WEST RIDGE MINE

C/007/041

RESPONSE TO MID-TERM REVIEW

TASK 2692

SUBMITTED: APRIL 22, 2008

File in:
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Refer to Record No 0011 Date 4/22/08
In C/007/041, 2008 Incoming
For additional information

APPENDIX 1-2

VIOLATION INFORMATION

VIOLATION INFORMATION

Information updated to April, 2008

File in:
☐ Confidential
☐ Shelf
☒ Expandable
Refer to Record No 0011 Date 04/22/2008
In C/ 007004 2008 Incoming
For additional information

Name of Operation	Identifying number for operation	Federal or State Permit Number	MSHA ID Number
Centennial		007/019	42-01750 42-01474 42-02028 42-01864

Date Issued	Violation Number	Name of Issuing Agency	Person Issued To	Permit Number	Brief Description of Violation	Status (Abated, Term. etc.)	Abatement Action	Appeal Y or N
9/27/2006	10000	DOGM			Failure to renew	9/29/2006	terminated	N
10/6/2006	10002	DOGM			Failure to submit fan plan	12/4/2006	terminated	N
2/7/2007	10003	DOGM			Non coal Waste	2/12/2007	terminted	N
7/6/2007	10007	DOGM			Vehicle in ditch	7/06/07	terminated	N
8/27/2007	10008	DOGM			vehicle in ditch	8/28/2007	terminated	N
8/27/2007	10009	DOGM			no sed pond inspection	8/27/07	terminated	N

Name of Operation	Identifying number for operation	Federal or State Permit Number	MSHA ID Number
Crandall		015/032	42-01715

Date Issued	Violation Number	Name of Issuing Agency	Person Issued To	Permit Number	Brief Description of Violation	Status (Abated, Term. etc.)	Abatement Action	Appeal Y or N
8/19/2004	Nov4-49-4-1	DOGM			Parking in Forest	Term	moved vehicle	N
9/13/2004	Nov4-49-5-1	DOGM			non-coal waste	Term	moved waste	N
9/8/2005	Nov5-49-2-1	DOGM			Failure annual subsidene	Term		N
10/4/2006	#10001	DOGM			Culvet Plugged	TErm	Unplugged	N
9/6/2007	10014	DOGM			no sed pond inspection	TERM	Inspected	N
9/10/2007	10015	DOGM			plugged culvert	term	unplugged	N
1/14/2008	10016	DOGM			mine water stored in pond	Term	rerouted water	N
1/14/2008	10017	DOGM			grvity flow fro m portals	Term	stopped flow	N
2/06/2008	10019	DOGM			failure to request permit renewal	Term	submitted renewal	N

Name of Operation	Identifying number for operation	Federal or State Permit Number	MSHA ID Number
West Ridge		007/041	42-02233

Date Issued	Violation Number	Name of Issuing Agency	Person Issued To	Permit Number	Brief Description of Violation	Status (Abated, Term. etc.)	Abatement Action	Appeal Y or N
1/22/2004	Nov4-49-1-1	DOGM			Failure to request renewal	Term		N
4/6/2005	Nov5-39-1-1	DOGM			Failure to submit 4qtr water	Term		N

Name of Operation	Identifying number for operation	Federal or State Permit Number	MSHA ID Number
Horse Cyn.		007/013	42-00100

Date Issued	Violation Number	Name of Issuing Agency	Person Issued To	Permit Number	Brief Description of Violation	Status (Abated, Term. etc.)	Abatement Action	Appeal Y or N

Name of Operation			Identifying number for operation			Federal or State Permit Number	MSHA ID Number
Canterbury Coal Inc.			644			D-024-1/S-1020	3600813/3605708
Date Issued	**Violation Number**	**Name of Issuing Agency**	**Person Issued To**	**Permit Number**	**Brief Description of Violation**	**Abatement Action**	**Appeal Y or N**
5/13/2004	143419	PADEP		3743701	90.124		N
7/29/2004	165278	PADEP		3743701	90.106		N
7/29/2004	165278	PADEP		3743701	90.152		N
7/29/2004	169136	PADEP		3743701	90.152		N
7/29/2004	165279	PADEP		3743701	89.68		N
7/29/2004	165279	PADEP		3743701	89.83		N
8/13/2004	169138	PADEP		3743701	90.124		N
9/7/2004	169139	PADEP		3743701	89.81		N
5/13/2004	143416	PADEP		3743701	86.13 CO		N
6/15/2004	145872	PADEP		3743701	89.52 CO		N
2/8/2005	182734	PADEP		3743701	90.124		N
8/5/2005	199322	PADEP		3743701	90.159		N

Name of Operation			Identifying number for operation				Federal or State Permit Number	MSHA ID Number
UMCO			74645				PA 63921301	3608375
Date Issued	Violation Number	Name of Issuing Agency	Person Issued To	Permit Number	Brief Description of Violation	Status (Abated, Term. etc.)	Abatement Action	Appeal Y or N
9/1/2004	426787	DMRM		63921301	86.13	No resolution		N
9/3/2004	426786	DMRM		63921301	89.142a(b)	No resolution		N
9/20/2004	427936	DMRM		63921301	89.142a(b)	No resolution		N
1/4/2005	445603	Air Quality		63921301	25.127.25	ADM. Close Out		N
1/13/2005	445603	Air Quality		63921301	25.127.25	ADM Close Out		N
3/18/2005	445603	Air Quality		63921301	25.127.25	ADM Close Out		N
6/10/2005	466153	DEP		63921301	25.89.21	No resolution		N
7/15/2005	448412	DEP		63921301	25.89.68	Abated		N
7/15/2005	448413	DEP		63921301	25.89.83(a)	Abated		N
10/10/2006	499479	PADEP		63921301	89.142a(f)	No resolution		Y

Name of Operation			Identifying number for operation				Federal or State Permit Number	MSHA ID Number
Maple Creek			4244				63723707	36-00970
Date Issued	Violation Number	Name of Issuing Agency	Person Issued To	Permit Number	Brief Description of Violation	Status (Abated, Term. etc.)	Abatement Action	Appeal Y or N
5/7/2004	394440	MCM		63841302	89.142A.F.1	Abated		N
5/12/2004	394880	MCM		63841302	89.142A.F.1	No resolution		N
5/13/2004	395344	MCM		63841302	89.142A.F.1	No resolution		N
5/13/2004	395345	MCM		63841302	89.142A.F.1V	No resolution		N
5/13/2004	395346	MCM		63841302	89.142A.E	Abated		N
5/7/2004	394440	MCM		63841302	89.142A.F.1	Abated		N
7/7/2004	401714	MCM		63841302	89.142A.F.1	No resolution		N
7/30/2004	421806	MCM		63841302	SMCRA.18.6	Abated		N
8/26/2004	425804	MCM		63841302	89.142A.F.1	No resolution		N
8/13/2004	426148	MCM		63723707	86.13	Abated		N
9/8/2004	427302	MCM		63723707	90.102	Abated		N
9/10/2004	427564	MCM		63723707	90.102	Abated		N
9/13/2004	427565	MCM		63723707	90.102	Abated		N
9/14/2004	427566	MCM		63723707	90.102	Abated		N
9/14/2004	427567	MCM		63723707	90.112	Abated		N
10/19/2004	432068	MCM		63723707	90.102	Abated		N
7/29/2005	469866	DEP		63723707	89.142a(b)(1)(iii)	No Resolution		N
12/1/2005	478486	PADEP		63841302	89.145a(b)	No Resolution		N
12/1/2005	478487	PADEP		63841302	89.145a(f)(1)(v)	No Resolution		N
12/1/2005	478488	PADEP		63841302	89.145a(b)	No Resolution		N
1/9/2006	480660	PADEP		63841302	1396.18(f)	Abated		N
6/12/2006	491619	PADEP		6381302	89.142a(e)	No Resolution		Y

Name of Operation	Identifying number for operation	Federal or State Permit Number	MSHA ID Number
PENNAMERICAN COAL LP	93081	32951301	36-00970

Kim Betcher

Date Issued	Violation Number	Name of Issuing Agency	Person Issued To	Permit Number	Brief Description of Violation	Status (Abated, Term. etc.)	Abatement Action	Appeal Y or N

Name of Operation	Identifying number for operation	Federal or State Permit Number	MSHA ID Number
Ohio American Coal, Inc.	N/A	N/A	3304550/3304569

Kim Betcher

Date Issued	Violation Number	Name of Issuing Agency	Person Issued To	Permit Number	Brief Description of Violation	Status (Abated, Term. etc.)	Abatement Action	Appeal Y or N
8/9/2006	21861	ODNR	OAEI	D-2180	outside of perrmit bndry	Abadted	IBR	N
3/1/2007	13101	ODNR	OAEI	D-2291	mining without a permit	Abadted	Permit issued	N

Name of Operation	Identifying number for operation	Federal or State Permit Number	MSHA ID Number
Energy Resources, Inc.	470	License # 1465	360 269 5

Charlie Shestak

Date Issued	Violation Number	Name of Issuing Agency	Person Issued To	Permit Number	Brief Description of Violation	Status (Abated, Term. etc.)	Abatement Action	Appeal Y or N
5/11/2004	143258	PaDEP	ERI	24010101	87.147	Abated	Corrected	N
8/26/2004	167665	PaDEP	ERI	24010101	87.140	Abated	Corrected	N
8/30/2004	168590	PaDEP	ERI	24970102	87.147	Abated	Corrected	N
7/6/2004	147120	PaDEP	ERI	33901602	89.52	Abated	Corrected	N
7/31/2006	211989	PaDEP	ERI	17841607	86.152	Abated	Corrected	N
4/11/2006	486936	PaDEP	ERI	17930120	87.157	Abated	Corrected	N

Name of Operation	Identifying number for operation	Federal or State Permit Number	MSHA ID Number
TDK Coal Sales, Inc.	27182	17910124	3608867

Charlie Shestak

Date Issued	Violation Number	Name of Issuing Agency	Person Issued To	Permit Number	Brief Description of Violation	Status (Abated, Term. etc.)	Abatement Action	Appeal Y or N
5/13/2004	143257	PaDEP	TDK	24970104	87.147	Abated	Waved	N
6/1/2004	144659	PaDEP	TDK	03940101	87.148	Abated	Corrected	N
9/15/2004	169382	PaDEP	TDK	03940102	87.106	Abated	Corrected	N
9/20/2004	169388	PaDEP	TDK	24970104	87.14	Abated	Corrected	N
10/7/2004	170575	PaDEP	TDK	24970104	87.106	Abated	Corrected	N
4/11/2006	486945	PaDEP	TDK	17900143	87.157	Abated	Corrected	N

Name of Operation	Identifying number for operation	Federal or State Permit Number	MSHA ID Number
Belmont Coal Company		D-0241/D-1020	33-04397/33-03048

David Bartsch

Date Issued	Violation Number	Name of Issuing Agency	Person Issued To	Permit Number	Brief Description of Violation	Status (Abated, Term. etc.)	Abatement Action	Appeal Y or N
2/24/2004	24541	DMR	Mine	D-0241	Gullies exis in regraded	Terminated	regraded	N

Name of Operation	Identifying number for operation	Federal or State Permit Number	MSHA ID Number
The Ohio Valley Coal Co.	Powhatan No. 6 Mine	State – D-0360	33-01159

David Bartsch

Date Issued	Violation Number	Name of Issuing Agency	Person Issued To	Permit Number	Brief Description of Violation	Status (Abated, Term. etc.)	Abatement Action	Appeal Y or N
8/2/2004	19662	DMRM	Mine	D-0360	Failure to maintain sediment control	Terminated	Cleaned Ditch	N
5/23/2006	19656	DMRM	Mine	D-0360	Failure to maintain the perimeter of diversion ditch	Terminated	Cleaned Ditch	N
11/30/2006	28473	DMRM	Mine	D-0360	Undirected Drainage	Terminated	Cleaned Ditch	N
11/30/2006	28484	DMRM	Mine	D-0360	Coal Blocking Diversion Ditch	Terminated	Cleaned Ditch	N

Name of Operation			Identifying number for operation				Federal or State Permit Number	MSHA ID Number
American Energy Corp							D-0425	33-01070
Date Issued	**Violation Number**	**Name of Issuing Agency**	**Person Issued To**	**Permit Number**	**Brief Description of Violation**	**Status (Abated, Term. etc.)**	**Abatement Action**	**Appeal Y or N**
1/25/2005	21807	ODNR		D-0425	subsided residnet ran out of water	Terminated	filled tank with water	N
4/27/2005	19696	ODNR		D-0425	Coal located outside stockpile area	Terminated	cleaned coal	N
4/29/2005	19695	ODNR		D-0425	Maintenance on pond 018	Terminated	cleaned out pond	N
4/27/2005	19697	ODNR		D-0425	drainage from property not entering sumps	Terminated	construct sumps	N
10/3/2005	21871	ODNR		D-0425	Failure to sub specific repairs (landowner)	Active		N
6/15/2006	21860	ODNR		D-1159	Segregate Prim Farmland soils	Active	Waiting on ODNR, All information submitted	N
Aug-05	CO-1726	ODNR		D-0425	Uncontroled discharge (Slurry)	Avtive	Will submit revised Plan Mid Month	N

Name of Operation			Identifying number for operation				Federal or State Permit Number	MSHA ID Number
The American Coal Co.			Galatia Mine & Millennium Portal				IDNR Mining Pemrit #2 and #352	11-02752
Date Issued	**Violation Number**	**Name of Issuing Agency**	**Person Issued To**	**Permit Number**	**Brief Description of Violation**	**Status (Abated, Term. etc.)**	**Abatement Action**	**Appeal Y or N**
9/27/2004	37-1-04	IDNR	DeNeal	Permit #2	Failure to submit groundwater report on schedule	Terminited		N
4/13/2005	37-01-05	IDNR	DeNeal	Permit #2	Failure to submit u/g mining maps	Terminited		N
5/12/2005	37-02-05	IDNR	DeNeal	Shadow Area 9	failure to complete subsidence mitigation in	Modified		N
					contemporaneous manner.			
6/1/2005	37-03-05	IDNR	DeNeal	352	broken waterline-fialure to prevent minepumpage from passing through sediment pond before going offsite	Terminated		N

The following companies either did not have any violations in the last three years or do not have permits.

Oklahoma Coal Company

KenAmerican Resources, Inc.

Onieda Coal, Inc.

MonValley Transportation Center, Inc.

Mill Creek Mining Co.

Pinski Corp

American Compliance Coal Inc.

Coal Resources Inc.

PA Transloading, Inc.

West Virginia Resources Inc.

WildCat Loadout

American Coal Sales Co.

Hocking Valley Resources Co..

APPENDIX 1-5

CURRENT AND PREVIOUS COAL MINING PERMITS

CURRENT AND PREVIOUS

COAL MINING PERMITS

Company	Andalex Resources, Inc.		EIN: 61-0931325		
Address:	Permit #	State	Regulator Authority	MSHA #	Date Issued
10 miles NE Airport Road, Price, Utah 84501 P.O. Box 902 Price, Utah 84501	C/007/019 Centennial Project	Utah	Division of Oil, Gas and Mining	42-02028 42-01474 42-01750	
	C/007/033 Wildcat Loadout	Utah	Division of Oil, Gas and Mining	42-01864	

Company	West Ridge Resources, Inc.		EIN: 87-0585129		
Address:	Permit #	State	Regulator Authority	MSHA #	Date Issued
794 C Canyon Road East Carbon, Utah 84520 P.O. Box 1077 Price, Utah 84501	C/007/041 West Ridge Mine	Utah	Division of Oil, Gas and Mining	42-02233	March 12, 1999

Company	Genwal Resources, Inc.		EIN: 87-0533099		
Address:	Permit #	State	Regulator Authority	MSHA #	Date Issued
794 C Canyon Road East Carbon, Utah 84520 P.O. Box 1077 Price, Utah 84501	C/015/032 Crandall Canyon Mines	Utah	Division of Oil, Gas and Mining	42-02356 42-01715	Nov 21, 1991

Company	Utah American Energy Inc.		EIN: 31-153-6602		
Address:	Permit #	State	Regulator Authority	MSHA #	Date Issued
794 C Canyon Road East Carbon, Utah 84520 P.O. Box 986 Price, Utah 84501	C/007/013 Horse/Lila Canyon	Utah	Division of Oil, Gas and Mining	42-00100 42-02241	

Company	**Belmont Coal, Inc.**		EIN: **31-153-6602**		
Address:	Permit #	State	Regulator Authority	MSHA #	Date Issued
Belmont Coal, Inc. Box 156 30799 PineTree Road Pepper Pike, Ohio 44124	D-0241	Ohio	ODNR	33-04397	7-31-97
	D-1020	Ohio	ODNR	33-03048	7-2-93
Company	**KenAmerican Resources Inc.**		EIN: **61-1264385**		
Address:	Permit #	State	Regulator Authority	MSHA #	Date Issued
KenAmerican Resources Inc. 1008 South Broadway Lexington Kentucky 40504	889-5009	KY	DSMRK	1517606	10-25-94
Company	**Onieda Coal Company Inc.**		EIN: **62-1011712**		
Address:	Permit #	State	Regulator Authority	MSHA #	Date Issued
Onedia Coal Co. Inc., 29525 Chagrin Boulevard, Suite 111 Pepper Pike, Ohio 44122	U0-359	WV	DEP	46-05243	2-20-92
	U0-524	WV	DEP	46-06043	2-28-92
	U0-620	WV	DEP	46-06213	2-28-92
	D-7-82	WV	DEP	46-06557	2-28-92
	D-47-81	WV	DEP	46-06557	2-28-92
	D-46-82	WV	DEP	46-06522	2-28-92
	U-2016-89	WV	DEP	46-07757	2-28-92
	P-154-81	WV	DEP	N/A	N/A
	P-62-81	WV	DEP	N/A	N/A
	P-2043-89	WV	DEP	N/A	N/A
	S-2004-87	WV	DEP	46-06766	2-28-92
	S-71-85	WV	DEP	46-06766	2-28-92

Company	**MonValley Transportation Center Inc.**		EIN: **62-1011712**		
Address:	Permit #	State	Regulator Authority	MSHA #	Date Issued
MonValley Trans Center Inc. P.O. Box 135 1060 Ohio Avenue Glassort, PA 15045	02851602	PA	DEP	N/A	N/A
Company	**Oklahoma Coal Co.**		EIN: **34-1673480**		
Address:	Permit #	State	Regulator Authority	MSHA #	Date Issued
The Oklahoma Coal Co. Suite 111, 29525 Chagrin Blvd Pepper Pike, Ohio 44122	D-0230	OH	DOR	N/A	N/A
Company	**Maple Creek Mining Inc.,**		EIN: **25-1755305**		
Address:	Permit #	State	Regulator Authority	MSHA #	Date Issued
Maple Creek Mining Inc. 981 Route 917 Bentleyville, Pa 15314	63841302	PA	PA DEP	36-00970	1970
	63733706	PA	PA DEP	1211-PA20-0058-03	1970
	63723707	PA	PA DEP	1211-PA20-0058-04	1970

Company	**Energy Resources, Inc.**		EIN: **25-1755305**		
Address:	Permit #	State	Regulator Authority	MSHA #	Date Issued
Energy Resources Inc. P.O. Box 259 Brockway, PA 15824	33840125	PA	DEP	36-02695	5-25-88
	33860102	PA	DEP	36-02695	5-25-88
	17880102	PA	DEP	36-02695	5-25-88
	33870113	PA	DEP	36-02695	5-25-88
	33830115	PA	DEP	36-02695	5-25-88
	24880101	PA	DEP	36-02695	5-25-88
	24880103	PA	DEP	36-02695	5-25-88
	24890108	PA	DEP	36-02695	5-25-88
	24900102	PA	DEP	36-02695	5-25-88
	24900104	PA	DEP	36-02695	5-25-88
	24900103	PA	DEP	36-02695	5-25-88
	24890101	PA	DEP	36-02695	5-25-88
	24890102	PA	DEP	36-02695	5-25-88
	24960101	PA	DEP	36-02695	5-25-88
Company	**Canterbury Coal Company**		EIN: **25-112473**		
Address:	Permit #	State	Regulator Authority	MSHA #	Date Issued
Canterbury Coal Company R.D. No. 1, Box 119 Avonmore, PA 15618	SMP # 039000112	PA	DEP	3600813	N/A
	SMP # 03940111	PA	DEP	3605708	N/A
	CMAP 03841302	PA	DEP	N/A	N/A
	CRDA 03743701	PA	DEP	N/A	N/A
	CRDA 03950701	PA	DEP	N/A	N/A

Company	**The Ohio Valley Coal Company**		EIN: **34-1041310**		
Address:	Permit #	State	Regulator Authority	MSHA #	Date Issued
The Ohio Valley Coal Company 56854 Pleasant Ridge Road Alledonia, OH 43902	D-3060	OH	ODNR	33-01159	25-May-88

Company	**UMCO Energy, Inc.**		EIN: **52-1615668**		
Address:	Permit #	State	Regulator Authority	MSHA #	Date Issued
UMCO Energy, Inc. 29525 Chagrin Boulevard, Suite 111 Pepper Pike, OH 44122	63-921301	PA	DEP	N/A	N/A

Company	**The American Coal Company**		EIN: **73-1543124**		
Address:	Permit #	State	Regulator Authority	MSHA #	Date Issued
The American Coal Company P.O. Box 727 Harrisburg, IL 62946	No. 2	IL	IDNR	11-02752	N/A
	No. 255	IL	IDNR	N/A	N/A
	No. 257	IL	IDNR	N/A	N/A
	No. 306	IL	IDNR	N/A	N/A
	No. 165804AAA	IL	IDNR	N/A	N/A
	No. 110061727	IL	IDNR	N/A	N/A

Company	**PennAmerican Coal, L.P.**		EIN: **25-1800809**		
Address:	Permit #	State	Regulator Authority	MSHA #	Date Issued
PennAmerican Coal, L.P. R.D. No. 1, Box 119A Avonmore, PA 15618	32951301	PA.	MCM	36-00970	

Company	**American Energy, Corporation**		EIN: **31-1550443**		
Address:	Permit #	State	Regulator Authority	MSHA #	Date Issued
American Energy Corp. 43521 Mayhugh Hill Road Township Highway 88 Beallsville, Ohio 43716	D-0425	Ohio	ODNR	33-01070	
	D-1159	Ohio	ODNR		

Company	**TDK Coal Sales, Inc.**		EIN: **25-1422374**		
Address:	Permit #	State	Regulator Authority	MSHA #	Date Issued
TDK Coal Sales, Inc. P.O. Box 259 R.D. #2, Fermantown Road Brockway, PA. 15824	16910104	PA	PaDep	3608867	
	33960109	PA	PaDep		
	24970104	PA	PaDep		

