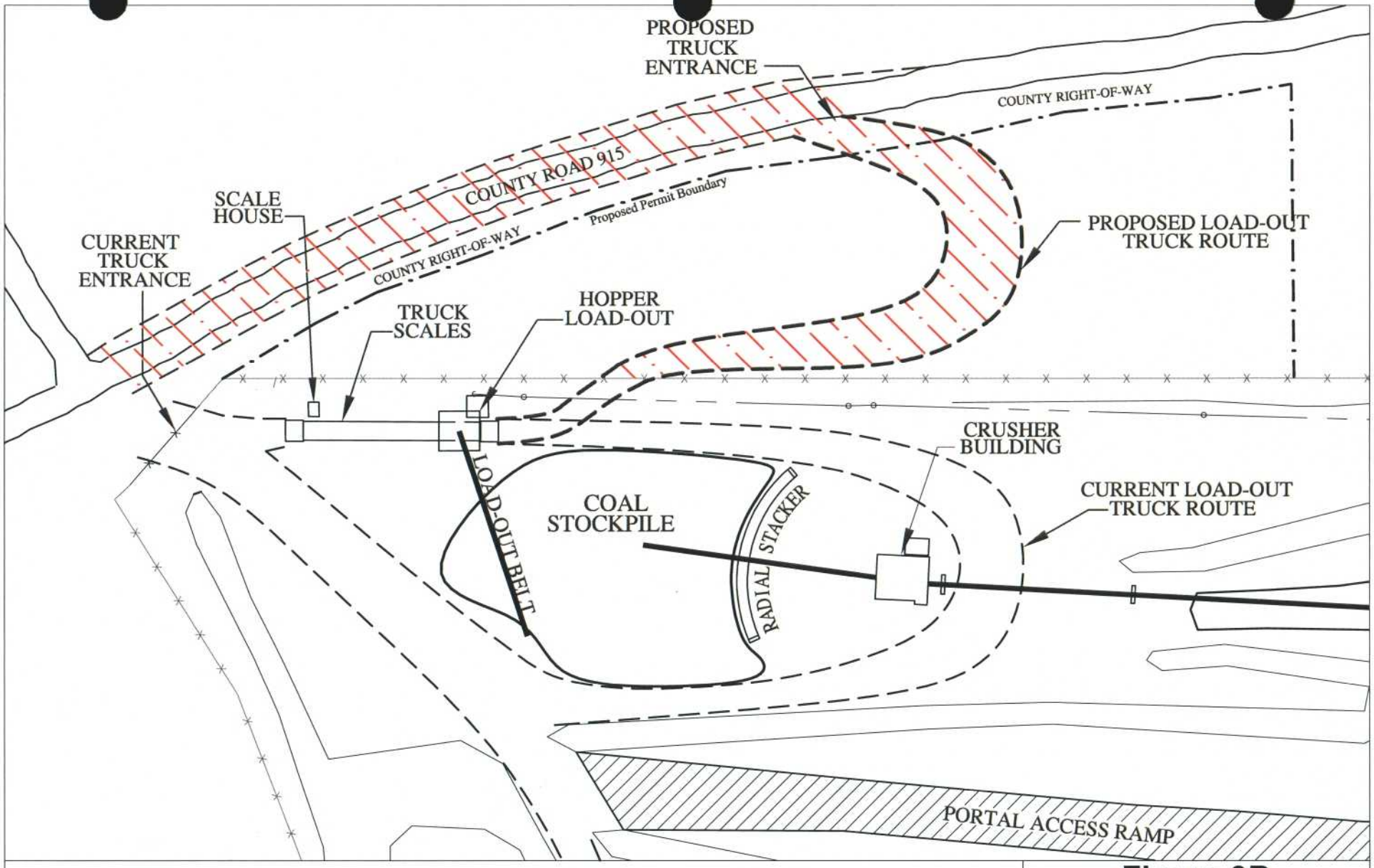
The main traffic routes within the coal yard (e.g., the loop around the stockpile and the roadway west toward the spoils pile) will also be upgraded as described above for CR 915, except for the gravel cover. Figure 4A shows the coal yard and re-route areas where dust suppressant will be applied. In all cases the maintenance program (described in greater detail below) will monitor the ongoing effectiveness of the magnesium chloride at suppressing dust. When breakdown is noted, re-application of the chemical will occur. Two to four applications per year are standard practice.

The application of magnesium chloride in the re-route and the coal yard areas will be supplemented by the localized application of dust suppressant (e.g., portable spray device) in hard to access areas, such as the stockpile base and around the ~~Jersey~~concrete barriers, as discussed below. Benetech's Dust TARBT, e.g., is available in totes, and will be stored onsite, mixed with water to the proper mixture, then applied where and when needed. See Figure 4B for possible locations for localized application.

Traffic (truck) re-routing is applied in general industry to shorten the travel path, to avoid areas where dusting may occur, and thereby better control air emissions. This aptly describes the haul truck traffic situation at Emery, where travel path and duration in dusty areas can be reduced by re-routing truck traffic.

The Environmental Protection Agency's (EPA's) AP-42 document (see Appendix B), a comprehensive compendium of air emission factors and controls for a wide range of industry categories, endorses traffic re-routing as a means of reducing dust levels. In the Emery case, it will also allow for less re-entrainment of coal and other particulate matter.

Truck re-routing is considered Good Engineering Practice (GEP) and Best Management Practice (BMP), because the design of a shorter travel path results in fewer air emissions.



KEY

- Proposed Truck Route
- Current Truck Route
- Fence (Current Permit Boundary)
- Power Line
- Conveyor Belt
- Proposed Permit Boundary
- Graveled Area

N

1" = 75'

50 25 0 50 100 Feet

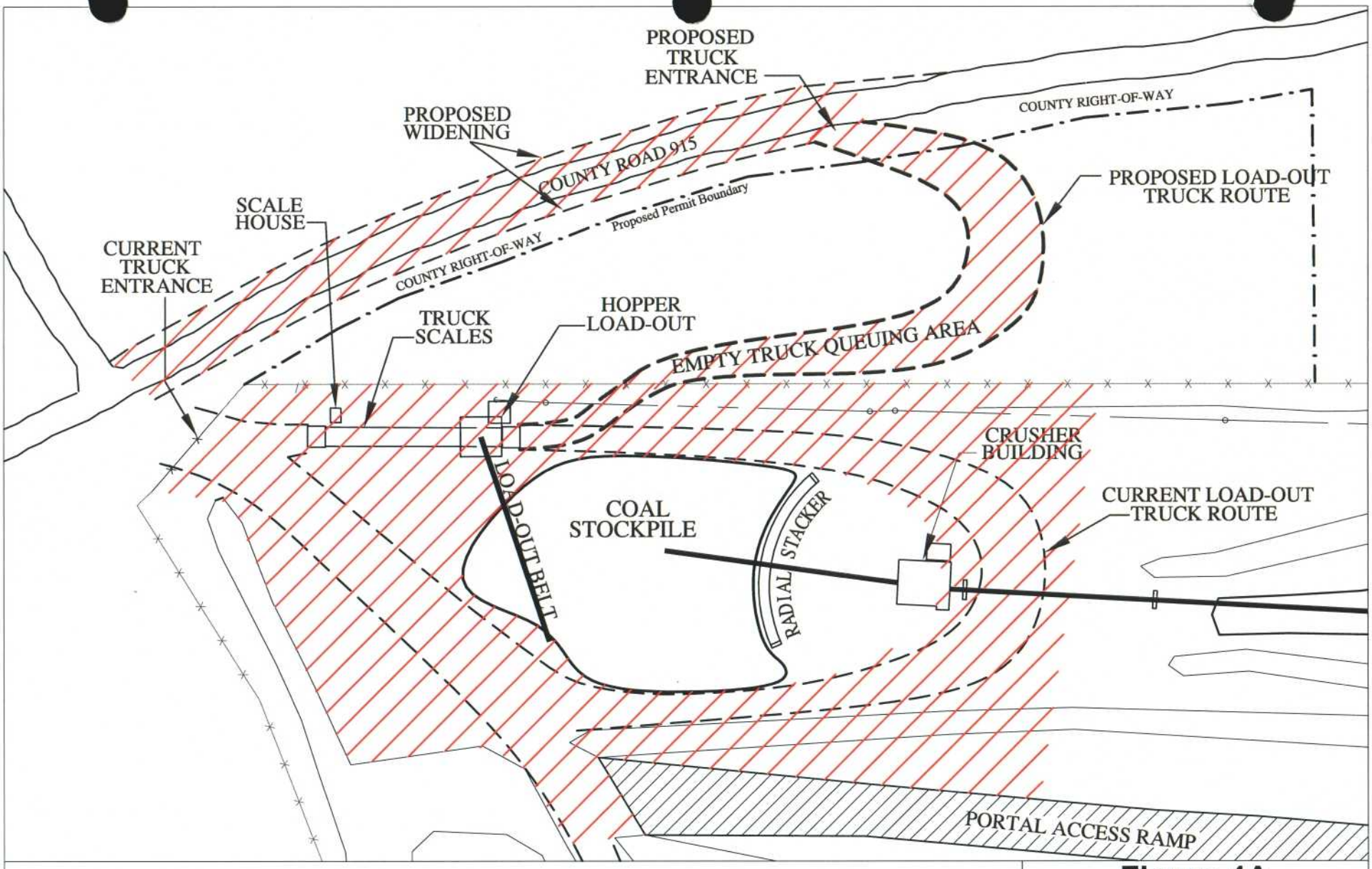
Figure 3B

Emery Mine 4th East Portal

Gravel Applied to Re-Route Area

Date: 09/11/03 | Project: 2893 Consol

CONSOL ENERGY | NORWEST CORPORATION



KEY

- Proposed Truck Route
- Current Truck Route
- Fence (Current Permit Boundary)
- Power Line
- Conveyor Belt
- Area Treated With Dust Suppressant
- Proposed Permit Boundary

N

1" = 75'

50 25 0 50 100 Feet

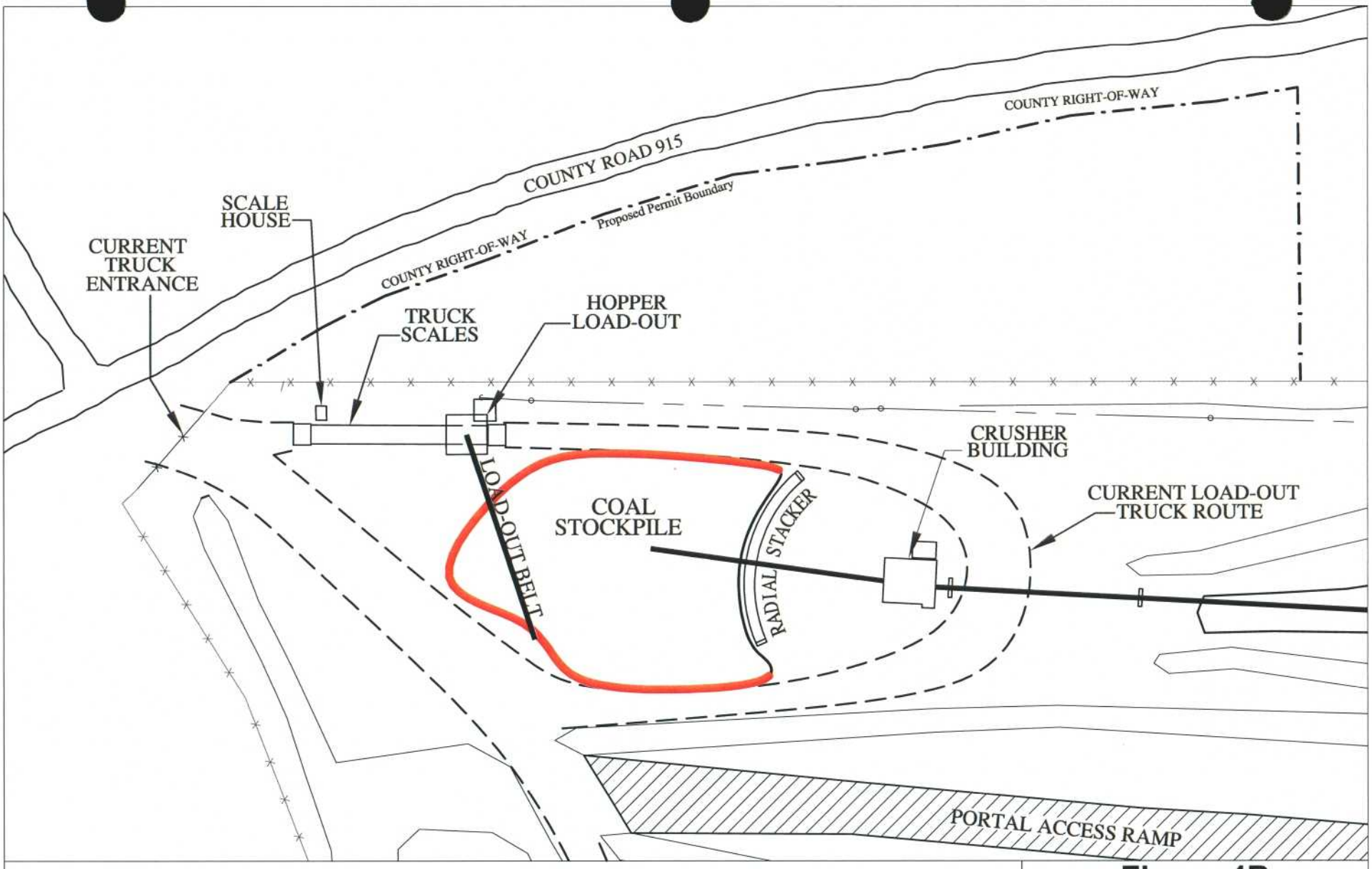
Figure 4A

Emery Mine 4th East Portal

Dust Suppressant Treatment Area

Date: 09/11/03 | Project: 2893 Consol

CONSOL ENERGY | NORWEST CORPORATION



KEY

- Dust Suppressant Application Area
- Proposed Permit Boundary
- Current Truck Route
- Fence (Current Permit Boundary)
- Power Line
- Conveyor Belt

N

1" = 75'

50 25 0 50 100 Feet

Figure 4B

Emery Mine 4th East Portal

Localized Application of Dust Suppressant

Date: 09/11/03 | Project: 2893 Consol

CONSOL ENERGY | NORWEST CORPORATION

WATER CANNON

One or more high volume (about 100-150 gallons per minute) water cannons will be installed near the stockpile as depicted in Figure 5. The water cannons' installed location will be determined during wind fence construction. During periods of elevated wind velocities, the cannons will be activated (e.g., 35 MPH for greater than 15 minutes). Water cannons designed for all-weather use will be installed. The basic manual system will be automated using a wind-speed indicator and water activation trigger device. Once activated, the system will blanket the stockpile area with water for a long enough period to adequately wet the pile without causing runoff. The shut-off mechanism for the water cannons will be a timer, i.e., once the threshold wind speed is attained and sustained (e.g., 35 MPH for greater than 15 minutes), the water cannons will be activated. They will remain on for a period of several minutes (e.g., 15 minutes) – long enough to adequately wet the pile without causing runoff. The system will shut off after a selected period of time so that over-wetting of the pile does not occur. If elevated wind velocities persist, the water cannons will continue to be activated on a pre-set cycle (e.g., no more than one activation per hour).

When operators are onsite, there will be the option for manual override of the system, i.e., the mine superintendent will be able to activate and operate the water cannon system when he determines that conditions warrant it. Manual override will also be used to demonstrate the effectiveness of the system when required, e.g., during inspections. ~~The system will shut off after several minutes so that over-wetting of the pile does not occur. If elevated wind velocities persist, the water cannons will continue to be activated until wind speed subsides below the threshold level for triggering the system.~~

The attached technical bulletin, found in Appendix C, from Nelson Irrigation Corporation for their 100 Series Big Gun nozzle demonstrates that varying combinations of water pressure (psi), water flow rate (gpm) and nozzle diameter will provide more than adequate coverage of the stockpile area based on throw (diameter, ft) of the nozzle. The nozzles (probably two, as conceptually shown in the September 12, 2003 Mine Reclamation Plan package submitted to DOGM) will also be located on stands, probably several feet in height to maximize water distribution in the pile area. A further feature available from the manufacturer that enhances throw of water spray is a choice of angle of trajectory for the nozzle. For example, for the 100 Series nozzles the vendor offers trajectory choices of 18, 21, 24 and 43°. In addition, the nozzles will likely be arranged, as shown in the conceptual drawing in the September 12 submittal, so that the spray patterns overlap, further ensuring adequate coverage. A video clip viewable at www.nelsonirrigation.com (click products then Big Gun sprinklers) further demonstrates the coverage capabilities of the nozzles being considered. Probably the most striking feature in the clip is that the arcing stream provides a curtain of water that blankets everything in its path. The nozzle does not simply throw a stream of water a desired distance. With the design features considered, CONSOL is confident that the water cannons will provide adequate coverage of the stockpile area.

One vendor's water cannon nozzle design being considered for installation at Emery is shown in the attached Appendix C.

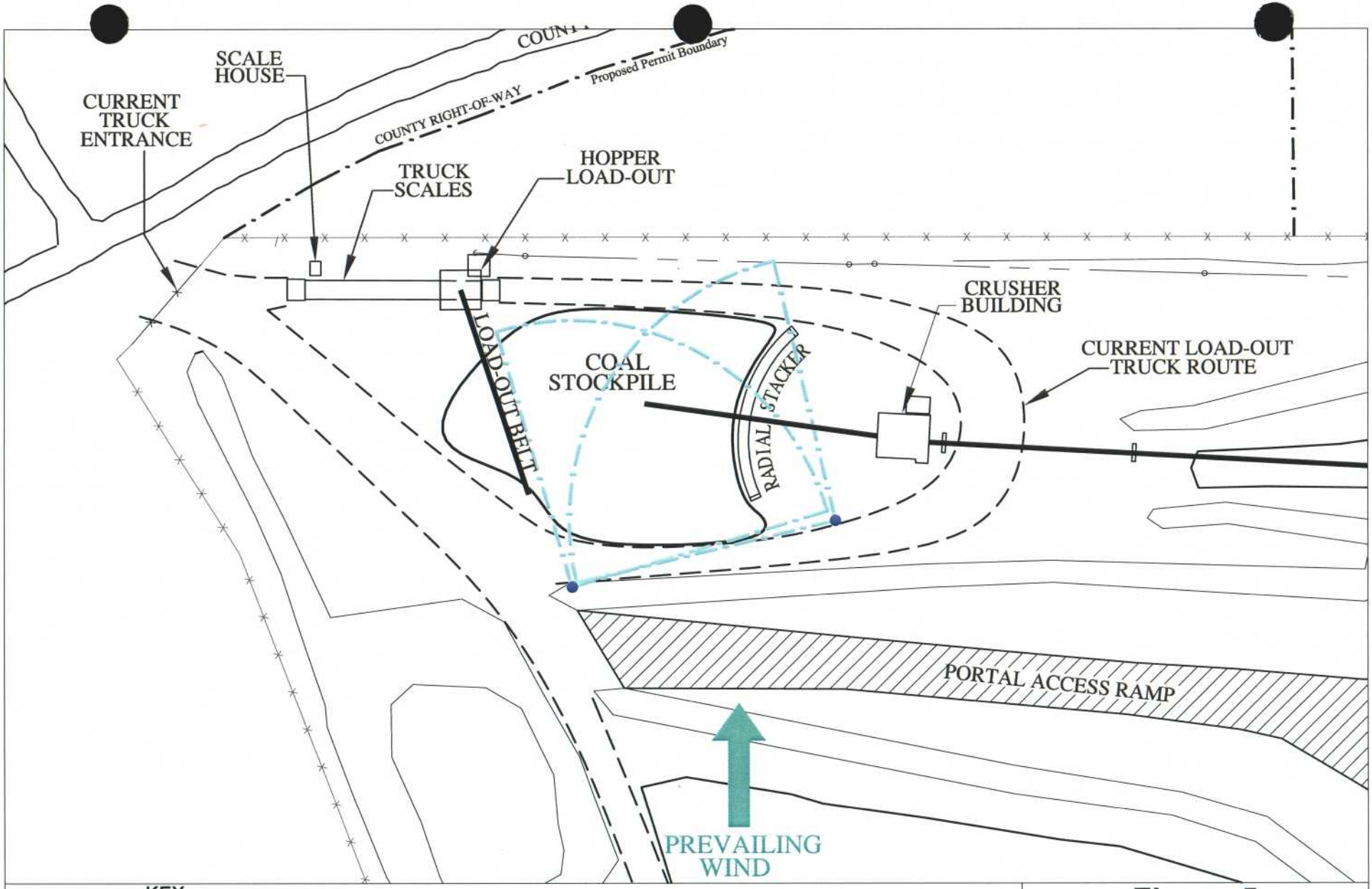
The use of water to control fugitive emissions in both paved and unpaved areas is widespread in general industry; water has been used effectively in applications similar to Emery Mine for years. EPA's AP-42 document (see Appendix B) recognizes the value of water as a dust suppressant for application on unstabilized (unpaved, disturbed) areas, such as the coal yard at the Emery Mine. Although a high evaporation rate as found at Emery may shorten the effective longevity of the control, this is offset by serial applications as needed.

The use of high pressure water sprays in this application is considered GEP and BMP, because water is effective at controlling dust if periodically re-applied, based on evaporation rate. Water for dust control is relevant to the situation at Emery, because water has a proven track record in similar applications in arid climates. Water cannons activated by high winds are very effective at controlling blowing dust from (coal) stockpiles by saturating the material.

A water cannon system has been effectively used to control coal dust emissions at the Sandusky Docks Corporation storage area in Sandusky, Ohio. See Appendix D for details.

~~JERSEY~~CONCRETE BARRIERS

In order to confine the stockpile base for improved dust control, ~~Jersey~~concrete (concrete) barriers will be used in tandem with an ongoing program to reshape the pile to minimize the surface area of the pile exposed to wind. The on-site front-end front end loader will be used as necessary to consolidate material onto the pile. The ~~Jersey~~concrete barriers will be strategically placed along the perimeter of the stockpile to prevent encroachment of coal fines into adjacent plant areas such as truck loading. A conceptual drawing showing placement of the barriers in the stockpile area is shown in Figure 6. A specification sheet for the barriers as provided by one vendor is shown in Appendix E.



KEY

- Water Cannon and Coverage Area
- Current Truck Route
- Fence (Current Permit Boundary)
- Power Line
- Conveyor Belt
- Proposed Permit Boundary

N

1" = 75'

50 25 0 50 100 Feet

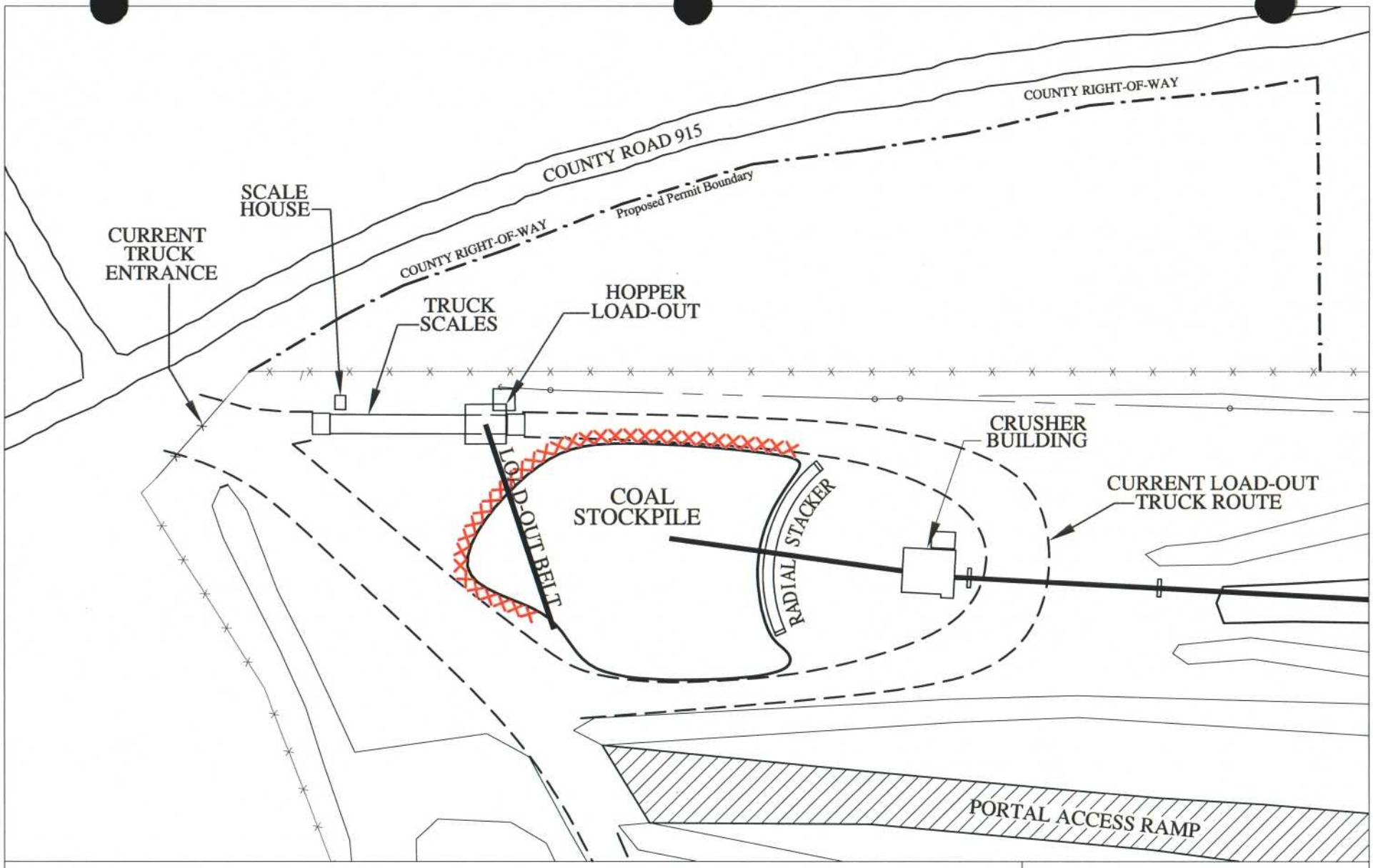
Figure 5

Emery Mine 4th East Portal

Water Cannons and Coverage Areas

Date: 09/11/03 | Project: 2893 Consol

CONSOL ENERGY | NORWEST CORPORATION



KEY

- XXX Concrete Barriers
- Current Truck Route
- Fence (Current Permit Boundary)
- Power Line
- Conveyor Belt
- Proposed Permit Boundary

N

1" = 75'

50 25 0 50 100 Feet

Figure 6

Emery Mine 4th East Portal

Concrete Barriers

Date: 09/11/03 | Project: 2893 Consol

CONSOL ENERGY | NORWEST CORPORATION

Barriers are widely used in industry for stockpile segregation and also for containment. Concrete barriers may also double as stockpile erosion control in general industry; they are more durable than the typical silt fence, i.e., an improvement over the typical control. Confining the base of the stockpile with barriers will reduce encroachment of product into other areas of the plant, e.g., the load out and scale areas, where the material may otherwise become pulverized under tire pressure and dispersed by wind. The concrete structure also doubles as a safety barrier for the front-end loader operator; it defines the perimeter of the raised stockpile berm, and it segregates the loader from oncoming haul trucks in the loading area.

ASARCO in East Helena, MT successfully used concrete barriers to contain open stockpiles as part of its EPA-approved State Implementation Plan (SIP) for lead.

The barriers are very durable and are considered GEP and BMP in this application.

WIND FENCES

A wind fence, as shown in Figure 7, will be installed upwind of the stockpile area at the 4th East Portal. The conceptual placement of the fence is illustrated in Figure 8. A wind fence disrupts the mechanism that causes dust particles to become airborne in the first place, i.e., moving air or wind. Wind fences are upstream devices intended to deflect air movement and reduce airspeed, and are acknowledged as a control device in EPA's AP-42 (see Appendix B). When properly installed and when the wind is in proper alignment to the wind fence, wind speed is reduced up to 60%. Final placement of the fence will be determined following consultation with the vendor. The attached wind rose for Ferron, Utah (about 18 miles north of the mine) and the attached topographical map of the coal yard area will be factored into the decision. See Figure 9 and plate III-1 in the permit.

The wind fence material will be either the Raring Corporation's WindTamer fabric mesh or Ultra Span's panel system, where panels are suspended from cables attached to upright wooden or steel poles. The WindTamer fabric is mounted directly to either steel or wooden poles using mounting brackets. The fabric is drawn tight during installation using a come along device so that the fabric does not flap in the wind. The taut fabric functions as a semi-permeable barrier and wind deflection device. Appendix F shows the basic design of the UltraSpan system that may be installed at Emery.

Emery has opted for wooden telephone poles as the fabric support structure. The poles will be installed in a perimeter line upwind of the stockpile at a spacing of about 15 feet. The fence length is estimated at 400 feet with a height of about 45 feet.

Although not widely used in industry, wind fences are nevertheless acknowledged in EPA's AP-42 document as a stockpile dust control mechanism, usually in tandem with one or more additional controls, such as pile wetting with water. See Appendix B.