APPENDIX 1-7

OWNERSHIP & CONTROL

OWNERSHIP AND CONTROL

REVISED 1/29/2008

Intermountain Power Agency

David Shaver
Project Engineer
Genwal Resources
PO Box 1077
Price, UT 84501

The following changes have taken place on our Board of Directors:

IPA Board of Directors

Gary Merrill	resigned	February 24, 2007
Clifford Michaelis	resigned	May 21, 2007
Robert Christiansen	appointed	March 5, 2007
Ed Collins	appointed	May 21, 2007

IPA Board Officers

Russell Fjeldsted Treasurer March 5, 2007
(replacing Gary Merrill who was appointed 1-29-07 until 2-24-07)

IPA

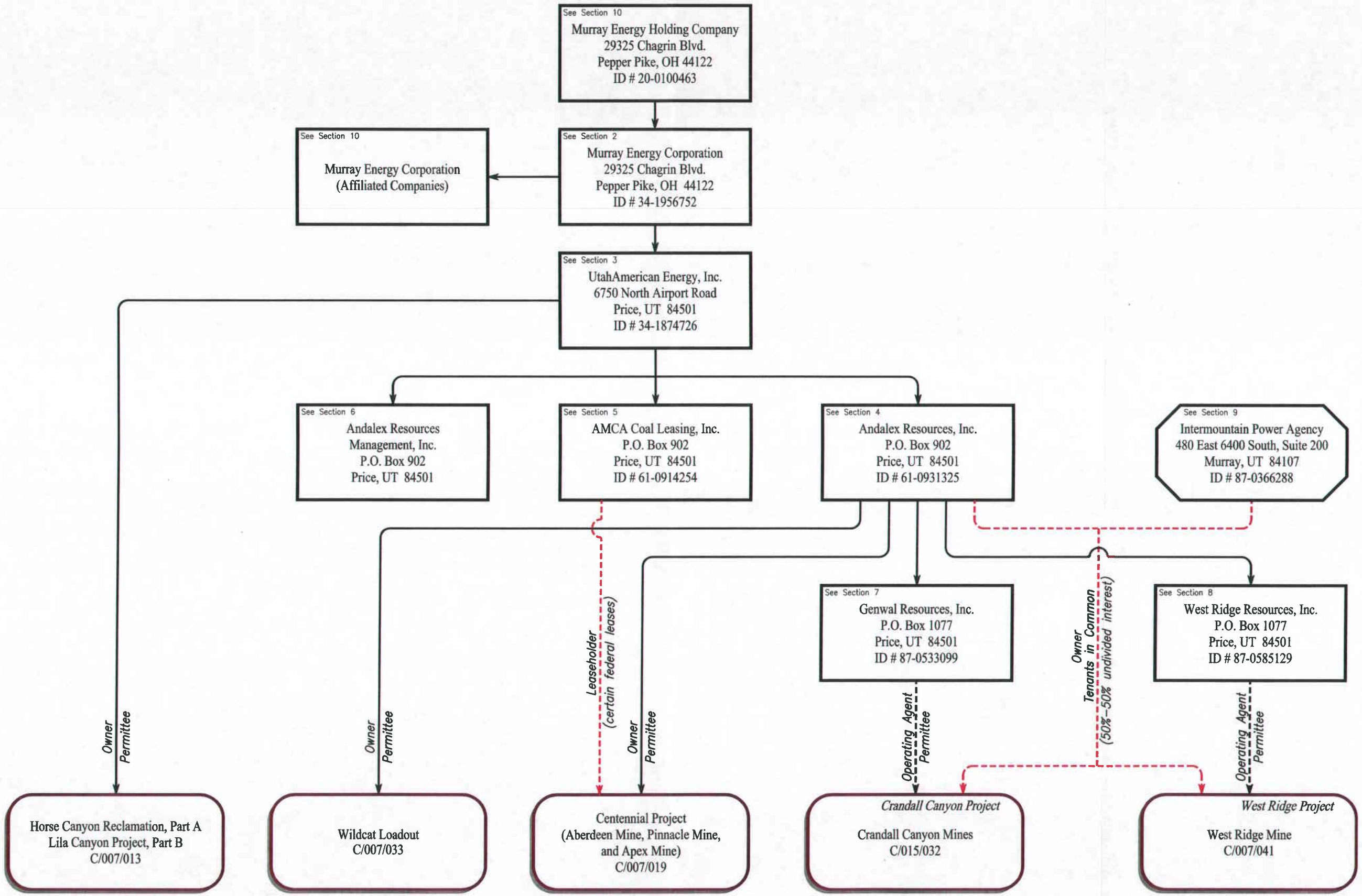
James A. Hewlett General Manager December 1, 2007 (replacing Reed Searle)

Information provided by:

Connie Perkins
Secretary
Intermountain Power Agency

10653 South River Front Parkway, Suite 120, South Jordan, Utah 84095
(801) 938-1333 Fax (801) 938-1330

OWNERSHIP AND CONTROL



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Section 1

Insert
Family Tree

Section 2

MURRAY ENERGY CORPORATION
Suite 300
29325 Chagrin Boulevard
Pepper Pike, OH 44122

Appointment of Officers

		Begin	End
Robert E. Murray	Chairman, President &	02/23/01	
	Chief Executive Officer	02/23/01	
John R. Forrelli	Vice President	12/18/03	12/17/04
Robert D. Moore	Vice President &	12/17/04	
	Chief Financial Officer	04/23/07	
P. Bruce Hill	Vice President - Human Resources	12/18/03	
Michael D. Loiacono	Treasurer	02/23/01	
Michael D. Loiacono	Chief Financial Officer	12/20/05	04/23/07
Michael O. McKown	Secretary	02/23/01	

Incorporation Information:

State of Incorporation	Ohio; Charter No. 1211519
Date of Incorporation	February 23, 2001
ID#	34-1956752

Shareholder:

	Begin	End
Murray Energy Holdings Co. (100%)	10/21/03	
Robert E. Murray	2/23/01	10/21/03

Directors:

Robert E. Murray	02/23/01	
Michael D. Loiacono	12/20/05	04/23/07
Henry W. Fayne	01/28/05	
Richard L. Lawson	01/28/05	
Andrew D. Weissman	10/23/03	
Robert D. Moore	04/23/07	

Section 3

UTAHAMERICAN ENERGY, INC.
P.O. Box 902
6750 North Airport Road
Price, UT 84501

Officers:

		Begin	End
P. Bruce Hill	Chief Executive Officer	08/18/06	
P. Bruce Hill	President	12/16/06	
Douglas H. Smith	President	08/18/06	12/16/06
Clyde I. Borrell	President	07/31/98	05/19/06
Robert D. Moore	Treasurer	08/18/06	
Michael O. McKown	Secretary	08/18/06	
Marsha Baker Kocinski	Secretary	07/31/98	06/25/02
Barbara Boyce	Secretary	07/31/98	11/01/99
Jay Marshall	Manager	07/31/98	8/18/06

Directors:

Robert E. Murray	07/31/98
P. Bruce Hill	08/18/06

Owner:[a]

Murray Energy Corp.

[a] Coal Resources, Inc. is incorrectly listed as a shareholder the AVS OFT. Coal Resources, Inc has never been a shareholder of UEI.

Section 4

ANDALEX RESOURCES, INC.
P.O. Box 902
6750 North Airport Road
Price, UT 84501

Officers:

		Begin	End
P. Bruce Hill	President and Chief Executive Officer	12/16/06	
Douglas H. Smith	President	03/07/94	12/16/06
Robert D. Moore	Treasurer	08/18/06	
Michael O. McKown	Secretary	08/18/06	

Former Officers/Directors:

Peter B. Green	Director	01/05/98	08/18/06
Peter B. Green	CB	05/11/90	08/18/06
Peter B. Green	CEO	05/11/90	08/18/06
Ronald C. Beedie	Director	01/05/88	08/18/06
John Bradshaw	Secretary	02/05/90	08/18/06
John Bradshaw	Vice-President	02/05/90	08/18/06
Douglas H. Smith	Director	03/07/94	08/18/06
Samuel C. Quigley	Vice-President	02/24/95	08/18/06
Andalex Hungary Ltd.	Shareholder	12/28/20	08/18/06
Alexander Harold Samuel Green	Director	01/11/02	08/18/06

Directors:

Robert E. Murray	08/18/06
P. Bruce Hill	08/18/06

Owner:

UtahAmerican Energy, Inc.	100%	08/18/06

MSHA Numbers

Apex Mine	42-01750
Pinnacle Mine	42-01474
Aberdeen Mine	42-02028
Wildcat Loadout	42-01864

Section 5

AMCA COAL LEASING, INC.
P.O. Box 902
6750 North Airport Road
Price, UT 84501

Appointment of Officers:

		Begin	End
P. Bruce Hill	President and Chief Executive Officer	12/16/06	
Douglas H. Smith	President	08/18/06	12/16/06
Robert D. Moore	Treasurer	12/16/06	
Michael O. McKown	Secretary	12/16/06	

Directors:

Robert E. Murray	08/18/06
P. Bruce Hill	08/18/06

Owner:

UtahAmerican Energy, Inc., 100% ownership	08/18/06

Section 6

ANDALEX RESOURCES MANAGEMENT, INC.
P.O. Box 902
6750 North Airport Road
Price, UT 84501

Appointment of Officers:

		Begin	End
Douglas H. Smith	President	08/18/06	12/16/06
P. Bruce Hill	President and Chief Executive Officer	12/16/06	
Robert D. Moore	Treasurer	12/16/06	
Michael O. McKown	Secretary	12/16/06	

Directors:

Robert E. Murray	08/18/06
P. Bruce Hill	08/18/06

Shareholders:

UtahAmerican Energy, Inc.	100%	08/18/06

Section 7

GENWAL RESOURCES, INC.
P.O. Box 1077
Price, UT 84501

Officers:

		Begin	End
Douglas H. Smith	President	08/18/06	12/16/06
P. Bruce Hill			
P. Bruce Hill	President and Chief Executive Officer	12/16/06	
Robert D. Moore	Treasurer	12/16/06	
Michael O. McKown	Secretary	12/16/06	

Directors:

Robert E. Murray	08/18/06	
P. Bruce Hill	08/18/06	

Former Directors:

Peter B. Green		8/9/06
Ronald C. Beedie		8/9/06
Douglas H. Smith		8/18/06
Gordon Ulrich		10/30/96

Former Officers:

Peter B. Green	Chairman & CEO	8/9/06
Samuel C. Quigley	Vice President	8/18/06
John Bradshaw	Vice President	5/17/05
John Bradshaw	Secretary & Treasurer	8/18/06
Douglas H. Smith	President	12/16/06

Owner:

ANDALEX Resources, Inc. is and remains the sole shareholder of Genwal Resources, Inc.[a]

MSHA Numbers

Crandall Canyon Mine	42-01715

[a] Intermountain Power Agency holds, as a tenant in common, an undivided 50% interest in certain real property interests regarding the Crandall Canyon Mine.

Section 8

WEST RIDGE RESOURCES, INC.[a]
P.O. Box 1077
Price, UT 84501

Officers:

		Begin	End
Douglas H. Smith	President	08/18/06	12/16/06
P. Bruce Hill	President and Chief Executive Officer	12/16/06	
Robert D. Moore	Treasurer	12/16/06	
Michael O. McKown	Secretary	12/16/06	

Directors:

Robert E. Murray	08/18/06
P. Bruce Hill	08/18/06

Owner:

Andalex Resources, Inc.[b] 100%

Former Directors[c]	Begin Date	End Date
Peter B. Green	4/1/98	8/9/06
Ronald C. Beedie	4/1/98	8/9/06
Douglas H. Smith	4/1/98	9/18/06

Former Officers[d]	Position	Begin Date	End Date
Peter B. Green	Chairman & CEO	4/15/98	8/9/06
Samuel C. Quigley	Vice President	4/15/98	8/18/06
John Bradshaw	Secretary	4/15/98	8/18/06
Douglas H. Smith	President	4/15/98	12/168/06

MSHA Number West Ridge Mine 42-022444

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[a] WEST RIDGE Resources, Inc. ("WRRI") was formed on March 10, 1998. No actions of WRRI occurred before that date.

[b] ANDALEX Resources is (and remains) the sole shareholder of WRRI. WRRI and the Intermountain Power Agency hold certain real property interests as tenants in common, each owning a 50% interest therein.

[c] The initial directors of WRRI (as shown above) were appointed on April 1, 1998; the "Begin Date[s]" for each such director shown on the OFT form are incorrect.

[d] The initial officers of WRRI (as shown above) were appointed on April 15, 1998; the "Begin Date[s]" for each such officer shown on the OFT form are incorrect. Also, Christopher G. Van Bever never served as an officer of WRRI; the information shown on the OFT form to the contrary is incorrect.

Section 9

INTERMOUNTAIN POWER AGENCY
(Tenant in Common, 50% undivided interest; West Ridge Mine Permit C/007/041; Crandall Canyon Mine Permit C/015/032)[a]
10653 South River Front Parkway, Suite 120
South Jordan, Utah 84095
(801) 938-1333

Appointment of Officers:

Ray Farrell	Chairman	12/1998
R. Leon Bowler	Vice-Chairman	12/1984
Ted L. Olson	Secretary	01/2002
Russell F. Fjeldsted	Treasurer	03/2007

Directors:	Begin Date	End Date
R. Leon Bowler	06/1977	
Ray Farrell	11/1978	
Clifford C. Michaelis[b]	01/1988	6/2007
Ted L. Olson	01/1990	
Russell F. Fjeldsted	01/1992	
Walter Meacham	01/1999	
Gary O. Merrill	01/2002	6/2007
Robert O. Christiansen	06/2007	
Ed Collins	06/2007	

[a] Intermountain Power Agency holds, as a tenant in common, an undivided 50% interest in certain real property interests regarding the West Ridge Mine and the Crandall Canyon Mine.
[b] Replacing controller Dan R. Eldredge, serving from April 11, 1988 to January 1990.

Name and address of IPA's general manager:

Jim Hewlett
Intermountain Power Agency
10653 South River Front Parkway, Suite 120
South Jordan, Utah 84095
Telephone (801) 938-1333
Assumed position December 1, 2007

Resident Agent for IPA:

Mark Buchi
Holme, Roberts, and Owen
299 South Main, Suite 1800
Salt Lake City, Utah 84111
Assumed position January, 1988

IPA Designated representative to the Crandall Canyon Project and West Ridge Project Management Boards:

Aram Benyamin
Operating Agent
Los Angeles Department of Water & Power
111 North Hope Street, Room 1263
Los Angeles, California 90012-2694
Telephone (213) 367-0286

Principle Shareholders of IPA:

IPA has no shareholders. IPA is a political subdivision of the State of Utah created under the Interlocal Cooperation Act, Title II, Chapter 13, Utah Code Ann. 1953, as amended, and as such, has not issued stock.

Section 10

MURRAY ENERGY AFFILIATE COMPANIES

AMCOAL HOLDINGS, INC.
10/10/05-blr

Principal Office:
29325 Chagrin Boulevard
Suite 300
Pepper Pike, Ohio 44122

101 Prosperous Place
Suite 125
Lexington, Kentucky 40509

Officers:

Robert E. Murray	President	5/23/03
P. Bruce Hill	Vice President – Human Resources	10/01/98
Robert D. Moore	Treasurer	10/01/98
Michael O. McKown	Secretary	3/1/05
Jeffrey L. Cash	Assistant Treasurer	11/01/99

Incorporation Information:

State of Incorporation: Ohio; Charter No. 1007981

Date of Incorporation: June 12, 1998

ID #34-1867389

Shareholders: Murray Energy Corporation

Directors: Robert E. Murray

Revised 2/14/05

433872.11

THE AMERICAN COAL COMPANY

Principal Office:
29325 Chagrin Boulevard
Suite 300 P. O. Box 727
Pepper Pike, Ohio 44122 Harrisburg, Illinois 62946

Officers:

Robert E. Murray	Acting President	11/02/02
John R. Forrelli	Vice President	9/07/04
Michael O. McKown	Vice President, General Counsel and Secretary	3/15/99 3/1/05
P. Bruce Hill	Vice President – Human Resources	10/01/98
Robert D. Moore	Treasurer	10/01/98
Jeffrey L. Cash	Assistant Treasurer and Assistant Secretary	11/01/99 6/01/01

Incorporation Information:

State of Incorporation	Delaware; Charter No. 2881631
Date of Incorporation	June 2, 1998

ID #73-1543124

Shareholders:	AmCoal Holdings, Inc.
Directors:	Robert E. Murray

Revised: 2/14/05

THE AMERICAN COAL SALES COMPANY

29325 Chagrin Boulevard
Suite 300
Pepper Pike, Ohio 44122

Officers:

		Begin	End
Robert E. Murray	Chief Executive Officer	11/11/88	
B. J. Cornelius	President	9/08/95	
Edwin D. Lane	Vice President	11/01/99	3/1/05
William E. Hollars	Vice President	3/1/05	
Richard Rice	Vice President	11/11/88	11/01/99
Michael O. McKown	Secretary	3/1/05	
Steven C. Ellis	Secretary	11/10/88	3/1/05
James R. Turner, Jr.	Treasurer and Assistant Secretary	3/1/05	
Duane A. Smith	Assistant Treasurer and Assistant Secretary	6/25/01 6/25/01	
Brenda L. Murray	Assistant Secretary	9/8/95	6/25/01

Incorporation Information:

State of Incorporation — Ohio; Charter No. 727836

Date of Incorporation — June 29, 1988

ID #34-1603699

Shareholder: Coal Resources, Inc.

Directors: Robert E. Murray 9/08/95

Revised
5/2/07

AMERICAN COMPLIANCE COAL, INC.

29325 Chagrin Boulevard
Suite 300
Pepper Pike, Ohio 44122

Officers:

		Begin	End
Stanley T. Piasecki	President	3/1/05	
Charles E. Shestak	Vice President	03/10/03	
Michael O. McKown	Secretary	3/1/05	
Robert D. Moore	Treasurer and	6/25/01	
	Assistant Secretary	6/25/01	
Elmer A. Mottillo	Assistant Treasurer	8/22/03	

Former Officers:

Clyde I. Borrell	President	6/02/97	3/1/05
William W. Taft	Secretary	5/24/94	3/1/05

Incorporation Information:

State of Incorporation — Colorado; Charter No. 19941059260

Date of Incorporation — May 24, 1994

ID #34-1797161

Shareholder:	Murray Energy Corporation (100%)	6/1/01	
	Robert E. Murray	5/24/94	2/23/01
Director:	Robert E. Murray	5/24/94	

Revised
5/2/07

AMERICAN ENERGY CORPORATION

43521 Mayhugh Hill Road
Township Highway 88
Beallsville, Ohio 43716

Officers:

		Begin	End
Robert E. Murray	President	12/15/04	
Robert D. Moore	President	6/25/01	12/15/04
Michael O. McKown	Secretary	11/01/99	
James R. Turner, Jr.	Treasurer	3/1/05	
Robert D. Moore	Treasurer	6/25/01	12/15/04
Robert L. Putsock	Assistant Treasurer	1/27/04	

Incorporation Information:

State of Incorporation — Ohio;
Charter No. 00842695

Date of Incorporation — April 12, 1993
ID #31-1550443

Shareholder: Murray Energy Corporation
(100%)

Director:

Robert E. Murray	12/15/04	
P. Bruce Hill	7/02/01	12/15/04

Revised
3/16/07

ANCHOR LONGWALL AND REBUILD, INC.

One Industrial Park Drive
Wheeling, West Virginia 26003

Officers:

		Begin	End
P. Bruce Hill	President and	2/16/99	11/10/06
	Assistant Secretary	2/16/99	
Chad Underkoffler	President	11/10/06	
Michael O. McKown	Secretary	11/01/99	
James R. Turner, Jr.	Treasurer	9/16/05	
Duane A. Smith	Assistant Secretary	11/01/99	

Incorporation Information:

State of Incorporation — West Virginia; Charter No. 00961100093212818

Date of Incorporation — April 18, 1996

ID #55-0749933

Shareholder: Coal Resources, Inc.
I.D. # 34-1586390
Address: 29325 Chagrin Boulevard
Suite 300
Pepper Pike, OH 44122

Director:

Charles E. Shestak	11/01/99
P. Keith McGilton	11/01/99

Revised
3/6/07

AVONMORE RAIL LOADING, INC.

125 Old Farm Drive,
Pittsburgh, PA 15239

Officers:

P. Bruce Hill	President	6/25/01
Robert D. Moore	Treasurer	6/25/01
Michael O. McKown	Secretary	3/1/05
Robert L. Putsock	Assistant Treasurer	1/02/03
Elmer A. Mottillo	Assistant Secretary	1/02/03

Incorporation Information:

State of Incorporation	Delaware; Charter No. 0798860
Date of Incorporation Qualified	February 19, 1974 May 6, 1974 Pennsylvania; PA Entity #000302999

ID #25-1253970

Shareholder: Mill Creek Mining Company

Director: Charles E. Shestak

Revised: 2/14/05

433872.11

BELMONT COAL, INC.

P. O. Box 146
Powhatan, Ohio 43942

Officers:

		Begin	End
Robert D. Moore	President	6/25/01	
Maynard St. John	Vice-President	1/02/02	6/26/02
James R. Turner, Jr.	Secretary/Treasurer	9/16/05	
Kristi D. Brown	Secretary/Treasurer	11/08/01	9/16/05

Incorporation Information:

State of Incorporation	Ohio; Charter No. 00842697
Date of Incorporation	April 12, 1993

ID #31-1536602

Shareholder:	Murray Energy Corporation (100%)	6/1/01	
	Robert E. Murray	4/19/93	6/1/01
Director:	Duane A. Smith	4/12/93	12/15/06
	Robert D. Moore	12/15/06	

Revised
3/6/07

CANTERBURY COAL COMPANY

125 Old Farm Drive
Pittsburgh, PA 15239

Officers:

P. Bruce Hill	President and General Manager	6/25/01
Robert D. Moore	Secretary and Treasurer	6/25/01 6/25/01
Robert L. Putsock	Assistant Treasurer	1/02/03
Elmer A. Mottillo	Assistant Secretary	1/02/03

Incorporation Information:

State of Incorporation	Pennsylvania; PA Entity #000055242
Date of Incorporation	July 26, 1963
ID #25-1127473	
Shareholder:	Mill Creek Mining Company (100%)
Director:	Charles E. Shestak

Revised
3/6/07

COAL RESOURCES HOLDINGS CO.

29325 Chagrin Boulevard
Suite 300
Pepper Pike, Ohio 44122

Officers:

		Begin	End
Robert E. Murray	President and CEO	6/27/03	
Michael D. Loiacono	Treasurer	6/27/03	
	CFO	12/20/05	04/23/07
Robert D. Moore	CFO	04/23/07	
Scott A. Boyle	Chief Financial Officer	10/29/05	12/20/05
P. Bruce Hill	Secretary	3/1/05	11/01/05
Michael O. McKown	Secretary	11/01/05	
Robert L. Putsock	Assistant Secretary and Assistant	6/25/01	
	Treasurer	6/25/01	

Incorporation Information:

State of Incorporation — Delaware;
Charter No. 3676954

Date of Incorporation — June 27, 2003

ID #20-0100479

Shareholder: Robert E. Murray (Class A Shares 100%)
Robert Eugene Murray (Class B Shares 20%)
Robert Edward Murray (Class B Shares 20%)
Ryan Michael Murray (Class B Shares 20%)
Jonathan Robert Murray (Class B Shares 20%)
Fifth Third Bank of Northeast Ohio, Trustee (Class B Shares 20%)

Director: Robert E. Murray — 6/27/03

Revised
5/10/07

COAL RESOURCES, INC.

29325 Chagrin Boulevard
Suite 300
Pepper Pike, Ohio 44122

Officers:

		Begin	End
Robert E. Murray	Chairman, President and Chief Executive Officer	3/1/05	
Michael D. Loiacono	Treasurer	1/28/05	
	CFO	12/20/05	04/23/07
Robert D. Moore	CFO	04/23/07	
Scott A. Boyle	Chief Financial Officer	10/17/05	12/20/05
P. Bruce Hill	Secretary	3/1/05	11/01/05
Michael O. McKown	Secretary	11/01/05	
Robert L. Putsock	Assistant Secretary and Assistant Treasurer	6/25/01 6/25/01	

Incorporation Information:

State of Incorporation: Ohio;
Charter No. 717546

Date of Incorporation: January 29, 1988

ID #34-1586390

Shareholder:	Coal Resources Holdings Co.	10/21/03	
	Robert E. Murray	1/29/88	10/21/03
Directors:	Robert E. Murray		
	Henry W. Fayne		
	Andrew Weissman		
	Richard L. Lawson		
	Michael D. Loiacono	12/20/05	04/23/07
	Robert D. Moore	04/23/07	

Revised
5/10/07

CONSOLIDATED LAND COMPANY

29325 Chagrin Boulevard
Suite 300
Pepper Pike, Ohio 44122

Officers:

Robert D. Moore	President	8/11/04
Robert D. Moore	Treasurer and Assistant Secretary	6/25/01 6/25/01
Michael O. McKown	Secretary	3/1/05
Elmer A. Mottillo	Assistant Secretary	8/22/03

Incorporation Information:

State of Incorporation	Ohio; Charter No. 00842696
Date of Incorporation	April 12, 1993
ID #34-1769562	

Shareholder:	Murray Energy Corporation (100%)	6/1/01
Director:	Robert D. Moore	8/11/04

Revised
3/6/07

ENERGY RESOURCES, INC.

P. O. Box 259
R. D.#2, Fermantown Road
Brockway, PA 15824

Officers:

Stanley T. Piasecki	President and Chief Executive Officer	8/11/04
Elmer A. Mottillo	Treasurer	8/22/03
Michael O. McKown	Secretary	3/1/05
Charles E. Shestak	Assistant Secretary	4/30/93

Incorporation Information:

State of Incorporation	Pennsylvania; PA Entity #762734
Date of Incorporation	September 14, 1982
ID #31-1044044	

Shareholder:	Mill Creek Mining Company	
Director:	Stanley T. Piasecki	8/11/04

Revised 2/14/05

433872.11

THE HOCKING VALLEY RESOURCES COMPANY

29325 Chagrin Boulevard
Suite 300
Pepper Pike, Ohio 44122

Officers:

P. Bruce Hill	President	3/1/05
Michael D. Loiacono	Secretary and Treasurer	4/05/93

Incorporation Information:

State of Incorporation	Ohio; Charter No. 755531
Date of Incorporation	August 25, 1989
ID #34-1635301	

Shareholder:	Ohio Valley Resources, Inc.	
Director:	Robert E. Murray	4/05/93

Revised
3/6/07

KENAMERICAN RESOURCES, INC.

101 Prosperous Place
Suite 125
Lexington, Kentucky 40509

Officers:

		Begin	End
Robert N. Sandidge	President	12/16/06	
Dennis W. Bryant	President/Manager	10/1/05	12/16/06
B. J. Cornellius	Senior Vice-President--Sales	11/1/05	
James R. Turner, Jr.	Treasurer	3/1/05	
Robert D. Moore	Assistant Treasurer	3/1/05	
Michael O. McKown	Secretary	2/13/06	

Incorporation Information:

State of Incorporation	Kentucky; Charter No. 0331655
Date of Incorporation	June 9, 1994
ID #61-1264385	

Shareholder:	Mill Creek Mining Company	
Director:	Robert E. Murray	6/1/05

Revised
3/6/07

433872.11

MAPLE CREEK MINING, INC.

Principal Office:
29325 Chagrin Boulevard
Suite 300
Pepper Pike, Ohio 44122

981 Route 917
Bentleyville, Pennsylvania 15314

Officers:

		Begin	End
Paul B. Piccolini	President	4/28/06	
Ronnie D. Dietz	Vice President and Treasurer	3/1/05	
Michael B. Gardner	Secretary	3/1/05	5/01/07
VACANT			
Roberta K. Heil	Assistant Secretary	11/01/99	

Incorporation Information:

State of Incorporation	Pennsylvania; PA Entity #2607113
Date of Incorporation	November 9, 1994
ID #25-1755305	

Shareholder:	Sunburst Resources, Inc.	1/11/95
Director:	Robert E. Murray	

MILL CREEK MINING COMPANY

P. O. Box 259
R. D. #2, Fermantown Road
Brockway, PA 15824

Officers:

		Begin	End
Charles E. Shestak	President	8/18/98	
James R. Turner, Jr.	Treasurer	3/1/05	
Robert D. Moore	Treasurer	6/25/01	3/1/05
Robert D. Moore	Assistant Treasurer	3/1/05	
Michael O. McKown	Secretary	3/1/05	
Michael E. Elliott	Secretary	8-18-98	3/1/05
Robert L. Putsock	Assistant Secretary and	6/25/01	
	Assistant Treasurer	6/25/01	

Incorporation Information:

State of Incorporation	Pennsylvania; PA Entity #0007447787
Date of Incorporation	December 1, 1981
Certificate of Amendment	July 7, 1988; #8854525

ID #31-1040986

Shareholder:	Coal Resources, Inc.	
Director:	Robert E. Murray	5/14/04

Revised
3/6/07

MONVALLEY TRANSPORTATION CENTER, INC.

P. O. Box 135
1060 Ohio Avenue
Glassport, Pennsylvania 15045

Officers:

Paul B. Piccolini	President	4/28/06
James R. Turner, Jr.	Secretary and Treasurer	3/1/05

Incorporation Information:

State of Incorporation	Pennsylvania; PA Entity #856918
Date of Incorporation	February 15, 1985
ID #25-1490495	

Shareholders:	Pennsylvania Transloading, Inc.	
Directors:	Robert E. Murray and Michael D. Loiacono	11/01/99

MURRAY ENERGY CORPORATION

29325 Chagrin Boulevard, Suite 300
Pepper Pike, Ohio 44122

Officers:

		Begin	End
Robert E. Murray	Chairman, President, &	02/23/01	
	Chief Executive Officer	02/23/01	
John R. Forrelli	Vice President	12/18/03	12/17/04
Robert D. Moore	Vice President &	12/17/04	
	Chief Financial Officer	04/23/07	
P. Bruce Hill	Vice President/Human Resources	12/18/03	
Michael D. Loiacono	Treasurer	02/23/01	
	Chief Financial Officer	12/20/05	04/23/07
Robert D. Moore	CFO	04/23/07	
Michael O. McKown	Secretary	02/23/01	

Incorporation Information:

State of Incorporation — Ohio; Charter No. 1211519

Date of Incorporation — February 23, 2001

ID #34-1956752

Shareholder:	Robert E. Murray	02/23/01	10/21/03
	Murray Energy Holdings Co. 100%	10/21/03	

Directors:	Robert E. Murray	02/23/01	
	Michael D. Loiacono	01/28/05	04/23/07
	Henry W. Fayne	01/28/05	
	Richard L. Lawson	01/28/05	
	Andrew D. Weissman	10/23/03	
	Robert D. Moore	04/23/07	

Revised 5/10/07

MURRAY ENERGY HOLDINGS CO.

29325 Chagrin Boulevard, Suite 300
Pepper Pike, Ohio 44122

Officers:

Robert E. Murray	President & CEO	6/30/03	11/29/05
Scott Boyle	President & CEO	11/29/05	12/20/05
Michael D. Loiacono	President & CEO	1/10/05	4/23/07
Robert D. Moore	President & CEO	4/23/07	
Michael D. Loiacono	Treasurer	1/10/05	
		6/30/03	
Michael O. McKown	Secretary	6/30/03	

Incorporation Information:

State of Incorporation	Delaware; Charter No. 3676958
Date of Incorporation	June 27, 2003
ID #	20-0100463

Shareholders:

Robert Eugene Murray
Robert Edward Murray
Jonathan Robert Murray
Ryan Michael Murray
Fifth Third Bank of
Northeast Ohio, Trustee

Directors:

Robert E. Murray	6/30/03	
Michael D. Loiacono	6/30/03	4/23/07
Michael O. McKown	6/30/03	
Robert D. Moore	423/07	

OHIOAMERICAN ENERGY INCORPORATED

29325 Chagrin Boulevard
Suite 300
Pepper Pike, Ohio 44122

Officers:

D. Michael Jamison	President	5/1/05
Michael O. McKown	Secretary	5/1/05
Robert D. Moore	Treasurer	5/1/05
Elmer A. Mottillo	Assistant Treasurer	6/30/06

Incorporation Information:

State of Incorporation	Ohio	
Date of Incorporation	February 1, 2005	
ID # 20-3044610	Ohio Charter No. 1518533	
Director:	Robert E. Murray	5/1/05
Shareholder:	Murray Energy Corporation	5/1/05

Revised
3/6/07

THE OHIO VALLEY COAL COMPANY

Principal Office:
56854 Pleasant Ridge Road
Alledonia, Ohio 43901

29325 Chagrin Boulevard
Suite 300
Pepper Pike, Ohio 44122

Officers:

		Begin	End
Vacant	President	11/4/05	
Paul B. Piccolini	Vice President	1/1/07	
Ronnie D. Dietz	Treasurer, Assistant Secretary and Corporate Comptroller	3/1/05	
Michael B. Gardner	Secretary	3/1/05	5/01/07
Roberta K. Heil	Assistant Secretary	11/01/99	
Bonnie M. Froehlich	Assistant Secretary and Assistant Treasurer	6/25/01 6/25/01	

Incorporation Information:

State of Incorporation	Ohio; Charter No. 384971
Date of Incorporation	June 6, 1969
Certificate of Amendment	October 4, 1988; #201274

ID #34-1041310

Shareholder: Ohio Valley Resources, Inc.

Director: Robert E. Murray

Revised
5/2/07

OHIO VALLEY RESOURCES, INC.

29325 Chagrin Boulevard
Suite 300
Pepper Pike, Ohio 44122

Officers:

		Begin	End
Paul B. Piccolini	President	4/28/06	
John Forrelli	President	11/1/99	4/28/06
Ronnie D. Dietz	Treasurer, Assistant Secretary and Corporate Comptroller	3/1/05	
Michael D. Loiacono	Treasurer, Assistant Secretary and Corporate Comptroller	3/10/95	4/28/06
VACANT	Secretary	3/1/05	05/01/07
Stephen Ellis	Secretary	3/10/95	3/1/05

Incorporation Information:

State of Incorporation — Ohio; Charter No. 721514

Date of Incorporation — March 29, 1988

ID #34-1586391

Shareholders:	Murray Energy Corporation (100%)	6/1/01	
	Robert E. Murray	3/10/95	6/1/01

Director: Robert E. Murray

Revised
3/6/07

THE OHIO VALLEY TRANSLOADING COMPANY

56854 Pleasant Ridge Road
Alledonia, Ohio 43902

Officers:

		Begin	End
Vacant	President	11/4/05	
Paul B. Piccolini	Vice-President	1/1/07	
Ronnie D. Dietz	Treasurer, Assistant Secretary and Corporate Comptroller	3/1/05	
Michael B. Gardner	Secretary	3/1/05	05/01/07
Roberta K. Heil	Assistant Secretary	9/01/00	

Incorporation Information:

State of Incorporation	Ohio; Charter No. 727835
Date of Incorporation	June 29, 1988
ID #34-1611209	

Shareholder:	Ohio Valley Resources, Inc.	
Director:	Robert E. Murray	4/06/93

Revised
3/6/07

THE OKLAHOMA COAL COMPANY

29325 Chagrin Boulevard
Suite 300
Pepper Pike, Ohio 44122

Officers:

		Begin	End
Paul B. Piccolini	President	4/28/06	
Gregory C. Smith	President	11/1/99	4/28/06
Michael O. McKown	Secretary	3/1/05	
Gregory A. Gorospe	Secretary	9/15/94	11/1/99
James R. Turner, Jr.	Treasurer and Assistant Secretary	3/1/05	
Kathleen Bednarek	Treasurer	6/20/00	6/26/00
Robert L. Putsock	Assistant Secretary	1/10/03	
Kathleen Bednarek	Assistant Secretary	9/3/96	6/26/00

Incorporation Information:

State of Incorporation	Oklahoma; Charter No. DB00477836
Date of Incorporation	April 17, 1989
Licensed in Ohio	February 27, 1991; FL 790739

ID #34-1673480

Shareholder: The American Coal Sales Company

Director: Robert E. Murray

Revised
3/6/07

ONEIDA COAL COMPANY, INC.

29325 Chagrin Boulevard
Suite 300
Pepper Pike, Ohio 44122

Officers:

		Begin	End
Robert D. Moore	President and Treasurer	06/25/01 11/01/99	
Robert L. Putsock	Assistant Secretary	06/25/01	
Michael O. McKown	Secretary	03/1/05	

Former Officers:

John Blaine Earles	Vice-President	2/28/92	7/2/93
Tivis Arnold Graybeal	Secretary	2/28/92	4/28/94
Anthony Carl Laplaca	Secretary	4/28/94	11/1/99
Joseph R. Bourgo	Vice-President	9/1/92	10/20/00
Joseph R. Bourgo	Treasurer	4/28/94	10/20/00
Norma Jean Mccourt	Assistant Secretary	4/28/94	11/1/99

Incorporation Information:

State of Incorporation — West Virginia; Charter No. 00000020004097TAX

Date of Incorporation — August 29, 1983

ID #62-1011712

Shareholder: West Virginia Resources, Inc. (100%) 2/28/92

Daryl Napier 02/28/92

Director: Robert E. Murray

Revised 5/2/07

PENNAMERICAN COAL, INC.

125 Old Farm Drive
Pittsburgh, PA 15239

Officers:

P. Bruce Hill	President	6/25/01
Robert D. Moore	Treasurer and Secretary	6/25/01 6/25/01
Robert L. Putsock	Assistant Secretary	6/25/01

Incorporation Information:

State of Incorporation	Pennsylvania; PA Entity #2545905
Date of Incorporation	September 13, 1993

ID #25-1722115

Shareholder:	Mill Creek Mining Co.	11/08/93
Director:	Robert E. Murray	

Revised 2/14/05

PENNAMERICAN COAL LP

125 Old Farm Drive
Pittsburgh, PA 15239

Partners:

Pinski Corp.	Managing Partner	8/19/96
PennAmerican Coal, Inc.	Limited Partner	7/8/98

EIN# 25-1800809
Partnership Effective 7/8/98

Revised
3/6/07

433872.11

PENNSYLVANIA TRANSLOADING, INC.

29325 Chagrin Boulevard
Suite 300
Pepper Pike, Ohio 44122

Officers:

Paul B. Piccolini	President	4/28/06
James R. Turner, Jr.	Treasurer	3/1/05
Michael O. McKown	Secretary	3/1/05

Incorporation Information:

State of Incorporation	Ohio; Charter No. 736747
Date of Incorporation	November 18, 1988
Qualified:	Pennsylvania; December 28, 1988
Certificate of Authority	No. 8898868

ID #34-1603748

Shareholder:	Sunburst Resources, Inc. (100%)	04/01/96
Director:	Robert E. Murray	

[a]

Revised
5/10/07

[a] Sunburst Resources, Inc. has always been a shareholder and has no relation to Consolidated Land Company.

PINSKI CORP.

125 Old Farm Drive
Pittsburgh, PA 15239

Officers:

P. Bruce Hill	President and General Manager	9/05/00
Robert D. Moore	Treasurer and Secretary	6/25/01 6/25/01
Robert L. Putsock	Assistant Treasurer and Assistant Secretary	6/25/01 6/25/01

Incorporation Information:

State of Incorporation	Pennsylvania; PA Entity #002710766
Date of Incorporation	August 19, 1996
ID #25-1800870	

Shareholder:	PennAmerican Coal, Inc.
Director:	Charles E. Shestak

Revised 2/14/05

SPRING CHURCH COAL COMPANY

125 Old Farm Drive
Pittsburgh, PA 15239

Officers:

P. Bruce Hill	President	6/25/01
Robert D. Moore	Secretary and Treasurer	6/25/01 6/25/01
Robert L. Putsock	Assistant Treasurer	1/02/03
Elmer A. Mottillo	Assistant Secretary	1/02/03

Incorporation Information:

State of Incorporation	Pennsylvania; PA Entity #000696663
Date of Incorporation	November 2, 1979
ID #25-1372128	

Shareholder:	Mill Creek Mining Company
Director:	Charles E. Shestak

Revised: 2/14/05

SUNBURST RESOURCES, INC.

586 National Road
Wheeling, West Virginia 26003

Officers:

		Begin	End
Paul B. Piccolini	President	4/28/06	
Ronnie D. Dietz	Treasurer	3/1/05	
Michael B. Gardner	Secretary	3/1/05	05/01/07

Incorporation Information:

State of Incorporation	Pennsylvania; PA Entity #2616384
Date of Incorporation	January 10, 1995
ID #25-1766427	

Shareholder:	Ohio Valley Resources, Inc.	4/01/97
Director:	Robert E. Murray	

Revised
3/7/07

TDK COAL SALES, INCORPORATED

P. O. Box 259
R. D. #2, Fermantown Road
Brockway, PA 15824

Officers:

Stanley T. Piasecki	President and Chief Executive Officer	8/11/04
Elmer A. Mottillo	Treasurer	8/22/03
Michael O. McKown	Secretary	3/1/05
Charles E. Shestak	Assistant Secretary	2/01/99

Incorporation Information:

State of Incorporation	Pennsylvania; PA Entity #00758582
Date of Incorporation	June 28, 1982
ID #25-1422374	

Shareholder:	Energy Resources, Inc.	
Director:	Stanley T. Piasecki	8/11/04

Revised: 02/14/05

UMCO ENERGY, INC.

29325 Chagrin Boulevard
Suite 300
Pepper Pike, Ohio 44122

Officers:

		Begin	End
Paul B. Piccolini	President	4/28/06	
Ronnie D. Dietz	Treasurer and Assistant Secretary	3/1/05	
Michael B. Gardner	Secretary Vice-President	3/1/05 5/3/06	05/01/07

Incorporation Information:

State of Incorporation	Pennsylvania; PA Entity #1072295
Date of Incorporation	December 29, 1988
ID #52-1615668	
Shareholder:	Maple Creek Mining, Inc. and Toni J. Southern
Director:	Robert E. Murray

Revised
3/6/07

UTAHAMERICAN ENERGY, INC.

P.O. Box 902
6750 North Airport Road
Price, Utah 84501

Officers:

		Begin	End
P. Bruce Hill	Chief Executive Officer	8/18/06	
P. Bruce Hill	President	12/16/06	
Douglas H. Smith	President	8/18/06	12/16/06
Clyde I. Borrell	President	7/31/98	5/19/06
Robert D. Moore	Treasurer	8/18/06	
Michael O. McKown	Secretary	8/18/06	
Marsha Baker Kocinski	Secretary	7/31/98	6/25/02
Barbara Boyce	Secretary	7/31/98	11/01/99
Jay Marshall	Manager	7/31/98	8/18/06

Incorporation Information:

State of Incorporation — Utah;
Charter No. 212673

Date of Incorporation — July 30, 1998

ID #34-1874726

Shareholders: — Murray Energy Corporation
(100%)

Directors:

Robert E. Murray	7/31/98
P. Bruce Hill	8/18/06

Revised
5/2/07

WEST VIRGINIA RESOURCES, INC.

953 National Road
Suite 207
Wheeling, West Virginia 26003

Officers:

		Begin	End
Neil Kok	President	10/2/06	
Robert D. Moore	President	10/20/00	10/20/00
Robert E. Murray	President, CEO	12/27/91	10/20/00
Anne Besece	Treasurer and Secretary	10/2/06	
Robert L. Putsock	Treasurer and	6/25/01	10/2/06
	Assistant Secretary	6/25/01	
Robert E. Murray	Treasurer	12/27/91	6/25/01
Michael O. McKown	Secretary	3/1/05	10/2/06
Anthony Carl Laplaca	Secretary	12/27/91	3/1/05

Incorporation Information:

State of Incorporation: West Virginia;
Charter No. 00913610154813604

Date of Incorporation: December 27, 1991

ID #55-0713676

Shareholder: Mill Creek Mining Company (100%) 12/27/91

Director: Robert E. Murray

Revised
3/6/07

WYAMERICAN ENERGY, INC.