Figure 7
Wind Fence

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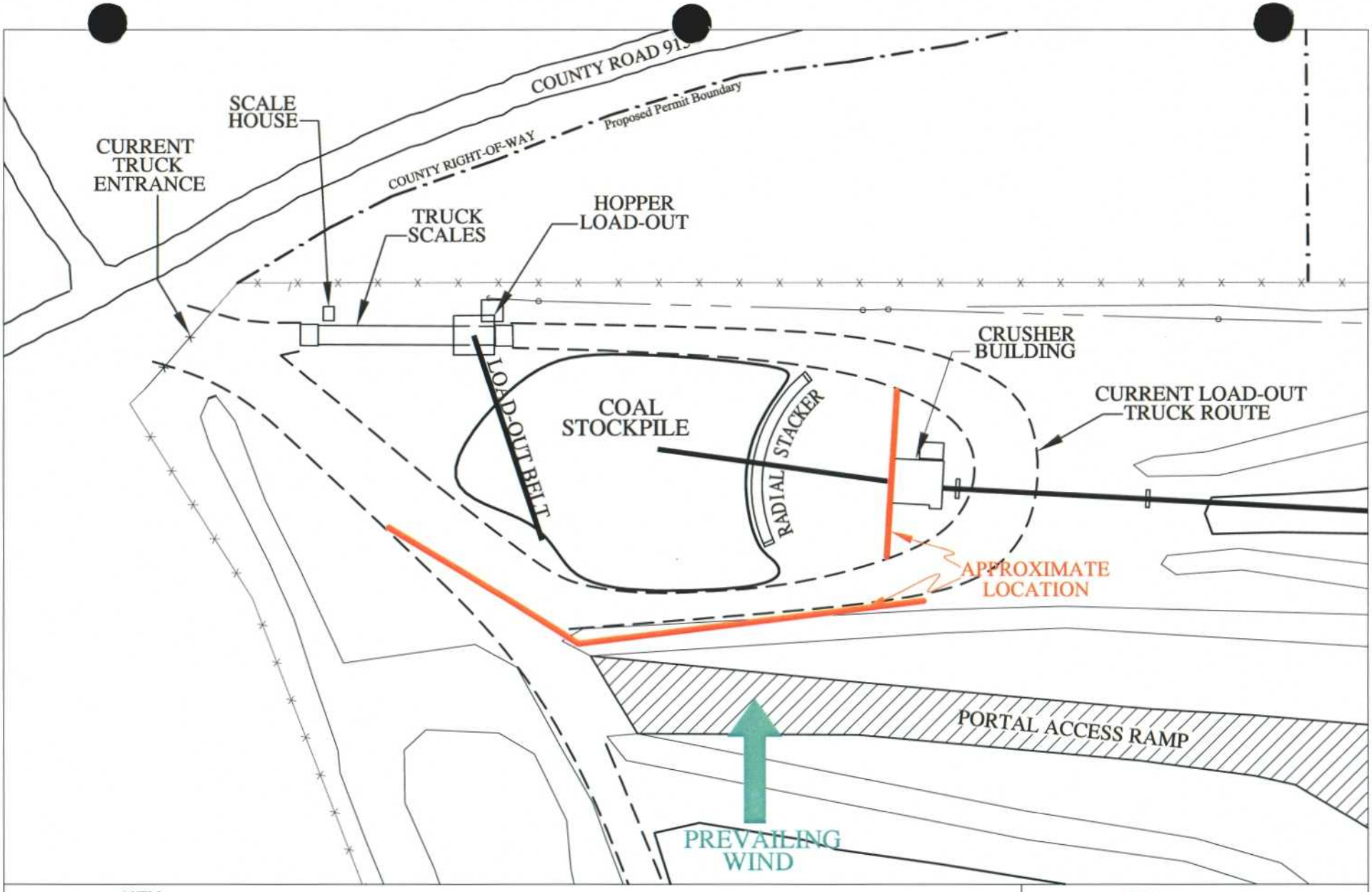


KEY

- Wind Fence (Approximate Location)
- Current Truck Route
- Fence (Current Permit Boundary)
- Power Line
- Conveyor Belt
- Proposed Permit Boundary

N

1" = 75'

50 25 0 50 100 Feet

Figure 8

Emery Mine 4th East Portal

Wind Fence

Date: 09/11/03 | Project: 2893 Consol

CONSOL ENERGY | NORWEST CORPORATION

Utah Climate CENTER

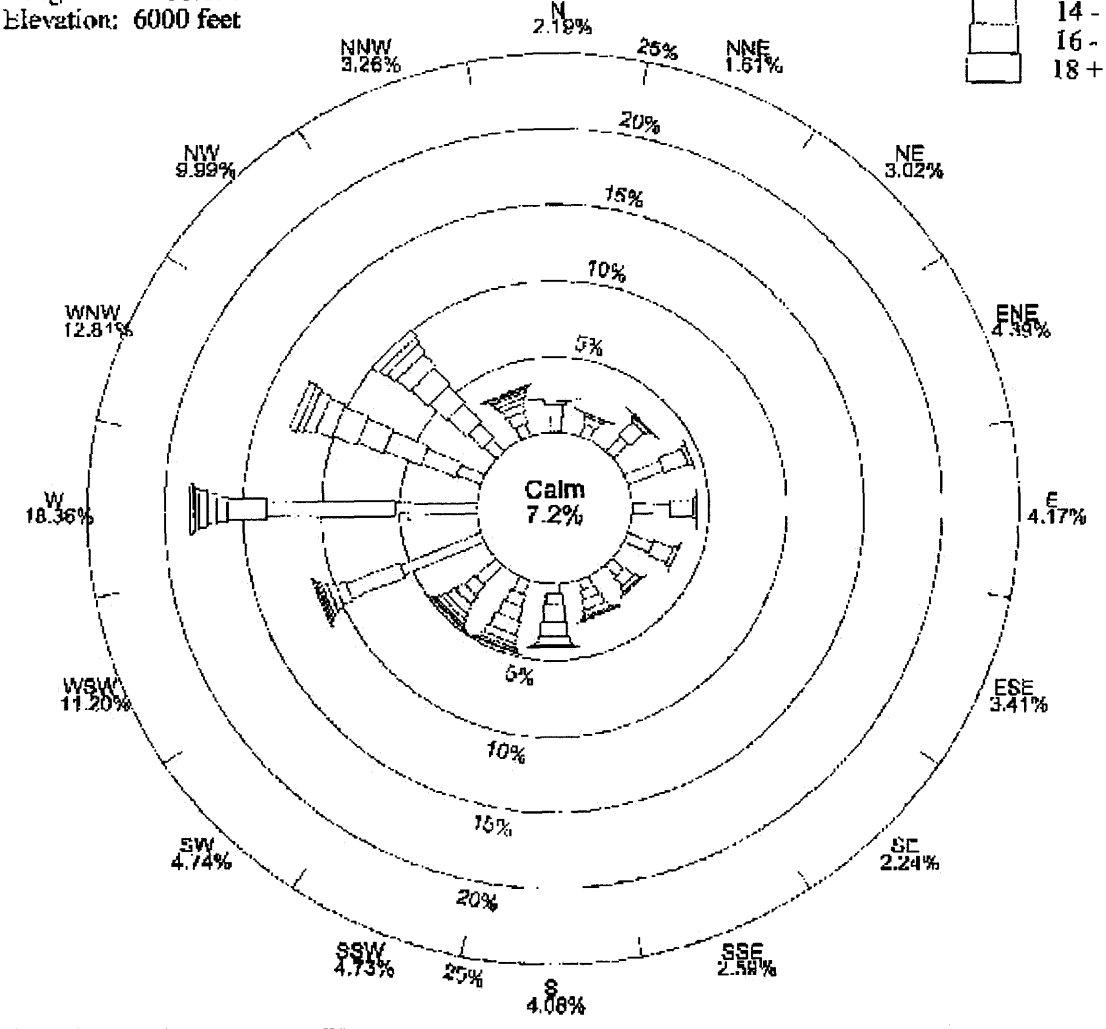
Utah State UNIVERSITY
Logan, UT 84322-4825

FERRON
Wind Rose Report
Hourly average wind speed - Hourly unit vector mean wind direction

For data period

Mar 10 1992 00:00:00 to
Dec 31 1994 23:00:00

County: EMERY
Latitude: 39.069
Longitude: -111.150
Elevation: 6000 feet



Copyright 1996-2003 Utah Climate Center - Phone (801) 797-2190 - Fax (801) 797-2117 - http://climate.usu.edu
Use of data is encouraged, but must credit the Utah Climate Center

Figure 9
Wind Rose

The use of wind fences in this application is considered GEP and BMP, because wind velocity impacting the pile is reduced up to 60%, depending on alignment of the fence and mesh material. Wind that contacts the surface tangentially is either dampened or deflected.

Wind fences have been applied at Tri-Gen Bio Power in Louden, TN; at Cape Breton Development Corporation in Sydney, Nova Scotia; at Helvetia Coal Company's Lucerne 6E Mine near Indiana, PA; and at Graymont Western in Calgary, Alberta.

CONVEYOR AND TRANSFER POINT ENCLOSURES

Lightweight metal panels or sections of conveyor belt will be used to better enclose the conveyor belt system at the mine. The stacker conveyor, for example, has openings on the west side, and the prevailing wind is from the west. In addition, enclosure of transfer points will be improved by adding panels where feasible.

Enclosing material handling devices (conveyors and transfer points) is general industry practice to reduce fugitive dust emissions. EPA's AP-42 document (see Appendix B) frequently refers to enclosure as one of the preferred control options. At Emery, improved enclosure of the radial stacker on the windward side and the conveyor system transfer points will reduce dusting from these sources. The material handling system at Emery is already partially enclosed; more completely enclosing conveyors and transfer points is considered GEP and BMP.

WATER SPRAYS (CONVEYORS)

Water sprays will continue to be operated at the three locations indicated in the attached Figure 10, namely the crusher inlet, the crusher outlet and the stacker discharge. The spray bars will be upgraded to accommodate the possible addition of a dust suppressant at a future date if required.

DOGM has previously agreed that should Phase I controls fail to achieve the intended results with regards to off-site deposition of coal fines, then Phase II controls (i.e., the Benetech permanent and integrated dust suppression system) must be implemented. The water spray system to be installed and operated under Phase I is designed and will be installed by Benetech. This assures compatibility of design and equipment should Phase II be necessary. As previously discussed with DOGM, the locations of the Benetech spray bars under the upgrade plan are the crusher inlet, the crusher outlet and the stacker discharge.

The use of water sprays to control fugitive emissions in both paved and unpaved areas is widespread in general industry; water has been used effectively in applications similar to Emery Mine for years. EPA's AP-42 document (see Appendix B) recognizes the value of applying water to haul roads and unstabilized (unpaved, disturbed) areas, such as the coal yard at the Emery Mine. Although a high evaporation rate as found at Emery may shorten the effective longevity of the control, this is offset by multiple applications along the conveyor system. The use of water sprays in this application is considered GEP and BMP, because water is effective at controlling dust if periodically re-applied, based on

evaporation rate. Water sprays are relevant to the situation at Emery, because they have a proven track record in similar applications in arid climates.

The location of the spray points (along the conveyor system) was a determination made by Benetech during their site visit at the 4th East Portal. As previously discussed, it is imperative that the Benetech water sprays be installed as per their specifications under the Phase I control program in the outside chance that the Phase II program (i.e., Benetech's permanent and integrated Benetech dust suppression program for the conveyor system) may someday be necessary.

WATER TRUCK

The current water truck has a gravity feed water distribution system. The water delivery feature will be upgraded to a multi-point spray bar, and the truck will be used to supplement the magnesium chloride dust treatment program in the coal yard and re-route areas by adding moisture to the areas treated with magnesium chloride and by wetting untreated areas as needed for dust control.

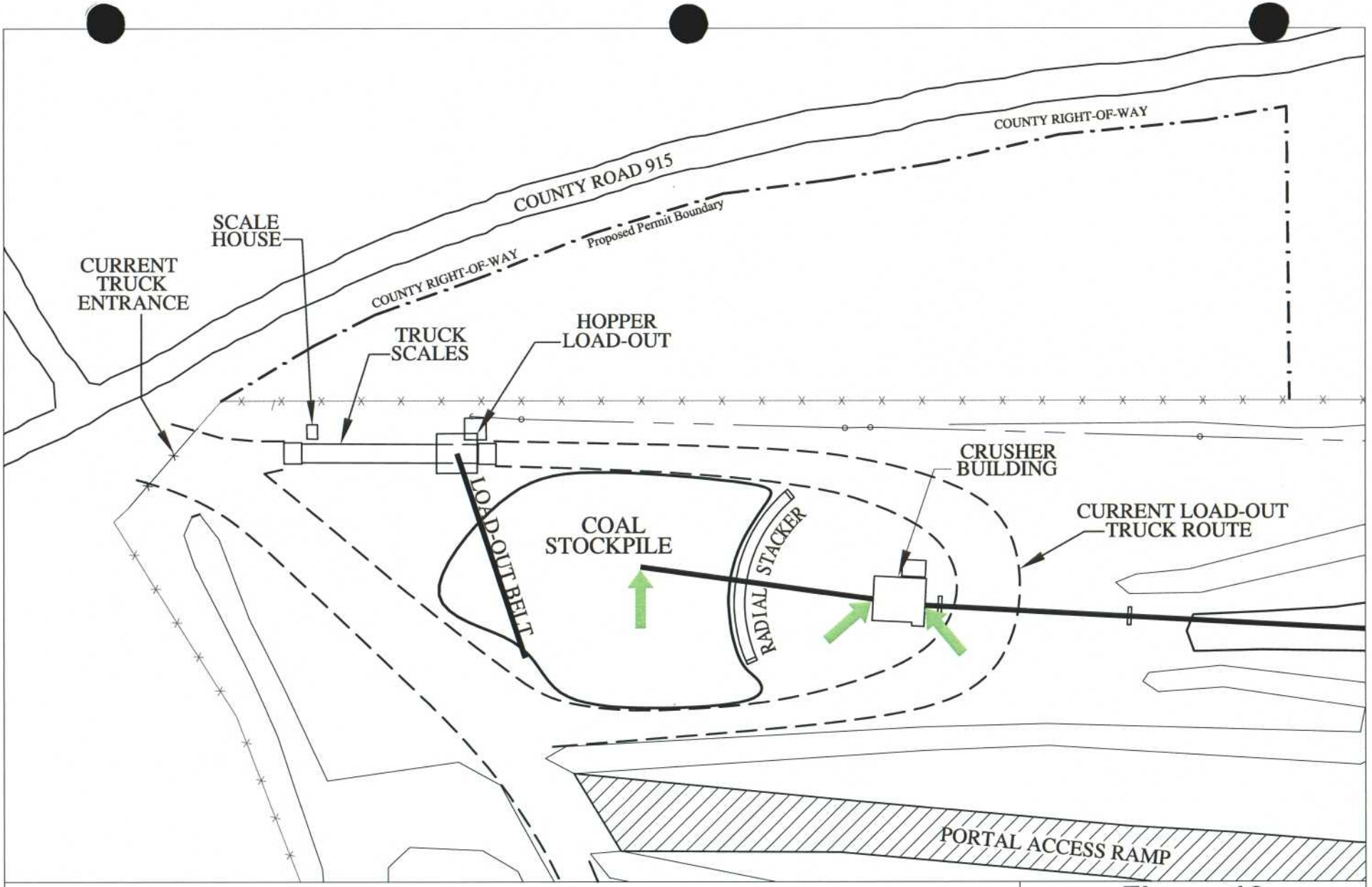


Figure 10

Emery Mine 4th East Portal

Water Spray Locations

Date: 09/11/03 | Project: 2893 Consol

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VACUUM TRUCK

The vacuum truck will continue to be used at the mine on a contract and as-needed basis. Vacuuming is anticipated for the sump underlying the cattle guard at the plant entrance and for cleanup of spills in other relatively inaccessible areas, such as below conveyors and around the crusher.

Vacuum trucks are widely used in general industry for cleanup of spills of solid and slurry materials, especially from inaccessible areas. A contract vacuum truck well suited to cleanup coal yard spills at Emery, e.g., from conveyors, and to remove solids from beneath the cattle guard once installed. Regulatory agencies (EPA, OSHA, MSHA) concerned with in-plant and ambient air quality champion the use of vacuum methods in general industry to control materials that may otherwise cause dusting. Vacuuming is considered GEP and BMP, because this control method removes the source of potential dusting.

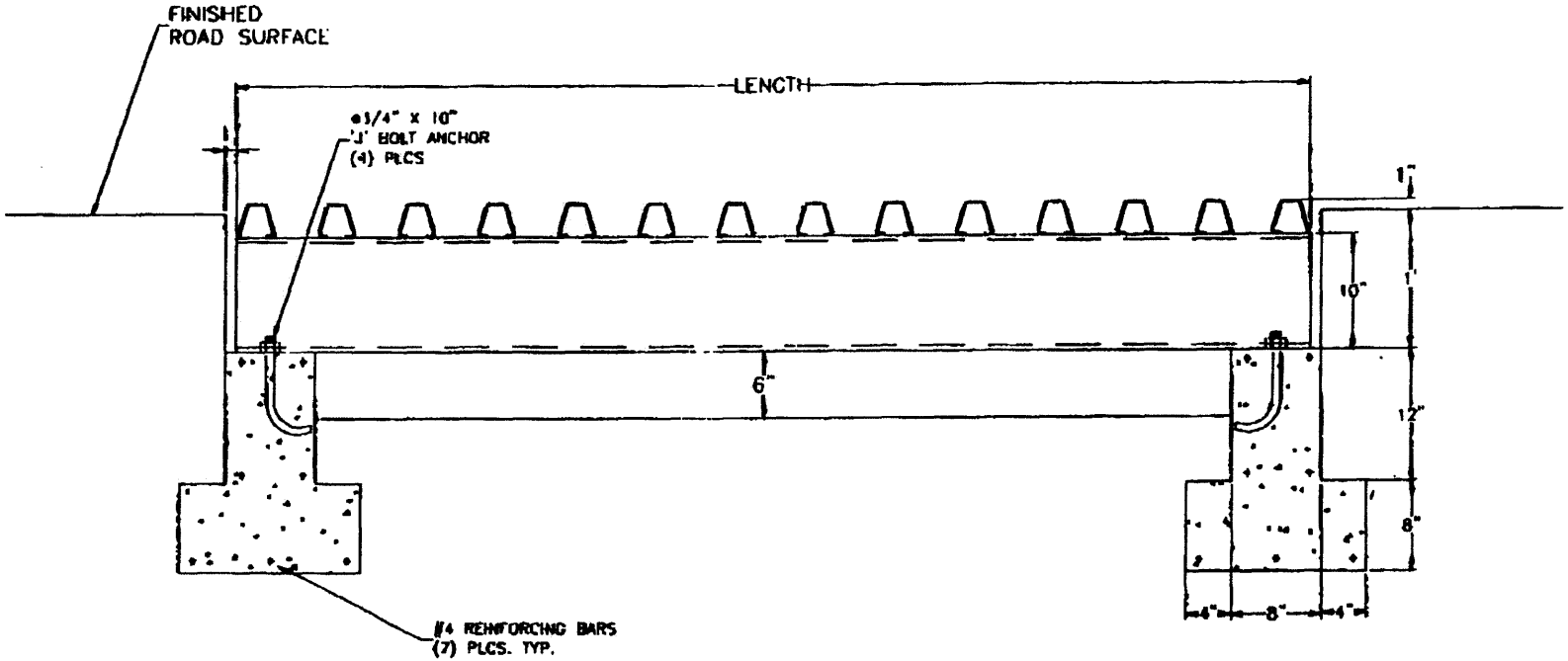
CATTLE GUARD

Figures 11 and 12 respectively show the specification and the location for the cattle guard to be installed at the entrance of the coal yard for the 4th East Portal. The selected design, U-54 from Powder River in Provo, UT, is the same as that specified by Emery County for the recently paved county road used for haul truck traffic to and from the mine. The design is rated at 25 tons per axle, where the maximum weight per axle for the tandem haul trucks in use at Emery is about 9 tons per axle. See Appendix G for additional specification and installation instructions for U-54 cattle guard.

The installed cattle guard will accommodate the haul truck tire width (outside tire to outside tire) of 100 inches, and the length will be sufficient for at least one tire rotation, where the tire diameter is 42 inches (circumference is 132 inches).

The underlying concrete sump will also provide support for the cattle guard. Its "as built" design will be able to withstand the loaded weight of a haul truck on a per axle basis, i.e., about 9 tons (Note: The U-54 design from Powder River is rated at 25 tons axle weight.).

Cattle guards aren't usually thought of as a dust control; however, this application is well suited for the conditions at Emery, where solids may adhere to truck tires under both overly wet and dry conditions. Cattle guards in tandem with the collection sump are considered GEP and BMP, because solids are dislodged from tires and collected in a containment structure where they are less likely to be re-entrained.



CATTLEGUARD		CATLE GUARD INSTALLATION U-54 & U-80
OWDER RIVER, INC.	DRAWING #: .	
	SCALE: .	
388 EAST 900 SOUTH PROVO, UTAH 84605 PHONE: (801)374-2983 FAX: (801)377-6927	DRAW BY: HGM	
	DATE: 7/6/98	
	CHECKED BY: .	
	APPROVED BY: .	

Figure 11
Cattle Guard Specification

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NORWEST CORPORATION

REPLACEMENT OF CRUSHER

The current hammer mill crusher is rated at 500 TPH. See Figure 13 for location. It will be replaced with a 500 TPH double-roll crusher or other type of non-pulverizing device. Regulatory agencies (EPA, OSHA, MSHA) consider substitution or modification of process equipment known to generate less air emissions a valid engineering control (GEP and BMP). Replacing the crusher at Emery, e.g., is an ideal application of this engineering principle, where a double-roll crusher or other type of non-pulverizing crusher would produce a larger size product, on average, than the present hammer mill crusher. Substitution of equipment for the purpose of emissions reduction is widely observed in general industry. See Appendix H for specifications on candidate replacement crushers located to date.

Prior to crusher replacement, a Notice of Intent (NOI) will be timely filed with Utah's Division of Air Quality. A courtesy copy of the NOI will be sent to DOGM.

TRUCK RE-ROUTING (SEE ABOVE SECTION ON DUST TREATMENT PROGRAM FOR DETAILS ON TRUCK RE-ROUTING)

Figure 14 shows the location of the combined Phase I controls at the Emery Mine 4th East Portal area.

MAINTENANCE PROGRAM

See Appendix I for the outline of the maintenance program for the Phase I controls at the Emery Mine 4th East Portal area.

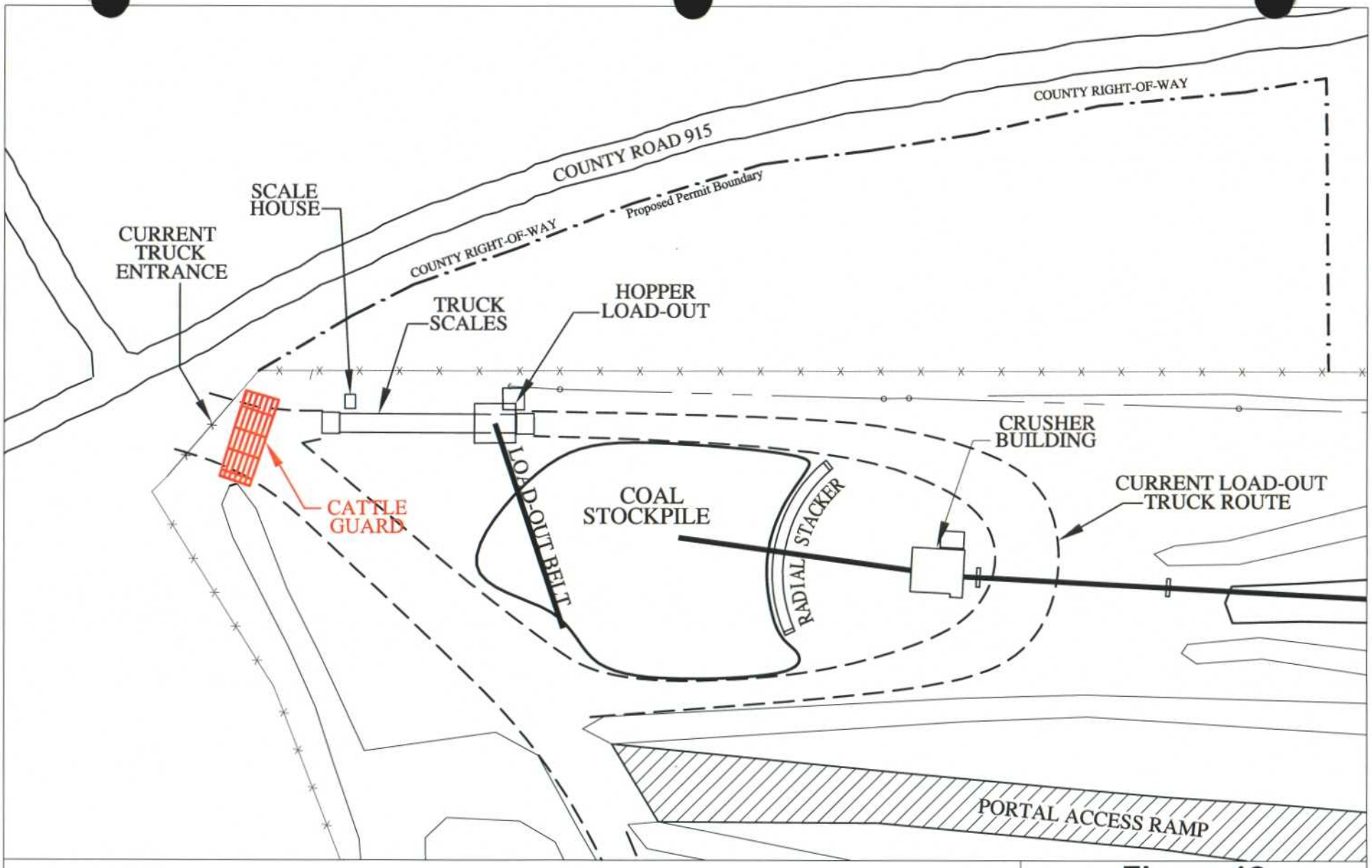

Figure 12

Emery Mine 4th East Portal

Cattle Guard and Sump

Date: 09/11/03 | Project: 2893 Consol

CONSOL ENERGY | NORWEST CORPORATION

REPLACEMENT OF CRUSHER

The current hammer mill crusher is rated at 500 TPH. See Figure 13 for location. It will be replaced with a 500 TPH double-roll crusher or other type of non-pulverizing device. Regulatory agencies (EPA, OSHA, MSHA) consider substitution or modification of process equipment known to generate less air emissions a valid engineering control (GEP and BMP). Replacing the crusher at Emery, e.g., is an ideal application of this engineering principle, where a double-roll crusher or other type of non-pulverizing crusher would produce a larger size product, on average, than the present hammer mill crusher. Substitution of equipment for the purpose of emissions reduction is widely observed in general industry. See Appendix H for specifications on candidate replacement crushers located to date.

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TRUCK RE-ROUTING (SEE ABOVE SECTION ON DUST TREATMENT PROGRAM FOR DETAILS ON TRUCK RE-ROUTING)

Figure 14 shows the location of the combined Phase I controls at the Emery Mine 4th East Portal area.

MAINTENANCE PROGRAM

The mine superintendent's main function is to direct all day-to-day, on-site activities as they relate to operations at the Emery Mine's 4th East Portal. The mine superintendent is the stockpile manager, responsible for the initial implementation and ongoing sustainability of the dust control plan. He will be responsible for inspections, maintenance and repairs of the dust control equipment and measures. Furthermore, he will direct the on-site training activities, to include mine personnel and haul truck drivers, so that each person at the 4th East Portal understands his job as it relates to dust control.

See Appendix I for the outline of the maintenance program for the Phase I controls at the Emery Mine 4th East Portal area.

During site inspections by DOGM, dust controls and measures will be readily available for demonstration purposes, as follows:

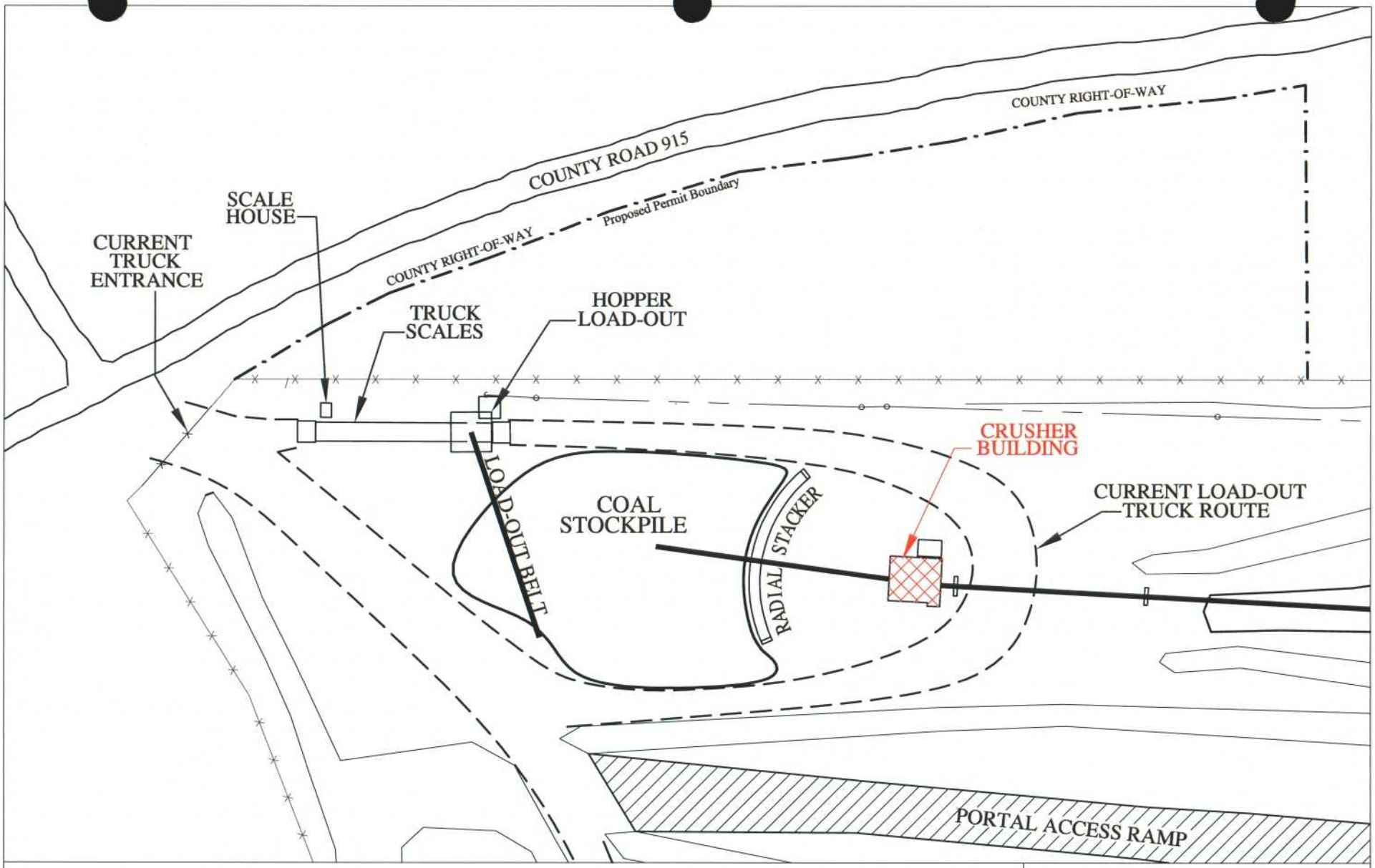
WATER SPRAYS Water sprays will be on and available for inspection during normal operation when material is on the moving conveyor belt.

WATER CANNONS Water cannons will be capable of manual activation and operation. Accordingly, this system will be available for demonstration upon request.

WIND FENCE The wind fence is a passive control device that reduces wind velocity or deflects wind around a potential dust source, in this case the stockpile. The optimal demonstration opportunities for this passive device will be during periods of elevated and sustained wind velocities, particularly under prevailing wind conditions (out of the west).

CONCRETE BARRIERS Personnel will be able to immediately verify the optimal placement of concrete barriers in the stockpile area, and whether cracks have been properly sealed to prevent blowing dust.

DUST TREATMENT PROGRAM (COAL YARD AND TRUCK RE-ROUTE) It will be readily apparent (blowing dust) to area personnel if dust suppressant needs to be re-applied in the coal yard and the re-route areas.



KEY

- Current Truck Route
- Fence (Current Permit Boundary)
- Power Line
- Conveyor Belt
- Proposed Permit Boundary

N

1" = 75'

50 25 0 50 100 Feet

Figure 13

Emery Mine 4th East Portal

Location of Crusher

Date: 09/11/03 | Project: 2893 Consol

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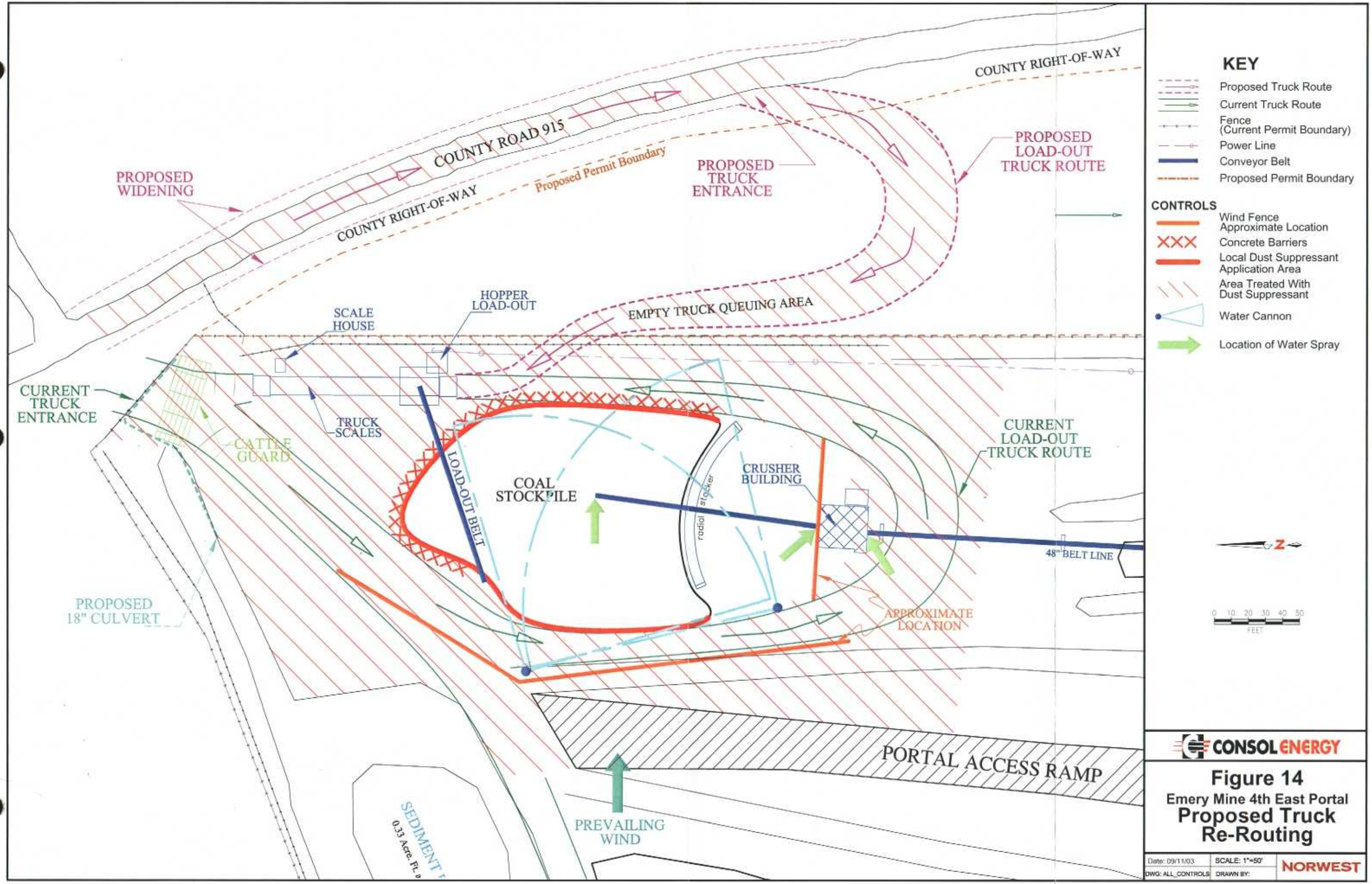


CONSOL ENERGY

Figure 14
Emery Mine 4th East Portal
Proposed Truck Re-Routing

Date: 09/11/03	SCALE: 1"=50'	NORWEST
DWG: ALL_CONTROLS	DRAWN BY:	

APPENDIX A

MAGNESIUM CHLORIDE – PRODUCT INFORMATION

MATERIAL SAFETY DATA SHEET
REILLY INDUSTRIES, INC.

SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **DUS-TOP™ Dust Control Agent**
DUS-TOP™ CI Dust Control Agent

Chemical Name: Magnesium chloride, aqueous solution
Synonyms: Magnesium Chloride Hexahydrate Brine
CAS Number: mixture (see Section 2)
Product Use: dust control agent

Manufacturer Information:
Reilly Industries, Inc.
300 North Meridian Street
Suite 1500
Indianapolis, Indiana 46204
USA

Emergency Phone Number (24 hr.): (317) 247-8141
CHEMTREC Phone Number (24 hr.): (800) 424-9300
(collect calls are accepted)
Non-Emergency Phone Number: (317) 247-8141
Non-Emergency Fax Number: (317) 248-6413

SECTION 2 COMPOSITION AND INFORMATION ON INGREDIENTS

Ingredient	CAS Number	Concentration (%)	Exposure Limits OSHA PEL	Exposure Limits ACGIH TLV
Magnesium Chloride Hexahydrate	7791-18-6	25 - 35 %	not established	not established
Water	7732-18-5	65 - 75 %	not established	not established
Corrosion Inhibitor (in ICE-STOP™ CI)	proprietary	2500 - 3000 ppm	not established	5 mg/m³ as 8-hr time-weighted average

SECTION 3 HAZARDS IDENTIFICATION

Emergency Overview:

Colorless liquid with essentially no odor. Mild irritant to skin and eyes. May be irritating to respiratory tract if inhaled.

Signs and Symptoms of Potential Overexposure: May be mildly irritating to skin and eyes on contact, similar to the irritation observed due to exposure to common salt water (sodium chloride). If inhaled as a mist, this material may be irritating to the respiratory tract. See Section 11 for further toxicological information. Although it is expected that the health effects related to this solution are minimal, as with any chemical, use appropriate precautions during handling.

Primary Route(s) of Entry: Skin contact, eye contact. Ingestion is not likely to be a primary route of exposure.

Medical Conditions Aggravated by Exposure: Persons with pre-existing skin and respiratory disorders may be at increased risk from overexposure to this material. This is not likely to be a problem when appropriate procedures are used to minimize exposure.

SECTION 4 FIRST AID MEASURES

Skin Contact: Wash exposed area twice with soap and water. The exposed area should be examined by medical personnel if irritation or pain persists after the area has been washed.

Eye Contact: Rinse eyes immediately with large amounts of water for at least 15 minutes, occasionally lifting the eyelids. GET MEDICAL ATTENTION.

Inhalation: In the unlikely event that a person would be exposed to an airborne mist of such magnitude as to be overcome, remove from exposure to fresh air immediately. If breathing has stopped, give artificial respiration. Keep affected person warm and at rest. GET MEDICAL ATTENTION.

Ingestion: If swallowed, induce vomiting to prevent further absorption. Give oxygen if respiration is shallow. GET MEDICAL ATTENTION. Do not give anything by mouth to an unconscious person.

Thermal Exposure: not applicable

Delayed Effects: none known

Note to Physician: Overexposures may lead to mild, transient irritation of skin, eyes or respiratory system. Taken internally, magnesium salts are absorbed very slowly; oral administration of magnesium salts generally causes nothing more than purging. Treatment should be based on the judgment of the physician in response to the reactions

of the patient.

SECTION 5: FIRE FIGHTING MEASURES

Flash Point: non-combustible (aqueous solution) **Method:** not available **Autoignition Temperature:** not available

Flammable Limits: **UFL:** not available **LFL:** not available

Flammability Classification (OSHA): Not applicable.

Hazardous Products of Combustion: Toxic fumes of hydrogen chloride may be evolved when magnesium chloride is thermally decomposed.

Potential for Dust Explosion: Not applicable

Special Flammability Hazards: Not applicable

Appropriate Extinguishing Media: Water spray, carbon dioxide, dry chemical.

Basic Fire Fighting Guidance: This material consists of 65 - 75% water, and is not combustible. In the event of a surrounding fire, wear self-contained breathing apparatus and full protective clothing. Skin and eye contact should be avoided. Normal fire fighting procedures may be used.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Containment Techniques: For small spills, use suitable absorbent material and collect for later disposal. For larger spills, diking may be required to contain the release.

Clean-up Procedures & Equipment: Wear protective equipment during clean up. Remove all ignition sources. Ventilate area of spill or leak. Collect material for later disposal. After collection of material, flush area with water.

Evacuation Procedures: Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Special Instructions: Remove all contaminated clothing to prevent further absorption. Decontaminate affected personnel using the first aid procedures in Section 4. Leather shoes that have been saturated must be discarded.

Special Reporting Requirements: Notify appropriate authorities if required by regulation.

SECTION 7: HANDLING AND STORAGE

Storage Precautions: Protect containers from physical damage.

Storage Recommendations: Maintain dry, ventilated conditions for storage. Keep away from strong acids to prevent release of hydrogen chloride gas.

Precautions for Unique Hazards: Not applicable.

Practices to Minimize Risk: Wear protective equipment when performing maintenance on contaminated equipment.

Special Handling Equipment: Not applicable.

Dangerous Incompatibility Reactions: Avoid contact with furan-2-peroxycarboxylic acid; explosion could result.

Incompatibilities with Materials of Construction: Mildly corrosive to metals over time (< 0.05 inches/year in carbon steel). DUS-TOP™ CI contains a proprietary corrosion inhibitor to reduce corrosion to metals.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits: **OSHA PEL:** not established **ACGIH TLV:** not established

Personal Protective Equipment: Where overexposures are a concern, use NIOSH-approved dust/mist respirator as necessary. Chemical goggles, and impervious clothing, gloves and boots should be considered if extensive splashing is likely. Contact lenses should not be worn when handling this material. Do not smoke or eat in areas where this material is handled. Wash hands thoroughly before eating or smoking.

Respirator Caution: Observe OSHA regulations for respirator use (29 CFR 1910.134). Air-purifying respirators must not be used in oxygen-deficient atmospheres.

Ventilation:	All operations should be conducted in well-ventilated conditions. Local exhaust ventilation should be provided. For outdoor operations generating airborne mist, workers should position themselves upwind of the operation to avoid exposure.
Other Engineering Controls:	All available engineering controls to minimize risk should be used.
Thermal Hazards:	Not applicable
Additive or Synergistic Effects:	None known

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Molecular Formula:	$MgCl_2 \cdot 6\ H_2O$
Molecular Weight:	203.31
Appearance, State & Odor (ambient temperature):	clear, odorless liquid
pH:	7
Vapor Pressure:	not available
Vapor Density (air = 1):	not available
Boiling Point:	244.6°F
Freezing Point:	- 13°F
Melting Point:	not applicable
Solubility in Water:	miscible
Specific Gravity or Density:	1.30 @ 68°F
VOC Content:	not available
Softening Point:	not applicable
Bulk Density:	not applicable
Octanol / Water Partition Coefficient:	not available
Odor Threshold:	not available

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability:	Stable
Conditions to Avoid:	Not applicable
Incompatibilities:	Avoid contact with strong acids.
Hazardous Decomposition Products:	Hydrogen chloride gas may be released if product is evaporated to dryness and heated to > 500°C.
Hazardous Polymerization:	Will not occur

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Oral LD_{50}:	2800 mg/kg	**Species:**	Rat		
Acute Dermal LD_{50}:	not available	**Species:**	not available		
Acute Inhalation LC_{50}:	not available	**Duration:**	not available	**Species:**	not available
Skin / Eye Irritation:	Mild skin irritant / Mild eye irritant				
Target Organs:	Multiple oral doses of magnesium chloride administered intermittently to mice over 13 weeks at 114 mg/kg resulted in changes in liver and spleen weights in exposed animals. [RTECS]				
Carcinogenicity:	Negative in 96 week oral B6C3F1 mouse study, ranging up to 2% of diet. [See *Food Chem. Toxicol.* 27(9):559-63, 1989]				
Teratogenicity:	No data available.				

Reproductive Effects: No data available.

Neurotoxicity: No data available.

Mutagenicity: Negative in bacterial DNA repair assay in Bacillus subtilis. [See *Mutat. Res.* 87:211-297, 1981]

Additional Toxicity Information: Magnesium chloride is listed by the US Food and Drug Administration as a chemical "generally recognized as safe" as a direct human food ingredient. [See 21 CFR 184.1426]

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity: No data available.

Environmental Fate: No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

US EPA Waste Number: not applicable

Classification of Waste as Manufactured: (per federal regulations) Non Hazardous
NOTE: Generator is responsible for proper waste characterization. State hazardous waste regulations may differ substantially from federal regulations.

Waste Disposal: Dispose of this material in accordance with standard practice for disposal of potentially hazardous materials as required by applicable federal, state or local laws. Note that disposal regulations may also apply to empty containers and equipment rinsates.

SECTION 14: TRANSPORT INFORMATION

DOT Proper Shipping Name: DUS-TOP™ Dust Control Agent, Non-Hazardous.

IATA Proper Shipping Name: DUS-TOP ™ Dust Control Agent, Non-Hazardous.

IMDG Proper Shipping Name: DUS-TOP ™ Dust Control Agent, Non-Hazardous.

Emergency Guidebook Numbers: **NAERG:** not applicable **EMS:** not applicable **MFAG:** not applicable

SECTION 15: REGULATORY INFORMATION

OSHA Hazards: Irritant.

Chemical Inventory Status:

TSCA:	Yes	**EINECS:**	Yes	**Canada:**	Yes - DSL
Japan:	Yes	**Korea:**	Yes	**Australia:**	Yes
China:	Yes	**Philippines:**	Yes		

SARA 313: Not applicable

Other Regulatory Listings: Class D: Division 2: Subdivision B: Irritant

Reportable Quantities: Not applicable

State Regulations: Not applicable

SECTION 16: OTHER INFORMATION

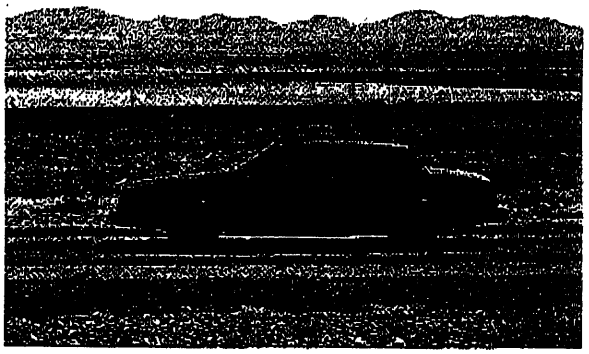
Precautionary Statement: Please note that the information contained herein is furnished without warranty of any kind. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers.

Reilly Industries Hazard Rating System: H: 1 F: 0 R: 0

DUS-TOP®

As long as cars and trucks travel along dirt roads, around construction sites, mines, quarries, or move in and out of unpaved parking lots, they're going to kick up dust *and problems.*

Granted, you can kick back with short-term solutions — like water or oil. But water is a temporary solution for permanent road dust problems. And constantly applying waste oils to your dirt roads can produce environmental problems. In addition, there may be legal considerations if your waste oil contains heavy metals. So for long-term dust control there's only one solution — Dus-Top,® Kaiser Chemicals' highly-concentrated magnesium chloride brine.



This car is traveling at 30 mph on a Dus-Top treated road at the Pinson Gold Mine, Nevada.

One application of Dus-Top created a hard-packed driving surface on this Nevada casino parking lot.

Dus-Top continuously absorbs moisture from the air and literally traps and locks it into dirt surfaces. That unique reaction stabilizes dirt surfaces, and, in turn, supresses dust. The result is a hard-packed, dust-free dirt road.

Use it once a year.

Heavily-traveled dirt road surfaces require repeated watering. But this process is time-consuming, expensive, and in the long run, ineffective. Dus-Top can eliminate these problems.

Numerous field applications have proven the effectiveness of Dus-Top in controlling road dust — *with only one application per year.*

With Dus-Top, you'll soon realize a significant savings on labor and maintenance costs. And by keeping your dirt roads free of excessive dust, Dus-Top also helps reduce road equipment operating costs. Clean-running engines require less service, which saves on equipment — and money.

How does it compare with calcium-based products?

Extensive comparisons under extreme weather conditions such as those found in British Columbia, Canada and the southwest desert

IT WORKS.

regions of the U.S. have shown that Dus-Top is far more versatile than calcium lignosulfonate or calcium chloride.

Time and again its resistance to erosion in these hot, dry, cold and wet climates clearly demonstrates the superiority of Dus-Top over any calcium-based product.

Dus-Top treatment on this road in British Columbia, Canada lasted a full year.

DUS-TOP
We stop
dust in
its tracks.

DUS-TOP Customers are our best salesmen.

"That $MgCl_2$ is the best thing that ever happened to our roads. It's saved on a lot of grading and watering."

Bob Pittman, *Mining Superintendent*
Pinson Gold Mine, Golconda, Nevada

"Since the application of $MgCl_2$, we have quit watering altogether."

Construction Manager, Davey McKee, Inc.,
Getty Gold Mine, Mercur, Utah

"The $MgCl_2$ rated consistently higher in every test section than comparable rates of calcium lignosulfonate. And, although all sections suffered from heavy rains in July, the $MgCl_2$ recovered and the calcium lignosulfonate did not."

Regional Engineer, Geotechnical and
Materials Group, British Columbia, Canada

"The stuff is just great. We used it last year and are using it even more this year. Everyone seems real happy with it."

Jack Gretlig, *Road Inspector*
Pitkin City, Colorado

"It's amazing, I can't believe it works so well."

Harry Colborn,
Independent trucker

"We use it here in our yard...it sure keeps the dust down."

Dick Stephenson, *Owner,*
Roaring Ford Sand & Gravel

"This is the first year we have tried it. We're real happy with it so far."

Puppy Smith, *Public Works Director,*
Aspen, Colorado

DUS-TOP

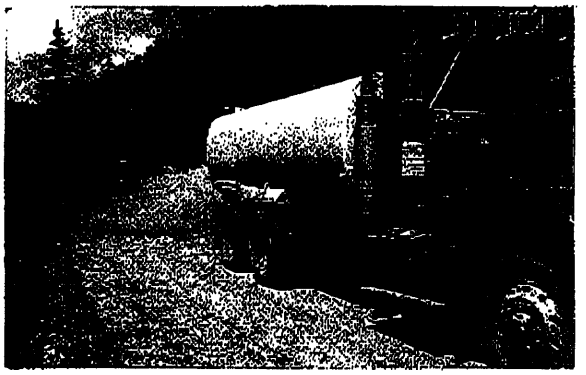
Dus-Top is easy to apply.

Remove furrows, washboarding and potholes. Allow for water drainage by blading to a modified "A" crown or necessary slope. Check appropriate drainage codes.

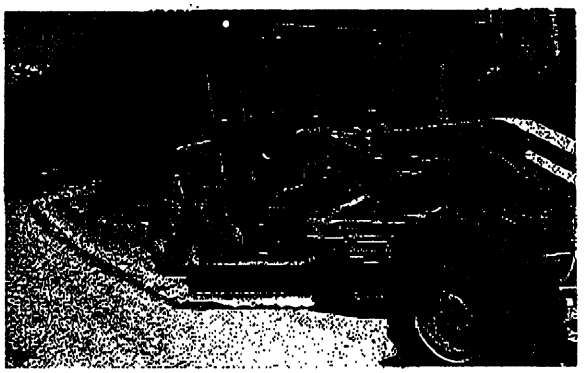
Pre-wet the surface with water prior to Dus-Top application.

Apply Dus-Top with a pressurized spray bar at a rate of ½ gallon per square yard to be treated.

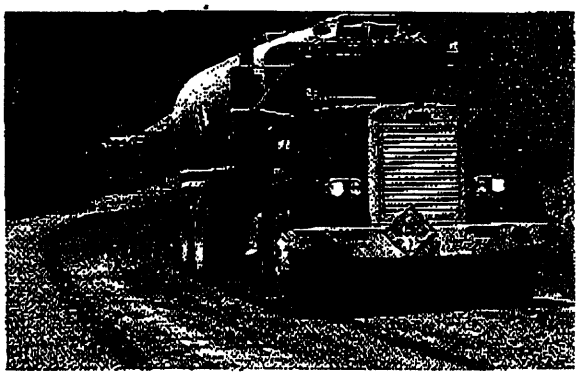
Curing generally takes 24 hours. Therefore no traffic should be permitted to pass over the treated surface during this period of time. If it is impractical to keep traffic off the newly-treated surface, speed should be held to a minimum.



Pre-wetting the surface to assure deep Dus-Top penetration.



Shaping a road with conventional maintenance equipment.



A pressurized spray assures a more uniform Dus-Top application.

APPLICATION GUIDE			
Width of Spread	Gallons per Sq. Yard	Gallons per Mile	Miles per 4550 Gallons (1 Truck Load)
4 ft.	.50	1173	3.87
8 ft.	.50	2346	1.93
12 ft.	.50	3520	1.29
16 ft.	.50	4693	.967
18 ft.	.50	5280	.861
20 ft.	.50	5866	.775
22 ft.	.50	6453	.705
24 ft.	.50	7040	.646
26 ft.	.50	7626	.596
28 ft.	.50	8213	.553
30 ft.	.50	8800	.517

The information contained herein is intended as a general description of the characteristics and typical applications of the product and is not a warranty or recommendation for any specific use or purpose. It is offered solely for your consideration and further inquiry.

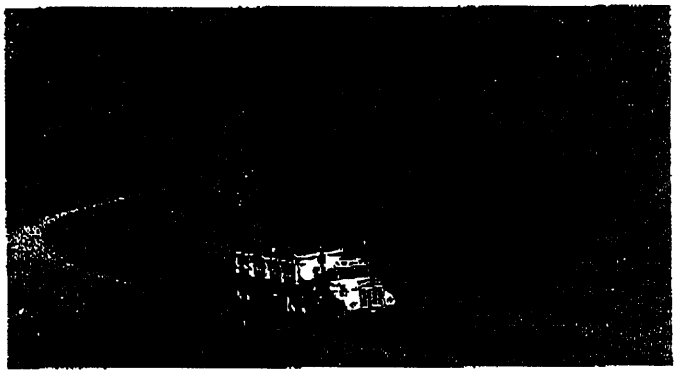
The surface should be compacted as soon as nothing sticks to the roller. (*Do not* use a vibrator). We recommend that two to three days after the application, the surface be watered down to ensure Dus-Top's penetration.

For more information, contact WRR INDUSTRIES, an authorized distributor of Dus-Top.

WRR INDUSTRIES, INC.
P.O. Box 1220, Carbondale, CO 81623-1220
Telephone: (303) 963-3516 or (800) 523-1359
P.O. Box 27597, Salt Lake City, UT 84127-0597
Telephone: (801) 355-2279 or (800) 672-6025

KAISER CHEMICALS
30100 Chagrin Boulevard • Cleveland, Ohio 44124

DUSTOP®



KAISER CHEMICALS

APPENDIX B

EPA DOCUMENT – AP-42 EXCERPT

Technology Transfer Network
Clearinghouse for Inventories & Emission Factors

Emission Factor & Inventory Information

Conferences

Publications

Emission Inventory Improvement Program

AirDATA

Related Sites

Site Index

Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume I: *Stationary Point and Area Sources*

*For information about emission factors from highway vehicles and nonroad mobile sources, visit the **Office of Transportation and Air Quality web site.***

Please call the Info CHIEF help desk at 919-541-1000 if you have any questions about the information in AP-42, Volume I. Ordering information for hard copy of the 5th edition and the supplements is available on the CHIEF Publications site.

AP-42, Volume I, Fifth Edition

AP-42 FAQs	Answers to frequently asked questions about AP-42
Drafts	Draft Sections Under Review
Supplements	AP-42 historical listing of supplements
Older Editions of AP-42, Vol. I	**This information is available for historical purposes only**. For the most recent emission factors, supported by the EPA, please see the table of contents below.
Procedures	*Procedures for Preparing Emission Factor Documents* -- Describes procedures for developing and reporting emission factors in EPA publications -- November 1997 (PDF 477K)
Contents	Detailed Table of Contents, Publications in Series, Insertion Instructions, and Key Word Index -- May 1998 (PDF 128K)

Select the appropriate chapter below to display a directory of available source categories which can be downloaded.

Introduction	Introduction to AP-42, Volume I, Fifth Edition -- January 1995 (PDF 40K)
Chapter 1	**External Combustion Sources**
Chapter 2	**Solid Waste Disposal**

11.19.1 Sand And Gravel Processing

11.19.1.1 Process Description[1-6]

Deposits of sand and gravel, the unconsolidated granular materials resulting from the natural disintegration of rock or stone, are generally found in near-surface alluvial deposits and in subterranean and subaqueous beds. Sand and gravel are siliceous and calcareous products of the weathering of rocks and unconsolidated or poorly consolidated materials. Such deposits are common throughout the country. The six-digit Source Classification Code (SCC) for construction sand and gravel processing is 3-05-025, and the six-digit SCC for industrial sand and gravel is 3-05-027.

Construction Sand And Gravel -

Sand and gravel typically are mined in a moist or wet condition by open pit excavation or by dredging. Open pit excavation is carried out with power shovels, draglines, front end loaders, and bucket wheel excavators. In rare situations, light charge blasting is done to loosen the deposit. Mining by dredging involves mounting the equipment on boats or barges and removing the sand and gravel from the bottom of the body of water by suction or bucket-type dredges. After mining, the materials are transported to the processing plant by suction pump, earth mover, barge, truck, belt conveyors, or other means.

Although significant amounts of sand and gravel are used for fill, bedding, subbase, and basecourse without processing, most domestic sand and gravel are processed prior to use. The processing of sand and gravel for a specific market involves the use of different combinations of washers, screens, and classifiers to segregate particle sizes; crushers to reduce oversized material; and storage and loading facilities. A process flow diagram for construction sand and gravel processing is presented in Figure 11.19.1-1. The following paragraphs describe the process in more detail.

After being transported to the processing plant, the wet sand and gravel raw feed is stockpiled or emptied directly into a hopper, which typically is covered with a "grizzly" of parallel bars to screen out large cobbles and boulders. From the hopper, the material is transported to fixed or vibrating scalping screens by gravity, belt conveyors, hydraulic pump, or bucket elevators. The scalping screens separate the oversize material from the smaller, marketable sizes. Oversize material may be used for erosion control, reclamation, or other uses, or it may be directed to a crusher for size reduction, to produce crushed aggregate, or to produce manufactured sands. Crushing generally is carried out in one or two stages, although three-stage crushing may also be performed. Following crushing, the material is returned to the screening operation for sizing.

The material that passes through the scalping screen is fed into a battery of sizing screens, which generally consists of either horizontal or sloped, and either single or multideck, vibrating screens. Rotating trommel screens with water sprays are also used to process and wash wet sand and gravel. Screening separates the sand and gravel into different size ranges. Water is sprayed onto the material throughout the screening process. After screening, the sized gravel is transported to stockpiles, storage bins, or, in some cases, to crushers by belt conveyors, bucket elevators, or screw conveyors.

The sand is freed from clay and organic impurities by log washers or rotary scrubbers. After scrubbing, the sand typically is sized by water classification. Wet and dry screening is rarely used to size the sand. After classification, the sand is dewatered using screws, separatory cones, or

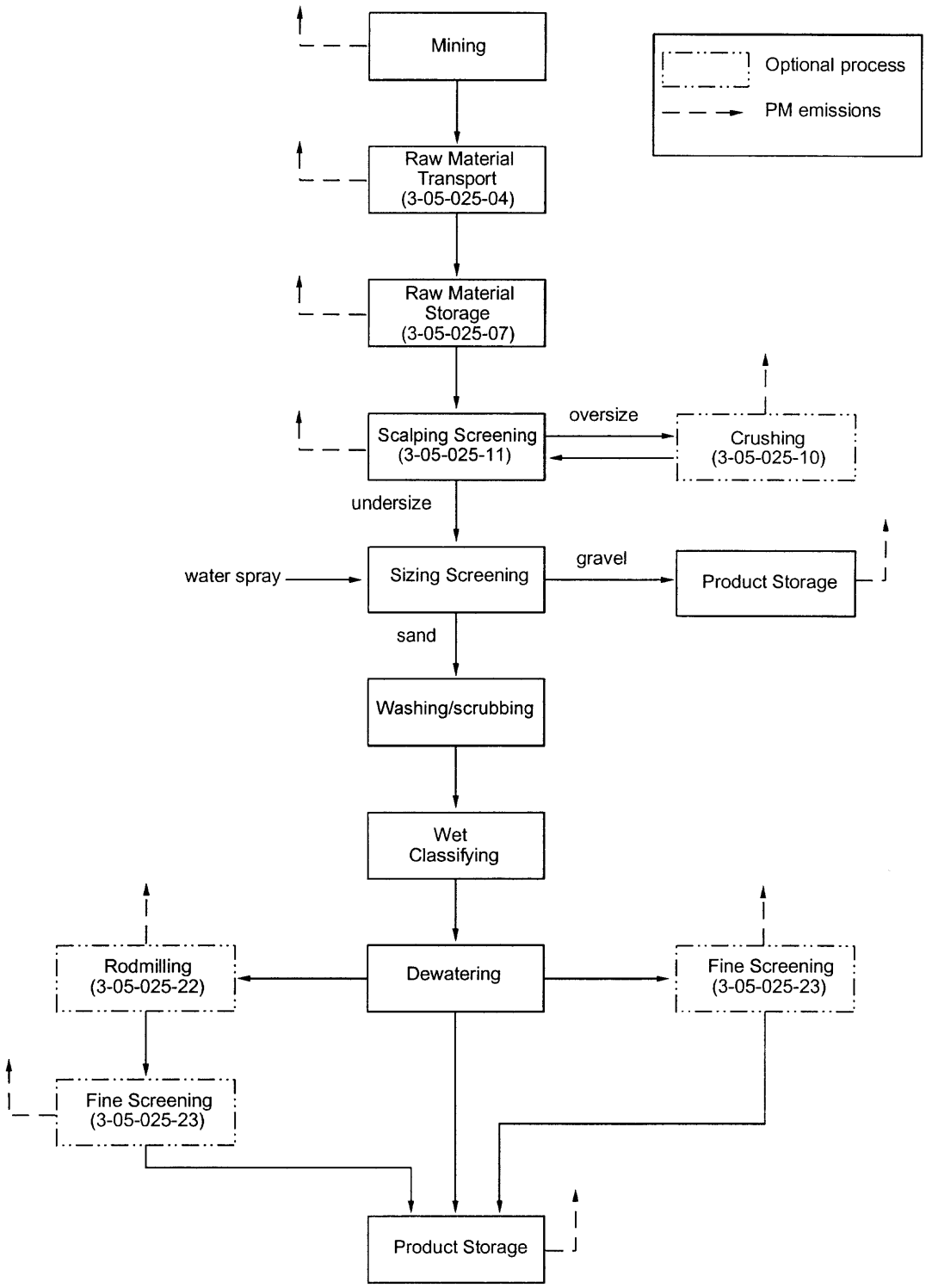


Figure 11.19.1-1. Process flow diagram for construction sand and gravel processing. (Source Classification Codes in parentheses.)

hydroseparators. Material may also be rodmilled to produce smaller sized fractions, although this practice is not common in the industry. After processing, the sand is transported to storage bins or stockpiles by belt conveyors, bucket elevators, or screw conveyors.

Industrial Sand And Gravel -

Industrial sand and gravel typically are mined from open pits of naturally occurring quartz-rich sand and sandstone. Mining methods depend primarily on the degree of cementation of the rock. In some deposits, blasting is required to loosen the material prior to processing. The material may undergo primary crushing at the mine site before being transported to the processing plant. Figure 11.19.1-2 is a flow diagram for industrial sand and gravel processing.

The mined rock is transported to the processing site and stockpiled. The material then is crushed. Depending on the degree of cementation, several stages of crushing may be required to achieve the desired size reduction. Gyratory crushers, jaw crushers, roll crushers, and impact mills are used for primary and secondary crushing. After crushing, the size of the material is further reduced to 50 micrometers (μm) or smaller by grinding, using smooth rolls, media mills, autogenous mills, hammer mills, or jet mills. The ground material then is classified by wet screening, dry screening, or air classification. At some plants, after initial crushing and screening, a portion of the sand may be diverted to construction sand use.

After initial crushing and screening, industrial sand and gravel are washed to remove unwanted dust and debris and are then screened and classified again. The sand (now containing 25 to 30 percent moisture) or gravel then goes to an attrition scrubbing system that removes surface stains from the material by rubbing in an agitated, high-density pulp. The scrubbed sand or gravel is diluted with water to 25 to 30 percent solids and is pumped to a set of cyclones for further desliming. If the deslimed sand or gravel contains mica, feldspar, and iron bearing minerals, it enters a froth flotation process to which sodium silicate and sulfuric acid are added. The mixture then enters a series of spiral classifiers where the impurities are floated in a froth and diverted to waste. The purified sand, which has a moisture content of 15 to 25 percent, is conveyed to drainage bins where the moisture content is reduced to about 6 percent. The material is then dried in rotary or fluidized bed dryers to a moisture content of less than 0.5 percent. The dryers generally are fired with natural gas or oil, although other fuels such as propane or diesel also may be used. After drying, the material is cooled and then undergoes final screening and classification prior to being stored and packaged for shipment.

11.19.1.2 Emissions And Controls[6-14]

Emissions from the production of sand and gravel consist primarily of particulate matter (PM) and particulate matter less than 10 micrometers (PM-10) in aerodynamic diameter, which are emitted by many operations at sand and gravel processing plants, such as conveying, screening, crushing, and storing operations. Generally, these materials are wet or moist when handled, and process emissions are often negligible. A substantial portion of these emissions may consist of heavy particles that settle out within the plant. Other potentially significant sources of PM and PM-10 emissions are haul roads. Emissions from dryers include PM and PM-10, as well as typical combustion products including CO, CO_2, and NO_x. In addition, dryers may be sources of volatile organic compounds (VOC) or sulfur oxides (SO_x) emissions, depending on the type of fuel used to fire the dryer.

With the exception of drying, emissions from sand and gravel operations primarily are in the form of fugitive dust, and control techniques applicable to fugitive dust sources are appropriate. Some successful control techniques used for haul roads are dust suppressant application, paving, route

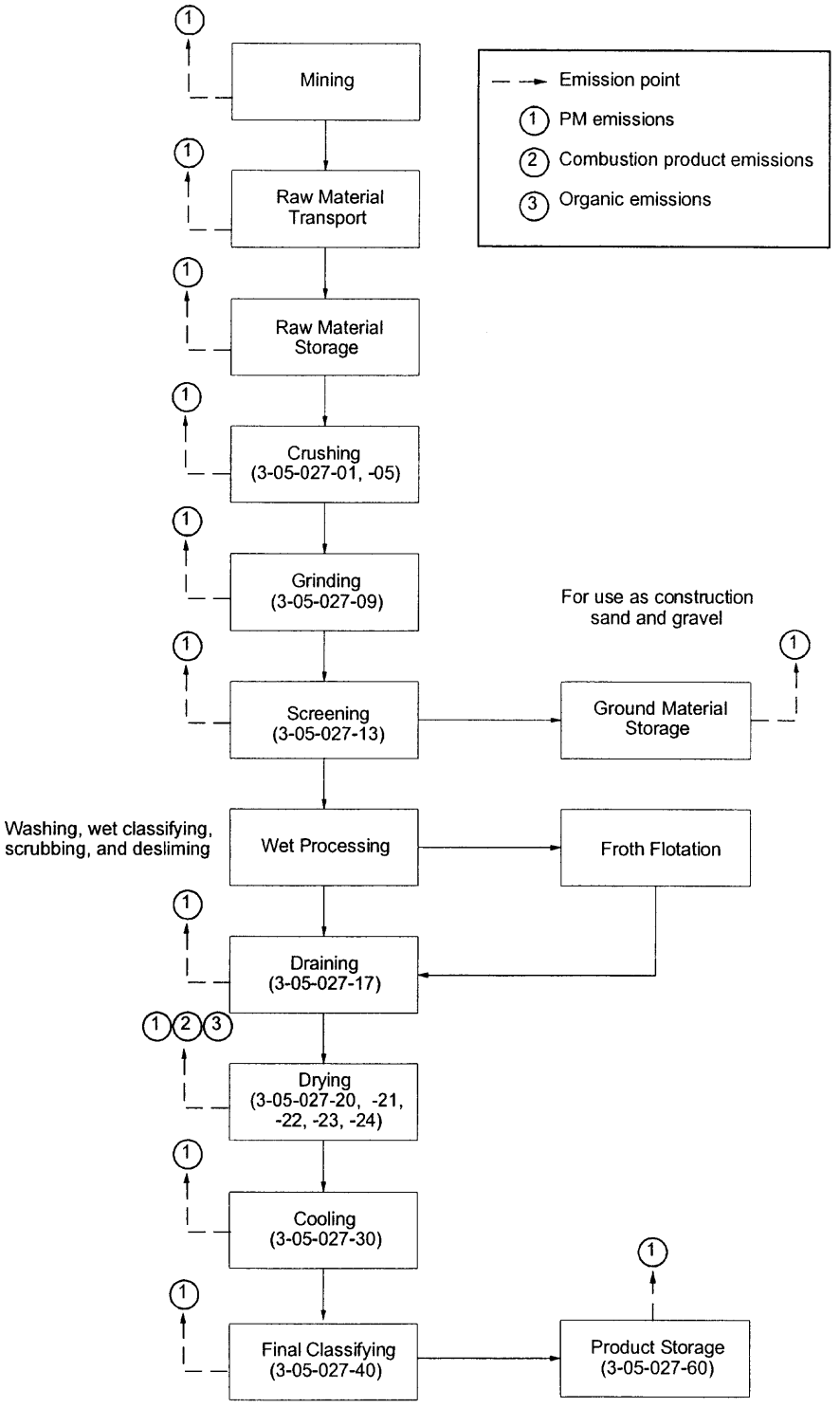


Figure 11.19.1-2. Process flow diagram for industrial sand and gravel processing. (Source Classification Codes in parentheses.)

modifications, and soil stabilization; for conveyors, covering and wet suppression; for storage piles, wet suppression, windbreaks, enclosure, and soil stabilizers; for conveyor and batch transfer points, wet suppression and various methods to reduce freefall distances (e. g., telescopic chutes, stone ladders, and hinged boom stacker conveyors); and for screening and other size classification, covering and wet suppression.