29325 Chagrin Boulevard
Suite 300
Pepper Pike, Ohio 44122

Officers:

Robert D. Moore	President, Treasurer and Secretary	5/3/06

Incorporation Information:

State of Incorporation	Wyoming; Charter No. 1998003378171
Date of Incorporation	September 22, 1998
ID #34-1875051	

Shareholder:	Murray Energy Corporation
Director:	Robert E. Murray

Revised
3/7/07

APPENDIX 5-1

BONDING CALCULATIONS

Bonding Calculations

Direct Costs		
Subtotal Demolition and Removal	$303,444.00	
Subtotal Backfilling and Grading	$777,302.00	
Subtotal Revegetation	$142,999.00	
Direct Costs	$1,223,745.00	
Indirect Costs		
Mob/Demob	$122,375.00	10.0%
Contingency	$61,187.00	5.0%
Engineering Redesign	$30,594.00	2.5%
Main Office Expense	$83,215.00	6.8%
Project Mainagement Fee	$30,594.00	2.5%
Subtotal Indirect Costs	$327,965.00	26.8%
Total Cost	$1,551,710.00	
Escalation factor		0.038
Number of years		3
Escalation	$183,702.00	
Reclamation Cost	$1,735,412.00	
Bond Amount (rounded to nearest $1,000) 2011 Dollars	$1,735,000.00	
Bond Posted 2004	$2,117,000.00	
Difference Between Cost Estimate and Bond	$382,000.00	
Percent Difference	22.02%	

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Shop Warehouse 01																			107204
		Bathhouse 02																			23464
		Administration Office 03																			19060
		Powder Magazines 04																			470
		Overhead Conveyor 05																			8058
		Conveyor Bents 06																			1915
		Drive Unit 07																			1883
		Discharge Structure 08																			3370
		Bent Angle Bracing 09																			1001
		Reclaim Conveyor Stringers 10																			11745
		Crusher Building 11																			13408
		Reclaim Tunnel Headwall 12																			2356
		Loadout Conveyor 13																			1340
		Loadout Conveyor Bent 14																			170
		Mine Fan 15																			3139
		Ductwork Airlock 16																			7168
		Motor Room 17																			1125
		MCC 18																			989
		Portals 19																			20800
		Rock Dust Tanks 20																			4830
		Oil Grease Storage 21																			1221
		Dumpster Bay 22																			3360
		Monitoring Well 23																			5000
		Hilfiker Wall 24																			18300
		Guard Rail 25																			7155
		Bypass Culvert 26																			19984
		Culverts 27																			418
		Water Tanks 28																			4280
		Reclaim Vaults 29																			6210
		Reclaim Tunnel Semisphere 30																			4021
		Riprap 38																			0
		Total																			303444

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Shop Warehouse 01																			
		Structure's Demolition Cost	Mixed Materials Bld. Large	02 41 16 13 0100	0.3	/CF	160	60	30								FT		288000	CF	86400
		Structure's Vol. Demolished																0.33	3520	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel	City Services	City Service Price	4	/CY													3520	CY	14080
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			100480
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete demolition	ConcreteDemo1	9.92	/CY	60	160	0.67								FT		238	CY	2361
		Concrete's Vol. Demolished																1.3	309	CY	
		Loading Cost	Front end loader 3 CY	31 23 16 42 1300	1.59	/CY													309	CY	491
		Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. tr	31 23 23 18 0320	3.73	/CY													309	CY	1153
		Disposal Costs	Disposal on site	02 41 16 17 4200	8.8	/CF													309	CY	2719
		Subtotal																			6724
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			107204

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Bathhouse 02																			
		Structure's Demolition Cost	Mixed Materials Bld. Large	02 41 16 13 0100	0.3	/CF	40	120	12								FT		57600	CF	17280
		Structure's Vol. Demolished																0.33	704	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel	City Services	City Service Price	4	/CY													704	CY	2816
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			20096
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete demolition	ConcreteDemo1	9.92	/CY	40	120	0.67								FT		119	CY	1180
		Concrete's Vol. Demolished																1.3	155	CY	
		Loading Cost	Front end loader 3 CY	31 23 16 42 1300	1.59	/CY													155	CY	246
		Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. tri	31 23 23 18 0320	3.73	/CY													155	CY	578
		Disposal Costs	Disposal on site	02 41 16 17 4200	8.8	/CF													155	CY	1364
		Subtotal																			3368
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			23464

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Administration Office 03																			
		Structure's Demolition Cost	Mixed Materials Bld. Large	02 41 16 13 0100	0.3	/CF	40	70	18								FT		50400	CF	15120
		Structure's Vol. Demolished																0.33	616	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel	City Services	City Service Price	4	/CY													616	CY	2464
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			17584
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete demolition	ConcreteDemo1	9.92	/CY	40	70	0.5								FT		52	CY	516
		Concrete's Vol. Demolished																1.3	68	CY	
		Loading Cost	Front end loader 3 CY	31 23 16 42 1300	1.59	/CY													68	CY	108
		Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. tr	31 23 23 18 0320	3.73	/CY													68	CY	254
		Disposal Costs	Disposal on site	02 41 16 17 4200	8.8	/CF													68	CY	598
		Subtotal																			1476
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			19060

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Powder Magazines 04																			
		Structure's Demolition Cost	Mixed Materials Bld. Large	02 41 16 13 0100	0.3	/CF	8	8	8							2	FT		1024	CF	307
		Structure's Vol. Demolished																0.33	13	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel	City Services	City Service Price	4	/CY													13	CY	52
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			359
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete demolition	ConcreteDemo1	9.92	/CY	10	10	0.5							2	FT		4	CY	40
		Concrete's Vol. Demolished																1.3	5	CY	
		Loading Cost	Front end loader 3 CY	31 23 16 42 1300	1.59	/CY													5	CY	8
		Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. tri	31 23 23 18 0320	3.73	/CY													5	CY	19
		Disposal Costs	Disposal on site	02 41 16 17 4200	8.8	/CF													5	CY	44
		Subtotal																			111
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			470

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Overhead Conveyor 05																			
		Structure's Demolition Cost	Mixed Materials Bld. Large	02 41 16 13 0100	0.3	/CF	550	7	6								FT		23100	CF	6930
		Structure's Vol. Demolished																0.33	282	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel	City Services	City Service Price	4	/CY													282	CY	1128
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			8058
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			8058

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Conveyor Bents 06																			
		Structure's Demolition Cost	Mixed Materials Bld. Large	02 41 16 13 0100	0.3	/CF	50	15	1.5							4	FT		4500	CF	1350
		Structure's Vol. Demolished																0.33	55	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel	City Services	City Service Price	4	/CY													55	CY	220
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			1570
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete demolition	ConcreteDemo1	9.92	/CY	4	20	1							4	FT		12	CY	119
		Concrete's Vol. Demolished																1.3	16	CY	
		Loading Cost	Front end loader 3 CY	31 23 16 42 1300	1.59	/CY													16	CY	25
		Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. tri	31 23 23 18 0320	3.73	/CY													16	CY	60
		Disposal Costs	Disposal on site	02 41 16 17 4200	8.8	/CF													16	CY	141
		Subtotal																			345
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			1915

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Drive Unit 07																			
		Structure's Demolition Cost	Mixed Materials Bld. Large	02 41 16 13 0100	0.3	/CF	20	30	6								FT		3600	CF	1080
		Structure's Vol. Demolished																0.33	44	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel	City Services	City Service Price	4	/CY													44	CY	176
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			1256
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete demolition	ConcreteDemo1	9.92	/CY	20	30	1								FT		22	CY	218
		Concrete's Vol. Demolished																1.3	29	CY	
		Loading Cost	Front end loader 3 CY	31 23 16 42 1300	1.59	/CY													29	CY	46
		Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. md. tr	31 23 23 18 0320	3.73	/CY													29	CY	108
		Disposal Costs	Disposal on site	02 41 16 17 4200	8.8	/CF													29	CY	255
		Subtotal																			627
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			1883

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Discharge Structure 08																			
		Structure's Demolition Cost	Mixed Materials Bld. Large	02 41 16 13 0100	0.3	/CF	230	7	6								FT		9660	CF	2898
		Structure's Vol. Demolished																0.33	118	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel	City Services	City Service Price	4	/CY													118	CY	472
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			3370
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			3370

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Bent Angle Bracing 09																			
		Structure's Demolition Cost	Mixed Materials Bld. Large	02 41 16 13 0100	0.3	/CF	70	20	2								FT		2800	CF	840
		Structure's Vol. Demolished																0.33	34	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel	City Services	City Service Price	4	/CY													34	CY	136
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			976
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete demolition	ConcreteDemo1	9.92	/CY	2	30	0.67								FT		1	CY	10
		Concrete's Vol. Demolished																1.3	1	CY	
		Loading Cost	Front end loader 3 CY	31 23 16 42 1300	1.59	/CY													1	CY	2
		Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. tri	31 23 23 18 0320	3.73	/CY													1	CY	4
		Disposal Costs	Disposal on site	02 41 16 17 4200	8.8	/CF													1	CY	9
		Subtotal																			25
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			1001

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Reclaim Conveyor Stringers 10																			
		Structure's Demolition Cost	Mixed Materials Bld. Large	02 41 16 13 0100	0.3	/CF	320	5	3								FT		4800	CF	1440
		Structure's Vol. Demolished																0.33	59	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel	City Services	City Service Price	4	/CY													59	CY	236
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			1676
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete demolition	ConcreteDemo1	9.92	/CY	60	160	1								FT		356	CY	3532
		Concrete's Vol. Demolished																1.3	463	CY	
		Loading Cost	Front end loader 3 CY	31 23 16 42 1300	1.59	/CY													463	CY	736
		Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. tri	31 23 23 18 0320	3.73	/CY													463	CY	1727
		Disposal Costs	Disposal on site	02 41 16 17 4200	8.8	/CF													463	CY	4074
		Subtotal																			10069
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			11745

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Crusher Building 11																			
		Structure's Demolition Cost	Mixed Materials Bld. Large	02 41 16 13 0100	0.3	/CF	24	50	30								FT		36000	CF	10800
		Structure's Vol. Demolished																0.33	440	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel	City Services	City Service Price	4	/CY													440	CY	1760
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			12560
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete demolition	ConcreteDemo1	9.92	/CY	24	50	0.67								FT		30	CY	298
		Concrete's Vol. Demolished																1.3	39	CY	
		Loading Cost	Front end loader 3 CY	31 23 16 42 1300	1.59	/CY													39	CY	62
		Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. tr	31 23 23 18 0320	3.73	/CY													39	CY	145
		Disposal Costs	Disposal on site	02 41 16 17 4200	8.8	/CF													39	CY	343
		Subtotal																			848
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			13408

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Reclaim Tunnel Headwall 12																			
		Structure's Demolition Cost	Mixed Materials Bld. Large	02 41 16 13 0100	0.3	/CF	20	15	15								FT		4500	CF	1350
		Structure's Vol. Demolished																0.33	55	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel	City Services	City Service Price	4	/CY													55	CY	220
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			1570
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Floor																			
		Concrete Demolition																			
		Demolition Cost	Concrete demolition	ConcreteDemo1	9.92	/CY	20	15	1								FT		11	CY	109
		Concrete's Vol. Demolished																1.3	14	CY	
		Loading Cost	Front end loader 3 CY	31 23 16 42 1300	1.59	/CY													14	CY	22
		Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. tri	31 23 23 18 0320	3.73	/CY													14	CY	52
		Disposal Costs	Disposal on site	02 41 16 17 4200	8.8	/CF													14	CY	123
		Subtotal																			306
		Wall's Demo. Cost																			
		Concrete Demolition																			
		Demolition Cost	Concrete demolition	ConcreteDemo1	9.92	/CY	15	15	1							2	FT		17	CY	169
		Concrete's Vol. Demolished																1.3	22	CY	
		Loading Cost	Front end loader 3 CY	31 23 16 42 1300	1.59	/CY													22	CY	35
		Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. tri	31 23 23 18 0320	3.73	/CY													22	CY	82
		Disposal Costs	Disposal on site	02 41 16 17 4200	8.8	/CF													22	CY	194
		Subtotal																			480
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			2356

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Loadout Conveyor 13																			
		Structure's Demolition Cost	Mixed Materials Bld. Large	02 41 16 13 0100	0.3	/CF	160	4	6								FT		3840	CF	1152
		Structure's Vol. Demolished																0.33	47	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel	City Services	City Service Price	4	/CY													47	CY	188
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			1340
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			1340

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Loadout Conveyor Bent 14																			
		Structure's Demolition Cost	Mixed Materials Bld. Large	02 41 16 13 0100	0.3	/CF	20	8	1.5								FT		240	CF	72
		Structure's Vol. Demolished																0.33	3	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel	City Services	City Service Price	4	/CY													3	CY	12
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			84
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete demolition	ConcreteDemo1	9.92	/CY	4	12	1.5								FT		3	CY	30
		Concrete's Vol. Demolished																1.3	4	CY	
		Loading Cost	Front end loader 3 CY	31 23 16 42 1300	1.59	/CY													4	CY	6
		Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. tri	31 23 23 18 0320	3.73	/CY													4	CY	15
		Disposal Costs	Disposal on site	02 41 16 17 4200	8.8	/CF													4	CY	35
		Subtotal																			86
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			170

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Mine Fan 15																			
		Structure's Demolition Cost	Mixed Materials Bld. Large	02 41 16 13 0100	0.3	/CF	12	12	50								FT		7200	CF	2160
		Structure's Vol. Demolished																0.33	88	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel	City Services	City Service Price	4	/CY													88	CY	352
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			2512
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete demolition	ConcreteDemo1	9.92	/CY	12	50	1								FT		22	CY	218
		Concrete's Vol. Demolished																1.3	29	CY	
		Loading Cost	Front end loader 3 CY	31 23 16 42 1300	1.59	/CY													29	CY	46
		Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. tri	31 23 23 18 0320	3.73	/CY													29	CY	108
		Disposal Costs	Disposal on site	02 41 16 17 4200	8.8	/CF													29	CY	255
		Subtotal																			627
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			3139

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Ductwork Airlock 16																			
		Structure's Demolition Cost	Steel Bld. Large	02 41 16 13 0012	0.29	/CF	70	20	12								FT		16800	CF	4872
		Structure's Vol. Demolished																0.33	205	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel	City Services	City Service Price	4	/CY													205	CY	820
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			5692
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete demolition	ConcreteDemo1	9.92	/CY	70	20	1								FT		52	CY	516
		Concrete's Vol. Demolished																1.3	68	CY	
		Loading Cost	Front end loader 3 CY	31 23 16 42 1300	1.59	/CY													68	CY	108
		Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. tr	31 23 23 18 0320	3.73	/CY													68	CY	254
		Disposal Costs	Disposal on site	02 41 16 17 4200	8.8	/CF													68	CY	598
		Subtotal																			1476
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			7168

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Motor Room 17																			
		Structure's Demolition Cost	Steel Bld. Large	02 41 16 13 0012	0.29	/CF	16	16	10								FT		2560	CF	742
		Structure's Vol. Demolished																0.33	31	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel	City Services	City Service Price	4	/CY													31	CY	124
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			866
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete demolition	ConcreteDemo1	9.92	/CY	16	16	1								FT		9	CY	89
		Concrete's Vol. Demolished																1.3	12	CY	
		Loading Cost	Front end loader 3 CY	31 23 16 42 1300	1.59	/CY													12	CY	19
		Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. tr	31 23 23 18 0320	3.73	/CY													12	CY	45
		Disposal Costs	Disposal on site	02 41 16 17 4200	8.8	/CF													12	CY	106
		Subtotal																			259
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Room																			1125

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		MCC 18																			
		Structure's Demolition Cost	Steel Bld. Large	02 41 16 13 0012	0.29	/CF	12	20	9								FT		2160	CF	626
		Structure's Vol. Demolished																0.33	26	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel	City Services	City Service Price	4	/CY													26	CY	104
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			730
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete demolition	ConcreteDemo1	9.92	/CY	12	20	1								FT		9	CY	89
		Concrete's Vol. Demolished																1.3	12	CY	
		Loading Cost	Front end loader 3 CY	31 23 16 42 1300	1.59	/CY													12	CY	19
		Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. tri	31 23 23 18 0320	3.73	/CY													12	CY	45
		Disposal Costs	Disposal on site	02 41 16 17 4200	8.8	/CF													12	CY	106
		Subtotal																			259
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			989

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Portals 19																			
		Structure's Demolition Cost	Seal Portals	AML1	5200	EA.										4	EA		4	EA	20800
		Structure's Vol. Demolished																			
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel																			
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			20800
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			20800

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Rock Dust Tanks 20																			
		Structure's Demolition Cost	Mixed Materials Bld. Large	02 41 16 13 0100	0.3	/CF			40	12						2	FT		9048		2714
		Structure's Vol. Demolished																0.33	111	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel	City Services	City Service Price	4	/CY													111	CY	444
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			3158
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete demolition	ConcreteDemo1	9.92	/CY	20	40	1							2	FT		59	CY	585
		Concrete's Vol. Demolished																1.3	77	CY	
		Loading Cost	Front end loader 3 CY	31 23 16 42 1300	1.59	/CY													77	CY	122
		Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. tri	31 23 23 18 0320	3.73	/CY													77	CY	287
		Disposal Costs	Disposal on site	02 41 16 17 4200	8.8	/CF													77	CY	678
		Subtotal																			1672
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			4830

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Oil Grease Storage 21																			
		Structure's Demolition Cost	Mixed Materials Bld. Large	02 41 16 13 0100	0.3	/CF	10	30	10								FT		3000	CF	900
		Structure's Vol. Demolished																0.33	37	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel	City Services	City Service Price	4	/CY													37	CY	148
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			1048
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete demolition	ConcreteDemo1	9.92	/CY	10	30	0.5								FT		6	CY	60
		Concrete's Vol. Demolished																1.3	8	CY	
		Loading Cost	Front end loader 3 CY	31 23 16 42 1300	1.59	/CY													8	CY	13
		Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. tri	31 23 23 18 0320	3.73	/CY													8	CY	30
		Disposal Costs	Disposal on site	02 41 16 17 4200	8.8	/CF													8	CY	70
		Subtotal																			173
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			1221

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Dumpster Bay 22																			
		Structure's Demolition Cost	Mixed Materials Bld. Large	02 41 16 13 0100	0.3	/CF	30	40	6								FT		7200	CF	2160
		Structure's Vol. Demolished																0.33	88	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel	City Services	City Service Price	4	/CY													88	CY	352
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			2512
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete demolition	ConcreteDemo1	9.92	/CY	30	40	0.67								FT		30	CY	298
		Concrete's Vol. Demolished																1.3	39	CY	
		Loading Cost	Front end loader 3 CY	31 23 16 42 1300	1.59	/CY													39	CY	62
		Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. tri	31 23 23 18 0320	3.73	/CY													39	CY	145
		Disposal Costs	Disposal on site	02 41 16 17 4200	8.8	/CF													39	CY	343
		Subtotal																			848
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			3360

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Monitoring Well 23																			
		Structure's Demolition Cost	Plug Well	AML3	5000	EA.										1	EA		1	EA	5000
		Structure's Vol. Demolished																			
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel																			
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			5000
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			5000

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Hilfiker Wall 24																			
		Structure's Demolition Cost	Steel Bld. Large	02 41 16 13 0012	0.29	/CF	150	30	12								FT		54000	CF	15660
		Structure's Vol. Demolished																0.33	660	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel	City Services	City Service Price	4	/CY													660	CY	2640
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			18300
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			18300

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Guard Rail 25																			
		Structure's Demolition Cost																			
		Structure's Vol. Demolished																			
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel																			
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete demolition	ConcreteDemo1	9.92	/CY	3400	3	0.67								FT		253	CY	2510
		Concrete's Vol. Demolished																1.3	329	CY	
		Loading Cost	Front end loader 3 CY	31 23 16 42 1300	1.59	/CY													329	CY	523
		Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. tri	31 23 23 18 0320	3.73	/CY													329	CY	1227
		Disposal Costs	Disposal on site	02 41 16 17 4200	8.8	/CF													329	CY	2895
		Subtotal																			7155
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			7155

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Bypass Culvert 26																			
		48" culvert removal	Excavation Bulk Bank 2 CY (322BL)	31 23 16 42 0260	1.54	/CY	4314	4	8								ft		5113	CY	7874
		48" culvert backfill	Backfill Trench Mininal Haul 2 1/4 CY	31 23 16 13 3080	1.83	/CY	4314	4	8								ft		5113	CY	9357
		36" culvert removal	Excavation Bulk Bank 2 CY (322BL)	31 23 16 42 0260	1.54	/CY	962	3	6								ft		641	CY	987
		36" culvert backfill	Backfill Trench Mininal Haul 2 1/4 CY	31 23 16 13 3080	1.83	/CY	962	3	6								ft		641	CY	1173
		24" culvert removal	Excavation Bulk Bank 2 CY (322BL)	31 23 16 42 0260	1.54	/CY	594	2	4								ft		176	CY	271
		24" culvert backfill	Backfill Trench Mininal Haul 2 1/4 CY	31 23 16 13 3080	1.83	/CY	594	2	4								ft		176	CY	322
		Subtotal																			19984
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			19984

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Culverts 27																			
		24" culvert removal	Excavation Bulk Bank 2 CY (322BL)	31 23 16 42 0260	1.54	/CY	160	2	4								ft		47	CY	72
		24" culvert backfill	Backfill Trench Mininal Haul 2 1/4 CY	31 23 16 13 3080	1.83	/CY	160	2	4								ft		47	CY	86
		18" culvert removal	Excavation Bulk Bank 2 CY (322BL)	31 23 16 42 0260	1.54	/CY	460	1.5	3								ft		77	CY	119
		18" culvert backfill	Backfill Trench Mininal Haul 2 1/4 CY	31 23 16 13 3080	1.83	/CY	460	1.5	3								ft		77	CY	141
		Subtotal																			418
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			418

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Water Tanks 28																			
		Structure's Demolition Cost	Steel Bld. Large	02 41 16 13 0012	0.29	/CF			30	12						3	FT		10179		2952
		Structure's Vol. Demolished																0.33	124	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel																			
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			2952
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete demolition	ConcreteDemo1	9.92	/CY	16	40	1							2	FT		47	CY	466
		Concrete's Vol. Demolished																1.3	61	CY	
		Loading Cost	Front end loader 3 CY	31 23 16 42 1300	1.59	/CY													61	CY	97
		Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. tri	31 23 23 18 0320	3.73	/CY													61	CY	228
		Disposal Costs	Disposal on site	02 41 16 17 4200	8.8	/CF													61	CY	537
		Subtotal																			1328
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			4280

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Reclaim Vaults 29																			
		Structure's Demolition Cost	Mixed Materials Bld. Large	02 41 16 13 0100	0.3	/CF	15	20	13							3	FT		11700	CF	3510
		Structure's Vol. Demolished																0.33	143	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel	City Services	City Service Price	4	/CY													143	CY	572
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			4082
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete demolition	ConcreteDemo1	9.92	/CY	15	30	1.5							3	FT		75	CY	744
		Concrete's Vol. Demolished																1.3	98	CY	
		Loading Cost	Front end loader 3 CY	31 23 16 42 1300	1.59	/CY													98	CY	156
		Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. tri	31 23 23 18 0320	3.73	/CY													98	CY	366
		Disposal Costs	Disposal on site	02 41 16 17 4200	8.8	/CF													98	CY	862
		Subtotal																			2128
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			6210