Wet suppression techniques include application of water, chemicals and/or foam, usually at crusher or conveyor feed and/or discharge points. Such spray systems at transfer points and on material handling operations have been estimated to reduce emissions 70 to 95 percent. Spray systems can also reduce loading and wind erosion emissions from storage piles of various materials 80 to 90 percent. Control efficiencies depend upon local climatic conditions, source properties and duration of control effectiveness. Wet suppression has a carryover effect downstream of the point of application of water or other wetting agents, as long as the surface moisture content is high enough to cause the fines to adhere to the larger rock particles.

In addition to fugitive dust control techniques, some facilities use add-on control devices to reduce emissions of PM and PM-10 from sand and gravel processing operations. Controls in use include cyclones, wet scrubbers, venturi scrubbers, and fabric filters. These types of controls are rarely used at construction sand and gravel plants, but are more common at industrial sand and gravel processing facilities.

Emission factors for criteria pollutant emissions from industrial sand and gravel processing are presented in Table 11.19.1-1 (metric and English units), and emission factors for organic pollutant emissions from industrial sand and gravel processing are presented in Table 11.19.1-2 (metric and English units). Although no emission factors are presented for construction sand and gravel processing, emission factors for the crushing, screening, and handling and transfer operations associated with stone crushing can be found in Section 11.19.2, "Crushed Stone Processing." In the absence of other data, the emission factors presented in Section 11.19.2 can be used to estimate emissions from corresponding sand and gravel processing sources. The background report for this AP-42 section also presents factors for the combined emissions of total suspended particulate from construction gravel storage pile wind erosion, material handling, and vehicle traffic. However, because the applicability of those emission factors to other storage piles is questionable, they are not presented here. To estimate emissions from fugitive sources, refer to AP-42 Chapter 13, "Miscellaneous Sources". The emission factors for industrial sand storage and screening presented in Table 11.19.1-1 are not recommended as surrogates for construction sand and gravel processing, because they are based on emissions from dried sand and may result in overestimates of emissions from those sources. Construction sand and gravel are processed at much higher moisture contents.

Table 11.19.1-1 (Metric And English Units).
EMISSION FACTORS FOR INDUSTRIAL SAND AND GRAVEL PROCESSING[a]

EMISSION FACTOR RATING: D

Source	Total PM		NO_x		CO_2	
	kg/Mg	lb/ton	kg/Mg	lb/ton	kg/Mg	lb/ton
Sand dryer (SCC 3-05-027-20)	0.98[b,c]	2.0[b,c]	0.016[d]	0.031[d]	14[e]	27[e]
Sand dryer with wet scrubber (SCC 3-05-027-20)	0.019[b,f]	0.039[b,f]	[g]	[g]	[g]	[g]
Sand dryer with fabric filter (SCC 3-05-027-20)	0.0053[b,h]	0.010[b,h]	[g]	[g]	[g]	[g]
Sand handling, transfer, and storage with wet scrubber (SCC 3-05-027-60)	0.00064[j]	0.0013[j]	ND	ND	ND	ND
Sand screening with venturi scrubber (SCC 3-05-027-13)	0.0042[k]	0.0083[k]	ND	ND	ND	ND

[a] Factors represent uncontrolled emissions unless noted. Dryer emission factors in units of kg/Mg and lb/ton of dried material produced; other factors in units of kg/Mg and lb/ton of material stored or screened. SCC = Source Classification Code.

[b] Factors are for filterable PM only. Filterable PM is that PM collected on or prior to the filter of an EPA Method 5 (or equivalent) sampling train. Condensible organic and inorganic PM emission factors are not available. Factors presented can be considered a conservative underestimate of total PM.

[c] Reference 12. EMISSION FACTOR RATING: E.

[d] Reference 10.

[e] References 10,13.

[f] References 5,13. EMISSION FACTOR RATING: C.

[g] Control device has no effect on emissions. See factor for uncontrolled emissions.

[h] References 7,11.

[j] Reference 9. For dried sand.

[k] Reference 14. Screening of dried sand.

Table 11.19.1-2 (Metric And English Units).
EMISSION FACTORS FOR INDUSTRIAL SAND AND GRAVEL PROCESSING--
ORGANIC POLLUTANTS[a]

EMISSION FACTOR RATING: D

Source	Pollutant		Emission factor	
	CASRN[b]	Name	kg/Mg	lb/ton
Diesel-fired rotary sand dryer with fabric filter (SCC 3-05-027-22)	50-00-0	Formaldehyde	0.0021	0.0043
	206-44-0	Fluoranthene	3.0×10^{-6}	6.0×10^{-6}
	91-20-3	Naphthalene	2.9×10^{-5}	5.9×10^{-5}
	85-01-8	Phenanthrene	7.5×10^{-6}	1.5×10^{-5}

[a] Reference 8. Factors represent uncontrolled emissions unless noted. Dryer emission factors in units of kg/Mg and lb/ton of material dried. SCC = Source Classification Code.
[b] Chemical Abstract Service Registry Number.

References For Section 11.19.1

1. *Air Pollution Control Techniques For Nonmetallic Minerals Industry*, EPA-450/3-82-014, U. S. Environmental Protection Agency, Research Triangle Park, NC, August 1982.

2. S. Walker, "Production Of Sand And Gravel", Circular Number 57, National Sand And Gravel Association, Washington, DC, 1954.

3. "Construction Sand And Gravel", *U. S. Minerals Yearbook 1989, Volume I: Metals And Minerals*, Bureau Of Mines, U. S. Department Of The Interior, Washington, DC.

4. "Industrial Sand And Gravel", *U. S. Minerals Yearbook 1989, Volume I: Metals And Minerals*, Bureau Of Mines, U. S. Department Of The Interior, Washington, DC.

5. *Calciners And Dryers In Mineral Industries - Background Information For Proposed Standards*, EPA-450/3-85-025a, U. S. Environmental Protection Agency, Research Triangle Park, NC, October 1985.

6. Written communication from R. Morris, National Aggregates Association, Silver Spring, MD, to R. Myers, U. S. Environmental Protection Agency, Research Triangle Park, NC, December 30, 1994.

7. *Stack Test Report For Redi-Crete Corporation*, Trace Technologies, Inc. Bridgewater, NJ, December 19, 1988.

8. *P. W. Gillebrand Company, Toxic Emissions Testing, Specialty Sand Dryer*, BTC Environmental, Inc., Ventura, CA, November 8, 1991.

9. *U. S. Silica Company, Newport, New Jersey, Emission Compliance Test Program*, AirNova, Inc., Collingswood, NJ, April 1990.

10. *The Morie Company, Inc., Mauricetown Plant, Emission Compliance Test Program*, AirNova, Inc., Collingswood, NJ, November 1989.

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12. *Source Emissions Compliance Test Report, Sand Dryer System, New Jersey Pulverizing Company, Bayville, New Jersey*, Roy F. Weston, Inc., West Chester, PA, January 1988.

13. *Compliance Stack Sampling Report For Richard Ricci Company, Port Norris, NJ*, Recon Systems, Inc., Three Bridges, NJ, July 31, 1987.

14. *Report To Badger Mining Corporation, Fairwater, Wisconsin, For Stack Emission Test, Particulate Matter, Sand Rescreening System, St. Marie Plant, April 7, 1987*, Environmental Technology & Engineering Corporation, Elm Grove, WI, June 17, 1987.

APPENDIX C

WATER CANNON VENDOR INFORMATION

innovation in irrigation™
NELSON

BIG GUN® NOZZLES

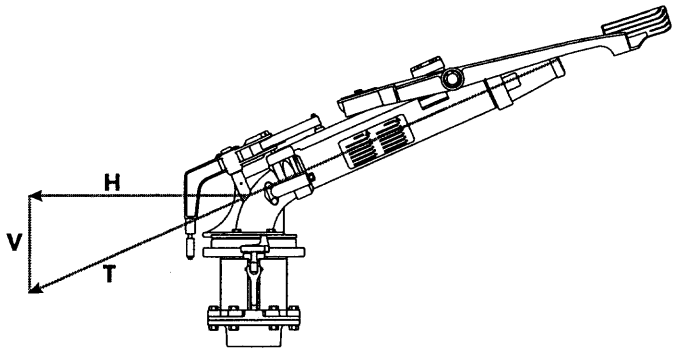
THRUST FORCE OF NELSON BIG GUN® NOZZLES

The thrust force for the Big Gun can be calculated by knowing the flow rate through the gun and the nozzle pressure of the gun. The following equation shows the relationship.

$$T = 2P\frac{Q}{38\sqrt{P}} \qquad (1)$$

where,

T = thrust force of the nozzle (lb.)
P = nozzle pressure (psi)
Q = flow rate (gpm)



As seen in the diagram above, the thrust force is directly opposite the nozzle exit. Since the thrust force (T) is now know, the horizontal (H) and vertical (V) thrust force can be calculated using trigonometry.

H = T cos (gun angle from horizontal) (2)
V = T sin (gun angle from horizontal) (3)

The tables below show values of thrust force (T) and horizontal thrust force (H) for the 150 and 200 Big Guns of varying pressures and nozzles sizes.

T — THRUST FORCE OF 150 BIG GUN NOZZLES (LB.)

Pressure PSI	Nozzle 0.7"	Nozzle 0.8"	Nozzle 0.9"	Nozzle 1.0"	Nozzle 1.1"	Nozzle 1.2"	Nozzle 1.3"
50	37	48	62	76	95	112	130
60	45	58	74	92	112	135	157
70	53	68	87	108	130	156	183
80	60	78	99	123	148	179	210
90	68	87	111	137	167	202	237
100	75	97	124	153	187	224	263
110	83	108	136	168	204	246	290
120	91	118	149	185	222	268	314

Innovation in Irrigation™ NELSON

THRUST FORCE OF BIG GUN® NOZZLES

11/00

H — HORIZONTAL THRUST FORCE OF 150 BIG GUN® NOZZLES WITH 24° TRAJECTORY (LB.)

Pressure PSI	Nozzle 0.7"	Nozzle 0.8"	Nozzle 0.9"	Nozzle 1.0"	Nozzle 1.1"	Nozzle 1.2"	Nozzle 1.3"
50	34	44	56	70	87	102	119
60	41	53	68	84	103	123	143
70	48	62	79	99	119	143	167
80	55	71	90	112	136	164	191
90	62	80	102	126	153	185	217
100	69	89	113	140	171	204	241
110	76	98	125	154	187	224	265
120	83	108	136	169	203	245	287

T — THRUST FORCE OF 200 BIG GUN® NOZZLES (LB.)

Pressure PSI	Nozzle 1.05	Nozzle 1.2"	Nozzle 1.3"	Nozzle 1.4"	Nozzle 1.5"	Nozzle 1.6"	Nozzle 1.75"	Nozzle 1.9"	Nozzle 2.0"
50	93	112	130	153	175	199	238		
60	102	135	157	182	210	239	283	336	369
70	119	156	183	212	245	277	333	392	432
80	137	179	210	243	278	318	379	447	494
90	155	202	237	272	312	357	427	502	554
100	171	225	263	303	348	398	474	558	616
110	188	246	290	334	384	436	522	613	679
120	205	268	314	363	418	476	568	669	741
130	222	291	339	393	453	516	615	726	801

H — HORIZONTAL THRUST FORCE OF 200 BIG GUN® NOZZLES WITH 24° TRAJECTORY (LB.)

Pressure PSI	Nozzle 1.05	Nozzle 1.2"	Nozzle 1.3"	Nozzle 1.4"	Nozzle 1.5"	Nozzle 1.6"	Nozzle 1.75"	Nozzle 1.9"	Nozzle 2.0"
50	85	102	119	140	160	182	218		
60	93	123	143	166	192	218	259	307	337
70	109	143	167	193	223	253	304	358	394
80	125	164	191	222	254	290	346	409	452
90	142	185	217	249	285	326	390	459	506
100	156	204	241	277	317	363	433	510	563
110	172	225	265	305	351	398	477	560	620
120	187	245	287	332	382	435	519	611	677
130	203	266	310	359	414	472	562	664	732

WARRANTY AND DISCLAIMER
Nelson Big Gun® Sprinklers are warranted for one year from date of original sale to be free of defective materials and workmanship when used within the working specifications for which the products were designed and under normal use and service. The manufacturer assumes no responsibility for installation, removal or unauthorized repair of defective parts. The manufacturer's liability under this warranty is limited solely to replacement or repair of defective parts and the manufacturer will not be liable for any crop or other consequential damages resulting from defects or breach of warranty. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSES AND OF ALL OTHER OBLIGATIONS OR LIABILITIES OF MANUFACTURER. No agent, employee or representative of the manufacturer has authority to waive, alter or add to the provisions of this warranty, nor to make any representations or warranty not contained herein.

Nelson Irrigation Corp. 848 Airport Rd. Walla Walla, WA 99362-2271 USA Tel: 509.525.7660 Fax: 509.525.7907 E-mail: info@nelsonirrigation.com Web site: www.nelsonirrigation.com

PRODUCT COMPARISON

Series	Full-Circle	Part-Circle	Trajectory	Nozzle Type	Nozzle Size	Connections	Special Options
75	F75 (21°, 24°, 27°)	SR75	12°, 18°, 21°, 24°, 27°, 43°	Taper/Ring	0.4" - 0.8" (10,2mm - 20,3mm)	1 1/2" FNPT or FBSP 2" FNPT or FBSP 2 1/2" FNPT ANSI/DIN Flange (bolt-on) Nelson Flange Metric Flange	Valve/Gun Combo
100	F100	SR100 SRNV100	43°, 24°, 21°, 18°	Ring Taper Taper/Ring	0.5" - 1.0" (12,7mm - 25,4 mm)	2" FNPT or FBSP 2 1/2" FNPT or FBSP Standard Flange International Flange	Valve/Gun Combo Anodized Anodized & Powder Coated
150	F150	SR150	43°, 24°, 21°	Ring Taper Taper/Ring	0.7" - 1.3" (17,8mm - 33,0mm)	3" FNPT or FBSP 3 1/2" FNPT or FBSP 4" FNPT Standard Flange International Flange	Valve/Gun Combo Anodized Anodized & Powder Coated Stainless Steel
200	F200	SR200	27°, 24°, 21°	Ring Taper Taper/Ring	1.05" - 1.9" (26,7mm - 48,3mm)	3 1/2" FNPT or FBSP 4" FNPT Standard Flange Metric Flange UFI Flange	Valve/Gun Combo Anodized Anodized & Powder Coated

WARRANTY AND DISCLAIMER

Nelson Big Gun® Sprinklers are warranted for one year from date of original sale to be free of defective materials and workmanship when used within the working specifications for which the products were designed and under normal use and service. The manufacturer assumes no responsibility for installation, removal or unauthorized repair of defective parts. The manufacturer's liability under this warranty is limited solely to replacement or repair of defective parts and the manufacturer will not be liable for any crop or other consequential damages resulting from defects or breach of warranty. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSES AND OF ALL OTHER OBLIGATIONS OR LIABILITIES OF MANUFACTURER. No agent, employee or representative of the manufacturer has authority to waive, alter or add to the provisions of this warranty, nor to make any representations or warranty not contained herein.

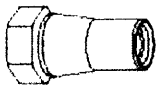
APPENDIX D

WATER CANNON USE

100 SERIES BIG GUN® PERFORMANCE — U.S. UNITS

100 TAPER BORE NOZZLE **100T**

100T - Specify size when ordering



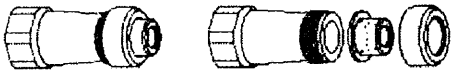
Flow Path

	0.50" 9309-050		0.55" 9309-055		0.60" 9309-060		0.65" 9309-065		0.70" 9309-070		0.75" 9309-075		0.80" 9309-080		0.85" 9309-085		0.90" 9309-090		1.0" 9309-100	
PSI	GPM	DIA. FT.	GPM	DIA. FT.	GPM	DIA. FT.	GPM	DIA. FT.	GPM	DIA. FT.	GPM	DIA. FT.	GPM	DIA. FT.	GPM	DIA. FT.	GPM	DIA. FT.	GPM	DIA. FT.
40	47	191	57	202	66	213	78	222	91	230	103	240	118	250	134	256	152	262	-	-
50	50	205	64	215	74	225	87	235	100	245	115	256	130	265	150	273	165	280	204	300
60	55	215	69	227	81	240	96	250	110	260	126	270	143	280	164	288	182	295	224	316
70	60	225	75	238	88	250	103	263	120	275	136	283	155	295	177	302	197	310	243	338
80	64	235	79	248	94	260	110	273	128	285	146	295	165	305	189	314	210	325	258	354
90	68	245	83	258	100	270	117	283	135	295	155	306	175	315	201	326	223	335	274	362
100	72	255	87	268	106	280	123	293	143	305	163	316	185	325	212	336	235	345	289	372
110	76	265	92	278	111	290	129	303	150	315	171	324	195	335	222	344	247	355	304	380

100 TAPER RING NOZZLE **100TR**

100TR = Body + Cap + 1 Taper Ring
Specify size when ordering

COMPONENTS:
Body #9956-001 Taper Ring #9257-??? Cap #6745



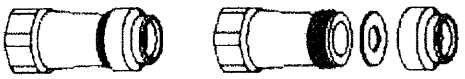
Flow Path

	0.64" 9257-016		0.68" 9257-017		0.72" 9257-018		0.76" 9257-019		0.80" 9257-020		0.84" 9257-021		0.88" 9257-022		0.92" 9257-023		0.96" 9257-024	
PSI	GPM	DIA. FT.	GPM	DIA. FT.	GPM	DIA. FT.	GPM	DIA. FT.	GPM	DIA. FT.	GPM	DIA. FT.	GPM	DIA. FT.	GPM	DIA. FT.	GPM	DIA. FT.
40	67	212	76	219	86	225	98	233	110	242	125	250	136	254	151	259	166	275
50	75	224	85	231	97	240	110	250	123	258	139	266	152	271	169	279	185	288
60	83	239	94	246	106	254	120	264	135	273	153	281	167	286	186	294	203	303
70	89	249	101	259	114	268	130	277	146	286	165	295	180	300	200	309	219	320
80	95	259	108	269	122	278	139	288	156	297	176	306	193	313	214	324	235	336
90	101	268	115	278	130	289	147	299	166	308	187	317	204	324	227	334	249	345
100	107	278	121	288	137	298	155	308	175	318	197	327	216	334	240	344	262	355
110	112	288	127	298	143	308	163	317	183	326	207	336	226	342	251	353	275	364

100 RING NOZZLE **100R**

100R = Body + Cap + Set of 7 Rings
Specify size when ordering
Complete set of 7 rings only = #6847

COMPONENTS:
Body #9956-001 Ring #6738-??? Cap #7872



Flow Path

	0.71" 6738-071		0.77" 6738-077		0.81" 6738-081		0.86" 6738-086		0.89" 6738-089		0.93" 6738-093		0.96" 6738-096	
PSI	GPM	DIA. FT.	GPM	DIA. FT.	GPM	DIA. FT.	GPM	DIA. FT.	GPM	DIA. FT.	GPM	DIA. FT.	GPM	DIA. FT.
40	66	208	78	212	91	215	103	224	118	235	134	238	152	242
50	74	220	88	225	100	230	115	240	129	250	150	255	167	260
60	81	235	96	240	110	245	125	260	141	270	164	275	183	280
70	88	245	104	250	118	260	135	275	152	290	177	295	198	300
80	94	255	111	265	127	275	145	285	163	300	189	305	211	315
90	99	265	117	275	134	285	154	295	173	310	201	315	224	325
100	105	270	124	280	142	295	162	305	182	320	212	325	236	335
110	110	275	130	290	149	305	170	315	191	325	222	335	248	345

Diameters are based on 24° trajectory. Big Gun® performance data has been obtained under ideal test conditions and may be adversely affected by wind, poor hydraulic entrance conditions or other factors. Nelson Irrigation Corporation makes no representation regarding droplet condition, uniformity, or application rates.

Nelson Irrigation Corporation 848 Airport Rd. Walla Walla, WA 99362 USA Tel: 509.525.7660 Fax: 509.525.7907 E-mail: nelson@nelsonirr.com Web site: www.nelsonirrigation.com

CONSOL ENERGY

NORWEST CORPORATION

Sandusky Docks Corporation

Dust Suppression and Stormwater Management
Sandusky Bay, Ohio

Roberts & Schaefer designed and built an automatic dust suppression and stormwater management system to resolve three growing environmental concerns. First, open piles of coal in Sandusky Docks' 300-foot wide by 2,500-foot long ground-level storage area produced significant fugitive dust. Second, stormwater runoff created ponds in the storage area, obstructing operations. Third, Sandusky Docks was concerned that runoff entering the bay might be contaminated by coal.

R&S installed an automatic spray system, consisting of 250 foot radius water cannons mounted on 10 to 20 foot high towers along both sides of the coal storage pad. To supply the water cannons, R&S installed an intake structure on the pier, with two 1,850 GPM vertical turbine pumps. A programmable logic controller (PLC), with semiautomatic and manual overrides, runs the cannons. In its automatic mode, the PLC can accept control data from proprietary software that monitors meteorological conditions (temperature, precipitation, wind, and humidity) to determine whether the piles should be sprayed. This feature both conserves water and minimizes moisture in the coal.

Stormwater runoff from the piles collects in a concrete collection ditch built along the length of the coal storage yard. At its south end, a pumping station with two 3,000 GPM pumps transfers runoff to two sedimentation ponds. Two separate pumping and sedimentation circuits permit pond cleaning and provide protection against equipment failure. Both pumping lines pass through a treatment building, where polymer is added to aid settling and caustic is added to reduce pH. Stormwater's variable pH is monitored and corrected by automatically adjusting the rate at which caustic is added.

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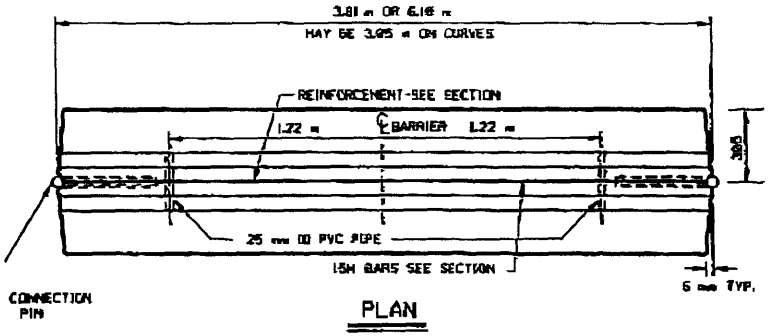
Suggestions and feedback are welcome at webmaster@r-s.com.

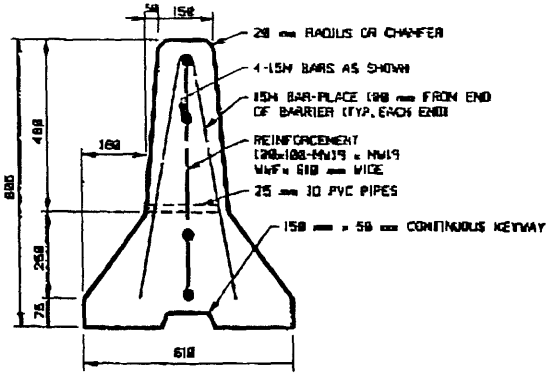
APPENDIX E

JERSEY BARRIER SPECIFICATIONS

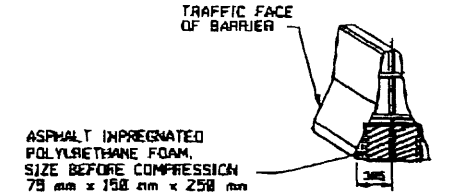
SEP-04-2003 THU 03:21 PM DURA CRETE FAX NO. 8019726140 P. 02/03



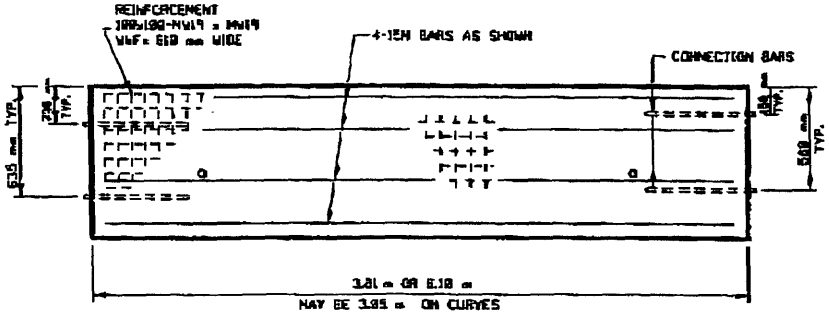
PLAN



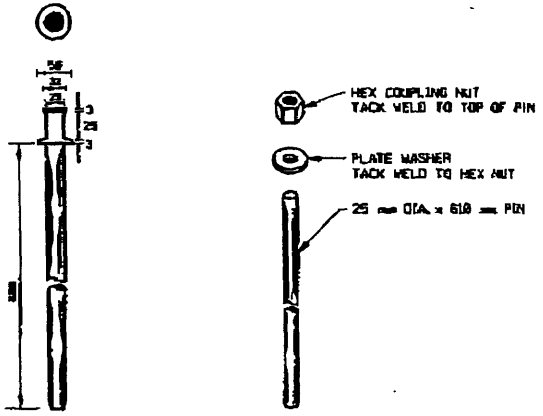
SECTION



BARRIER SEAL



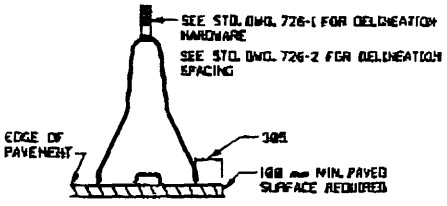
ELEVATION



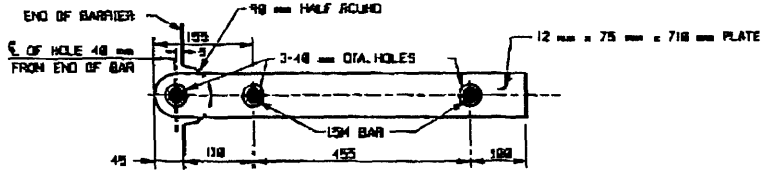
CONNECTION PINS

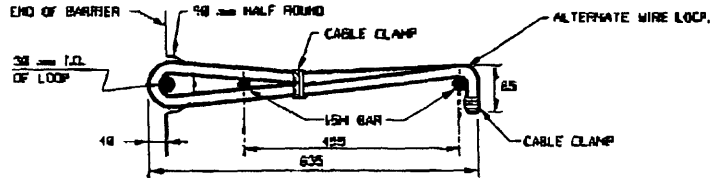
NOTES

1. COVER TO REINFORCING STEEL SHALL BE 40 mm MIN. EXCEPT WHERE NOTED OTHERWISE.
2. EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED 20 mm
3. PLACE AN ACEQUATE AMOUNT OF SILICONE ADHESIVE ON BOTTOM OF WASHER BEFORE INSERTING PIN TO HOLD IN PLACE AND PREVENT EASY HAND REMOVAL. FILL NUT WITH GREASE TO EXCLUDE ICE OR OTHER CONTAMINANTS.
4. 3 mm TAPER ON ALL NOTCHES TO FACILITATE FORM REMOVAL.



ELEVATION





CONNECTION BAR

ALL DIMENSIONS ARE SHOWN IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

GENEVA ROCK PRODUCTS, INC.
1565 West 400 North • P.O. Box 538 • Orem, Utah 84059 • (801) 225-1012 • Fax (801) 225-7186

CONCRETE MIX DESIGN

MIX ID : 6501 [20] 4000 PSI 07/15/96

CONTRACTOR : DURACRETE
PROJECT : *
SOURCE OF CONCRETE : GENEVA ROCK PRODUCTS
CONSTRUCTION TYPE : 6.5 BAG W/AIR 4000 PSI
PLACEMENT : PRECAST

WEIGHTS PER CUBIC YARD (SATURATED, SURFACE-DRY)		YIELD, CU FT
CEMENT, ASTM C-150, LB	611	3.11
POINT C-33 SAND, LB	1109	6.84
POINT #67 ROCK, LB	1775	11.16
WATER, LB (GAL-US)	267 (32.0)	4.28
TOTAL AIR, %	6.0 +/- 1.0	1.62
	TOTAL	27.00
WATER REDUCER/ WRDA 64, OZ	36.66	
WATER/CEMENT RATIO, LBS/LB	0.44	
SLUMP, IN	4.00	
CONCRETE UNIT WEIGHT, PCF	139.3	

SAND TO AGG RATIO .38
POINT ROCK SP GR 2.55
POINT SAND SP GR 2.60

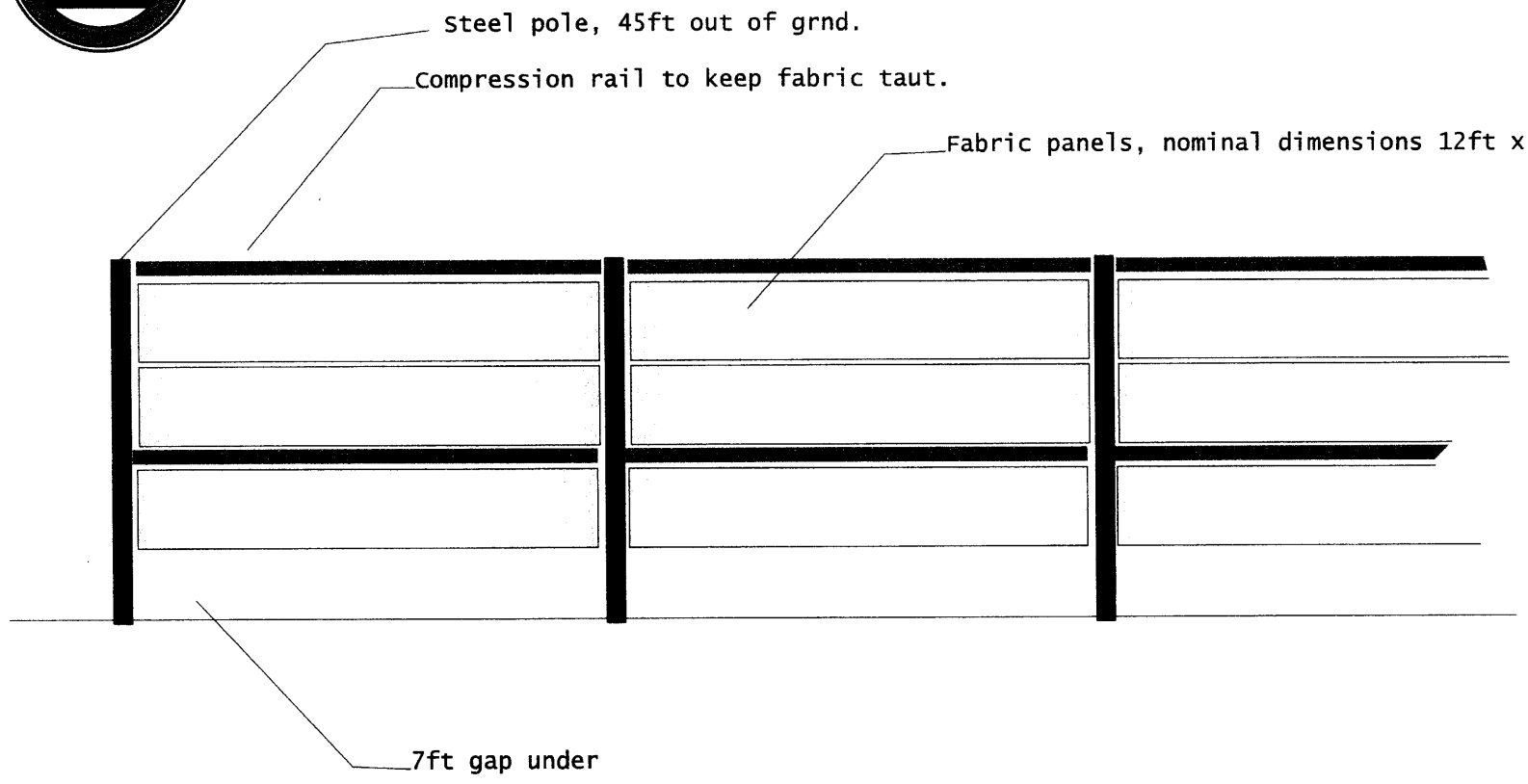
PREPARED BY :

Jerry G Hall

JERRY G. HALL, TECHNICAL ENGINEER

APPENDIX F

ULTRASPAN WIND FENCE DESIGN

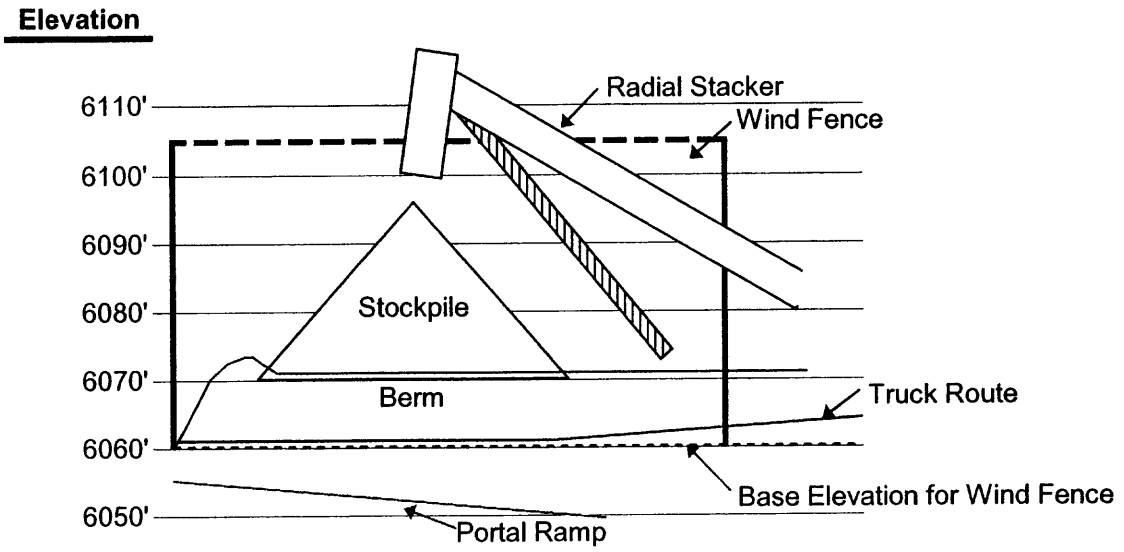


Consol: Suggested Windfence elevation.

Total length is 8 bays = 400ft

Design windload: 80mph. Fabric aerodynamic porosity = 36%
Drawn: 9 Sept 2003

CONSOL
Emery Mine - 4th East Portal
Looking East - Stockpile Area



Rationale for ~45' High Wind Fence

Maximum Elevation of Pile	6100'
Base Elevation for Wind Fence	−6060'
Difference	40'

Rationale - Height of Wind Fence

In order to determine the approximate height needed for the wind fence, the "as built" drawing prepared by Johansen & Tuttle Engineering Inc. and various photos of the stockpile area were reviewed. The main section of the wind fence, about 250 ft in length, will be situated upwind (west) of the stockpile, most likely along the west side of the existing haul truck route. According to the drawing, the base elevation of the stockpile is 6060 ft; however, the pile is located on top of a ten to fifteen foot high berm (higher at the north end than the south end). Although the height of the radial stacker is about 40 feet above the stockpile base (at elevation of about 6110 ft), the discharge end features a shroud or drop chute about 10 ft in length, such that the elevation at the bottom of the shroud is about 6100 ft. With zero drop height from shroud to pile (very conservative assumption: not usually the case), the difference between stockpile base and shroud discharge elevations (6100 ft – 6060 ft) is about 40 ft. So that any estimating error will be on the conservative side, a few additional feet were added (e.g., in case the shroud length was over-estimated), bringing the total to about 45 ft. Approximately 45 ft is the estimated height requirement for the wind fence.

APPENDIX G

CATTLE GUARD SPECIFICATIONS

EMERY COUNTY ROAD DEPARTMENT

P. O. BOX 889 120 West Hwy 29

CASTLE DALE, UTAH 84513

(435) 381-5450 OR FAX (435) 381-5239

FAX COVER SHEET

DATE: 9/9/03

TO: JOHN RICHARDSON

AGENCY/FIRM: NORWEST

FROM: REX FUNK

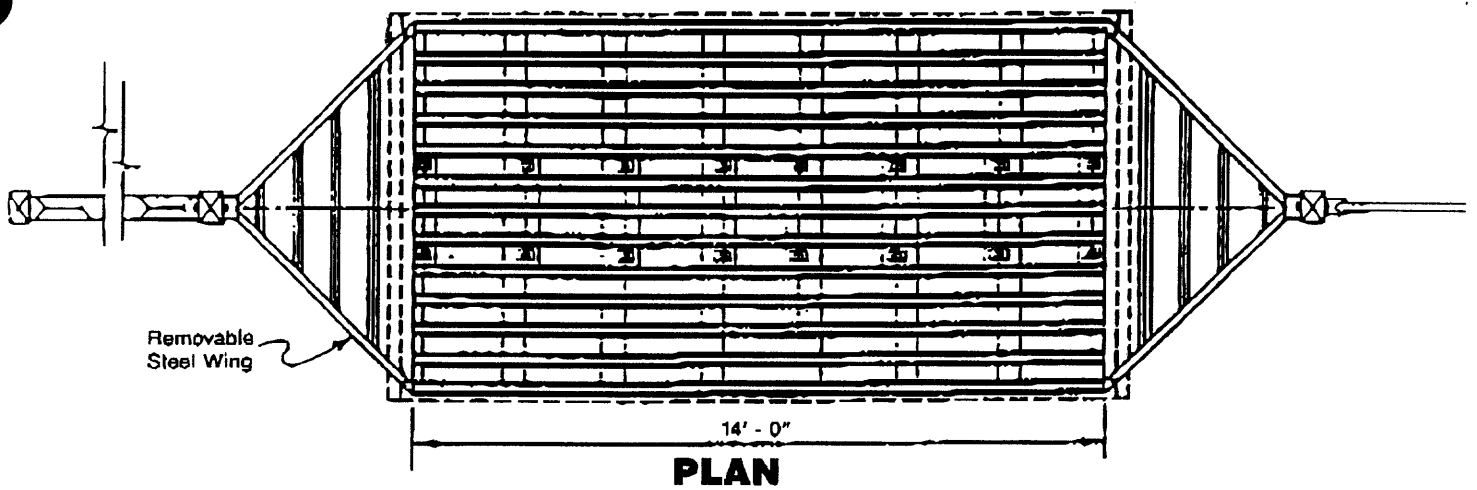
PAGES TO FOLLOW: 2

COMMENTS Here is the info you asked for. The Powder River grills have an optional cleanout feature if desired we use their U54 Spec. unit

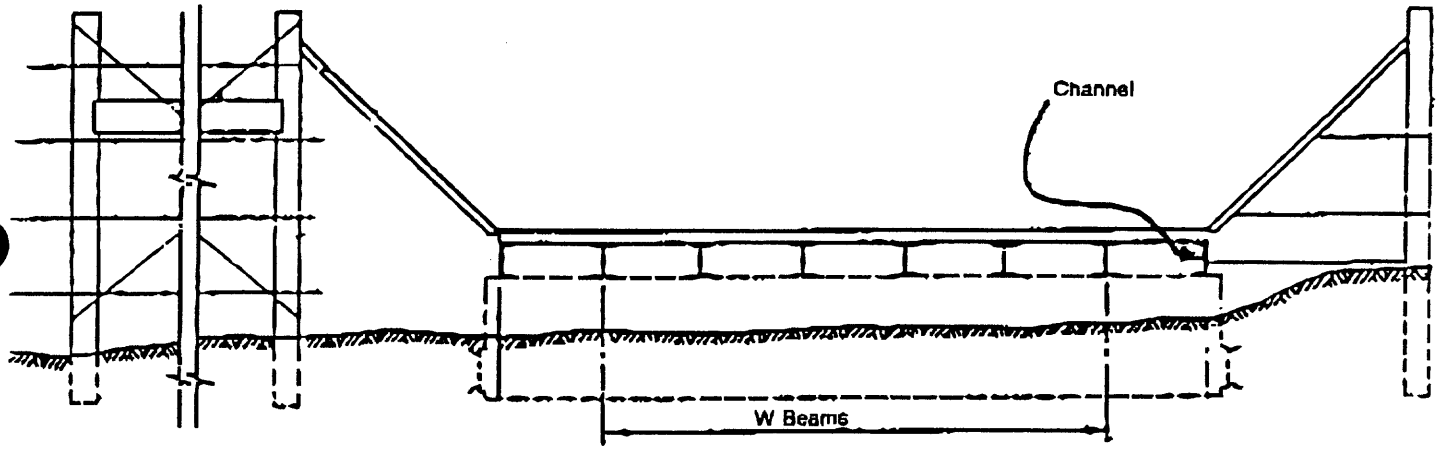
REPLY REQUESTED _____

INFORMATION ONLY ✓

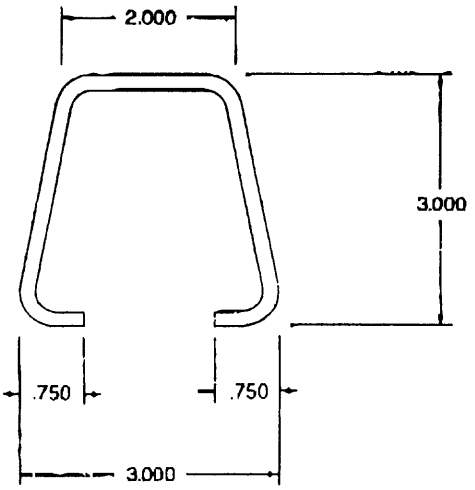
14' CATTLEGUARD GENERAL LAYOUT HS-20



PLAN

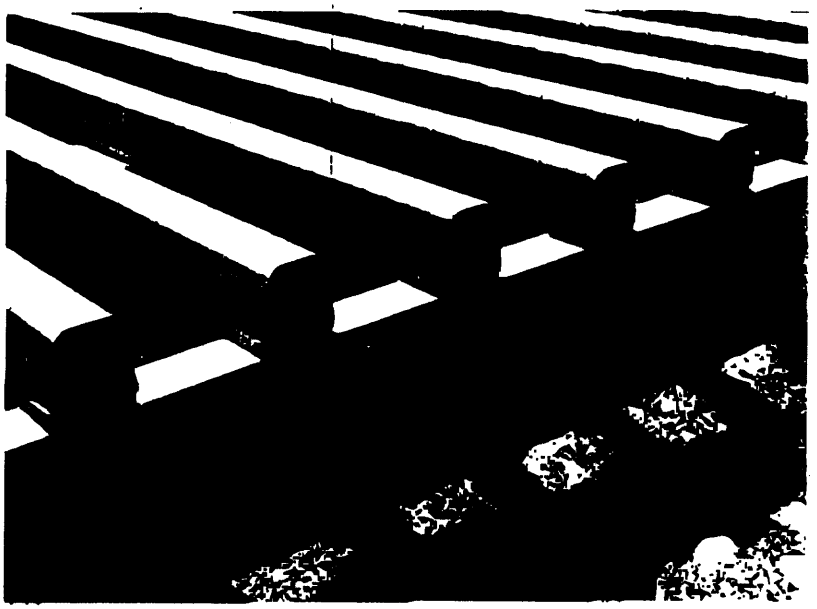


Stringers 13" H.
Rail 3" H
13" Total Grill height } Powder River Spec 454



MATERIAL: 7GA. A572 GRADE 50 STEEL

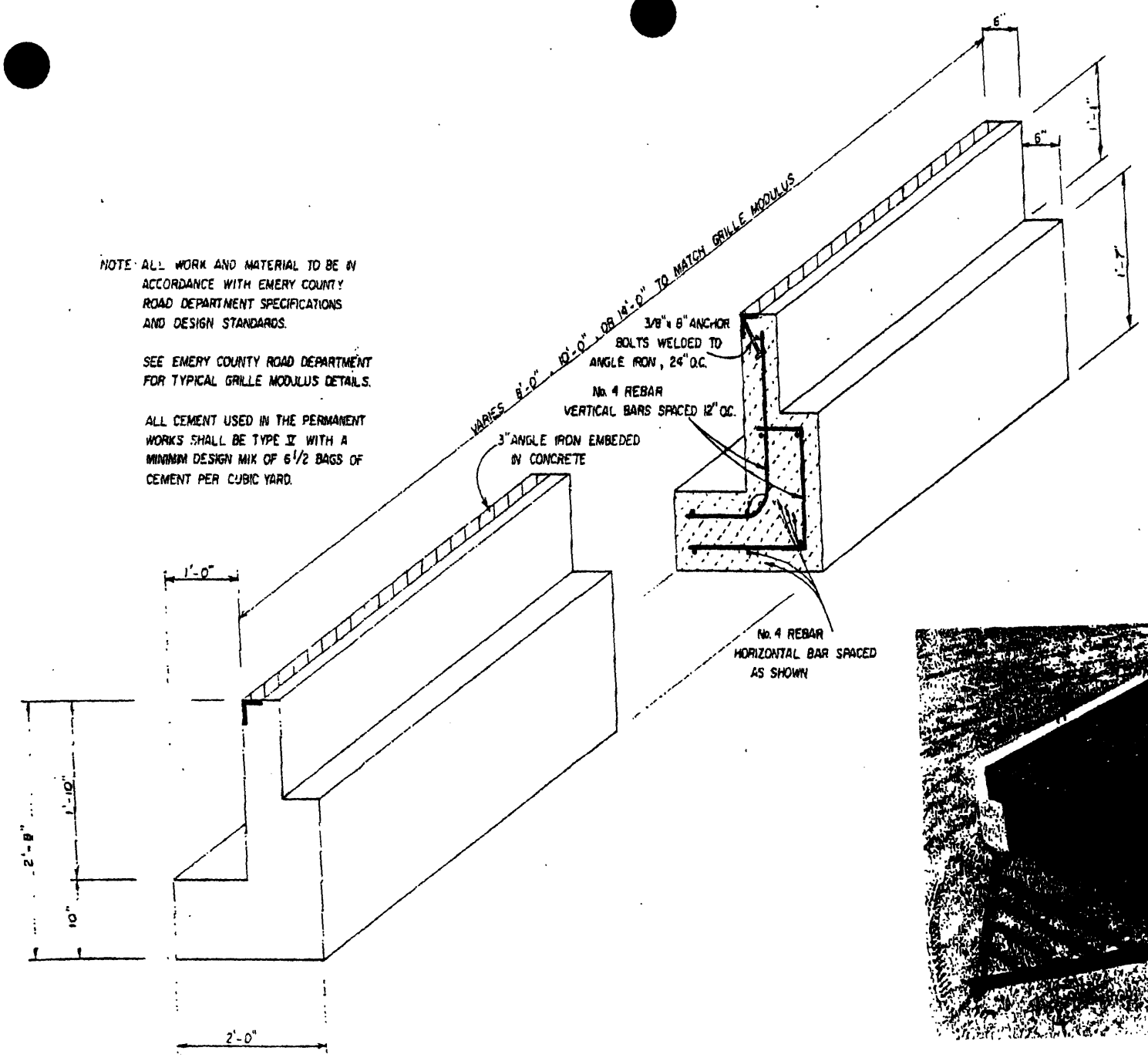
ROLL FORMED RAIL SECTION

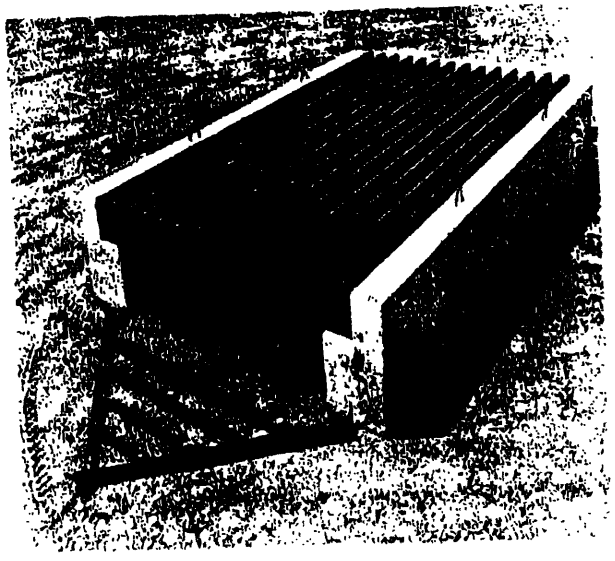


NOTE: ALL WORK AND MATERIAL TO BE IN ACCORDANCE WITH EMERY COUNTY ROAD DEPARTMENT SPECIFICATIONS AND DESIGN STANDARDS.

SEE EMERY COUNTY ROAD DEPARTMENT FOR TYPICAL GRILLE MODULUS DETAILS.

ALL CEMENT USED IN THE PERMANENT WORKS SHALL BE TYPE II WITH A MINIMUM DESIGN MIX OF 6 1/2 BAGS OF CEMENT PER CUBIC YARD.

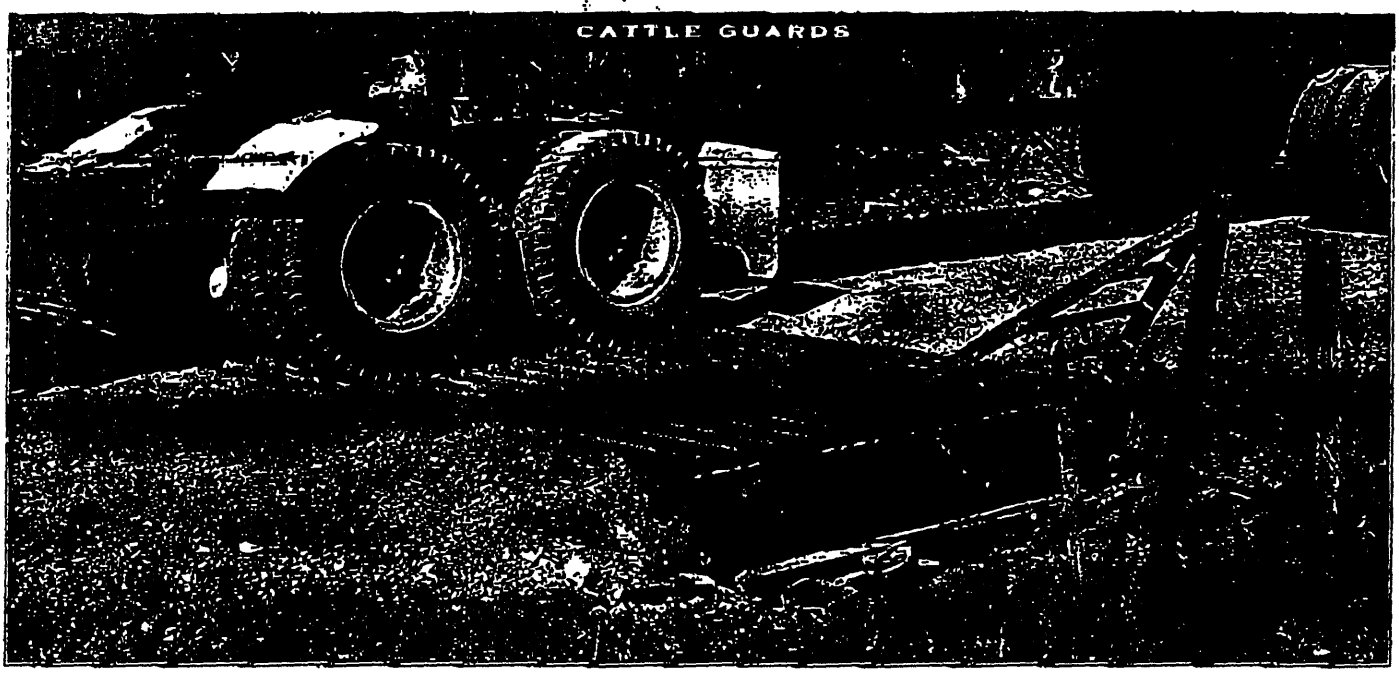




ACCEPTABLE ALTERNATIVE

POWDER RIVER
EST. 1938

CATTLE GUARDS



Designed to meet H-15, H-20, U-54, and U-80 specifications, these cattle guards are used and recommended by state and federal agencies. These guards are available in lengths of 8 ft., 10 ft, 12 ft, and 14 ft. They can be installed end-to-end to meet your road width requirements. All four weight classes are available in 8 ft. road lengths. The H-15 and H-20 are also available in a 7 ft. 5in. road length. Other options include a three rail clean out section (except on the U-80). end wings and steel posts.

•SPECIFICATIONS•

Model H-15

- 036-15708 . . . . . 7 ft. 5 in. x 8 ft.
- 036-15710 . . . . . 7 ft. 5 in. x 10 ft.
- 036-15712 . . . . . 7 ft. 5 in. x 12 ft.
- 036-15714 . . . . . 7 ft. 5 in. x 14 ft.
- 036-15808 . . . . . 8 ft. x 8 ft.
- 036-15810 . . . . . 8 ft. x 10 ft.
- 036-15812 . . . . . 8 ft. x 12 ft.
- 036-15814 . . . . . 8 ft. x 14 ft.

Model H-15 (with clean out)

- 037-15708 . . . . . 7 ft. 5 in. x 8 ft.
- 037-15710 . . . . . 7 ft. 5 in. x 10 ft.
- 037-15712 . . . . . 7 ft. 5 in. x 12 ft.
- 037-15714 . . . . . 7 ft. 5 in. x 14 ft.
- 037-15808 . . . . . 8 ft. x 8 ft.
- 037-15810 . . . . . 8 ft. x 10 ft.
- 037-15812 . . . . . 8 ft. x 12 ft.
- 037-15814 . . . . . 8 ft. x 14 ft.

Model H-20

- 036-20708 . . . . . 7 ft. 5 in. x 8 ft.
- 036-20710 . . . . . 7 ft. 5 in. x 10 ft.
- 036-20712 . . . . . 7 ft. 5 in. x 12 ft.
- 036-20714 . . . . . 7 ft. 5 in. x 14 ft.
- 036-20808 . . . . . 8 ft. x 8 ft.
- 036-20810 . . . . . 8 ft. x 10 ft.
- 036-20812 . . . . . 8 ft. x 12 ft.
- 036-20814 . . . . . 8 ft. x 14 ft.

Model H-20 (with clean out)

- 037-20708 . . . . . 7 ft. 5 in. x 8 ft.
- 037-20710 . . . . . 7 ft. 5 in. x 10 ft.
- 037-20712 . . . . . 7 ft. 5 in. x 12 ft.
- 037-20714 . . . . . 7 ft. 5 in. x 14 ft.
- 037-20808 . . . . . 8 ft. x 8 ft.
- 037-20810 . . . . . 8 ft. x 10 ft.
- 037-20812 . . . . . 8 ft. x 12 ft.
- 037-20814 . . . . . 8 ft. x 14 ft.

Model U-54

- 036-54808 . . . . . 8 ft. x 8 ft.
- 036-54810 . . . . . 8 ft. x 10 ft.
- 036-54812 . . . . . 8 ft. x 12 ft.
- 036-54814 . . . . . 8 ft. x 14 ft.

Model U-54 (with clean out)

- 037-54808 . . . . . 8 ft. x 8 ft.
- 037-54810 . . . . . 8 ft. x 10 ft.
- 037-54812 . . . . . 8 ft. x 12 ft.
- 037-54814 . . . . . 8 ft. x 14 ft.

Model U-80

- 036-80808 . . . . . 8 ft. x 8 ft.
- 036-80810 . . . . . 8 ft. x 10 ft.
- 036-80812 . . . . . 8 ft. x 12 ft.
- 036-80814 . . . . . 8 ft. x 14 ft.

Cattle Guard Accessories

- 036-00050 . . . . Cattleguard end wing set
- 036-00090 . Cattleguard end wing post set
- 036-00220 . . . Cattleguard tornado lock set

Load Information

- H-15 . . . . . 12 tons per axle
- H-20 . . . . . 16 tons per axle
- U-54 . . . . . 25 tons per axle
- U-80 . . . . . 30 tons per axle

(Includes a 30% safety factor for impact)

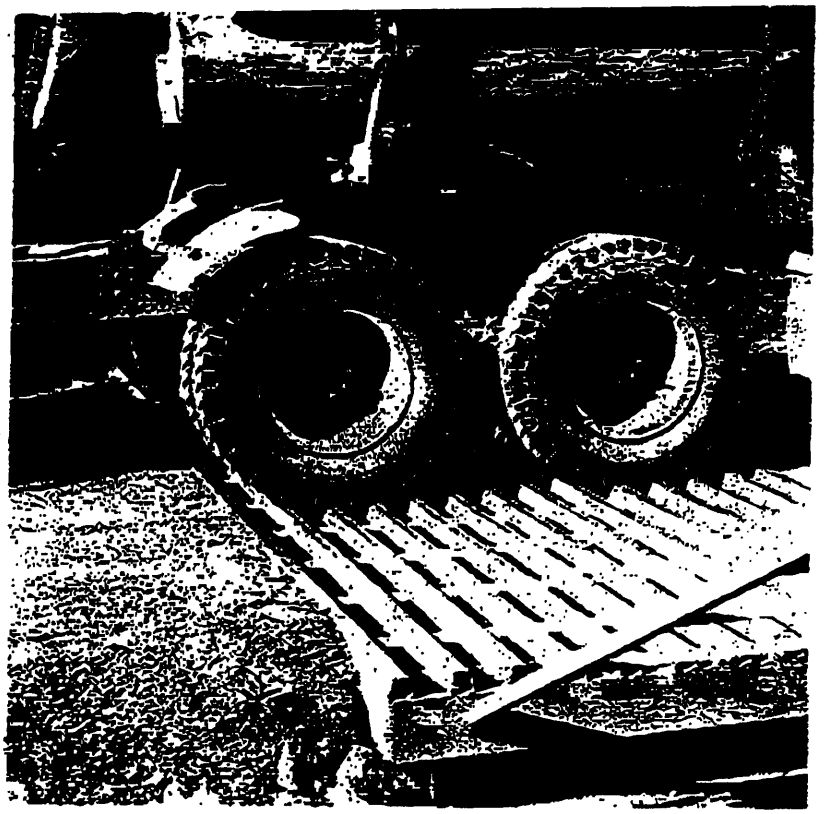
Standard Cattleguards are painted green. Yellow painted cattleguards are available by special order.

SPECIFICATIONS

Powder River has been fabricating Cattle Guards to the same standard specifications since 1958. Our [illegible]ards were originally designed and engineered to meet load rating requirements in four weight classes: H-15, H-20, U-54 and U-80. These guards are all available in lengths of 8 ft., 10 ft., 12 ft. and 14 ft., and may be installed end to end to meet your road width requirements. All four weight classes are available in 8-ft. road lengths. The H-15 and H-20 are also available in a 7-ft. 5-in. road length.

Other options include a Three-Rail Clean-Out Section (except on, the U-80), End Wings and Steel Posts.

For additional information or detail drawings, call toll free 1-800-453-5318.

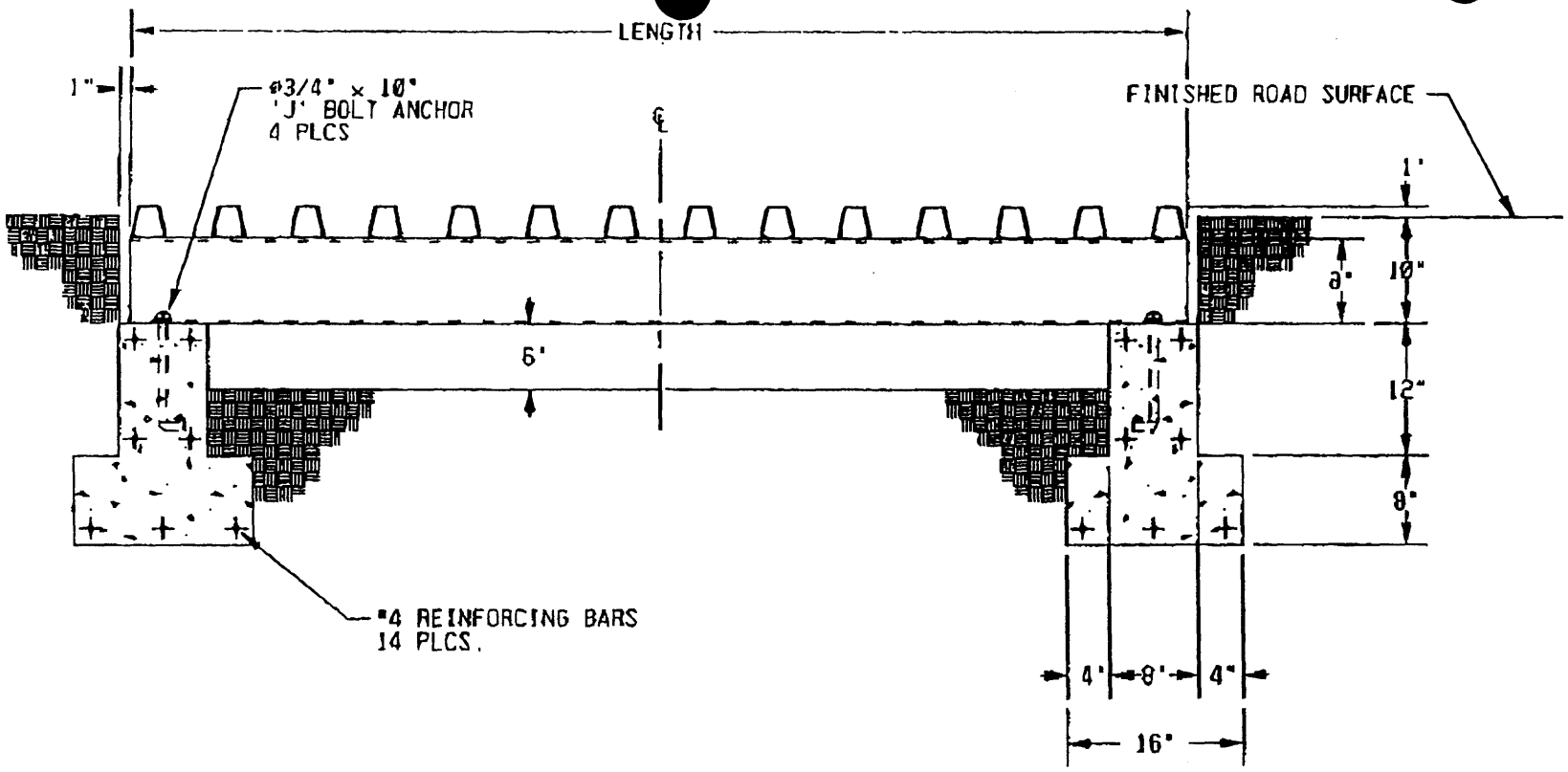


CATTLE GUARD SPECIFICATIONS

	GUARD SIZES	UNDERSTRUCTURE NUMBER & SIZES	UNDERSTRUCTURE SPACING	RAILS PER GUARD	WEIGHT lbs. (No Cleanout)
		8 in. C-11.5 lbs.			
[illegible]5	7 ft. 5 in. x 8 ft.	6	Equal	13	1167
	7 ft. 5 in. x 10 ft.	7	Equal	13	1416
	7 ft. 5 in. x 12 ft.	8	Equal	13	1665
	7 ft. 5 in. x 14 ft.	10	Equal	13	1999
	8 ft. 0 in. x 8 ft.	6	Equal	14	1252
	8 ft. 0 in. x 10 ft.	7	Equal	14	1519
	8 ft. 0 in. x 12 ft.	8	Equal	14	1786
	8 ft. 0 in. x 14 ft.	10	Equal	14	2145
		8 in. WF-18.0 lbs. 8 in. C-11.5 lbs.			
H-20	7 ft. 5 in. x 8 ft.	3 2	Equal	13	1243
	7 ft. 5 in. x 10 ft.	4 2	Equal	13	1546
	7 ft. 5 in. x 12 ft.	5 2	Equal	13	1849
	7 ft. 5 in. x 14 ft.	6 2	Equal	13	2151
	8 ft. 0 in. x 8 ft.	3 2	Equal	14	1334
	8 ft. 0 in. x 10 ft.	4 2	Equal	14	1659
	8 ft. 0 in. x 12 ft.	5 2	Equal	14	1986
	8 ft. 0 in. x 14 ft.	6 2	Equal	14	2309
		10 in. C-15.3 lbs.			
U-54	8 ft. 0 in. x 8 ft.	6	Equal	14	1434
	8 ft. 0 in. x 10 ft.	8	Equal	14	1854
	8 ft. 0 in. x 12 ft.	9	Equal	14	2152
	8 ft. 0 in. x 14 ft.	10	Equal	14	2449
		10 in. C-15.3 lbs.			
U-80	8 ft. 0 in. x 8 ft.	7	Equal	14	1557
	8 ft. 0 in. x 10 ft.	9	Equal	14	1977
	8 ft. 0 in. x 12 ft.	10	Equal	14	2274
	8 ft. 0 in. x 14 ft.	12	Equal	14	2694

Cattle Guard End Wings (pair) 78-in. base width	107
Cattle Guard End Wings Posts (pair) 72-in. long	71

Sep-05-2003 08:11am From-POWDER RIVER INC +801 377 6927 T-782 P.004/009 F-585



FOOTING & FOUNDATION PLAN

RECOMMENDED FOR CATTLE GUARDS WITH LOADING UP TO AND INCLUDING H-20.