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Reclaim Tunnel Semisphere 30																			
		Structure's Demolition Cost																			
		Structure's Vol. Demolished																			
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel																			
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete demolition	ConcreteDemo1	9.92	/CY	210	0.5		13							FT		79	CY	784
		Concrete's Vol. Demolished																1.3	103	CY	
		Loading Cost	Front end loader 3 CY	31 23 16 42 1300	1.59	/CY													103	CY	164
		Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. tri	31 23 23 18 0320	3.73	/CY													103	CY	384
		Disposal Costs	Disposal on site	02 41 16 17 4200	8.8	/CF													103	CY	906
		Subtotal																			2238
		Concrete Demolition																			
		Demolition Cost	Concrete demolition	ConcreteDemo1	9.92	/CY	210	12	0.67								FT		63	CY	625
		Concrete's Vol. Demolished																1.3	82	CY	
		Loading Cost	Front end loader 3 CY	31 23 16 42 1300	1.59	/CY													82	CY	130
		Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. tri	31 23 23 18 0320	3.73	/CY													82	CY	306
		Disposal Costs	Disposal on site	02 41 16 17 4200	8.8	/CF													82	CY	722
		Subtotal																			1783
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		TOTAL																			4021

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Escape Tunnel Vent 31																			
		Structure's Demolition Cost	Mixed Materials Bld. Large	02 41 16 13 0100	0.3	/CF			250	3.5							FT		2405	CF	722
		Structure's Vol. Demolished																0.33	29	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel	City Services	City Service Price	4	/CY													29	CY	116
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			838
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			838

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Truck Loadout 32																			
		Structure's Demolition Cost	Mixed Materials Bld. Large	02 41 16 13 0100	0.3	/CF	20	20	30								FT		12000	CF	3600
		Structure's Vol. Demolished																0.33	147	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel	City Services	City Service Price	4	/CY													147	CY	588
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			4188
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete demolition	ConcreteDemo1	9.92	/CY	20	20	1								FT		15	CY	149
		Concrete's Vol. Demolished																1.3	20	CY	
		Loading Cost	Front end loader 3 CY	31 23 16 42 1300	1.59	/CY													20	CY	32
		Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. tri	31 23 23 18 0320	3.73	/CY													20	CY	75
		Disposal Costs	Disposal on site	02 41 16 17 4200	8.8	/CF													20	CY	176
		Subtotal																			432
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		TOTAL																			4620

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Substation Electrical 33																			
		Structure's Demolition Cost	Mixed Materials Bld. Large	02 41 16 13 0100	0.3	/CF	50	100	20								FT		100000	CF	30000
		Structure's Vol. Demolished																0.33	1222	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel	City Services	City Service Price	4	/CY													1222	CY	4888
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			34888
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete demolition	ConcreteDemo1	9.92	/CY	40	80	1								FT		119	CY	1180
		Concrete's Vol. Demolished																1.3	155	CY	
		Loading Cost	Front end loader 3 CY	31 23 16 42 1300	1.59	/CY													155	CY	246
		Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. tri	31 23 23 18 0320	3.73	/CY													155	CY	578
		Disposal Costs	Disposal on site	02 41 16 17 4200	8.8	/CF													155	CY	1364
		Subtotal																			3368
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			38256

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Powerline 69KV 34																			
		Structure's Demolition Cost	Wire Removal	26 05 05 10 1900	0	CLF	1200										LF		12	CLF	0
		Structure's Vol. Demolished																			
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel																			
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			0
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			0

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Powerline Yard Distribution 35																			
		Structure's Demolition Cost	Wire Removal	26 05 05 10 1900	0	CLF	1400										LF		14	CLF	0
		Structure's Vol. Demolished																			
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel																			
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			0
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			0

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Pavement Rail Loadout 36																			
		Structure's Demolition Cost																			
		Structure's Vol. Demolished																			
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel																			
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		SubTotal																			
		Equipment 's Disposal Cost																			
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		SubTotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete demolition	ConcreteDemo1	9.92	/CY	100	120	0.33								FT		147	CY	1458
		Concrete's Vol. Demolished																1.3	191	CY	
		Loading Cost	Front end loader 3 CY	31 23 16 42 1300	1.59	/CY													191	CY	304
		Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. tr	31 23 23 18 0320	3.73	/CY													191	CY	712
		Disposal Costs	Disposal on site	02 41 16 17 4200	8.8	/CF													191	CY	1681
		SubTotal																			4155
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		SubTotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		SubTotal																			
		Total																			4155

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Pumphouse 37																			
		Structure's Demolition Cost	Mixed Materials Bld. Large	02 41 16 13 0100	0.3	/CF	20	20	8								FT		3200	CF	960
		Structure's Vol. Demolished																0.33	39	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel	City Services	City Service Price	4	/CY													39	CY	156
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			1116
		Equipment 's Disposal Cost	Chain link remove 8'-10'	02 41 13 60 1700	3.43	/LF	250										FT		250	FT	858
		Dismantling Cost																			
		Equipment 's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Asphalt																			
		Asphalt Demolition																			
		Demolition Cost	Concrete demolition	ConcreteDemo1	9.92	/CY						31.48					CY		31	CY	308
		Concrete's Vol. Demolished																1.3	40	CY	
		Loading Cost	Front end loader 3 CY	31 23 16 42 1300	1.59	/CY													40	CY	64
		Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. tri	31 23 23 18 0320	3.73	/CY													40	CY	149
		Disposal Costs	Disposal on site	02 41 16 17 4200	8.8	/CF													40	CY	352
		Subtotal																			873
		Concrete Demolition																			
		Demolition Cost	Concrete demolition	ConcreteDemo1	9.92	/CY	20	20	0.5								FT		7	CY	69
		Concrete's Vol. Demolished																1.3	9	CY	
		Loading Cost	Front end loader 3 CY	31 23 16 42 1300	1.59	/CY													9	CY	14
		Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. tri	31 23 23 18 0320	3.73	/CY													9	CY	34
		Disposal Costs	Disposal on site	02 41 16 17 4200	8.8	/CF													9	CY	79
		Subtotal																			196
		Total																			2614

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
	2233	Riprap 38																			
		Structure's Demolition Cost																			
		Structure's Vol. Demolished																			
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel																			
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			
		Riprap																			
		Place Riprap	Machine placed rip-rap slope protection	31 37 13 10 0010	0	CY	500				10						sq ft ft		185	CY	0
		Subtotal																			0
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			0

	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Remove Cap Layer															23390
Remove Excess Pad Fill															432150
Remove Remaining Backfill															28839
Backfill Highwall															4124
															19367
Expose Topsoil															94951
Establish Rubbleland Surface															19479
Pump House															557
Support Personnel and Equipment															154445
															777302

	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Remove Cap Layer															
988G EROPS (9-34) (2nd2006) 2005	15505	77.35	0.1	60.1	242.09	1	242.09	$/HR	4466	CY	727	CY/HR	6.1	HR	1477
6X4 70,000lbs 12-18 CY (20-11) (2nd2006)	3880	42.5	0.1	47.35	118.35	28	3313.8	$/HR					6.1	HR	20214
D9R Semi-U EROPS (9-50) (2H2006)	19200	89.5	0.1	60.1	278.55	1	278.55	$/HR					6.1	HR	1699
									5024	TON					0
Subtotal															23390

	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Remove Excess Pad Fill															
Left Fork															
6X4 70,000lbs 12-18 CY (20-11) (2nd2006)	3880	42.5	0.1	47.35	118.35	11	1301.85	$/HR	13614	CY	380	CY/HR	35.8	HR	46606
988G EROPS (9-34) (2nd2006) 2005	15505	77.35	0.1	60.1	242.09	1	242.09	$/HR					35.8	HR	8667
Right Fork															
6X4 70,000lbs 12-18 CY (20-11) (2nd2006)	3880	42.5	0.1	47.35	118.35	11	1301.85	$/HR	3916	CY	380	CY/HR	10.3	HR	13409
988G EROPS (9-34) (2nd2006) 2005	15505	77.35	0.1	60.1	242.09	1	242.09	$/HR					10.3	HR	2494
Main Canyon															
6X4 70,000lbs 12-18 CY (20-11) (2nd2006)	3880	42.5	0.1	47.35	118.35	11	1301.85	$/HR	88829	CY	380	CY/HR	233.8	HR	304373
988G EROPS (9-34) (2nd2006) 2005	15505	77.35	0.1	60.1	242.09	1	242.09	$/HR					233.8	HR	56601
Subtotal															432150

	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Remove Remaining Backfill															
Left Fork 21+50 to 23+00															
988G EROPS (9-34) (2nd2006) 2005	15505	77.35	0.1	60.1	242.09	1	242.09	$/HR	2857	CY	440	CY/HR	6.5	HR	1574
988G EROPS (9-34) (2nd2006) 2005	15505	77.35	0.1	60.1	242.09	1	242.09	$/HR	16604	CY	391.5	CY/HR	42.4	HR	10265
6X4 70,000lbs 12-18 CY (20-11) (2nd2006)	3880	42.5	0.1	47.35	118.35	2	236.7	$/HR					42.4	HR	10036
Right Fork Upper Canyon @35+00															
D9R Semi-U EROPS (9-50) (2H2006)	19200	89.5	0.1	60.1	278.55	1	278.55	$/HR	16604	CY	663	CY/HR	25	HR	6964
Assume material will be sent to backfill highwall															
and that the cost to ship off site is more than															
the cost to backfill highwall.															
Subtotal															28839

	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Backfill Highwall															
CAT 325CL (10-24)(2nd2006)	10235	46.75	0.1	60.1	175.49	1	175.49	$/HR	1481	CY	63	CY/HR	23.5	HR	4124
Subtotal															4124

	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Topsoil															
988G EROPS (9-34) (2nd2006) 2005	15505	77.35	0.1	60.1	242.09	1	242.09	$/HR	6506	CY	220	CY/HR	29.6	HR	7166
6X4 70,000lbs 12-18 CY (20-11) (2nd2006)	3880	42.5	0.1	47.35	118.35	2	236.7	$/HR					29.6	HR	7006
CAT 325CL (10-24)(2nd2006)	10235	46.75	0.1	60.1	175.49	1	175.49	$/HR					29.6	HR	5195
Subtotal															19367

	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Expose Topsoil															
CLAB					47.05	20	941	$/HR	3226	CY	40	CY/HR	80.7	HR	75939
D3C LGP EROPS (9-54) (2nd 2006)	0	0	0.1	60.1	60.1	1	60.1	$/HR					80.7	HR	4850
CAT 325CL (10-24)(2nd2006)	10235	46.75	0.1	60.1	175.49	1	175.49	$/HR					80.7	HR	14162
6X4 70,000lbs 12-18 CY (20-11) (2nd2006)	3880	42.5	0.1	47.35	118.35	2							80.7	HR	0
Subtotal															94951

	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Establish Rubbleland Surface															
CAT 325CL (10-24)(2nd2006)	10235	46.75	0.1	60.1	175.49	1	175.49	$/HR					111	HR	19479
Subtotal															19479

	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Pump House															
D9R Semi-U EROPS (9-50) (2H2006)	19200	89.5	0.1	60.1	278.55	1	278.55	$/HR					2	HR	557
Subtotal															557

	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Support Personnel and Equipment															
Foreman Average, Outside					64.4	1	64.4	$/HR					605.5	HR	38994
Pickup Crew 4x4 1 ton 300 hp (20-11) (2nd2006)	985	16.85	0.1	0	24.69	1	24.69	$/HR					605.5	HR	14950
5,000 gal H2O truck Diesel (20-17) (2nd2006)	5170	35.7	0.1	47.35	118.93	1	118.93	$/HR					605.5	HR	72012
CLAB					47.05	1	47.05	$/HR					605.5	HR	28489
Subtotal															154445

Ref.	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
	Pinyon Juniper Community																			
	Mulch Material	Hydro Spreader (equip. & labor) B-81 80MS	Reveg002	0	/MSF					13						AC		566	MSF	0
	Mulch Labor and Equipement	Hay 1" material only 32 91 13 16 0350	Reveg001	56.1	/MSF					13						AC		566	MSF	31753
	Seeding Material	West Ridge Pinyon/Juniper	WestRidge07411	484.05	/AC					13						AC		13	AC	6293
	Seeding Equipment and Labor	Hydro Spreader (equip. & labor) B-81 80MS	Reveg002	0	/MSF					13						AC		566	MSF	0
	Douglas Fir Maple Community																			
	Mulch Material	Hydro Spreader (equip. & labor) B-81 80MS	Reveg002	0	/MSF					10						AC		436	MSF	0
	Mulch Labor and Equipement	Hay 1" material only 32 91 13 16 0350	Reveg001	56.1	/MSF					10						AC		436	MSF	24460
	Seeding Material	West Ridge Douglas Fir Maple	WestRidge07412	747.45	/AC					10						AC		10	AC	7475
	Seeding Equipment and Labor	Hydro Spreader (equip. & labor) B-81 80MS	Reveg002	0	/MSF					10						AC		436	MSF	0
	Transplants														300	/AC				
		Serviceberry	WestRidge07416	3.95	/EA					10						AC		3000	EA	11850
		Mountain Mahogany	WestRidge07417	3.95	/EA					10						AC		3000	EA	11850
	Douglas Fir Rocky Mountain Juniper																			
	Mulch Material	Hydro Spreader (equip. & labor) B-81 80MS	Reveg002	0	/MSF					5						AC		218	MSF	0
	Mulch Labor and Equipement	Hay 1" material only 32 91 13 16 0350	Reveg001	56.1	/MSF					5						AC		218	MSF	12230
	Seeding Material	West Ridge Douglas Fir Mt Juniper	WestRidge07413	524.15	/AC					5						AC		5	AC	2621
	Seeding Equipment and Labor	Hydro Spreader (equip. & labor) B-81 80MS	Reveg002	0	/MSF					5						AC		218	MSF	0
	Sagebrush Grass Community																			
	Mulch Material	Hydro Spreader (equip. & labor) B-81 80MS	Reveg002	0	/MSF					1						AC		44	MSF	0
	Mulch Labor and Equipement	Hay 1" material only 32 91 13 16 0350	Reveg001	56.1	/MSF					1						AC		44	MSF	2468
	Seeding Material	West Ridge Douglas Fir Mt Juniper	WestRidge07414	601.3	/AC					1						AC		1	AC	601
	Seeding Equipment and Labor	Hydro Spreader (equip. & labor) B-81 80MS	Reveg002	0	/MSF					1						AC		44	MSF	0
	Pumphouse																			
	Mulch Material	Hydro Spreader (equip. & labor) B-81 80MS	Reveg002	0	/MSF					0.9						AC		39	MSF	0
	Mulch Labor and Equipement	Hay 1" material only 32 91 13 16 0350	Reveg001	56.1	/MSF					0.9						AC		39	MSF	2188
	Seeding Material	West Ridge Pinyon/Juniper	WestRidge07411	484.05	/AC					0.9						AC		0.9	AC	436
	Seeding Equipment and Labor	Hydro Spreader (equip. & labor) B-81 80MS	Reveg002	0	/MSF					0.9						AC		39	MSF	0
	Place Silt Fence	Silt fence	31 25 13 10 1100	1.16	LF	150										FT		150	FT	174
	Subtotal																			114399
	Mine Site																			
	Reseeding 25%																			28600
																				28600
	Total																			142999

APPENDIX 7-4

(REPLACEMENT PAGES)

APPENDIX 7-4

WEST RIDGE MINE
SEDIMENTATION AND DRAINAGE CONTROL PLAN
(AS CONSTRUCTED)

PREPARED BY: DAN W. GUY, P.E.
BLACKHAWK ENGINEERING, INC.
APRIL 2008

e) **At the present time, water is being discharged from the mine. Before the mine was sufficiently developed to provide large settling sumps, the water was pumped into the upper cell of the sediment pond, for settling prior to discharge. At that time calculations were updated to show the affected disturbed ditches and culverts were adequate to carry an additional 0.51 cfs or 230 gpm of mine water.**

Under the present scenario, large sumps are generally available underground to provide adequate settling to allow the mine water to be discharged directly into the bypass culvert UC-EE at the UPDES 002 outfall, as shown on Map 7-2. The bypass culvert calculations have also been upgraded to reflect the potential flow increase from this mine water; however, since this is clean water and does not have to flow through ditches for disturbed area culverts, the calculations reflect a higher potential flow of up to 2.0 cfs for direct discharge water.

In the event mine water would still have to be routed through the sediment pond, the flow from the mine would not exceed the 0.51 cfs as previously approved. In this case, mine water will be discharged from a 6" pipe into ditch DD-4A, to culvert DC-4A, to ditch DD-5 to culvert DC-6, to ditch DD-6, to culvert DC-7 to ditch DD-8A, to culvert DC-8A, to ditch DD-11, to culvert DC-11, to culvert DC-13 and into the upper cell (A) of the sediment pond.

When mine water is determined to meet UPDES discharge standards, it may be discharged directly into the bypass culvert from the mine. In this case, up to 2.0 cfs of mine water would flow into bypass culvert UC-EE via a 10" pipe. The water would flow from UC-EE through sections UC-GG, UC-LL, UC-NN, and exit through UC-OO, as shown on Map 7-2.

precipitation events and all trash, branches and other obstructions will be removed.

The outlet of the main canyon bypass culvert (UC-OO) has been equipped with an adequately sized rip-rap apron to slow the outlet velocity sufficiently to prevent erosional damage to the natural downstream channel. (See Figure 6).

It should be noted that all undisturbed area culverts are adequately sized to handle the expected runoff from a 100 year - 6 hour event plus an additional 2.0 cfs of mine water, for maximum protection of the mine area, sediment pond and undisturbed drainage. This is well in excess of the 10 year - 6 hour event required by the regulations and is proposed as an extra measure of safety.

Disturbed area culverts and ditches are shown on the Minesite Drainage Plan, Map 7-2. Culverts carrying disturbed drainage are designated with a DC-number (i.e. DC-1). Calculations for all disturbed area culverts and ditches are also included with this report, along with design criteria. Disturbed drainage areas draining to culverts and ditches are marked with a DA-number (i.e. DA-1).

A series of 3 - 0.64' diameter pipes have been added above culvert DC-8A. These pipes are designated DC-8AR and are intended to provide relief for culvert DC-8A in the event of a storm event exceeding the 10 year - 24 hour design. This will help prevent potential overflow and erosion of the road in this area, should such an event occur. The overflow water would flow to ditch DD-12 and culvert DC-12 and to the lower cell of the sediment pond. The ditch and culvert are both adequately sized to carry the additional runoff from these pipes.

Undisturbed drainage areas report to undisturbed area drainage culverts with corresponding subscripted letters; for example undisturbed drainage area UA-FF reports to undisturbed area drainage culvert UC-FF. Other undisturbed drainage areas, subscripted with numbers, report to disturbed drainage area ditches with corresponding subscripted numbers; for example undisturbed drainage area UA-3 reports to disturbed area drainage ditch DD-3.

Design detail for all undisturbed drainage culverts is shown on the Undisturbed Drainage Culvert Profile, Map 5-8.

Culverts will be inspected regularly, and cleaned as necessary to provide for

2.12 Main Canyon Culvert - Outlet Structure

The outlet of the 4' diameter main canyon culvert has been designed to flow into a rip-rap apron to protect against scouring and for energy dissipation. The rip-rap apron is designed to fit the natural channel configuration as closely as possible, and will allow runoff to re-enter the natural channel at a reduced velocity which is no greater than natural flow conditions. Runoff from the 100 year - 6 hour precipitation event in the canyon below the minesite has been calculated at 102.01 cfs, including sediment pond overflow, and 2.0 cfs of mine water.

The rip-rap apron design is based on Figure 7-26, Design of Outlet Protection - Maximum Tailwater Condition, "Applied Hydrology and Sedimentology for Disturbed Areas", Barfield, Warner and Haan, 1983. Based on the figure, the constructed apron is a minimum of 15' in length, widening from 4' to 10', with a 0% slope. The length has been increased to 20', to ensure adequate time for velocity reduction. The slope is kept at 0%. Rip-rap size is conservatively placed at 24" D_{50}. Rip-rap has been placed to a depth of 1.5 D_{50} and embedded in a 12" layer of 2" drain rock filter. Rip-rap has also been placed on 2:1 side slopes to the height of the culvert (4') at the culvert outlet tapering to 2' at the outlet of the apron. This rip rap apron has been sized and designed to adequately dissipate energy from flow velocities of a 100 year, 6 hour precipitation event and resist dislodgement. The drain rock filter bed will also serve to secure the rip rap boulders firmly in place, to add an additional element of stability, and prevent scouring underneath the boulder bed. (See Figure 6 for construction details). The natural channel below the outlet has been measured from field surveys to have a bottom width of approximately 8' at the proposed outlet, with side slopes approximately 1:1. The channel is on a gradient of approximately 6.30% in this area. When the flow is routed from the culvert across the apron to the natural channel, the velocity is reduced from 13.69 fps at the culvert outlet to 4.87 fps at the outlet of the apron. Based on actual field measurements, the natural channel velocity would be approximately 10.04 fps at this location with the same flow of 102.01 cfs. Therefore, velocity of the stream flow exiting the rip-rap apron will be less than the velocity in the naturally existing stream bed, at that location, under similar conditions. (See 48" Culvert Outlet Rip-rap Apron Flow Velocity Calculations in Appendix 1.)

TABLE 7

UNDISTURBED CULVERT DESIGN SUMMARY

Culvert	10 yr - 6 hr Event 1.30"			10 yr - 24 hr Event 2.00"			25 yr - 6 hr Event 1.60"		
	Peak Flow Cfs	Velocity fps	Min. Diam. Req'd - Ft	Peak Flow Cfs	Velocity fps	Min. Diam. Req'd - Ft	Peak Flow Cfs	Velocity fps	Min. Diam. Req'd - Ft
UC-AA	12.97	9.41	1.32	45.12	12.85	2.11	25.65	11.16	1.71
UC-DD	0.15	5.19	0.19	0.64	7.46	0.33	0.44	6.79	0.29
UC-EE	15.12	9.45	1.43	47.76	12.60	2.20	28.09	11.04	1.80
UC-FF	0.16	4.65	0.21	0.67	6.65	0.36	0.46	6.05	0.31
UC-GG	15.28	9.48	1.43	48.43	12.65	2.21	28.55	11.08	1.81
UC-HH	7.39	9.42	1.00	32.82	13.67	1.75	13.08	10.86	1.24
UC-JJ	0.50	6.94	0.30	2.65	10.52	0.57	1.12	8.49	0.41
UC-KK	7.89	9.50	1.03	35.47	13.83	1.81	14.20	11.00	1.28
UC-LL	23.17	10.70	1.66	83.90	14.76	2.69	42.75	12.47	2.09
UC-MM	0.07	4.71	0.14	0.32	6.89	0.24	0.24	6.41	0.22
UC-NN	23.24	10.71	1.66	84.22	14.78	2.69	42.99	12.49	2.09
UC-OO	46.97	11.27	2.30	107.95	13.87	3.15	66.72	12.30	2.63
UC-PP	0.11	3.89	0.19	0.49	5.66	0.33	0.33	5.12	0.29
*UC-RR	0.04	1.95	0.16	0.16	2.76	0.27	0.11	2.52	0.24

* Carries 1/3 of drainage from UA-PP.