NOTES:

1- WHEN CONSTRUCTION IS COMPLETED, CATTLE GUARD MUST BE HIGHER THAN ROAD SURFACE.

2- EXTEND FOUNDATION BASE 1" ION EACH SIDE) BEYOND THE CATTLE GUARD'S FRAME LENGTH.

POWDER RIVER

DATE: 02-OCT-1989	PROJECT NAME:
DRAWING NO : C089001	CATTLE GUARD INSTALLATION
DRAWN BY: A.ERICKSON	
REVISED:	

022-05045	2" Post 70" panel w/6 Clevises	$48.00
022-05225	2" Post 64" panel w/4 Clevises & 2 Pins	$44.00
022-05230	2" Post 64" panel w/6 Clevises & 4 Pins	$48.00
022-05240	2" Post 70" panel w/4 Clevises & 2 Pins	$44.00
022-05245	2" Post 70" panel w/6 Clevises & 4 Pins	$48.00

Cattle Guards (page 26)

H - 15 (without cleanout) 12 tons/axle

036-15708	7 ft. 5 in. x 8 ft.	$1,297.00
036-15710	7 ft. 5 in. x 10 ft.	$1,566.00
036-15712	7 ft. 5 in. x 12 ft.	$1,789.00
036-15714	7 ft. 5 in. x 14 ft.	$2,197.00
036-15808	8 ft. x 8 ft.	$1,342.00
036-15810	8 ft. x 10 ft.	$1,627.00
036-15812	8 ft. x 12 ft.	$1,845.00
036-15814	8 ft. x 14 ft.	$2,276.00

H - 15 (with cleanout) 12 tons/axle

037-15708	7 ft. 5 in. x 8 ft.	$1,386.00
037-15710	7 ft. 5 in. x 10 ft.	$1,655.00
037-15712	7 ft. 5 in. x 12 ft.	$1,878.00
037-15714	7 ft. 5 in. x 14 ft.	$2,286.00
037-15808	8 ft. x 8 ft.	$1,431.00
037-15810	8 ft. x 10 ft.	$1,716.00
037-15812	8 ft. x 12 ft.	$1,935.00
037-15814	8 ft. x 14 ft.	$2,365.00

H-20 (without cleanout) 16 tons/axle

036-20708	7 ft. 5 in. x 8 ft.	$1,342.00
036-20710	7 ft. 5 in. x 10 ft.	$1,661.00
036-20712	7 ft. 5 in. x 12 ft.	$1,912.00
036-20714	7 ft. 5 in. x 14 ft.	$2,271.00
036-20808	8 ft. x 8 ft.	$1,420.00
036-20810	8 ft. x 10 ft.	$1,762.00
036-20812	8 ft. x 12 ft.	$2,025.00
036-20814	8 ft. x 14 ft.	$2,443.00

H -20 (with cleanout) 16 tons/axle

037-20708	7 ft. 5 in. x 8 ft.	$1,431.00
037-20710	7 ft. 5 in. x 10 ft.	$1,750.00
037-20712	7 ft. 5 in. x 12 ft.	$2,001.00
037-20714	7 ft. 5 in. x 14 ft.	$2,360.00
037-20808	8 ft. x 8 ft.	$1,609.00
037-20810	8 ft. x 10 ft.	$1,851.00
037-20812	8 ft. x 12 ft.	$2,114.00
037-20814	8 ft. x 14 ft.	$2,533.00

U - 54 (without cleanout) 25 tons/axle

036-54808	8 ft. x 8 ft.	$1,683.00
036-54810	8 ft. x 10 ft.	$1,985.00
036-54812	8 ft. x 12 ft.	$2,242.00
036-54814	8 ft. x 14 ft.	$2,622.00

U - 54 (with cleanout) 25 tons/axle

037-54808	8 ft. x 8 ft.	$1,772.00
037-54810	8 ft. x 10 ft.	$2,074.00
037-54812	8 ft. x 12 ft.	$2,332.00
037-54814	8 ft. x 14 ft.	$2,711.00

U - 80 30 tons/axle

036-80808	8 ft. x 8 ft.	$1,772.00
036-80810	8 ft. x 10 ft.	$2,091.00
036-80812	8 ft. x 12 ft.	$2,349.00
036-80814	8 ft. x 14 ft.	$2,846.00

Cattle Guard Accessories

036-00050	End Wing Set	$143.00
036-00090	End Wing Post Set	$73.00
036-00220	Tornado Lock Set (Set of 4 each)	$73.00

Weighing Systems (page 27)

002-00365	32 in. Loadbar Set (MP 800)	$1,524.00
002-00370	39 in. Loadbar Set (MP 1010)	$1,656.00
002-00382	34 in. Loadbar Set (HD 850)	$1,759.00
002-00375	39 in. Loadbar Set (HD 1010)	$1,884.00
002-00362	Ezi-Weigh I	$781.00
002-00363	Ezi-Weigh 2	$909.00
	Adapter Cable no longer required for Ezi-Weigh 1 or 2	
002-00436	EC 2000 Indicator	$951.00
002-00437	JR 2000 Indicator	$1,542.00
002-00438	SR 2000 Indicator	$1,880.00
002-00465	GP-1 System Ezi-Weigh (GP-23in)	$1,779.00
002-00415	A/C Converter	$77.00
002-00448	Win Weigh Software	$254.00
002-00305	Adapter Set. Scale to Chute	$65.00
002-00470	Aluminum Scale Platform	$646.00

Powder River Dog Kennel (w/ Connectors) (page 29)

009-01000	10' x 10' Dog Kennel Complete	$499.00
009-01005	10' x 5' Dog Kennel Complete	$412.00
009-00005	Dog Kennel Front 10' x 6' 5"	$163.00
009-00010	Dog Kennel Panel 10' x 6' 5"	$109.00
009-00020	Dog Kennel Front 5' x 6' 5"	$113.00
009-00030	Dog Kennel Panel 5' x 6' 5"	$69.00
009-00035	Dog Kennel Connector	$5.00
009-00050	Dog Kennel 3 Way Connector	$6.00

Powder River Dog Kennels (w/ Butterfly Clamps) (pg 29)

009-01010	10' x 10' Dog Kennel Complete	$499.00
009-01015	10' x 5' Dog Kennel Complete	$412.00
009-00060	Dog Kennel Front 10' x 6' 5"	$163.00
009-00065	Dog Kennel Panel 10' x 6' 5"	$109.00
009-00075	Dog Kennel Front 5' x 6' 5"	$113.00
009-00080	Dog Kennel Panel 5' x 6' 5"	$69.00
022-00610	Butterfly Clamp	$4.25

Accessories (page 30)

022-00515	Single Panel Clevis	$3.15
022-00516	Double Panel Clevis	$5.25
022-00521	3-In-Line Clevis Connector	$8.50
022-00522	Wood to Panel Adapter	$6.25
032-03210	270 Gate Hinge (pair)	$24.00
032-03211	Gate Leveling Adapter 3/4 in. x 12 in(each)	$15.00
032-03212	Gate Lever Latch Assembly	$44.00
022-00535	HD Pipe Clamp w/Clevis	$8.50
022-00523	Panel Pin & Chain 5/8 in. x 12 in.	$5.25
022-00525	Panel Pin 5/8 in. x12"	$4.25
022-02260	Straight " T"	$23.00
022-02258	Corner "T"	$26.00
022-02264	3-Way "T"	$28.00
032-32040	Latch Plate	$1.00
022-00529	Panel Clip (Large)	$1.00
022-00526	2 & 3/8 in. O.D. Pipe to Panel Connector	$14.00
022-00528	1 & 5/8 in. O.D. Pipe to Panel Connector	$14.00
004-00042	Pregnancy Gate to Chute Adapter	$15.00
004-00044	Pregnancy Gate to Alley Adapter	$38.00
005-00054	Pin 5/8" X 50"	$10.00
005-00316	Portable Sweep Deflector Panel	$28.00
005-00318	Portable Alley to Chute Adapter	$28.00
022-00600	Butterfly Clamps Green ea.	$4.25
022-00610	Butterfly Clamps Bronze ea.	$4.25

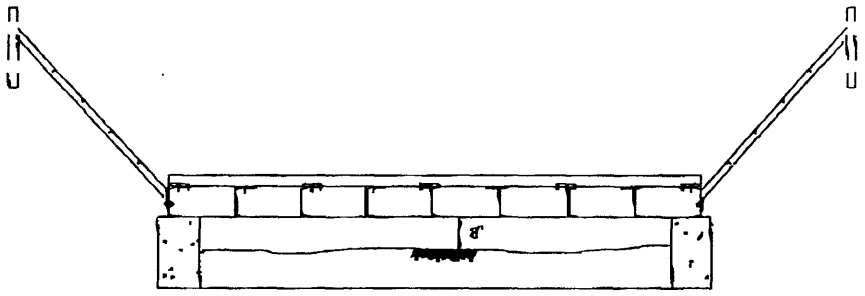
Paint

060-00110	Green Spray Paint-12 oz	$7.00
060-00119	Mineral Bronze Spray-12 oz.	$7.00
060-00120	Green Paint-Gallon	$30.00

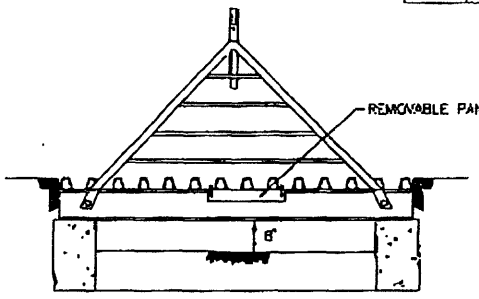
Sep-05-2003 09:14am From-POWDER RIVER INC +801 377 6927 T-782 P.009/009 F-585

U-54 CATTLEGAURD 8' x 12'

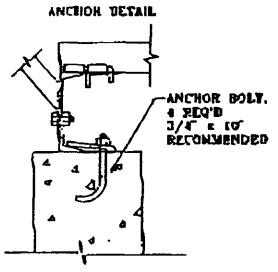
FRAME SIZE		UNDERSTRUCTURE			RAILS
LENGTH	WIDTH	NO.	SIZE	SPACING	NO.
8'-0"	8'-0"	3	8" WF-18	24"	14
8'-0"	10'-0"	4	8" WF-18	24"	14
8'-0"	12'-0"	5	8" WF-18	24"	14
8'-0"	14'-0"	6	8" WF-18	24"	14

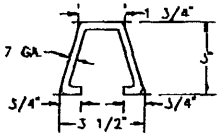


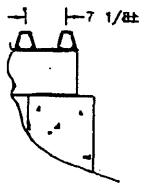
SECTION B-B



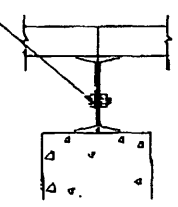
SECTION A-A



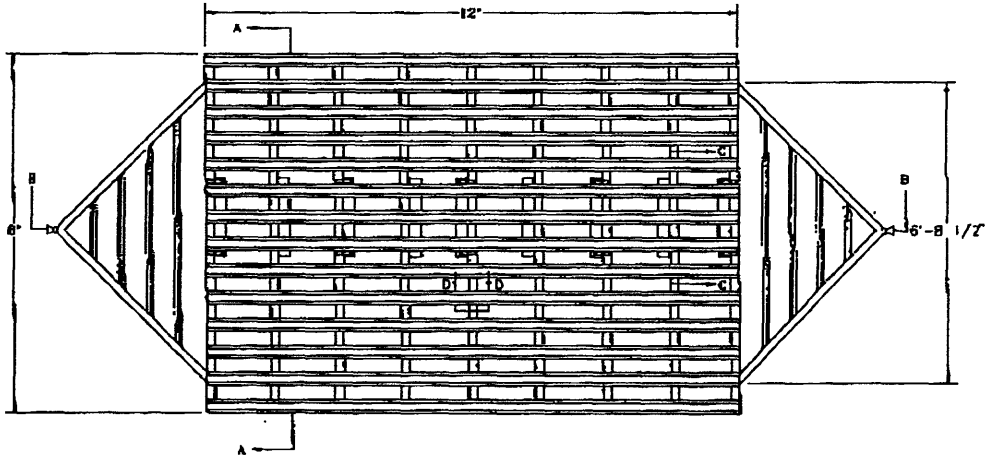


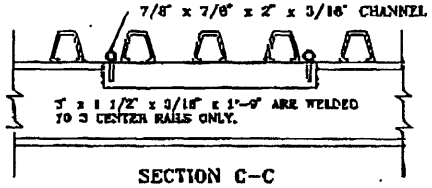


8"-11.5" CHANNELS BOLTED W/ 1 1/2" x 2" BOLT AT 6" FROM EACH END



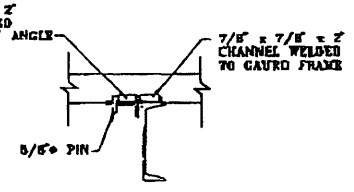
MULTIPLE INSTALLATION





SECTION C-C

CLEAN-OUT PANEL DETAIL



SECTION D-D

TOLERANCE U.O.N.
FRACTIONAL = ±1/16"
ANGULAR = ±1°

U-54 CATTLEGAURD

POWDER RIVER, INC.
388 EAST 900 SOUTH
PROVO, UTAH 84605
PHONE: (801)374-2983
FAX: (801)377-6927

DRAWING #:	037-20812
SCALE:	N/A
DRAW BY:	PRJ
DATE:	4/30/98
CHECKED BY:	
APPROVED BY:	

MK	QTY	PART #	DESCRIPTION	MK	QTY	PART #	DESCRIPTION
A				J			
B				K			
C				L			
D				M			
E				N			
F				O			
G				P			
H				Q			
I				R			

APPENDIX H

CANDIDATE REPLACEMENT CRUSHERS

MEMORANDUM

Norwest Corporation
12th Floor 136 East South Temple
Salt Lake City, Utah 84111
e-mail: chawe@norwestmines.com

Tel: (801) 539-0044
Fax: (801) 539-0055

DATE: September 9, 2003 **JOB NUMBER:** 03-2893

FROM: Craig Hawe

TO: John Richards

SUBJECT: Available Crushers – for the Emery Mine

John,

As you requested, I have spent some time looking at used and available crushers suitable for this installation. I have found the follow units that may meet our time frame if the client will approve.

1) In Syracuse, New York; A McLanahan 24" x 60" single stage 2-roll crusher. It is $40,000. New cost for this unit is about $124,500. No motors are included, so guards probably will have to be field built. It is configured for dual drives with 2 flywheels and requires (2) 60 HP motors and is rated for 600 TPH.

The teeth need to be rebuilt but they are usable as is. New replacement rolls would cost ~ $40,000 + labor & shipping, but they could be hard-faced with some weld to extend their life. The rest of the unit is in good condition. The contact will be forwarding me photos soon.

If you want, I can review the application with McLanahan to make sure it is a reasonable selection and price the rolls. I believe freight would be less than $5,000, considering it would be a rush delivery.

Recommendation: this unit is suited for the installation, if selected it should be check out and looked at to verify condition and that it will fit.

2) Gundlach responded with a new crusher quote of $134,000 and 8-weeks. This was for a 500 TPH unit.

Recommendation: Suitable crusher, too expensive and delivery to long. Size needs to be looked at.

3) Gundlach also has a used crusher, which they are offering at $48,000 FOB Belleville, IL. It comes with a 6-month warrantee and is rated at 750 TPH. It uses (2) 75 HP motors. The crusher has no tramp iron protection, but I understand that the installation already has a magnet to protect

the crusher. It will produce 95% passing -2" (square hole) and would be available in 4 – 6 weeks. We might be able to get a slightly better delivery. This crusher is a current model but was originally built in the mid 80's. It is quoted as "Like New Condition with New Teeth". They are also offering a service man to check the installation at $2,000.

Recommendation: This is the crusher we should suggest, but before we cut the order we need to double check installation clearances and electrical requirements.

The following two quotations came from AM King, in California

4) **Description:** 1 - MC NALLEY-PITTSBURG 30" x 60" Roll Crusher, S/N 62K15, Size 60. Two stage (four rolls, two on top of each other). Rolls: Top primary stage has 2" grab teeth and is driven by 75 HP motor; bottom stage corrogated rolls for finish grinding, driven by 40 HP motor . Unit has roller type split bearings; new in 1962. Last used as primary/secondary crusher in coal crushing plant, reduction 8" down to 1" at 250 TPH. In good condition. Spare top roller

PRICE.....$17,500
F.O.B.....OROVILLE, CA

Recommendation: This unit is too small and too old.

5) **Description:** 1 - GUNDLACH Model 80-DA-1633 Roll Crusher, two-stage, four roll unit; 80" face, 150 RPM at upper rolls and 300 RPM lower. Rolls are standard one piece steel, nitrogen oil adjust system, with central manual lubrication system. Mounted on skid; offered less motor. In good condition.
ORIGINAL CONFIGURATION: for unwashed sub-bituminous strip coal, 7X0 feed x 1-1/2"X0 product at 400 short tons per hour.
Dimensions; 12'7" Long X 6'6" Wide X 5' High.
Weight; 16,000 lbs.

PRICE.....$30,000
AS IS, WHERE IS.....OROVILLE, CA

Recommendation: This unit might be suitable for our needs. However, it is a two-stage unit and would require more head room than our recommended unit. If the client disagrees with our suggested unit, I will look carefully at this one.

6) Pennsylvania recommended a salvage company who did not respond to our request.

None of these units were offered with motors, motor mounts, or, etc. They are just bear-bones units.

GUNDLACH

ONE FREEDOM DRIVE P.O. BOX 385 BELLEVILLE, IL USA 62222
Toll-Free (USA): 877-486-3522 Telephone: 618-233-7208 Fax: 618-233-6154
E-Mail: BetterCrushers@TJGundlach.com

9 September 2003

Mr. Craig Hawe
NORWEST CORPORATION
136 East South Temple
Salt Lake City, UT 84111

FAX:

TEL: 801-539-0044
Email: **chawe@norwestcorp.com**

RE: Project – Price, UT upgrade reconditioned unit
GUNDLACH QUOTATION # Q03090501 Rev. A

Dear Craig:

We at Gundlach wish to thank you for selecting our crusher for your bid requirements. The unit we are quoting is a 4060S-type unit. When it was originally manufactured the designation was known as 60SNA (Single Non-Adjustable while running). The unit was designed for ROM coal to be crushed to 2" or larger product size. 60SNA103R is the serial number.

APPLICATION:

MATERIAL:	Utah Coal, direct ship, 50 HGI Emery formation, 12% ash
FEED:	8" x 0, 12% +2" with maximum 10" slab
PRODUCT:	95% -2" square hole screen
CAPACITY:	750 STPH

The crusher selection is normally verified by testing the actual material when possible.
We guarantee the application and the crusher.

One (1) remanufactured Gundlach model 60SNA103R single-stage, right hand two-motor drive, 26" diameter 20 Chisel Tooth Hardfaced rolls, coupling mounted rolls, Non-running adjustment system, Zerk lubrication system, two (2) 52 ½" Flywheels.
Two (2) 75 HP, 1200 RPM Motors, V-belt drives, and guards furnished by others.

SCOPE OF REBUILD: rebuild, test run and painted.

Reference drawings: K0-0016-00 General assembly
J0-0182-00 Inlet and discharge bolt pattern

The crusher carries a six (6) month warranty on parts and workmanship.

One (1) 60SNA103R Roll Crusher, FOB Belleville, IL.....	**US$**	**48,000.00**
One (1) Day visit by a Field Service Engineer at time of startup train your people and set up your Gundlach crusher properly.....	**US$**	**2,000.00**

PRICES are FIRM for 60 DAYS from date of quote.

SHIPMENT: 4 – 6 weeks from our plant after receipt and acceptance of written Purchase Order dependent on Manufacturer's schedule.

9 September 2003
NORWEST CORPORATION
RE: Project – Price, UT upgrade reconditioned unit
GUNDLACH QUOTATION # Q03090501 Rev. A

PAYMENT TERMS: 25% of purchase price due with order
25% due on submittal of certified drawings
25% due on shipment of unit
Balance net 30 days from shipment of unit

If after the crusher is disassembled we should come across a component that is questionable we will bring it to your attention for disposition.

Please note that this unit is a rebuilt or used unit. Imperfections in paint and pitted metal due to previous environmental exposure, previous repairs and cut marks are common in such units industry wide. TJG will make every effort to repair these items during the rebuilding or repairing process as time permits or as the customer desires (at additional cost) however, they have no bearing on the performance or reliability of the unit and will not affect the warranty terms in any way.

The above price includes (1) parts/service manual.

If you have any questions feel free to call this office.

Best regards,

James H. (Jim) Korte
Regional Sales Manager

JHK/kah

CC: Phil Schaefer, Service Manager

APPENDIX I

MAINTENANCE PLAN

Appendix I – Maintenance Plan for Emery Mine 4th East Portal

Once the engineering controls and other measures are implemented at the 4th East Portal area, they will be inspected on a set schedule under the facility's maintenance plan so that the effectiveness of the controls is maintained. A maintenance log will be kept at the facility and updated at least weekly. The mine superintendent will be responsible for inspection and maintenance activities as they relate to the dust controls and measures. An integral part of the maintenance plan will be the provision for training and education, whereby plant personnel will be made aware of the controls in operation at the mine. They will be trained to know when the controls are not operating properly and how and to whom to report malfunctions.

The engineering controls and other measures included in the inspection and maintenance program are as follows:

- Dust treatment program (coal yard and truck re-route areas)
- Water cannon
- Concrete (Jersey) barriers
- Wind fences
- Conveyor and transfer point enclosures
- Water sprays (conveyors)
- Water truck
- Vacuum truck
- Cattle guard
- Replacement crusher
- Truck re-route

The inspection forms will likely contain the following elements:

Dust Treatment Program

- Weekly inspection of the truck re-route and coal yard area for determination of effectiveness of dust suppressant and condition of gravel cover
- Indicate whether re-application of dust suppressant or repair of gravel surface is indicated
- Maintain log of when dust suppressant applied
- Indicate whether localized application of dust suppressant is needed, e.g., along the stockpile berm
- Maintain weekly log of repair and maintenance activities

Water Cannon

- Weekly test of water cannon to assure adequate pressure and proper coverage of stockpile area
- Indicate whether repairs or adjustments to the system are needed
- Weekly check on condition of wind activation system
- Record of when water cannon system is activated by wind
- Maintain weekly log of repair and maintenance activities

Jersey Barriers

- Daily inspection for optimum placement of barriers to contain the stockpile base
- Assure that barriers separate the stockpile area from the truck loading area
- Indicate condition of the barriers and whether gaps exist between barriers that allow material outside the containment area
- Assure that material is consolidated onto the pile to decrease exposed surface area of material that may produce dust
- Maintain weekly log of repair and maintenance activities

Wind Fences

- Daily check on the condition of the mesh material – Any rips or tears?
- Over a period of time, determine if the fence is optimally positioned to prevent wind erosion from the stockpile area
- Maintain weekly log of repair and maintenance activities

Conveyor and Transfer Point Enclosures

- Daily check when operating on whether conveyor enclosure panels are in place and in good condition
- Daily check when operating on enclosures for transfer points
- ~~Maintain repair log~~
- Maintain weekly log of repair and maintenance activities

Water Sprays (Conveyors)

- Inspect each operating shift for proper operation of water sprays, e.g., adequate pressure, no clogged spray nozzles
- ~~Maintain repair log~~
- Maintain weekly log of repair and maintenance activities

Water Truck

- Prior to use, determine if spray coverage is adequate, e.g., pressure is acceptable and nozzles are clear
- Maintain log book showing date and times of water application and areas where applied
- Maintain weekly log of repair and maintenance activities

Vacuum Truck

- Maintain log of when and where vacuum truck is used

Cattle Guard

- Daily inspection of condition of grate and underlying concrete sump
- Indicate whether the sump needs to have solids removed (vacuum truck)
- Log book showing date and description of repairs
- Maintain weekly log of repair and maintenance activities

Crusher

- Perform routine operations and maintenance checks when operating to assure proper performance
- Maintain log showing date of all repairs
- Maintain weekly log of repair and maintenance activities

Truck Re-route

See Dust Treatment Program (coal yard and truck re-route areas) for checklist items applicable to the truck re-route area.

Log books and inspection and maintenance records applicable to the above engineering controls and other control measures will be updated at least weekly and will be available for review at the Emery Mine.

A training and education outline to be used for employee awareness sessions will be developed, and a copy of the training program will be kept on file at the facility. Training records will also be maintained.

APPENDIX J

NORWEST STATEMENT OF QUALIFICATIONS

CONSOL - Emery Mine - 4th East Portal
Statement of Norwest's Level of Involvement
During Implementation of Controls

On October 7, 2003 CONSOL formally retained Norwest Corporation (Norwest) to design and implement the fugitive dust control plan as presented to DOGM on August 26, 2003 and as contained in the September 12, 2003 submittal to DOGM to amend the Mine Reclamation Plan for the Emery Mine, 4th East Portal. The contract is for turn key implementation, i.e., Norwest will manage all aspects of implementation, including onsite field supervision of sub-contractors involved in installation of control devices.

The scope of work for the contract includes the following tasks:

1. **Prepare Installation and Implementation Schedule**
   Norwest will prepare a schedule for installation and operation of controls. Where feasible, controls will be installed by the expiration date of the most recent DOGM extension. For controls that will not be operational by this date, justification will be provided.

2. **Design Engineering Dust Controls and Measures**
   Initial design specifications at installed locations for the selected control devices and dust abatement measures will be prepared by Norwest (Note: Preliminary engineering data have already been included in the MRP amendment submitted to DOGM on September 12, 2003.).

3. **Prepare Final Design Criteria for Controls**
   Norwest will refine the design criteria for control devices and dust control measures.

4. **Secure Bids for Controls and Measures**
   Norwest will screen and select contractors to provide control device equipment and services.

5. **Prepare Detailed Cost Estimate**
   Norwest will prepare a comprehensive cost estimate for the procurement and installation of controls once bids are received, and will submit the document as an interim deliverable to CONSOL.

6. **Final Design of Controls and Measures**
   Design specifications and installed locations for the selected controls, based on bids received from vendors, will be reviewed and finalized by Norwest. The final design package will be provided to CONSOL.

7. **Manage Procurement and Installation Construction**
   In addition to the above tasks, Norwest will manage all aspects of ordering, receiving and installing the selected controls at the Emery Mine site – the turn key

implementation of the dust control program. It is anticipated that third party contractors will be used for the various installations, and that Norwest will make several visits to the 4th East Portal site as necessary when subcontractors are present to supervise key aspects of control installation.

NORWEST
CORPORATION

Craig J. Hawe, P.E.
Project Engineer

EDUCATION
B.S. Civil Engineering, University of Utah, Emphasis: Structures, Construction Management
SME, Belt Conveyor Drives, Advanced Mechanical and Electrical Considerations Course, 1997
American Concrete Institute, ACI, 318-02 Building Code Seminar, 2002
American Institute of Steel Construction Inc. AISC, Fundamentals of Connection Design with Emphasis on the LRFD Method, 2002

ASSOCIATIONS
Member, Society of Mining Engineers, American Society of Civil Engineers

LICENSES & CERTIFICATIONS
Licensed Professional Engineer, Utah, Washington, and Wyoming

PROFESSIONAL HIGHLIGHTS
Engineer with experience in project engineering and management, plant layout and design and field supervision. His background includes managing projects from estimating through completion. These projects have provided him with thorough knowledge of bulk materials handling, and general civil/structural engineering practices. Mr. Hawe's experience includes:

- Estimating and project control.
- Design engineering, plant layout, project and site engineering.
- Bulk materials handling system design for both new and existing plants.
- Design of modular and portable equipment.
- Computer skills include AutoCAD, SurvCADD, RISA Structural Design Software and Spread Sheet Software.
- Field supervision including projects in Alaska, continental USA and West Africa.

WORK EXPERIENCE

1990 – PRESENT NORWEST CORPORATION, SALT LAKE CITY, UTAH
STRUCTURAL / MECHANICAL ENGINEER

Responsibilities include plant design engineering, bulk materials handling, equipment specifications/compliance and project estimating. Other duties entail working with government agencies, producing reports, coordination with clients and contractors.

PROJECT ENGINEER

Work includes technical and detail responsibilities on the following projects:

- **Rose, Tucker, Smith, LLC** – insurance risk assessment for several large operating mines in North Dakota, Montana and Texas.
- **TransAlta Sundance, Alberta** – designed the physical arrangement of equipment needed for the planned coarse coal heavy media washplant and associated materials handling system including development of a feasible interface with existing facilities.
- **J.R. Simplot Smokey Canyon Mine, Wyoming** – developed installed costs for a mountainous terrain overland conveyor system along with the required stockpiling facilities, loading, earthworks, etc. need for a complete system.
- **Deutsche Bank** – valued the orderly liquidation of all of Horizon Natural Resources' mobile, material handling, coal processing and properties not associated with an active mine.
- **P&M Kemmerer, Wyoming** – developed design installed cost estimates for various options to expand the truck loading facilities at Ekol.
- **TransAlta Centralia Mining, Washington** – design and construction management for a $25 million heavy media coal preparation plant expansion and raw coal handling facilities replacement project. Facilities modifications and equipment installations included a 250' diameter thickener, 250 ton truck dump, large diameter rotary breaker, raw coal feed tower, large pumping facilities, screens and crushers. Project responsibilities included reviewing the existing plant's steel for required strength and its condition.
- **InterWest/ Jim Bridger, Wyoming** – developed installation costs for surface facilities for a proposed underground mine at an existing surface mine to meet client requirements.
- **TransAlta Centralia Generation, Washington** – review of design concepts developed to provide blending facilities on an existing coal yard.

Engineering services included reviewing structural design, conceptual layout, and peer review of work developed by another design group. Project scope included proposing solutions to design oversights to meet the client's needs.