TABLE 7 (Continued)

UNDISTURBED CULVERT DESIGN SUMMARY

Culvert	100 yr - 6 hr Event 2.00"			As-Constructed (Diameter) (Ft.)	Flow Capacity (Cfs)	Headwater Req'd (ft.)
	Peak Flow Cfs	Velocity fps	Min. Diam. Req'd - Ft			
UC-AA	46.45	12.94	2.14	3.5	173.02	-
UC-DD	0.92	8.17	0.38	1.5	36.13	-
UC-EE	49.37	12.71	2.22	3.5	165.44	-
UC-FF	0.95	7.26	0.41	1.5	30.53	-
UC-GG	50.32	12.77	2.24	3.5	165.44	-
UC-HH	25.48	12.83	1.59	2.0	46.96	-
UC-JJ	2.16	10.00	0.52	1.5	35.61	-
UC-KK	27.64	13.00	1.65	3.0	137.10	-
UC-LL	77.96	14.49	2.62	4.0	241.68	-
UC-MM	0.52	7.78	0.29	1.5	40.97	-
UC-NN	78.48	14.52	2.62	4.0	241.68	-
UC-OO	102.21	13.69	3.08	4.0	204.56	-
UC-PP	0.69	6.16	0.38	1.5	27.31	-
*UC-RR	0.23	3.03	0.31	3 x 0.75	3 x 2.40	-

* Carries 1/3 of drainage from UA-PP.

TABLE 10
DRAINAGE STRUCTURES

Structure	Drainage From:	Remarks:
UC-AA	UA-AA, DA-X	Right Fork Undisturbed + ASCA-X
UC-DD	UA-DD	Right Fork Undisturbed
UC-EE	UC-AA + UC-DD + 2.0 cfs Mine Water	Right Fork Undisturbed + ASCA-X
UC-FF	UA-FF	Right Fork Undisturbed
UC-GG	UC-AA Thru UC-FF	Right Fork Undisturbed + ASCA-X
UC-HH	UA-HH, DA-Y	Left Fork Undisturbed+ ASCA-Y
UC-JJ	UA-JJ	Left Fork Undisturbed
UC-KK	UC-HH and UC-JJ	Left Fork Undisturbed+ ASCA-Y
UC-LL	UC-AA Thru UC-KK	Main Canyon
UC-MM	UA-MM	Main Canyon
UC-NN	UC-AA Thru UC-MM	Main Canyon
UC-OO	UC-NN + Sediment Pond Overflow	Main Canyon + Ponds
UC-PP	UA-PP	Main Canyon (Below Pond)
UC-RR	1/3 OF UA-PP	Main Canyon (Below Pond)
UD-Z	UA-PP	Main Canyon (UC-PP)
UD-15	UA-15, DA-15	County Road
DD-1	UA-1a, UA-1b, DA-1	
DD-2	DD-1, UA-2a, UA-2b, DA-2	
DD-3	UA-3, DA-3	
DD-4	DD-2, DD-3, DA-4	
DD-4a	DA-4a, UA-4 + 0.51 cfs Mine Water	
DD-5	DD-4a, UA-5, DA-5	
DD-6	DA-6, DD-4, DD-5	
DD-8	DA-8, UA-8	
DD-8a	DD-6, DD-8	
DD-9	UA-7, DA-7, UA-9, DA-9	
DD-10	UA-10a, UA-10b, UA-10c, DA-10	
DD-11	DA-11, DD-8a	
DD-12	DD-10, UA-12, DA-12	
DD-13	DA-13	

TABLE 11
DRAINAGE STRUCTURE FLOW SUMMARY

Structure	10/6 Cfs	10/24 Cfs	25/6 Cfs	100/6 Cfs	Flows To:
UC-AA	12.97	45.12	25.65	46.45	Undisturbed Bypass
UC-DD	0.15	0.64	0.44	0.92	Undisturbed Bypass
UC-EE**	15.12	47.76	28.09	49.37	Undisturbed Bypass
UC-FF	0.16	0.67	0.46	0.95	Undisturbed Bypass
UC-GG	15.28	48.43	28.55	50.32	Undisturbed Bypass
UC-HH	7.39	32.82	13.08	25.48	Undisturbed Bypass
UC-JJ	0.50	2.65	1.12	2.16	Undisturbed Bypass
UC-KK	7.89	35.47	14.20	27.64	Undisturbed Bypass
UC-LL	23.17	83.90	42.75	77.96	Undisturbed Bypass
UC-MM	0.07	0.32	0.24	0.52	Undisturbed Bypass
UC-NN	23.24	84.22	42.99	78.48	Undisturbed Bypass
UC-OO	46.97	107.95	66.72	102.21	Undisturbed Bypass
UC-PP	0.11	0.49	0.33	0.69	Undisturbed Bypass
*UC-RR	0.04	0.16	0.11	0.23	Undisturbed Bypass
UD-Z	0.11	0.49	0.33	0.69	Main Canyon
UD-15	1.05	3.43	1.80	2.96	County Road
DD-1	1.79	7.13	3.48	6.17	Sediment Pond
DD-2	3.22	12.52	6.13	10.79	Sediment Pond
DD-3	1.18	4.30	2.13	3.65	Sediment Pond
DD-4	5.08	18.32	9.24	15.83	Sediment Pond
DD-4a***	1.20	2.07	1.53	2.01	Sediment Pond
DD-5	1.77	3.32	2.35	3.19	Sediment Pond
DD-6	7.13	22.25	11.99	19.58	Sediment Pond
DD-8	0.68	1.69	1.03	1.53	Sediment Pond
DD-8a	7.81	23.94	13.02	21.11	Sediment Pond
DD-9	1.26	2.86	1.88	2.75	Sediment Pond
DD-10	2.58	7.44	4.09	6.52	Sediment Pond
DD-11	8.09	24.56	13.43	21.69	Sediment Pond
DD-12	4.11	13.51	6.99	11.62	Sediment Pond
DD-13	0.28	0.61	0.40	0.56	Sediment Pond

* Carries 1/3 of drainage from UA-PP.

** Includes 2.0 cfs Mine Water.

*** Includes 0.51 cfs Mine Water.

TABLE 11 (Continued)
DRAINAGE STRUCTURE FLOW SUMMARY

Structure	10/6 Cfs	10/24 Cfs	25/6 Cfs	100/6 Cfs	Flows To:
DC-2	4.4	16.82	8.26	14.44	Sediment Pond
DC-4a***	1.2	2.07	1.53	2.01	Sediment Pond
DC-5	0.57	1.25	0.82	1.18	Sediment Pond
DC-6***	1.77	3.32	2.35	3.19	Sediment Pond
DC-7	7.81	23.94	13.02	21.11	Sediment Pond
DC-8	0.62	1.37	0.89	1.27	Sediment Pond
DC-8a***	7.81	23.94	13.02	21.11	Sediment Pond
DC-8AR	1.73	1.73	1.73	1.73	To Lower Pond
DC-10	2.1	4.66	3.03	4.32	Sediment Pond
DC-10a	2.58	7.44	4.09	6.52	Sediment Pond
DC-11***	8.09	24.56	13.43	21.69	Sediment Pond
DC-12	4.11	13.51	6.99	11.62	To Lower Pond
DC-13***	8.37	25.17	13.83	22.25	To Upper Pond

*** Includes 0.51 cfs Mine Water.

TABLE 15

DISTURBED CULVERT DESIGN SUMMARY

Culvert	10 yr - 6 hr Event 1.30"			10 yr - 24 hr Event 2.00"			As-Constructed Diameter (ft.)	Flow Capacity (cfs)	Rip-Rap Req'd Y/N	Rip-Rap D_{50}
	Peak Flow Cfs	Velocity fps	Min. Diam. Req'd ft.	Peak Flow Cfs	Velocity fps	Min. Diam. Req'd ft.				
DC-2	4.40	4.49	1.12	16.82	6.28	1.85	2.0	20.80	N	-
DC-4A*	1.20	4.90	0.56	2.07	5.61	0.69	1.5	16.72	N	-
DC-5	0.57	2.69	0.52	1.25	3.28	0.70	1.5	9.66	N	-
DC-6*	1.77	3.58	0.79	3.32	4.18	1.01	1.5	9.66	N	-
DC-7*	7.81	5.18	1.39	23.94	6.86	2.11	2.0	20.80	Y	0.50
DC-8	0.62	5.03	0.40	1.37	6.13	0.53	1.5	21.59	Y	0.50
DC-8A*	7.81	11.30	0.94	23.94	14.95	1.43	1.5	27.31	Y	1.20
DC-10	2.10	9.62	0.53	4.66	11.74	0.71	1.5	34.14	Y	1.00
DC-10A	2.58	9.32	0.59	7.44	12.14	0.88	1.5	30.53	Y	1.00
DC-11*	8.09	7.37	1.18	24.56	9.73	1.79	2.0	32.88	Y	0.50
DC-12	4.11	8.07	0.81	13.51	10.87	1.26	1.5	21.59	Y	0.75
DC-13*	8.37	7.43	1.20	25.17	9.79	1.81	2.0	32.88	Y	0.50
**DC-8AR	1.73	5.37	0.64	1.73	5.37	0.64	3@0.64	5.19	Y	0.50

*** Includes 0.51 cfs Mine Water.**

**** Relief Culverts for DC-8A.**

Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: WEST RIDGE

Comment: CULVERT DC-10 (10/6)

Solve For Full Flow Diameter

Given Input Data:

Slope.....	0.2500 ft/ft
Manning's n.....	0.020
Discharge.....	2.10 cfs

Computed Results:

Full Flow Diameter.....	0.53 ft
Full Flow Depth.....	0.53 ft
Velocity.....	9.62 fps
Flow Area.....	0.22 sf
Critical Depth....	0.52 ft
Critical Slope....	0.2353 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	2.10 cfs
QMAX @.94D.....	2.26 cfs
Froude Number.....	FULL

Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: WEST RIDGE

Comment: CULVERT DC-10 (10/24)

Solve For Full Flow Diameter

Given Input Data:

Slope.....	0.2500 ft/ft
Manning's n.....	0.020
Discharge.....	4.66 cfs

Computed Results:

Full Flow Diameter.....	0.71 ft
Full Flow Depth.....	0.71 ft
Velocity.....	11.74 fps
Flow Area.....	0.40 sf
Critical Depth....	0.71 ft
Critical Slope....	0.2366 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	4.66 cfs
QMAX @.94D.....	5.01 cfs
Froude Number.....	FULL

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Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: WEST RIDGE

Comment: CULVERT DC-12 (10/6)

Solve For Full Flow Diameter

Given Input Data:

Slope.....	0.1000 ft/ft
Manning's n.....	0.020
Discharge.....	4.11 cfs

Computed Results:

Full Flow Diameter.....	0.81 ft
Full Flow Depth.....	0.81 ft
Velocity.....	8.07 fps
Flow Area.....	0.51 sf
Critical Depth....	0.79 ft
Critical Slope....	0.0889 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	4.11 cfs
QMAX @.94D.....	4.42 cfs
Froude Number.....	FULL

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Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: WEST RIDGE

Comment: CULVERT DC-12 (10/24)

Solve For Full Flow Diameter

Given Input Data:

Slope.....	0.1000 ft/ft
Manning's n.....	0.020
Discharge.....	13.51 cfs

Computed Results:

Full Flow Diameter.....	1.26 ft
Full Flow Depth.....	1.26 ft
Velocity.....	10.87 fps
Flow Area.....	1.24 sf
Critical Depth....	1.24 ft
Critical Slope....	0.0900 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	13.51 cfs
QMAX @.94D.....	14.53 cfs
Froude Number.....	FULL

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Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: WEST RIDGE

Comment: CULVERT UC-EE (10/6)

Solve For Full Flow Diameter

Given Input Data:

Slope.....	0.0640 ft/ft
Manning's n.....	0.020
Discharge.....	15.12 cfs

Computed Results:

Full Flow Diameter.....	1.43 ft
Full Flow Depth.....	1.43 ft
Velocity.....	9.45 fps
Flow Area.....	1.60 sf
Critical Depth....	1.37 ft
Critical Slope....	0.0558 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	15.12 cfs
QMAX @.94D.....	16.26 cfs
Froude Number.....	FULL

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Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: WEST RIDGE

Comment: CULVERT UC-EE (10/24)

Solve For Full Flow Diameter

Given Input Data:

Slope.....	0.0640 ft/ft
Manning's n.....	0.020
Discharge.....	47.76 cfs

Computed Results:

Full Flow Diameter.....	2.20 ft
Full Flow Depth.....	2.20 ft
Velocity.....	12.60 fps
Flow Area.....	3.79 sf
Critical Depth....	2.13 ft
Critical Slope....	0.0564 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	47.76 cfs
QMAX @.94D.....	51.38 cfs
Froude Number.....	FULL

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Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: WEST RIDGE

Comment: CULVERT UC-EE (25/6)

Solve For Full Flow Diameter

Given Input Data:

Slope.....	0.0640 ft/ft
Manning's n.....	0.020
Discharge.....	28.09 cfs

Computed Results:

Full Flow Diameter.....	1.80 ft
Full Flow Depth.....	1.80 ft
Velocity.....	11.04 fps
Flow Area.....	2.54 sf
Critical Depth....	1.74 ft
Critical Slope....	0.0561 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	28.09 cfs
QMAX @.94D.....	30.22 cfs
Froude Number.....	FULL

Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: WEST RIDGE

Comment: CULVERT UC-EE (100/6)

Solve For Full Flow Diameter

Given Input Data:

Slope.....	0.0640 ft/ft
Manning's n.....	0.020
Discharge.....	49.37 cfs

Computed Results:

Full Flow Diameter.....	2.22 ft
Full Flow Depth.....	2.22 ft
Velocity.....	12.71 fps
Flow Area.....	3.88 sf
Critical Depth....	2.16 ft
Critical Slope....	0.0564 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	49.37 cfs
QMAX @.94D.....	53.11 cfs
Froude Number.....	FULL

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Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: WEST RIDGE

Comment: CULVERT UC-GG (10/6)

Solve For Full Flow Diameter

Given Input Data:

Slope.....	0.0640 ft/ft
Manning's n.....	0.020
Discharge.....	15.28 cfs

Computed Results:

Full Flow Diameter.....	1.43 ft
Full Flow Depth.....	1.43 ft
Velocity.....	9.48 fps
Flow Area.....	1.61 sf
Critical Depth....	1.38 ft
Critical Slope....	0.0558 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	15.28 cfs
QMAX @.94D.....	16.44 cfs
Froude Number.....	FULL

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Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: WEST RIDGE

Comment: CULVERT UC-GG (10/24)

Solve For Full Flow Diameter

Given Input Data:

Slope.....	0.0640 ft/ft
Manning's n.....	0.020
Discharge.....	48.43 cfs

Computed Results:

Full Flow Diameter.....	2.21 ft
Full Flow Depth.....	2.21 ft
Velocity.....	12.65 fps
Flow Area.....	3.83 sf
Critical Depth....	2.14 ft
Critical Slope....	0.0564 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	48.43 cfs
QMAX @.94D.....	52.10 cfs
Froude Number.....	FULL

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Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: WEST RIDGE

Comment: CULVERT UC-GG (25/6)

Solve For Full Flow Diameter

Given Input Data:

Slope.....	0.0640 ft/ft
Manning's n.....	0.020
Discharge.....	28.55 cfs

Computed Results:

Full Flow Diameter.....	1.81 ft
Full Flow Depth.....	1.81 ft
Velocity.....	11.08 fps
Flow Area.....	2.58 sf
Critical Depth....	1.75 ft
Critical Slope....	0.0561 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	28.55 cfs
QMAX @.94D.....	30.71 cfs
Froude Number.....	FULL

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Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: WEST RIDGE

Comment: CULVERT UC-GG (100/6)

Solve For Full Flow Diameter

Given Input Data:

Slope.....	0.0640 ft/ft
Manning's n.....	0.020
Discharge.....	50.32 cfs

Computed Results:

Full Flow Diameter.....	2.24 ft
Full Flow Depth.....	2.24 ft
Velocity.....	12.77 fps
Flow Area.....	3.94 sf
Critical Depth....	2.17 ft
Critical Slope....	0.0564 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	50.32 cfs
QMAX @.94D.....	54.13 cfs
Froude Number.....	FULL

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Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: WEST RIDGE

Comment: CULVERT UC-LL (10/6)

Solve For Full Flow Diameter

Given Input Data:

Slope.....	0.0670 ft/ft
Manning's n.....	0.020
Discharge.....	23.17 cfs

Computed Results:

Full Flow Diameter.....	1.66 ft
Full Flow Depth.....	1.66 ft
Velocity.....	10.70 fps
Flow Area.....	2.17 sf
Critical Depth....	1.61 ft
Critical Slope....	0.0588 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	23.17 cfs
QMAX @.94D.....	24.92 cfs
Froude Number.....	FULL

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Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: WEST RIDGE

Comment: CULVERT UC-LL (10/24)

Solve For Full Flow Diameter

Given Input Data:

Slope.....	0.0670 ft/ft
Manning's n.....	0.020
Discharge.....	83.90 cfs

Computed Results:

Full Flow Diameter.....	2.69 ft
Full Flow Depth.....	2.69 ft
Velocity.....	14.76 fps
Flow Area.....	5.68 sf
Critical Depth....	2.63 ft
Critical Slope....	0.0595 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	83.90 cfs
QMAX @.94D.....	90.25 cfs
Froude Number.....	FULL

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Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: WEST RIDGE

Comment: CULVERT UC-LL (25/6)

Solve For Full Flow Diameter

Given Input Data:

Slope.....	0.0670 ft/ft
Manning's n.....	0.020
Discharge.....	42.75 cfs

Computed Results:

Full Flow Diameter.....	2.09 ft
Full Flow Depth.....	2.09 ft
Velocity.....	12.47 fps
Flow Area.....	3.43 sf
Critical Depth....	2.03 ft
Critical Slope....	0.0591 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	42.75 cfs
QMAX @.94D.....	45.99 cfs
Froude Number.....	FULL

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Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: WEST RIDGE

Comment: CULVERT UC-LL (100/6)

Solve For Full Flow Diameter

Given Input Data:

Slope.....	0.0670 ft/ft
Manning's n.....	0.020
Discharge.....	77.96 cfs

Computed Results:

Full Flow Diameter.....	2.62 ft
Full Flow Depth.....	2.62 ft
Velocity.....	14.49 fps
Flow Area.....	5.38 sf
Critical Depth....	2.55 ft
Critical Slope....	0.0595 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	77.96 cfs
QMAX @.94D.....	

Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: WEST RIDGE

Comment: CULVERT UC-NN (10/6)

Solve For Full Flow Diameter

Given Input Data:

Slope.....	0.0670 ft/ft
Manning's n.....	0.020
Discharge.....	23.24 cfs

Computed Results:

Full Flow Diameter.....	1.66 ft
Full Flow Depth.....	1.66 ft
Velocity.....	10.71 fps
Flow Area.....	2.17 sf
Critical Depth....	1.61 ft
Critical Slope....	0.0588 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	23.24 cfs
QMAX @.94D.....	25.00 cfs
Froude Number.....	FULL

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Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: WEST RIDGE

Comment: CULVERT UC-NN (10/24)

Solve For Full Flow Diameter

Given Input Data:

Slope.....	0.0670 ft/ft
Manning's n.....	0.020
Discharge.....	84.22 cfs

Computed Results:

Full Flow Diameter.....	2.69 ft
Full Flow Depth.....	2.69 ft
Velocity.....	14.78 fps
Flow Area.....	5.70 sf
Critical Depth....	2.63 ft
Critical Slope....	0.0595 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	84.22 cfs
QMAX @.94D.....	90.60 cfs
Froude Number.....	FULL

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Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: WEST RIDGE

Comment: CULVERT UC-NN (25/6)

Solve For Full Flow Diameter

Given Input Data:

Slope.....	0.0670 ft/ft
Manning's n.....	0.020
Discharge.....	42.99 cfs

Computed Results:

Full Flow Diameter.....	2.09 ft
Full Flow Depth.....	2.09 ft
Velocity.....	12.49 fps
Flow Area.....	3.44 sf
Critical Depth....	2.03 ft
Critical Slope....	0.0591 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	42.99 cfs
QMAX @.94D.....	46.24 cfs
Froude Number.....	FULL

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Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: WEST RIDGE

Comment: CULVERT UC-NN (100/6)

Solve For Full Flow Diameter

Given Input Data:

Slope.....	0.0670 ft/ft
Manning's n.....	0.020
Discharge.....	78.48 cfs

Computed Results:

Full Flow Diameter.....	2.62 ft
Full Flow Depth.....	2.62 ft
Velocity.....	14.52 fps
Flow Area.....	5.41 sf
Critical Depth....	2.56 ft
Critical Slope....	0.0595 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	78.48 cfs
QMAX @.94D.....	84.42 cfs
Froude Number.....	FULL

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Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: WEST RIDGE

Comment: CULVERT UC-OO (10/6)

Solve For Full Flow Diameter

Given Input Data:

Slope.....	0.0480 ft/ft
Manning's n.....	0.020
Discharge.....	46.97 cfs

Computed Results:

Full Flow Diameter.....	2.30 ft
Full Flow Depth.....	2.30 ft
Velocity.....	11.27 fps
Flow Area.....	4.17 sf
Critical Depth....	2.19 ft
Critical Slope....	0.0416 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	46.97 cfs
QMAX @.94D.....	50.53 cfs
Froude Number.....	FULL

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Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: WEST RIDGE

Comment: CULVERT UC-OO (10/24)

Solve For Full Flow Diameter

Given Input Data:

Slope.....	0.0480 ft/ft
Manning's n.....	0.020
Discharge.....	107.95 cfs

Computed Results:

Full Flow Diameter.....	3.15 ft
Full Flow Depth.....	3.15 ft
Velocity.....	13.87 fps
Flow Area.....	7.78 sf
Critical Depth....	3.02 ft
Critical Slope....	0.0418 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	107.95 cfs
QMAX @.94D.....	116.12 cfs
Froude Number.....	FULL

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Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: WEST RIDGE

Comment: CULVERT UC-OO (25/6)

Solve For Full Flow Diameter

Given Input Data:

Slope.....	0.0480 ft/ft
Manning's n.....	0.020
Discharge.....	66.72 cfs

Computed Results:

Full Flow Diameter.....	2.63 ft
Full Flow Depth.....	2.63 ft
Velocity.....	12.30 fps
Flow Area.....	5.42 sf
Critical Depth....	2.51 ft
Critical Slope....	0.0417 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	66.72 cfs
QMAX @.94D.....	71.77 cfs
Froude Number.....	FULL

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Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: WEST RIDGE

Comment: CULVERT UC-OO (100/6)

Solve For Full Flow Diameter

Given Input Data:

Slope.....	0.0480 ft/ft
Manning's n.....	0.020
Discharge.....	102.21 cfs

Computed Results:

Full Flow Diameter.....	3.08 ft
Full Flow Depth.....	3.08 ft
Velocity.....	13.69 fps
Flow Area.....	7.47 sf
Critical Depth....	2.96 ft
Critical Slope....	0.0418 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	102.21 cfs
QMAX @.94D.....	109.95 cfs
Froude Number.....	FULL

Open Channel Flow Module, Version 3.43 (c) 1991
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APPENDIX 7-10

UPDES PERMIT

State of Utah

Department of
Environmental Quality

Richard W. Sprott
Executive Director

DIVISION OF WATER QUALITY
Walter L. Baker, P.E.
Director

JON M. HUNTSMAN, JR.
Governor

GARY HERBERT
Lieutenant Governor

August 15, 2007

CERTIFIED MAIL
(Return Receipt requested)

Mr. Dave Shaver
West Ridge Resources, Inc.
794 North 'C' Canyon Road
East Carbon, UT 84520
P.O. Box 1077
Price, UT 84501

Dear Mr. Shaver:

Subject: Modified UPDES Permit No. UT0025640 for West Ridge Resources, Inc., West Ridge Mine, Carbon County, Utah.

Enclosed is a signed copy of the modified Utah Pollutant Discharge Elimination System (UPDES) Permit No. UT0025640 for your facility. The modified conditions and requirements of the permit, which include the relocation of outfall 002, are effective as of August 15, 2007.

A fee schedule was included in the Utah Department of Environmental Quality Budget appropriation request at the direction of the Legislature and in accordance with *Utah Code annotated 19-1-201*. The fee schedule, as approved by the legislature, includes a prescribed fee for specific Industrial Categories. The prescribed fee for UPDES Permit Modification category is $70.00 per hour. A total of three hours were used to develop and implement the permit modification. Therefore please remit $210.00 (3 hours @ $70.00 per hour) within 30 days from receipt of this letter to:

Department of Environmental Quality
Division of Water Quality
Attn: Nicole Carrell
P.O. Box 144870
Salt Lake City, UT 84114-4870

Please be sure to include the invoice number with your remittance.

Also, as the State agency charged with the administration of issuing UPDES permits, we are continuously looking for ways to improve our quality of service to you. In an effort to improve the State UPDES permitting process, we are asking for your input. Since our customer permittee base is limited, your input is important to us. Please take a few moments to complete the enclosed questionnaire and return it in the postage paid, self-addressed return envelope. The results will be used to improve our quality and responsiveness to our permittees and give us feed back on customer satisfaction. We will address any issues you identify on an ongoing basis.

If you have any questions with regards to this matter, please contact Jeff Studenka of this office at (801) 538-6779 or by e-mail at jstudenka@utah.gov.

Sincerely,

Mike Herkimer

Mike Herkimer, Manager
UPDES IES Section

MH/JS/st

Enclosures

cc (w/ Encl.): Qian Zhang, P.E., EPA Region VIII
Claron Bjork, SE District Health Department
Dave Ariotti, SE District Engineer
Pam Grubaugh-Littig, Division of Oil Gas & Mining
Jim Karpowitz, Utah Division of Wildlife Resources
Nathan Darnall, United States Fish and Wildlife Services

F:\wp\Genwal-Westridge Mines\West Ridge Mine\2007PermitMod.ltr.doc

Permit No. UT0025640
Minor Industrial

STATE OF UTAH
DIVISION OF WATER QUALITY
DEPARTMENT OF ENVIRONMENTAL QUALITY
SALT LAKE CITY, UTAH
AUTHORIZATION TO DISCHARGE UNDER THE
UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM
(UPDES)

In compliance with provisions of the Utah *Water Quality Act, Title 19, Chapter 5, Utah Code Annotated (UCA) 1953, as amended* (the *"Act"*),

WEST RIDGE RESOURCES, INC.

is hereby authorized to discharge from its facility located in "C" Canyon, approximately 3 miles north of East Carbon, Utah, with outfalls located as indicated in the permit, to receiving waters named

C CANYON EPHEMERAL DRAINAGE TO GRASSY TRAIL CREEK, THENCE TO THE PRICE RIVER (TRIBUTARY OF THE COLORADO RIVER)

in accordance with discharge point, effluent limitations, monitoring requirements and other conditions set forth herein.

This modified permit shall become effective on August 15, 2007.

This permit and the authorization to discharge shall expire at midnight, April 30, 2011.

Signed this 15th day of August, 2007.

Walter L. Baker, P.E.
Executive Secretary
Utah Water Quality Board

TABLE OF CONTENTS **Page No.**

I. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS 3
A. Definitions 3
B. Description of Discharge Point 7
C. Narrative Standard 8
D. Specific Limitations and Self-monitoring Requirements 8

II. STORM WATER DISCHARGE REQUIREMENTS 11
A. Coverage of This Section 11
B. Prohibition of Non-Storm Water Discharges 11
C. Storm Water Pollution Prevention Plan Requirements 11
D. Comprehensive Site Compliance Evaluation 17
E. Monitoring and Reporting Requirements 18
F. *EPCRA Section 313* Requirements 20

III. MONITORING, RECORDING AND REPORTING REQUIREMENTS 24
A. Representative Sampling 24
B. Monitoring Procedures 24
C. Penalties for Tampering 24
D. Reporting of Monitoring Results 24
E. Compliance Schedules 24
F. Additional Monitoring by the Permittee 24
G. Records Contents 25
H. Retention of Records 25
I. Twenty-four Hour Notice of Noncompliance Reporting 25
J. Other Noncompliance Reporting 26
K. Inspection and Entry 26

IV. COMPLIANCE RESPONSIBILITIES 28
A. Duty to Comply 28
B. Penalties for Violations of Permit Conditions 28
C. Need to Halt or Reduce Activity not a Defense 28
D. Duty to Mitigate 28
E. Proper Operation and Maintenance 28
F. Removed Substances 28
G. Bypass of Treatment Facilities 29
H. Upset Conditions 31
I. Toxic Pollutants 31
J. Changes in Discharge of Toxic Substances 31
K. Industrial Pretreatment 32

V. GENERAL REQUIREMENTS 34
A. Planned Changes 34
B. Anticipated Noncompliance 34
C. Permit Actions 34
D. Duty to Reapply 34
E. Duty to Provide Information 34
F. Other Information 34
G. Signatory Requirements 34
H. Penalties for Falsification of Reports 36
I. Availability of Reports 36
J. Oil and Hazardous Substance Liability 36
K. Property Rights 36
L. Severability 36
M. Transfers 36
N. State Laws 37
O. Water Quality-Reopener Provision 37
P. Toxicity Limitation-Reopener Provision 37

I. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

A. Definitions.

1. "7-day and weekly average" is the arithmetic average of all samples collected during a consecutive 7-day period or calendar week whichever is applicable. The 7-day and weekly averages are applicable only to those effluent characteristics for which there are 7-day average effluent limitations. The calendar week, beginning on Sunday and ending on Saturday, shall be used for purposes of reporting self- monitoring data on discharge monitoring report forms. Weekly averages shall be calculated for all calendar weeks with Saturdays in the month. If a calendar week overlaps two months (i.e., the Sunday is in one month and the Saturday in the following month), the weekly average calculated for that calendar week shall be included in the data for the month that contains the Saturday.

2. "10-year, 24-hour precipitation event" means the maximum 24-hour precipitation event with a probable recurrence interval of once in 10 years. This information is available in *Weather Bureau Technical Paper No. 40*, May 1961 and *National Oceanographic and Atmospheric Administration Atlas 2,* 1973 for the 11 Western States, and may be obtained from the National Climatic Center of the Environmental Data Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

3. "30-day and monthly average" is the arithmetic average of all samples collected during a consecutive 30-day period or calendar month, whichever is applicable. The calendar month shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms.

4. "*Act*" means the "*Utah Water Quality Act*".

5. "Best Management Practices" (BMP's) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMP's also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

6. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.

7. "Coal pile runoff" means the rainfall runoff from or through any coal storage pile.

8. "Composite samples" shall be flow proportioned. The composite sample shall contain, as a minimum, at least four (4) samples collected over the composite sample period. Unless otherwise specified, the time between the collection of the first sample and the last sample shall not be less than six (6) hours nor more than 24 hours. Acceptable methods for preparation of composite samples are as follows:

   a. Constant time interval between samples, sample volume proportional to flow rate at time of sampling;

   b. Constant time interval between samples, sample volume proportional to total flow (volume) since last sample. For the first sample, the flow rate at the time the sample was collected may be used;

   c. Constant sample volume, time interval between samples proportional to flow (i.e., sample taken every "X" gallons of flow); and,

   d. Continuous collection of sample, with sample collection rate proportional to flow rate.

9. "*CWA*" means *The Federal Water Pollution Control Act*, as amended, by *The Clean Water Act of 1987*.

10. "Daily Maximum" (Daily Max.) is the maximum value allowable in any single sample or instantaneous measurement.

11. "EPA" means the United States Environmental Protection Agency.

12. "Executive Secretary" means Executive Secretary of the Utah Water Quality Board.

13. "Flow-weighted composite sample" means a composite sample consisting of a mixture of aliquots collected at a constant time interval, where the volume of each aliquot is proportional to the flow rate of the discharge.

14. "Grab" sample, for monitoring requirements, is defined as a single "dip and take" sample collected at a representative point in the discharge stream.

15. "Illicit discharge" means any discharge to a municipal separate storm sewer that is not composed entirely of storm water except

discharges pursuant to a UPDES permit (other than the UPDES permit for discharges from the municipal separate storm sewer) and discharges from fire fighting activities, fire hydrant flushing, potable water sources including waterline flushing, uncontaminated ground water (including dewatering ground water infiltration), foundation or footing drains where flows are not contaminated with process materials such as solvents, springs, riparian habitats, wetlands, irrigation water, exterior building wash down where there are no chemical or abrasive additives, pavement wash water where spills or leaks of toxic or hazardous materials have not occurred and where detergents are not used, and air conditioning condensate.

16. An "instantaneous" measurement, for monitoring requirements, is defined as a single reading, observation, or measurement.

17. "Point Source" means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharges. This term does not include return flows from irrigated agriculture or agriculture storm water runoff.

18. "Runoff coefficient" means the fraction of total rainfall that will appear at a conveyance as runoff.

19. "*Section 313* water priority chemical" means a chemical or chemical categories which:

    a. Are listed at *40 Code of Federal Regulations (CFR) 372.65* pursuant to *Section 313* of *Title III* of the *Emergency Planning and Community Right-to-Know Act (EPCRA)* (also known as *Title III* of the *Superfund Amendments and Reauthorization Act* of 1986);

    b. Are present at or above threshold levels at a facility subject to *EPCRA, Section 313* reporting requirements, and

    c. Meet at least one of the following criteria:

        (1) Are listed in *Appendix D* of *40 CFR 122* on *Table II* (organic priority pollutants), *Table III* (certain metals, cyanides, and phenols) or *Table IV* (certain toxic pollutants and hazardous substances);

(2) Are listed as a hazardous substance pursuant to *Section 311(b)(2)(A)* of the *CWA* at *40 CFR 116.4*; or

(3) Are pollutants for which EPA has published acute or chronic toxicity criteria.

20. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

21. "Significant materials" includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under *Section 101(14)* of *Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)*; any chemical the facility is required to report pursuant to *EPCRA Section 313*; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with storm water discharges.

22. "Significant spills" includes, but is not limited to: releases of oil or hazardous substances in excess of reportable quantities under *Section 311* of the *Clean Water Act* (*see 40 CFR 110.10* and *40 CFR 117.21*) or *Section 102* of *CERCLA* (*see 40 CFR 302.4*).

23. "Storm water" means storm water runoff, snowmelt runoff, and surface runoff and drainage.

24. "Time-weighted composite" means a composite sample consisting of a mixture of equal volume aliquots collected at a constant time interval.

25. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include

noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

26. "Waste pile" means any non-containerized accumulation of solid, non-flowing waste that is used for treatment or storage.

Acronym List

BMP	Best Management Practices
CERCLA	Comprehensive Environmental Response, Compensation, & Liability Act
CFR	Code of Federal Regulations
DMR	Discharge Monitoring Report
DO	Dissolved Oxygen
EPCRA	Emergency Planning & Community Right-to-Know Act
TDS	Total Dissolved Solids
TIE	Toxicity Identification Evaluation
TRE	Toxicity Reduction Evaluation
TSS	Total Suspended Solids
UAC	Utah Administrative Code
UCA	Utah Code Annotated
UPDES	Utah Pollutant Discharge Elimnation System
WET	Whole Effluent Toxicity

Unit List

mg/L	milligrams per liter
MGD	million gallons per day
ml/L	milliliters per liter
SU	standard units
µg/L	micrograms per liter

B. Description of Discharge Point.

The authorization to discharge provided under this permit is limited to those outfalls specifically designated below as discharge locations. Discharges at any location not authorized under a UPDES permit are in violation of the *Act* and may be subject to penalties under the *Act*. Knowingly discharging from an unauthorized location or failing to report an unauthorized discharge may be subject to criminal penalties as provided under the *Act*.

Outfall Number	Location of Discharge Point
001	Sedimentation pond discharge to C Canyon Ephemeral Drainage toward Grassy Trail Creek. Coordinates: Latitude 39° 36' 45" north, Longitude 110° 26' 26" west.

002 Mine water discharge via culvert to "C" Canyon Ephemeral Drainage toward Grassy Trail Creek. Coordinates: Latitude 39° 36' 48" north, Longitude 110° 26' 23" west.

C. Narrative Standard.

It shall be unlawful, and a violation of this permit, for the permittee to discharge or place any waste or other substance in such a way as will be or may become offensive such as unnatural deposits, floating debris, oil, scum or other nuisances such as color, odor or taste, or cause conditions which produce undesirable aquatic life or which produce objectionable tastes in edible aquatic organisms; or result in concentrations or combinations of substances which produce undesirable physiological responses in desirable resident fish, or other desirable aquatic life, or undesirable human health effects, as determined by bioassay or other tests performed in accordance with standard procedures.

D. Specific Limitations and Self-monitoring Requirements.

1. Effective immediately and lasting the duration of this permit, the permittee is authorized to discharge from Outfalls 001 and 002. Such discharges shall be limited and monitored by the permittee as specified in *Parts I.D.1.* through *I.D.5.*

Effluent Characteristics	Effluent Limitations[1]				Monitoring Requirements	
	30 Day Avgerage	7 Day Average	Daily Minimum	Daily Maximum	Sample Frequency	Sample Type
Flow, [2]MGD	Report	[3]NA	NA	1.0	Monthly	Measured
Total Suspended Solids (TSS), [4]mg/L	25	35	NA	70	Monthly	Grab
Total Iron, mg/L	NA	NA	NA	1.3	Monthly	Grab
Oil & Grease, mg/L a/	NA	NA	NA	10	Monthly	Grab
Total Dissolved Solids(TDS), mg/L b/	Report	NA	NA	2000	2 x Month	Grab
TDS, tons/day b/	Report	NA	NA	1.0	2 x Month	Grab
pH, standard units c/	NA	NA	6.5	9.0	Monthly	Grab
Sanitary Waste e/	NA	NA	NA	None	Monthly	Visual
Oil & Grease, floating solids, visible foam, a/	NA	NA	NA	None	2 x Month	Visual

[1] See Part I. A., "Definitions", for definition of terms. *[2] MGD: million gallons per day*
[3] NA – Not Applicable *[4] mg/L: milligrams per liter*

a/ In addition to monthly sampling for oil and grease, a visual inspection for oil and grease, floating solids, and visible foam shall

be performed at least twice per month at 001 and 002. There shall be no sheen, floating solids, or visible foam in other than trace amounts. If a sheen is observed, a sample of that effluent shall be collected immediately thereafter and oil and grease shall not exceed 10 mg/L in concentration.

b/ The TDS concentration from each of the outfalls shall not exceed 2000 mg/L as a daily maximum. The permittee cannot discharge more than 1 ton per day as a sum from all discharge points. Upon determination by the Executive Secretary that the permittee is not able to meet the 1 ton per day loading limit, the permittee is required to participate in and/or fund a salinity offset project to include TDS offset credits, within 6 months of the determination by the Executive Secretary.

The salinity-offset project shall include TDS credits on a ton-for-ton basis for which the permittee is over the 1 ton per day loading limit. The tonnage reduction from the offset project must be calculated by a method similar to one used by the Natural Resources Conservation Service, Colorado River Basin Salinity Control Forum, or other applicable agency.

If the permittee will be participating in the construction and implementation of a salinity-offset project, then a project description and implementation schedule shall be submitted to the Executive Secretary within 6 months of the determination by the Executive Secretary, which will then be reviewed for approval. The salinity offset project description and implementation schedule must be approved by the Executive Secretary and shall be appended to this permit.

If the permittee is funding a salinity-offset project through third parties, the permittee shall provide satisfactory evidence to the Executive Secretary that the required funds have been deposited to the third party within 6 months of the determination by the Executive Secretary. A monitoring and adjustment plan to track the TDS credits shall also be submitted to the Executive Secretary within 6 months of the aforementioned determination, which will then be reviewed for approval. The monitoring and adjustment plan must be approved by the Executive Secretary and shall be appended to this permit.

c/ The pH shall not be less than 6.5 SU nor greater than 9.0 SU in any sample and shall be monitored monthly by instantaneous grab sample.

d/ The 30-day average DO shall not be less than 4.0 mg/L and shall be monitored monthly by an instantaneous grab sample.

e/ There shall be no discharge of sanitary waste.

2. Samples collected in compliance with the monitoring requirements specified above shall be collected at outfalls 001 and 002 prior to mixing with the receiving water.

3. Should any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period that is less than or equal to the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) may, at outfall 001, substitute the following limitations for the TSS and pH limitations contained in *Part I.D.1*:

Effluent Characteristics	Daily Minimum	Daily Maximum
Settleable solids (SS), milliliter/liter	NA	0.5
pH, SU	6.0	9.0

In order to substitute the above limitations, the sample collected during the storm event must be analyzed for all permitted parameters specified under *Part I.D.1.* (excepting TSS). Such analyses shall be conducted on either grab or composite samples.

Should any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period that is greater than the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) may, at outfall 001, comply with the following pH limitation instead of the limitation contained in *Part I.D.1*:

Effluent Characteristics	Daily Minimum	Daily Maximum
pH, SU	6.0	9.0

In order to substitute the above limitation, the sample collected during the storm event must be analyzed for all permitted parameters specified under *Part I.D.1.* Such analyses shall be conducted on either grab or composite samples.

4. The operator shall have the burden of proof that the increase in discharge was caused by the applicable precipitation event described in *Part I.D.3.* The alternate limitation in *Part I.D.3* shall not apply to treatment systems that treat exclusively underground mine water (i.e. outfall 002).

II. STORM WATER DISCHARGE REQUIREMENTS

A. Coverage of This Section.

1. Discharges Covered Under This Section. The requirements listed under this section shall apply to storm water discharges from the industrial facility.

   a. Site Coverage. This section covers discharges of storm water associated with industrial activity to waters of the State from the confines of the facility listed on the cover page. Specific monitoring requirements have been included and are based on the requirements of the UPDES Multi Sector General Permit for Storm Water Discharges Associated with Industrial Activity, Permit No. UTR000000.

B. Prohibition of Non-Storm Water Discharges.

The following non-storm water discharges may be authorized under this permit provided the non-storm water component of the discharge is in compliance with this section; discharges from fire fighting activities; fire hydrant flushing; potable water sources including waterline flushing; drinking fountain water; irrigation drainage and lawn watering; routine external building wash down water where detergents or other compounds have not been used in the process; pavement wash waters where spills or leaks of toxic or hazardous materials (including oils and fuels) have not occurred (unless all spilled material has been removed) and where detergents are not used; air conditioning condensate; uncontaminated compressor condensate; uncontaminated springs; uncontaminated ground water; and foundation or footing drains where flows are not contaminated with process materials such as solvents.

C. Storm Water Pollution Prevention Plan Requirements: Contents of the Plan. The plan shall include, at a minimum, the following:

1. Pollution Prevention Team. Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team who are responsible for developing the storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

2. Description of Potential Pollutant Sources. Each plan shall provide a description of potential sources which may reasonably be expected to add significant amounts of pollutants to storm water discharges or which may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials, which may be reasonably expected to have the potential as a significant pollutant source. Each plan shall include, at a minimum:

a. Drainage. A site map must be maintained indicating drainage areas and storm water outfalls. For each area of the facility that generates storm water discharges associated with the waste water treatment related activity with a reasonable potential for containing significant amounts of pollutants, a prediction of the direction of flow and an identification of the types of pollutants that are likely to be present in storm water discharges associated with the activity. Factors to consider include the toxicity of the pollutant; quantity of chemicals used, produced or discharged; the likelihood of contact with storm water; and history of significant leaks or spills of toxic or hazardous pollutants. Flows with a significant potential for causing erosion shall be identified. The site map shall include but not be limited to:

(1) Drainage direction and discharge points from all wastewater associated discharges.

(2) Location of any erosion and sediment control structure or other control measures utilized for reducing pollutants in storm water runoff.

(3) Location of any handling, loading, unloading or storage of chemicals or potential pollutants such as caustics, hydraulic fluids, lubricants, solvents or other petroleum products, or hazardous wastes and where these may be exposed to precipitation.

(4) Locations where any major spills or leaks of toxic or hazardous materials have occurred

(5) Location of any sand or salt piles.

(6) Location of fueling stations or vehicle and equipment maintenance and cleaning areas that are exposed to precipitation.

(7) Location of receiving streams or other surface water bodies.

(8) Locations of outfalls and the types of discharges contained in the drainage areas of the outfalls.

b. Inventory of Exposed Materials. An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of 3 years prior to the effective date of this permit; method and location of onsite storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of 3 years prior to the effective date of this permit and the present; the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives.

c. Spills and Leaks. A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility after the date of 3 years prior to the effective date of this permit. Such list shall be updated as appropriate during the term of the permit.

d. Sampling Data. A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility, including a summary of sampling data collected during the term of this permit.

e. Summary of Potential Pollutant Sources and Risk Assessment. A narrative description of the potential pollutant sources from the following activities associated with treatment works: access roads/rail lines; loading and unloading operations; outdoor storage activities; material handling sites; outdoor vehicle storage or maintenance sites; significant dust or particulate generating processes;

and onsite waste disposal practices. Specific potential pollutants shall be identified where known.