- **Mid-West Generation, Illinois** – developed conceptual designs and budgets for required changes in the client's material handling systems to allow coal yard blending. Study was performed for the clients power plants thought the Chicago area. Material handling facilities reviewed included barge loading/ unloading facilities, rail and yard equipment.
- **InterWest / Glenrock Company, Wyoming** - reviewed a conveyor structure which failed during erection. Project entailed providing recommendations to ensure project safety while awaiting the repair, and reviewing completed structure with proposed modifications to verify design acceptability.
- **Willowcreek Mine Project, Canada / Pine Valley Coal Ltd.** - design and layout of a baum jig coal preparation plant and materials handling system for a new 1,200,000 tonnes/year mine.
- **Great Northern Properties, Montana** - developed material handling schemes for a new 20 to 40 MTPY coal mine. Provided capital and operating cost estimates.
- **Thermo ECOtek Corporation, Wyoming** - provided cost and operational comparison for various 20,000-ton, covered storage concepts. Considerations included alternatives in the reuse of existing facilities and incorporation of new equipment into these existing material handling systems.
- **Obed Mountain Coal Project, Canada / Luscar Ltd. -** design and layout of modifications to the existing baum jig plant, including the addition of a 400-tonne/hour heavy media cyclone circuit.
- **Sarshatali Coal Mine Project, India / Calcutta Electric Co.** - design and layout of a heavy media coal preparation plant and materials handling system for a new 1,200,000-tonnes/year mine.
- **Thermo ECOtek Corporation, Wyoming** - reviewed a proposed train loadout conveyor. Project entailed critiquing specifications and the proposed design to ensure a CEMA-compliant and cost-effective solution.
- **Pittsburg & Midway Coal Mining Co., Wyoming** - proposed options to add a new rapid train loadout into the existing material handling system.
- **McKittrick Diatomite Mine Project, California / Texaco Exploration & Production** - developed material handling schemes for production rates from 3,000 TPH to 8,000 TPH of a diatomaceous soil saturated with crude oil. The solutions incorporated plant feed and refuse into mine overburden storage and reclaim systems.
- **Minera Carbonifera Rio Escondido, S.A. de C.V., Coahuila, Mexico** - preliminary design for proposed underground conveyor and water systems to meet production and fire requirements on new and existing underground mines.
- **BHP World Minerals, New Mexico** - proposed material handling schemes to incorporate production from new underground mine operations into the existing surface systems without disrupting existing operations.
- **Interwest / Glenrock Coal Company, Wyoming** - detailed design for an SO_2 compliance blending system that included mechanical and structural design of a stockpile reclaim conveyor with tunnel, transfer conveyor with chute work into the existing material handling system, and the addition of a swing arm sampler with an enclosure for a coal analyzer.
- **Wildcat Loadout Expansion Project, Utah / Andalex Resources & Los Angeles Department of Water & Power** - detailed design of a new

12,000-ton stockpiling system from truck dump to radial stacker and extension of existing 4,000 TPH loadout facilities, including new reclaim tunnels, conveyors and transfers.

- **Yellowcreek Coal Mine Project, Alabama / P & M Coal Mining Co.** - design and layout of a baum jig coal preparation plant and materials handling system for a new 8,000,000-ton/year mine.
- **Kemmerer Mine SO2 Blending Project, Wyoming / P & M Coal Mining Co.** - detailed design, procurement and construction management assistance of a multiple blending silo and conveyor handling system addition. The work included a 1,500-tons/hour conveying system feeding to and from three 8,000-ton storage silos. Blending was controlled by the installation of integrated sampling and sulfur analyzer installations on incoming and outgoing conveyors.
- **York Canyon Coal Washery Project, New Mexico / P & M Coal Mining Co.** - detailed design of a 1,200-tons/hour baum jig washery, including the three-mile tailings disposal pipeline.
- **Soldier Canyon Mine Project, Utah / Soldier Creek Coal Co.** - detailed design and procurement for the surface handling, storage and baum jig coal washery rated at 1,000 tons/hour. Work included containment and diversion of creek to provide sufficient space for facilities.

1990 Goldfield Engineering and Machine Works, Provo, Utah
Engineer

Designed and supervised erection of a 120 ton floating wash plant, which was utilized in an application of the paddock mining technique. Implemented the use of computers in design and analysis of equipment. Other notable contributions included work in the design of static/vibrating screens and modular, portable equipment for the mining industry. The equipment ranged from laboratory scale to pilot to full-scale production facilities.

1989 – 1990 CTEC, Inc., Salt Lake City, Utah
Design Engineer

Designed modifications to existing ski lift designs to provide longer spans and increased capacity. Produced design engineering, fabrication and equipment installation drawings.

1988 – 1989 Goldfield Engineering Machine Works, Provo, Utah
Engineer

Designed placer mining equipment, calculated flow from tanks and through weirs. Programmed microprocessors used in system controls.

1984 – 1988 Conveyors and Equipment, Salt Lake City, Utah
Project Engineer

Responsible for estimating project cost and keeping the project within budget. Bid and designed heavy equipment installations including conveyors. Selected steel and mechanical components required for the installations. Produced and checked detailed design drawings. Supervised draftsmen and field crews. Reviewed installations, invoiced clients and checked vendor charges. Designed equipment for full production, large western mines and power plants, as well as pilot plants for verification of theoretical processes.

NORWEST
CORPORATION

John Richardson
Senior Environmental Scientist

EDUCATION

M.S., Environmental and Occupational Health, 1973
University of Minnesota, Minneapolis, Minnesota
B.A., Political Science / Pre-med Studies, 1970
University of Utah, Salt Lake City, Utah

LICENSES & CERTIFICATIONS

Certified in the comprehensive practice of industrial hygiene by the American Board of Industrial Hygiene
Safety Professional by the Board of Certified Safety Professionals of the Americas

PROFESSIONAL HIGHLIGHTS

- Over 20 years experience managing environmental and occupational health programs in industry.
- Developed and implemented environmental compliance programs for air, water and waste.
- Managed a comprehensive environmental program for a permitted metals recycling facility.
- Directed an industrial hygiene program at a major nonferrous metals smelter.
- Managed a corporate environmental services group.
- Directed a corporate environmental compliance audit program.
- Managed an in-house environmental consulting group.
- Excellent verbal and written communication skills – able to communicate effectively.
- Computer skilled - Microsoft Word, Excel, Power Point, Project, Visio, Access.
- Highly motivated - enjoy working independently or as part of a team.
- Skilled at developing, implementing and maintaining environmental compliance audit programs.
- Broad permitting experience in air, water and waste.
- Proficient at developing air emission inventories.
- Experienced due diligence assessor for property transfers.
- Adept at preparing EPCRA-required release reports (SARA Title III, Toxic Release Inventory or TRI).
- Extensive technical and regulatory experience in EPA's Superfund process.
- Skilled in conducting waste water discharge biological assessments.
- Knowledgeable expert witness - trials, hearings and workmen's compensation cases.
- A seasoned negotiator with regulatory agencies at local, state and federal levels.
- Broad training experience in environmental and occupational health issues.

WORK EXPERIENCE

2001 – PRESENT NORWEST CORPORATION, SALT LAKE CITY, UTAH
SENIOR ENVIRONMENTAL SCIENTIST
Consults with major mining and energy corporations on environmental compliance and permitting issues.

1999 – 2001 ASARCO INCORPORATED, SALT LAKE CITY, UTAH
SENIOR ENVIRONMENTAL SCIENTIST
Consulted with corporate personnel at all levels on all matters related to environmental compliance, including permitting (air, water and waste) and reporting (waste water discharge and chemical release). In addition, administered the corporate environmental compliance audit program in strict compliance with an EPA consent decree.

1999 ENCYCLE/TEXAS, INC., CORPUS CHRISTI, TEXAS
ENVIRONMENTAL MANAGER

Managed all aspects of a complex environmental compliance program for a Resource Conservation and Recovery Act (RCRA) Part B-permitted metals recycling facility. Directed outside consultants and plant staff in preparing permit applications for water (Texas Pollutant Discharge Elimination System, or TPDES), air and RCRA Part B authorization to store and treat hazardous waste. Direct reports were an environmental engineer, the laboratory manager and the safety and health manager.

1996 – 1999 ASARCO INCORPORATED, SALT LAKE CITY, UTAH
SENIOR ENVIRONMENTAL CONSULTANT

Consulted with corporate personnel at all levels on all matters related to environmental compliance. Prepared air emission inventories, toxic chemical release reports and permit applications. Provided technical input on several corporate Superfund sites, and continued representing the company at several national and international trade associations.

1994 – 1996 ASARCO INCORPORATED, SALT LAKE CITY, UTAH
CORPORATE ENVIRONMENTAL MANAGER

Managed a staff of six environmental professionals, three instrumentation technicians and two computer programmers. Initiated regular environmental audits of corporate and subsidiary operations including a metals recycling facility, an aggregate division and a specialty metals division. Personally led several audits; organized and conducted auditor training sessions.

1987 – 1993 ASARCO INCORPORATED, SALT LAKE CITY, UTAH
SENIOR CORPORATE ENVIRONMENTAL SCIENTIST

AIR

- Provided technical guidance in air permit application preparation and negotiations in Arizona, Missouri, Illinois and Texas, including a $100 million smelter renovation project in El Paso, TX.
- Advised in developing and implementing PM10 and lead State Implementation Plans (SIPs) in Texas, Arizona, Missouri, Montana and Nebraska.
- Completed a Part B permit air addendum for a commercial hazardous waste facility in Texas.
- Crafted air study and compliance sampling protocols for operations located in several states and Matamoros, Mexico.
- Prepared air emission inventories for Texas and Missouri operations.

WATER

- Assisted in preparation of wastewater discharge permit applications or renewals.

WASTE

- Prepared RCRA Part A and Part B permit applications for plants in Texas and Oklahoma.
- Successfully negotiated issuance of a Part B permit for a commercial hazardous waste recycling facility.
- Provided technical assistance to a study team charged with evaluating the feasibility of constructing a green field secondary lead smelter in southeast U.S.
- Advised operating plants on changing aspects of RCRA regulations.

RELEASE REPORTING
- Prepared SARA Title III 312 and 313 reports (TRI) for several operating facilities.

AUDITING AND DUE DILIGENCE
- Led pilot environmental audits at corporate facilities and subsidiaries.
- Advised a corporate due diligence team on environmental issues during visits to a world-class integrated copper complex in eastern Europe.

CERCLA (SUPERFUND)
- Provided technical representation at negotiating sessions with other potentially responsible parties (PRPs), the EPA and affected state agencies at several Superfund meetings from 1984 to 1996.

OSHA/MSHA
- Consulted with plants on compliance with applicable occupational health regulations.
- Conducted several workplace studies beyond routine sampling to evaluate compliance.

TRADE ASSOCIATIONS
- For nearly 20 years have provided representation at numerous national and international trade association meetings, work shops and working groups.

1984 – 1987 AMERICAN ENVIRONMENTAL CONSULTANTS, SALT LAKE CITY, UTAH
MANAGER OF TECHNICAL SERVICES
Co-founded an in-house consulting organization offering professional services in air pollution control, solid waste management, industrial hygiene including asbestos abatement project oversight, laboratory analysis and data processing.

1981 – 1984 ASARCO INCORPORATED, SALT LAKE CITY, UTAH
SENIOR ENVIRONMENTAL SCIENTIST
Supervised an air pollution source sampling group which conducted numerous compliance tests. Negotiated air sampling protocols with regulatory agencies which frequently resulted in significant savings to the company.
Designed numerous in-house sampling protocols for specialized environmental assessments. Provided frequent commentary to EPA on proposed regulations.
Provided consultative services to plant managers and corporate officers.
Streamlined in-house data reporting procedures at considerable savings to the company.

1976 – 1981 ASARCO INCORPORATED, EL PASO, TEXAS
ENVIRONMENTAL SCIENTIST
Established a comprehensive industrial hygiene program at a major smelter complex. Conducted air pollution compliance tests (stack sampling).
Developed solid/hazardous waste and PCB management programs.
Represented the company during two major NIOSH Health Hazard Evaluations (HHEs).

1973 – 1976 ASARCO INCORPORATED, SALT LAKE CITY, UTAH
ENVIRONMENTAL SPECIALIST
Performed comprehensive industrial hygiene and environmental surveys at numerous company plants. Advised plant and corporate management on compliance with current and pending regulations.

NORWEST
CORPORATION

John Trygstad
Manager – Coal Processing & Utility Services

EDUCATION
South Dakota School of Mines & Technology, B.S., Mining Engineer – 1975
Southern Illinois University - Edwardsville, MBA, Management Program - 1990.

ASSOCIATIONS
Society of Mining Engineers

LICENSES & CERTIFICATIONS
MSHA certified, underground and surface mines
Certified Mine Manager & Mine Examiner (Illinois)

EXPERTISE
coal preparation plant design, coal transportation (truck, rail, water), power station coal handling systems and due diligence evaluations

PROFESSIONAL HIGHLIGHTS
Mr. Trygstad began his career in the coal industry in 1971. He is experienced in underground mine management, mineral processing, coal handling, transportation, engineering and project management

WORK EXPERIENCE

1997 – Present Norwest Corporation, Salt Lake City, Utah
MANAGER – COAL PROCESSING & UTILITY SERVICES
Mr. Trygstad is responsible for coal transportation (truck, rail, water), coal handling, blending & preparation plant design and due diligence evaluations.

- **TransAlta Utilities, Sundance Project, Alberta, Canada**
  Performed extensive cost-benefit analyses for washing coal at minemouth generating stations. Developed large pro-forma cost models that indexed ash content and other quality factors to several simultaneous boiler operations. Project is ongoing.
- **Constellation Power Source, Baltimore, MD**
  Performed coal handling systems review for the Brandon Shores, Wagner and Crane Power Stations. Determined the suitability of coal yard blending at each location with recommended modifications.
- **Sumitomo Corp (PT Central Java Power), Indonesia**
  Act as owner's engineer advising Sumitomo on issue related to transportation and coal handling systems for the proposed Tanjung Jati B 1300 MW station located in central Java. Work performed in Jakarta; project is ongoing.
- **Blue Mountain Energy/Deseret Power, Colorado**
  Performed a valuation study of existing overland conveyor, storage and rail loadout system for the determination of the fair market value at termination of lease. Work is ongoing..
- **Navaho Nation, Arizona**
  Provided support to the Navaho Nation regarding coal quality and potential coal washing scenarios for the Black Mesa and Kayenta Mines as well as combustion issues at the Mojave and Navaho generating stations. Project is ongoing.
- **Deutsche Bank**
  Responsible for due diligence of coal preparation of AEI Resources and later due diligence of coal sales and contracts for Horizon Natural Resources during bankruptcies in 2002 and 2003.
- **JR Simplot, Smokey Canyon Mine, Idaho/Wyoming**
  Performed a feasibility study comparing ground contour conforming steel cable type overland conveyor system to truck haulage in mountainous terrain for future mine expansion.
- **P&M Coal Company, Kemmerer Mine, Wyoming**
  Performed a design and cost study for the addition of several new automated concrete truck loadout bins at the Kemmerer Mine. .
- **Robbins Schwartz Nicholas Lifton & Taylor, Illinois**
  Prepared and rendered expert witness reports for tax dispute between coal company and Galatia Community School District regarding functional nature of preparation plant.
- **Western Canadian Coal Corp., Wolverine Project, British Columbia, Canada**
  Feasibility study for complete (truck dump to train loadout) surface handling, storage, and coal washery for producing metallurgical coals

rated at 2,200,000 tonnes/year. Washery design substituted high cost thermal dryer with screen bowl centrifuges.

- **Locke Liddell & Sapp, Texas**
  Prepared and rendered expert witness reports for contract dispute between Walnut Creek Coal Mining Company and Texas New Mexico Utilities in central Texas. Work included review and costing of a potential placement of new unit train unloading facility at the minemouth generating station.
- **TUCO, Texas**
  Coal handling/blending system valuation for both the Harrington and Tolk Generating Stations in conjunction with a property tax dispute. Project determined replacement costs inclusive of all coal handling system installations from railcar dumping to tripper conveyors located above the pulverizer feed silos in each generating station.
- **Midwest Generation EME, Chicago**
  Designed coal blending and coal transfer handling system for Will County Station and Waukegan Station. Evaluated Joliet coal handling systems. All systems required 3-way blending of high sodium, high base-acid ratio and regular PRB coals.
- **TransAlta Utilities, Sierra Pacific & Nevada Power Purchase Bid, Nevada**
  Due diligence evaluation of the coal handling systems for the North Valmy and Reid Gardner coal fired power stations. Researched and ranked coal costs and freight rates to these locations.
- **Mitsubishi, Coal Mining Project, Colombia**
  Feasibility study for the blending and transportation of coal from mine to coastal port facilities. Evaluations included long distance trucking versus small unit trains. Work included site visits to several locations in Colombia.
- **TransAlta Utilities, Mohave Generating Station Purchase Bid, Nevada**
  Due diligence evaluation of the unique slurried coal handling system for the coal fired power station. Researched and compared coal freight rates and capitalization of alternate slurry pipelines locations.
- **Western Canadian Coal Corp., Belcourt Project, British Columbia, Canada**
  Feasibility study for complete (truck dump to train loadout) surface handling, storage, and coal washery with special dry screening and partial by-pass designs rated at 2,000,000 tonnes/year. Washery design substituted high cost thermal dryer with screen bowl centrifuges.
- **Bureau of Land Management, Utah**
  Performed due diligence evaluation of transportation costs, both long distance trucking and rail, from proposed Smoky Hollow mine to potential markets.
- **Union Electric, St. Louis**
  Prepared and rendered expert witness reports for large Midwest utility in the matter of a gross inequities law suit against an Illinois coal supplier relative to coal preparation practices and the delivery of out-of-specification coal.
- **World Bank/Mongolia Ministry of Infrastructure Development, Ömnögovi, Mongolia**
  Assisted the Ministry of Infrastructure Development with a conceptual development study of the Tavantolgoi Reserve located in the Gobi

Desert. Tavantolgoi is a 5 billion ton, world class deposit of coking and high quality steam coals. Characterized the coking coals for export to potential markets in the Pacific Rim of Asia. Produced preliminary designs 3-product, 15 million tpy washing plant as well as coal handling/blending/loadout systems. Work included 6 weeks residence in Mongolia.

- **World Bank/Mongolia Ministry of Infrastructure Development, Dorngovi, Mongolia**
  Assisted the Ministry of Infrastructure Development with a revitalization plan to allow the Shivee Ovoo Mine to attain higher coal quality of shipped product. Work included 6 weeks residence in Mongolia.
- **Sithe Energies' GENCO Power Generation Purchase Bid, Pennsylvania/Cornerstone**
  Due diligence evaluation of the coal preparation/handling system (washing, truck receiving, storage, blending, crushing, conveying, heavy equipment fleet and dust control) at GENCO/GPU's Homer City, Keystone and Conemaugh coal fired power stations. Researched and compared coal pricing and freight rates to competing utilities in Pennsylvania.
- **Hindusthan Vidyut Corporation Ltd., India**
  Developed engineering, procurement, & construction contracts and agreements while acting as Owner's Engineer in the development of a captive lignite mine in Rajasthan.
- **Prodeco, Calenturitas Project, Colombia**
  Feasibility study for the blending and transportation of coal from mine to coastal port facilities. Evaluations included long distance trucking versus small unit trains. Work included site visits to several locations in Colombia.
- **Sithe Energies' New England Power Generation Purchase Bid, Massachusetts/Coopers Lybrand**
  Due diligence evaluation of the coal handling system (ship unloading, storage, blending, crushing, conveying, heavy equipment fleet and dust control) at New England's Salem Harbor and Brayton Point coal fired power stations. Researched and compared coal freight rates to competing utilities in northeast U.S.
- **Leão II Project, Brazil/Companhia Riograndense de Mineração/Jaakko Poyry Engenharia Ltda.**
  Feasibility study for the design of washery with special very high gravity separating process and assistance to joint venture Partner (JPE) in the 1,000,000 tonne/year materials handling design.
- **Sarshatali Coal Mine Project, India/Calcutta Electric Co.**
  Feasibility study for complete (truck dump to train loadout) surface handling, storage and coal washery facilities rated at 1,200,000 tonnes/year. Work included developing blending plan of de-volatilized *Jhama* coal with ordinary Indian steam coals along with partial washing techniques using heavy media cyclones to meet specifications.
- **Willowcreek Mine Project, Canada/Pine Valley Coal Ltd.**
  Feasibility study for complete (truck dump to train loadout) surface handling, storage, and coal washery with special dry screening and partial by-pass designs rated at 1,200,000 tonnes/year. Also included a characterization study of very low volatile, high fixed carbon coals.

1987- 1997 BRUSHY CREEK COAL COMPANY, GALATIA, IL
WESTERN FUELS, ILLINOIS INC.
MINE MANAGER/GENERAL SUPERINTENDENT

Full responsibility for 1.8 million tpy underground coal mine operation. Downsized workforce & increased productivity through better management & major equipment purchases. Attained world class productivity levels with continuous miner super units and battery-powered haulage. Reduced material expenses 30 percent; power expenses 20 percent. Managed 125 rapid-discharge railcar fleet & coal movement logistics. Coordinated execution of coal sales contracts as well as purchases of supplemental sources of coal in the Illinois Basin. Successfully solved chronic, severe fugitive dust problem. Personally engineered and installed new fine coal circuit including spirals to cut coal losses enabling the mine to penetrate new markets with higher quality/lower SO_2.

1982 - 1987 WESTERN FUELS - UTAH INC., DESERADO MINE RANGELY, CO
SUPERINTENDENT OF SURFACE OPERATIONS

Managed $360 million surface construction phase & subsequently operated surface operations of coal mine.

1980 - 1982 POWDERHORN COAL COMPANY, PALISADE, CO
SUPERINTENDENT OF SURFACE OPERATIONS

1977 - 1980 FREEMAN UNITED COAL MINING COMPANY, ILLINOIS
PREPARATION ENGINEER

1976 – 1977 COLORADO SCHOOL OF MINES, KAISER STEEL YORK CANYON MINE, RATON, NM LONGWALL RESEARCH ENGINEER

1975 - 1976 ZAPATA COAL CORPORATION, WV
PREPARATION ENGINEER/FOREMAN

1971-1974 CONSOLIDATION COAL COMPANY, WV

PUBLICATIONS

"Computer Simulation Speeds High Tech Solutions for Mining Applications," *World Coal*. February 1998, co-author.

"Mongolia Develops Coal Potential," *World Coal*. October 1998, principal author.

NORWEST
CORPORATION

Areas of Expertise

GHG Risk Management

GHG Air Emission Evaluations, Baselines and Inventories

Life Cycle Emission Studies and Models

Energy Tracking and Management

Public Reporting/Support for Voluntary Initiatives

Regulatory/Government Reporting

GHG Credit/Offset Markets

For More Information Contact:

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Salt Lake City, UT 84111
USA
Tel: 801 539 0044
Fax: 801 539 0055
slc@norwestcorp.com
www.norwestcorp.com

Representative Project Descriptions

National Mining Association

Norwest was retained by NMA to provide for the development of a greenhouse gas reporting protocol for the U.S. mining industry. The protocol, still under development, will assist NMA member companies to inventory, monitor, and report on their greenhouse gas emissions in response to the Bush Administration's Business Climate Challenge as part of the overall U.S. Climate Strategy. The compendium will include estimation methodologies for coal mining, metals, and minerals mining up to and through the processing stage. NMA will recommend adoption of the protocol in any registry system (voluntary or otherwise) that may be established by any agency of the U.S. government.

TransAlta Centralia Mining

Norwest was engaged by TransAlta to create an emissions baseline and develop a model for the mine which includes greenhouse gases, oxides of nitrogen, and particulate. The model was constructed such that the mine operator can examine various operating scenarios and resulting emissions to better understand the cost and economic impacts of different plans. Because the model utilizes equipment operating hours, it can be integrated with mine plans to provide an emissions outlook directly linked to mine plan. The objective of this model was to assist TransAlta in the management of greenhouse gas commitments and local air quality issues in Washington State.

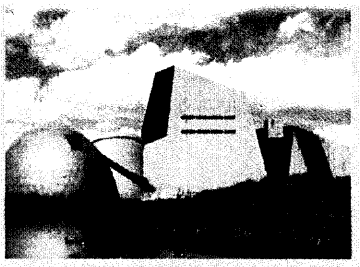
Suncor Energy Inc.

Suncor retained Norwest to complete an assessment of emissions from diesel-powered mining equipment at Suncor's surface oil sand mining operation located near Fort McMurray, Alberta. Norwest developed a mine equipment model which was integrated into the mine planning process to provide accurate forecast of emissions based on future mine plans.

McCann & Associates

Norwest assisted the client in the development of a life cycle emissions study for combustion of coal from two sources - the Powder River Basin of Wyoming and the Guasare coalfield of Venezuela. Norwest created generic models for each mining district using knowledge of methane emissions from coal as it is mined, and a comprehensive calculation of emissions from the combustion of fuels utilized by the mining equipment. The mining emissions figures were combined with estimates for coal transportation and combustion to determine the full life cycle emissions.

NORWEST
CORPORATION



Partial Client List

Alliance Coal
Arch Coal Company
ASARCO
Bank of America
Battle Mountain Gold
BHP Billiton
Bureau of Land Management
Coal India
Coastal Coal
Deutsche Bank
Homestake Mining Co.
Kennecott
Mitsubishi National Corp.
National Mining Association
Newmont
Peabody Coal
Sithe Energies
Suncor Energies
Syncrude
Texaco
TransAlta Centralia Mining
U.S. Attorney's Office
U.S. Forest Service
Westmoreland Coal
World Bank

Statement of Qualifications

Since the signing of the Framework Convention on Climate Change in 1992, Norwest professionals have participated in industry/government activities related to international climate change negotiations, impacts of actions to limit greenhouse gas emissions, greenhouse gas management and energy efficiency initiatives and policy development. This experience establishes Norwest as a leader in cost effective GHG management in the mining industry.

Many companies are developing action plans with the objective of limiting or managing GHG emissions. These action plans are in response to changes in the policy arena where concurrently, state, national and international bodies continue to develop new emission standards for industry. These new standards continually increase the need for rigorous estimating, tracking, and verifying of greenhouse gas emissions.

In this context, a GHG Management Plan is not only necessary, it makes good business sense for companies in the mining industry. Categories of business goals most frequently listed by companies as reasons for a GHG Management Plan and inventory include:

- Energy tracking and management
- GHG risk management
- Regulatory or voluntary reporting initiatives
- GHG credit/offset markets.

Norwest regularly tracks the evolving national and world standards, and we can help design a flexible plan that will be responsive to future changes in policies and standards. Key components of a GHG Management Plan include:

Establishing Geographic, Organizational and Operational Boundaries

Norwest has assisted companies in defining the geographic, organizational, and operational boundaries for their GHG Management Plan.

Establishing Base Year Emissions or Baseline Emissions

Critical to any GHG Plan is establishing base year emissions, an emissions baseline, or both, to use as a benchmark for comparing future performance. Norwest has completed baselines of greenhouse gas emissions for large-scale surface mine operations.

Identifying and Calculating GHG Emissions

Norwest has assisted companies in identifying the GHG emission sources that are included in their management plan accounting for both direct and indirect emissions. Norwest led the development and implementation of a surface mine equipment emissions model. The model has been applied in the calculation of emissions at large-scale mining operations in Canada and the US.

Verifying and Reporting GHG Emissions and Reduction Credits

Norwest experience in operations performance and energy auditing forms a sound basis for verifying emission reductions for possible future trading. Norwest's industry linkages and relationships allow us to provide an independent emission audit team utilizing a robust audit process.

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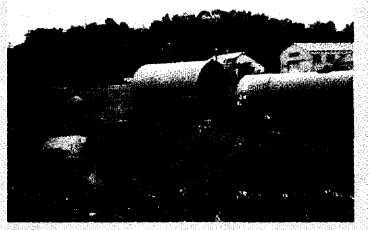
Representative Project Descriptions



Areas of Expertise

Property Transfer Due Diligence

Environmental Site Assessments

Reclamation Liability Assessments

Evaluation of Permitting

For More Information Contact:

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Deutsche Bank Securities

As part of a comprehensive due diligence review of AEI Resources/Horizon Natural Resources, Norwest evaluated environmental liabilities, reclamation liabilities, and permitting status of more than 60 active and inactive coal mines in West Virginia, Kentucky, Tennessee, Illinois, Indiana, and Colorado.

Westmoreland Coal

Norwest assisted Westmoreland in the acquisition of Knife River Corporation's Beulah and Savage mines in North Dakota and Montana, and Montana Power's Rosebud and Jewett mines in Montana and Texas. Norwest conducted Phase I Environmental Site Assessments of the mine facilities and reviewed permitting status and reclamation liabilities for each operation.

Confidential Client

Norwest reviewed reclamation liabilities and permitting status of more than 15 active coal mines of a major Central Appalachian operator on behalf of the operator's lender.

Confidential Client

Norwest performed a due diligence/environmental site assessment for a client considering the purchase of an operating gold-copper mine in north central British Columbia (Canada). The audit focused on environmental and permitting issues, but included an estimation of the cost of potential environmental liabilities as well as an evaluation of First Nation issues.

Banc of America Securities

Norwest performed due diligence activities regarding a financial placement for the merger of a Wyoming coal producer with an unaffiliated energy company. Norwest evaluated geology, coal reserves and quality, mine plans, environmental compliance, coal contracts and markets, and future cash flow generation potential for the operator's two Powder River Basin mines.

U.S. Attorney's Office

Norwest conducted an Environmental Site Assessment of a coal property that was the subject of a contract dispute between a private company and the U.S. Attorney's office. Norwest conducted a records review, inspected the site, interviewed personnel familiar with the history of the property, reviewed permit records, and prepared a report of key findings.

Alliance Coal Corp.

Norwest provided an independent assessment when Alliance Coal Corporation was considering the acquisition of two operating Powder River Basin mines. Norwest conducted a technical and operational evaluation that consisted of environmental review of the mines to determine the current environmental liabilities including the extent of reclamation backlog and compliance with conditions of the mining permits.

NORWEST
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Statement of Qualifications

Partial Client List

Alliance Coal
Arch Coal Company
ASARCO
Bank of America
Battle Mountain Gold
BHP Billiton
Bureau of Land Management
Coal India
Coastal Coal
Deutsche Bank
Homestake Mining Co.
Kennecott
Mitsubishi National Corp.
National Mining Association
Newmont
Peabody Coal
Sithe Energies
Suncor Energies
Syncrude
Texaco
TransAlta Centralia Mining
U.S. Attorney's Office
U.S. Forest Service
Westmoreland Coal
World Bank

Environmental due diligence is a core aspect of Norwest's business. Norwest environmental personnel participate as part of the due diligence team and are fluent in the property transaction and restructuring process from the data room to closing the deal.

Environmental Site Assessment

An Environmental Site Assessment (ESA) is conducted on properties being considered for acquisition to identify, to the extent possible, adverse environmental conditions. An ESA is one of the requirements necessary for meeting the Innocent Landowner defense to environmental liabilities under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). An ESA also considers property status and requirements under the Resource Conservation and Recovery Act (RCRA).

Relying on a strong background in mining, Norwest conducts ESAs for mining operations and support facilities being considered for lease or purchase as part of the due diligence property evaluation. Norwest has augmented the protocols published by the American Society for Testing and Materials (ASTM) for Phase I ESAs (Standard E1527) to more specifically address the potential environmental risks unique to the mining industry. Based on years of environmental experience in the coal industry, Norwest has developed detailed checklists specifically tailored for conducting ESAs at mining properties. These checklists facilitate rapid yet thorough inspections of subject properties.

Permitting Evaluation

In a property transaction, it is critical to review the permitting status of subject operations or the permittability of proposed operations. Norwest's experience with permitting, from east to west, allows us to efficiently review and comment on environmental permitting issues that may be of material concern in a transaction.

Reclamation Liability Assessment

Mining property transactions involve the transfer of liabilities for end-of-mine reclamation. As part of the due diligence process, Norwest routinely provides assessment of reclamation liabilities. This includes estimation of reclamation liabilities with support from Norwest's mine engineering staff, review of in-house or third-party estimates, and factoring reclamation costs into financial models.

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Representative Project Descriptions

Areas of Expertise

Baseline Data Collection
Spring and Seep Surveys
Groundwater "Age Dating"
PHC Preparation
Pump Test Design and Analysis
Groundwater Flow Modeling
SedCAD Modeling
NPDES Permitting
Mine Water Supply Evaluation
Expert Witness
Mine Dewatering
Mine Flooding

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Ark Land Company (Arch Coal)

Norwest conducted a risk assessment associated with encountering and managing large water inflows along fault systems in the complex of underground mines at Canyon Fuel Company's Skyline Mine. The risk factors associated with the geology, hydrology, mine planning, and production were evaluated. Norwest assembled, reviewed, and analyzed the risk data, ranked the risks, and recommended ways of managing the risks of large water inflows along fault systems.

U.S. Forest Service/Bureau of Land Management

Norwest prepared the technical report describing hydrologic resources for the Flat Canyon Coal Lease Tract EIS. This report included analysis of baseline groundwater and surface water data including spring and stream discharge, water chemistry, monitoring well water level, isotopic and groundwater age data. Analysis of the probable impacts of longwall mining utilized historical information from adjacent mined areas and specific subsidence predictions for the tract.

Kennecott Utah Copper (Mass Balance Modeling)

Norwest prepared a mass balance model for selenium in process and discharge water at a copper mine. Norwest constructed a dynamic systems model that represented the facility's process water system to aid in predicting selenium concentrations in a tailings pond.

World Bank/Baganuur Joint Stock Company

As part of a review and update of the surface mining plan for the Baganuur Mine in Mongolia, Norwest created a groundwater flow model using MODFLOW software. Model results were utilized to determine pumping requirements for dewatering ahead of the mine pit.

Montana Dakota Utilities/Westmoreland Power Inc.

Norwest was retained by MDU and Westmoreland to evaluate the feasibility of restarting the Gascoyne Mine in North Dakota. As part of this study, Norwest prepared a sediment and drainage control plan and predicted groundwater inflow rates to mine pits.

Confidential Client

Norwest was retained by a Southern Appalachian coal producer to evaluate water handling in an underground mine. As part of the study, Norwest evaluated groundwater chemistry and geologic occurrence of inflow to identify the source of mine water and define future pumping requirements based on the mine plan.

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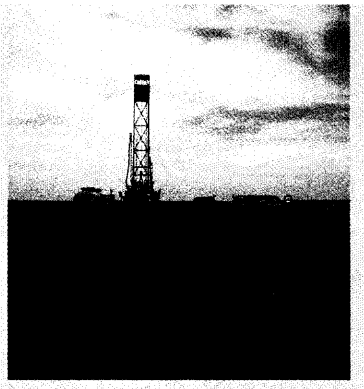
Statement of Qualifications



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Baseline Study Design and Management

Norwest has designed and managed baseline hydrologic programs for a number of natural resources properties. Because potential impacts to surface and groundwater are typically the most scrutinized aspect of a project, Norwest's approach is to design a baseline surface and groundwater program that will adequately define the baseline conditions as well as provide the necessary information to evaluate potential future impacts due to development.

Groundwater Characterizations

Norwest has extensive experience in the characterization of hydrogeologic systems in mountain and basin environments. Having investigated groundwater systems at numerous properties, Norwest hydrogeologists have the technical expertise to interpret hydrologic data and to integrate these data into a site-specific conceptual hydrogeologic model that has wide use for meeting regulatory requirements.

Impact Prediction

Hydrologic impact prediction is a key aspect of mine permitting. Norwest has completed many investigations to determine the probable hydrologic consequences (PHC) of mining for SMCRA permit applications or NEPA documents. Norwest relies on solid hydrogeologic models and surface water characterizations coupled with in-depth knowledge of the surface effects of underground and strip mining to predict hydrologic impacts to both water quantity and quality.

Mine Dewatering Design

Norwest's hydrogeologists have the expertise to evaluate mine inflows and design mine dewatering systems. Our approach builds on groundwater characterization and uses analytic or numeric groundwater models to optimize pumping rates and locations for mine dewatering.

Water Management Design

Norwest has considerable experience in water management design that considers all aspects of water management into an integrated plan. Components of such plans may include water quality, sources of mine inflow, water quality discharge limits, storm water, optimization of pumping systems, and impact assessment of future mine plans on water management.

Sediment and Drainage Control Design

Norwest is technically qualified to evaluate rainfall-runoff relationships and design cost effective sediment and drainage control. Our approach for the coal mining industry uses the OSM-approved SedCAD software for runoff and sediment predictions to aid engineers in designing sediment and drainage control structures.

Impact Analysis

Hydrologic impacts from mining may need to be analyzed and quantified as required by regulators or in response to litigation. Norwest is well qualified to evaluate hydrologic impacts from mining operations. Norwest builds from the baseline studies and groundwater characterizations to distinguish impacts from mining versus natural variations in hydrologic systems.

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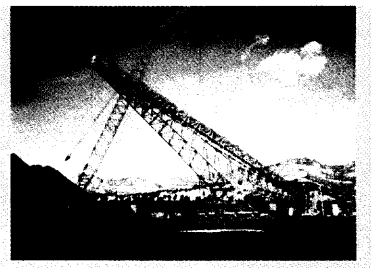

Areas of Expertise

Compliance Audits for Air, Water, Waste

Air Emission Inventories

EPCRA (TRI) Reporting

Spill Prevention and Response Plans

Environmental Training

Environmental Management Programs – Development and Assessment

Industrial Hygiene Surveys and Program Support

Expert Witness/ Litigation Support

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Representative Project Descriptions

ASARCO (Compliance audit Program)
Norwest updated the environmental compliance audit program for ASARCO. Current federal, state and local regulatory requirements were incorporated into checklists and the management system evaluation program was streamlined, all to facilitate the audit process in the field.

Confidential Client (USA)
The client had developed and implemented a new safety program at all of its underground coal mines and related facilities. Norwest was retained to review the safety program and audit the implementation progress. Surface facilities, preparation plants, and new construction projects were examined. Underground mine inspections were made of operating sections, haulage operations, and all outby systems. Extensive interviews were conducted with all levels of employees from the president to hourly workers.

Kennecott Utah Copper (Clean Water Act)
Norwest evaluated process water system regulatory requirements (under Section 402 – also 421, 423 and 440) of the Clean Water Act at a copper mining, smelting and refining facility. Because the integrated (mining/processing) operation has an annual discharge volume limit imposed by the CWA, implementing regulations and the state-issued (UPDES) discharge permit, Norwest first characterized water that could be discharged consistent with these programs. Norwest then identified and quantified sources of water inflow that met discharge requirements, and finally developed a monthly tracking system to monitor the amount of water discharged and the amount allowable for discharge on an annual basis.

Brown & Bain, P.A. (Expert Witness)
Norwest provided expert witness services in a dispute between plaintiff Pinal Creek Group and defendants Newmont and CanadianOxy related to cleanup costs at the Pinal Creek State Superfund (WQARF) Site (Arizona). Norwest's work involved estimating seepage to ground water from tailings impoundments and other potential sources and analyzing source control measures at the mining properties. Norwest provided expert opinions on the quantity of discharges from potential sources and an evaluation of source control measures.

World Bank/Chubu Electric
Norwest was contracted to perform special studies of the Turkish energy industry and the industry's environmental consequences. The focus was to assess the environmental aspects of lignite mining associated with power generation. Norwest reviewed Turkish environmental laws and regulations, compared them to World Bank standards, and ultimately recommended a regulatory framework to cover the permitting process and subsequent enforcement of environmental regulations.

Integrated Coal Mining Ltd. (Coal India)
Norwest is ICML's onsite engineer for the construction and operation of the Sarshatali surface coal mine. Norwest is providing comprehensive environmental training and guidance in preparing an environmental management plan, standard operating procedures, and environmental protection plans.

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World Bank

Design and implementation of a sound, comprehensive Environmental, Health, and Safety (EHS) management system facilitates compliance with environmental and workplace regulations and decreases risks of costly incidents that threaten employees, public, or the environment.

Management System Design and Implementation

Norwest assists clients with the development, implementation, and on-going review by means of a systematic approach to EHS management. Norwest has assisted clients in:

- Developing comprehensive EHS Management Systems to ensure compliance with regulations and to achieve continuous performance improvement.
- Conducting EHS gap analyses.
- Developing user friendly environmental manuals and standard operating procedures for field personnel.
- Training for awareness, auditing and management systems.

Auditing

Norwest professionals are experienced environmental compliance and management system auditors. They have conducted numerous audits at surface and underground mining facilities, and their ongoing audit programs have resulted in improved compliance histories for the facilities audited.

ISO 14001 Services

ISO 14001 is an international standard built on the concept that better environmental performance can be achieved when environmental issues are clearly identified and managed. ISO 14001 certification is increasingly a condition of doing business internationally. Adherence to ISO 14001 certification has been shown to facilitate continuous environmental performance improvement and promote a positive environmental image. Norwest professionals have assisted clients in the following areas:

- Implementation Planning
- Initial Reviews
- Gap Analysis
- EMS Program Documentation
- Training Programs.

Safety and Industrial Hygiene

Compliance with MSHA's workplace standards and being subject to periodic agency inspections is a fact of life in the mining industry. Norwest has a long history with underground and surface coal mine safety practices. Norwest routinely conducts safety audits and assists with developing or overhauling mine safety programs. Norwest also advises clients on workplace health issues such as dust and sound.

NORWEST
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Representative Project Descriptions

Areas of Expertise

Permitting Guidance and Strategy

NEPA Analysis – EIS and EA

Environmental Feasibility Studies

Baseline Data Collection and Study Management

Preparation of Permit Applications

Regulatory/Government Reporting

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Shell Frontier Oil & Gas Inc./ Bureau of Land Management

The proposed action is the exchange of lands in western Colorado. The NEPA compliance action is the requirement of an Environmental Assessment (EA). Norwest prepared the EA on behalf of the Bureau of Land Management (BLM). Thirty elements (air quality, cultural resources, etc.) as required by the BLM were considered. The EA described the impacts of completing the land exchange, including the effects of reasonably foreseeable impacts, on the resources affected. For the baseline studies, Norwest prepared the study design, managed the baseline investigations and critically reviewed the findings and reports prior to submission to the BLM. The baseline investigations included aquatics, hydrology, soils, wildlife, vegetation, cultural resources and paleontology. The EA was issued by the BLM for public review and comment in March 2003.

U.S. Forest Service/Bureau of Land Management

The proposed NEPA action was the preparation of an Environmental Impact Statement (EIS) for a federal lease sale, the Flat Canyon Coal Lease, in Sanpete County, Utah. Norwest prepared the technical report describing hydrologic resources. This report included analysis of baseline groundwater and surface water data, including spring and stream discharge, water chemistry, monitoring well water level, isotopic and groundwater age data. Norwest conducted the analysis of probable impacts of longwall mining, utilizing historical information from adjacent mined areas as well as specific subsidence predictions for the tract. The hydrology (surface and groundwater) and riparian vegetation sections of the EIS document were prepared by Norwest.

Confidential Client

The proposed NEPA action was the preparation of an EA for a federal lease sale in the western U.S. Norwest prepared the EA document and Resource Recovery Protection Plan (RRPP) for submission to the BLM in support of the coal lease sale. For the baseline studies, Norwest prepared the study design, managed the baseline investigations and critically reviewed the findings and reports. The baseline investigations included: hydrology, soils, wildlife, vegetation and cultural resources. The BLM issued a FONSI (Finding of No Significant Impact) based on the EA. Norwest also prepared all permit application documents for submittal to the administering state agency and the Office of Surface Mining (OSM). Norwest was responsible for all elements of the permit application including biology, hydrology, geology, subsidence, mine operations, air quality, and cultural resources.

NORWEST
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Statement of Qualifications

Partial Client List

Bank of America
BHP Billiton
Bureau of Land Management
Deutsche Bank
Mitsubishi National Corp.
National Mining Association
Peabody Energy
Shell Frontier Oil & Gas
Sithe Energies
Suncor Energy
Syncrude
Texaco
U.S. Attorney's Office
U.S. Forest Service
World Bank

NEPA Analysis and Document Preparation

NEPA requires an analysis of environmental impacts for Development Projects on federal land. Norwest conducts analyses and prepares Environmental Assessments (EA) and Environmental Impact Statements (EIS) reports that meet NEPA requirements. Norwest has demonstrated experience in effective consultation with the responsible government agencies, and the client, so that delays and subsequent increased project costs are avoided or minimized.

Baseline Study Design and Management

Preparation of environmental baseline information is a requirement for EA and EIS reports. Norwest's proven approach to baseline programs is to assemble a team of respected local resource specialists, who have developed relationships and trust with regulatory agencies. Baseline investigations typically include aquatics, hydrology, soils, wildlife, vegetation, cultural resources and paleontology. Norwest has demonstrated experience with development of baseline study design, managing baseline investigations and critically reviewing the specialists' findings and reports. Norwest's approach provides a measurable benefit to our clients over firms who maintain in-house capabilities in many disciplines. Local specialists complete the baseline studies efficiently and cost effectively because of their familiarity with local conditions.

Feasibility Evaluation/Permitting Strategy

Norwest has broad experience in developing permitting strategies for development projects in the United States and internationally. During the project planning phase we advise clients regarding environmental constraints, permitting requirements, required baseline studies and their effect on the permitting schedule, design criteria, possible mitigative measures, timelines and costs. Norwest's experience with agency consultation and working proactively with regulators and other stakeholders benefits the client by minimizing regulatory delay.

NORWEST
CORPORATION

Areas of Expertise - Permitting

NPDES
Storm Water
Minor Source Air
Major Source (Title V) Air
PSD/NSR Applicability
NEPA – EIS, EA
APD (BLM)
Land Use (BLM)
NOIs

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Representative Project Descriptions

Confidential Client – Regulatory Analysis

Norwest completed a comprehensive regulatory analysis for a proposed oil and gas project in western U.S. The analysis consisted of:

- **Stakeholder Analysis**. Regulatory agencies, NGOs, private individuals and neighboring industry potentially impacted by the project were identified.
- **Regulation Review – Oil & Gas**. A comprehensive permitting review was conducted to identify a preferred regulatory approach that would least impact project cost and timing.
- **Royalty and Tax Review – Oil & Gas**. A thorough tax and royalty review for oil & gas was completed.

Confidential Client – Permitting Guidance and Strategy

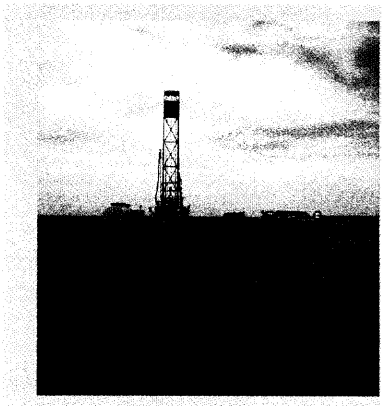
Norwest determined the permits, requirements and time frame necessary to develop a large-scale commercial demonstration project for an international energy company in western U.S.

Confidential Client – Baseline Information

Norwest assembled a team of regional experts and oversaw their activities in conducting comprehensive baseline work for a major energy company for a proposed project area in western U.S. Baseline tasks included:

- **Hydrologic Evaluations**. Norwest provided a monitoring plan including SOPs and QA procedures for surface and groundwater, conducted a flowing stream survey and hydrogeologic characterization at the site, and organized a database management system to facilitate reporting and permitting for surface and groundwater.
- **Air Quality**. Norwest contracted and worked closely with acknowledged air quality experts to perform permitting (Title V vs. minor source) and PSD applicability analyses. Our professionals also conducted environmental engineering for the project, including source characterization and selection of feasible emission controls. Meteorology stations were installed and operated and an IMPROVE program for visibility monitoring near Class I areas was conducted, both at Norwest's direction.
- **Biological Studies**. Norwest managed subcontractors who investigated T&E vegetation species, developed a range management plan and performed studies of soils, vegetation, wildlife, avian species and fish.

NORWEST
CORPORATION



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Texaco
U.S. Attorney's Office
U.S. Forest Service
World Bank

Representative Project Descriptions

Confidential Client – APD/Land Use/State NOIs

Norwest is providing permitting support to a major international oil and gas firm for a proposed project in western U.S. The project requires that applications for permit to drill (APD) and land use permits be submitted to BLM for approval, and that prospecting NOI applications be submitted to the appropriate state agency.

Confidential Client – NOI Consolidation

A major international oil and gas firm retained Norwest to organize about forty exploration notices of intent (NOIs) into three NOI applications to be submitted to a regulatory agency in western U.S. The three new NOIs are located on privately held fee land, BLM and state division of wildlife land, and BLM land that will become fee land upon completion of a land exchange.

Confidential Client – NPDES Permit (State Equivalent)

Norwest has been commissioned by a major oil and gas company to prepare a discharge permit application for an exploration operation in western U.S. The NPDES (state equivalent) permit will be general rather than individual, and will apply area wide to several drill holes draining to a common receptor.

Confidential Client – Storm Water Permit

A major oil and gas company has retained Norwest to develop a general storm water permit application for construction activity at an exploration operation in western U.S. The permit, which includes a storm water management plan (SWMP), is being prepared so that it can be readily modified to accommodate future land disturbances as the project scope changes. Surface disturbances for the current project include an access road, a drill pad, cuts and fills, and a topsoil storage area. The SWMP includes Best Management Practices (BMPs) for run on/run off control.

Confidential Client – Air Permit

Norwest through subcontractors determined the air permitting requirements for an oil and gas operation in western U.S. on behalf of a major international oil and gas company. Minor source permitting was determined to apply to the project.

Confidential Client – SPCC Plan

Norwest recently prepared an oil spill contingency plan for an oil and gas operation in western U.S. The plan covered off-site, transport-related oil spill prevention, control, and remediation for an area-wide exploration project. Norwest previously prepared an SPCC plan covering multiple oil and gas exploration sites for the same major oil and gas client.

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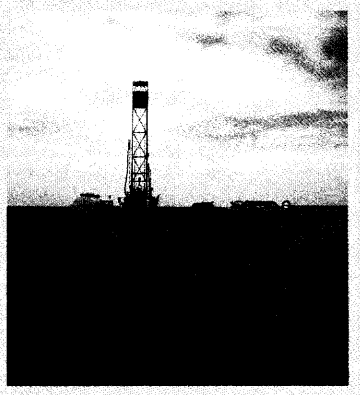

Areas of Expertise – Oil & Gas Permitting

NPDES
Storm Water
Minor Source Air
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PSD/NSR Applicability
NEPA – EIS, EA
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Baseline Study Design and Management

Baseline data collection is a necessary precursor to environmental permitting. Norwest's proven approach to baseline programs is to assemble a team of respected local resource specialists, who have working relationships with regulatory agencies. Norwest then provides experienced management to the baseline program that includes developing study plans, interfacing with regulatory agencies, and critically reviewing specialists' reports. Our approach provides a measurable benefit to our clients over larger firms who maintain in-house capabilities in many disciplines. Local specialists complete the study more efficiently and cost effectively because of familiarity with local conditions.

Feasibility Evaluation/Permitting Strategy

Norwest has broad experience in permitting strategy internationally as well as in the United States. During project planning we provide critical input to clients regarding environmental constraints, permitting requirements, design criteria, timelines, and costs.

Regulatory Support - "Owner's Environmental Engineer"

Norwest has extensive experience integrating into a project management team and is also available to become the "owner's environmental engineer" during project feasibility and development. Norwest is adept and experienced at interfacing with regulatory agencies at all stages of project development. Norwest develops approaches for working proactively with regulatory agencies and other stakeholders to ensure project success, minimize costs, and reduce regulatory delay. We work seamlessly in a team environment to ensure that all necessary permitting requirements are understood and carried forward by the project team and regulatory agencies.

Air Quality

Norwest has energy company experience in air quality issues, including air quality and meteorology baseline data collection, facility emission source identification and characterization, permitting requirements, evaluation and selection of emission control devices, and analysis of project effects on nearby receptors based on dispersion modeling to assure compliance with ambient air quality standards.

Hydrology – Baseline Design, Management and Characterizations

Norwest has designed and managed baseline hydrologic programs at a number of properties. Because potential impacts to surface and groundwater are typically the most scrutinized aspect of a project, Norwest's approach is to design a baseline surface and groundwater program that will adequately define the baseline conditions as well as provide the necessary information to evaluate potential future impacts due to development. Norwest has extensive experience in the characterization of hydrogeologic systems. Having investigated numerous groundwater systems, Norwest hydrogeologists have the technical expertise to interpret hydrologic data and to integrate these data into a site-specific hydrogeologic model that has wide use for meeting regulatory requirements.

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World Bank

Land Use/APD/NOI Permits

Norwest has recent experience in BLM land use and Applications for Permit to Drill (APDs) in western U.S. Our professionals are keenly aware of each required component of land use permitting, such as T & E evaluations of local vegetation and identification of areas of concern. Norwest is also well versed in APD permitting, which requires an eight point technical plan (e.g., estimated depths of oil, gas, water, and other minerals; pressure control equipment; description of mud system; and testing, logging and coring information) and a thirteen point surface use plan (e.g., depiction of existing and access roads; location of existing wells and well facilities; location of water supply; methods for handling waste; and reclamation plans).

Norwest's NOI experience is also current. Our professionals can prepare NOI applications for gas and oil projects. In recent months Norwest has consolidated about forty exploration NOIs into three new NOI applications to be submitted to the state.

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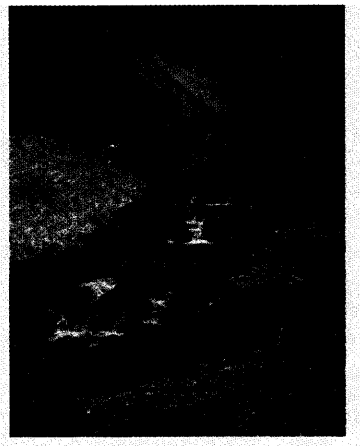

Areas of Expertise

Groundwater Modeling
Geochemistry
Water Quality Assessment
Contaminant Hydrogeology
Soils Characterization
Monitoring Plan Design
Expert Witness
Dynamic Systems Modeling
Mass Allocation
Source Control Design
Transport Modeling

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Camp Dresser McKee Federal Programs/EPA

Norwest was retained by CDM Federal Programs and EPA to allocate ground water contamination remediation costs at a closed lead smelter and arsenic refining site. The allocation was based on previous vadose and saturated zone ground water modeling coupled with modern analytical data and historical information to create a mass balance for the prevalent arsenic contamination.

Brown & Bain, P.A.

Norwest provided expert witness services in a dispute between plaintiff Pinal Creek Group and defendants Newmont and CanadianOxy related to cleanup costs at the Pinal Creek State Superfund (WQARF) Site (Arizona). Norwest's work involved estimating seepage to ground water from tailings impoundments and other potential sources and analyzing source control measures at the mining properties. Norwest provided expert opinions on the quantity of discharges from potential sources and an evaluation of source control measures.

Department of Justice

Norwest is providing expert witness services to determine historic mining activities adjacent to the Bingham Canyon Mine in Utah. Forensic evaluation of contribution of arsenic and lead contaminated soils will be used to determine allocation.

Kori Kollo, Bolivia, Store and Release Cover Design

This project involves the design of store and release cover systems for a large tailings impoundment and a waste rock dump at a gold mine in the Bolivian Altiplano. The work involved field investigations, testing analysis and design in order to provide a cover system which minimizes the risk of seepage through to underlying waste materials. The tailings and waste rock have a high affinity for producing acid leachate.

Rivkin Radler

Norwest is providing expert witness services in an insurance claim concerning acid mine drainage from five eastern coal mines. Norwest's work involves characterization of acid drainage and forensic evaluation of site histories.

Three Sisters Resorts, Inc.

Norwest has completed extensive planning and engineering for reclamation of 2,500 acres of land that was extensively mined by underground methods between 1886 and 1979 near Canmore, Alberta. Final land use includes homes for 10,000 people, 1,500 hotel rooms, 600 timeshare units, three golf courses, and associated infrastructure including roads, utilities, and services.

NORWEST
CORPORATION

Partial Client List

Alliance Coal
Arch Coal Company
ASARCO
Bank of America
Battle Mountain Gold
BHP Billiton
Bureau of Land Management
Coal India
Coastal Coal
Deutsche Bank
Homestake Mining Co.
Kennecott
Mitsubishi National Corp.
National Mining Association
Newmont
Peabody Coal
Sithe Energies
Suncor Energies
Syncrude
Texaco
TransAlta Centralia Mining
U.S. Attorney's Office
U.S. Forest Service
Westmoreland Coal
World Bank

Statement of Qualifications

CERCLA

Norwest's environmental staff is well versed in the CERCLA process, particularly as it relates to the mining industry. Our experience includes all aspects of the CERCLA process from conducting Preliminary Assessments and Site Investigations (PA/SI), to designing and implementing Remedial Investigations/Feasibility Studies (RI/FS) through conducting the Remedial Design and Remedial Action (RD/RA). Our technical expertise includes soil as well as surface and groundwater characterization and remediation at mine, mill/tailings, smelter, and refinery sites.

Forensic Environmental Evaluations

Forensic environmental evaluations involve locating, validating, compiling, and analyzing records in order to characterize environmental conditions or past operating practices that led to adverse environmental conditions. These evaluations also include the creative application of sound scientific tools to develop new information in response to legal or regulatory inquiry. Forensic environmental investigations are necessary in liability allocation, civil litigation, and insurance claim settlements. Norwest has extensive experience with and is adept at reconstructing legally defensible environmental histories.

Acid Rock Drainage (ARD)

Acid rock drainage is the primary contamination source associated with western sulfide mining operations and eastern coal properties (acid mine drainage or AMD). Norwest professionals understand the geochemical and hydrologic mechanisms responsible for the formation of acid rock drainage as well as the effective treatment or source control technologies. Our staff has broad experience in designing sampling programs, evaluating testing data to predict the potential for acid rock drainage, and designing acid rock drainage mitigation programs.

Source Control

Controlling potential sources of environmental contamination, or source control, is a major consideration of any mining or industrial operation. Source control at a mining operation is unique due to the large volumes of waste that must be integrated into the overall mining operation. Norwest's experienced personnel have been responsible for large scale source control projects associated with hard rock mines in the western United States for both historic mining wastes as well as management of current operational wastes.

Regulatory Support

Norwest has extensive experience in negotiating site characterization activities and preferred remedial alternatives with regulatory agencies, non-government organizations, communities, and other third party stakeholders. Norwest develops approaches for working proactively with regulatory agencies and other stakeholders to ensure project success, minimize costs, and reduce regulatory delay. Norwest's environmental staff has direct experience in the creation and management of technical review committees at contaminated mining sites.

NORWEST
CORPORATION

Representative Project Descriptions

Areas of Expertise

Contemporaneous Reclamation Engineering

End-of-Mine Reclamation Planning

Mine Seal Design

Reclamation Cost Estimation

Mined-Land Redevelopment

Abandoned Mine Inventories

Abandoned Mine Closure Engineering

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Sithe Energies, Inc.

Norwest conducted an independent evaluation of GPU/Genco's conceptual plan for the Seward Station's Coal Refuse Pile Mitigation Project. The plan called for moving the refuse to a prepared site where it could be mixed with fluidized bed combustion (FBC) ash in order to neutralize and chemically stabilize the refuse. Norwest provided recommendations for a long-term mitigation plan that would meet regulatory approval, minimize the potential for future environmental impacts and liabilities, and would be cost-effective.

BHP Billiton

Norwest was engaged to provide long-range reclamation regrading plans for the La Plata Mine in New Mexico. Mass balance, haul lengths and profiles, equipment constraints, and analysis of truck availability were all taken into account to optimize cost, productivity and safety planning. A regrade schedule was generated for budgeting purposes, and the Final Surface Contour (FSC) was modified to include minor drainages and output to GPS-guided equipment.

Peabody Coal Company

Norwest prepared a detailed schedule of activities and estimate of the mine restoration and reclamation costs for the Seneca surface mine located in northwest Colorado. The study covered the time from cessation of mining operations through final bond release at the end of the responsibility period. The estimate included demolition of facilities, removal of mining machinery, earthwork for soil replacement and pit backfilling. Norwest developed the equipment and manpower requirements to complete mine restoration.

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Reclamation Design

Mine reclamation design must balance requirements to restore disturbed land to the permitted post-mining land use with the need to minimize labor and equipment costs and the need to complete the work expeditiously in order to achieve bond release. Norwest's environmental specialists and mine engineers have broad experience in reclamation planning and balancing these needs. Norwest provides a range of reclamation design services from reviewing existing plans to developing designs from the ground up to managing the actual reclamation activities from the first dozer push to the site walk final bond release.

Reclamation Cost Estimates

The cost of final reclamation must be considered in many stages of mine and budget planning and must be known in any property transactions. Norwest provides both outside review of reclamation cost estimates as well as development of cost estimates based on current or projected disturbance. Norwest engineers are familiar well acquainted with earthwork and revegatation unit costs and practices from coast to coast.

Abandoned Mine Reclamation

Abandoned mine reclamation is funded by government agencies expressly to eliminate public safety hazards or to mitigate impacts caused by mine drainage. Mining companies also fund abandoned mine reclamation as part of good-neighbor policies or even to earn carbon credits. Norwest conducts abandoned mine inventories and builds GIS databases of facilities and hazards. Norwest prepares closure designs and cost estimates for each facility.

Acid Mine Drainage Mitigation

Acid mine drainage can affect closure and reclamation planning for mines as well as waste sites. It is critical to understand the geochemical and hydrologic mechanisms responsible for the formation of acid mine drainage as well as understanding effective treatment technologies. Norwest has experience in designing sampling programs and evaluating testing data to predict the potential for acid mine drainage as well as designing acid mine drainage mitigation programs.

Mined Land/Brownfield Redevelopment

Land affected by surface or underground coal mining often have value due to their location or aesthetic qualities. Redevelopment of mined lands for industrial, residential, or recreational use requires specialized engineering to ensure that the proposed land use can be safely achieved. Norwest has many years of experience in engineering creative and cost-effective design for sealing abandoned mine portals and stabilizing mined land for use as roadways, fairways, home sites, hotels, and recreational facilities.

NORWEST
CORPORATION

Representative Project Descriptions

Areas of Expertise

Baseline Study Management, Air, Water, Biological, and Cultural Resources

Permitting Guidance and Strategy

Permit Application Preparation – SMCRA, Air, Water

Environmental Feasibility Studies

NEPA Analysis – EIS and EA

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Confidential Client

Norwest was responsible for all environmental aspects of a greenfield in-situ coal development project in Wyoming. Functioning as "Owner's Environmental Engineer", Norwest's responsibilities included permitting exploration drilling, providing onsite environmental compliance oversight, coordinating with state agencies, conducting baseline soils, vegetation, hydrologic, and wildlife studies and preparing a SMCRA permit application for the in-situ operation.

Confidential Client

In support of a planned development of a new coal mine in the western U.S., Norwest prepared all permit application documents for submittal to the administering state agency and the Office of Surface Mining (OSM) and was responsible for all elements of the permit application including biology, hydrology, geology, mine operations, air quality, and cultural resources. Norwest also prepared an Environmental Assessment (EA) document and Resource Recovery Protection Plan (RRPP) for submission to the Bureau of Land Management in support of coal leasing for the same project.

Texaco (Feasibility Study)

Norwest prepared a feasibility study for the development of the McKittrick diatomite mine in California, where one environmental concern was preserving air quality. Norwest's process design provided for transporting ore from the mine to the processing facility, and returning overburden and ore waste back to the mined out areas as cover to minimize dusting from the mine site. The design also addressed potential PM10 and hydrocarbon emissions from handling the mined ore. Innovative material handling methods included the use of large diameter, high capacity pipe conveyors to contain emissions.

Confidential Client

Norwest prepared the Reclamation and Operation Plan sections of the permit application for a proposed mine in New Mexico. Norwest prepared the narrative, all figures and maps, and the reclamation cost estimate for the project's permit application. Sections of the permit application prepared by Norwest included mining methods, waste disposal, support facilities, roads, sediment and drainage control, permanent mining related structures and facilities reclamation, temporary structures removal and reclamation, post-mining topography, hydrologic reclamation plan, post-reclamation soil, environmental protection, monitoring, and reclamation bonding.

NORWEST
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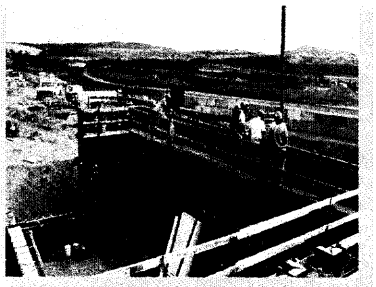
Statement of Qualifications



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Feasibility Evaluation/Permitting Strategy

Norwest has broad experience in permitting strategy internationally as well as in the United States. During project planning we provide critical input to clients regarding environmental constraints, permitting requirements, design criteria, timelines, and costs. We develop approaches for working proactively with regulators and other stakeholders to ensure project success by minimizing regulatory delay.

"Owner's Environmental Engineer"

Norwest has extensive experience integrating into a project management team and is available to become the "owner's environmental engineer" during project feasibility and development. We work seamlessly in a team environment to ensure that all necessary permitting requirements are understood and carried forward by the project team and regulatory agencies. Norwest is adept and experienced at interfacing with regulatory agencies at all stages of project development.

Baseline Study Design and Management

Assembling environmental baseline information is a necessary precursor to permitting mining projects. Norwest's proven approach to baseline programs is to assemble a team of respected local resource specialists, who have developed relationships and trust with regulatory agencies. Norwest then provides experienced management to the baseline program that includes developing study plans, interfacing with regulatory agencies, and critically reviewing specialists' reports. Our approach provides a measurable benefit to our clients over larger firms who maintain in-house capabilities in many disciplines. Local specialists complete the study more efficiently and cost effectively because of familiarity with local conditions.

NEPA Analysis and Preparation

Development projects on federal land require an analysis of environmental impacts. Norwest conducts analyses and prepares EA and EIS reports that meet NEPA requirements. We develop strategies for working with the responsible agency and the client that minimize delays and costs for the project.

SMCRA Permit Preparation

Norwest is adept at overseeing development of complex SMCRA permit applications required for coal mining and coal processing facilities. From the first baseline study plan to the last technical correction, Norwest provides experienced management and guidance to expedite the permitting process. Norwest's unique strength in SMCRA permit preparation is a strong mine engineering background coupled with broad environmental experience.