3. Measures and Controls. The facility shall develop a description of storm water management controls appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls:

   a. Good Housekeeping. All areas that may contribute pollutants to storm waters discharges shall be maintained in a clean, orderly manner. These are practices that would minimize the generation of pollutants at the source or before it would be necessary to employ sediment ponds or other control measures at the discharge outlets. Areas where good housekeeping practices should be implemented are storage areas for raw materials, waste materials and finished products; loading/unloading areas and waste disposal areas for hazardous and non-hazardous wastes. Examples of good housekeeping measures include; sweeping; labeling drums containing hazardous materials; and preventive monitoring practices or equivalent measures.

   b. Preventive Maintenance. A preventive maintenance program shall involve timely inspection and maintenance of storm water management devices (e.g., cleaning oil/water separators, catch basins) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems.

   c. Spill Prevention and Response Procedures. Areas where potential spills that can contribute pollutants to storm water discharges can occur, and their accompanying drainage points, shall be identified clearly in the storm water pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures and equipment for cleaning up spills shall be identified in the plan and made available to the appropriate personnel.

d. Inspections. In addition to the comprehensive site evaluation required under *Part II.D.*, qualified facility personnel shall be identified to inspect designated equipment and areas of the facility on a periodic basis. The following areas shall be included in all inspections: loading and unloading areas for all significant materials; storage areas, including associated containment areas; waste management units; and vents and stacks from industrial activites. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained. The use of a checklist developed by the facility is encouraged.

e. Employee Training. Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics such as spill response, good housekeeping and material management practices. The pollution prevention plan shall identify how often training will take place, but training should be held at least annually (once per calendar year). Employee training must, at a minimum, address the following areas when applicable to a facility: petroleum product management; process chemical management; spill prevention and control; fueling procedures; general good housekeeping practices; proper procedures for using fertilizers, herbicides and pesticides.

f. Record Keeping and Internal Reporting Procedures. A description of incidents (such as spills, or other discharges), along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under *Part II.C.* Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan.

g. Non-storm Water Discharges.

(1) Certification. The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges. The certification shall include the identification of

potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with *Part V.G.* of this permit.

(2) Exceptions. Except for flows from fire fighting activities, sources of non-storm water listed in *Part II.B. (Prohibition of Non-storm Water Discharges)* that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

(3) Failure to Certify. Any facility that is unable to provide the certification required (testing for non-storm water discharges), must notify the Executive Secretary within 180 days of the effective date of this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water discharges to the storm sewer; and why adequate tests for such storm sewers were not feasible. Non-storm water discharges to waters of the State that are not authorized by a UPDES permit are unlawful, and must be terminated.

h. Sediment and Erosion Control. The plan shall identify areas, which, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion.

i. Management of Runoff. The plan shall contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those which control the generation or source(s) of pollutants)

used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide that measures that the permittee determines to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity (*see Part II.C.2, Description of Potential Pollutant Sources*) shall be considered when determining reasonable and appropriate measures. Appropriate measures or other equivalent measures may include: vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, wet detention/retention devices and discharging storm water through the waste water facility for treatment.

D. Comprehensive Site Compliance Evaluation.

Qualified personnel shall conduct site compliance evaluations at appropriate intervals specified in the plan, but in no case less than once a year. Such evaluations shall provide:

1. Areas contributing to a storm water discharge associated with industrial activity shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

2. Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with *Part II.C.2. (Description of Potential Pollutant Sources)* and pollution prevention measures and controls identified in the plan in accordance with *Part II.C.3. (Measures and Controls)* shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.

3. A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with *Part II.C.3.i.* shall be made and retained as part of the storm water pollution prevention plan for at least 3 years after the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with *Part IV.G (Signatory Requirements)* of this permit.

4. Deadlines for Plan Preparation and Compliance. The facility shall prepare and implement a plan in compliance with the provisions of *Part II* of this permit within 270 days of the permit effective date.

5. Keeping Plans Current. The facility shall amend the plan whenever there is a change in design, construction, operation, or maintenance, that has a significant effect on the potential for the discharge of pollutants to the waters of the state or if the storm water pollution prevention plan proves to be ineffective in eliminating or significantly minimizing pollutants from sources identified by the plan, or in otherwise achieving the general objective of controlling pollutants in storm water discharges associated with the activities at the facility.

E. Monitoring and Reporting Requirements

1. Quarterly Visual Examination of Storm Water Quality. The facilitiy shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted below. The examination must be made at least once in each of the following designated periods during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event: January through March; April through June; July through September; and October through December.

   a. Sample and Data Collection. Examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snow melt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm

water pollution. The examination must be conducted in a well-lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual should carry out the collection and examination of discharges for entire permit term.

b. Visual Storm Water Discharge Examination Reports. Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

c. Representative Discharge. If the permittee reasonably believes multiple outfalls discharge substantially identical effluents, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by an outfall, the permittee may collect a sample of effluent from one such outfall and report that the observation data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

d. Adverse Conditions. When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the results of the visual examination. Adverse weather conditions, which may prohibit the collection of samples,

include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

e. Inactive and Unstaffed Site. When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that performing visual examinations during a qualifying event is not feasible.

F. *EPCRA Section 313* Requirements.

1. In areas where *Section 313* water priority chemicals are stored, processed or otherwise handled, appropriate containment, drainage control and/or diversionary structures shall be provided. At a minimum, one of the following preventive systems or its equivalent shall be used:

   a. Curbing, culverting, gutters, sewers, or other forms of drainage control to prevent or minimize the potential for storm water run-on to come into contact with significant sources of pollutants; or
   b. Roofs, covers or other forms of appropriate protection to prevent storage piles from exposure to storm water and wind.

2. No tank or container shall be used for the storage of a *Section 313* water priority chemical unless its material and construction are compatible with the material stored and conditions of storage such as pressure and temperature, etc.

   Liquid storage areas for *Section 313* water priority chemicals shall be operated to minimize discharges of *Section 313* chemicals. Appropriate measures to minimize discharges of *Section 313* chemicals may include secondary containment provided for at least the entire contents of the largest single tank plus sufficient freeboard to allow for precipitation, a strong spill contingency and integrity testing plan, and/or other equivalent measures.

3. Material storage areas for *Section 313* water priority chemicals

other than liquids that are subject to runoff, leaching, or wind shall incorporate drainage or other control features that will minimize the discharge of *Section 313* water priority chemicals by reducing storm water contact with *Section 313* water priority chemicals.

4. Truck and rail car loading and unloading areas for liquid *Section 313* water priority chemicals shall be operated to minimize discharges of *Section 313* water priority chemicals. Protection such as overhangs or door skirts to enclose trailer ends at truck loading/unloading docks shall be provided as appropriate. Appropriate measures to minimize discharges of *Section 313* chemicals may include: the placement and maintenance of drip pans (including the proper disposal of materials collected in the drip pans) where spillage may occur (such as hose connections, hose reels and filler nozzles) for use when making and breaking hose connections; a strong spill contingency and integrity testing plan; and/or other equivalent measures.

5. Processing equipment and materials handling equipment shall be operated so as to minimize discharges of *Section 313* water priority chemicals. Materials used in piping and equipment shall be compatible with the substances handled. Drainage from process and materials handling areas shall minimize storm water contact with *Section 313* water priority chemicals. Additional protection such as covers or guards to prevent exposure to wind, spraying or releases from pressure relief vents from causing a discharge of *Section 313* water priority chemicals to the drainage system shall be provided as appropriate. Visual inspections or leak tests shall be provided for overhead piping conveying *Section 313* water priority chemicals without secondary containment.

6. Drainage from areas covered by *Parts II.F. 1*, *2*, *3*, or *4* should be restrained by valves or other positive means to prevent the discharge of a spill or other excessive leakage of *Section 313* water priority chemicals. Where containment units are employed, such units may be emptied by pumps or ejectors; however, these shall be manually activated.

   Flapper-type drain valves shall not be used to drain containment areas. Valves used for the drainage of containment areas should, as far as is practical, be of manual, open-and-closed design.
   If facility drainage is not engineered as above, the final discharge of all in-facility storm sewers shall be equipped to be equivalent with a diversion system that could, in the event of an uncontrolled spill of *Section 313* water priority chemicals, return the spilled material to the facility.

Records shall be kept of the frequency and estimated volume (in gallons) of discharges from containment areas.

7. Other areas of the facility (those not addressed in *Parts II.F. 1, 2, 3*, or *4*, from which runoff that may contain *Section 313* water priority chemicals or spills of *Section 313* water priority chemicals could cause a discharge shall incorporate the necessary drainage or other control features to prevent discharge of spilled or improperly disposed material and ensure the mitigation of pollutants in runoff or leachate.

8. All areas of the facility shall be inspected at specific intervals identified in the plan for leaks or conditions that could lead to discharges of *Section 313* water priority chemicals or direct contact of storm water with raw materials, intermediate materials, waste materials or products. In particular, facility piping, pumps, storage tanks and bins, pressure vessels, process and material handling equipment, and material bulk storage areas shall be examined for any conditions or failures that could cause a discharge. Inspection shall include examination for leaks, wind blowing, corrosion, support or foundation failure, or other forms of deterioration or noncontainment. Inspection intervals shall be specified in the plan and shall be based on design and operational experience. Different areas may require different inspection intervals. Where a leak or other condition is discovered that may result in significant releases of *Section 313* water priority chemicals to waters of the State, action to stop the leak or otherwise prevent the significant release of *Section 313* water priority chemicals to waters of the State shall be immediately taken or the unit or process shut down until such action can be taken. When a leak or noncontainment of a *Section 313* water priority chemical has occurred, contaminated soil, debris, or other material must be promptly removed and disposed in accordance with Federal, State, and local requirements and as described in the plan.

9. Facilities shall have the necessary security systems to prevent accidental or intentional entry that could cause a discharge. Security systems described in the plan shall address fencing, lighting, vehicular traffic control, and securing of equipment and buildings.

10. Facility employees and contractor personnel that work in areas where *Section 313* water priority chemicals are used or stored shall be trained in and informed of preventive measures at the facility. Employee training shall be conducted at intervals specified in the

plan, but not less than once per year. Training shall address: pollution control laws and regulations, the storm water pollution prevention plan and the particular features of the facility and its operation that are designed to minimize discharges of *Section 313* water priority chemicals. The plan shall designate a person who is accountable for spill prevention at the facility and who will set up the necessary spill emergency procedures and reporting requirements so that spills and emergency releases of *Section 313* water priority chemicals can be isolated and contained before a discharge of a *Section 313* water priority chemical can occur. Contractor or temporary personnel shall be informed of facility operation and design features in order to prevent discharges or spills from occurring.

III. MONITORING, RECORDING AND REPORTING REQUIREMENTS

A. Representative Sampling. Samples taken in compliance with the monitoring requirements established under *Part I* shall be collected from the effluent stream prior to discharge into the receiving waters. Samples and measurements shall be representative of the volume and nature of the monitored discharge. Sludge samples shall be collected at a location representative of the quality of sludge immediately prior to the use-disposal practice.

B. Monitoring Procedures. Monitoring must be conducted according to test procedures approved under *Utah Administrative Code (UAC) R317-2-10*, unless other test procedures have been specified in this permit.

C. Penalties for Tampering. The *Act* provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six months per violation, or by both.

D. Reporting of Monitoring Results. Monitoring results obtained during the previous month shall be summarized for each month and reported on a DMR Form (EPA No. 3320-1), post-marked no later than the 28th day of the month following the completed reporting period. If no discharge occurs during the reporting period, "no discharge" shall be reported. Legible copies of these, and all other reports including WET test reports required herein, shall be signed and certified in accordance with the requirements of *Signatory Requirements (Part V.G.)*, and submitted to the Director, Division of Water Quality at the following address:

original to: Department of Environmental Quality
Division of Water Quality
288 North 1460 West
PO Box 144870
Salt Lake City, Utah 84114-4870

E. Compliance Schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any Compliance Schedule of this permit shall be submitted no later than 14 days following each schedule date.

F. Additional Monitoring by the Permittee. If the permittee monitors any parameter more frequently than required by this permit, using test procedures approved under *UAC R317-2-10* or as otherwise specified in this permit, the results of this monitoring shall be included in the

calculation and reporting of the data submitted in the DMR. Such increased frequency shall also be indicated. Only those parameters required by the permit need to be reported.

G. Records Contents. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements:
2. The individual(s) who performed the sampling or measurements;
3. The date(s) and time(s) analyses were performed;
4. The individual(s) who performed the analyses;
5. The analytical techniques or methods used; and,
6. The results of such analyses.

H. Retention of Records. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report or application. This period may be extended by request of the Executive Secretary at any time. A copy of this UPDES permit must be maintained on site during the duration of activity at the permitted location.

I. Twenty-four Hour Notice of Noncompliance Reporting.

1. The permittee shall (orally) report any noncompliance that may seriously endanger health or environment as soon as possible, but no later than 24 hours from the time the permittee first became aware of circumstances. The report shall be made to the Division of Water Quality, (801) 538-6146, or 24-hour answering service (801) 536-4123.

2. The following occurrences of noncompliance shall be reported by telephone (801) 536-4123 as soon as possible but no later than 24 hours from the time the permittee becomes aware of the circumstances:

   a. Any noncompliance that may endanger health or the environment;

   b. Any unanticipated bypass that exceeds any effluent limitation in the permit *(see Part IV.G, Bypass of Treatment Facilities.)*;

   c. Any upset which exceeds any effluent limitation in the permit *(see Part IV.H, Upset Conditions.)*; or,

d. Violation of a maximum daily discharge limitation for any of the pollutants listed in the permit.

3. A written submission shall also be provided within five days of the time that the permittee becomes aware of the circumstances. The written submission shall contain:

a. A description of the noncompliance and its cause;

b. The period of noncompliance, including exact dates and times;

c. The estimated time noncompliance is expected to continue if it has not been corrected; and,

d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

e. Steps taken, if any, to mitigate the adverse impacts on the environment and human health during the noncompliance period.

4. The Executive Secretary may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the Division of Water Quality, (801) 538-6146.

5. Reports shall be submitted to the addresses in *Part III.D, Reporting of Monitoring Results*.

J. Other Noncompliance Reporting. Instances of noncompliance not required to be reported within 24 hours shall be reported at the time that monitoring reports for *Part III.D* are submitted. The reports shall contain the information listed in *Part III.I.3*.

K. Inspection and Entry. The permittee shall allow the Executive Secretary, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;

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

3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and,

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

IV. COMPLIANCE RESPONSIBILITIES

A. Duty to Comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. The permittee shall give advance notice to the Executive Secretary of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements.

B. Penalties for Violations of Permit Conditions. The *Act* provides that any person who violates a permit condition implementing provisions of the *Act* is subject to a civil penalty not to exceed $10,000 per day of such violation. Any person who willfully or negligently violates permit conditions of the Act is subject to a fine not exceeding $25,000 per day of violation; Any person convicted under *UCA 19-5-115(2)* a second time shall be punished by a fine not exceeding $50,000 per day. Except as provided at *Part IV.G, Bypass of Treatment Facilities* and *Part IV.H, Upset Conditions*, nothing in this permit shall be construed to relieve the permittee of the civil or criminal penalties for noncompliance.

C. Need to Halt or Reduce Activity not a Defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

D. Duty to Mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

E. Proper Operation and Maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

F. Removed Substances. Collected screening, grit, solids, sludges, or other pollutants removed in the course of treatment shall be buried or disposed of in such a manner so as to prevent any pollutant from entering any waters of the state or creating a health hazard. Sludge/digester supernatant

and filter backwash shall not directly enter either the final effluent or waters of the state by any other direct route.

G. Bypass of Treatment Facilities.

1. Bypass Not Exceeding Limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to *Parts IV.G.2. and IV.G.3.*

2. Prohibition of Bypass.

   a. Bypass is prohibited, and the Executive Secretary may taken enforcement action against a permittee for bypass, unless:

      (1) Bypass was unavoidable to prevent loss of human life, personal injury, or severe property damage;

      (2) There were no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgement to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance, and

      (3) The permittee submitted notices as required under *Part IV.G.3.*

   b. The Executive Secretary may approve an anticipated bypass, after considering its adverse effects, if the Executive Secretary determines that it will meet the three conditions listed in *Part IV.G.2a. (1), (2) and (3).*

3. Notice.

   a. Anticipated bypass. Except as provided in *Part IV.G.2. and Part IV.G.3.b*, if the permittee knows in advance of the need for a bypass, it shall submit prior notice, at least ninety days before the date of bypass. The prior notice shall include the following unless otherwise waived by the Executive Secretary:

(1) Evaluation of alternative to bypass, including cost-benefit analysis containing an assessment of anticipated resource damages:

(2) A specific bypass plan describing the work to be performed including scheduled dates and times. The permittee must notify the Executive Secretary in advance of any changes to the bypass schedule;

(3) Description of specific measures to be taken to minimize environmental and public health impacts;

(4) A notification plan sufficient to alert all downstream users, the public and others reasonably expected to be impacted by the bypass;

(5) A water quality assessment plan to include sufficient monitoring of the receiving water before, during and following the bypass to enable evaluation of public health risks and environmental impacts; and

(6) Any additional information requested by the Executive Secretary.

b. Emergency Bypass. Where ninety days advance notice is not possible, the permittee must notify the Executive Secretary, and the Director of the Department of Natural Resources, as soon as it becomes aware of the need to bypass and provide to the Executive Secretary the information in *Part IV.G.3.a.(1)* through *(6)* to the extent practicable.

c. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass to the Executive Secretary as required under *Part III.I., Twenty-four Hour Notice of Non-Compliance Reporting*. The permittee shall also immediately notify the Director of the Department of Natural Resources, the public and downstream users and shall implement measures to minimize impacts to public health and environment to the extent practicable.

H. Upset Conditions.

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of *Part IV.H.2.* are met. Executive Secretary's administrative determination regarding a claim of upset cannot be judiciously challenged by the permittee until such time as an action is initiated for noncompliance.

2. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

   a. An upset occurred and that the permittee can identify the cause(s) of the upset;

   b. The permitted facility was at the time being properly operated;

   c. The permittee submitted notice of the upset as required under *Part III.I, Twenty-four Hour Notice of Noncompliance Reporting*; and,

   d. The permittee complied with any remedial measures required under *Part IV.D, Duty to Mitigate.*

3. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

I. Toxic Pollutants. The permittee shall comply with effluent standards or prohibitions established under *Section 307(a)* of *The Water Quality Act of 1987* for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

J. Changes in Discharge of Toxic Substances. Notification shall be provided to the Executive Secretary as soon as the permittee knows of, or has reason to believe:

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

   a. One hundred micrograms per liter (100 ug/L);

   b. Two hundred micrograms per liter (200 ug/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/L) for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;

   c. Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with *UAC R317-8-3.4(7)* or (10); or,

   d. The level established by the Executive Secretary in accordance with *UAC R317-8-4.2(6)*.

2. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

   a. Five hundred micrograms per liter (500 ug/L);

   b. One milligram per liter (1 mg/L) for antimony:

   c. Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with *UAC R317-8-3.4(9)*; or,

   d. The level established by the Executive Secretary in accordance with *UAC R317-8-4.2(6)*.

K. Industrial Pretreatment. Any wastewaters discharged to the sanitary sewer, either as a direct discharge or as a hauled waste, are subject to Federal, State and local pretreatment regulations. Pursuant to *Section 307* of *The Water Quality Act of 1987*, the permittee shall comply with all applicable federal General Pretreatment Regulations promulgated at *40 CFR 403*, the State Pretreatment Requirements at *UAC R317-8-8*, and any specific local discharge limitations developed by the Publicly Owned Treatment Works (POTW) accepting the wastewaters.

In addition, in accordance with *40 CFR 403.12(p)(1)*, the permittee must notify the POTW, the EPA Regional Waste Management Director, and the State hazardous waste authorities, in writing, if they discharge any substance into a POTW which if otherwise disposed of would be considered a hazardous waste under *40 CFR 261*. This notification must include the name of the hazardous waste, the EPA hazardous waste number, and the type of discharge (continuous or batch).

V. GENERAL REQUIREMENTS

A. Planned Changes. The permittee shall give notice to the Executive Secretary as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when the alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in the permit. In addition, if there are any planned substantial changes to the permittee's existing sludge facilities or their manner of operation or to current sludge management practices of storage and disposal, the permittee shall give notice to the Executive Secretary of any planned changes at least 30 days prior to their implementation.

B. Anticipated Noncompliance. The permittee shall give advance notice to the Executive Secretary of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements.

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

D. Duty to Reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee shall apply for and obtain a new permit. The application shall be submitted at least 180 days before the expiration date of this permit.

E. Duty to Provide Information. The permittee shall furnish to the Executive Secretary, within a reasonable time, any information which the Executive Secretary may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Executive Secretary, upon request, copies of records this permit requires to be kept.

F. Other Information. When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Executive Secretary, it shall promptly submit such facts or information.

G. Signatory Requirements. All applications, reports or information submitted to the Executive Secretary shall be signed and certified.

1. All permit applications shall be signed by either a principal executive officer or ranking elected official.

2. All reports required by the permit and other information requested by the Executive Secretary shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described above and submitted to the Executive Secretary, and,

   b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)

3. Changes to authorization. If an authorization under *Part V.G.2.* is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of *Part V.G.2.* must be submitted to the Executive Secretary prior to or together with any reports, information, or applications to be signed by an authorized representative.

4. Certification. Any person signing a document under *Part V.G.* shall make the following certification:

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

H. Penalties for Falsification of Reports. The *Act* provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction be punished by a fine of not more than $10,000.00 per violation, or by imprisonment for not more than six months per violation, or by both.

I. Availability of Reports. Except for data determined to be confidential under *UAC R317-8-3.2*, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the office of Executive Secretary. As required by the *Act*, permit applications, permits and effluent data shall not be considered confidential

J. Oil and Hazardous Substance Liability. Nothing in this permit shall be construed to preclude the permittee of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under the *Act*.

K. Property Rights. The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

L. Severability. The provisions of this permit are severable, and if any provisions of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

M. Transfers. This permit may be automatically transferred to a new permittee if:

1. The current permittee notifies the Executive Secretary at least 20 days in advance of the proposed transfer date;

2. The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and,

3. The Executive Secretary does not notify the existing permittee and the proposed new permittee of his or her intent to modify, or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in *Part V.M.2*.

N. State Laws. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by *UCA 19-5-117*.

O. Water Quality-Reopener Provision. This permit may be reopened and modified (following proper administrative procedures) to include the appropriate effluent limitations and compliance schedule, if necessary, if one or more of the following events occurs:

1. Water Quality Standards for the receiving water(s) to which the permittee discharges are modified in such a manner as to require different effluent limits than contained in this permit.

2. A final wasteload allocation is developed and approved by the State and/or EPA for incorporation in this permit.

3. A revision to the current Water Quality Management Plan is approved and adopted which calls for different effluent limitations than contained in this permit.

P. Toxicity Limitation-Reopener Provision. This permit may be reopened and modified (following proper administrative procedures) to include WET testing, a WET limitation, a compliance schedule, a compliance date, additional or modified numerical limitations, or any other conditions related to the control of toxicants if toxicity is detected during the life of this permit.

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